

## **Section 5: Goals, Objectives, and Strategies**

### **5.1 Overall Goal**

*To reduce personal injury, loss of life, and damage to property and the environment from flood hazards.*

### **5.2 Considerations for Mitigation Planning & Risk Reduction**

Based on information gathered and input provided during the planning process, the following considerations guided the development of the flood mitigation objectives and strategies.

- Historic records of flooding in Fairfax are incomplete.
- Hydraulic studies do not adequately address all potential flooding sources.
- Information on location, condition and adequacy of storm drain components is incomplete.
- There is a need and desire to join with neighboring communities for watershed planning (i.e., Ross Valley Watershed Program).
- Flood Control District 9 may provide financial support for certain flood risk reduction measures, but alternative funding sources and/or financial incentives must be identified.
- Floodplain management ordinance meets minimum requirements for participation in the National Flood Insurance Program.
- Public Information and Education to promote community action are key elements of risk reduction.
- Creek ownership and stewardship requires a public/private approach to risk reduction.
- Multiple regulatory agencies have approval authority for creek related activities.
- Mitigating Repetitive Loss Properties is a federal priority (Fairfax has six properties, including 300 Olema).
- Fairfax could qualify for reduced flood insurance rates under the Community Rating System of the National Flood Insurance Program.
- The annual Neighborhood Creek Clean-up Program is effective.
- Water quality, habitat protection, and fish passage are important elements of flood management activities.
- Implementation will require a proactive effort to leverage diverse funding sources, technical expertise, and human resources.

### **5.3 Objectives/Strategies**

#### **Objective 1:**

**Assure that adequate and up to date flood hazard information and maps are available and utilized to guide decisions that impact flood vulnerability, exposure, and risk.**

- 1.1 Review newly released Flood Rate Insurance Maps, make map information available to the public and ensure the most up to date information is used for permit and plan review.
- 1.2 Complete the hydrologic study for Fairfax Creek.
- 1.3 Review the hydrologic study conducted by the Ross Valley Watershed Project and identify areas where additional watershed analysis of runoff and drainage systems are necessary to complete a comprehensive survey of insufficient capacity in the storm drain and natural creek system.
- 1.4 Document and maintain creek depth monitoring data during significant storm or flood events to contribute to the understanding of the flood hazard.
- 1.5 Document past flood history and damages to quantify flood impacts and support benefit cost analysis of flood mitigation measures.
- 1.6 Complete identification and mapping of high water marks from the December 31, 2005 flood and enter into Geographic Information System maintained by Marin Maps.

#### **Objective 2:**

**Update and enforce Town codes and ordinances to minimize the risks of flood hazards.**

- 2.1 Continue to enforce the Town of Fairfax Flood Ordinance (Section 17.068 of the Municipal Code) for all development, redevelopment or substantial improvement projects in the floodplain and floodway, through the permit review process.
- 2.2 Explore potential for enhancing current building codes or design standards that will result in a watershed based design approach to drainage.

- 2.3 Ensure that drainage systems in new or renewed development are designed and constructed to reduce off-site flow and encourage the use of permeable paving and on-site stormwater retention.
- 2.4 Prepare and adopt an ordinance to encourage the use of permeable surfaces for driveways, patios, walkways, etc. in new development or substantial improvements.
- 2.5 Amend flood management ordinance to require additional creek setbacks and/or increased elevation above base flood elevation for new development or substantial improvements.
- 2.6 Ensure that storm drainage systems are adequate to accommodate new development and substantial improvements by requiring owner to pay the cost of any required improvements to the existing drainage system necessitated by the proposed development.
- 2.7 Ensure that new subdivisions are designed to reduce or eliminate flood damage by requiring that lots and rights-of-way are laid out for the provision of approved sewer and drainage facilities, providing on-site detention facilities whenever practicable. Design criteria should be calculated based on saturated soils.

**Objective 3:**

**Reduce community risk and vulnerability through maintaining and improving drainage systems.**

- 3.1 Reduce the impact of future floods on community services by aggressively seeking funding to elevate or relocate critical town facilities including the Town Hall, Police Station and Fire Station.
- 3.2 Repair damaged culverts, drains, and bridges to withstand future flooding and incorporate streambank erosion and fish passage solutions.
- 3.3 Conduct an inventory and analysis of town maintained storm drains and culverts, including age, size, materials, etc. Determine any inadequacies in meeting design capacity, and prioritize necessary improvements. Prepare a Storm Drain Master Plan.
- 3.4 Review and prioritize recommendations for flood management measures included in the report "Geomorphic Assessment of Town of Fairfax Project Sites".
- 3.5 Locate and mark all storm drains/culverts and identify area and properties draining into each.

- 3.6 Continue maintenance efforts carried out by the Public Works Department to keep storm drains and creeks free of obstructions, while retaining vegetation in the channel (as appropriate), to allow for free flow of water.
- 3.7 Continue to support community volunteer efforts prior to and during the rainy season to monitor creeks and drainage culverts and remove visible obstructions.
- 3.8 Consider assigning storm drains monitoring and clearing to the community of properties served by them.

**Objective 4:**

**Increase the mitigation capability of residents, businesses owners and others who could be affected by floods.**

- 4.1 Provide property owners with educational materials that describe the upstream/downstream impacts, drainage systems, and stormwater runoff implications of individual actions on watersheds and creeks.
- 4.2 Partner with Sustainable Fairfax, the Ross Valley Mitigation League, the Friends of Corte Madera Creek Watershed and similar groups to develop and distribute educational materials and provide training to the community on ways to reduce the impacts of flooding on their property, their neighbor's properties and the community as a whole.
- 4.3 Continue to hold the annual community creek clean up day prior to the winter storm season.
- 4.4 Provide property owners with educational materials that describe locally appropriate techniques for bank stabilization and erosion control that can reduce flooding and promote healthy creeks.
- 4.5 Encourage home and apartment owners and commercial business owners to participate in structural elevation programs that will protect property.
- 4.6 Identify and aggressively seek available grant funds to support residential and commercial elevation projects and projects that decrease runoff and increase stormwater detention.
- 4.7 Provide financial incentives, technical guidance and a public outreach campaign for commercial business owners to install flood gates at the entrance to their property.
- 4.8 Encourage owners of properties in a floodplain to consider purchasing flood insurance, by including flood insurance information in community flood

preparedness materials, and seeking a higher Community Rating System (CRS) rating for the Town of Fairfax that will result in policy premium reductions.

**Objective 5:**

**Increase the Town's capacity to respond to and recover from emergencies and disasters caused by flood hazards.**

- 5.1 Complete installation of warning sirens to inform the public of imminent flood potential.
- 5.2 Develop and disseminate protocols for activation of warning sirens, TENS/MEANS, and other flood notification measures, and include them in the Emergency Operations Plan.
- 5.3 Conduct public education program to inform residents of appropriate measures to take when an alarm is sounded and document flood evacuation procedures in Emergency Operations Plan.
- 5.4 Make sandbags and plastic sheeting available to residents in anticipation of rainstorms. Facilitate access by publicizing distribution locations, providing a sandbag filling device and providing assistance to the disabled and elderly upon request.
- 5.5 Maintain the Disaster Preparedness web site to include flood and disaster preparedness information and links to flood prevention and mitigation resources.
- 5.6 Conduct annual flood awareness campaign.
- 5.7 Continue to provide community emergency preparedness training through the CERT and Get Ready programs.
- 5.8 Continue the Citizen's Voluntary Creek Monitoring Group that formed after the 12/31/05 flood; support and value this effort.

**Objective 6:**

**Continue to support watershed based planning efforts to further comprehensive flood mitigation planning and implementation of mitigation measures.**

- 6.1 Continue to participate in the Ross Valley Watershed Project and Flood Control District 9.

- 6.2 Conduct a cost benefit analysis of flood risk reduction projects proposed under the Ross Valley Watershed Project to identify those measures which will have the greatest benefit to the Town of Fairfax.
- 6.3 Work cooperatively with upstream and downstream communities to monitor creek and watercourse flows to predict potential flooding.
- 6.4 Work to solve ongoing localized flooding issues (e.g., 300 Olema) on private property, without taking on further liability risk for the Town.
- 6.5 Encourage other special districts (e.g., Ross Valley Sanitary) to take responsibility and action for their infrastructure that may be contributing to flooding or fish passage barrier situations.

#### **5.4 Setting Priorities for Flood Mitigation Actions**

Federal regulations guiding the development and approval of the Flood Mitigation Plan require that a priority be assigned to each mitigation action included in the Plan.

Disaster Council and Technical Oversight Committee Members were asked to assign a priority rank for each of the draft mitigation actions included under the six objectives on the previous pages.

Each action was assigned a rank of 1, 2, or 3, with a rank of 1 being the highest priority ranking, and 3 being the lowest in priority.

Factors which were considered when assigning a priority rank included:

- potential effectiveness of the action in reducing future flood damage
- ease of implementation
- multiple objectives achieved
- overall feasibility (given social, technical, administrative, political, legal, environmental, and economic conditions)

Those items assigned a rank of 1 by over 50% of the respondents, and receiving an average score of 1.5 or lower, were included in the Implementation Strategy.

## **5.5 Implementation Strategy**

The Implementation Strategy is designed to help the community achieve its overall goals and objectives for flood risk reduction. A strategy has been developed for each of the highest priority mitigation actions identified through the planning process. There are three key elements included in the following implementation strategy matrix: responsible agency, timeframe, and funding.

### Responsible Agency

Flood mitigation is not the responsibility of any single person or department, but rather involves many players from the public and private sector. For each mitigation action, key Town Departments are identified as well as external governmental and multi-jurisdictional agencies, and volunteer groups who have been actively involved in community efforts to reduce the flood risk. Additional partners may be identified as various actions are pursued.

### Timeframe

The Implementation Strategy recognizes a five-year planning horizon. For mitigation actions identified as “on-going”, they are expected to continue on a periodic or annual basis. Others have been assigned a one to two year timeframe based on efforts underway or expected to be initiated and completed within that timeframe. Other, more complex projects are expected to take a longer period of time to implement, and may extend well beyond the five-year timeframe.

### Funding

This column includes information on potential funding sources that could be applied to or pursued to implement each mitigation action. The Town of Fairfax has limited resources and recognizes that external funding will be required to implement most structural projects. In some cases, specific programs are cited; in other cases, they have not yet been identified. It should be noted that many of the on-going programs are supported through the annual budget process and through volunteer efforts which are crucial to success of flood risk reduction activities in the community.

<b>Objective 1: Assure that adequate and up to date flood hazard information and maps are available and utilized to guide decisions that impact flood vulnerability, exposure, and risk.</b>	<b>Responsibility</b>	<b>Timeframe</b>	<b>Funding</b>
1.1 Review newly released Flood Rate Insurance Maps, make map information available to the public and ensure the most up to date information is used for permit and plan review.	Planning	On-Going	General Fund
1.2 Complete the hydrologic study for Fairfax Creek.	RVWP Public Works Consultant	2008	FEMA FCD 9
1.4 Document and maintain creek depth monitoring data during significant storm or flood events to contribute to the understanding of the flood hazard.	Ross Valley Fire Dept.	On-Going	General Fund RVFD Fund
1.5 Document past flood history and damages to quantify flood impacts and support benefit cost analysis of flood mitigation measures.	Public Works Volunteer Groups	2008-09	External Funding Required
1.6 Complete identification and mapping of high water marks from the December 31, 2005 flood and enter into Geographic Information System maintained by Marin Maps.	Public Works Consultant Volunteer Groups	2008-09	External Funding Required

<b>Objective 2: Update and enforce Town codes and ordinances to minimize the risks of flood hazards.</b>	<b>Responsibility</b>	<b>Timeframe</b>	<b>Funding</b>
2.3 Ensure that drainage systems in new or substantial improved development are designed and constructed to reduce off-site flow, and encourage the use of permeable paving and on-site stormwater detention.	Building Planning	On-Going	General Fund
2.6 Ensure that storm drainage systems are adequate to accommodate new development and substantial improvements by requiring owner to pay the cost of any required improvements to the existing drainage system necessitated by the proposed development.	Building Planning	On-Going	General Fund
2.7 Ensure that new subdivisions are designed to reduce or eliminate flood damage by requiring that lots and rights-of-way are laid out for the provision of approved sewer and drainage facilities, providing on-site detention facilities whenever practicable. Design criteria should be calculated based on saturated soils.	Building Planning Sanitary District	On-Going	General Fund

<b>Objective 3: Reduce community risk and vulnerability through maintaining and improving drainage systems.</b>	<b>Responsibility</b>	<b>Timeframe</b>	<b>Funding</b>
3.2 Repair damaged culverts, drains, and bridges to withstand future flooding and incorporate streambank erosion and fish passage solutions.	Public Works FEMA/OES	2008-2009	FEMA/OES General Fund
3.3 Conduct an inventory and analysis of town maintained storm drains and culverts, including age, size, materials, etc. Determine any inadequacies in meeting design capacity, and prioritize necessary improvements. Prepare Storm Drain Master Plan.	Public Works Consultants	2008-2010	External Funding Required
3.5 Locate and mark all storm drains/culverts and identify area and properties draining into each.	Public Works Volunteer Groups Property Owners Consultants	2008-2013	External Funding Required
3.6 Continue maintenance efforts carried out by the Public Works Department to keep storm drains and creeks free of obstructions, while retaining vegetation in the channel (as appropriate), to allow for free flow of water.	Public Works	On-Going	General Fund
3.7 Continue to support community volunteer efforts prior to and during the rainy season to monitor creeks and drainage culverts and remove visible obstructions.	Public Works Volunteer Groups Property Owners	On-Going	General Fund

<b>Objective 4: Increase the mitigation capability of residents, businesses owners and others who could be affected by floods.</b>	<b>Responsibility</b>	<b>Timeframe</b>	<b>Funding</b>
4.3 Continue to hold the annual community creek clean up day prior to the winter storm season.	Fairfax Volunteers	Annual	General Fund
4.6 Identify and aggressively seek available grant funds to support residential and commercial elevation projects and projects that decrease runoff and increase storm water detention.	Public Works	2008-2013	HMGP/FMA Grants
4.7 Provide financial incentives, technical guidance and a public outreach campaign for commercial business owners to install flood gates at the entrance to their property.	Public Works Building Chamber of Commerce	2008	ERAF Grant

<b>Objective 5: Increase the Town's capacity to respond to and recover from emergencies and disasters caused by flood hazards.</b>	<b>Responsibility</b>	<b>Timeframe</b>	<b>Funding</b>
5.1 Complete installation of warning sirens to inform the public of imminent flood potential.	RVFD	2008	Grants PG&E
5.3 Conduct public education program to inform residents of appropriate measures to take when an alarm is sounded and document flood evacuation procedures in Emergency Operations Plan.	Disaster Council RVFP Police	2008	General Fund
5.7 Continue to provide community emergency preparedness training through the CERT and Get Ready programs.	RVFP Marin County OES	On-Going	Grants
5.8 Continue the Citizen's Voluntary Creek Monitoring Group that formed after the 12/31005 flood; support and value this effort	Public Works Town Manager	On-Going	General Fund

<b>Objective 6: Continue to support watershed based planning efforts to further comprehensive flood mitigation planning and implementation of mitigation measures.</b>	<b>Responsibility</b>	<b>Timeframe</b>	<b>Funding</b>
6.1 Continue to participate in the Ross Valley Watershed Project and Flood Control District 9.	Town Manager Public Works	On-Going	General Fund
6.3 Work cooperatively with upstream and downstream communities to monitor creek and watercourse flows to predict potential flooding.	All Town Departments	On-Going	General Fund
6.4 Work to solve ongoing localized flooding issues (e.g. 300 Olema) on private property, without taking on further liability risk for the Town.	Planning Public Works	2008-2013	General Fund Federal Grants
6.5 Encourage other special districts (e.g. Ross Valley Sanitary) to take responsibility and action for their infrastructure that may be contributing to flooding or fish passage barrier situations.	Town Manager Public Works	2008-2013	General Fund

## **Section 6: Plan Maintenance Process**

To ensure the Plan stays current and incremental progress is made on implementing the mitigation strategies, the Town of Fairfax will make every effort to update this Plan every five years. However, the Town may update this Plan at its own discretion any time prior to that if new hazard information becomes available, priorities for implementation change, an actual flood event occurs, or other circumstances prompt an update.

### **6.1 Monitoring, Evaluating and Updating the Plan**

The Town of Fairfax will use similar mechanisms to monitor and update the Plan as were used to develop the Plan. The Town Manager will assume the leadership role in monitoring the progress of plan implementation, with a focus on the highest priority actions. Key departments with responsibility for mitigation implementation will continue to actively participate in the process. All plan updates will be subject to the public input and review process that is a part of all plan development in the Town of Fairfax.

On an annual basis the Town Manager will solicit progress reports from the department(s) assigned responsibility for implementation of each of the highest priority mitigation actions outlined in the Implementation Strategy. Data will be collected on the status of the mitigation action in order to identify those actions that have been completed, those that have been delayed, obstacles encountered, resources required, and other items that impact implementation. The progress reports will be compiled, and adjustments made to the Implementation Strategy to reflect the current status of each mitigation initiative. Suggestions for changes in priorities of existing actions may be made at that time, as well as suggestions for new mitigation actions to be incorporated into the next update of the Plan.

### **6.2 Implementation Through Existing Programs**

The mitigation objectives and actions outlined in the previous section are designed to be carried out through the normal governmental and operational mechanisms used by the Town in the performance of its duties and responsibilities on a day to day basis. For example, any code revisions or updates will be accomplished using standard procedures for code development. Structural improvements to buildings and infrastructure will be incorporated into the Town of Fairfax Capital Projects Plan and be subject to that process. To the extent possible, mitigation projects are most successful when fully integrated into on-going programs and mechanisms rather than establishing parallel or

new mechanisms for implementation. Therefore, the Town will strive to fully incorporate the Implementation Strategy Plan into existing programs.

Additionally, to ensure consistency with overall Town development policies, once adopted by the Town and accepted by FEMA, the Town of Fairfax Flood Mitigation Plan will be integrated with the Fairfax Local Hazard Mitigation Plan and the General Plan Environmental Safety Element.

However, in this era of increased demands and constrained resources at all levels of government, the lack of resources, especially from external sources, may hamper the ability of the Town to implement some mitigation actions identified in the plan or to implement them within the timeframe specified.

### **6.3 Continued Public Involvement**

The Town of Fairfax values the role its community members play in the plan development process, and the contributions made in support of this Plan. The Town Manager will post any progress reports or proposed updates to the Plan on the Town website. At such time as the Town proceeds with a formal update of the Plan, a community stakeholders meeting will be held to solicit public comment and input. All draft updates will be posted on the website and a public review period and hearing will be conducted prior to finalizing the draft for submission to the Town Council.