

September 10, 2009 - Special Joint Meeting with Historic Preservation Review Commission

SPECIAL JOINT MEETING OF THE

BENICIA PLANNING & HISTORIC PRESERVATION REVIEW COMMISSIONS

CITY COUNCIL CHAMBERS

SPECIAL MEETING AGENDA

Thursday, September 10, 2009

7:00 P.M.

I. CALL TO ORDER – JOINT MEETING OF PLANNING COMMISSION AND HISTORIC PRESERVATION REVIEW COMMISSION

A. Pledge of Allegiance

B. Roll Call of Commissioners

C. Reference to Fundamental Rights of Public - A plaque stating the Fundamental Rights of each member of the public is posted at the entrance to this meeting room per Section 4.04.030 of the City of Benicia's Open Government Ordinance.

II. AGENDA CHANGES AND DISCUSSION

III. OPPORTUNITY FOR PUBLIC COMMENT

This portion of the meeting is reserved for persons wishing to address the Commission on any matter not on the agenda that is within the subject matter jurisdiction of the Planning or Historic Preservation Review Commission. State law prohibits the Commission from responding to or acting upon matters not listed on the agenda.

Each speaker has a maximum of five minutes for public comment. If others have already expressed your position, you may simply indicate that you agree with a previous speaker. If appropriate, a spokesperson may present the views of your entire group. Speakers may not make personal attacks on council members, staff or members of the public, or make comments which are slanderous or which may invade an individual's personal privacy.

A. WRITTEN

B. PUBLIC COMMENT

IV. PLANNING AND HISTORIC PRESERVATION REVIEW COMMISSION CONSENT CALENDAR

Consent Calendar items are considered routine and will be enacted, approved, or adopted by one motion unless a request for removal for discussion or explanation is received from the Planning or Historic Preservation Review Commission or a member of the public by submitting a speaker slip for that item.

*Any Item identified as a Public Hearing has been placed on the Consent Calendar because it has not generated any public interest or dissent. However, if any member of the public wishes to comment on a Public Hearing item, or would like the item placed on the regular agenda, please notify the Community Development Staff either prior to, or at the Planning or Historic Preservation Review Commission meeting, prior to the reading of the Consent Calendar.

A. Approval of Agenda

B. [Approval of Joint Meeting Minutes of August 27, 2009](#)

V. REGULAR AGENDA ITEMS

A. [NEW HARBOR CHURCH – 882 BLAKE COURT](#)

The City of Benicia has received an application from New Harbor Community Church to construct a new 20,244 sq. ft. two-story church at the terminus of Blake Court, east of Rose Drive. City staff will present an overview of the project, followed by a presentation from the applicant. The purpose of this meeting will be to inform the Commissioners and the public of the full scope of the project and answer questions from the Commissioners. This application will require approval of a Use Permit, Variance, and Design Review, all of which will be addressed during future hearings. The project site and building details include: a 3.11-acre site consisting of 1.6 acres of open space and a remaining 1.5 acres of developable land, a 20,244 sq. ft. two-story building (main building reaches 30 ft. tall, with a lighthouse and cross reaching almost 46 ft.), 13,127 sq. ft. building footprint, 17,073 sq. ft. of landscaped areas, and 103 parking spaces. Proposed uses include 5,040 sq. ft. worship area doubling as a basketball court, 2,252 sq. ft. of study rooms, 636 sq. ft. for daycare, 1,592 sq. ft. of office and administrative space, 341 sq. ft. for den with fireplace, 645 sq. ft. for break/coffee room, 460 sq. ft. kitchen, and 235 sq. ft. for a bookstore.

Recommended Action: Advise staff and the applicant regarding any issues related to a proposed two-story 20,244 sq. ft. building at 882 Blake Court, at Rose Drive.

B. [LOCAL HAZARD MITIGATION PLAN UPDATE](#)

In February 2007, the City of Benicia adopted the Association of Bay Area Government's (ABAG) Taming Natural Disasters plan and the City's Annex, Strategies, and Critical Facilities Plan as the City of Benicia's Local Hazard Mitigation Plan (LHMP). The federal Disaster Mitigation Act of 2000 requires all cities, counties and special districts to have adopted a LHMP to receive disaster mitigation funding

from FEMA. This plan addresses critical areas within our community and qualifies the City for possible mitigation funding that may become available in the future from FEMA. City Staff has been working with ABAG staff to update the LHMP Strategies and is requesting input from the Commissions and community.

Recommendation:

Staff is requesting comments from the Commissions and community regarding the update to the Local Hazard Mitigation Plan strategies and priorities. No additional action is required.

VI. COMMUNICATIONS FROM STAFF

VII. COMMUNICATIONS FROM COMMISSIONERS

VIII. ADJOURNMENT

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Public Participation

The Benicia Planning and Historic Preservation Review Commissions welcome public participation.

Pursuant to the Brown Act, each public agency must provide the public with an opportunity to speak on any matter within the subject matter jurisdiction of the agency and which is not on the agency's agenda for that meeting. The Commissions allow speakers to speak on non-agendized matters under public comments, and on agendized items at the time the agenda item is addressed at the meeting. Comments are limited to no more than five minutes per speaker. By law, no action may be taken on any item raised during the public comment period although informational answers to questions may be given and matters may be referred to staff for placement on a future agenda of the Planning or Historic Preservation Review Commission.

Should you have material you wish to enter into the record, please submit it to the Commission Secretary.

Disabled Access

In compliance with the Americans with Disabilities Act (ADA), if you need special assistance to participate in this meeting, please contact Valerie Ruxton, the ADA Coordinator, at (707) 746-4211. Notification 48 hours prior to the meeting will enable the City to make reasonable arrangements to ensure accessibility to this meeting.

Meeting Procedures

All items listed on this agenda are for Commission discussion and/or action. In accordance with the Brown Act, each item is listed and includes, where appropriate, further description of the item and/or a recommended action. The posting of a recommended action does not limit, or necessarily indicate, what action may be taken by the Planning or Historic Preservation Review Commission.

The Commissions may not begin new public hearing items after 11 p.m. Public hearing items which remain on the agenda may be continued to the next regular meeting of the Commission, or to a special meeting.

Pursuant to Government Code Section 65009; if you challenge a decision of the Planning or Historic Preservation Review Commission in court, you may be limited to raising only those issues you or someone else raised at the Public Hearing described in this notice, or in written correspondence delivered to the Commission at, or prior to, the Public Hearing. You may also be limited by the ninety (90) day statute of limitations in which to file and serve a petition for administrative writ of mandate challenging any final City decisions regarding planning or zoning.

Appeals of Planning Commission decisions which are final actions, not recommendations, are considered by the City Council. Appeals of Historic Preservation Review Commission decision which are final actions, not recommendations, are considered by the Planning Commission. Appeals must be filed in the Community Development Department in writing, stating the basis of appeal with the appeal fee within 10 business days of the date of action.

Public Records

The agenda packet for this meeting is available at the City Clerk's Office, the Benicia Public Library and the Community Development Department during regular working hours. To the extent feasible, the packet is also available on the City's web page at www.ci.benicia.ca.us under the heading "Agendas and Minutes." Public records related to an open session agenda item that are distributed after the agenda packet is prepared are available before the meeting at the Community Development Department's office located at 250 East L Street, Benicia, or at the meeting held in the City Hall Council Chambers. If you wish to submit written information on an agenda item, please submit to Gina Eleccion, Management Analyst, as soon as possible so that it may be distributed to the Planning or Historic Preservation Review Commission.

 [August 27, 2009 minutes \(pdf\)](#)

 [New Harbor report \(pdf\)](#)

 [Local Hazard Mitigation Plan report \(pdf\)](#)



**SPECIAL JOINT MEETING OF THE
BENICIA PLANNING & HISTORIC PRESERVATION REVIEW COMMISSIONS**

CITY COUNCIL CHAMBERS

SPECIAL MEETING MINUTES

Thursday, August 27, 2009

7:00 P.M.

I. CALL TO ORDER – JOINT MEETING OF PLANNING COMMISSION AND HISTORIC PRESERVATION REVIEW COMMISSION

- A. Pledge of Allegiance**
- B. Roll Call of Commissioners**

Planning Commission:

Present: Commissioners Bortolazzo, Dean, Ernst, Sherry, Syracuse, Thomas, and
Chair Healy

Absent: None

Historic Preservation Review Commission:

Present: Commissioners Crompton, Donaghue, Haughey, McKee, and Chair Mang

Absent: Commissioners Taagepera and White (both excused)

Staff Present:

Charlie Knox, Public Works & Community Development Director

Mike Marcus, Assistant Planner

Gina Eleccion, Management Analyst

James Pollard, Planning Intern

Kat Wellman, Contract Attorney

- C. Reference to Fundamental Rights of Public** - A plaque stating the Fundamental Rights of each member of the public is posted at the entrance to this meeting room per Section 4.04.030 of the City of Benicia's Open Government Ordinance.

II. AGENDA CHANGES AND DISCUSSION

A. Approval of Agenda

On motion of Commissioner Planning Commissioner Ernst, seconded by Planning Commissioner Syracuse, the agenda was approved by the following vote:

Ayes: Planning Commissioners Bortolazzo, Dean, Ernst, Sherry, Syracuse, Thomas and Chair Healy

Noes: None

Absent: None

Abstain: None

Ayes: Historic Preservation Review Commissioners Crompton, Donaghue, Haughey, McKee and Chair Mang

Noes: None

Absent: Commissioners Taagepera and White

Abstain: None

III. OPPORTUNITY FOR PUBLIC COMMENT

A. WRITTEN

None.

B. PUBLIC COMMENT

None.

IV. PLANNING COMMISSION CONSENT CALENDAR

On motion of Commissioner Thomas, seconded by Commissioner Ernst, the Consent Calendar was approved by the following vote:

Ayes: Commissioners Bortolazzo, Dean, Ernst, Sherry, Syracuse, Thomas and Chair Healy

Noes: None

Absent: None

Abstain: None

A. Approval of Planning Commission Minutes of July 9, 2009

V. HISTORIC PRESERVATION REVIEW COMMISSION CONSENT CALENDAR

On motion of Commissioner Haughey, seconded by Commissioner Crompton, the Consent Calendar was approved by the following vote:

Ayes: Commissioners Crompton, Donaghue, Haughey, McKee, and Chair Mang

Noes: None

Absent: Commissioners White and Taagepera

Abstain: None

A. Approval of Historic Preservation Review Commission Minutes of July 23, 2009

VI. REGULAR AGENDA ITEMS

A. INTERMODAL FACILITY PROJECT – PARK & RIDE

The Benicia Intermodal Facilities Project, located at Military/First and Military West/Southampton will serve the new regional Baylink Route 78 that provides bus service between the Vallejo Ferry Terminal and Walnut Creek BART. Benicia does not currently have a parking facility for commuters. The City recently hired Kimley-Horn and Associates, Inc. to provide a conceptual design. Following initial work by the consultant, public meetings will be held to solicit input on the design and functionality of the facility.

The project will enhance commuting for riders, as well as recruit new riders to use public transportation. The City Park site is an existing transit hub that integrates vehicle, bicycle and pedestrian traffic. With the new Route 78, with service to Vallejo, and Pleasant Hill/Walnut Creek BART stations, this facility will provide a safe, convenient location for riders to access the Route 78 line.

Kimley-Horn and Associates, Inc. will complete project research and data collection in cooperation with City staff and project stakeholders to develop a firm understanding of potential project issues and constraints, which will be used throughout the comprehensive process for detailed project scoping, public involvement and concept plan development.

Recommended Action: Review preliminary project information and provide feedback. Initial comments and feedback will assist City staff and the consultant in setting up community workshops to address concerns and incorporate suggestions to achieve project goals.

Gina Eleccion gave an overview of the project.

Commissioners commented on the number of spaces, ridership projections, access on West K Street, MTC funding and the City Park site.

The public hearing was opened.

Carl Lunsted, 1107 West 2nd Street – He is concerned with beautification issues. He opposes the project. He commented on the CalTrans lot on East 2nd Street as another option. Gina Eleccion noted that this is not accessible to the Route 78 line.

Elsie Lunsted, 1107 West 2nd Street – She is opposed to the City Park site. She is concerned with school buses parking and the lack of parking when meetings are occurring at the fire station.

Jerry Hayes, 150 West G Street – He supports Park-and-Ride, but as a representative of the Historical Society and the Main Street Design Board, does not support the City Park site. Both groups are supportive of the concept, but have concerns with the City Park site. The City has already sacrificed space in the park.

Bob Berman, 250 West K Street – He is concerned with impacts on the City Park. He does not see the demand or need for the project.

Vallarie Kilkenny, 140 West K Street – She opposes the project. She does not want additional parking on the street.

Priscilla Whitehead, 288 West J Street – She opposes the project. She submitted comments to the Commission. The visual impacts would be too much.

Jerry Pollard, 1315 Military West , Pastor of Calvary Church – He noted that the church was approached last fall. There were concerns with the project at that time. With future expansion plans, it seems like this could work with a lease agreement. He noted a main sewer line runs through the property. There has been varied experience in dealing with the City.

Kathy Kerridge, 771 West I Street - She thinks this is an important project. She believes more people will be utilizing this bus line. She agrees that the locations of the bus stops might need to change. She doesn't like the gateway arches.

Dan Smith, 265 Military East – He is in favor of exploring options for Park-and-Ride, though does not believe the sites are ideal.

Marleen Deane, 1121 West 2nd Street – She does not think that City Park is a good location for the facility.

Steve Goetz, 347 Goldenslopes – He agreed with all of the negative comments regarding City Park. He commented on General Plan goals and policies. He thought there may be laws that protect parks. He commented that the Vet's Hall might be a viable option. He does not think the demand is there for this project.

Jim Stevenson commented on the heritage that needs to be protected. He opposes the City Park site.

Jon Van Landschoot – He questioned what would happen if the project becomes successful. He would like to see alternate locations proposed, possibly the E Street lot.

The public hearing was closed.

Historic Preservation Review Commissioners commented on the project.

There are concerns that City Park is in a historic district. The City should pursue alternate locations. A comment was made on the Climate Action Plan and the parks emissions related to equipment.

Commissioner Crompton noted that this is an important project, but might not belong downtown.

Commissioner McKee commented that the arch could be a good gateway to downtown. He thinks the Church site is ideal.

Commissioner Haughey noted that there is space behind Westamerica Bank.

Commissioner Donaghue would like to see the City Park site relocated.

Chair Mang noted he does not like the idea of using the State Park lot.

Planning Commissioners commented on the project.

Commissioner Bortolazzo does not like the City Park site.

Commissioner Sherry noted that he sees both sides of this project. He does not want to increase parking in the park. He would like to see East 2nd Street used with monument signs to downtown. We should pursue rerouting the bus lines.

Commissioner Dean recognizes the purpose of the Park-and-Ride, but does not think City Park is appropriate. He would like to see shared use of existing parking.

Commissioner Thomas would like to take advantage of existing parking in other locations.

Commissioner Ernst noted that there were no riders in attendance supporting the project. He is opposed to the City Park site. He commented on emissions.

Chair Healy noted that this item was to start the discussion on this project. He noted that we have promised to find a way to provide parking to get cars off the road. We need to figure out smart growth. He noted that this is the start of the process.

A recess was called at 8:26 p.m. The meeting was reconvened at 8:40 p.m.

B. CLIMATE ACTION PLAN

City staff will present the Draft Climate Action Plan, prepared in partnership with the Cal Poly, San Luis Obispo City and Regional Planning Department. The presentation will include a brief overview of the Climate Action Plan preparation process and a summary of recommended objectives and strategies for each of the eight focus areas. Focus areas include Public Outreach and Education, Energy Production, Buildings, Industry and Commercial, Water and Wastewater, Solid Waste and, Parks and Open Space. Historic preservation is addressed as a subsection of the Buildings focus area. Comments from the Planning Commission and Historic Preservation Review Commission will be forwarded to the City Council for their review and consideration in Fall 2009.

Recommendation: Recommend approval of the Draft Climate Action Plan to the City Council.

Charlie Knox, Director, thanked Mike Marcus, Gina Eleccion, James Pollard, and the collaboration of staff for making this possible. He noted that there are major

implementation strategies from the Climate Action Plan that will be going to the City Council in September and October. He noted that the Sustainability Commission will be seated by the end of the year.

Mike Marcus, Assistant Planner, gave an introduction and overview of the Climate Action Plan. He noted that the City Council has provided leadership in terms of greenhouse gas emissions reductions. Once the Climate Action Plan is adopted, we will see individual projects coming forward to meet the objectives of the Climate Action Plan. He gave an overview of the process, and the emissions inventory reduction targets. He thanked James Pollard, Intern, for his work on this project. Outreach was an important component of this project. He outlined the components and focus areas of the Plan. He noted that reduction ranges are approximations. He noted that the Plan should be viewed as a strategic roadmap, not a mandatory policy document. Individual policy decisions will need to be adopted to implement the strategies in the Plan. With implementation of the strategies, Benicia can meet its targets. It is unknown how State emissions reductions will be assigned to stationary emitters, such as Valero.

Charlie Knox noted that this is an involved, complicated document, and will take some time to fully understand.

In response to a Commissioner question the reductions shown, Mike Marcus noted that increases in emissions would occur if we continue with business as usual.

Commissioners congratulated staff for this Plan. There was a question of clarification on Valero's emissions reductions. Charlie Knox noted that as air district regulations have increased, refineries have been reducing emissions.

Commissioners questioned how this document will be integrated with the existing policy documents. Charlie Knox noted that this is meant to be a "live" document. As the actions in the plan are for the benefit of the environment, many will qualify for expedited CEQA review. Each project will have the appropriate review process.

Commissioner Syracuse noted this is a fine piece of work. He commented on waterfront pathways and parks. He also commented on hybrid vehicle requirements.

Commissioner McKee commented on the ratio of industrial vs. residential. Charlie Knox noted that our ratios are unusual compared to the region and the State. This is due to the size of the community, the refinery, industrial park, and the port.

Commissioner Mang noted that this is a big undertaking.

The public hearing was opened.

Gene Doherty, 580 Willow Court – He commended staff for the document. There are minor edits he would like to see. He highlighted some of the implementation strategies that could be expanded, including:

1. Workshops – October 24th Climate Action Day

2. Car-free challenge – identify bike safety events, sponsored by Police Department
3. Solar permitting fee waived – include education opportunities regarding theft
4. Promote solar incentives – educate installers
5. Traffic signal assessment – include uphill stop signs
6. Revise parking standards – include commutes of employees of local businesses
7. Wood fireplace change-out – remove completely rather than convert
8. Have tree committee review this Plan

Kathy Kerridge, 771 West I – Thanked staff for their work on the Plan. She appreciates that there are short, mid, and long-term goals. She would like to remain open to new technologies. She would like to see more education about food, how it's produced, what we eat, etc... She would like to see how City savings will be used.

Brian Harkins, 527 McCall Drive – He thinks this is an admirable project. He commented on the science of climate change and the complexity of it. He would like to see a major effort in educating the community regarding the science. He believes there are a couple of gaps in the report. He would like the emissions report to include travel by Benicians outside the City.

Bob Berman, 250 West K Street – He questioned how the Plan gets adopted. He is concerned with the need for annual monitoring. He would like to see some assurance that the annual report is done and allows for reassessment of approaches.

Dan Smith, 265 Military East – He thinks this is an excellent step forward. He thanked Mike Marcus and the City Council for making this possible. He commented on the aggressive targets. He would like to see stronger language in the Plan.

Dana Dean, 835 First Street – She congratulated staff on the work that has gone into producing this document. She would like to see the underlying data. She would also like this to be more user-friendly for individual property owners, with lists of the most effective emission reduction strategies for residential and non-residential uses. She will provide suggested edits in relation to Valero and the Port.

The public hearing was closed.

HPRC Commissioners had no additional comments.

Commissioner Sherry noted the omission of school traffic in relation to emissions. Mike Marcus noted that this could be added, encouraging the use of school buses. In addition, Commissioner Sherry noted that the science is complex.

Commissioner Bortolazzo questioned the use of bonds for renewable energy installation. Mike Marcus noted the options that are available to the City. One option is an emerging program sponsored by a State joint powers authority that would allow the City to opt in by resolution and not have to establish our own program.

Commissioner Dean commented on the sea level rise graphic shown on page 7. He would like to see that featured more prominently. He questioned how comments from this meeting will be incorporated into the report to Council. Charlie Knox noted that the document will be brought to the Council with an addenda. Additional comments can be submitted and included in the City Council agenda packet.

Commissioner Ernst commended staff for their work on this Plan. He is concerned with businesses being affected. He commented on no-emission vehicles and hybrids.

Commissioner Thomas noted that this exceeded his expectations. He would also like to see the underlying data available.

Chair Healy thanked staff and would like official acknowledgment of Dana Dean and Marilyn Bardet as individuals in the Plan. In addition, he would like to increase the use of Channel 27. He noted that there is a huge jobs opportunity to partner with local labor groups. He thinks there is middle ground between encouragement and mandates. He would like information made public on individual businesses in terms of emissions. Regarding trees, forestation has been discussed. He would like that revisited.

Mike Marcus noted that the website (www.beniciaclimateactionplan.com) is being updated. In addition, the same, and more, information is available on the City of Benicia website (www.ci.benicia.ca.us).

Kat Wellman, Contract Attorney, suggested making a recommendation that the presentation to City Council include comments and recommendations made by Commissioners and public.

Commissioner Donaghue questioned whether historic houses are being held to a higher standard in terms of LEED certification. Mike Marcus noted that Build-it-Green is recommended for both historic and non-historic structures. Commissioner Donaghue would also like to see recycling containers in the industrial park and residential recycling weekly.

Recommended changes:

1. Add a strategy regarding school traffic emissions
2. Encourage forestation on public open space, industrial buffers and freeways
3. Forward all comments and recommendations to City Council
4. Reword language regarding LEED certification for historic structures

On motion of Commissioner Sherry, seconded by Commissioner Thomas, the Planning Commission recommended City Council approval by the following vote:

Ayes:	Commissioners Bortolazzo, Dean, Ernst, Sherry, Syracuse, Thomas and Chair Healy
Noes:	None
Absent:	None
Abstain:	None

On motion of Commissioner Donaghue, seconded by Commissioner Haughey, the Historic Preservation Review Commission recommended City Council approval by the following vote:

Ayes: Commissioners Crompton, Donaghue, Haughey, McKee and Chair Mang
Noes: None
Absent: Commissioners Taagepera and White
Abstain: None

VII. COMMUNICATIONS FROM STAFF

Charlie Knox thanked members of the community that have worked on the Climate Action Plan.

In addition, Charlie Knox noted that the Arsenal Specific Plan recirculated EIR will be coming forward on October 22nd at a joint PC/HPRC meeting. He requested comments be submitted in advance.

Gina Eleccion noted that there will be an information session on New Harbor Church, located at Rose Drive/Blake Court. This meeting will be held on Thursday, September 10th and will be a joint meeting of the PC/HPRC.

Gina Eleccion noted, for the Historic Preservation Review Commissioners, that proposals have been submitted for evaluation of the historic integrity of the IOOF building. Staff is negotiating with consultants and intends to enter into an agreement shortly.

Gina Eleccion noted that the RFP for the historic context has been released.

Charlie Knox mentioned that Saturday morning there will be an opening of the bike/ped bridge opening.

VIII. COMMUNICATIONS FROM COMMISSIONERS

Commissioner Dean noted that he needs to update his ethics training. Kat Wellman agreed to assist.

IX. ADJOURNMENT

Chair Healy adjourned the meeting, in memory of Joe Thomas, at 10:35 p.m.

AGENDA ITEM
PLANNING AND HISTORIC PRESERVATION REVIEW COMMISSION MEETING:
SEPTEMBER 10, 2009
STUDY SESSION

DATE : August 27, 2009

TO : Planning Commission
Historic Preservation Review Commission

FROM : Lisa Porras, Senior Planner

SUBJECT : **882 BLAKE COURT, NEW HARBOR CHURCH**

RECOMMENDATION:

Advise staff and the application regarding any issues related to a proposed two-story 20,244 sq. ft. building at 882 Blake Court, at Rose Drive.

EXECUTIVE SUMMARY:

New Harbor Church, currently located at 4858 East 2nd Street, is proposing to build a new two-story 20,244 sq. ft. facility at 882 Blake Court in the Southhampton neighborhood. This project will need approvals for a Use Permit, Variance, and Design Review from the City. The purpose of this meeting is to provide an overview of the church's proposal and describe in detail all components of the project, from the design of the building to its activities and hours. Thereafter separate hearings with the Planning Commission and Historic Preservation Review Commission will be scheduled.

This project is subject to the Religious Land Use and Institutionalized Persons Act (RLUIPA) enacted in 2000. This federal law prohibits government from imposing land use regulations (i.e. zoning development standards) on religious institutions that are different from development standards applied to other projects under the same zone designation. Furthermore, a city cannot totally exclude religious institutions from its jurisdiction. Because the site of the proposed church has an RS (single-family) zone designation, it must adhere to the development standards of that zone. Staff has found that the church complies with all of the development standards of the RS zone, with the exception of one: landscaping. The application for a variance is to address the landscaping issue.

GENERAL PLAN:

The City of Benicia's General Plan includes the following Goal and accompanying Policies that focus on church facilities within the City:

- Goal 2.29: Provide for churches to locate where conflicts with adjacent land uses will be minimized.

- Policy 2.29.1: Inside the Urban Growth Boundary, allow churches outright in Community Commercial [CC] zones, and as a conditional use in other zones. Make every effort to provide land for needed religious assembly when planning large new projects in these zones.
- Policy 2.29.2: Encourage the location and design of church facilities to be compatible with neighboring properties.

STRATEGIC PLAN:

Relevant Strategic Plan Goals and accompanying Strategies:

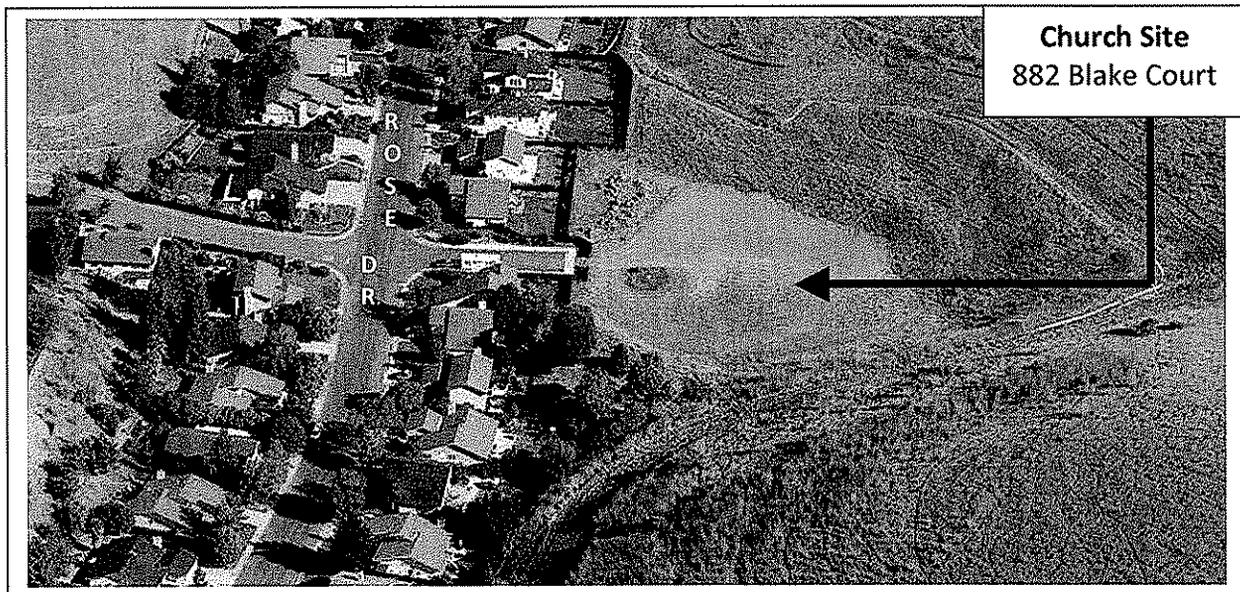
- Strategic Goal 5.00: Enhance Community Appearance
 - Strategy 5.10: Promote quality design in new construction and remodeling.
- Strategic Goal 6.00: Expand Youth Activities and Services
 - Strategy 6.10: Provide healthy and enriching year-round programs for middle and high school students.

BUDGET INFORMATION:

There are no impacts to the City budget.

BACKGROUND:

Project Location



Site History

The project site is located within the former Solano County Sanitary Landfill, which was owned and operated by Mr. Urban J. Braitto from the 1950's to 1978. In 1980, landfill material was

removed so that residential areas now present could be built. Approximately 11 years later in 1991, waste material was found beneath 5 residential units, 4 of which were permanently vacated. In 1997 the Benicia City Council directed that the site be cleaned up in order to return the area to its natural state.

In 1999, the City released a Notice of Preparation for an Environmental Impact Report (EIR) for the site cleanup. The objectives of the EIR were to: (1) remediate the site, (2) provide for reconstruction of houses on affected lots, and (3) provide a site for a religious facility. In 2001, the City Council certified the EIR.

Because the EIR addressed the eventual development of a religious assembly, but did not include a design nor detailed descriptions of activities and hours for the site, an Addendum to the EIR is being prepared. Once the Addendum is complete, the Planning Division will release the document for public review for 45-days. Written comments will be collected and forwarded on to the Planning Commission at a future hearing.

When the Council certified the EIR in 2001, they also entered into an agreement with the owner of the property (Granite Management Corporation), whereby a portion of the cleanup area was to be transferred in fee to a religious entity identified by the Benicia Council of Churches. The agreement states that the transfer of the site to a church will benefit the residents of Benicia and the City. Ultimately, New Harbor Community Church was selected to be the recipient of the site.

An application to develop the site as a church was filed by New Harbor Community Church on June 15, 2006.

Permitting Process

In order to construct and operate the proposed church and its activities, approval of a Use Permit, Variance, and Design Review are all required. The Planning Commission will address the Use Permit and Variance, while the Historic Preservation Review Commission (HPRC) will address Design Review. In terms of sequence, the Planning Commission hearing will be scheduled first, followed by a hearing with the HPRC as follows:

- **Planning Commission:** The Commission will act on the Use Permit for the site's proposed uses, operations, and hours. In addition, the Commission will also act on the Variance and determine if findings can be made to allow 25% of landscaping rather than the RS zone requirement of 35% landscaping within the developable portion of the site (17,071 sq. ft. of landscaping vs. 23,619 sq. ft.). After the Commission makes its decision, a mandatory 10-business day appeal period will ensue. Should any individual file an appeal, the matter of the Use Permit and Variance will be forwarded to the City Council for final decision.
- **Historic Preservation Review Commission:** After the Planning Commission has made its decision on the Use Permit and Variance (and after any subsequent appeal to the City Council), a hearing can be scheduled with the HPRC for Design Review. During Design Review, the HPRC will review the site layout, the architectural quality of the building,

building materials and colors, and proposed landscape material. After the HPRC makes its decision, a mandatory 10-business day appeal period will ensue. Should any individual file an appeal, the matter of the Design Review will be forwarded to the Planning Commission for decision. Should anyone appeal the Planning Commission's decision, Design Review will be forwarded to the City Council for final decision.

SUMMARY:

Site Details

- ❑ Total Site Area: 136,520 sq. ft. (3.11 Acres)
- ❑ Open Space Easement: 69,038 sq. ft. (1.6 acres)
- ❑ Developable Area: 67,482 sq. ft. (1.5 acres)

Building Details

- ❑ Building is positioned at the center of the site and surrounded on all sides by parking and vehicular drive aisles.
- ❑ The primary building entrance faces west, towards Blake Court.
- ❑ Main height of the building is 30 ft., with 45 ft. 9 inches at the top of the cross.
- ❑ The building is two stories.
- ❑ First floor includes a 5,040 sq. ft. worship area that doubles as a basketball court, and 11 rooms plus restrooms. A 636 sq. ft. daycare area with an outdoor children's play area in the northwest corner of the site and adjacent to existing homes is also proposed.
- ❑ Second floor overlooks the worship area down below. There are 14 rooms plus restrooms.

Building Materials and Colors (will be on display)

- ❑ Building exterior is smooth finish plaster (X-50 Crystal White Base 100).
- ❑ Roof is standing-seam simulated copper with a marine green finish.
- ❑ Lighthouse railing is aluminum.
- ❑ Building base is cast rustication.
- ❑ Window sills are cast colored concrete.
- ❑ Each window is 4 x 5 feet with 16 divided lites, topped with a rounded arch with a keystone. The arch also includes divided lites within.
- ❑ Window frames will be wood, with outer plaster frames.
- ❑ Windows will have cast keystone and lintels.
- ❑ Anodized aluminum window to be painted desert beige.
- ❑ Windows will have cast colored concrete sills.
- ❑ French doors.

Parking & Circulation

Two-way traffic into and within the site with 104 parking spaces consisting of:

- ❑ 68 standard
- ❑ 31 compact
- ❑ 5 disabled

Plant Material

Trees

- ❑ 5 Maidenhair (Ginkgo Biloba 'Fairmont')
- ❑ 11 Crape Myrtle Light Lavendar (Lagerstroemia X 'Muskogee')
- ❑ 7 Chinese Pistache (Pistacia Chinensis)
- ❑ 10 Southern Live Oak (Quercus Virginiana)
- ❑ 10 Japanese Pagoda (Sophora Japonica 'Regent')

Shrubs

- ❑ Blue Hibiscus (Alyogyne Huegelii)
- ❑ Dwarf Bottle Brush (Callistemon Citrinus 'Little John')
- ❑ California Lilac (Ceanothus Griseus Horizontalis 'Yankee Point')
- ❑ Coral Rockrose (Cistus X Skanbergii)
- ❑ Blue Fescue (Festuca Glauca 'Elijah Blue')
- ❑ Pink Daylily (Hemerocallis X 'Judith')
- ❑ Dwarf Yaupon (Ilex Vomitoria 'Stokes Dwarf')
- ❑ Munstead English Lavendar (Lavandula Angustifolia 'Munstead')
- ❑ Oregon Grape (Mahonia Aquifolium 'John Muir')
- ❑ California Coffeeberry (Rhamnus Californica 'Mound San Bruno')
- ❑ Huntington Carpet Rosemary (Rosmarinus Officinalis 'Huntington Carpet')
- ❑ Society Garlic (Tulbaghia Violacea)

Vine

- ❑ Boston Ivy (Parthenocissus Tricuspidata)

Ground Cover

- ❑ Marathon (Turf Marathon)

Proposed Church Activities and Hours

Saturday

- ❑ 7 am – 9 am: Men's Basketball (weekly)
- ❑ 11 am – 4 pm: Ladies Tea or a Wedding (occasional)
- ❑ 6 pm- 8 pm: Christmas Program (once a year)
- ❑ 6 pm – 7 pm: Christmas Eve Candlelight Service (once a year)
- ❑ 7 pm – 9 pm: Celebrate Recovery (weekly)

Sunday

- ❑ 9:00 am – 10:15 am: Sunday Service (weekly)
- ❑ 10:30 am – 11:45 am: Sunday Service (weekly)
- ❑ 2 pm – 5 pm: Advent Dinner (once a year)
- ❑ 6 pm – 8 pm: AWANA Grand Prix (once a year) (family-oriented event where kids race wooden grand prix cars that they have built)

Monday

- ❑ 7 am – 6 pm: Day care (weekly)
- ❑ 8 am – 5 pm: Office Hours (weekly)

- ❑ 7pm- 8:30 pm: Evening of Prayer (3rd Monday of the month)

Tuesday

- ❑ 7 am – 6 pm: Day care (weekly)
- ❑ 8 am – 5 pm: Office Hours (weekly)
- ❑ 6:30 pm - 8:30 pm: Youth Group (weekly)

Wednesday

- ❑ 7 am – 6 pm: Day care (weekly)
- ❑ 8 am – 5 pm: Office Hours (weekly)
- ❑ 6:30 pm - 8:30 pm: Band Practice (weekly)

Thursday

- ❑ 7 am – 6 pm: Day care (weekly)
- ❑ 8 am – 5 pm: Office Hours (weekly)
- ❑ 9 am – 11 am: Ladies Bible Study (weekly)
- ❑ 6:30 pm - 8:30 pm: AWANA (weekly) (AWANA is a children's ministry program)

Friday

- ❑ 7 am – 6 pm: Day care (weekly)
- ❑ 8 am – 5 pm: Office Hours (weekly)
- ❑ 6 pm – 8 pm: Christmas Program (once a year)
- ❑ 6 pm- 9 pm: Friday Night Out or Senior Group (once a month)

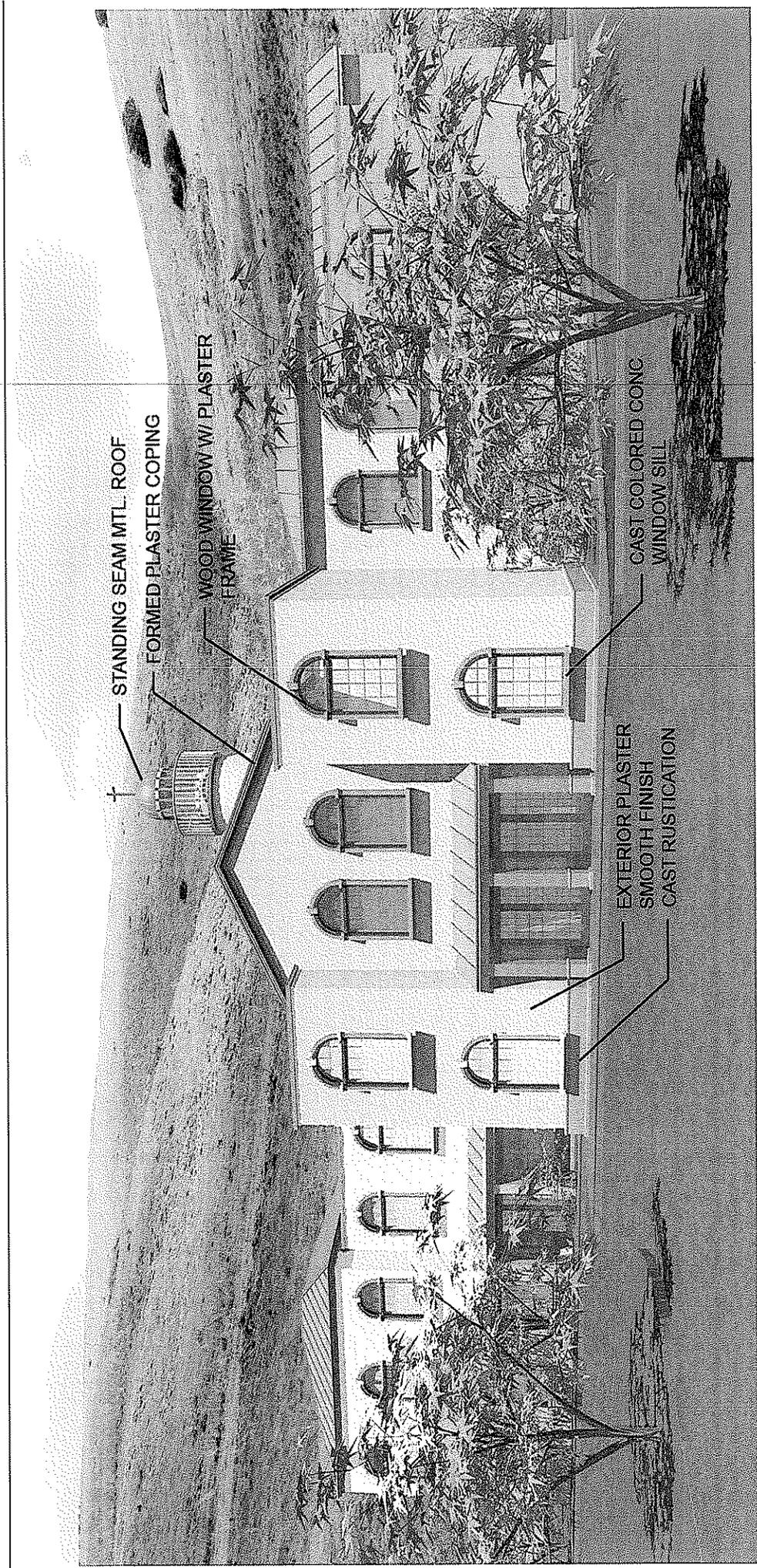
CONCLUSION

Staff recommends that the Planning Commission and the Historic Preservation Review Commission receive a presentation on the project, address questions to staff and the applicant, hear from the public, and provide initial comments or feedback to the applicant and staff. No further action is required from either Commission at this time.

Attachments:

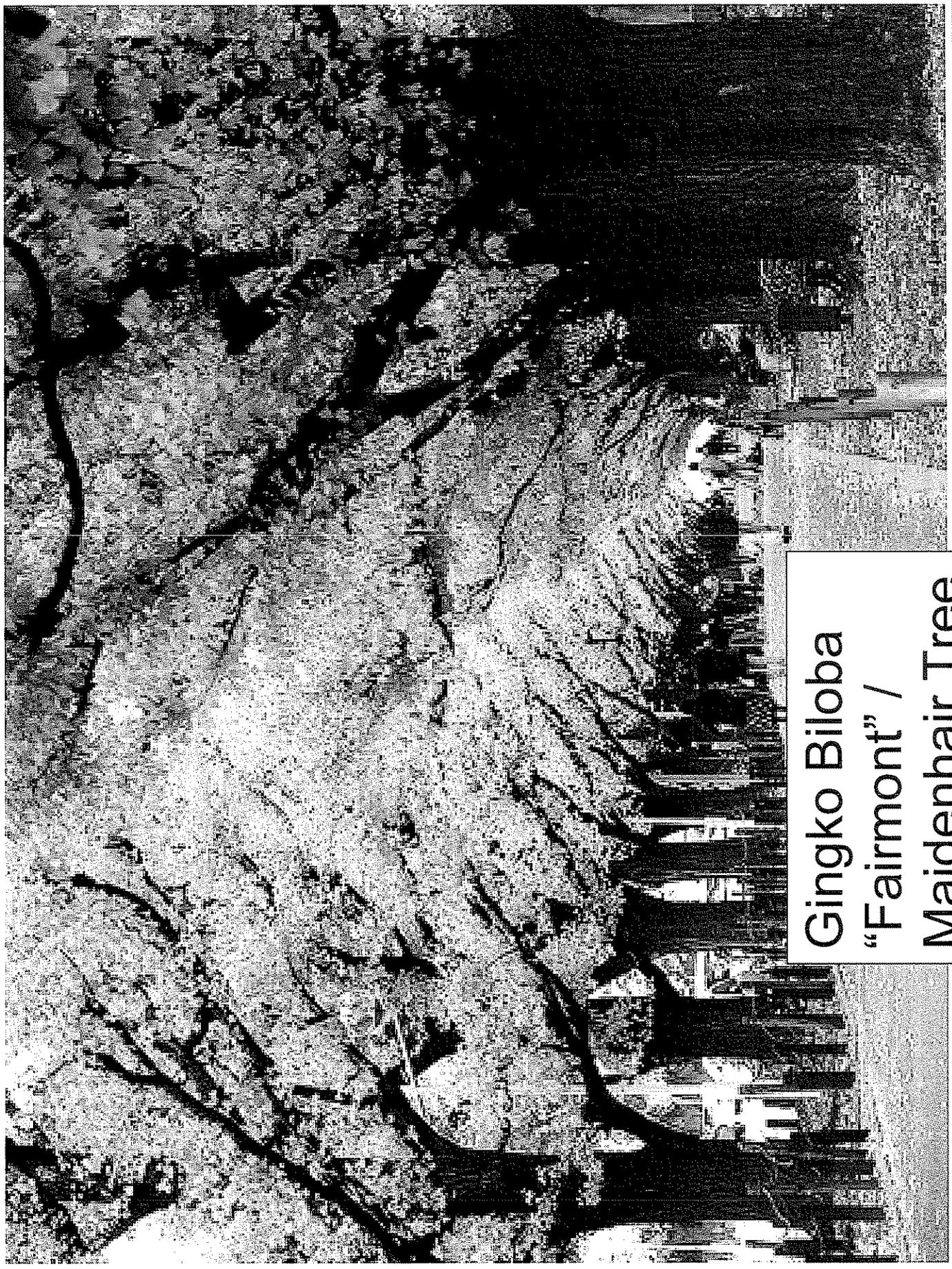
- ❑ Architectural Rendering
- ❑ Proposed Plant Materials
- ❑ Site and Building Plans
- ❑ Landscape Plan
- ❑ Proposed Schedule of Activities

ARCHITECTURAL RENDERING

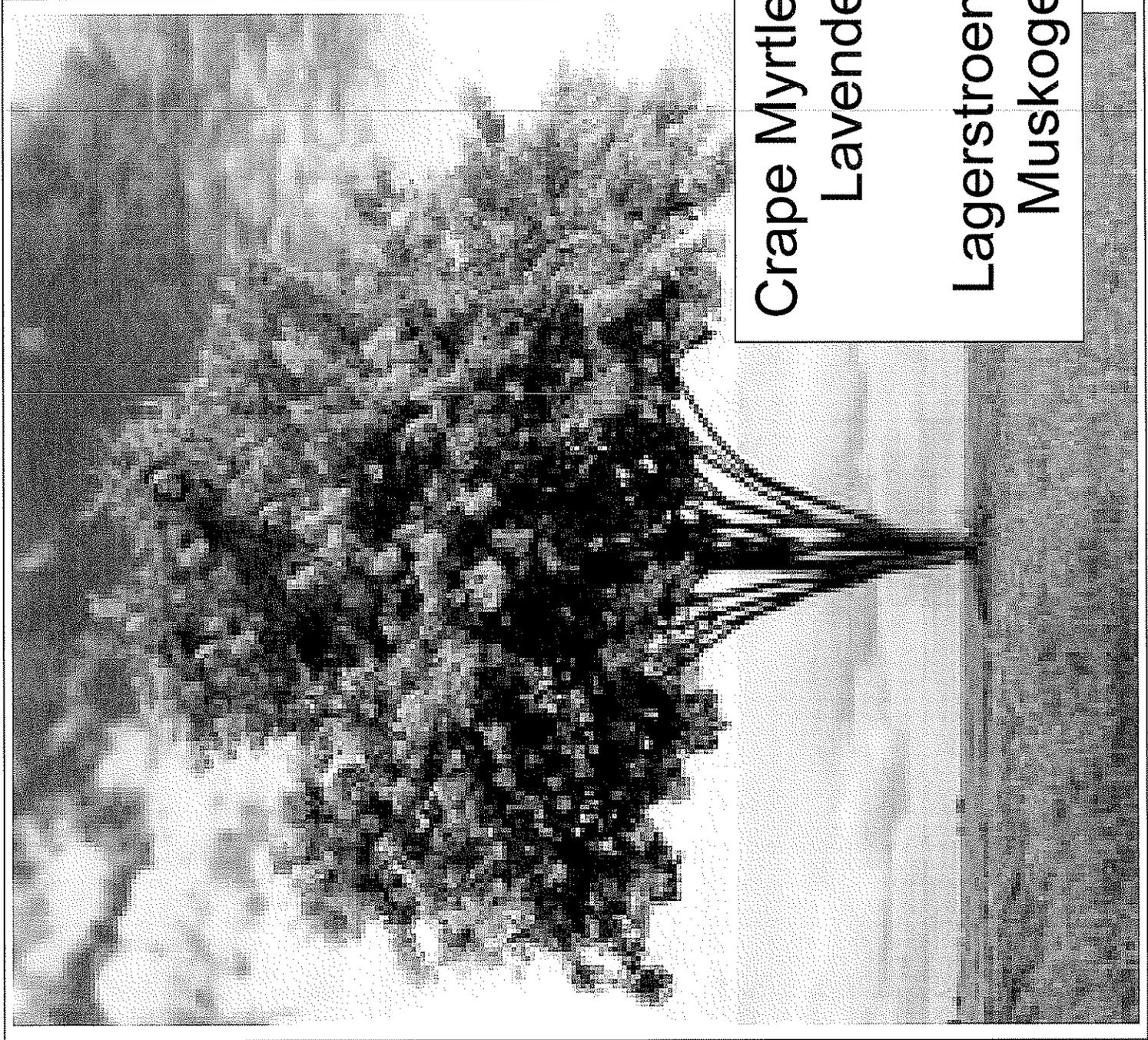


Rendering of Proposed Church at 882 Blake Court, facing east.

PROPOSED PLANT MATERIALS



Ginkgo Biloba
“Fairmont” /
Maidenhair Tree



Crape Myrtle Light
Lavender
Lagerstroemia X
Muskogee

Chinese
Pistache

*Pistacia
Chinensis*

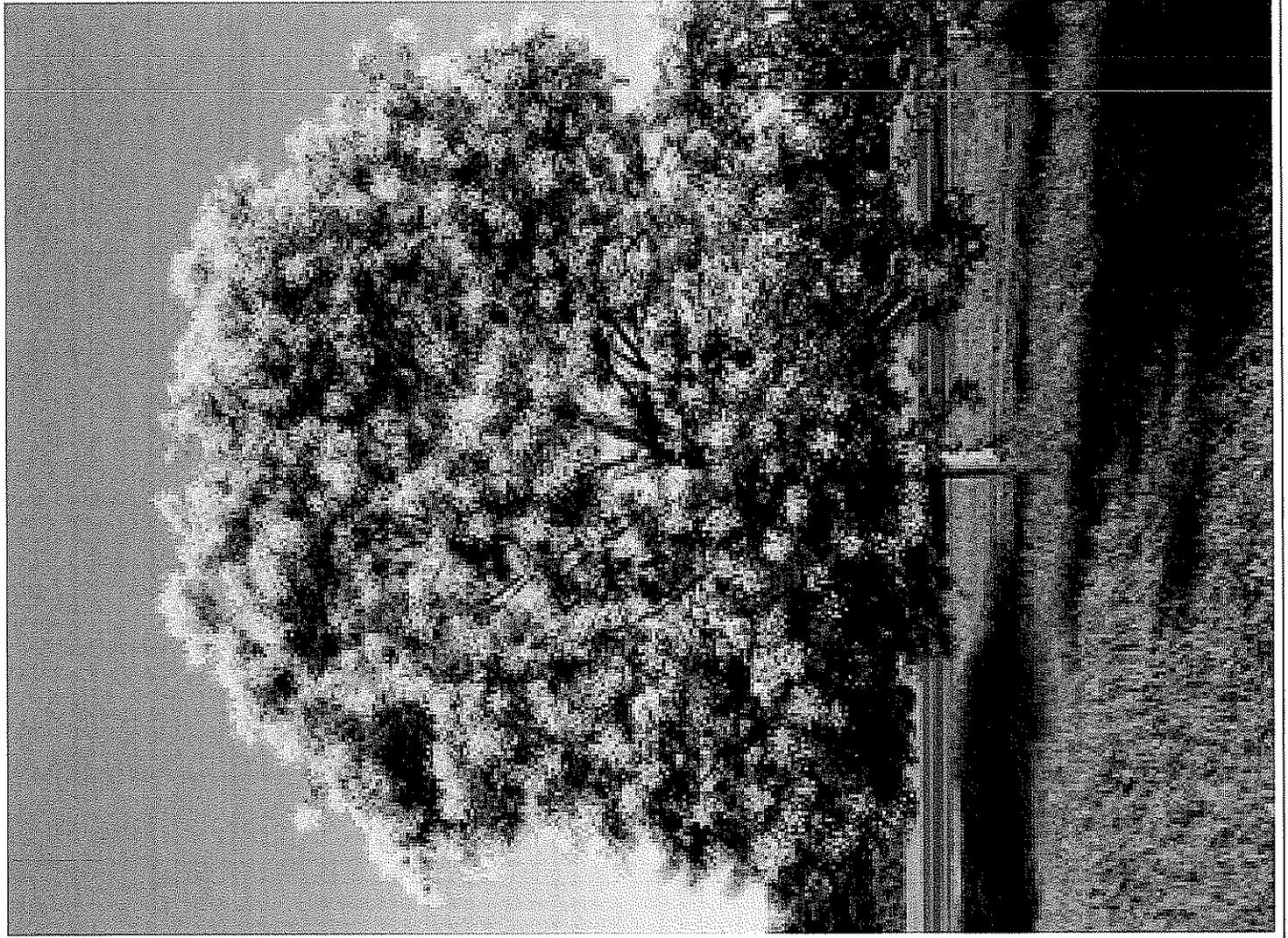
Southern
Live Oak

Quercus
virginiana



Japanese
Pagoda Tree

Sophora
Japonica
"Regent"





Blue Hibiscus/
Alyogyne Huegelii



Dwarf Bottle
Brush/
Callistemon
Citrinus "Little
John"

California Lilac

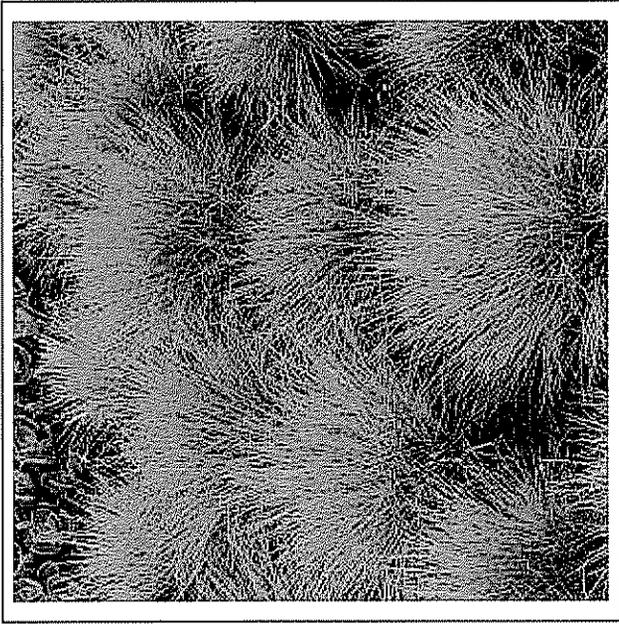
Ceanothus
Griseus
Horizontalis
“Yankee Point”



Coral Rockrose

Cistus X
Skanderbegii





Blue Fescue

Festucia Glauca
'Elijah Blue'

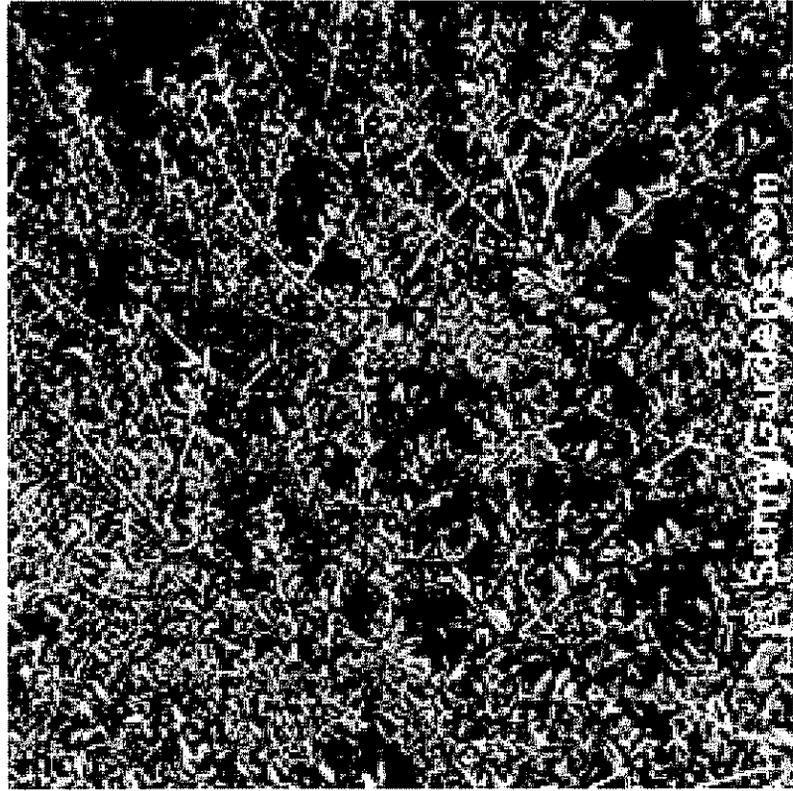


Pink Daylily

Hemerocallis X 'Judith'

Dwarf Yaupon

Ilex Vomitoria
'Stokes Dwarf'



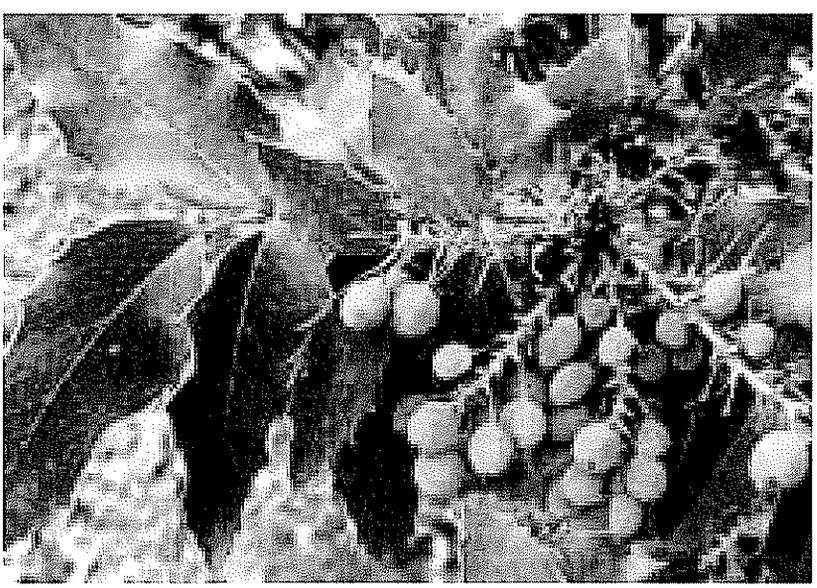
Munstead English
Lavendar

Lavandula
Angustifolia
'Munstead'



Oregon Grape

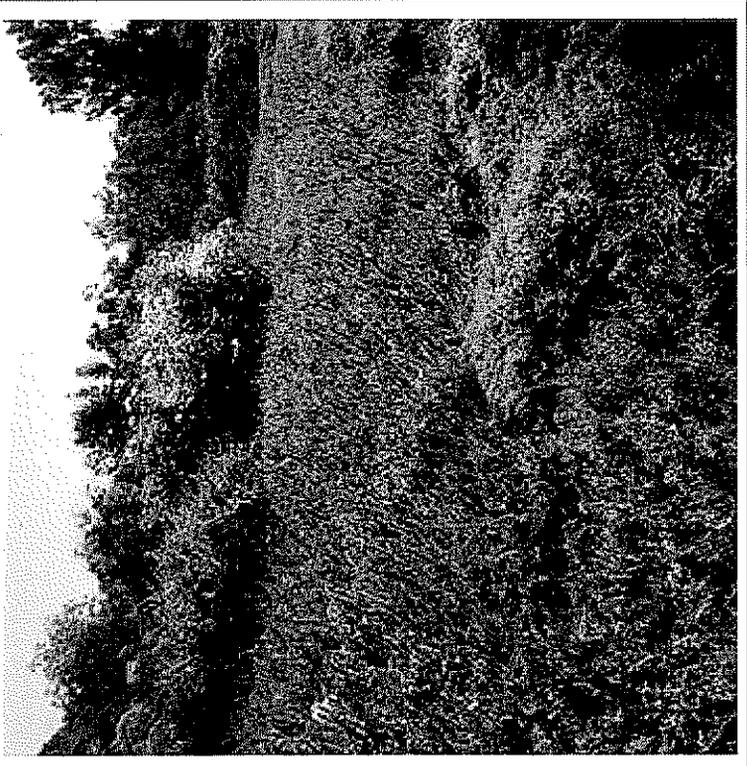
Mahonia Aquifolium
'John Muir'



Califonria
Coffeeberry

Rhamnus
Californica
'Mound San
Bruno'





Huntington
Carpet
Rosemary

Rosmarinus
Officinalis
'Huntington
Carpet'



Society Garlic

Tulbaghia
Violacea



Beach Strawberry

Fragaria
Chiloensis

Boston Ivy
Parthenocissus
Tricuspidata





Marathon

Turf Marathon

SITE AND BUILDING PLANS
(Date Stamped August 24, 2009)



Lefler and Associates, Inc.
 Architects, Planners,
 Engineers, Surveyors,
 Applied Management #16
 120 West 1st St., Suite 100
 San Diego, CA 92101
 TEL: (619) 254-0800

PROJECT
 NEW HARBOR COMMUNITY CENTER
 120 West 1st St., Suite 100
 San Diego, CA 92101
 (619) 254-0800

DATE
 12 JUL 2009
SITE SECTION
 SITE SECTION A-A

NEW HARBOR COMMUNITY CENTER
 SAN DIEGO, CA

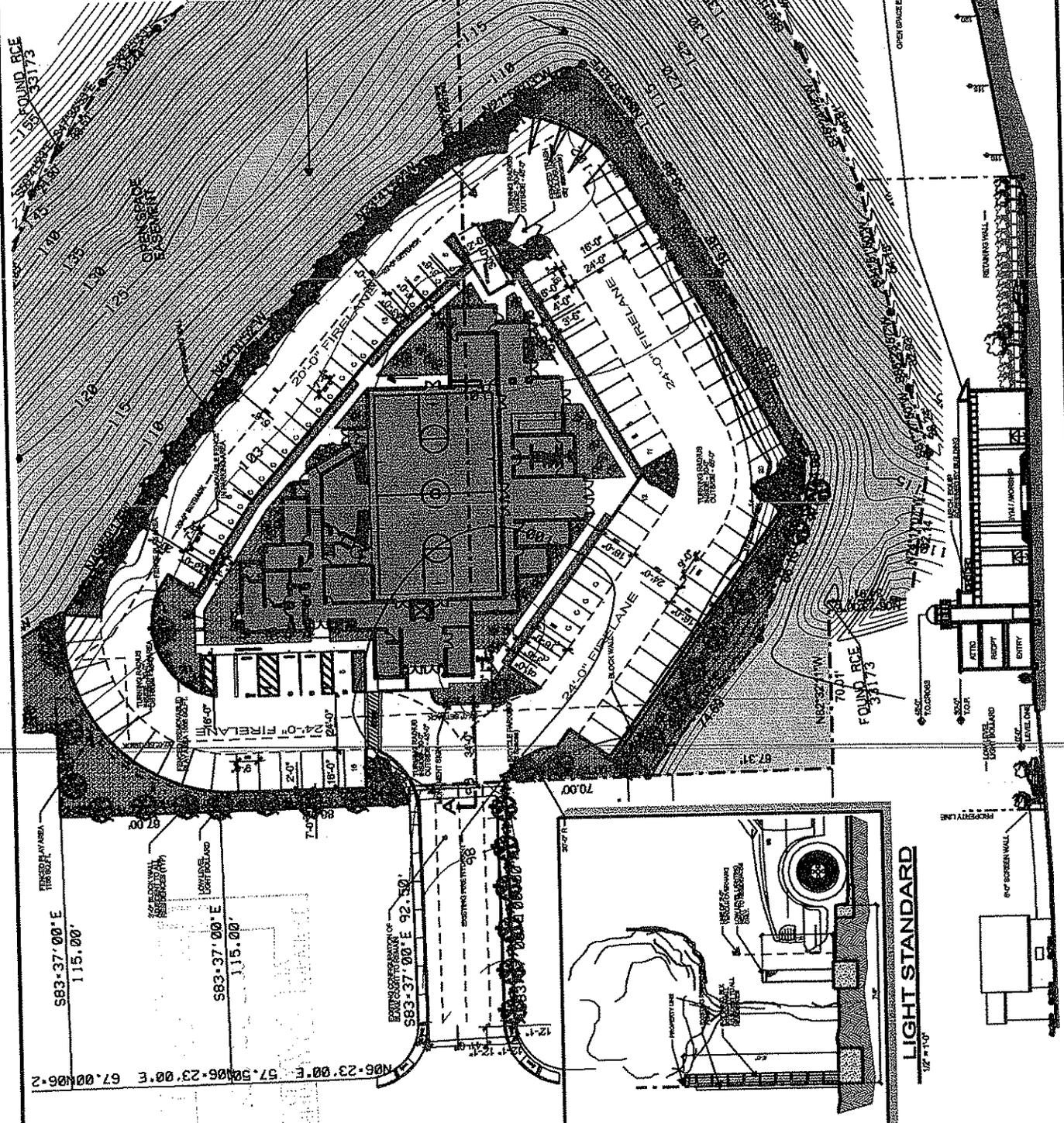
PROJECT
 NEW HARBOR COMMUNITY CENTER
 120 West 1st St., Suite 100
 San Diego, CA 92101
 (619) 254-0800

A-1.0

TABULATIONS

TOTAL SITE AREA	148,200 SQ. FT.
OFF SITE AREA	BY 2002 S.F.
BUILDING AREA	19,177 SQ. FT.
LEVEL ONE	20,244 SQ. FT.
TOTAL BUILDING	19%
LOT COVERAGE (BY 2002 S.F.)	13.60%
TOTAL LOT AREA	101 TONS
PARKING (BY 2002 S.F.)	9 CARS (1 CAR)
CONTRACT	102 CARS
FIREARMS	9 SPACES
TOTAL	2882 SQ. FT. (83 COLLEGE)
OUTDOOR PLAY AREA (FENCED)	10,000 SQ. FT.
LANDSCAPE (BY 2002 S.F.)	10,000 SQ. FT.
VARIANCE REQUESTED	6,548 SQ. FT. (10%)

Notes:
 1. Parking provided for highest and best use.
 2. Landscaping provided for highest and best use.
 3. Variance requested for higher density than 10%.



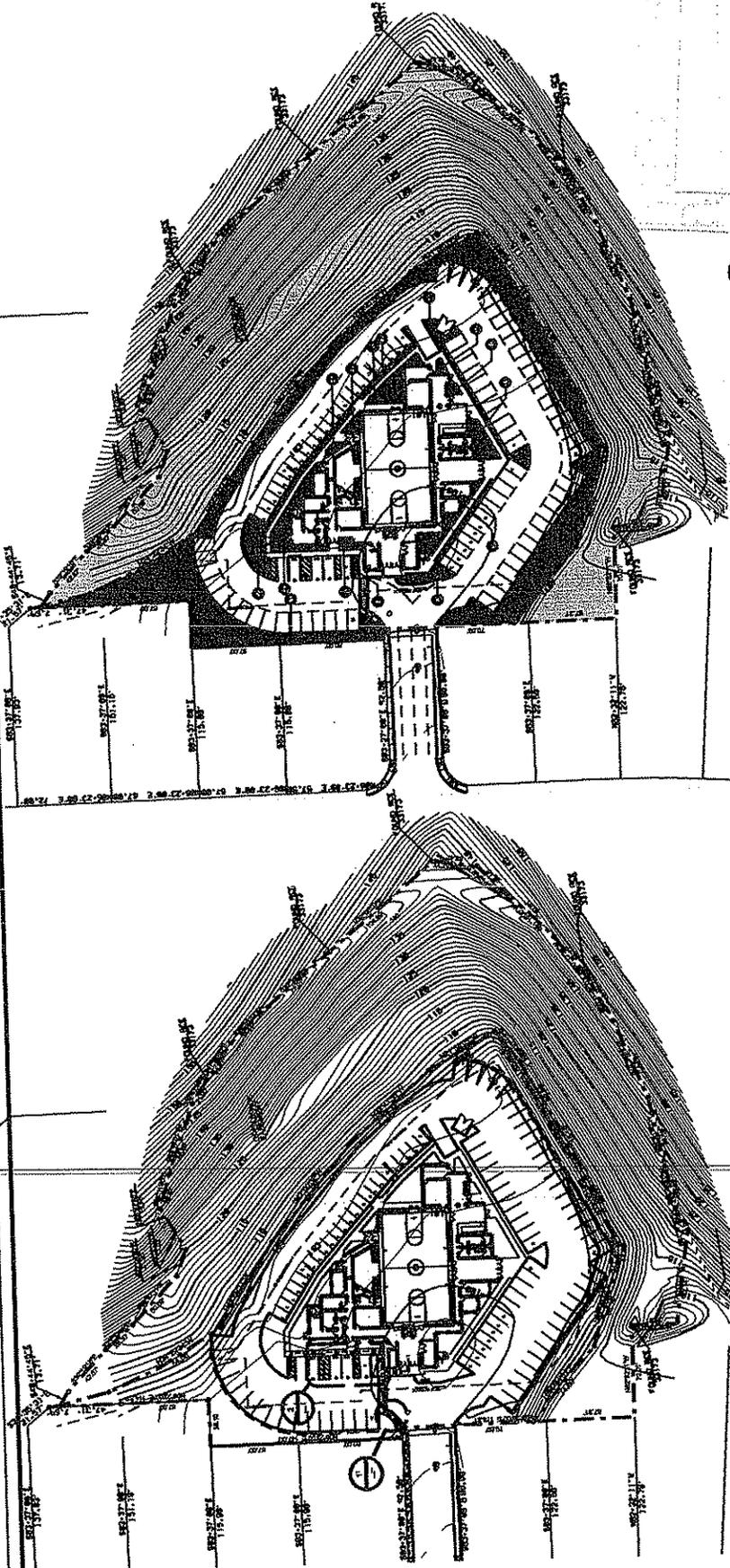
Site Plan 07 March 08.s01 8/18/2009 10:46:07 AM

Letter and Associates
 Architects, Engineers & Designers
 10000 Highway 100, Suite 100
 Houston, TX 77036
 Tel: (281) 764-4900

PROJECT DATA
 ASSOCIATION: AMERICAN SOCIETY OF LANDSCAPE ARCHITECTS
 SITE ADDRESS: 11111
 CITY: HOUSTON, TEXAS
 COUNTY: HARRIS COUNTY
 PROJECT NUMBER: 2007-030
 DATE: 12/18/2009

PROJECT DATA
 ASSOCIATION: AMERICAN SOCIETY OF LANDSCAPE ARCHITECTS
 SITE ADDRESS: 11111
 CITY: HOUSTON, TEXAS
 COUNTY: HARRIS COUNTY
 PROJECT NUMBER: 2007-030
 DATE: 12/18/2009

NEW HARBOR COMMUNITY CHURCH
 12 June 2009
 Landscape Area Plan
 Accessibility Plan



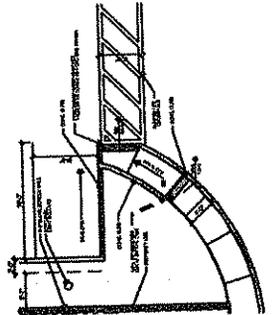
ACCESSIBILITY PLAN
 SCALE: 1/8" = 1'-0"

LANDSCAPE AREA PLAN
 SCALE: 1/8" = 1'-0"

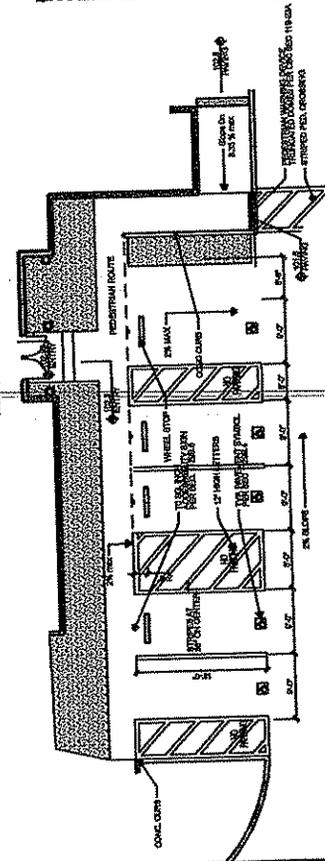
LANDSCAPE AREA TABULATIONS

NUMBER	AREA	NUMBER	AREA	TOTAL
1	16200	11	141	17163
2	1050	12	100	
3	910	13	870	
4	70	14	77	
5	110	15	114	
6	800			
7	215			
8	400			
9	74			
10	87			

SITE AREA: 181,000 SQ. FT. (8.11 Acres)
 OPEN SPACE ENHANCEMENT: 98,000 sq. ft. 54%
 NET SITE AREA: 87,482 sq. ft.
 LANDSCAPE REQUIRED: 23,810 sq. ft. 27%
 LANDSCAPE PROVIDED: 17,163 sq. ft. 20%



CURB CUT
 SCALE: 1/8" = 1'-0"



HANDICAP PARKING
 SCALE: 1/8" = 1'-0"

LANDSCAPE PLAN
(Date Stamped August 21, 2009)

PROPOSED SCHEDULE OF ACTIVITIES

**New Harbor Anticipated On-Site Activities
Blake Court, Benicia, CA**



Weekly

<u>Day of Week & Times</u>	<u>Function / Activity</u>	<u>Approx. # of People</u>
Sunday		
8am – 8:30am	Band & Staff arrives for set up	20
9 am - 10:15am	Early Service	200
10:30 am – 11:45 am	Later Service	200
Monday		
8am – 5pm	Office Hours	5
7am – 6pm	Daycare	38
Tuesday		
7am – 6pm	Daycare	38
8am – 5-pm	Office Hours	5
6:30pm – 8:30pm	Youth Group	30-50
Wednesday		
7am – 6pm	Daycare	38
8am – 5pm	Office Hours	5
6:30 pm – 8:30 pm	Band Practice	8-10
Thursday		
7am – 6pm	Daycare	38
8am – 5pm	Office Hours	5
9am – 11am	Ladies Bible Study Group	25-35
6:20 pm – 6:30 pm	Drop off kids for AWANA	40
6:30pm – 8:30 pm	AWANA Club	70 (30 cars stay)
Friday		
7am – 6pm	Daycare	38
8am – 5pm	Office Hours	5
Saturday		
7am – 9am	Men's Basketball	8-15
7pm – 9pm	Celebrate Recovery	10-25

**New Harbor Anticipated On-Site Activities
 Blake Court, Benicia, CA
 Page 2**

Once A Month

<u>Day of Week & Times</u>	<u>Function / Activity</u>	<u>Approx. # of People</u>
Monday (3rd Monday) 7pm – 8:30 pm	Evening of Prayer	15
Friday 6pm – 9pm	Senior Group(mostly couples)	20
6pm – 9pm	Friday Night Out	35
Unknown	Community Usage/Meeting.	25-75

Once a Year

Sunday 6pm – 8pm	AWANA Grand Prix	85
2pm – 5pm	Advent Dinner	100-125
Friday 6pm – 8pm	Christmas Program (mostly families)	85
Saturday 11am – 3pm	Ladies Tea (very tentative)	150
11am – 4pm	Wedding	100-200
6pm – 8pm	Christmas Program	100
(2 nd or 3 rd week in Dec.)	(mostly families)	
6pm – 7pm	Christmas Eve Candle Light Service	200

AGENDA ITEM
PLANNING AND HISTORIC PRESERVATION REVIEW COMMISSION MEETING:
SEPTEMBER 10, 2009
REGULAR AGENDA ITEMS

DATE : September 1, 2009

TO : Planning Commission and Historic Preservation Review Commission

FROM : Gina Eleccion, Management Analyst

SUBJECT : **LOCAL HAZARD MITIGATION PLAN UPDATE**

RECOMMENDATION:

Staff is requesting comments from the Commissions and community regarding the update to the Local Hazard Mitigation Plan. No additional action is required.

EXECUTIVE SUMMARY:

In February 2007, the City of Benicia adopted the Association of Bay Area Government's (ABAG) Taming Natural Disasters plan and the City's Annex, Strategies, and Critical Facilities Plan as the City of Benicia's Local Hazard Mitigation Plan (LHMP). The federal Disaster Mitigation Act of 2000 requires all cities, counties and special districts to have adopted a LHMP to receive disaster mitigation funding from FEMA. This plan addresses critical areas within our community and qualifies the City for possible mitigation funding that may become available in the future from FEMA. City Staff has been working with ABAG staff to update the LHMP Strategies and is requesting input from the Commissions and community.

GENERAL PLAN:

Relevant Goals and Policies include:

- Goal 2.28: Improve and maintain public facilities and services
- Goal 2.5: Facilitate and encourage new uses and development which provide substantial and sustainable fiscal and economic benefits to the City and the community while maintaining health, safety, and quality of life
- Goal 4.22: Update and maintain the City's Emergency Response Plan

STRATEGIC PLAN:

Relevant Strategic Plan Issues and Strategies:

- Strategic Issue #1: Protecting Community Health and Safety
 - Strategy #2: Provide modern and functional public safety facilities
 - Strategy #3: Provide a high state of preparedness for disasters/emergencies

- Strategic Issue #4: Preserving and Enhancing Infrastructure
 - Strategy #4: Provide adequate funding for ongoing infrastructure needs

BUDGET INFORMATION:

There is no impact on General Fund accounts; however, approval of a LHMP by FEMA makes jurisdictions eligible for various mitigation grants through FEMA and results in the waiver of a 6.25% local match for Public Assistance dollars.

BACKGROUND:

In 2005 ABAG took the lead in developing the Local Hazard Mitigation Plan (LHMP) for the Bay Area, which 87 cities, counties and special districts adopted. The plan consisted of 324 mitigation strategies focusing on actions to reduce damage from disasters across a broad spectrum of issues including those related to government services, health care systems, infrastructure, housing, the economy, education, and land use. Strategies attempt to reduce loss of life and property damage, as well as speed up recovery of those systems. ABAG is again taking the lead to update the plan as required by FEMA, along with at least 97 cities, counties and special districts. Several cities, counties, and special districts that did not participate in the original LHMP are participating in the 2009 update. However, some jurisdictions are no longer participating, including Contra Costa County and San Francisco.

For the update, the list of strategies has been increased to 357 to deal specifically with climate change and recovery planning issues. In addition, the update includes regional priorities for mitigation, which were developed by consensus at a series of workshops attended by staff from cities, counties and special districts.

Plan Structure

The goal of the LHMP is to maintain and enhance a disaster-resistant region by reducing the potential loss of life, property damage, and environmental degradation from natural disasters, while accelerating economic recovery from those disasters.

The LHMP identifies major hazards that affect the Bay Area. These include hazards related to earthquakes (surface faulting, ground shaking, liquefaction, landslides and tsunamis) and weather (flooding, landslides, wildfires and drought). Several of these weather-related hazards are influenced by climate change. Other hazards relate to human-made conditions, including releases of hazardous materials, dam failures, energy shortages, and weapons of mass destruction. These other hazards are only addressed as they relate to earthquake and weather-related hazards. The only one of these additional hazards that is readily mapped and analyzed is dam failure.

The plan is organized into eight commitment areas, which are related to the services supplied either directly, or indirectly, by local governments, rather than by hazard. With this organization, each of the Bay Area's cities and counties should find ways to address these major commitments by reducing identified risks. The commitment areas are infrastructure, health, housing, economy (private business), government services, education, environment, and land use.

Strategies and Priorities

For each of the mitigation strategies, the regional and local priorities were chosen from the eight identified categories (shown below). The category *existing program, under funded* was added in this plan to reflect the current economic situation and to identify areas that need additional funding. The priorities identified are as follows:

- *Existing program* – no additional funding needed
- *Existing program, under funded* – additional funding needed to fully implement this program
- *Very high priority* – an existing unofficial program made official by adoption of this plan. No additional funding is needed.
- *High priority* – to be adopted by the local government when funding and resources allow; funding currently being sought
- *Moderate priority* – to be adopted by the local government when funding and resources allow, no funding being sought at the present time
- *Under study* – currently under study, not just to be studied in the future
- *Not applicable, not appropriate, or not cost effective*
- *Not yet considered*

Regional strategies/priorities are highlighted in the Local Hazard Plan Mitigation Strategies (attached). Staff is requesting the Commission and public review these strategies/priorities and provide input on where Benicia should differ from the regional strategies/priorities, and an explanation as to why they should differ.

Information on this update is posted on the City of Benicia website (www.ci.benicia.ca.us) on the Local Hazard Mitigation Plan update page accessible on the Announcements page. Additional information may be obtained by contacting Gina Eleccion, in the Public Works & Community Development Department, at geleccion@ci.benicia.ca.us or 707-746-4278.

Comments may be submitted in the following manners:

1. Email comdev@ci.benicia.ca.us
2. Submit written comments to:
Gina Eleccion
Public Works & Community Development Department
250 East L Street
Benicia, CA 94510

Attachments:

- Local Hazard Mitigation Plan Strategies & Priorities
- Local Hazard Mitigation Plan - Benicia Annex

**LOCAL HAZARD MITIGATION PLAN
STRATEGIES & PRIORITIES**

Infrastructure Mitigation Strategies

2009 Strategy Code	Original Strategy Number	Specific Mitigation Strategy	Applicable Hazards	Existing Program	Existing Program, Underfunded	Very High - Unofficial Program - Becomes Official on Plan Adoption, no funding needed	High - Actively Looking for Funding	Moderate	Under Study	Not Applicable, or Not Cost Effective	Not Yet Considered	Responsible Agency or Department (Required if Existing Program, under funded, Very High, High, or Under Study)	Ordinance or Resolution # (if existing program), Estimated Cost and Possible Funding Agency (if high priority), Estimated Date of Completion (if study), Why if not same as regional priority, OR Other Comments
INFR - a	a-1	Multi-Hazard (... owned by the infrastructure provider) filling out this form, including a city, county, or special district	EQ LS WF FL SEC										
a-1		Assess the vulnerability of critical facilities owned by infrastructure operators to damage in natural disasters or security threats, including fuel tanks and facilities owned outside of the Bay Area that can impact service delivery within the region. Note - Infrastructure agencies, departments, and districts are those that operate transportation and utility facilities and networks.	EQ LS WF FL SEC										
a-2		If a dam owner, comply with State of California and federal requirements to assess the vulnerability of dams to damage from earthquakes, seiches, landslides, liquefaction, or security threats.	EQ LS WF FL SEC										
a-3		Encourage the cooperation of utility system providers and cities, counties, and special districts, and PG&E to develop strong and effective mitigation strategies for infrastructure systems and facilities.	EQ LS WF FL DR SEC										
a-4		Retrofit or replace critical lifeline infrastructure facilities and/or their backup facilities that are shown to be vulnerable to damage in natural disasters.	EQ LS WF FL SEC										
a-5		Support and encourage efforts of other (lifeline infrastructure) agencies as they plan for and arrange financing for seismic retrofits and other disaster mitigation strategies. (For example, a city might pass a resolution in support of a transit agency's retrofit program.)	EQ LS WF FL DR SEC										

Infrastructure Mitigation Strategies

2009 Strategy Code	Original Strategy Number	Specific Mitigation Strategy	Applicable Hazards	Existing Program	Existing Program, underfunded	Very High - Unofficial Program - Becomes Official on Plan Adoption, no funding needed	High - Actively Looking for Funding	Moderate	Under Study	Not Applicable, or Not Appropriate, or Not Cost Effective	Not Yet Considered	Responsible Agency or Department (Required if Existing Program, under funded, Very High, High, or Under Study)	Ordinance or Resolution # (if existing program), Estimated Cost and Possible Funding Agency (if high priority), Estimated Date of Completion (if study), WHY if not same as regional priority, OR Other Comments
a-6	a-6	Develop a plan for speeding the repair and functional restoration of water and wastewater systems through stockpiling of shoring materials, temporary pumps, surface pipelines, portable hydrants, and other supplies, such as those available through the Water/Wastewater Agency Response Network (WARN). Communicate that plan to local governments and critical facility operators.	EQ LS WF FL DR SEC										
a-7	a-7	Engage in, support, and/or encourage research by others (such as USGS, universities, or PEER) on measures to further strengthen transportation, water, sewer, and power systems so that they are less vulnerable to damage in disasters.	EQ LS WF FL DR SEC										
a-8	a-8	Pre-position emergency power generation capacity (or have rental/lease agreements for these generators) in critical buildings of cities, counties, and special districts to maintain continuity of government and services.	EQ LS WF FL SEC										
a-9	a-9	(REWORDED) Ensure that critical intersection traffic lights function following loss of power by installing battery back-ups, emergency generators, or lights powered by alternative energy sources such as solar. Proper functioning of these lights is essential for rapid evacuation, such as with hazmat releases resulting from natural disasters.	EQ LS WF FL SEC										
a-10	a-10	Develop unused or new pedestrian rights-of-way as walkways to serve as additional evacuation routes (such as fire roads in park lands).	EQ LS WF FL SEC										
a-11	a-11	Minimize the likelihood that power interruptions will adversely impact lifeline utility systems or critical facilities by ensuring that they have adequate back-up power.	EQ LS WF FL SEC										

Infrastructure Mitigation Strategies

2009 Strategy Code	Original Strategy Number	Specific Mitigation Strategy	Applicable Hazards	Existing Program	Existing Program	Existing Program	Very High - Underfunded	Official Program - Becomes Official on Plan Adoption, no funding needed	High - Actively Looking for Funding	Moderate	Under Study	Not Applicable, or Not Cost Effective	Not Yet Considered	Responsible Agency or Department (Required if Existing Program under funded, Very High, High, or Under Study)	Ordinance or Resolution # (if existing program), Estimated Cost and Possible Funding Agency (if high priority), Estimated Date of Completion (if study), WHY if not same as regional priority, OR Other Comments
a-12	a-12	Encourage replacing above ground electric and phone wires and other structures with underground facilities, and use the planning-approval process to ensure that all new phone and electrical utility lines are installed underground.	EQ LS WF FL SEC												
a-13	a-13	If you own a dam, coordinate with the State Division of Safety of Dams to ensure an adequate timeline for the maintenance and inspection of dams, as required of dam owners by State law, and communicate this information to local governments and the public.	EQ LS WF FL SEC												
a-14	a-14	Encourage communication between State Emergency Management Agency (CalEMA), FEMA, and utilities related to emergencies occurring outside of the Bay Area that can affect service delivery in the region.	EQ LS WF FL DR SEC												
a-15	a-15	Ensure that transit operators, private ambulance companies, cities, and/or counties have mechanisms in place for medical transport during and after disasters that take into consideration the potential for reduced capabilities of roads following these same disasters.	EQ LS WF FL SEC												
a-16	new	Recognize that heat emergencies produce the need for non-medical transport of people to cooling centers by ensuring that (1) transit operators have plans for non-medical transport of people during and after such emergencies including the use of paratransit and (2) cities, counties, and transit agencies have developed ways to communicate the plan to the public.	Heat												
a-17	a-16	Effectively utilize the Regional Transportation Management Center (TMC) in Oakland, the staffing of which is provided by Caltrans, the CHP and MTC. The TMC is designed to maximize safety and efficiency throughout the highway system. It includes the Emergency Resource Center (ERC) which was created specifically for primary planning and procedural disaster management. RESPONSIBLE AGENCY: MTC only.	EQ LS WF FL SEC												

Infrastructure Mitigation Strategies

2009 Strategy Code	Original Strategy Number	Specific Mitigation Strategy	Applicable Hazards	Existing Program	Existing Program	Underfunded	Very High - Unofficial Program - Becomes Official	no funding needed	High - Actively Looking for Funding	Moderate	Under Study	Not Applicable, or Not Cost Effective	Not Yet Considered	Responsible Agency or Department (Required if Existing Program, under funded, Very High, High, or Under Study)	Ordinance or Resolution # (if existing program). Estimated Cost and Possible Funding Agency (if high priority). Estimated Date of Completion (if study). WHY if not same as regional priority. OR Other Comments	
a-18	new	Develop (with the participation of paratransit providers, emergency responders, and public health professionals) plans and procedures for parasit system response and recovery from disasters.	EQ LS WF FL Heat SEC													
a-19	new	Coordinate with other critical infrastructure facilities to establish plans for delivery of water and wastewater treatment chemicals.	EQ LS WF FL SEC													
a-20	new	Establish plans for delivery of fuel to critical infrastructure providers.	EQ LS WF FL SEC													
a-21	new	As an infrastructure operator, designate a back-up Emergency Operations Center with redundant communications systems.	EQ LS WF FL SEC													
INFR - b - Earthquakes																
b-1	b-1	Expedite the funding and retrofit of seismically-deficient city- and county-owned bridges and road structures by working with Caltrans and other appropriate governmental agencies.	EQ													
b-2	b-2	Establish a higher priority for funding seismic retrofit of existing transportation and infrastructure systems (such as BART) than for expansion of those systems.	EQ													
b-3	b-3	Include "areas subject to high ground shaking, earthquake-induced ground failure, and surface fault rupture" in the list of criteria used for determining a replacement schedule for pipelines (along with importance, age, type of construction material, size, condition, and maintenance or repair history).	EQ													
b-4	b-4	Install specially-engineered pipelines in areas subject to faulting, liquefaction, earthquake-induced landsliding, or other earthquake hazard.	EQ													
b-5	b-5	Replace or retrofit water-retention structures that are determined to be structurally deficient, including levees, dams, reservoirs and tanks.	EQ													

Infrastructure Mitigation Strategies

2009 Strategy Code	Original Strategy Number	Specific Mitigation Strategy	Applicable Hazards	Existing Program	Existing Program - Underfunded	Very High - Unofficial Program - Becomes Official	no funding needed	High - Actively Looking for Funding	Moderate	Under Study	Not Applicable, or Not Cost Effective	Not Yet Considered	Responsible Agency or Department (Required if Existing Program, under funded, Very High, High, or Under Study)	Ordinance or Resolution # (if existing program), Estimated Cost and Possible Funding Agency (if high priority), Estimated Date of Completion (if study), WHY if not same as regional priority, OR Other Comments
b-9	b-6	Install portable facilities (such as hoses, pumps, emergency generators, or other equipment) to allow pipelines to bypass failure zones such as fault rupture areas, areas of liquefaction, and other ground failure areas (using a priority scheme if funds are not available for installation at all needed locations).	EQ											
b-7	b-7	Install earthquake-resistant connections when pipes enter and exit bridges and work with bridge owners to encourage retrofit of these structures.	EQ											
b-8	b-8	Comply with all applicable building and fire codes, as well as other regulations (such as state requirements for fault, landslide, and liquefaction investigations in particular mapped areas) when constructing or significantly remodeling infrastructure facilities.	EQ											
b-9	b-9	Clarify to workers in critical facilities and emergency personnel, as well as to elected officials and the public, the extent to which the facilities are expected to perform only at a life safety level (allowing for the safe evacuation of personnel) or are expected to remain functional following an earthquake.	EQ											
b-10	b-10	Develop a water-based transportation "system" across the Bay for use in the event of major earthquakes. Implementation of such a system could prove extremely useful in the event of structural failure of either the road-bridge systems or BART and might serve as an adjunct to existing transportation system elements in the movement of large numbers of people and/or goods.	EQ											

Infrastructure Mitigation Strategies

2009 Strategy Code	Original Strategy Number	Specific Mitigation Strategy	Applicable Hazards	Existing Program	Existing Program	Very High - Underfunded	Unofficial Program - Becomes Official	no funding needed	High - Actively Looking for Funding	Moderate	Under Study	Not Applicable, or Not Cost Effective	Not Yet Considered	Responsible Agency or Department (Required if Existing Program under funded, Very High, High, or Under Study)	Ordinance or Resolution # (if existing program), Estimated Cost and Possible Funding Agency (if high priority), Estimated Date of Completion (if study), WHY if not same as regional priority, OR Other Comments
INFR - c - Wildfire															
c-1	c-1	Ensure a reliable source of water for fire suppression (meeting acceptable standards for minimum volume and duration of flow) for existing and new development.	WF												
c-2	c-2	Develop a coordinated approach between fire jurisdictions and water supply agencies to identify needed improvements to the water distribution system, initially focusing on areas of highest wildfire hazard (including wildfire threat areas and in wildland-urban-interface areas).	WF												
c-3	c-3	Develop a defensible space vegetation program that includes the clearing or thinning of (a) non-fire resistive vegetation within 30 feet of access and evacuation roads and routes to critical facilities, or (b) all non-native species (such as eucalyptus and pine, but not necessarily oaks) within 30 feet of access and evacuation roads and routes to critical facilities.	WF												
c-4	c-4	For new development, ensure all dead-end segments of public roads in high hazard areas have at least a "T" intersection turn-around sufficient for typical wildland fire equipment.	WF												
c-5	c-5	For new development, enforce minimum road width of 20 feet with an additional 10-foot clearance on each shoulder on all driveways and road segments greater than 50 feet in length in wildfire hazard areas.	WF												
c-6	c-6	Require that development in high fire hazard areas provide adequate access roads (with width and vertical clearance that meet the minimum standards of the Fire Code or relevant local ordinance), onsite fire protection systems, evacuation signage, and fire breaks.	WF												
c-7	c-7	Ensure adequate fire equipment road or fire road access to developed and open space areas.	WF												
c-8	c-8	Maintain fire roads and/or public right-of-way roads and keep them passable at all times.	WF												
INFR - d - Flooding															
d-1	d-1	Conduct a watershed analysis of runoff and drainage systems to predict areas of insufficient capacity in the storm drain and natural creek system.	FL												
d-2	d-2	Develop procedures for performing a watershed analysis to look at the impact of development on flooding potential downstream, including communities outside of the jurisdiction of proposed projects.	FL												

Infrastructure Mitigation Strategies

2009 Strategy Code	Original Strategy Number	Specific Mitigation Strategy	Applicable Hazards	Existing Program	Existing Program, Underfunded	Very High - Unofficial Program Becomes Official	High - Actively Looking for Funding	Moderate	Under Study	Not Applicable, or Not Cost Effective	Not Yet Considered	Responsible Agency or Department (Required if Existing Program under funded, Very High, High, or Under Study)	Ordinance or Resolution # (if existing program), Estimated Cost and Possible Funding Agency (if high priority), Estimated Date of Completion (if study), WHY if not same as regional priority, OR Other Comments
d-3	d-3	Conduct a watershed analysis at least once every ten years unless there is a major development in the watershed or a change in the Land Use Element of the General Plan of the cities or county within the watershed.	FL										
d-4	d-4	Assist, support, and/or encourage the U.S. Army Corp of Engineers, various Flood Control and Water Conservation Districts, and other responsible agencies to locate and maintain funding for the development of flood control projects that have high cost-benefit ratios (such as through the writing of letters of support and/or passing resolutions in support of these efforts).	FL										
d-5	d-5	Pursue funding for the design and construction of storm drainage projects to protect vulnerable properties, including property acquisitions, upstream storage such as detention basins, and channel widening with the associated right-of-way acquisitions, relocations, and environmental mitigations.	FL										
d-6	d-6	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. (This strategy has the secondary benefit of addressing fuel, chemical, and cleaning product issues.)	FL										
d-7	d-7	Continue maintenance efforts to keep storm drains and creeks free of obstructions, while retaining vegetation in the channel (as appropriate), to allow for the free flow of water.	FL										
d-8	d-8	Enforce provisions under creek protection, stormwater management, and discharge control ordinances designed to keep watercourses free of obstructions and to protect drainage facilities to conform with the Regional Water Quality Control Board's Best Management Practices.	FL										
d-9	d-9	Develop an approach and locations for various watercourse bank protection strategies, including for example, (1) an assessment of banks to inventory areas that appear prone to failure, (2) bank stabilization, including installation of rip rap, or whatever regulatory agencies allow (3) stream bed depth management using dredging, and (4) removal of out-of-date coffer dams in rivers and tributary streams.	FL										
d-10	d-10	Use reservoir sediment or reed removal as one way to increase storage for both flood control and water supply.	FL										

Infrastructure Mitigation Strategies

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d-11	d-11	Identify critical locally-owned bridges affected by flooding and either elevate them to increase stream flow and maintain critical ingress and egress routes or modify the channel to achieve equivalent objectives.	FL										
d-12	d-12	Provide or support the mechanism to expedite the repair or replacement of levees that are vulnerable to collapse from earthquake-induced shaking or liquefaction, rodents, and other concerns, particularly those protecting critical infrastructure.	FL										
d-13	d-13	Ensure that utility systems in new developments are constructed in ways that reduce or eliminate flood damage.	FL										
d-14	d-14	Determine whether or not wastewater treatment plants are protected from floods, and if not, investigate the use of flood-control berms to not only protect from stream or river flooding, but also increasing plant security.	FL										
d-15	d-15	Work cooperatively with water agencies, flood control districts, Caltrans, and local transportation agencies to determine appropriate performance criteria for watershed analysis.	FL										
d-16	d-16	Work for better cooperation among the patchwork of agencies managing flood control issues.	FL										
d-17	d-17	Improve monitoring of creek and watercourse flows to predict potential for flooding downstream by working cooperatively with land owners and the cities and counties in the watershed.	FL										
d-18	new	Using criteria developed by EPA for asset management, inventory existing assets, the condition of those assets, and improvements needed to protect and maintain those assets. Capture this information in a Geographic Information System (GIS) and use it to select locations for creek monitoring gauges.	FL										

Infrastructure Mitigation Strategies

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INFR - e - Landslides	e-1	Include "areas subject to ground failure" in the list of criteria used for determining a replacement schedule (along with importance, age, type of construction material, size, condition, and maintenance or repair history) for pipelines.	LS										
	e-2	Establish requirements in zoning ordinances to address hillside development constraints in areas of steep slopes that are likely to lead to excessive road maintenance or where roads will be difficult to maintain during winter storms due to landsliding.	LS										
INFR - f - Building Reoccupancy	f-1	Ensure that critical buildings owned or leased by special districts or private utility companies participate in a program similar to San Francisco's Building Occupancy Resumption Program (BORP). The BORP program permits owners of buildings to hire qualified engineers to create facility-specific post-disaster inspection plans and allows these engineers to become automatically deputized as City/County inspectors for these buildings in the event of an earthquake or other disaster. This program allows rapid reoccupancy of the buildings. Note - A qualified (deleted structural) engineer is a California licensed engineer with relevant experience.	EQ LS WF FL SEC										
INFR - g - Public Education	g-1	Provide materials to the public related to planning for power outages.	EQ LS WF FL SEC										
	g-2	Provide materials to the public related to family and personal planning for delays due to traffic or road closures, or due to transit system disruption, due to disasters.	EQ LS WF FL SEC										

Infrastructure Mitigation Strategies

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g-3	g-3	Provide materials to the public related to coping with reductions in water supply or contamination of that supply BEYOND regulatory notification requirements.	EQ LS WF FL DR SEC											
g-4	g-4	Provide materials to the public related to coping with disrupted storm drains, sewage lines, and wastewater treatment (such as that developed by ABAG's Sewer Smart Program).	EQ LS WF FL DR SEC											
g-5	g-5	Facilitate and/or coordinate the distribution of emergency preparedness or mitigation materials that are prepared by others, such as by making the use of the internet or other electronic means, or placing materials on community access channels or in city or utility newsletters, as appropriate.	EQ LS WF FL DR SEC											
g-6	new	Sponsor the formation and training of Community Emergency Response Teams (CERT) for the employees of your agency. [Note -- these programs go by a variety of names in various cities and areas.]	EQ LS WF FL DR SEC											
g-7	new	Develop and distribute culturally appropriate materials related to disaster mitigation and preparedness, such as those on the http://www.preparenow.org website related to infrastructure issues.	EQ LS WF FL DR SEC											

Health Mitigation Strategies

2009 Strategy Code	Original Strategy Number	Specific Mitigation Strategy	Applicable Hazards	PRIORITY CHECK ONLY ONE										Responsible Agency or Department (Required if Existing Program, under funded, Very High, High, or Under Study)	Ordinance or Resolution # (if existing program), Estimated Cost and Possible Funding Agency (if high priority), Estimated Date of Completion (if study), WHY if not same as regional priority, OR Other Comments		
				Existing Program	Existing Program	Underfunded	Very High - Unofficial Program - Becomes Official on Plan Adoption, no funding needed	High - Actively Looking for Funding	Moderate	Under Study	Not Applicable, or Not Appropriate	Not Cost Effective	Not Yet Considered				
HEAL - a -		Hospitals and Other Critical Health Care Facilities (to be filled out by cities, counties, and county health departments, as well as water agencies, public & private hospitals as noted)	EQ LS WF FL SEC														
a-1	a-1	Work to ensure that cities, counties, county health departments, and hospital operators coordinate with each other (and that hospitals cooperate with the California Office of Statewide Health Planning and Development - OSHPD) to comply with current state law that mandates that critical facilities are structurally sound and have nonstructural systems designed to remain functional following disasters by 2013. In particular, this coordination should include understanding any problems with obtaining needed funding. RESPONSIBLE AGENCIES: Cities, counties, county health departments, and hospitals	EQ LS WF FL SEC														
a-2	a-2	Encourage hospitals in your community to work with OSHPD to formalize arrangements with structural engineers to report to the hospital, assess damage, and determine if the buildings can be reoccupied. The program should be similar to San Francisco's Building Occupancy Resumption Program (BORP) that permits owners of buildings to hire qualified structural engineers to create building-specific post-disaster inspection plans and allows these engineers to become automatically deputized as inspectors for these buildings in the event of an earthquake or other disaster. OSHPD, rather than city/county building departments, has the authority and responsibility for the structural integrity of hospital structures. RESPONSIBLE AGENCIES: Cities, counties, county health departments, and hospitals	EQ LS WF FL SEC														
a-3	a-3	Ensure health care facilities are adequately prepared to care for victims with respiratory problems related to smoke and/or particulate matter inhalation. RESPONSIBLE AGENCIES: Cities, counties, county health departments, and hospitals	EQ WF SEC														
a-4	a-4	Ensure these health care facilities have the capacity to shut off outside air and be self-contained. RESPONSIBLE AGENCIES: Cities, counties, county health departments, and hospitals	EQ WF SEC														

Health Mitigation Strategies

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a-5	a-5	Ensure that hospitals and other major health care facilities have auxiliary water and power sources. RESPONSIBLE AGENCIES: Cities, counties, county health departments, water suppliers, and hospitals.	EQ LS WF FL SEC										
a-6	a-6	Work to ensure that county health departments work with health care facilities to institute isolation capacity should a need for them arise following a communicable disease epidemic. Isolation capacity varies from a section of the hospital for most communicable diseases to the entire hospital for a major pandemic flu. RESPONSIBLE AGENCIES: Cities, counties, county health departments, and hospitals	EQ WF FL SEC										
a-7	a-7	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. RESPONSIBLE AGENCIES: Cities, counties, county health departments, and hospitals	EQ LS WF FL SEC										
HEAL - b -		Ancillary Health-Related Facilities (including medical offices, pharmacies, free-standing or specialty clinics, etc.)											
b-1	b-1	Identify these ancillary facilities in your community. These facilities are not regulated by OSHPD in the same way as hospitals. RESPONSIBLE AGENCIES: Cities, counties, and county health departments	EQ LS WF FL SEC										
b-2	b-2	Encourage these facility operators to develop disaster mitigation plans. RESPONSIBLE AGENCIES: Cities, counties, and county health departments	EQ LS WF FL SEC										
b-3	b-3	Encourage these facility operators to create, maintain, and/or continue partnerships with local governments to develop response and business continuity plans for recovery. RESPONSIBLE AGENCIES: Cities, counties, and county health departments	EQ LS WF FL SEC										
HEAL - c -		Coordination Initiatives											
c-1	c-1	Designate locations for the distribution of antibiotics to large numbers of people should the need arise, as required to be included in each county's Strategic National Stockpile Plan. RESPONSIBLE AGENCIES: County Health Departments	FLU SEC										

Health Mitigation Strategies

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c-2	c-2	Ensure that you know the Metropolitan Medical Response System (MMRS) cities in your area. Fremont, Oakland, San Francisco, and San Jose (plus Sacramento and Stockton) are the MMRS cities in or near the Bay Area. MMRS cities are provided with additional federal funds for organizing, equipping, and training groups of local fire, rescue, medical, and other emergency management personnel to respond to a mass casualty event. (The coordination among public health, medical, emergency management, coroner, EMS, fire, and law enforcement is a model for all cities and counties.) RESPONSIBLE AGENCIES: Cities, counties, county health departments, and hospitals	EQ LS WF FL SEC	Existing Program									
c-3	c-3	Know that National Disaster Medical System (NDMS) uniformed or non-uniformed personnel are within one-to-four hours of your community. These federal resources include veterinary, mortuary, and medical personnel. Teams in or near the Bay Area are headquartered in the cities of Santa Clara and Sacramento. RESPONSIBLE AGENCIES: Cities, counties, county health departments, and hospitals	EQ LS WF FL SEC	Existing Program									
c-4	c-4	Plan for hazard related-issues due to a natural or technological disaster. Hazmat teams should utilize the State of California Department of Health Services laboratory in Richmond for confirmation of biological agents and Lawrence Livermore National Laboratory or Sandia (both in Livermore) for confirmation of radiological agents. RESPONSIBLE AGENCIES: Cities, counties, county health departments, and hospitals	EQ WF FL SEC	Existing Program									
c-5	d-1	Create discussion forums for food and health personnel, including, for example, medical professionals, veterinarians, and plant pathologists, to develop safety, security, and response strategies for food supply contamination (at the source, in processing facilities, in distribution centers, and in grocery stores). RESPONSIBLE AGENCIES: County environmental health departments	FL SEC	Existing Program									
deleted	d-2	(duplicate information to c-2)											
deleted	d-3	(duplicate information to c-3)											

Health Mitigation Strategies

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deleted	d-4	(duplicate information to c-4)										

Housing Mitigation Strategies

2009 Strategy Code	Original Strategy Number	Specific Mitigation Strategy	Applicable Hazards	Priority (CHECK ONLY ONE)										Responsible Agency or Department (Required if Existing Program, under funded, Very High, High, or Under Study)	Ordinance or Resolution # (if existing program), Estimated Cost and Possible Funding Agency (if high priority), Estimated Date of Completion (if study), WHY if not same as regional priority, OR Other Comments		
				Existing Program	Existing Program underfunded	Very High - Unofficial Program - Becomes Official on Plan Adoption, no funding needed	High - Actively Looking for Funding	Moderate	Under Study	Not Applicable, or Not Appropriate, or Not Cost Effective	Not Yet Considered						
a-1	HSNG - a	Multi-Hazard Assist in ensuring adequate hazard disclosure by working with real estate agents to improve enforcement of real estate disclosure requirements for residential properties with regard to seven official natural hazard zones: 1) Special Flood Hazard Areas (designated by FEMA), 2) Areas of Potential Flooding from dam failure inundation, 3) Very High Fire Hazard Severity Zones, 4) Wildland Fire Zones, 5) Earthquake Fault Zones (designated under the Alquist-Priolo Earthquake Fault Zoning Act), and the 6) Liquefaction and 7) Landslide Hazard Zones (designated under the Seismic Hazard Mapping Act).	EQ LS WF FL SEC	Existing Program													
a-2		Create incentives for private owners of historic or architecturally significant residential buildings to undertake mitigation to levels that will minimize the likelihood that these buildings will need to be demolished after a disaster, particularly if those alterations conform to the federal Secretary of the Interior's Guidelines for Rehabilitation.	EQ LS WF FL SEC														
a-3	NEW - Miss GOVT b-4	Develop a plan for short-term sheltering of residents of your community in conjunction with the American Red Cross.	EQ LS WF FL SEC														
a-4	NEW - Miss GOVT b-4	Develop a plan for interim housing for those displaced by working with the Regional CPGP that funded this effort in 2009. (Estimated completion is 2011.)	EQ LS WF FL SEC														

Housing Mitigation Strategies

2009 Strategy Code	Original Strategy Number	Specific Mitigation Strategy	Applicable Hazards	Existing Program	Existing Program, underfunded	Very High - Unofficial Program, Becomes Official on Plan Adoption, no funding needed	High - Actively Looking for Funding	Moderate	Under Study	Not Applicable, or Not Cost Effective	Not Yet Considered	Responsible Agency or Department (Required if Existing Program, under funded, Very High, High, or Under Study)	Ordinance or Resolution # (if existing program), Estimated Cost and Possible Funding Agency (if high priority), Estimated Date of Completion (if study), WHY if not same as regional priority, OR Other Comments
HSNG-9-1	b-1	b-1 Single-Family Homes Vulnerable to Earthquakes Utilize or recommend adoption of a retrofit standard that includes standard plan sets and construction details for voluntary bolting of homes to their foundations and bracing of outside walls of crawl spaces ("cripple" walls), such as Plan Set A developed by a committee representing the East Bay Peninsula-Monterey Chapters of the International Code Council (ICC), California Building Officials (CALBO), the Structural Engineers Association of Northern California (SEAONC), the Northern California Chapter of the Earthquake Engineering Research Institute (EERI-NC), and ABAG's Earthquake Program.	EQ										
b-2	b-2	Require engineered plan sets for seismic retrofitting of heavy two-story homes with living areas over garages, as well as for split level homes (that is, homes not covered by Plan Set A), until standard plan sets and construction details become available.	EQ										
b-3	b-3	Require engineered plan sets for seismic retrofitting of homes on steep hillsides (because these homes are not covered by Plan Set A).	EQ										
b-4	b-4	Encourage local government building inspectors to take classes on a periodic basis (such as the FEMA-developed training classes offered by ABAG) on retrofitting of single-family homes, including application of Plan Set A.	EQ										
b-5	b-5	Encourage private retrofit contractors and home inspectors doing work in your area to take retrofit classes on a periodic basis (such as the FEMA-developed training classes offered by ABAG) or additional classes that might be offered by the CalBO Training Institute) on retrofitting of single-family homes.	EQ										
b-6	b-6	Conduct demonstration projects on common existing housing types demonstrating structural and nonstructural mitigation techniques as community models for earthquake mitigation.	EQ										
b-7	b-7	Provide retrofit classes or workshops for homeowners in your community, or help promote utilization of subregional workshops in the south bay, east bay, peninsula, and north bay as such workshops become available through outreach using existing community education programs.	EQ										

Housing Mitigation Strategies

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b-8	b-8	Establish tool-lending libraries with common tools needed for retrofitting for use by homeowners with appropriate training.	EQ										
b-9	b-9	(reworded) Provide financial incentives to owners of single-family homes to retrofit if those retrofits comply with Plan Set A or IEBC 2006 in addition to that provided by existing state law. State law that makes such retrofits exempt from increases in property taxes.	EQ										
HSNG - c		Soft-Story Multifamily Residential Structures Vulnerable to Earthquakes											
c-1	c-1	Require engineered plan sets for voluntary or mandatory soft-story seismic retrofits by private owners until a standard plan set and construction details become available.	EQ										
c-2	c-2	Adopt the 2009 (changed date) International Existing Building Code or the latest applicable standard for the design of voluntary or mandatory soft-story building retrofits for use in city/county building department regulations. In addition, allow use of changes to that standard recommended by SEACOC for the 2012 IEBC.	EQ										
c-3	c-3	Work to educate building owners, local government staff, engineers, and contractors on privately-owned soft-story retrofit procedures and incentives using materials such as those developed by ABAG and the City of San Jose (see http://quake.abag.ca.gov/eqhouse.html).	EQ										
c-4	c-4	Conduct an inventory of privately-owned existing or suspected soft-story residential structures as a first step in establishing voluntary or mandatory programs for retrofitting these buildings.	EQ										
c-5	c-5	Use the soft-story inventory to require private owners to inform all existing tenants (and prospective tenants prior to signing a lease agreement) that they may live in this type of building.	EQ										
c-6	c-6	Use the soft-story inventory to require private owners to inform all existing and prospective tenants that they may need to be prepared to live elsewhere following an earthquake if the building has not been retrofitted.	EQ										
c-7	c-7	Investigate and adopt appropriate financial, procedural, and land use incentives (such as parking waivers) for private owners of soft-story buildings to facilitate retrofit such as those described by ABAG (see http://quake.abag.ca.gov/fixit).	EQ										

Housing Mitigation Strategies

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c-8	c-8	(reworded) Explore development of State regulations or legislation to require or encourage private owners of soft-story structures to strengthen them.	EQ										
c-9	c-9	Provide technical assistance in seismically strengthening privately-owned soft-story structures.	EQ										
HSNG - d - d-1	d-1	Unreinforced Masonry Housing Stock Continue to actively implement existing State law that requires cities and counties to maintain lists of the addresses of unreinforced masonry buildings and inform private property owners that they own this type of hazardous structure.	EQ										
d-2	d-2	Accelerate retrofit of privately-owned unreinforced masonry structures that have not been retrofitted, for example, by (a) actively working with owners to obtain structural analyses of their buildings, (b) helping owners obtain retrofit funding, (c) adopting a mandatory versus voluntary, retrofit program, and/or (d) applying penalties to owners who show inadequate efforts to upgrade these buildings.	EQ										
d-3	d-3	Require private owners to inform all existing (and prospective tenants prior to signing a lease agreement) that they live in an unreinforced masonry building and the standard to which it may have been retrofitted.	EQ										
d-4	d-4	As required by State law, require private owners to inform all existing tenants that they may need to be prepared to live elsewhere following an earthquake even if the building has been retrofitted, for it has probably been retrofitted to a life-safety standard, not to a standard that will allow occupancy following major earthquakes.	EQ										

Housing Mitigation Strategies

2009 Strategy Code	Original Strategy Number	Specific Mitigation Strategy	Applicable Hazards	Existing Program	Existing Program, Underfunded	Very High - Unofficial Program Becomes Official	On Plan Adoption, no funding needed	High - Actively Looking for Funding	Moderate	Under Study	Not Applicable, or Not Cost Effective	Not Yet Considered	Responsible Agency or Department (Required if Existing Program, Existing Program under funded, Very High, High, or Under Study)	Ordinance or Resolution # (if existing program), Estimated Cost and Possible Funding Agency (if high priority), Estimated Date of Completion (if study), WHY if not same as regional priority, OR Other Comments
Residential Buildings and Earthquakes														
HSNG - e-1	e-1	Identify and work toward tying down mobile homes used as year-round permanent residences using an appropriate cost-sharing basis (for example, 75% grant, 25% owner).	EQ											
e-2	e-2	Inventory non-ductile concrete, tilt-up concrete (such as converted lofts), and other privately-owned potentially structurally vulnerable residential buildings.	EQ											
e-3	e-3	Adopt the 2009 International Existing Building Code or the latest applicable standard for the design of voluntary or mandatory retrofit of privately-owned seismically vulnerable buildings.	EQ											
e-4	e-4	Adopt one or more of the following strategies as incentives to encourage retrofit of privately-owned seismically vulnerable residential buildings: (a) waivers or reductions of permit fees, (b) below-market loans, (c) local tax breaks, (d) grants to cover the cost of retrofitting or of a structural analysis, (e) land use (such as parking requirement waivers) and procedural incentives, or (f) technical assistance.	EQ											
HSNG - f-1	f-1	New Construction and Earthquakes Continue to require that all new housing be constructed in compliance with (deleted "structural") requirements of the most recently adopted version of the California Building Code.	EQ											
f-2	f-2	Conduct appropriate employee training and support continued education to ensure enforcement of building codes and construction standards, as well as identification of typical design inadequacies of housing and recommended improvements.	EQ											
HSNG - g-1	g-1	Wildfire and Structural Fires Increase efforts to reduce hazards in existing private development in wildland-urban-interface fire-threatened communities or in areas exposed to high-to-extreme fire threat through improving engineering design and vegetation management for mitigation, appropriate code enforcement, and public education on defensible space mitigation strategies.	WF											
g-2	g-2	The public education on defensible space and a comprehensive defensible space ordinance to a field program of enforcement.	WF											

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9-3	9-3	Require that new homes in wildland-urban-interface fire-threatened communities or in areas exposed to high-to-extreme fire threat be constructed of fire-resistant building materials (including roofing and exterior walls) and incorporate fire-resistant design features (such as minimal use of eaves, internal corners, and open first floors) to increase structural survivability and reduce ignitability. Note - See Structural Fire Prevention Field Guide for Mitigation of Wildfires at http://osfm.fire.ca.gov/structural.html .	WF											
9-4	9-4	Create or identify "model" properties showing defensible space and structural survivability in neighborhoods that are wildland-urban-interface fire-threatened communities or in areas exposed to high-to-extreme fire threat.	WF											
9-5	9-5	Consider fire safety, evacuation, and emergency vehicle access when reviewing proposals to add secondary units or additional residential units in wildland-urban- interface fire-threatened communities or in areas exposed to high-to-extreme fire threat.	WF											
9-6	9-6	Adopt and amend as needed updated versions of the <i>California Building and Fire Codes</i> so that optimal fire-protection standards are used in construction and renovation projects of private buildings.	WF											
9-7	9-7	Create a mechanism to enforce provisions of the <i>California Building and Fire Codes</i> and local housing codes that require the installation of smoke detectors and/or fire-extinguishing systems for privately-owned properties by making installation a condition of (a) finalizing a permit for any work on existing properties valued at over a fixed amount, such as \$500 or \$1000, and/or (b) a condition for the transfer of property if these changes are determined cost-effective strategies.	WF											
9-8	9-8	Work to ensure a reliable source of water for fire suppression in rural-residential areas through the cooperative efforts of water districts, fire districts, and residents.	WF											

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9-6	9-6	Expand vegetation management programs in wildland-urban- interface fire-threatened communities or in areas exposed to high-to-extreme fire threat to more effectively manage the fuel load through roadside collection and chipping, mechanical fuel reduction equipment, selected harvesting, use of goats or other organic methods of fuel reduction, and selected use of controlled burning.	WF										
9-10	9-11	Establish special funding mechanisms (such as Fire Hazard Abatement District or regional bond funding) to fund reduction in fire risk of existing properties through vegetation management that includes reduction of fuel loads, use of defensible space, and fuel breaks.	WF										
9-11	9-12	Work with residents in rural-residential areas to ensure adequate plans are developed for appropriate access and evacuation in wildland-urban-interface fire-threatened communities or in areas exposed to high-to-extreme fire threat. For example, in some areas, additional roads can be created, and in other areas, the communities will need to focus on early warning and evacuation because additional roads are not feasible.	WF										
9-12	9-13	Require fire sprinklers in new homes located more than 1.5 miles or a 5-minute response time from a fire station or in an identified high hazard wildland-urban-interface wildfire area.	WF										
9-13	9-14	Require fire sprinklers in all new or substantially remodeled multifamily housing, regardless of distance from a fire station.	WF										
9-14	9-15	Require sprinklers in all mixed use development to protect residential uses from fires started in non-residential areas.	WF										
9-15	9-16	Compile a list of privately-owned high-rise and high-occupancy buildings which are deemed, due to their age or construction materials, to be particularly susceptible to fire hazards, and determine an expeditious timeline for the fire-safety inspection of all such structures.	WF										
9-16	9-17	Conduct periodic fire-safety inspections of all multi-family buildings, as required by State law.	WF										

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9-17	g-18	Ensure that city/county-initiated fire-preventive vegetation-management techniques and practices for creek sides and high-slope areas do not contribute to the landslide and erosion hazard. For example, vegetation in these sensitive areas could be thinned, rather than removed, or replanted with less flammable materials. When thinning, the non-native species should be removed first. Other options would be to use structural mitigation, rather than vegetation management in the most sensitive areas.	WF LS											
9-18	g-19	Create a mechanism to require the bracing of water heaters and flexible couplings on gas appliances, and/or (as specified under "a. Single-family homes vulnerable to earthquakes" above) the bolting of homes to their foundations and strengthening of cripple walls to reduce fire ignitions due to earthquakes.	EQ WF											
9-19	g-20	Work with the State Fire Marshall, the California Seismic Safety, PEER, and other experts to identify and manage gas-related fire risks of soft-story residential or mixed use buildings that are prone to collapse and occupant entrapment consistent with the natural gas safety recommendations of Seismic Safety Commission Report SSC-02-03. Note - See http://www.seismic.ca.gov/pub/CSSC_2002-03_Natural%20Gas%20Safety.pdf . Also note - any values that are installed may need to have both excess flow and seismic triggers ("hybrid" valves).	EQ WF											
9-20	new	Ensure that city/county-initiated fire-preventive vegetation-management techniques and practices for creek sides and high-slope areas do not contribute to the landslide and erosion	WF											
9-21	new	Work with insurance companies to create a public/private partnership to give a discount on fire insurance premiums to "Forester Certified" Fire Wise landscaping and fire-resistant building materials on private property.	WF											
HSNG - h	h-1	To reduce flood risk, thereby reducing the cost of flood insurance to private property owners, work to qualify for the highest-feasible rating under the Community Rating System of the National Flood Insurance Program.	FL											

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h-2	h-2	Balance the housing needs of residents against the risk from potential flood-related hazards.	FL											
h-3	h-3	Ensure that new private development pays its fair share of improvements to the storm drainage system necessary to accommodate increased flows from the development, or does not increase runoff by draining water to pervious areas or detention facilities.	FL											
h-4	h-4	Provide sandbags and plastic sheeting to residents in anticipation of rainstorms, and deliver those materials to vulnerable populations upon request.	FL											
h-5	h-5	Provide public information on locations for obtaining sandbags and/or deliver those sandbags to those various locations throughout a city and/or county prior to and/or during the rainy season.	FL											
h-6	h-6	Apply floodplain management regulations for private development in the floodplain and floodway.	FL											
h-7	h-7	Ensure that new subdivisions are designed to reduce or eliminate flood damage by requiring lots and rights-of-way are laid out for the provision of approved sewer and drainage facilities, providing on-site detention facilities whenever practicable.	FL											
h-8	h-8	Encourage home and apartment owners to participate in home elevation programs within flood hazard areas .	FL											
h-9	h-9	As funding opportunities become available , encourage home and apartment owners to participate in acquisition and relocation programs for areas within floodways.	FL											
h-10	h-10	Encourage owners of properties in a floodplain to consider purchasing flood insurance. For example, point out that most homeowners' insurance policies do not cover a property for flood damage.	FL											

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HSNG - i-1	i-1	<p>Landslides and Erosion</p> <p>Increase efforts to reduce landslides and erosion in existing and future development by improving appropriate code enforcement and use of applicable standards for private property, such as those appearing in the <i>California Building Code</i>, California Geological Survey Special Report 117 – <i>Guidelines for Evaluating and Mitigating Seismic Hazards in California</i>, American Society of Civil Engineers (ASCE) report <i>Recommended Procedures for Implementation of DMG Special Publication 117: Guidelines for Analyzing and Mitigating Landslide Hazards in California</i>, and the California Board for <i>Engineering Geologic Reports</i>. Such standards should cover excavation, fill placement, cut-fill transitions, slope stability, drainage and erosion control, slope setbacks, expansive soils, collapsible soils, environmental issues, geological and geotechnical investigations, grading plans and specifications, protection of adjacent properties, and review and permit issuance.</p>	LS										
i-2	i-2	Increase efforts to reduce landslides and erosion in existing and future private development through continuing education of design professionals on mitigation strategies.	LS										

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H5NG - j	J-1	Building Reoccupancy Develop and enforce a repair and reconstruction ordinance to ensure that damaged buildings are repaired in an appropriate and timely manner and retrofitted concurrently. This repair and reconstruction ordinance should apply to all public and private buildings, and also apply to repair of all damage, regardless of cause. See http://quake.abag.ca.gov/recovery/info-repair-ord.html.	EQ LS WF FL SEC	Existing Program	Existing Program								
J-2	NEW same as econ 5	Establish preservation-sensitive measures for the repair and reoccupancy of historically significant privately-owned structures, including requirements for temporary shoring or stabilization where needed, arrangements for consulting with preservationists, and expedited permit procedures for suitable repair or rebuilding of historically or architecturally valuable structures.	EQ LS WF FL SEC										
H5NG - k	k-1	Public Education Provide information to residents of your community on the availability of interactive hazard maps showing your community on ABAG's web site.	EQ LS WF FL SEC	Existing Program	Existing Program								
k-2	k-2	Develop printed materials, utilize existing materials (such as developed by FEMA and the American Red Cross), conduct workshops, and/or provide outreach encouraging residents to have family disaster plans that include drop-cover-hold earthquake drills, fire and storm evacuation procedures, and shelter-in-place emergency guidelines.	EQ LS WF FL SEC										
k-3	k-3	Inform residents of comprehensive mitigation activities, including elevation of appliances above expected flood levels, use of fire-resistant roofing and defensible space in high wildfire threat and wildfire-urban-interface areas, structural retrofit techniques for older homes, and use of intelligent grading practices through workshops, publications, and media announcements and events.	EQ LS WF FL SEC										
k-4	k-4	Develop a public education campaign on the cost, risk, and benefits of earthquake, flood, and other hazard insurance as compared to mitigation.	EQ LS FL SEC										

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k-5	k-5	Use disaster anniversaries, such as April (the 1906 earthquake), September (9/11), and October (Loma Prieta earthquake and Oakland Hills fire), to remind the public on safety and security mitigation activities.	EQ LS WF FL SEC	Existing Program									
k-6	k-6	Sponsor the formation and training of Community Emergency Response Teams (CERT) training for residents in your community. [Note – these programs go by a variety of names in various cities and areas.]	EQ LS WF FL SEC	Existing Program									
k-7	k-7	Include flood fighting technique session based on California Department of Water Resources training to the list of available public training classes offered by CERT.	FL										
k-8	k-8	Institute the neighborhood watch block captain and team programs outlined in the Citizen Corps program guide.	EQ LS WF FL SEC										
k-9	k-9	Assist residents in the development of defensible space through the use of, for example, "tool libraries" for weed abatement tools, roadside collection and/or chipping services (for brush, weeds, and tree branches) in wildland-urban-interface fire-threatened communities or in areas exposed to high-to-extreme fire threat.	WF										
k-10	k-10	Train homeowners to locate and shut off gas valves if they smell or hear gas leaking.	EQ LS WF FL SEC	Existing Program									
k-11	k-12	Develop a program to provide at-cost NOAA weather radios to residents of flood hazard areas that request them, with priority to neighborhood watch captains and others trained in their use.	FL										
k-12	k-13	Make use of the materials on the ABAG web site at http://quake.abag.ca.gov/fixit and other web sites to increase residential mitigation activities related to earthquakes. (ABAG plans to continue to improve the quality of those materials over time.)	EQ										
k-13	k-14	Develop a "Maintain-a-Drain" campaign, similar to that of the City of Oakland, encouraging private businesses and residents to keep storm drains in their neighborhood free of debris.	FL	Existing Program									

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k-14	k-15	Encourage the formation of a community- and neighborhood-based approach to wildfire education and action through local Fire Safe Councils and the <i>Fire Wise Program</i> . This effort is important because grant funds are currently available to offset costs of specific council-supported projects.	WF										
k-15	k-16	Inform shoreline-property owners of the possible long-term economic threat posed by rising sea levels.	FL										
k-16	k-17	Develop and distribute culturally appropriate materials related to disaster mitigation and preparedness, such as those on the http://www.preparesnow.org website.	EQ LS WF FL SEC										
deleted	g-10	DELETED - REPLACED BY DISCUSSION OF REVERSE 911 in GOVT c-14.											
deleted	k-11												

Economy Mitigation Strategies

2009 Strategy Code	Original Strategy Number	Specific Mitigation Strategy	Applicable Hazards	Priority/CHECK ONLY ONE										Responsible Agency or Department (Required if Existing Program under funded, Very High, High, or Under Study)	Ordinance or Resolution # (if existing program), Estimated Cost and Possible Funding Agency (if high priority), Estimated Date of Completion (if study), WHY if not same as regional priority, OR Other Comments	
				Existing Program	Existing Program underfunded	Very High - Unofficial Program - Becomes Official on Plan Adoption, no funding needed	High - Actively Looking for Funding	Moderate	Under Study	Not Applicable, or Not Appropriate, or Not Cost Effective	Not Yet Considered					
ECON - a	a-1	Multi-Hazard Assist in ensuring adequate hazard disclosure by working with real estate agents to improve enforcement of real estate disclosure requirements for commercial and industrial properties with regard to seven official natural hazard zones: 1) Special Flood Hazard Areas (designated by FEMA), 2) Areas of Potential Flooding from dam failure inundation, 3) Very High Fire Hazard Severity Zones, 4) Wildland Fire Zones, 5) Earthquake Fault Zones (designated under the Alquist-Prilo Earthquake Fault Zoning Act), and the 6) Liquefaction and 7) Landslide Hazard Zones (designated under the Seismic Hazard Mapping Act).	EQ LS WF FL SEC	Existing Program												
	a-2	Create incentives for private owners of historic or architecturally significant commercial and industrial buildings to undertake mitigation to levels that will minimize the likelihood that these buildings will need to be demolished after a disaster, particularly if those alterations conform to the federal Secretary of the Interior's Guidelines for Rehabilitation.	EQ LS WF FL SEC	Existing Program												
ECON - b	b-1	Soft-Story Commercial Buildings Vulnerable to Earthquakes Require engineered plan sets for voluntary or mandatory soft-story seismic retrofits by private owners until a standard plan set and construction details become available.	EQ	Existing Program												
	b-2	Adopt the 2009 (changed date) International Existing Building Code or the latest applicable standard for the design of voluntary or mandatory soft-story building retrofits for use in city/county building department regulations. In addition, allow use of changes to that standard recommended by SEAC for the 2012 IEBC.	EQ													
	b-3	Work to educate building owners, local government staff, engineers, and contractors on privately-owned soft-story retrofit procedures and incentives using materials such as those developed by ABAG and the City of San Jose (see http://quake.abag.ca.gov/eqhouse.html).	EQ													
	b-4	Conduct an inventory of privately-owned existing or suspected soft-story commercial or industrial structures as a first step in establishing voluntary or mandatory programs for retrofitting these buildings.	EQ													

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b-5	b-5	Use the soft-story inventory to require private owners to inform all existing tenants (and prospective tenants prior to signing a lease agreement) that they may work in this type of building.	EQ										
b-6	b-6	Use the soft-story inventory to require private owners to inform all existing and prospective tenants that they may need to be prepared to work elsewhere following an earthquake if the building has not been retrofitted.	EQ										
b-7	b-7	Investigate and adopt appropriate financial, procedural, and land use incentives (such as parking waivers) for private owners of soft-story buildings to facilitate retrofit such as those described by ABAG (see http://quake.abag.ca.gov/fixit).	EQ										
b-8	b-8	(reworded) Explore development of State regulations or legislation to require or encourage private owners of soft-story structures to strengthen them.	EQ										
b-9	b-8	Provide technical assistance in seismically strengthening privately-owned soft-story structures.	EQ										

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ECON - c		Unreinforced Masonry Buildings in Older Downtown Areas									
c-1	c-1	Continue to actively implement existing State law that requires cities and counties to maintain lists of the addresses of unreinforced masonry buildings and inform private property owners that they own this type of hazardous structure.	EQ								
c-2	c-2	Accelerate retrofit of privately-owned unreinforced masonry structures that have not been retrofitted, for example, by (a) actively working with owners to obtain structural analyses of their buildings, (b) helping owners obtain retrofit funding, (c) adopting a mandatory versus voluntary retrofit program, and/or (d) applying penalties to owners who show inadequate efforts to upgrade these buildings.	EQ								
c-3	c-3	Require private owners to inform all existing (and prospective tenants prior to signing a lease agreement) that they work in an unreinforced masonry building and the standard to which it may have been retrofitted.	EQ								
c-4	c-4	As required by State law, require private owners to inform all existing tenants that they may need to be prepared to work elsewhere following an earthquake even if the building has been retrofitted, for it has probably been retrofitted to a life-safety standard, not to a standard that will allow occupancy following major earthquakes.	EQ								
ECON - d		Privately-Owned Structurally Vulnerable Buildings									
d-1	d-1	Inventory non-ductile concrete, tilt-up concrete, and other privately-owned structurally vulnerable buildings.	EQ								
d-2	d-2	Adopt the 2009 International Existing Building Code or the latest applicable standard for the design of voluntary or mandatory retrofit of privately-owned seismically vulnerable buildings.	EQ								
d-3	d-3	Adopt one or more of the following strategies as incentives to encourage retrofit of privately-owned seismically vulnerable commercial and industrial buildings: (a) waivers or reductions of permit fees, (b) below-market loans, (c) local tax breaks, (d) grants to cover the cost of retrofitting or of a structural analysis, (e) land use (such as parking requirement waivers) and procedural incentives, or (f) technical assistance.	EQ								
ECON - e		Wildfire and Structural Fires									

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e-1	e-1	Increase efforts to reduce hazards in existing private development in wildland-urban-interface fire-threatened communities or in areas exposed to high-to-extreme fire threat through improving engineering design and vegetation management for mitigation, appropriate code enforcement, and public education on defensible space mitigation strategies.	WF											
e-2	new	The public education on defensible space and a comprehensive defensible space ordinance to a field program of enforcement.	WF											
e-3	e-2	Require that new privately-owned business and office buildings in high fire hazard areas be constructed of fire-resistant building materials and incorporate fire-resistant design features (such as minimal use of eaves, internal corners, and open first floors) to increase structural survivability and reduce ignitability.	WF											
e-4	e-3	Adopt and amend as needed updated versions of the California Building and Fire Codes so that optimal fire-protection standards are used in construction and renovation projects of private buildings.	WF											
e-5	e-4	Create a mechanism to enforce provisions of the California Building and Fire Codes and other local codes that require the installation of smoke detectors and fire-extinguishing systems by making installation a condition of (a) finalizing a permit for any work on existing privately-owned properties valued at over a fixed amount, such as \$500 or \$1000, and/or (b) on any building over 75 feet in height, and/or (c) as a condition for the transfer of property.	WF											
e-6	e-5	(reworded to more closely match the HSNB strategy) Expand vegetation management programs in wildland-urban- interface fire-threatened communities or in areas exposed to high-to-extreme fire threat to more effectively manage the fuel load through roadside collection and chipping, mechanical fuel reduction equipment, selected harvesting, use of goats or other organic methods of fuel reduction, and selected use of controlled burning.	WF											
e-7	e-6	Establish special funding mechanisms (such as Fire Hazard Abatement District or regional bond funding) to fund reduction in fire risk of existing properties through vegetation management that includes reduction of fuel loads, use of defensible space, and fuel breaks.	WF											

Economy Mitigation Strategies

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e-8	e-7	Establish special funding mechanisms (such as Fire Hazard Abatement District or regional bond funding) to fund fire-safety inspections of private properties, roving firefighter patrols on high fire-hazard days, and public education efforts.	WF	Existing Program	Existing Program, Underfunded								
e-9	e-8	Compile a list of privately-owned high-rise and high occupancy buildings that are deemed, due to their age or construction materials, to be particularly susceptible to fire hazards, and determine an expeditious timeline for the fire-safety inspection of all such structures.	WF										
e-10	e-9	Conduct periodic fire-safety inspections of all privately-owned commercial and industrial buildings.	WF										
e-11	e-10	Work with the State Fire Marshall, the California Seismic Safety, PEER, and other experts to identify and manage gas-related fire risks of privately-owned soft-story mixed use buildings that are prone to collapse and occupant entrapment consistent with the natural gas safety recommendations of Seismic Safety Commission Report SSC-02-03. Note - See http://www.seismic.ca.gov/pub/CSSC_2002-03_Natural%20Gas%20Safety.pdf . Also note - any valves that are installed may need to have both excess flow and seismic triggers ("hybrid" valves).	EQ WF										
e-12	e-11	Ensure that city/county-initiated fire-preventive vegetation-management techniques and practices for creek sides and high-slope areas do not contribute to the landslide and erosion hazard.	WF										
e-13	e-12	Work with insurance companies to create a public/private partnership to give a discount on fire insurance premiums to "Forester Certified" Fire Wise landscaping and fire-resistant building materials on private property.	WF										
ECOM - f	f-1	Flooding	FL										
f-1	f-1	To reduce flood risk, thereby reducing the cost of flood insurance to private property owners, work to qualify for the highest-feasible rating under the Community Rating System of the National Flood Insurance Program.	FL										
f-2	f-2	Balance the needs for private commercial and industrial development against the risk from potential flood-related hazards.	FL										

Economy Mitigation Strategies

2009 Strategy Code	Original Strategy Number	Specific Mitigation Strategy	Applicable Hazards	Existing Program	Existing Program underfunded	Very High - Unofficial Program - Becomes Official on Plan Adoption, no funding needed	High - Actively Looking for Funding	Moderate	Under Study	Not Applicable, or Not Cost Effective	Not Yet Considered	Responsible Agency or Department (Required if Existing Program, Very High, High, or Under Study)	Ordinance or Resolution # (if existing program), Estimated Cost and Possible Funding Agency (if high priority), Estimated Date of Completion (if study), WHY if not same as regional priority, OR Other Comments
f-3	f-3	Ensure that new private development pays its fair share of improvements to the storm drainage system necessary to accommodate increased flows from the development, or does not increase runoff by draining water to pervious areas or detention facilities.	FL										
f-4	f-4	Provide sandbags and plastic sheeting to private businesses in anticipation of rainstorms, and deliver those materials to vulnerable populations upon request.	FL										
f-5	f-5	Provide information to private business on locations for obtaining sandbags and deliver those sandbags to those various locations throughout a city and/or county.	FL										
f-6	f-6	Apply floodplain management regulations for private development in the floodplain and floodway.	FL										
f-7	f-7	Encourage private business owners to participate in building elevation programs within flood hazard areas.	FL										
f-8	f-8	As funding becomes available, encourage private business owners to participate in acquisition and relocation programs for areas within floodways.	FL										
f-9	f-9	Require an annual inspection of approved flood-proofed privately-owned buildings to ensure that (a) all flood-proofing components will operate properly under flood conditions and (b) all responsible personnel are aware of their duties and responsibilities as described in their building's Flood Emergency Operation Plan and Inspection & Maintenance Plan.	FL										

Economy Mitigation Strategies

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ECON - g	g-1	9-1 Increase efforts to reduce landslides and erosion in existing and future development by improving appropriate code enforcement and use of applicable standards for private property, such as those appearing in the California Building Code, California Geological Survey Special Report 117 - Guidelines for Evaluating and Mitigating Seismic Hazards in California, American Society of Civil Engineers (ASCE) report Recommended Procedures for Implementation of DMG Special Publication 117: Guidelines for Analyzing and Mitigating Landslide Hazards in California, and the California Board for Geologists and Geophysicists Guidelines for Engineering Geologic Reports. Such standards should cover excavation, fill placement, cut-fill transitions, slope stability, drainage and erosion control, slope setbacks, expansive soils, collapsible soils, environmental issues, geological and geotechnical investigations, grading plans and specifications, protection of adjacent properties, and review and permit issuance.	LS	Existing Program	Existing Program Underrunded								
g-2	g-2	9-2 Increase efforts to reduce landslides and erosion in existing and future private development through continuing education of design professionals on mitigation strategies.	LS										
ECON - h	h-1	h-1 Continue to require that all new privately-owned commercial and industrial buildings be constructed in compliance with (deleted) "structural" requirements of the most recently adopted version of the California Building Code.	EQ	Existing Program									
h-2	h-2	h-2 Conduct appropriate employee training and support continued education to ensure enforcement of construction standards for private development.	EQ										
h-3	h-3	h-3 Work with private building owners to help them recognize that many strategies that increase earthquake resistance also decrease damage in an explosion. In addition, recognize that ventilation systems can be designed to contain airborne biological agents.	EQ SEC	Existing Program	Existing Program Underrunded								

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ECON - i-1	i-1	Building Reoccupancy i-1 Institute an aggressive program to encourage owners of private buildings to participate in a program similar to San Francisco's Building Occupancy Resumption Program (BORP). This program permits owners of private buildings to hire qualified structural engineers to create building-specific post-disaster inspection plans and allows these engineers to become automatically deputized as City/County inspectors for these buildings in the event of an earthquake or other disaster.	EQ LS WF FL SEC										
	i-2	i-2 Actively notify owners of historic or architecturally significant buildings of the availability of the local BORP-type program and encourage them to participate to ensure that appropriately qualified structural engineers are inspecting their privately-owned buildings, thus reducing the likelihood that the buildings will be inappropriately evaluated following a disaster.	EQ LS WF FL SEC										
	i-3	i-3 Actively notify owners of educational facility buildings of the availability of the local BORP-type program and encourage them to participate to ensure that appropriately qualified structural engineers are inspecting their buildings, thus reducing the likelihood that the buildings will be inappropriately evaluated following a disaster.	EQ LS WF FL SEC										
	i-4	i-4 Allow private building owners to participate in a BORP-type program as described above, but not actively encourage them to do so.	EQ LS WF FL SEC										
	i-5	i-5 Develop and enforce a repair and reconstruction ordinance to ensure that damaged buildings are repaired in an appropriate and timely manner and retrofitted concurrently. This repair and	EQ LS WF FL SEC										
	i-6	i-6 Establish preservation-sensitive measures for the repair and reoccupancy of historically significant privately-owned structures, including requirements for temporary shoring or stabilization where needed, arrangements for consulting with preservationists, and expedited permit procedures for suitable repair or rebuilding of historically or architecturally valuable structures.	EQ LS WF FL SEC										
ECON - j-	j-	Public Education j-1 Provide information to private business owners and their employees on the availability of interactive hazard maps on ABAG's web site.	EQ LS WF FL SEC										

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J-2	J-2	Develop printed materials, utilize existing materials (such as developed by FEMA and the American Red Cross), conduct workshops, and/or provide outreach encouraging private businesses' employees to have family disaster plans that include drop-cover-hold earthquake drills, fire and storm evacuation procedures, and shelter-in-place emergency guidelines.	EQ LS WF FL SEC	Existing Program	Existing Program								
J-3	J-3	Develop and print materials, conduct workshops, and provide outreach to Bay Area private businesses focusing on business continuity planning.	EQ LS WF FL SEC										
J-4	J-4	Inform Bay Area private business owners of mitigation activities, including elevation of appliances above expected flood levels, use of fire-resistant roofing and defensible space in wildland-urban-interface fire-threatened communities or in areas exposed to high-to-extreme fire threat, structural retrofitting techniques for older buildings, and use of intelligent grading practices through workshops, publications, and media announcements and events.	WF FL										
J-5	J-5	Sponsor the formation and training of Community Emergency Response Teams (CERT) training for other than your own employees through partnerships with local private businesses. [Note - these programs go by a variety of names in various cities and areas.]	EQ LS WF FL SEC										
J-6	J-6	Assist private businesses in the development of defensible space through the use of, for example, "tool libraries" for weed abatement tools, roadside collection and/or chipping services (for brush, weeds, and tree branches) in wildland-urban-interface fire-threatened communities or in areas exposed to high-to-extreme fire threat.	WF										
J-7	J-7	Make use of the materials developed by others (such as found on ABAG's web site at http://quake.abag.ca.gov/business) to increase mitigation activities related to earthquakes by groups other than your own agency. ABAG plans to continue to improve the quality of those materials over time.	EQ										
J-8	J-8	Develop a "Maintain-a-Drain" campaign, similar to that of the City of Oakland, encouraging private businesses and residents to keep storm drains in their neighborhood free of debris.	FL										

Economy Mitigation Strategies

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J-9	J-9	Encourage the formation of a community- and neighborhood-based approach to wildfire education and action through local Fire Safe Councils and the Fire Wise Program. This effort is important because grant funds are currently available to offset costs of specific council-supported projects.	WF	Existing Program									
J-10	J-10	Encourage private businesses and laboratories handling hazardous materials or pathogens increase security to a level high enough to create a deterrent to crime and terrorism, including active implementation of "cradle-to-grave" tracking systems.	SEC EQ										
J-11	J-11	Encourage joint meetings of security and operations personnel at major private employers to develop innovative ways for these personnel to work together to increase safety and security.	SEC EQ										
J-12	J-12	Inform private shoreline-property owners of the possible long-term economic threat posed by rising sea levels.	FL										
J-13	J-13	Develop and distribute culturally appropriate materials related to disaster mitigation and preparedness, such as those on the http://www.preparenow.org website, for private business owners.	EQ LS WF FL SEC	Existing Program									

Government Mitigation Strategies

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				Existing Program	Existing Program, underfunded	Very High - Unofficial Program - Becomes Official on Plan Adoption, no funding needed	High - Actively Looking for Funding	Moderate	Under Study	Not Applicable, or Not Appropriate, or Not Cost Effective	Not Yet Considered					
GOVT - a - Focus on Critical Facilities (...Owned by the Local Government Filling Out This Form)																
a-1	a-1	Assess the vulnerability of critical facilities (such as city halls, fire stations, operations and communications headquarters, community service centers, seaports, and airports) to damage in natural disasters and make recommendations for appropriate mitigation.	EQ LS WF FL													
a-2	a-2	Retrofit or replace critical facilities that are shown to be vulnerable to damage in natural disasters.	EQ LS WF FL SEC													
a-3	a-3	Clarify to workers in critical facilities and emergency personnel, as well as to elected officials and the public, the extent to which the facilities are expected to perform only at a life safety level (allowing for the safe evacuation of personnel) or are expected to remain functional following an earthquake.	EQ													
a-4	a-4	Conduct comprehensive programs to identify and mitigate problems with facility contents, architectural components, and equipment that will prevent critical buildings from being functional after major natural disasters. Such contents and equipment includes computers and servers, phones, files, and other tools used by staff to conduct daily business.	EQ LS WF FL SEC													
a-5	a-5	Encourage joint meetings of security and operations personnel at critical facilities to develop innovative ways for these personnel to work together to increase safety and security.	EQ LS WF FL SEC													
a-6	a-6	When installing micro and/or surveillance cameras around critical public assets tied to web-based software, and develop a surveillance protocol to monitor these cameras, investigate the possibility of using the cameras for the secondary purpose of post-disaster damage assessment.	EQ LS WF FL SEC													
a-7	a-7	Identify and undertake cost-effective retrofit measures related to security on critical facilities (such as moving and redesigning air intake vents and installing blast-resistant features) when these buildings undergo major renovations related to other natural hazards.	EQ LS WF FL SEC													

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a-9	a-9	As a secondary focus, assess the vulnerability of non-critical facilities to damage in natural disasters based on occupancy and structural type, make recommendations on priorities for structural improvements or occupancy reductions, and identify potential funding mechanisms.	EQ LS WF FL SEC										
a-10	a-10	Ensure that government-owned facilities comply with and are subject to the same or more stringent regulations as imposed on privately-owned development.	EQ LS WF FL SEC										
a-11	a-11	Comply with all applicable building and fire codes, as well as other regulations (such as state requirements for fault, landslide, and liquefaction investigations in particular mapped areas) when constructing or significantly remodeling government-owned facilities.	EQ LS WF FL SEC										
a-12	a-12	Prior to acquisition of property to be used as a critical facility, conduct a study to ensure the absence of significant structural hazards and hazards associated with the building site.	EQ LS WF FL SEC										
a-13	new	Ensure that any regulations imposed on private-owned businesses (see "Economy Section") are enforced and imposed on local government's own buildings and structures.	EQ LS WF FL SEC										
GOVT - b - Maintain and Enhance Local Government's Emergency Recovery Planning													
b-1	b-1	Establish a framework and process for pre-event planning for post-event recovery that specifies roles, priorities, and responsibilities of various departments within the local government organization, and that outlines a structure and process for policy-making involving elected officials and appointed advisory committees.	EQ LS WF FL SEC										
b-2	b-2	Prepare a basic Recovery Plan that outlines the major issues and tasks that are likely to be the key elements of community recovery, as well as integrate this planning into response planning (such as with continuity of operations plans).	EQ LS WF FL SEC										
b-3	b-3	Establish a goal for the resumption of local government services that may vary from function to function.	EQ LS WF FL SEC										

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b-4	b-25	Develop a continuity of operations plan that includes back-up storage of vital records, such as plans and back-up procedures to pay employees and vendors if normal finance department operations are disrupted, as well as other essential electronic files.	EQ LS WF FL SEC										
b-5	new	Plans should be made for the emergency relocation of government-owned facilities critical to recovery, as well as any facilities with known structural deficiencies or in hazardous areas.	EQ LS WF FL SEC										
GOVT - c		Maintain and Enhance Local Government's Emergency Response Capacity	EQ LS WF FL SEC										
c-1	new (old b-4 move d to HSNG a-3)	Develop a plan for short-term and intermediate-term sheltering of your employees.	EQ LS WF FL SEC										
c-2	new	Encourage your employees to have a family disaster plan.	EQ LS WF FL SEC										
c-3	new	Offer CERT/NERT-type training to your employees.	EQ LS WF FL SEC										
c-4	b-5 (a)	Periodically assess the need for new or relocated fire or police stations and other emergency facilities.	EQ LS WF FL SEC										
c-5	b-5 (b)	Periodically assess the need for changes in staffing levels, and additional or updated supplies, equipment, technologies, and in-service training classes.	EQ LS WF FL SEC										
c-6	b-6	Ensure that fire, police, and other emergency personnel have adequate radios, breathing apparatuses, protective gear, and other equipment to respond to a major disaster.	EQ LS WF FL SEC										
c-7	b-7	Participate in developing and maintaining a system of interoperable communications for first responders from cities, counties, special districts, state, and federal agencies.	EQ LS WF FL SEC										

Government Mitigation Strategies

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c-8	b-8	Harden emergency response communications, including, for example, building redundant capacity into public safety alerting and/or answering points, replacing or hardening microwave and simulcast systems, adding digital encryption for programmable radios, and ensuring a plug-and-play capability for amateur radio.	EQ LS WF FL SEC													
c-9	b-9	Purchase command vehicles for use as mobile command/EOC vehicles if current vehicles are unsuitable or inadequate.	EQ LS WF FL SEC													
c-10	b-10	Maintain the local government's emergency operations center in a fully functional state of readiness.	EQ LS WF FL SEC													
c-11	b-11	Expand or participate in expanding traditional disaster exercises involving city and county emergency personnel to include airport and port personnel, transit and infrastructure providers, hospitals, schools, park districts, and major employers.	EQ LS WF FL SEC													
c-12	b-12	Maintain and update as necessary the local government's Standardized Emergency Management System (SEMS) Plan and the National Incident Management System (NIMS) Plan, and submit an appropriate NIMSCAST report.	EQ LS WF FL SEC													
c-13	b-13	Continue to participate not only in general mutual-aid agreements, but also in agreements with adjoining jurisdictions for cooperative response to fires, floods, earthquakes, and other disasters.	EQ LS WF FL SEC													
c-14	b-14 & b-22	Install alert and warning systems for rapid evacuation or shelter-in-place. Such systems include outdoor sirens and/or reverse-911 calling systems.	EQ LS WF FL SEC													
c-15	b-15	Conduct periodic tests of the alerting and warning system. (deleted some wording)	EQ LS WF FL SEC													
c-16	b-16	Regulate and enforce the location and design of street-address numbers on buildings and minimize the naming of short streets (that are actually driveways) to single homes.	EQ LS WF FL SEC													
c-17	b-17	Monitor weather during times of high fire risk using, for example, weather stations tied into police and fire dispatch centers.	WF													

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c-18	b-18	Establish regional protocols on how to respond to the NOAA Monterey weather forecasts, such as the identifying types of closures, limits on work that could cause ignitions, and prepositioning of suppression forces. A multi-agency coordination of response also helps provide unified messages to the public about how they should respond to these periods of increased fire danger. Response should also be modified based on knowledge of local micro-climates. Local agencies with less risk then may be available for mutual aid.	WF										
c-19	b-19	Increase local patrolling during periods of high fire weather.	WF										
c-20	b-20	Create and maintain an automated system of rain and flood gauges that is web enabled and publicly-accessible. Work toward creating a coordinated regional system.	FL LS										
c-21	b-21	Place remote sensors in strategic locations for early warning of hazard releases or use of weapons of mass destruction, understanding that the appropriate early warning strategy depends on the type of problem.	EQ LS WF FL SEC										
c-22	b-23	Review and update, as necessary, procedures pursuant to the <i>State Dam Safety Act</i> for the emergency evacuation of areas located below major water-storage facilities.	EQ LS FL SEC										
c-23	a-8	Improve coordination among cities, counties, and dam owners so that cities and counties can better plan for evacuation of inundation areas for dams whose failure would impact their jurisdiction.	EQ LS FL SEC										
c-24	b-24	Develop procedures for the emergency evacuation of areas identified on tsunami evacuation maps as these maps become available.	EQ (TS)										
c-25	new	Support and encourage planning and identification of facilities for the coordination of distribution of water, food, blankets, and other supplies, coordinating this effort with the American Red Cross.	EQ LS WF FL SEC										
GOVT - d-1	c-1	Promote information sharing among overlapping and neighboring local governments, including cities, counties, and special districts, as well as utilities.	Professional Society Efforts to Identify and Mitigate Hazards EQ LS WF FL SEC										

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d-2	c-2	Recognize that emergency services is more than the coordination of police and fire response, for it also includes planning activities with providers of water, food, energy, transportation, financial, information, and public health services.	EQ LS WF FL SEC										
d-3	c-3	Recognize that a multi-agency approach is needed to mitigate flooding by having flood control districts, cities, counties, and utilities meet at least annually to jointly discuss their capital improvement programs for most effectively reducing the threat of flooding. Work toward making this process more formal to insure that flooding is considered at existing joint-agency meetings.	FL										
d-4	c-4	As new flood-control projects are completed, request that FEMA revise its flood-insurance rate maps and digital Geographic Information System (GIS) data to reflect flood risks as accurately as possible.	FL										
d-5	c-5	Participate in FEMA's National Flood Insurance Program.	FL										
d-6	c-6	Participate in multi-agency efforts to mitigate fire threat, such as the Hills Emergency Forum (in the east Bay), various FireSafe Council programs, and city-utility task forces. Such participation increases a jurisdiction's competitiveness in obtaining grants.	WF										
d-7	c-7	Work with major employers and agencies that handle hazardous materials to coordinate mitigation efforts for the possible release of these materials due to a natural disaster such as an earthquake, flood, fire, or landslide.	EQ LS WF FL SEC										
d-8	c-8	Encourage staff to participate in efforts by professional organizations to mitigate earthquake and landslide disaster losses, such as the efforts of the Northern California Chapter of the Earthquake Engineering Research Institute, the East Bay-Peninsula Chapter of the International Code Council, the Structural Engineers Association of Northern California, and the American Society of Grading Officials.	EQ LS										
d-9	c-9	Conduct and/or promote attendance at local or regional hazard conferences and workshops for elected officials and staff to educate the officials on the critical need for programs in mitigating earthquake, wildfire, flood, and landslide hazards.	EQ LS WF FL SEC										

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d-10	c-10	Cooperate with researchers working on government-funded projects to refine information on hazards, for example, by expediting the permit and approval process for installation of seismic arrays, gravity survey instruments, borehole drilling, fault trenching, landside mapping, flood modeling, and/or damage data collection.	EQ LS WF FL SEC											
GOVT	d-1	Take a Lead in Loss and Risk Assessment Activities	EQ LS WF FL DR TS SEC Flu Ag Heat											
e-1	e-1	Work with the cities, counties, and special districts in the Bay Area to encourage them to adopt a Local Hazard Mitigation Plan and to assist them in integrating it into their overall planning process. RESPONSIBILITY: ABAG only; all others are "not applicable."												
e-2	e-2	Improve the risk assessment and loss estimation work in the <i>Taming Natural Disasters</i> report and multi-jurisdictional plan related to natural disasters. RESPONSIBILITY: ABAG only; all others are "not applicable."	EQ LS WF FL DR TS Flu Ag Heat											

Education Mitigation Strategies

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				Existing Program	Existing Program	Very High - Underfunded	Very High - Official Program	On Plan Adoption, no funding needed	High - Actively Looking for Funding	Moderate	Under Study	Not Applicable, or Not Appropriate	Not Cost Effective			Not Yet Considered	
EDUC - a		Focus on Critical Facilities (...Owned by School Districts)	EQ LS WF FL SEC														
a-1	a-1	Assess the vulnerability of critical public education facilities to damage in natural disasters and make recommendations for appropriate mitigation.	EQ LS WF FL SEC														
a-2	a-2	Retrofit or replace critical public education facilities that are shown to be vulnerable to damage in natural disasters.	EQ LS WF FL SEC														
a-3	a-3	Conduct comprehensive programs to identify and mitigate problems with facility contents, architectural components, and equipment that will prevent critical public education buildings from being functional after major disasters.	EQ LS WF FL SEC														
a-4	a-4	As a secondary focus, assess the vulnerability of non-critical educational facilities (that is, those that do not house students) to damage in natural disasters based on occupancy and structural type, make recommendations on priorities for structural improvements or occupancy reductions, and identify potential funding mechanisms.	EQ LS WF FL SEC														
a-5	new	Assess the vulnerability of critical private education, pre-school, and day care facilities to damage in natural disasters and make recommendations for appropriate mitigation.	EQ LS WF FL SEC														
a-6	a-5	(Major Reworking) Work with CalEMA and the Division of the State Architect to ensure that there will be an adequate group of Safety Assessment Program (SAP) inspectors trained and deployed by CalEMA to schools for post-disaster inspection. In addition, if a school district is uncomfortable with delays in inspection due to too few SAP inspectors available in catastrophic disasters, formalized arrangements with those inspectors certified by the Division of the State Architect as construction inspectors to report to the district, assess damage, and determine if the buildings can be reoccupied can also be created.	EQ LS WF FL SEC														
EDUC - b		Use of Educational Facilities as Emergency Shelters	EQ LS WF FL SEC														
b-1	b-1	Work cooperatively with the American Red Cross, cities, counties, and non-profits to set up memoranda of understanding for use of education facilities as emergency shelters following disasters.	EQ LS WF FL SEC														

Education Mitigation Strategies

2009 Strategy Code	Original Strategy Number	Specific Mitigation Strategy	Applicable Hazards	Existing Program	Existing Program, Underfunded	Very High - Unofficial Program - Becomes Official	Plan Adoption, no funding needed	High - Actively Looking for Funding	Moderate	Under Study	Not Applicable, or Not Cost Effective	Not Yet Considered	Responsible Agency or Department (Required if Existing Program, under funded, Very High, High, or Under Study)	Ordinance or Resolution # (if existing program), Possible Funding Agency (if high priority), Estimated Date of Completion (if study), WHY if not same as regional priority, OR, Other
b-2	b-2	Work cooperatively to ensure that school district personnel and relevant staff understand and are trained that being designated by the American Red Cross or others as a potential emergency shelter does NOT mean that the school has had a hazard or structural evaluation to ensure that it can be used as a shelter following any specific disaster.	EQ LS WF FL SEC											
b-3	b-3	Work cooperatively to ensure that school district personnel understand and are trained that they are designated as disaster service workers and must remain at the school until released.	EQ LS WF FL SEC											
EDUC - c - Actions Related to Disaster Preparedness and Recovery Planning														
c-1	c-1	Encourage employees of schools to have family disaster plans and conduct mitigation activities in their own homes.	EQ LS WF FL SEC											
c-2	c-2	Develop plans, in conjunction with fire jurisdictions, for evacuation or sheltering in place of school children during periods of high fire danger, thereby recognizing that overloading of streets near schools by parents attempting to pick up their children during these periods can restrict access by fire personnel and equipment.	EQ LS WF FL SEC											
c-3	c-3	Offer the 20-hour basic CERT training to teachers and after-school personnel.	EQ LS WF FL SEC											
c-4	c-4	Offer the 20-hour basic Student Emergency Response Training (SERT), rather than CERT training to middle school and/or high school students as a part of the basic science or civics curriculum, as an after school club, or as a way to earn public service hours.	EQ LS WF FL SEC											
c-5	c-5	Offer the 20-hour basic CERT training course through the Adult School system and/or through the Community College system (either using instructors with teaching credentials or by making facilities available for classes not run by school personnel themselves).	EQ LS WF FL SEC											
c-6	c-6	Develop and maintain the capacity for schools to take care of the students for the first 48 hours after a disaster, and notify parents that this capacity exists.	EQ LS WF FL SEC											

Education Mitigation Strategies

2009 Strategy Code	Original Strategy Number	Specific Mitigation Strategy	Applicable Hazards	Existing Program	Existing Program, Underfunded	Very High - Unofficial Program - Becomes Official	on Plan Adoption, no funding needed	High - Actively Looking for Funding	Moderate	Under Study	Not Applicable, or Not Cost Effective	Not Yet Considered	Responsible Agency or Department (Required if Existing Program, Existing Program, under funded, Very High, High, or Under Study)	Ordinance or Resolution # (if existing program), Estimated Cost and Possible Funding Agency (if high priority), Estimated Date of Completion (if study), WHY if not same as regional priority, OR, Other.
c-7	new	Develop a continuity of operations and disaster recovery plan using models such as that developed by the University of California Berkeley. (The American Red Cross has a role in promoting this activity, as well, in schools that they plan to use as shelters.)	EQ LS WF FL SEC	Existing Program				High - Actively Looking for Funding						
EDUC - d- Actions Related to Schools as Conduits for Information to Families About Emergencies														
d-1	c-1	Utilize the unique ability of schools to reach families through educational materials on hazards, mitigation, and preparedness, particularly after disasters and at the beginning of the school year. These efforts will not only make the entire community more disaster-resistant, but speed the return of schools from use as shelters to use as teaching facilities, particularly if coordinated with cities, counties, the American Red Cross and others.	EQ LS WF FL SEC											
d-2	c-7	Develop and distribute culturally appropriate materials related to disaster mitigation and preparedness, such as those on the http://www.prepnow.org website.	EQ LS WF FL SEC	Existing Program										

Environment Mitigation Strategies

2009 Strategy Code	Original Strategy Number	Specific Mitigation Strategy	Applicable Hazards	Priority (CHECK ONLY ONE)										Responsible Agency or Department (Required if Existing Program under funded, Very High, High, or Under Study)	Ordinance or Resolution # (if existing program), Estimated Cost and Possible Funding Agency (if high priority), Estimated Date of Completion (if study), WHY if not same as regional priority, OR Other Comments
				Existing Program	Existing Program - underfunded	Very High - Unofficial Program - Becomes Official on Plan Adoption, no funding needed	High - Actively Looking for Funding	Moderate	Under Study	Not Applicable, or Not Cost Effective	Not Yet Considered	Existing Program	Existing Program		
a-1	a-1	ENV1 - a - Environmental Sustainability and Pollution Reduction Continue to enforce State-mandated requirements, such as the California Environmental Quality Act, to ensure that mitigation activities for hazards, such as vegetation clearance programs for fire threat and seismic retrofits, are conducted in a way that reduces environmental degradation such as air quality impacts, noise during construction, and loss of sensitive habitats and species, while respecting the community value of historic preservation.	EQ LS WF FL DR SEC	Existing Program	Existing Program	Very High - Unofficial Program - Becomes Official on Plan Adoption, no funding needed	High - Actively Looking for Funding	Moderate	Under Study	Not Applicable, or Not Cost Effective	Not Yet Considered				
a-2	a-2	Encourage regulatory agencies to work collaboratively with safety professionals to develop creative mitigation strategies that effectively balance environmental and safety needs, particularly to meet critical wildfire, flood, and earthquake safety levels.	EQ WF FL SEC												
a-3	a-3	Continue to enforce and/or comply with State-mandated requirements, such as the California Environmental Quality Act and environmental regulations to ensure that urban development is conducted in a way to minimize air pollution. For example, air pollution levels can lead to global warming, and then to drought, increased vegetation susceptibility to disease (such as pine bark beetle infestations), and associated increased fire hazard.	LS WF FL DR SEC												
a-4	a-4	Develop and implement a comprehensive program for watershed management optimizing ecosystem health with water yield to balance water supply, flooding, fire, and erosion concerns.	LS WF DR SEC												
a-5	a-5	Balance the need for the smooth flow of storm waters versus the need to maintain wildlife habitat by developing and implementing a comprehensive Streambed Vegetation Management Plan that ensures the efficacy of flood control efforts, wildfire mitigation and maintains the viability of living rivers.	LS WF FL DR												
a-6	a-8	Comply with applicable performance standards of any National Pollutant Discharge Elimination System municipal stormwater permit that seeks to manage increases in stormwater run-off flows from new development and redevelopment construction projects.	FL												

Environment Mitigation Strategies

2009 Strategy Code	Original Strategy Number	Specific Mitigation Strategy	Applicable Hazards	Existing Program	Existing Program, Underfunded, Very High - Becomes Official on Plan Adoption, no funding needed	High - Actively Looking for Funding	Moderate	Under Study	Not Appropriate, or Not Cost Effective	Not Yet Considered	Responsible Agency or Department (Required if Existing Program, under funded, Very High, High, or Under Study)	Ordinance or Resolution # (if existing program), Estimated Cost and Possible Funding Agency (if high priority), Estimated Date of Completion (if study), WHY if not same as regional priority, OR Other Comments
a-7	a-9	Enforce and/or comply with the grading, erosion, and sedimentation requirements by prohibiting the discharge of concentrated stormwater flows by other than approved methods that seek to minimize associated pollution.	LS FL	Existing Program								
a-8	a-10	Explore ways to require that hazardous materials stored in the flood zone be elevated or otherwise protected from flood waters.	FL									
a-9	a-11	Enforce and/or comply with the hazardous materials requirements of the State of California Certified Unified Program Agency (CUPA).	EQ LS WF FL SEC									
a-10	a-12	Provide information on hazardous waste disposal and/or drop off locations.	EQ LS WF FL SEC									
a-11	new	When remodeling existing government and infrastructure buildings and facilities, remove asbestos to speed up clean up of buildings so that they can be reoccupied more quickly.	EQ LS WF FL SEC									
a-12	a-13	Develop and implement a program to control invasive and exotic species that contribute to fire and flooding hazards (such as eucalyptus, cattails, and cordgrass). This program could include vegetation removal, thinning, or replacement in hazard areas where there is a direct threat to structures.	WF FL									
a-13	a-14	Enforce provisions under creek protection, stormwater management, and discharge control ordinances designed to keep watercourses free of obstructions and to protect drainage facilities to conform with the Regional Water Quality Control Board's Best Management Practices.	FL									
ENVI - b - Climate Change												
b-1	a-6 + a-7	Stay informed of scientific information compiled by regional and state sources on the subject of rising sea levels and global warming, especially on additional actions that local governments can take to mitigate this hazard including special design and engineering of government-owned facilities in low-lying areas, such as wastewater treatment plants, ports, and airports.	LS WF FL DR									
b-2	new	Inventory global warming emissions in your own local government's operations and in the community, set reduction targets and create an action plan.	LS WF FL DR									

Environment Mitigation Strategies

2009 Strategy Code	Original Strategy Number	Specific Mitigation Strategy	Applicable Hazards	Existing Program	Existing Program, Underfunded, or Very Inefficient	Unofficial Program, Becomes Official on Plan Adoption, no Funding needed	High - Actively Looking for Funding	Moderate	Under Study	Not Applicable, or Not Cost Effective	Not Yet Considered	Responsible Agency or Department (Required if Existing Program, under funded, Very High, High, or Under Study)	Ordinance or Resolution # (if existing program), Estimated Cost and Possible Funding Agency (if high priority), Estimated Date of Completion (if study), WHY if not same as regional priority, OR Other Comments
c-1	c-1	Maintain a variety of crops in rural areas of the region to increase agricultural diversity and crop resiliency. RESPONSIBLE AGENCIES: County Offices of the Agricultural Commissioner.	Ag DR SEC										
c-2	b-2	Promote and maintain the public-private partnerships dedicated to preventing the introduction of agricultural pests into regionally-significant crops, such as the glassy-winged sharpshooter into vineyards. RESPONSIBLE AGENCIES: County Offices of the Agricultural Commissioner.	Ag DR SEC										
c-3	b-4	Encourage livestock operators to develop an early-warning system to detect animals with communicable diseases (due to natural causes or bioterrorism). RESPONSIBLE AGENCIES: County Health Department and Office of the County Agricultural Commissioner.	Ag Flu SEC										
deleted	b-3	(deleted since not a disaster-related strategy)											

Land Use Mitigation Strategies

2009 Strategy Code	Original Strategy Number	Specific Mitigation Strategy	Applicable Hazards	Priority (CHECK ONLY ONE)	Existing Program	Existing Program, underfunded	Official Program, Becomes Official	on Plan Adoption, no funding needed	High - Actively Looking for Funding	Moderate	Under Study	Not Applicable, or Not Cost Effective	Not Yet Considered	Responsible Agency or Department (Required if Existing Program, under funded, Very High, High, or Under Study)	Ordinance or Resolution # (if existing program), Estimated Cost and Possible Funding Agency (if high priority), Estimated Date of Completion (if study), WHY if not same as regional priority, OR Other
LAND - a	a-1	Earthquake Hazard Studies for New Private Developments	EQ												
a-1	a-1	Enforce and/or comply with the State-mandated requirement that site-specific geologic reports be prepared for development proposals within Alquist-Priolo Earthquake Fault Zones, and restrict the placement of structures for human occupancy. (This Act is intended to deal with the specific hazard of active faults that extend to the earth's surface, creating a surface rupture hazard.)	EQ												
a-2	a-2	Require preparation of site-specific geologic or geotechnical reports for development and redevelopment proposals in areas subject to earthquake-induced landslides or liquefaction as mandated by the State Seismic Hazard Mapping Act in selected portions of the Bay Area where these maps have been completed, and condition project approval on the incorporation of necessary mitigation measures related to site remediation, structure and foundation design, and/or avoidance.	EQ												
a-3	a-3	Recognizing that some faults may be a hazard for surface rupture, even though they do not meet the strict criteria imposed by the Alquist-Priolo Earthquake Fault Zoning Act, identify and require geologic reports in areas adjacent to locally-significant faults.	EQ												
a-4	new	Ensure that development proposed near faults with a history of complex surface rupture (multiple traces, warping, thrusting, etc.) has larger setbacks than the minimum fifty feet.	EQ												
a-5	new	Consider imposing requirements similar to the Alquist-Priolo Earthquake Fault Zoning Act for structures without human occupancy if these buildings are still essential for the economic recovery of the community or region.	EQ												
a-6	a-4	Recognizing that the California Geological Survey has not completed earthquake-induced landslide and liquefaction mapping for much of the Bay Area, identify and require geologic reports in areas mapped by others as having significant liquefaction or landslide hazards.	EQ												
a-7	a-5	Support and/or facilitate efforts by the California Geological Survey to complete the earthquake-induced landslide and liquefaction mapping for the Bay Area.	EQ												

Land Use Mitigation Strategies

Original Strategy Code	Original Strategy Number	Specific Mitigation Strategy	Applicable Hazards	Existing Program	Existing Program, Undersupported	Official Program, Becomes Official on Plan Adoption, no funding needed	High - Actively Looking for Funding	Moderate	Under Study	Not Applicable, or Not Cost Effective	Not Yet Considered	Responsible Agency or Department (Required if Existing Program, under funded, Very High, High, or Under Study)	Ordinance or Resolution # (if existing program), Estimated Cost and Possible Funding Agency (if high priority), Estimated Date of Completion (if study), WHY if not same as regional priority, OR Other
a-8	a-6	Require that local government reviews of geologic and engineering studies are conducted by appropriately trained and credentialed personnel.	EQ	Existing Program									
LAND - b - Wetland and Structural Fires													
b-1	b-1	Review new development proposals to ensure that they incorporate required and appropriate fire-mitigation measures, including adequate provisions for occupant evacuation and access by emergency response personnel and equipment.	WF										
b-2	b-2	Develop a clear legislative and regulatory framework at both the state and local levels to manage the wetland-urban-interface consistent with <i>Fire Wise</i> and sustainable community principles.	WF										
LAND - c - Flooding													
c-1	c-1	Establish and enforce requirements for new development so that site-specific designs and source-control techniques are used to manage peak stormwater runoff flows and impacts from increased runoff volumes.	FL										
c-2	c-2	Incorporate FEMA guidelines and suggested activities into local government plans and procedures for managing flood hazards.	FL										
c-3	c-3	Provide an institutional mechanism to ensure that development proposals adjacent to floodways and in floodplains are referred to flood control districts and wastewater agencies for review and comment (consistent with the NPDES program).	FL										
c-4	c-4	Establish and enforce regulations concerning new construction (and major improvements to existing structures) within flood zones in order to be in compliance with federal requirements and, thus, be a participant in the Community Rating System of the <i>National Flood Insurance Program</i> .	FL										
c-5	new	Encourage new development near floodways to incorporate a buffer zone or setback from that floodway to allow for changes in stormwater flows in the watershed over time.	FL										
c-6	new	For purposes of creating an improved hazard mitigation plan for the region as a whole, ABAG, and Bay Area cities and counties, jointly request geographically defined repetitive flooding loss data from FEMA for their own jurisdictions.	FL										
LAND - d - Landslides and Erosion													

Land Use Mitigation Strategies

2009 Strategy Code	Original Strategy Number	Specific Mitigation Strategy	Applicable Hazards	Existing Program	Existing Program, Undersupported	Official Program Becomes Official	no funding needed	High - Actively Looking for Funding	Moderate	Under Study	Not Applicable, or Not Cost Effective	Not Yet Considered	Responsible Agency or Department (Required if Existing Program under funded, Very High, High, or Under Study)	Ordinance or Resolution # (if existing program), Estimated Cost and Possible Funding Agency (if high priority), Estimated Date of Completion (if study), WHY if not same as regional priority, OR Other
d-1	d-1	Establish and enforce provisions (under subdivision ordinances or other means) that geotechnical and soil-hazard investigations be conducted and filed to prevent grading from creating unstable slopes, and that any necessary corrective actions be taken prior to development approval.	LS											
d-2	d-2	Require that local government reviews of these investigations are conducted by appropriately trained and credentialed personnel.	LS											
d-3	d-3	Establish and enforce grading, erosion, and sedimentation ordinances by requiring, under certain conditions, grading permits and plans to control erosion and sedimentation prior to development approval.	LS											
d-4	d-4	Establish and enforce provisions under the creek protection, storm water management, and discharge control ordinances designed to control erosion and sedimentation.	LS											
d-5	d-5	Establish requirements in zoning ordinances to address hillside development constraints, especially in areas of existing landslides.	LS											
LAND - e		Hillside - Multi-Hazard												
e-1	e-1	For new development, require a buffer zone between residential properties and landslide or wildfire hazard areas.	LS WF											
e-2	e-2	Discourage, add additional mitigation strategies, or prevent new construction or major remodels on slopes greater than a set percentage, such as 15%, due to landslide or wildfire hazard concerns.	LS WF											
LAND - f		Smart Growth to Revitalize Urban Areas and Promote Sustainability												
f-1	f-1	Prioritize retrofit of infrastructure that serves urban areas (or urban services areas) over constructing new infrastructure to serve outlying areas.	EQ LS WF FL DR SEC											
f-2	f-2	Work to retrofit homes in older urban neighborhoods to provide safe housing close to job centers.	EQ LS WF FL DR SEC											
f-3	f-3	Work to retrofit older downtown areas and redevelopment districts to protect architectural diversity and promote disaster-resistance.	EQ LS WF FL SEC											

Land Use Mitigation Strategies

2009 Strategy Code	Original Strategy Number	Specific Mitigation Strategy	Applicable Hazards	Existing Program	Existing Program, undervalued	Official Program - Becomes Official on Plan Adoption, no funding needed	High - Actively Looking for Funding	Moderate	Under Study	Not Appropriate, or Not Cost Effective	Not Yet Considered	Responsible Agency or Department (Required if Existing Program under funded, Very High, High, or Under Study)	Ordinance or Resolution # (if existing program), Possible Funding Agency (if high priority), Estimated Date of Completion (if study), WHY if not same as regional priority, OR Other
f-4	f-4	Work with non-profits and through other mechanisms to protect as open space areas susceptible to extreme hazards (such as through land acquisition, zoning, and designation as priority conservation areas).	EQ LS WF FL SEC	Existing Program									
f-5	f-5	Strive to provide preserve existing buffers between development and existing users of large amounts of hazardous materials, such as major industry, due to the potential for catastrophic releases or fires due to an earthquakes, accidents, or terrorism. (Flooding might also result in release or spread of these materials, however it is unlikely.) In areas where buffers do not exist or cannot be created, provide alternative mitigation.	EQ LS WF FL SEC										
LAND - g - 9-1	new	Hazard Abatement Districts Use hazard abatement districts as a funding mechanism to ensure that mitigation strategies are implemented and enforced over time.	EQ LS WF FL										

**LOCAL HAZARD MITIGATION PLAN
BENICIA ANNEX**

Local Hazard Mitigation Plan ANNEX

City of Benicia, California

Introduction

The City of Benicia is a small-sized city in Solano County, California. The City has a population of 28,000 people, based on the 2004 California Department of Finance Estimate. The 2005-2007 adopted City's budget is \$29 million, and it employs 215 full-time employees. City services include police, fire, and public works, water, wastewater, library, parks and community services.

The Planning Process

The City has a Community Health and Safety Element in its General Plan, last updated in 2003, that discusses fire, earthquake, flooding, and landslide hazards. The City also has an Emergency Operations Plan that was adopted by Council in April 2003. This Plan includes a detailed layout of the when the plan would be used as well as the duties and responsibilities for each of the City's Departments during any emergency. The Fire Department is currently updating this Plan and it should go to Council in the first quarter of 2007 for adoption. In addition, the City routinely enforces the requirements of the California Environmental Quality Act (CEQA) requirements (which, since 1988, have required mitigation for identified natural hazards). The City's effort has focused on building on these pre-existing programs and identifying gaps that may lead to disaster vulnerabilities in order to work on ways to address these risks through mitigation.

Many of the activities conducted by the City were fed into the planning process for the multi-jurisdictional plan. The City participated in various ABAG workshops and meetings, including the general "kick-off" meeting. Finally, the City provided information on facilities that are viewed as "critical" to ABAG.

Key City staff spoke on many occasions to identify and prioritize mitigation strategies appropriate for the City. Departments involved in the meetings included the Planning Department, Building Official, Public Works, and Fire. During these meetings, staff reviewed the list of critical facilities and discussed priorities for the mitigation strategies. The mitigation strategies were reviewed for adoption by the City Council in a City Council meeting in February 2007. The public was allowed an opportunity to comment at that meeting. The City of Benicia's Annex and Strategies will become an implementation appendix to the City's Safety Element.

Approved by Benicia City Council Resolution # 07-18: February 20, 2007

Hazard and Risk Assessment

The ABAG multi-jurisdictional Local Hazard Mitigation Plan, to which this is an Annex, lists nine hazards that influence the Bay Area:

- Five related to earthquakes:
 - Faulting
 - Shaking
 - Earthquake-induced landslides
 - Liquefaction
 - Tsunamis
- Four related to weather:
 - Flooding
 - Landslides
 - Wildfires
 - Drought

These nine hazards also influence the City of Benicia and have been analyzed in this document.

While the City has undertaken a number of general hazard mapping activities since the first General Plan Health and Safety Element was prepared by the City, 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/>.

The City has had landslides in the area of Lake Herman Road. These landslides have affected roadways and transportation corridors. The City has undertaken geotechnical repairs of these slides and other mitigation efforts.

Information on disasters declared in Solano County is at <http://quake.abag.ca.gov/mitigation/disaster-history.html>.

The City examined the hazard exposure of City urban land based on the information on ABAG's website at <http://quake.abag.ca.gov/mitigation/pickdbh2.html>. Of the 5,347 urban acres in the City:

- ◆ **Earthquake faulting** – An active fault runs through southwestern Benicia, in the Cordelia/Green Valley area. **18 urban acres** are impacted by CGS Fault Zones
- ◆ **Earthquake shaking** – **1,306 urban acres** are in the highest two categories of shaking potential, in large part because of regional earthquake faults as well as the Green Valley Fault in southwestern Benicia.
- ◆ **Earthquake-induced landslides** – CGS has not completed mapping of earthquake-induced landslides in the Benicia area. Note that 250 acres of both urbanized and non-urban land in the City have existing landslides in the “Mostly a Landslide Area”.

- ◆ **Earthquake liquefaction** – 1,025 urban acres are in areas of moderate, high, or very high liquefaction susceptibility;
- ◆ **Tsunamis** – The mapping of the inundation area has not been completed at this time. However, Benicia does border the San Francisco Bay and Suisun Delta region and the potential impacts of tsunamis are likely. However, current research indicates that the run-up height would be minimal by the time the water made its way to Benicia.
- ◆ **Flooding** – 599 urban acres are in the 100-year flood plain, while an additional 38 urban acres are in other flood-prone areas;
- ◆ **Landslides** – 41 urban acres are in areas defined as “mostly a landslide area” (existing landslides);
- ◆ **Wildfires** – 421 urban acres are subject to high, very high, or extreme wildfire threat, with 3,669 urban acres in the wild land-urban interface threat area. This risk is exacerbated by the numerous hillsides lying north, east, and west of the City proper, along with many neighborhoods interfacing with such hillsides and open space areas.
- ◆ **Dam Inundation** – 484 urban acres are subject to dam inundation. This risk is relatively small, however, as the dams identified in this analysis are largely small water retention facilities (such as Lake Herman), which will have minimal life safety impacts in Benicia.
- ◆ **Drought** – all 5,347 urban acres are subject to drought. Benicia, like all California jurisdictions, faces potential impacts from longer-term periods of drought. The City owns its water utility and has secured adequate water supplies for all but the most severe drought situations.

The City also examined the hazard exposure of infrastructure based on the information on ABAG’s website at <http://quake.abag.ca.gov/mitigation/pickdbh2.html>. Of the 157 miles of roadway in the City,

- ◆ **Earthquake faulting** – There are no roadways or pipelines noted by ABAG in the CGS Study Zone.
- ◆ **Earthquake shaking** – 28 miles of roadway are in the highest two categories of shaking potential.
- ◆ **Earthquake-induced landslides** – the California Geological Survey has not completed mapping of this hazard in the City of Benicia. Roads likely to be impacted by earthquake-induced landscapes, such as the area of Lake Herman Road and others in the “Southampton” area of Benicia.

- ◆ **Earthquake liquefaction** – **17 miles** of roadway are in areas of moderate, high, or very high liquefaction susceptibility.
- ◆ **Tsunamis** – The mapping of the inundation area has not been completed at this time.
- ◆ **Flooding** – **7 miles** of roadway are in the 100-year flood plain, while an additional 1 mile is in other flood-prone areas;
- ◆ **Landslides** – **One mile** of roads are in areas of existing landslides;
- ◆ **Wildfires** – **2 miles** of roadway are subject to high, very high, or extreme wildfire threat and **115 miles** of roads are in wildland-urban interface threat areas.
- ◆ **Dam Inundation** – **11 miles** of roadway is in an area subject to dam inundation;
- ◆ **Drought** – **is not a hazard for roadways.**

Finally, the City examined the hazard exposure of critical health care facilities, schools, and city-owned buildings based on the information on ABAG’s website at <http://quake.abag.ca.gov/mitigation/pickcrit.html>. Of the critical facilities in the City,

- ◆ **Earthquake faulting** - There are active fault zones in Benicia, but no critical facilities are within the CGS Earthquake Fault Study Zone.
- ◆ **Earthquake shaking** - **One** specialty clinic, **one** school, **17** City-owned buildings (“critical facilities”), and **3** bridges are in the highest two categories of shaking potential;
- ◆ **Earthquake-induced landslides** – **the California Geological Survey has not completed mapping of this hazard in the City of Benicia.**
- ◆ **Earthquake liquefaction** – **7** City-owned critical facilities and **7** bridges and interchanges are in areas of moderate, high, or very high liquefaction susceptibility.
- ◆ **Tsunamis** –The mapping of the inundation area has not been completed at this time.
- ◆ **Flooding** – **One** specialty clinic, **9** schools, **39** critical facilities, and **32** bridges and interchanges are in either the 100-year flood plain or in other flood-prone areas;
- ◆ **Landslides** – There are no facilities within the “many” or “mostly” landslide areas.
- ◆ **Wildfires** – **9** schools, **5** critical facilities, and **2** bridge/intersections are in an area of wildfire threat. However, **nine** schools, **25** critical facilities, and **20** bridges and intersections are located in wildland-urban interface threat areas.

- ◆ **Dam Inundation** –One school, 6 critical facilities, and 3 bridges and intersections are subject to dam inundation;
- ◆ **Drought** – Drought will not affect city buildings directly. However, the city does operate a water-supply distribution system.

There were no (zero) loss properties or claims in the City based on the information at <http://quake.abag.ca.gov/mitigation/pickflood.html>

The City plans to work with ABAG during 2007 to improve the risk assessment information being compiled by ABAG by providing information on unreinforced masonry buildings and soft-story apartments located in the City.

Comprehensive analysis of the City's water supply and forecasted demands is contained in its Urban Water Management Plan. The plan compares water supply and demand through buildout (2020) for various weather year types, including multiple drought years. The evaluation concluded that the City has adequate existing supply sources to meet future needs under all conditions, and does not need to obtain additional supply sources.

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

As these impacts are not fully developed, the City has reviewed the hazards identified and ranked the hazards based on past disasters and expected future impacts. One conclusion is earthquakes (particularly shaking and liquefaction), flooding, wildfire, and landslides (including unstable earth) pose a moderately significant risk for potential loss.

Based on a 2006 report on climate change and sea level rise in the San Francisco Bay region from the San Francisco Bay Conservation and Development Commission (BCDC), there is a prediction of a sea level rise of up to one meter by the year 2100 from global warming. This is a future risk and hazard that will need assessment for hazards related to it along with mitigation activities.

Mitigation Activities and Priorities

As a participant in the ABAG multi-jurisdictional planning process, City of Benicia staff helped in the development and review of the comprehensive list of mitigation strategies in the overall multi-jurisdictional plan. At the meeting, all of the mitigation strategies were reviewed. The tentative 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.

Over time, we are committed to developing better hazard and risk information to use in making those trade-offs. We are not trying to create a disaster-proof region, but a disaster-resistant one.

The City of Benicia already implements many of the recommendations and programs identified during the regional process.

City staff reviewed these draft priorities. The final strategies (as shown in the attached Table) will become an *Implementation Appendix* to the City's *Safety Element*. Areas in the strategies area where the City has specific comments are in the Government and Infrastructure sections where project are rated "high." These include the City's Police and Dispatch facility and water systems. Both are under funded projects.

There is a substantial need for a new facility for the City of Benicia Police Department. The current building is vulnerable to natural disasters, particularly earthquakes, and was built using building and safety standards from 1941. Since that time significant progress has been made in the understanding of movements resulting from earthquakes. Modern construction techniques, standards and materials, provide significantly increased chances that structures will remain intact after a significant earthquake or other natural disaster.

Current interoperability among the city's emergency response system and neighboring emergency response systems is extremely limited. The emergency response system for the City of Benicia is fragmented with the 911 operations center housed at the current Police Department building and the emergency operations center housed at the current Fire Department building. There is currently no physical or technological linkage between the 911 operations center and the emergency operations center. Construction of new Police Department building would incorporate physical or technological linkages between the 911 and emergency operations centers. The development of a new Police Department building would also provide an opportunity to incorporate technological upgrades, which would provide linkages between the Police Department and the Solano County emergency response systems, the Contra Costa County emergency response systems and neighboring cities. Currently there is limited or no linkages between the Police Department and these entities. Creating these links would dramatically improve the interoperability of the areas emergency response systems. It is critical that Contra Costa County be included in the proposed linkages because the City of Benicia shares a border with the City of Martinez, which lies in Contra Costa County. The Martinez-Benicia Bridge a heavily used commuter route on Interstate 680 connects the two cities. The bridge spans the Carquinez Strait that has deep-water ports on both the Martinez and Benicia sides.

Construction of a new Police Department is currently an unfunded project. The projected costs of a new Police Department containing technological upgrades to improve the interoperability of the emergency response systems are approximately \$15 million.

The City's water system is vulnerable to natural disasters such as earthquakes and any retrofitting and upgrading of the entire system is not funded.

The Plan Maintenance and Update Process

The City Manager's Office will ensure that *monitoring* of this Annex will occur. The plan will be monitored on an on-going basis. However, a major disaster affecting our community, any

legal changes, notices from ABAG, as the lead agency in this process and other related triggers would be used to modify this plan. Finally, the Annex will be a discussion item on the agenda of the meeting of City Department Heads 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. This group will be responsible for determining if the plan should be updated.

The City of Benicia 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's Fire Department, in coordination with other City Departments will contact ABAG four years after this plan is approved to ensure that ABAG plans to undertake the 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 County's Office of Emergency Services. Solano County and the Cities within the county should then work 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. Before adoption of updates, the City will provide the opportunity for the public to comment on the updates. A public notice will be posted before the meeting to announce the comment period and meeting logistics.