



Disaster and Fire Safety Commission

ACTION CALENDAR
July 10, 2018

To: Honorable Mayor and Members of the City Council
 From: Disaster and Fire Safety Commission
 Submitted by: Paul Degenkolb, Chairperson, Disaster and Fire Safety Commission
 Subject: Immediate Priorities for Fire Safety, Education, Prevention and Overall Disaster Preparedness

RECOMMENDATION

That the Berkeley City Council review the attached spreadsheet summarizing each recommendation made by members of the City Council or the Disaster Fire Safety Commission and consider that those marked as an Immediate Priority are achievable and affordable actions to be taken as integral elements of community preparedness to the elevated risk of wildfire in Berkeley's Wildland Urban Interface zone.

SUMMARY

Anticipated population growth coupled with greater housing density and predicted climate change cycles of prolonged drought followed by ample rain will intensify our city's vulnerability to Wildland Urban Interface fire. Of particular concern for our community is the exposure to fire following earthquake during our dry season and especially for residents east of the Hayward Fault line who are more likely to be cut off from city support services, including fire services to fight an advancing fire.

Attachment 1 lists each recommendation and its parts under general categories and subcategories as our method to organize the information and to capture the full scope of all the recommendations made.

Attachment 2 is background information summarizing community preparedness actions taken by Berkeley City Council subsequent to the 1991 Oakland Hills Fire.

FISCAL IMPACTS OF RECOMMENDATION

Variable fiscal impacts depending on those recommendations that will be implemented. Requirements for resources and staff involvement varies for each recommendation as does the availability of existing funding sources to support any particular recommendation.

CURRENT SITUATION AND ITS EFFECTS

On March 28, 2018, the Disaster and Fire Safety Commission passed a motion to recommend that the Berkeley City Council review the spreadsheet summarizing each

recommendation made by members of the City Council or the Disaster Fire Safety Commission and consider that those marked as an Immediate Priority are achievable and affordable actions to be taken as integral elements of community preparedness to the elevated risk of wildfire in Berkeley's Wildland Urban Interface zone. Motion: R. Flasher, Second: R. Grimes, Vote: (7 Ayes: Grimes, Flasher, Stein, Degenkolb, Couzin, Golomb, Legg; 0 Noe; 0 Absent; 1 Abstain: Bailey)

As much as we want to see every one of these recommendations be immediately addressed we know that the sheer number and scope of these recommendations exceeds the immediate capabilities of the City to respond to each and every one concurrently.

The Disaster and Fire Safety Commission summarized and organized the recommendations into subcategories within two major categories:

- Wildland Urban Interface-Wildfire Safety Improvements
- Strengthen Overall Disaster Preparedness

The commission then agreed on the following criteria for labeling a recommendation as an Immediate Priority:

- Low Cost defined as cost roughly estimated to be \$100,000 or less
- Does not require new City staff
- Does not require a new ordinance, law or MOU
- Does not require significant changes in outside coordination with other agencies
- Can have a high impact on the community

We limited our choices to what we think a) can be accomplished this calendar year, b) do not duplicate existing City efforts, and c) are aimed at improving key fire safety elements of:

- Access and egress in the hills fire zone
- Firewise vegetation management
- The potential necessity for shelter housing post disaster

Our four recommended immediate priorities are in bold, highlighted on the spreadsheet in pale yellow and noted with a large checkmark. Briefly stated, our recommendations are:

1. Item #6 - Consider implementation of a siren warning system
2. Item # 9 - Enforce CVC 22514 for stopping or parking near a fire hydrant, including adding proper signage and/or red paint
3. Item #26 - DFSC/ Parks & Waterfront Commission to recommend improvements in educating the public on firewise vegetation practices,

meeting the needs of participants and encouraging greater participation in the program

4. Item #68 - Within 1 year, sign a Memorandum Of Understanding (MOU) with the Berkeley Unified School District on school building use as sheltering sites

The one exception to following the criteria for making recommendations is prioritizing completion of a Memorandum of Understanding (MOU) with the Berkeley Unified School District. We believe this recommendation meets four of the five criteria considered, is in line with best practices for community emergency sheltering, and would be of great value to our community if a considerable portion of our housing is damaged or destroyed by a disastrous event.

BACKGROUND

Three interrelated recommendations were made on November 28, 2017, January 30, 2018 and February 28, 2018 addressing, in whole or in part, fire safety and community disaster preparedness measures. These recommendations were directed to the Mayor and Council members or to the Disaster and Fire Safety Commission.

City Council made a request that the Disaster and Fire Safety Commission offer their opinion on which of these recommendations could be implemented, in a timely manner, for the benefit of the Berkeley community.

In response to City Council's request, Attachments 1 and 2 were prepared by the Disaster and Fire Safety Commission with additional input, as noted, from Berkeley Fire Department's Office of Emergency Services.

ENVIRONMENTAL SUSTAINABILITY

Working with the Regional Parks District, UC Berkeley and Berkeley property owners on aggressive vegetation management to reduce the number of highly flammable, diseased and aging trees, and removal or trimming shrubs and brush that lead to fire laddering into treetops will make our community and the parks district more fire resistant and sustainable.

RATIONALE FOR RECOMMENDATION

Prepared community members and timely delivered evacuation notices saves lives. Only two deaths were attributed to the December, 2017 Thomas Fire in Southern California, the largest fire in California's history. Sadly, the death toll from the numerous North Bay fires was much higher.

It is also well established that firewise vegetation management to reduce fuel load and create fire breaks can reduce the rapid spread and the overall destructive effect of Wildland Urban Interface fires.

Providing shelter for disaster victims who have lost their homes is a critical early step towards recovery.

Community wide involvement in Wildland Urban Interface fire safety, education, prevention and overall disaster preparedness supports the 2018-19 Strategic Plan goals for:

- Maintaining infrastructure
- Increasing affordable housing by also protecting existing housing stock
- Building on existing efforts to create a resilient, safe, connected and prepared community
- Protecting our locally based economy

ALTERNATIVE ACTIONS CONSIDERED

None.

CITY MANAGER

See Companion Report

CONTACT PERSON

Keith May, Assistant Fire Chief, Berkeley Fire Department, 510-981-5508

Attachments:

- 1: Spreadsheet titled Fire Safety, Education, Preparedness and Overall Disaster Preparedness
- 2: Berkeley City Council Actions Post 1991 Oakland/Berkeley Hills Fire- Updated 2/18

Fire Safety, Education, Prevention and Community Disaster Preparedness

Recommended Action Item	DSFC Imme- diate Priority	Cost Est Low\$0-100k Med\$101-500k High+\$500k	Existing Study or "Shovel Ready" Project or Program	No Change in Law/Regulation or new MOU needed	Possible Private Org or Volunteer Involvement to Support City Effort	DFSC Comments	Source	Staff Feedback
WILDLAND URBAN INTERFACE - WILDFIRE SAFETY IMPROVEMENTS								
Evacuation, Fire, and Medical Response								
1			✓	✓			Hahn et al	Draft Wildfire Evacuation Annex scheduled for completion by end of FY18. Anticipate additions to BMC
2			✓	✓	✓	Follow up with Joint commission subcommittee or workgroup	D&FS Commission	Possible future efforts in concert with Public Works and Path Wanderers: Posting permanent signage to highlight/direct to main evac routes.
3			✓	✓	✓		Hahn et al	Wildfire evac routes and protocols available on https://www.cityofberkeley.info/wildfireevacuation/ More detailed evac routes/protocols contingent on Wildfire Evacuation Annex.
4			✓	✓			D&FS Commission	Red Flag Warning vs. High Fire Danger. Berkeley protocol for dangerous days doesn't always align with NWS. A/Co OES is actively working on this too. Red Flag watches/warnings issued by NOAA are broad in scope and are not accurate predictors of fire weather in Berkeley, due to the East Bay's topography, mountains, and weather patterns. I strongly advise against automatically pushing out Red Flag alerts with our warning systems. Berkeley has issued Elevated Fire Danger alerts in the past, when fire personnel have noted that the weather conditions in place pose a threat to our community in particular.
5			✓	✓	✓	Use social media, such as NextDoor, to push the messaging out inexpensively via PSA announcement, along with annual disaster preparedness article in Berkeleyside. Use of Posters in Bus Shelters (clear channel works with AC Transit and as a public entity Berkeley should be able to get non-profit rate. Council members encourage use of AC Alert in their communications with their constituents.	Hahn et al	Current Outreach: AC Alert is included in all Berkeley Ready presentations. AC Alert sign up assistance available via phone and at fairs/public events. Consider: recorded message on 1610 AM, outreach through TV station
6	✓	L-M		✓		Being discussed by the commission	Hahn et al	Siren systems are Outdoor Public Warnings Systems (OPWS) Outdoor Public Warning Systems (OPWS) have considerable limitations and would not effectively replace any currently-available alert and warning technologies (AC Alert, 1610 AM, Nixie, Emergency Alert System, Wireless Emergency Alerts, City Website, Twitter.) An OPWS that reached all outdoor areas of Berkeley, is well-maintained, includes an ongoing public education campaign would be a good addition to the suite of Berkeley's notification tools. Specifically, it would help for people outdoors to know that they need to tune into another information source to get more information and instructions. In order to accomplish this, very significant initial/ongoing staffing and funding allocations would be required.
7			✓	✓		D&FS Commission recommends contribution of GG funds (assuming Council or CM approves recommendation to purchase sirens)	D&FS Commission	See above.
8				✓		See Olds recommendations to council 1996 and Fire Commission 1997 recommendations	Hahn et al	
9	✓	L-M	✓	✓		Traffic Enforcement will partially offset cost through fines	D&FS Commission	Public Works/Police referral
10			✓	✓		PW doing blue reflector installations	D&FS Commission	Not relatively low cost - significant staff time for Public Works
11				✓		See note on item #13 above	D&FS Commission	Police Department referral
12				✓		Follow existing CVC for street parking based on width of streets	D&FS Commission	Not relatively low cost - significant staff time
13				✓		See note on item #12	Bartlett et al	
14				✓		See DFSC recommendation 2/9/16	Bartlett et al	See item #4. Red Flag conditions do not equate with high fire danger for Berkeley. Could consider for High Fire Danger days. LA restricts parking on High Fire Danger days not Red Flag days.
15				✓		See note on item #13 above	D&FS Commission	Police Department referral
16				✓	✓		D&FS Commission	
Vegetation Management								
17			✓				Hahn et al	
18							Hahn et al	Public Works referral

Fire Safety, Education, Prevention and Community Disaster Preparedness								
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19 Expand programs/practices to reduce fire hazards/fuel loads			✓	✓	✓		Hahn et al	Existing programs: Fire Fuel Chipper Program: PRW - Forestry Fire Fuel Abatement Program on Public Land: PRW - Landscape Fire Fuel Debris Bin Program: PW - Zero Waste
20 Update vegetation standards on city and private property			✓		✓	See Wengraf referral 6/10/14 and DFSC 9/24/14 resolution to support options dated 9/10/14 to Parks & Waterfront Commission	Hahn et al	New brochure and website depicting current standards currently in process 2014 LHMP Action - create a standard for written vegetation management plans for major construction projects in Fire Zones 2 and 3.
21 Create & execute city-wide action and funding plan for vegetation mgmt, starting with highest risk areas. Plan to include wildlife, vegetation and tree replacement							Hahn et al	
22 Consider, propose new/enhanced mechanisms and funding sources for inspections and enforcement of vegetation protocols							Hahn et al	
23 Incentivize and enforce fire safe vegetation management on private properties in the fire zone			✓				Bartlett et al	
24 Review and possible expansion of Fire Fuel Chipper and Debris Bin Program			✓		✓		Hahn et al	PRW referral. See item #19
25 DFSC/Parks & Waterfront commissions review efficacy of Fire Fuel Debris Program			✓		✓	Refer to both commissions to form Joint Subcommittee or workgroup	D&FS Commission	
26 DFSC/ Parks & Waterfront commissions to recommend improvements in educating the public on firesafe vegetation practices, meeting the needs of participants and encouraging greater participation in program	✓		✓	✓	✓	See note on item # 25. The Fire Fuel Chipper Vegetation Debris Bin Program is funded by a surcharge paid by property owners in the fire fuel designated areas	D&FS Commission	
27 Disseminate updated vegetation and tree mgmt requirements to property owners, initial outreach in high-risk zones				✓	✓		Hahn et al	See item #20
Prevention and Compliance								
28 Increase fire prevention staffing			✓	✓			Bartlett et al	
29 Review/Update Fire Safety Ordinances inc BMC12.50-Fire Inspection Program							Hahn et al	
30 Temporarily suspend ADU applications in the Very High Hazard Zone to review public safety issues relevant to risk of WUI fires						Referred to Planning Commission 2/27/18	D&FS Commission	Planning Department - Land Use Planning Referral
31 Amend Section 23D.10 for ADUs to incorporate recommendations from public safety review before issuing AUPs			✓				D&FS Commission	Planning Department - Land Use Planning Referral
32 Require major remodels and all ADU conversions to include indoor sprinklers						Existing requirement?	Bartlett et al	Planning Department - Land Use Planning Referral
33 Review, strengthen coordination and communication with nearby jurisdictions and governmental agencies			✓				Hahn et al	
34 Add disaster preparedness to yearly Rental Housing Safety Program (RHSP) self-check form			✓		✓	See note on item #48 to refer to HAC	Bartlett et al	Current focus of flyer is actual code enforcement violations. Need to update link to OES page already on back of flyer to www.CityofBerkeley.info/Ready
35 Require Rental Housing Safety Program (RHSP) self-check for short term rental properties					✓	See note on item #48 to refer to HAC	Bartlett et al	
STRENGTHEN OVERALL DISASTER PREPAREDNESS								
36 Consider and recommend improvements to community and volunteer participation in fire and disaster safety initiatives			✓	✓	✓		Hahn et al.	
37 Dedicate city staff time to apply for and administer grants from BAUASI, State of California, and other sources for disaster preparedness improvements. Explore other forms of funding partnerships							Bartlett et al	
Improve the accountability and equity of disaster programs in the City of Berkeley								
38 New neighborhood disaster cache distributions meet equity criteria			✓		✓	What kind of evaluation has been done on the cache system? How do neighborhoods get prioritized and how are the cache's monitored?	Bartlett et al	
39 Expand CRC program - goal 20 new CRCs			✓	✓	✓		Bartlett et al	Current Goal: 12 by end of fiscal year 17/18
40 Expand apartment building program (ARC) - goal:100 apartment buildings			✓	✓	✓	See note on item #49 below	Bartlett et al	Initializing program- after 1 year pilot, will evaluate effectiveness and determine expansion potential
41 Expand CERT District Coordinators to every fire district; increase support for CERT District Coordinators			✓	✓	✓		Bartlett et al	
42 Explore grant funded partnership with CESC to provide seismic safety related services to low income households					✓		Bartlett et al	CERT coordinated a \$5000 grant with CESC from PG&E to pilot fully funding seismic assessments and nonstructural mitigation for low income/seniors in 2017.
43 Provide multi-lingual disaster preparedness services consistent with City communications			✓	✓	✓		Bartlett et al	Rarely receive requests for preparedness in other languages. Currently offer Spanish outreach in LISTOS program

Fire Safety, Education, Prevention and Community Disaster Preparedness								
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44 Develop and annually report on clear quantitative measures for disaster prep and response programs			✓	✓	✓	Clarification on existing measures and criteria could be helpful	Bartlett et al	OES/Berkeley Ready Performance measures exist and are updated quarterly.
Yearly Citywide Exercise								
45 OES coordinates annual citywide exercise to include all staff, residents and other disaster program partners			✓	✓	✓		Bartlett et al	Factoring in staff time from OES to develop and all other departments to participate in such an exercise, proposal is not relatively low-cost. Participation by all City staff creates impacts to provision of City services to community (ex: 3-1-1, service counters, etc.) Evacuation drills coordinated through HR-Safety. Consider coordination with ShakeOut effort. For staff, consider initial response drill as follow-up from DSW education and planning.
School Preparedness								
46 OES/BUSD improve school preparedness					✓	Put on the School Board/Superintendent's priority to-do list?	Bartlett et al	CERT program volunteers have been supporting parent groups to provide training and guidance on school emergency preparedness. Conducted 8 trainings at 3 different schools through 2016-2017 with two additional trainings scheduled in March 2018.
47 OES offer annual 3 hour trainings to BUSD teachers/staff					✓		Bartlett et al	
Disaster Programs Equity for Renters								
48 Require Apt bldgs. with 3+units to supply residents with 3 days supply of water or develop incentives for disaster supply storage					✓	Recommend integration into housing plan per HAC recommendation 2/1/18	Bartlett et al	ARC Program encourages, but does not require preparedness
49 Expand CRC model to multi-unit apartment bldgs. (ARC) - goal 100 bldgs			✓	✓	✓	Same note as item #48	Bartlett et al	See ARC Program
50 In ARCs, obtain resident input in design of above program in each bldg.			✓	✓	✓	Same note as item #48	Bartlett et al	
51 In ARCs, minimum of 2 residents have access to emergency caches			✓	✓	✓	Same note as item #48	Bartlett et al	
52 Minimum 2 on-site residents have access to utility shut-off valves in buildings w/o property manager on-site					✓	Same note as item #48	Bartlett et al	
53 New Ordinance requiring new and existing rental agreements to allow bracing of water heaters and furniture					✓	Same note as item #48	Bartlett et al	
54 Update Demolition ordinance to address loss of rent controlled units post disaster						Same note as item #48	Bartlett et al	
55 Have Rent Board review legal rights and responsibilities of tenants and landlords when bldg, is red-tagged after disaster						Same note as item #48	Bartlett et al	
56 Add disaster preparedness to yearly Rental Housing Safety Program (RHSP) self-check form					✓	Same note on item #48. This item is a duplicate of item #34.	Bartlett et al	Current focus of flyer is actual code enforcement violations. Need to update link to OES page already on back of flyer to www.CityofBerkeley.info/Ready
57 Require Rental Housing Safety Program (RHSP) self-check for short term rental properties			✓		✓	Same note on item #48. This item is a duplicate of item #35.	Bartlett et al	
Post-Disaster Communications								
58 Launch post-disaster service hub program; goal - every person within walking distance, volunteer staffed				✓	✓		Bartlett et al	
59 Evaluate adoption of FirstNet for first responders. Consider possible cost reduction of future radio purchases.				✓			Bartlett et al	
60 Reinstate DSW designation for volunteer HAM radio operators					✓		Bartlett et al	Current City policy is not to pre-register anyone as a DSW. NALCO volunteers can be registered as City Volunteers.
61 Strengthen 1610AM signal to reach all of Berkeley			✓	✓			Bartlett et al	1610 AM is a Travelers' Information Station licensed by the FCC, so it is limited to a 10 watt transmitter output power, an antenna height no greater than 15 meters (49.2 feet), and a coverage radius of 3 km so that we do not interfere with similar emergency radio stations in surrounding jurisdictions.
City Staff Training								
62 Provide a yearly disaster training for all city staff, including their role in disaster			✓	✓			Bartlett et al	
Volunteer Corps								
63 Create a Volunteer Corps program including quantitative measures					✓		Bartlett et al	
64 Designate a dedicated staff coordinator to run program				✓			Bartlett et al	
Disaster Shelters								
65 Assess and publicize current sheltering capacity			✓	✓			Bartlett et al	Shelter capacity is currently assessed (Shelter Gap Identification Tool). Unclear what publicization is desired. We do not pre-publicize shelter locations.
66 Set 5 year goal to expand sheltering capacity to meet 100% need in 6.7 N. Hayward Fault EQ						Correction: This should have said 6.9 Hayward Fault earthquake, which is a scenario earthquake in the Berkeley Hazard Mitigation plan.	Bartlett et al	SEE DFSC comment re: using 6.9 quake scenario rather than 6.7 Need info on what sheltering need would be for a 6.7 N. Hayward Quake- Doesn't match current scenarios in use.
67 Sheltering plan to include most cost effective ways to meet post-disaster shelter needs						Can an MOU with UC Berkeley be explored to identify possible Mass Care and Shelter facilities?	Bartlett et al	This may focus more on medium to long term housing?

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68 Within 1 year, sign MOU with BUSD re: school bldg, use as sheltering sites	✓	L				School sites will ultimately need to be reviewed for Seismic and other health & safety parameters.	Bartlett et al	Reasonable goal. Requires collaboration with BUSD. Aligns with current focus of UASI Care and Shelter Workgroup
Reorganization of Emergency Management								
69 Explore creating new department for emergency management						As part of Berkeley's master plan, can this be explored?	Bartlett et al	
CERT Training								
70 Partner with other Bay Area cities to share classes and CERT trainings			✓		✓	See CERT Volunteers January, 2017 Long Range Plan	Bartlett et al	Often collaborate - Recent examples, Kensington for radio communications training; San Pablo/Concord/SF/etc on LISTOs spanish training/CERT
71 Consider reducing minimum age of CERT participation				✓	✓		Bartlett et al	Minimal activity but we have included Berkeley High School Fire Science and Emergency Response Teens club in some of our trainings.
72 Partner with UC Berkeley			✓		✓		Bartlett et al	
73 Offer class time and location alternatives			✓	✓	✓	See CERT Volunteers January, 2017 Long Range Plan	Bartlett et al	CRC is aimed at addressing alternative locations. Also we have begun increased number of classes in neighborhoods.
74 Require OES hold a minimum 40 3-hour CERT trainings per year			✓	✓	✓		Bartlett et al	
75 Require at least 6 of trainings in item #73 be held at apartment buildings.					✓	Same note as item #48	Bartlett et al	
76 Require that 6 annual weekend CERT Academy trainings are included in item #73			✓	✓	✓		Bartlett et al	Our last CERT Academy was held in March 2016
Increase Home Storage of Water								
77 Develop plan to offer low priced 50 gal water containers				✓	✓	Can this be done in partnership with EBMUD?	Bartlett et al	
78 Develop program for rain water catchment in homes and apartments				✓	✓	EBMUD / Environmental agency partnership?	Bartlett et al	
Support Business Continuity								
79 Create emergency plans for/with local businesses			✓	✓	✓		Bartlett et al	Rachel Rodriguez (Public Health) currently working on small business program.
80 Set OES annual goal- provide one-on-one mentoring for 20+small businesses in emergency and business continuity planning			✓	✓	✓		Bartlett et al	Rachel Rodriguez (Public Health) currently working on small business program.

Vegetation Management

The City adopted Wildland Interface Codes to provide stricter vegetation management policies and enforcement guidelines, specifically targeting Fire Zones 2 & 3.

The City manages a Chipper and Debris Bag program to encourage residents in the hills fire zone to clean up their properties and improve vegetation management during fire season.

The Hills Emergency Forum developed a Fuels Management Plan (FMP) in 1996. All members of the Hills Emergency Forum have developed vegetation management programs.

Fire Department Emergency Response

Residents passed Measure Q, a \$9.75 million bond measure that allowed for the purchase of an emergency above ground water system. This system allows us to pump water out of Lake Anza or the bay to fight fires in situations where the below-ground water system is weak or has failed.

Residents passed Measure G, a \$55 million bond that allowed for the earthquake retrofit of six fire stations and the construction of the new Public Safety Building and Fire Station 7 in the Berkeley hills.

The City participates in a Radio Interoperability system, now named East Bay Regional Communications Authority (EBRCSA), which improves Berkeley's ability to communicate with 32 other jurisdictions for fire, law enforcement, and emergency medical service response.

On high-fire days, fire apparatus perform roving patrols in hills neighborhoods.

In 2011, Berkeley purchased a Type III Wildland Engine, which expands capacity to fight fires in areas where wildland and urban areas meet.

Berkeley has a Type VI Wildland Engine in service, which increases the fire departments Wildland Urban Interface fire response capabilities. The Type VI is a smaller 4-Wheel Drive vehicle that carries 300 gallons of water for quick attack firefighting needs. Having both types of Wildland Engines allows the department to send out personnel on Mutual Aid requests throughout the State and still maintain Wildland Firefighting capabilities in the City.

Firefighters receive additional training in wildland firefighting.

BFD has coordinated regional communications and staging drills to familiarize outside agencies with Berkeley target hazards and staging areas.

BFD participates annually with Alameda County and Contra Costa Wildland Training Drills. There is a multi-agency Wildland drill being planned for this year in Berkeley, no specific date as of yet.

Berkeley's entry-level firefighter training includes wildland firefighting strategy and tactics.

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The City has developed mutual response area agreements with Alameda County, Oakland, Moraga-Orinda, East Bay Regional Parks, El Cerrito, and Richmond Fire Departments for fire response during fire season.

The Berkeley Fire Department has established automatic aid agreements with the Albany and El Cerrito-Kensington Fire Departments to provide swift response by resources from mutually threatened cities with their closest fire engines. The operations at these incidents are "unified" from the start - providing for seamless interoperability.

BFD firefighters receive annual training to understand "fire weather" and to perform surveillance of critical fire weather patterns.

The City purchased gear and equipment that is more appropriate for wildland firefighting.

Community Emergency Preparedness

Berkeley residents passed Measure GG, the Fire and Disaster Preparedness Tax, to support minimum staffing of fire stations, invest in radio interoperability, increase the number of first responder paramedics, and expand community training and disaster preparedness.

Berkeley has a Community Cache Program which allows neighborhood groups to be trained in emergency preparedness and be provided the tools for neighborhood disaster response. More than 100 disaster equipment caches have been supplied to groups all over the City.

Thousands of Berkeley residents have participated in disaster preparedness training, including wildfire preparedness forums in the Berkeley Hills.

A website with wildfire evacuation information was created and shared with the community. This plan is being updated and improved as part of the Emergency Operations Plan.

The Berkeley Emergency Notification System, now AC Alert, was developed to provide information on life-threatening emergencies and to share protective actions to the people of Berkeley through text message, voicemail, and email.

The Berkeley Emergency Accessible Community Organizations Network (BEACON) was formed to coordinate organizations that work with seniors and people with disabilities. The organizations meet together to address the needs of their clients, coordinate information and plans, and to provide disaster preparedness training and information to those they serve.

Community Resilience Centers (CRC's) and Apartment Resilience Centers (ARC's) have been developed and are designated to serve as hubs of disaster preparedness and response resources and information in neighborhoods otherwise underserved by other programs. They are on-site for trainings, host of a disaster supply cache, and have pledged to coordinate with the City during disasters.

The City has adopted a cutting-edge Local Hazard Mitigation Plan (LHMP) that addresses the hazards of greatest concern (earthquakes and wildfires) as well as how climate change will af-

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fect those hazards and ways the City can address and diminish those hazards. The updated LHMP will be completed and approved in 2019

The City adopted a new Emergency Operations Plan in 2017, which will encourage nimble coordination and support for emergency and disaster situations in the City and increase compliance with State and Federal requirements for disaster response.

Building Requirements

The State has passed many new code regulations for the buildings located in high fire hazard areas, which includes the Berkeley/Oakland Hills. In 2008 the City of Berkeley adopted the building and fire regulations set by the Office of the State Fire Marshal.

Berkeley Building Code adopts the State's approach for protecting structures from wildland fires and includes additional local provisions:

- Roofs (and roof replacements) are required to be Class A minimum - meaning they are effective against severe fire exposure. Wooden shakes or shingles are prohibited regardless of the assembly rating of the roof system;

- Spark arrestors are required when certain kinds of heating appliances are modified or whenever a structure is re-roofed;

- There are higher standards for replacement of existing exterior wall coverings;

- Underground utility connections are required for new construction;

- Areas in the local Fire Zone 3 (very high fire hazard severity zone) have additional requirements for a fire warning systems, automatic sprinkler systems, utility enclosures, water service, access roads and fire trails, and brush and vegetation control.

