



# 2010 Local Hazard Mitigation Plan Annex

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## **Introduction**

- The City of Millbrae is located on the San Francisco/San Mateo Peninsula, 15 miles south of San Francisco. The boundaries of the city extend roughly from the Bayshore Freeway on the east to Skyline Boulevard on the west. This distance covering approximately 1.7 miles. The distance between the north and south city limit line is approximately 2.05 miles. The City of Millbrae was incorporated on January 14, 1948. The population of the City is 21,387 - with an operating budget of \$64 million - employing 140 personnel.
- The City of Millbrae has experienced its share of disasters, which include the Loma Prieta Earthquake of 1989, the winter storms of 1998, which caused landslides in the areas of Sleepy Hollow, Clearfield, and Morningside as well as flooding around the Westin and Clarion Hotels, and the Crestview landslide of 2000.
- Major Government facilities include the Millbrae Park and Recreation Center, the City Hall complex, which contains City Administration and the Police Department, two fire stations, the Checutti Community Center, and a water treatment and corporation yard. Millbrae is also home to the Bart Intermodal Station, which is a transportation hub for BART, CalTrain, and Samtrans.

## **The Regional Planning Process**

The City of Millbrae participated in the ABAG workshops in 2005 which developed the original regional plan. The Millbrae City Council formally approved that plan in September of 2005. The City of Millbrae recently participated in various ABAG workshops, conferences, and meetings, including:

- Strategies Workshop 09-29-2009
- Critical Facilities Data 05-08-2009
- Sewer Smart Summit 10-09-2008
- City/County Workshops – various dates

For more information on these meetings and for rosters of attendees, please see Appendix A and H in the ABAG Multi-Jurisdictional Local Hazard Mitigation Plan 2010 (MJ-LHMP). In addition, the City of Millbrae has provided written and oral comments on the multi-jurisdictional plan and provided information on facilities that are defined as “critical” to ABAG.



## **The Local Planning Process**

- Marcia Raines, City Manager, directed staff to form an internal team to undertake the review of the City of Millbrae's 2010 Local Hazard Mitigation Plan.
- Rick Ortega, Division Chief/Emergency Management Coordinator, was assigned as lead staff member for the 2010 update. Mr. Ortega reviewed the initial information from ABAG and FEMA, identified key issues in the 2010 Strategies Matrix, and coordinated the review by other departments of those strategies. Several team meetings were held to coordinate the city's response.
- Ron Popp, Public Works Director, provided input on city facilities, including buildings, roads, public infrastructure, and other facilities potentially impacted by hazards. Mr. Popp also reviewed and provided comments on the 2010 Strategic Matrix.
- Dennis Haag, Fire Chief, provided input on fire and emergency response issues, including radio interoperability and the operation of the City's Emergency Operating Center.
- Neil Telford, Police Chief, provided input on police department response procedures for a natural disaster.
- Farhad Mortazavi, Building Official, provided information concerning building and community development issues.

The representatives from the above City of Millbrae departments met on several occasions to identify and prioritize appropriate mitigation strategies.

At the first meeting, general priorities and appropriate departments were identified. Subsequent meetings identified mitigation strategies, prioritized said strategies, and reviewed preliminary budgets and potential funding sources for strategies designated as "High" priority for City -owned-and-operated facilities.

No formal meeting agendas, minutes, or sign-in sheets were prepared during this part of the process. City staff met in a collaborative approach to identify and review the various elements of the process.

## **Process for Updating Plan Sections**

A key element in the above process was a review of the 2005 plan. This was done comprehensively as part of the City's review of the 2010 materials, with material updated as needed to reflect the minor changes to City Policies and programs that has occurred since 2005. The updates also incorporated



the new ABAG data on hazards susceptibility and the 2010 planning process. The city updated the risk assessment with the new data from ABAG.

## Public Meetings

Opportunity for public comments on the DRAFT mitigation strategies was provided at a public meeting at the City of Millbrae Checutti Room in September of 2009 and advertised on the City of Millbrae website. The draft mitigation strategies were also published on the City of Millbrae website for public viewing. No public comments were received from either the meeting or the internet posting. A copy of the internet posting is included as **Exhibit A** to the City of Millbrae 2010 Annex.

Public meetings and outreach, via our website, were attempted to gather comments regarding the 2010 Plan. Future updates of the plan could include coordination with neighboring cities in a public outreach effort. This may also allow all cities to make the process more interesting and therefore elicit greater public comment.

The Millbrae City Council will adopt the plan in a public meeting via an official resolution upon approval by FEMA. The mitigation strategies will become an implementation appendix of the Safety Element of the City of Millbrae General Plan.

## Plan for Updating Plan Sections

- Planning Process:
- Risk Assessment: The area was reviewed by LHMP group and new maps were updated along with a high pressure gas line assessment.
- Mitigation Strategy: Strategies were reviewed by LHMP group and changes or updates were implemented. The community was allowed input at a community meeting and feedback via Web-site.
- Plan Maintenance: City held a community meeting and allowed input via Web page announcement.

## Hazards Assessment

The ABAG Multi-Jurisdictional Local Hazard Mitigation Plan, to which this is an annex, lists nine hazards that impact the Bay Area, five related to earthquakes (faulting, shaking, earthquake-induced landslides, liquefaction, and tsunamis) and four related to weather (flooding, landslides, wildfires, and drought). Maps of these hazards and risks are shown on the ABAG website at <http://quake.abag.ca.gov/mitigation/>.



The City of Millbrae has reviewed the hazards identified and ranked the hazards based on past disasters and expected future impacts. The conclusion is that earthquake (particularly shaking), flooding, wildfire, and landslides (including unstable earth) pose a significant risk for potential loss.

The City of Millbrae does not face any natural disasters not listed in the ABAG multi-jurisdictional plan and a new hazard has been identified by the City of Millbrae since the original development of this plan in 2005. Additional hazard identified by the City of Millbrae: High-Pressure Gas Pipelines.

While the City of Millbrae has undertaken a number of general hazards mapping activities since the first Safety Element was prepared by the City of Millbrae, all of these maps are less detailed and are not as current as those shown on the ABAG website at <http://quake.abag.ca.gov/mitigation/>.

### **Past Occurrences of Disasters (natural and human-induced)**

The City of Millbrae has experienced a number of different disasters over the last 50 years, including numerous earthquakes, flooding, landslides, and severe storms. The Crestview landslide of March 2000 destroyed one home and damaged four with a cost of 12 million. The storms of 1998 caused landslides in the areas of Clearfield, Morningside, and Sleepy Hollow, while causing flooding in the area of the Westin and Clarion Hotels.

The Loma Prieta Earthquake of 1989 is another example of the kind of large scale disaster which can strike the Peninsula. It killed 63 people, injured 3,757, and displaced over 12,000 people. With over 20,000 homes and businesses damaged and over 1,100 destroyed, this quake caused approximately \$6 Billion of damage.

More information on State and Federally declared disasters in the City of Millbrae can be found at <http://quake.abag.ca.gov/mitigation/ThePlan-D-Version-December09.pdf>

Locally significant incidents that have also impacted the City of Millbrae in the last several years include:

- Weather, Summer Heat and Winter Cold. During weather extremes San Mateo County OES monitors situation with cities that are affected.



- February 27, 2010 – Chile Earthquake/Tsunami. State EOC activated. San Mateo County EOC monitored situation.
- San Bruno Fire/Explosion – we did not open our EOC, but we did provide staffing and support to San Bruno during the week after the incident.

## Risk Assessment

### Urban Land Exposure

The City of Millbrae examined the hazard exposure of the City of Millbrae urban land based on information in ABAG’s website at <http://quake.abag.ca.gov/mitigation/pickdbh2.html>. The “2005 Existing Land Use with 2009 Mapping” file was used for this evaluation (in the existing plan, the file used was “Existing Land Use in 2000”).

In general, the hazard exposure of the City of Millbrae is status quo. The City of Millbrae’s urban land showed a minimal increase in the acres of urban land in the 100 year flood zone over the last 5 years due to changes in the new FEMA flood maps. The following table described the exposure of urban land within the City of Millbrae to the various hazards.

<b>Exposure (acres of urban land)</b>			
<b>Hazard</b>	<b>2005</b>	<b>2010</b>	<b>Change</b>
<i>Total Acres of Urban Land</i>	<i>1,996</i>	<i>2,019</i>	<i>23</i>
Earthquake Faulting (within CGS zone)	2	0	(2)
Earthquake Shaking (within highest two shaking categories) <sup>1</sup>	1,703	1,676	(27)
Earthquake-Induced Landslides (within CGS study zone)	0	0	0
Liquefaction (within moderate, high, or very high liquefaction susceptibility)	2,064	2,060	(4)
Flooding (within 100 year floodplain)	58	74	16
Flooding (within 500 year floodplain)	71	64	(7)
Landslides (within areas of existing landslides)	1,166	1,166	0
Wildfire (subject to high, very high, or extreme wildfire threat) <sup>2</sup>	16	5	(11)
Wildland-Urban Interface Fire Threat	1,161	1,171	110
Dam Inundation (within inundation zone)	0	0	0
Tsunamis <sup>3</sup> (within inundation area)	not applicable		

<sup>1</sup> In large part because the San Andreas fault systems run through the County.

<sup>2</sup> The decrease is due to better and more accurate mapping.

<sup>3</sup> Tsunami evacuation planning maps were not available inside the San Francisco Bay in 2005. This map became available in December 2009. Acres of exposed land are not an appropriate analysis for this



Drought <sup>4</sup>	33,366	36,021	2,655
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hazard. It should be noted that this map is not a hazard map and should be used for evacuation planning purposes only. The inundation line represents the highest inundation at any particular location from a suite of tsunami sources. It is not representative of any single tsunami.

<sup>4</sup> The entire City of Millbrae has limited drought potential.

### Infrastructure Exposure

The City of Millbrae also examined the hazard exposure of infrastructure within the jurisdiction based on the information on ABAG's website at <http://quake.abag.ca.gov/mitigation/pickdbh2.html>. Of the 565 miles of roadway in the City of Millbrae the following is exposed to the various hazards analyzed.

Exposure (miles of infrastructure)						
Hazard	Roadway		Transit		Rail	
	2005	2010	2005	2010	2005	2010
<i>Total Miles of Infrastructure</i>	565	565			4	5
Earthquake Shaking (within highest two shaking categories)	505	506			4	5
Liquefaction Susceptibility (within moderate, high, or very high liquefaction susceptibility)	111	110			3	4
Liquefaction Hazard (within CGS study zone) <sup>1</sup>	0	0				
Earthquake-Induced Landslides (within CGS study zone) <sup>1</sup>	0	0				
Earthquake Faulting (within CGS zone)	2	0				
Flooding (within 100 year floodplain)	20	24			2	1
Flooding (within 500 year floodplain)	28	30				2
Landslides (within areas of existing landslides)	257	257				
Wildfires (subject to high, very high, or extreme wildfire threat)	7	3				
Wildland-Urban Interface Fire Threat	294	227			1	
Dam Inundation (within inundation zone)	0	0				
Tsunamis <sup>2</sup>	not applicable					

<sup>1</sup> 565 acres not yet evaluated by CGS.

<sup>2</sup> Tsunami evacuation planning maps were not available inside the San Francisco Bay in 2005. This map became available in December 2009. Miles of exposed infrastructure is not an appropriate analysis for



Drought <sup>3</sup>	not applicable
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this hazard. It should be noted that this map is not a hazard map and should be used for evacuation planning purposes only. The inundation line represents the highest inundation at any particular location from a suite of tsunami sources. It is not representative of any single tsunami.

<sup>3</sup> Drought is not a hazard for roadways.

***Exposure of City of Millbrae-Owned Buildings, Plus Critical Healthcare Facilities and Schools***

Finally, the City of Millbrae examined the hazard exposure of critical health care facilities and schools located within the City of Millbrae and city owned buildings based on the information on ABAG’s website at <http://quake.abag.ca.gov/mitigation/pickcrit.html>. The City of Millbrae provided a list of the critical facilities it owns to ABAG. ABAG provided a detailed assessment of the hazard exposure of each of its facilities. The following number of facilities is exposed to the various hazards analyzed.

Exposure (number of facility types)								
Hazard	Hospitals		Schools		Locally owned bridges and interchanges		Locally owned critical facilities	
	2005	2010	2005	2010	2005	2010	2005	2010
<i>Total Number of Facilities</i>	2		7		1		60	
Earthquake Shaking (within highest two shaking categories)	2		7		1		60	
Liquefaction Susceptibility (within moderate, high, or very high liquefaction susceptibility)	0		1		0		1	
Liquefaction Hazard (within CGS study zone) <sup>1</sup>	2		0		0		1	
Earthquake-Induced Landslides (within CGS study zone) <sup>2</sup>	0		0		0		0	

<sup>1</sup> Four Long-term care critical facilities have not been evaluated by CGS for this hazard



Earthquake Faulting (within CGS zone)	0		0		0		0	
Flooding (within 100 year floodplain)	0		1		0		0	
Flooding (within 500 year floodplain)	0		0		0		1	
Landslides (within areas of existing landslides)	0		1		0		0	
Wildfires (subject to high, very high, or extreme wildfire threat)	0		0		0		0	
Wildland-Urban Interface Fire Threat	0		2		0		1	
Dam Inundation	0		0		0		0	
Tsunamis <sup>3</sup> (within inundation area)	-		-		-		-	
Drought <sup>4</sup>	-	-	-	-	-	-	-	-

<sup>3</sup> Tsunami evacuation planning maps were not available inside the San Francisco Bay in 2005. This map became available in December 2009. It should be noted that this map is not a hazard map and should be used for evacuation planning purposes only. The inundation line represents the highest inundation at any particular location from a suite of tsunami sources. It is not representative of any single tsunami.

<sup>4</sup> Drought will not affect locally owned facilities directly.

***Repetitive Loss Properties***

There is no repetitive loss properties in the City of Millbrae based on the information at <http://quake.abag.ca.gov/mitigation/pickflood.html> (Information obtained from ABAG is available at <http://quake.abag.ca.gov/mitigation/pickflood.html>.)

***Other risks***

*At the present time, there are no known risks or vulnerabilities that differ from the rest of the planning area (9 counties).*

The City of Millbrae plans to continue to work with ABAG to improve the risk assessment information being compiled by ABAG, including developing ways to assess how many soft-story buildings are located in the City of Millbrae.

The City of Millbrae plans to work with ABAG to develop specific information about the kind and level of damage to buildings, infrastructure, and critical facilities which might result from any of the hazards previously noted.



## **National Flood Insurance Program**

The City of Millbrae has participated in the National Flood Insurance Program since 1981. The City of Millbrae also participates in the Community Rating System and is currently class X.

## **Mitigation Goals**

The goal of the ABAG MJ-LHMP is to maintain and enhance a disaster-resistant region by reducing the potential for loss of life, property damage, and environmental degradation from natural disasters, while accelerating economic recovery from those disasters. This goal is unchanged from the 2005 plan and continues to be the goal of the City of Millbrae in designing its mitigation program.

## **Mitigation Activities and Priorities**

### ***Evaluation of Progress from 2005 Plan***

In 2005, mitigation actions and priorities were identified although in the 2005 Plan projects were not identified as clearly as they are in this plan. The attached list indicates each of the strategies identified, along with responsible party, action taken, and current status of progress. The following projects were completed by the public works and fire departments as well as the building and planning divisions.

- Adopted new Building and Fire Codes. On March 22, 2011 the Millbrae City Council adopted the latest edition of the 2010 California Building and Fire Codes with local amendments. The city began enforcing these codes on January 1, 2011. (HSG F-1; HSG e-3; ECON d-2)
- The City of Millbrae currently participates in CERT training. (HSG k-7; INFR g-6)
- Recently, the City repaired in cooperation with the State's Office of Emergency Services a significant slide between Crestview Drive and Pinehurst Court. This 11 million dollar project involved removing about 200 trucks of earth from the hillside, re-grading the entire hillside, installing geo-mat material and new drainage V ditches, and then re-installing the earth. (INFR e-1).
- The County of San Mateo has implemented an erosion control program a few years ago, and the City of Millbrae is working with the county on this from a building department and public works perspective. This is to try to prevent construction erosion entering into the city storm drain. (INFRA d-5)



### ***Future Mitigation Actions and Priorities***

As a participant in the 2010 ABAG multi-jurisdictional planning process, the staff of the City of Millbrae helped in the development and review of the comprehensive list of mitigation strategies in the overall multi-jurisdictional plan. The decision on priority was made based on a variety of criteria, not simply on an economic cost-benefit analysis. These criteria include being technically and administratively feasible, politically acceptable, socially appropriate, legal, economically sound, and not harmful to the environment or our heritage. Representatives from multiple departments then met on a regular basis to review progress on the City of Millbrae's 2005 strategies, to identify and prioritize additional mitigation strategies to update the list

These draft priorities were submitted to the city manager's office for review. The draft priorities will be provided to the city council for adoption pending approval of this LHMP by FEMA.

The city planning team also prioritized specific mitigation tasks for the next 5 years. This list includes implementation process, funding strategy, and approximate time frame.

- The City of Millbrae is close to completing its Water Pollution Control Plant Renovation Project. The project consists of constructing a new seismically safe operations center and a new 1.2 million gallon flow equalization tank and headworks, and upgrading the pumps, motors, and various internal plant treatment processes. This two year project is expected to be completed in January of 2012. Cost 30 million. (INFRA a-1)
- The City of Millbrae worked with the San Francisco Public Utilities Commission in planning for the seismic upgrade of the Hetch Hetchy water line through the City of Millbrae. (INFRA a-19; INFRA b-5)
- The City of Millbrae currently has a capital improvement project in process to perform long-term preservation of its five water storage tanks. As part of this approximately five million dollar project, the City of Millbrae is studying the geotechnical conditions below and around each tank and what seismic improvements are needed. Each tank already has installed automatic shut-off valves, which can be activated by certain levels of seismic activity. (INFRA b-5)



### **On-Going Mitigation Strategy Programs**

The City of Millbrae has many on-going mitigation programs that help create a more disaster-resistant region. The following list highlights those programs identified as *Existing Programs* in the mitigation strategy spreadsheet. Others are on-going programs that are currently underfunded. It is the City's priority to find additional funding to sustain these on-going programs over time.

- Vulnerability assessments of county facilities and infrastructure (GOVT-a-1) ;
- Non-structural mitigation for building contents (GOVT-a-4);
- Installation of micro and/or surveillance cameras at critical public assets tied to web-based software (GOVT-a-6);
- Coordination with the State Division of Safety of Dams to ensure that cities and counties are aware of the timeline for the maintenance and inspection of dams whose failure would impact their jurisdiction; (GOVT-a-8);
- Development of interoperable communications for first responders from cities, counties, special districts, state, and federal agencies. (GOVT-c-7);
- Participation in general mutual-aid agreements and agreements with adjoining jurisdictions for cooperative response to fires, floods, earthquakes, and other disasters (GOVT-c-13);
- Participation in FEMA's National Flood Insurance Program (GOVT-d-5)
- Develop printed materials, utilize existing materials (such as developed by FEMA and the American Red Cross), conduct workshops, and/or provide outreach encouraging employees of these critical health care facilities to have family disaster plans and conduct mitigation activities in their own homes (HEAL-a-7);
- Sponsor the formation and training of Community Emergency Response Teams (CERT) through partnerships with local businesses (GOVT-c-3, ECON-j-5, HWNG-k-6);
- Incorporate FEMA guidelines and suggested activities into local government plans and procedures for managing flood hazards (LAND-c-2);
- Increase efforts to reduce landslides and erosion in existing and future development through continuing education of design professionals on mitigation strategies (HSNG—i-2, ECON-g-2);
- Conduct an inventory of existing or suspected soft-story residential, commercial and industrial structures (HSNG-c-4, ECON-b-4);
- Continue to repair and make structural improvements to storm drains, pipelines, and/or channels to enable them to perform to their design



capacity in handling water flows as part of regular maintenance activities (INFR—d-6, INFR-d-7)

### **Incorporation into Existing Planning Mechanisms**

The City of Millbrae has several planning mechanisms which

- ◆ General plan safety element
- ◆ Capital Improvements Plan

The City of Millbrae has a Safety Element in its General Plan that includes a discussion of fire, earthquake, flooding, and landslide hazards. This plan was adopted as an implementation appendix to the Safety Element. In addition, the City of Millbrae enforces the requirements of the California Environmental Quality Act (CEQA), which, since 1988, requires mitigation for identified natural hazards. The City of Millbrae has used these pre-existing programs as a basis for identifying gaps that may lead to disaster vulnerabilities in order to work on ways to address these risks through mitigation.

### **Plan Update Process**

As required Disaster Mitigation Act of 2000, the City of Millbrae will update this plan annex at least once every five years, by participating in a multi-agency effort with ABAG and other agencies to develop a multi-jurisdictional plan.

The City of Millbrae will ensure that monitoring of this annex will occur. The plan will be monitored on an on-going basis. However, the major disasters affecting the City of Millbrae, legal changes, notices from ABAG as the lead agency in this process, and other triggers will be used. Finally, the annex will be a discussion item on the agenda of the meeting of department leaders at least once a year in April. At that meeting, the department heads will focus on evaluating the Annex in light of technological and political changes during the past year or other significant events. The department leaders will be responsible for determining if the plan should be updated.

The City of Millbrae is committed to reviewing and updating this plan annex at least once every five years, as required by the Disaster Mitigation Act of 2000. The City of Millbrae's Emergency Coordinator will contact ABAG four years after this plan is approved to ensure that ABAG plans to undertake the plan update process. If so, the City again plans to participate in the multi-jurisdictional plan. If ABAG is unwilling or unable to act as the lead agency in the multi-jurisdictional effort, other agencies will be contacted, including the San Mateo Office of Emergency Services. Counties should then work



*City of Millbrae  
California*

Fire Department  
(650) 259-2400  
Fax (650) 259-2442

together to identify another regional forum for developing a multi-jurisdictional plan.

The public will continue to be involved whenever the plan is updated and as appropriate during the monitoring and evaluation process. Prior to adoption of updates, the County will provide the opportunity for the public to comment on the updates. A public notice will be posted prior to the meeting to announce the comment period and meeting logistics.



Exhibit A - Public Meeting Announcements

# Public Notice

## 2005 Local Hazard Mitigation Plan Update

You are invited to a Public Participation Session to provide comments on the update of the multi-jurisdictional 2005 Local Hazard Mitigation Plan for the City of Millbrae

Monday, September 21st, 2008

6p.m. - 7p.m.

Dave J. Gilcutt Community Room

460 Poplar Ave.

Millbrae, California 94030

