



PROCLAMATION CALLING A SPECIAL MEETING OF THE BERKELEY CITY COUNCIL

In accordance with the authority in me vested, I do hereby call the Berkeley City Council in special session as follows:

**Tuesday, April 15, 2025
4:00 PM**

SCHOOL DISTRICT BOARD ROOM - 1231 ADDISON STREET, BERKELEY, CA 94702

ADENA ISHII, MAYOR

Councilmembers:

DISTRICT 1 – RASHI KESARWANI
DISTRICT 2 – TERRY TAPLIN
DISTRICT 3 – BEN BARTLETT
DISTRICT 4 – IGOR TREGUB

DISTRICT 5 – SHOSHANA O'KEEFE
DISTRICT 6 – BRENT BLACKABY
DISTRICT 7 – CECILIA LUNAPARRA
DISTRICT 8 – MARK HUMBERT

This meeting will be conducted in a hybrid model with both in-person attendance and virtual participation. Live captioned broadcasts of Council meetings are available on B-TV (Channel 33) and via internet video stream at http://berkeley.granicus.com/MediaPlayer.php?publish_id=1244. All Council meetings are recorded.

*To access the meeting remotely use this URL: <https://cityofberkeley-info.zoomgov.com/j/1617330038>. To request to speak, use the "raise hand" function in Zoom. To join by phone: Dial 1-669-254-5252 or 1-833-568-8864 (Toll Free) and enter Meeting ID: 161 733 0038. To provide public comment, Press *9 and wait to be recognized by the Chair. To submit a written communication for the public record, email council@berkeleyca.gov.*

This meeting will be conducted in accordance with the Brown Act, Government Code Section 54953. Any member of the public may attend this meeting, however, if you are feeling sick, please do not attend the meeting in person. The City Council may take action related to any subject listed on the Agenda.

Pursuant to the City Council Rules of Procedure and State Law, the presiding officer may remove, or cause the removal of, an individual for disrupting the meeting. Prior to removing an individual, the presiding officer shall warn the individual that their behavior is disrupting the meeting and that their failure to cease their behavior may result in their removal. The presiding officer may then remove the individual if they do not promptly cease their disruptive behavior. "Disrupting" means engaging in behavior during a meeting of a legislative body that actually disrupts, disturbs, impedes, or renders infeasible the orderly conduct of the meeting and includes, but is not limited to, a failure to comply with reasonable and lawful regulations adopted by a legislative body, or engaging in behavior that constitutes use of force or a true threat of force.

Government Code Section 84308 (Levine Act) - Parties to a proceeding involving a license, permit, or other entitlement for use are required to disclose if they made contributions over \$500 within the prior 12 months to any City employee or officer. Parties and participants with a financial interest are prohibited from making more than \$500 in contributions to a decisionmaker for the 12 months after the final decision is rendered on the proceeding. The above contribution disclosures and restrictions do not apply when the proceeding is competitively bid, or involves a personnel or labor contract. For more information, see Government Code Section 84308.

Preliminary Matters

Roll Call:

Action Calendar

The public may comment on each item listed on the agenda for action. For items moved to the Action Calendar from the Consent Calendar or Information Calendar, persons who spoke on the item during the Consent Calendar public comment period may speak again during the Action Calendar public comment period on the item

The Presiding Officer will request that persons wishing to speak line up at the podium, or use the "raise hand" function in Zoom, to determine the number of persons interested in speaking at that time. If ten or fewer persons are interested in speaking on an individual agenda item, each speaker may speak for two minutes. If there are more than ten persons interested in speaking, the Presiding Officer may limit the public comment for all speakers to one minute per speaker. Speakers are permitted to yield their time to one other speaker, however no one speaker shall have more than four minutes. The Presiding Officer may, with the consent of persons representing both sides of an issue, allocate a block of time to each side to present their issue.

Action items may be reordered at the discretion of the Chair with the consent of Council.

The Presiding Officer may open and close an additional comment period for Action items on this agenda (excluding any public hearings, appeals, and/or quasi-judicial matters), at the start of the Action Calendar. Those who speak on an item during this comment period may not speak a second time when the item is taken up by Council.

Action Calendar – New Business

1. **Adoption of CALFIRE Map and Additional Areas Designated as the City of Berkeley Fire Hazard Severity Zones** *(Reviewed by the Public Safety Committee)*
From: City Manager
Recommendation:
 1. Adopt first reading of an Ordinance to designate Fire Hazard Severity Zones (FHSZ) within the Local Responsibility Area as recommended by the California Department of Forestry and Fire Protection (CALFIRE) pursuant to Government Code Section 51178, and
 2. Designate areas not identified as Very High and High Fire Hazard Severity Zones by the State Fire Marshal, as Very High, and High Fire Hazard Severity Zones following a finding supported by substantial evidence in the record that the requirements of Government Code Section 51182 are necessary for effective fire protection within the area.*Policy Committee Recommendation: To send the item to City Council with a positive recommendation.*
Financial Implications: See report
Contact: David Sprague, Fire, (510) 981-3473

Action Calendar – New Business

2. **Modification and Adoption of Berkeley Fire Code Local Amendments** *(Reviewed by the Public Safety Committee)*

From: City Manager

Recommendation:

1. Adopt the first reading of an Ordinance which proposes to amend certain portions of Section 19.48.020 of the Berkeley Municipal Code (“Amendments to the California Fire Code”);
2. Adopt a Resolution setting forth findings as to local conditions applicable to the revised portions of Section 19.48.020 that require more stringent standards than those provided by the 2022 California Fire Code (“CFC”) and amending Resolution No. 70,611–N.S.;
3. In compliance with state law on adopting such codes by reference, hold a public hearing following the first reading, and before the second reading, and schedule the second reading and public hearing for May 6, 2025.

Policy Committee Recommendation: To send the item to City Council with a positive recommendation.

Financial Implications: Staff time

Contact: David Sprague, Fire, (510) 981-3473

Adjournment

I hereby request that the City Clerk of the City of Berkeley cause personal notice to be given to each member of the Berkeley City Council on the time and place of said meeting, forthwith.

IN WITNESS WHEREOF, I have hereunto set my hand and caused the official seal of the City of Berkeley to be affixed on this 9th day of April, 2025.

/s/ Adena Ishii, Mayor

Public Notice – this Proclamation serves as the official agenda for this meeting.

ATTEST:



Date: April 9, 2025

Mark Numainville, City Clerk

NOTICE CONCERNING YOUR LEGAL RIGHTS: *If you object to a decision by the City Council to approve or deny a use permit or variance for a project the following requirements and restrictions apply:*

1) No lawsuit challenging a City decision to deny (Code Civ. Proc. §1094.6(b)) or approve (Gov. Code 65009(c)(5)) a use permit or variance may be filed more than 90 days after the date the Notice of Decision of the action of the City Council is mailed. Any lawsuit not filed within that 90-day period will be barred. 2) In any lawsuit that may be filed against a City Council decision to approve or deny a use permit or variance, the issues and evidence will be limited to those raised by you or someone else, orally or in writing, at a public hearing or prior to the close of the last public hearing on the project.

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<https://berkeleyca.gov/your-government/city-council/city-council-agendas>.

Channel 33 rebroadcasts the following Wednesday at 9:00 a.m. and Sunday at 9:00 a.m.

Communications to the City Council are public record and will become part of the City's electronic records, which are accessible through the City's website. **Please note: e-mail addresses, names, addresses, and other contact information are not required, but if included in any communication to the City Council, will become part of the public record.** If you do not want your e-mail address or any other contact information to be made public, you may deliver communications via U.S. Postal Service to the City Clerk Department at 2180 Milvia Street. If you do not want your contact information included in the public record, please do not include that information in your communication. Please contact the City Clerk Department for further information.

Any writings or documents provided to a majority of the City Council regarding any item on this agenda will be made available for public inspection at the public counter at the City Clerk Department located on the first floor of City Hall located at 2180 Milvia Street, and through the City's online records portal: <https://records.cityofberkeley.info/>.

Agendas, agenda reports, and revised/supplemental material may be accessed via the online agenda for this meeting at:

<https://berkeleyca.gov/your-government/city-council/city-council-agendas>

and may be accessed at reference desks at the following locations:

City Clerk Department - 2180 Milvia Street, First Floor
Tel: 510-981-6900, TDD: 510-981-6903, Fax: 510-981-6901
Email: clerk@berkeleyca.gov

Libraries: Main – 2090 Kittredge Street,
Claremont Branch – 2940 Benvenue, West Branch – 1125 University,
North Branch – 1170 The Alameda, Tarea Hall Pittman South Branch – 1901 Russell

COMMUNICATION ACCESS INFORMATION:

This meeting is being held in a wheelchair accessible location.

To request a disability-related accommodation(s) to participate in the meeting, including auxiliary aids or services, please contact the Disability Services specialist at ada@berkeleyca.gov, (510) 981-6418 (V), or (510) 981-6347 (TDD) at least three business days before the meeting date.

Please refrain from wearing scented products to this meeting.



Captioning services are provided at the meeting, on B-TV, and on the Internet. In addition, assisted listening devices for the hearing impaired are available from the City Clerk prior to the meeting, and are to be returned before the end of the meeting.

Communications

Council rules limit action on Communications to referral to the City Manager and/or Boards and Commissions for investigation and/or recommendations. All communications submitted to Council are public record. Copies of individual communications are available for viewing at the City Clerk Department and through [Records Online](#).

Item #1: Adoption of CALFIRE Map and Additional Areas Designated as the City of Berkeley Fire Hazard Severity Zones (Reviewed by the Public Safety Committee)

1. Scott Murray
2. Jason Warriner
3. Robert Godes
4. Roger and Zoe Hill
5. Dr Bruce Feingold

Item #2: Modification and Adoption of Berkeley Fire Code Local Amendments
(Reviewed by the Public Safety Committee)

6. Robert and Frederica Breuer
7. Ann Hoyer
8. Lisa Titus
9. Patricia and Michael Henry
10. Greg Murphy
11. Miriam Nathanson
12. Kuniko Weltin-Wu and Hung-His Wu
13. Joan MacQuarrie
14. Krista Denton
15. David Cumpton and David Folzenlogen
16. Linda Friedman
17. Joan Lester
18. Ruth Langridge
19. John Hitchen
20. Elizabeth Shedd
21. Miki Tal
22. Margaret Cullen
23. Pamela Montanaro
24. Shivaom



Office of the City Manager

ACTION CALENDAR

April 15, 2025

To: Honorable Mayor and Members of the City Council

From: Paul Buddenhagen, City Manager

Submitted by: David Sprague, Fire Chief

Subject: Adoption of CALFIRE Map and Additional Areas Designated as the City of Berkeley Fire Hazard Severity Zones

RECOMMENDATION

1. Adopt first reading of an Ordinance to designate Fire Hazard Severity Zones (FHSZ) within the Local Responsibility Area as recommended by the California Department of Forestry and Fire Protection (CALFIRE) pursuant to Government Code Section 51178, and
2. Designate areas not identified as Very High and High Fire Hazard Severity Zones by the State Fire Marshal, as Very High, and High Fire Hazard Severity Zones following a finding supported by substantial evidence in the record that the requirements of Government Code Section 51182 are necessary for effective fire protection within the area.

POLICY COMMITTEE RECOMMENDATION

On March 24, 2025, the Public Safety Committee adopted the following action: M/S/C (Blackaby/Kesarwani) to send item to City Council with a positive recommendation.

Vote: All Ayes.

FISCAL IMPACTS OF RECOMMENDATION

There are substantial financial impacts to the Department in the form of staff and program costs associated with this recommendation, all of which can currently be absorbed within the Department's budget.

CURRENT SITUATION AND ITS EFFECTS**Adoption of CALFIRE Maps:**

An interactive, live storyboard that helps summarize the methodology informing this staff report can be found here: (<https://arcg.is/1iDbf02>.)

Pursuant to California Government Code 51177-51179, CALFIRE has released recommended updates to Fire Hazard Severity Zones in the Local Responsibility Area¹.

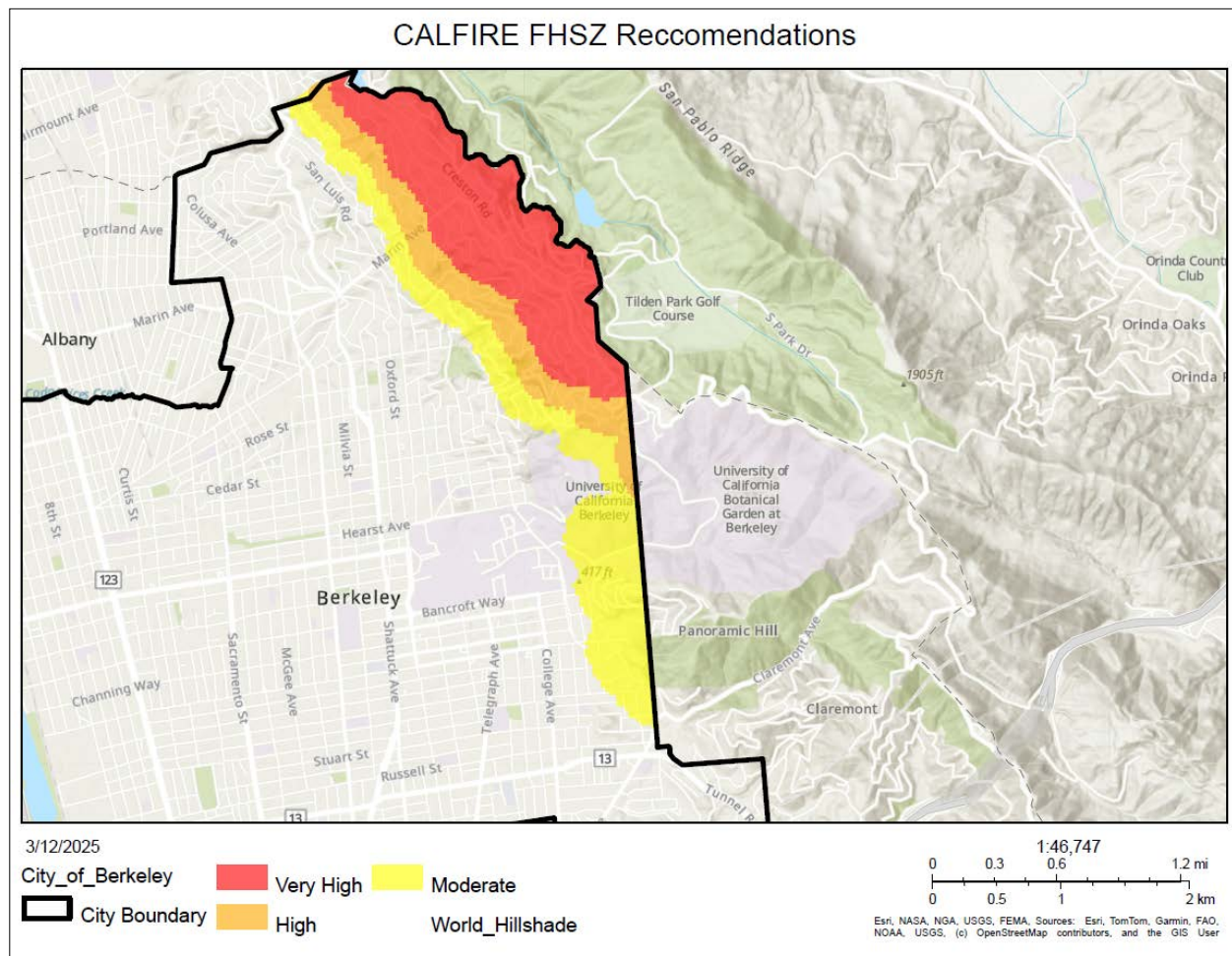
¹ CALFIRE Fire Hazard Severity Zone Map within the Local Responsibility Area
 2180 Milvia Street, Berkeley, CA 94704 • Tel: (510) 981-7000 • TDD: (510) 981-6903 • Fax: (510) 981-7099
 E-Mail: manager@berkeleyca.gov Website: <https://berkeleyca.gov/>

The City has received formal notification from CALFIRE and, at a minimum, must adopt the map produced by the State no later than June 24, 2025.

With the adoption of the Local Responsibility Area maps, all properties in those areas designated as Very High (1) are required to meet the vegetation management requirements identified in Government Code Section 51182 as a minimum standard, and (2) all new buildings constructed, or major remodels classified by the Building Official as new construction, will be required to incorporate the ignition resistant building standards required in Chapter 7A of the Building Standards Code.

In areas designated as High Fire Hazard Severity Zones, all new construction, or major remodels classified by the Building Official as new construction, are required to meet the wildfire resistant construction requirements included in Chapter 7A of the Building Standards Code.

Properties within the Very High and High Fire Hazard Severity Zones must conduct a natural hazard real estate disclosure at time of sale per CA CIV 1102.19 (AB 38, 2019).



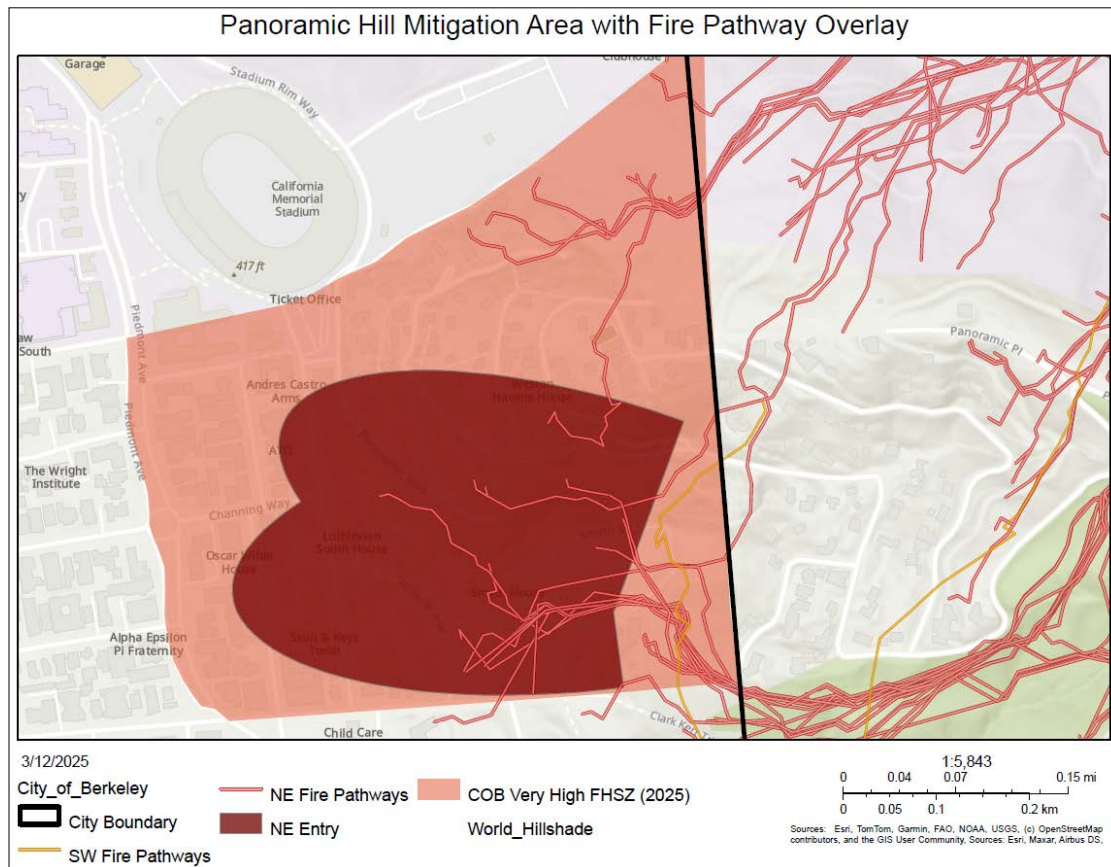
Additional Designation of High and Very High Hazard Fire Severity Zones:

Notwithstanding the minimum Fire Hazard Severity Zones that the City is required to adopt by state law, under the authority included in Government Code 51175, the City may designate areas not included in the recommended CALFIRE maps as Moderate, High, or Very High Fire Hazard Severity Zones. The City may not reduce the recommended designations, or boundaries, included on the CALFIRE maps.

Staff have reviewed the CALFIRE maps and suggest the following additional geographic designations:

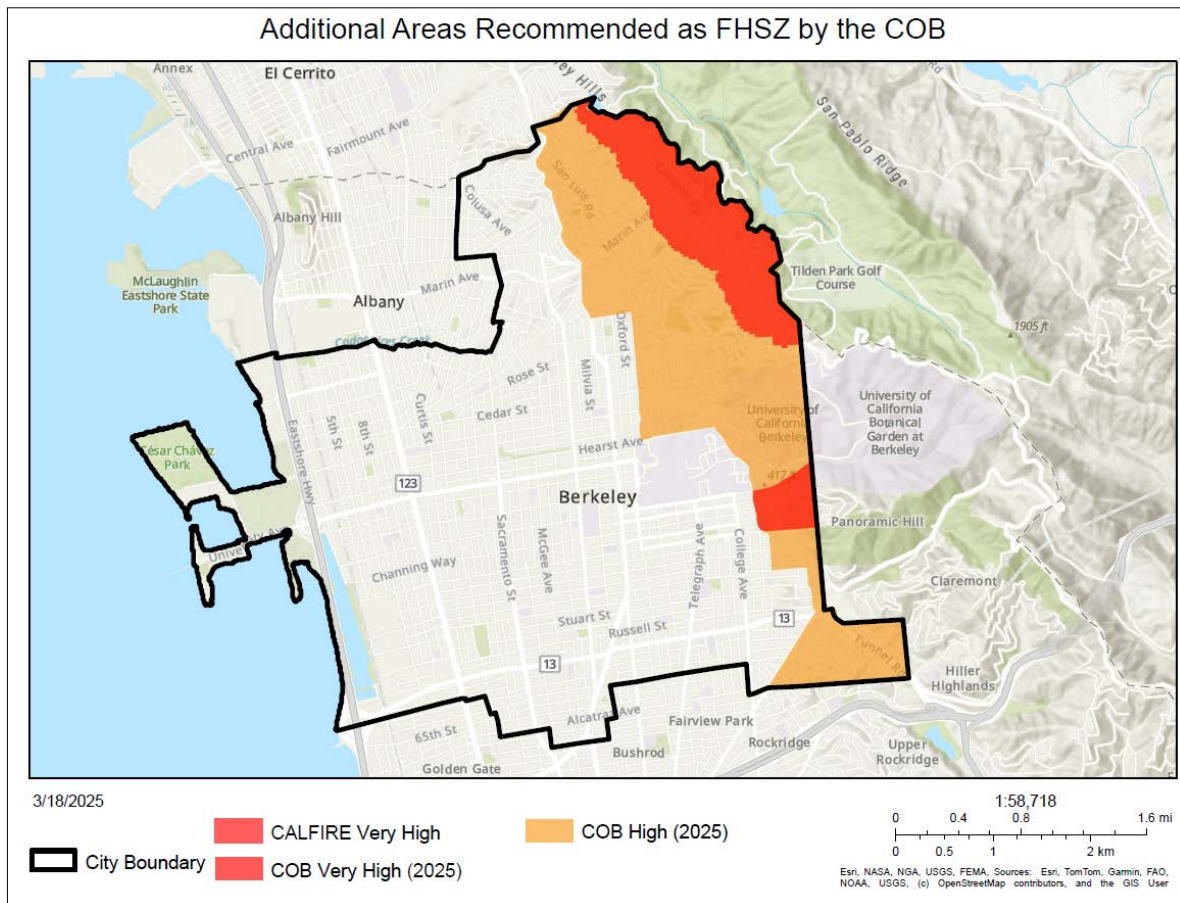
1. Designate as Very High Fire Hazard Severity Zones² those areas of the City bounded by the line formed by these roads. Homes addressed on, or with a structural frontage on either side of these road segments are included in the zone:
 - a. Canyon Road from the Oakland border to Stadium Rim Way
 - b. Stadium Rim Way from Canyon Road to Bancroft Way
 - c. Bancroft Way from Stadium Rim Way to Prospect Street
 - d. Prospect Street from Bancroft Way to Bancroft Steps
 - e. Bancroft Steps from Prospect Street to Warring Street
 - f. Bancroft Way from Warring Street to Piedmont Avenue
 - g. Piedmont Avenue from Bancroft Way to Dwight Way
 - h. Dwight Way from Piedmont Avenue to the Oakland border

² Additional Area Recommended as a Very High Fire Hazard Severity Zone by the City of Berkeley
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2. Designate as High Fire Hazard Severity Zones³ those areas of the City west of the CALFIRE Very High Fire Hazard Severity Zone and east / northeast of the line formed by these roads. Homes addressed on, or with a structural frontage on either side of these road segments are included in the zone:
 - a. The Arlington Avenue from the Kensington Border to Marin Avenue
 - b. Sutter Street from the Southern portal of the Northbrae Tunnel to Eunice Street
 - c. Spruce Street from Eunice Street to Hearst Avenue
 - d. Gayley Road from Hearst Avenue to Stadium Rim Way
 - e. Piedmont Avenue from Stadium Rim Way to Bancroft Way
 - f. Warring Street from Dwight Way to Derby Street
 - g. Belrose Avenue from Derby Street to Garber Street
 - h. Claremont Boulevard from Garber Street to Claremont Avenue
 - i. Claremont Avenue from Claremont Boulevard to the Oakland Border
 - j. Tunnel Road from Ashby Avenue to the Oakland Border

³ Additional Area Recommended as a High Fire Hazard Severity Zone by the City of Berkeley



The City's official maps are located electronically in GIS: [Risk Comparison Map App \(https://berkeley.maps.arcgis.com/apps/instant/basic/index.html?appid=d5510e8fb6c74fa38a89f0a512d16a0\)](https://berkeley.maps.arcgis.com/apps/instant/basic/index.html?appid=d5510e8fb6c74fa38a89f0a512d16a0). The official CALFIRE map is located electronically on the "CALFIRE Fire Hazard Severity Zones in the Local Responsibility Area Map" page.

BACKGROUND

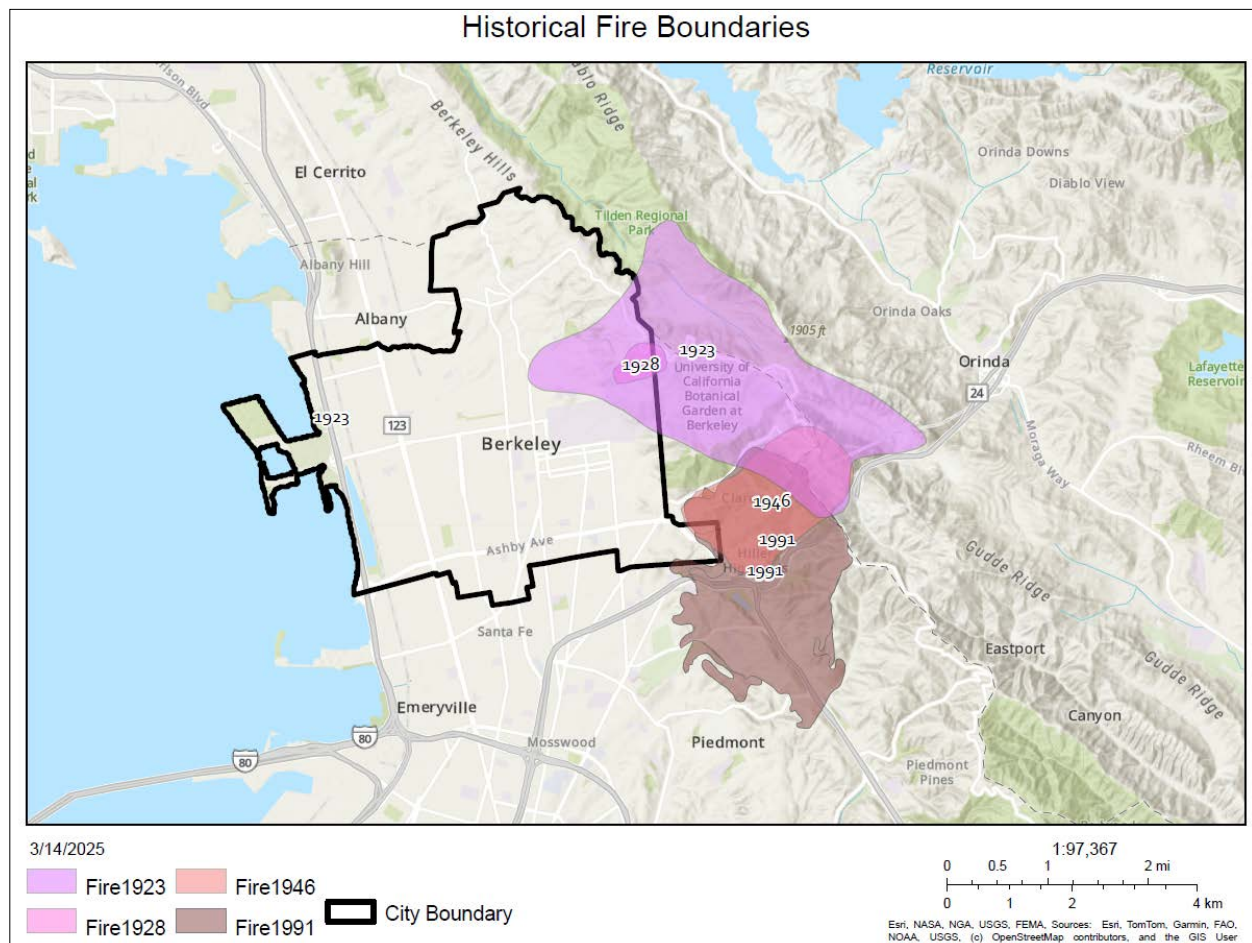
Local Conditions That Justify Additional Areas Designated as Very High or High Fire Hazard Severity Zones:

Panoramic Hill and the areas immediately surrounding it are recommended for inclusion in the Very High Fire Hazard Severity Zone due to narrow structure separation distance and high housing density, limited retrofitting of structures to bring them in compliance with Chapter 7A of the Building Standards Code, a single evacuation route that will cause extended evacuation time, proximity to dense vegetation and topographic features capable of supporting fast moving wind driven fire⁴, the benefits to evacuation and wildfire risk reduction associated with long term replacement of existing housing stock with structures that meet wildfire resistive construction standards, and the strategic opportunity that the relatively straight, wide, north-south street selected as the

⁴ Panoramic Hill Mitigation Area with Fire Pathway Overlay
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western boundary could provide in terms of stopping or slowing the advance of a fire moving from the hills, west into the City.

The areas recommended for inclusion in the High Fire Hazard Severity Zones are included due to fire history, with major fires occurring in and around this area in 1905, 1923, 1928, 1946, 1970, 1980, and 1991⁵, the narrow structure separation distance between homes, the limited retrofitting of structures to bring them in compliance with Chapter 7A of the Building Standards Code^{6 7}, the benefits to evacuation and wildfire risk reduction associated with long term replacement of existing housing stock with wildfire resistive construction, limited east to west evacuation routes that will cause extended evacuation time, and the strategic opportunity that the relatively straight, wide, north-south streets selected as western boundaries could provide in terms of stopping or slowing the advance of a fire moving from the hills, west into the City.



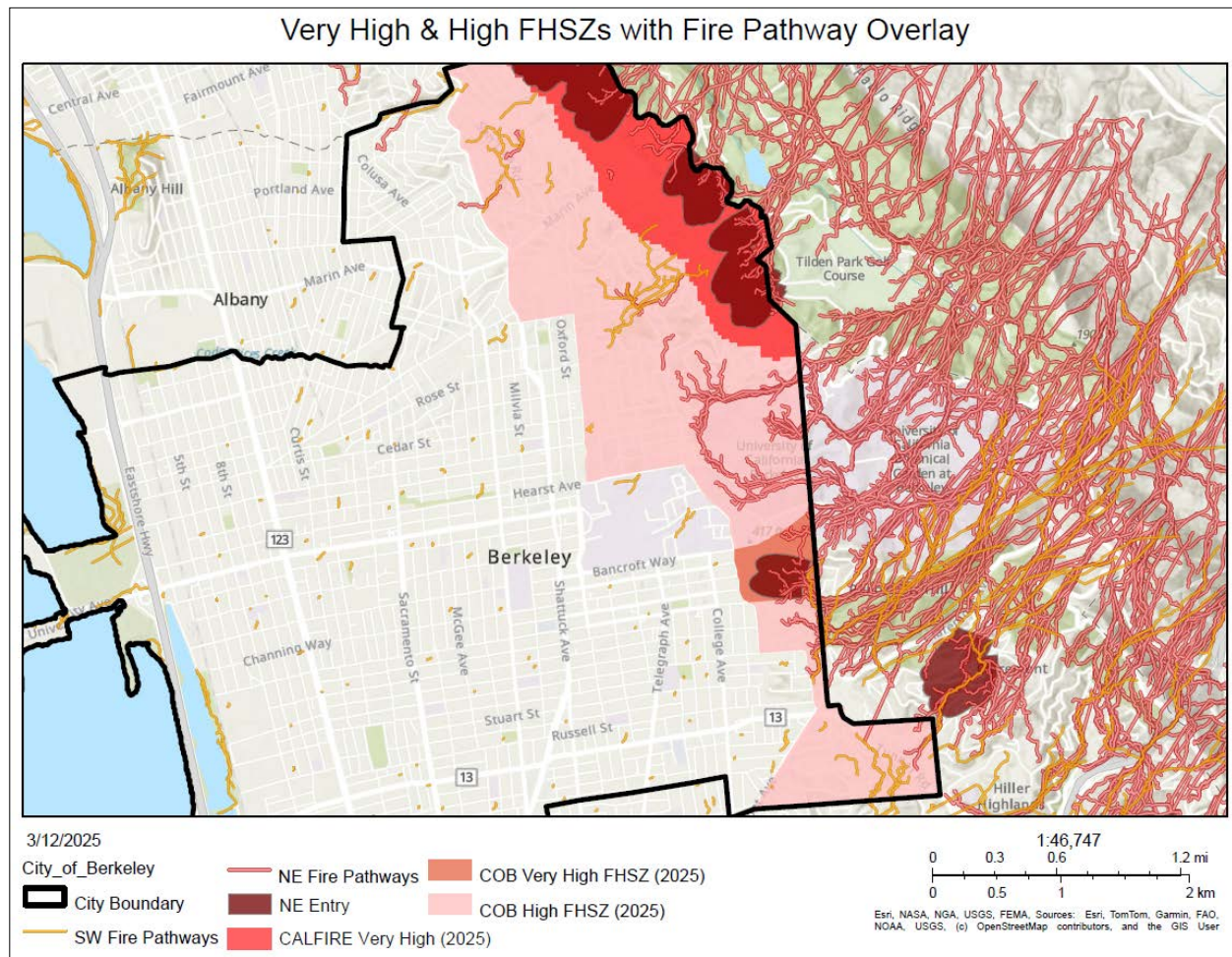
In addition to these factors the City has considered fire pathways which are the routes formed by the combination of topography, weather, and continuous vegetative fuel that

⁵ Historical Fire Boundaries

⁶ Year Built, North Hills. Shows which structures have been built to the new Chapter 7A building standards.

⁷ Year Built, South Hills. Shows which structures have been built to the new Chapter 7A building standards.

bring wildfire to values at risk (such as structures, critical infrastructure, or anything that the community finds of value), during a fast-moving, wind-driven fire event. Fire pathways highlight where rapid-fire growth may outpace the local firefighting response, resulting in wildfire arrival to the built environment and the potential for urban conflagration. The fire pathways mapping was created using the minimum travel time algorithm, a peer-reviewed algorithm built into FlamMap, the industry-standard tool for fire behavior analysis in the United States. The analysis found numerous entry points from Diablo Wind events (from the northeast) and several entry points from Maritime Influence winds (from the southwest) into the City⁸.



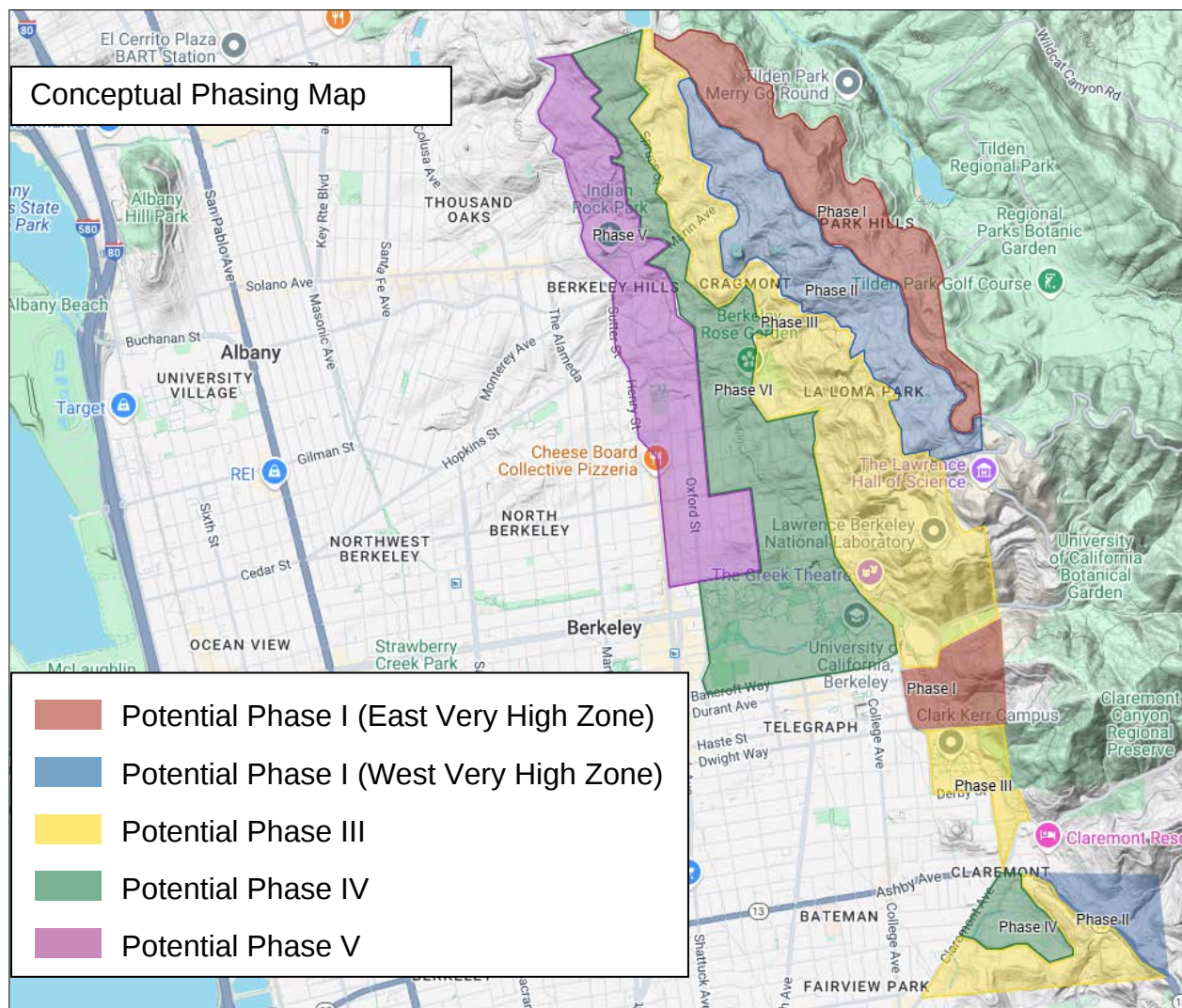
Future intent to expand the Very High Fire Hazard Severity Zone:

The City will initially focus on the highest risk areas of the built environment where ember cast from vegetation along fire pathways is likely and should be prioritized for home hardening and defensible space education, incentives, and enforcement. This will prioritize effective mitigations with limited resources. Focusing resources on the highest priority areas, creating a buffer along the edges of the community can prevent the

⁸ Very High and High FHSZ with Fire Pathway Overlay

transition of fire from vegetation to densely spaced structures, interrupting the initiation and propagation of urban conflagration in the built environment.

Phase I will include the Panoramic Mitigation Area and the Grizzly Peak Mitigation area. Phase II will include, at minimum, additional areas of the CALFIRE Very High Fire Hazard Severity Zone. Subsequent phases will complete work in the CALFIRE Very High Fire Hazard Severity Zone. With City Council approval, additional slices of the High Fire Hazard Severity Zone will be transitioned to meet defensible space requirements systematically until all of the High Fire Severity Zone has the defensible space requirements outlined in this code. The Department will be able to provide a better estimate of how long subsequent phases will take once staff have begun work in Phase I. A map demonstrating the conceptual phasing is shown below⁹.



History of CALFIRE Fire Hazard Severity Zones:

⁹ City of Berkeley Fire Hazard Severity Zone Conceptual Phasing Map;
<https://www.google.com/maps/d/u/0/edit?mid=1tNP0IWFdz2ACKj2v6eijTLBBaboYc9o&usp=sharing>

Assembly Bill 337 (Bates 1992), prompted by the devastating Oakland/Berkeley Hills fire of 1991, calls for CALFIRE to evaluate fire hazard severity in the Local Responsibility Area and to make a recommendation to the local jurisdiction where Very High Fire Hazard Severity Zones exist (CA GC 51175).

The Local Responsibility Area includes incorporated cities, urban regions, agriculture lands, and portions of the desert where the local government is responsible for wildfire protection (CA PRC 4125).

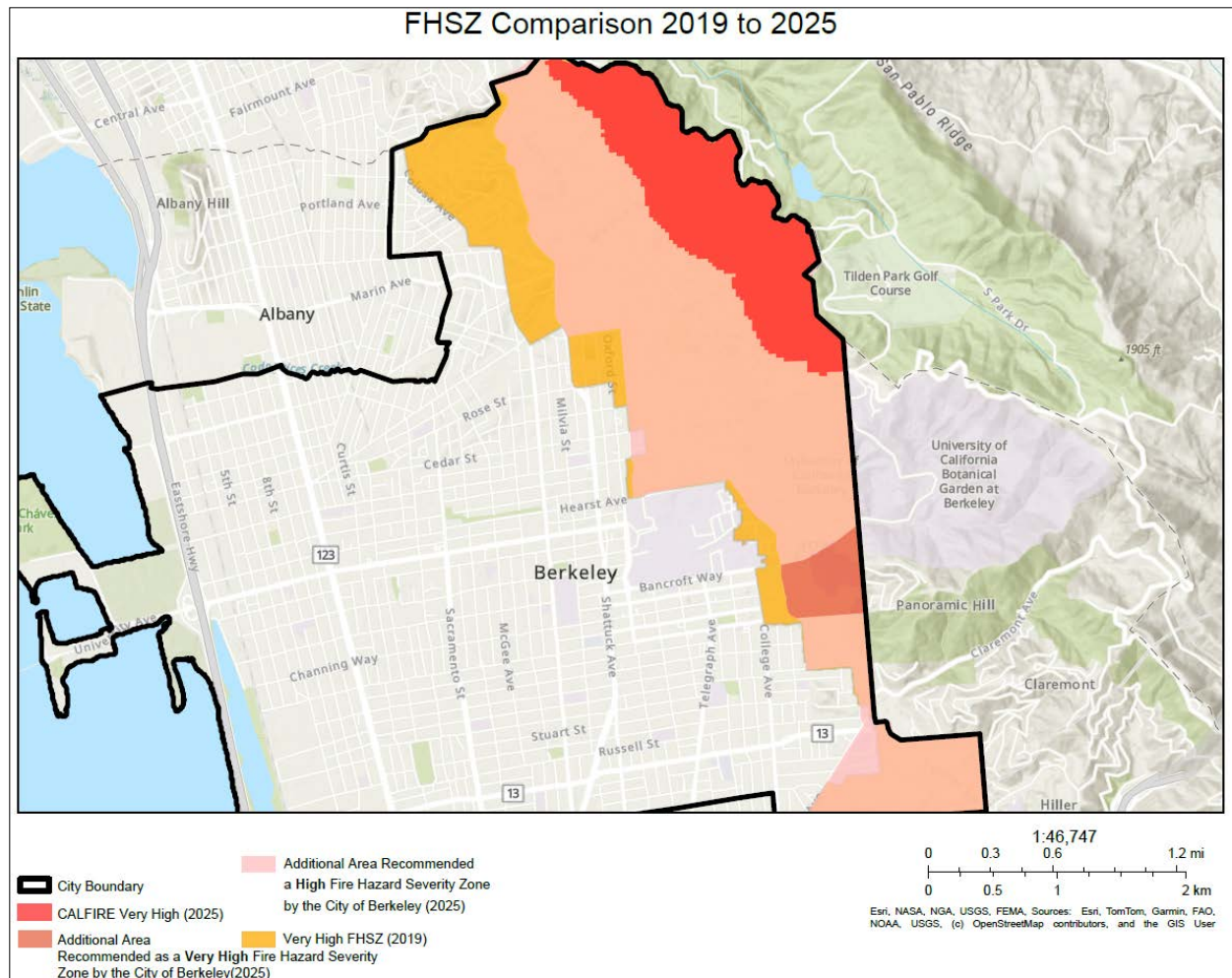
This process last occurred in 2007 and is directed by state law. Fire Hazard Severity Zones consist of Very High, High, and Moderate designations. Of note, when the current maps were released in 2007 the High and Moderate designations did not apply to the Local Responsibility Area and only Very High designations were adopted by the City Council. Senate Bill 63 (Stern, 2021) amended Government Code 51178 to add the Moderate and High Fire Hazard Severity Zones in the Local Responsibility Area¹⁰.

Comparison of historical Zones to the 2025 recommendations:

The CALFIRE recommended Fire Hazard Severity Zone has substantially contracted in the 2025 Local Responsibility Area maps. This is not indicative of a decrease in risk as the CALFIRE Fire Hazard Severity Zones are not a structure loss model, as key information regarding structure ignition (such as roof type, etc.) is not considered. Nor do the CALFIRE maps consider local factors inclusive of structure separation distance, year of construction, construction type, or roadway design and capacity. The factors considered by CALFIRE in determining fire hazard within wildland areas are fire history, flame length, terrain, local weather, and potential fuel over a 50-year period. Outside of wildlands, the model considers factors that might lead to buildings being threatened, including terrain, weather, urban vegetation cover, blowing embers, proximity to wildland, fire history, and fire hazard in nearby wildlands.

The City has, since the mid-1990s, recommended that a larger geographic area be identified as a Very High Fire Hazard Severity Zone than what CALFIRE recommends. In the map below, the area that has historically been recognized, through local amendment to the CALFIRE maps as a Very High Fire Hazard Severity Zone is shown in orange. The areas recommended by CALFIRE and the City as Fire Hazard Severity Zones in 2025 are shown in the other colors and are smaller than the 2019 adopted boundary. This contraction is based on a City analysis of fire history, transportation network design, strategic positioning of boundaries along major thoroughfares that could be used during a firefight, and fire pathway modeling.

¹⁰ Fire Hazard Severity Zone 2019 to 2025 Comparison
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Analysis of additional cost to build to Chapter 7A:

Building a new home to meet Chapter 7A standards in Berkeley does not appear to dramatically increase construction costs compared to a standard home¹¹. The data Staff found indicates that a code-compliant wildfire-resistant home can be built for about the same cost as a typical home. This is because some upgrades (like fiber-cement siding) may reduce costs, offsetting the added expense of other features. Overall, the cost premium for Chapter 7A compliance in new construction ranges between 0–5%, and can even be cost-neutral in some cases. The table below itemizes the estimated cost impact for each required feature, assuming a baseline new home built with conventional materials (as might be used outside fire zones):

¹¹ Hedgewater Economics, (November 2018), Building a Wildfire-Resistant Home: Codes and Costs, <https://headwaterseconomics.org/wildfire/homes-risk/building-costs-codes/#:~:text=Wildfire,neighboring%20home%20spacing%2C%20not%20all>

Table 1. Added Cost for Chapter 7A Features – New 2,500 sq. ft. Home

Feature	Baseline (Non-7A) Standard	Chapter 7A Requirement	Estimated Added Cost (New Construction)
Class A Roof Assembly	Class C/B roof (e.g. wood shakes) or basic asphalt shingles	Class A fire-rated roof (e.g. composition shingles) plus enclosed eaves, fireproof soffits, metal drip edges, etc.	+\$5,860 (+27% vs. a typical roof). Covers upgraded vents, soffits & gutter guards.
Tempered Glass Windows	Dual-pane windows (tempered only where building code requires, e.g. near doors)	Dual-pane windows with <i>at least one</i> tempered glass pane each (often both panes)	+\$1,000–\$2,000 (approx. \$7 extra per sq ft of glass) for a whole-house window package (e.g. ~15 windows).
Ember-Resistant Vents	Standard attic/foundation vents (1/4-inch mesh)	Wildfire-rated ember- and flame-resistant vents ($\leq 1/8$ -inch mesh or intumescent)	+\$500 (assuming ~10–20 vents at ~\$50 each vs. ~\$10 each standard)
Covered Gutters	Standard aluminum gutters (open, no covers)	Metal gutters with non-combustible mesh covers (“gutter guards”) to prevent debris buildup	+\$800 (for ~120 lf of gutter; gutter guard ~\$4–\$12 per lf in Berkeley. Minimal if gutters are already metal.
Non-Combustible Siding	Wood or vinyl siding (combustible)	Fiber-cement siding or stucco (non-combustible Class A)	~\$0 (cost-neutral on average). Using fiber-cement lap siding can save up to ~\$12,190 compared to cedar wood siding, offsetting other costs.
Underfloor Protection	Open crawl space or exposed eaves/floor appendages	5/8" Type X gypsum sheathing or other protection under exposed floors/eaves	+\$2,500 (if needed). Approx. \$1.24 per sq ft of area to cover (Homes on slab or with enclosed crawlspace incur \$0 extra cost.)
Fire-Resistant Decking	Wood deck (e.g. redwood or cedar)	Deck boards of non-combustible or ignition-resistant material (composite, trex, etc.) and metal flashing at wall interface	+\$1,850 (~19% premium) for a typical deck (e.g. 300–400 sq ft). Composite decking costs ~\$2–\$5 more per sq ft than wood.

Total Premium: *Approximately \$0–\$40,000 added*, depending on baseline choices. In many cases the net premium is under 2% of construction cost and can be near zero. For example, a 2,500 sq. ft. wildfire-resistant home studied by Headwaters Economics actually cost 2% less than the same home with typical materials, because the cheaper fiber-cement siding outweighed the added expense of vents, soffits, and other upgrades. Comparatively, a 2020 report for the National Association of home builders estimates an overall increase in cost of \$1800-\$38,00 in total cost for a two story

house.¹² Even if the baseline home used cost-effective materials, the added Chapter 7A features are on the order of only a few dollars per square foot of construction.

ENVIRONMENTAL SUSTAINABILITY AND CLIMATE IMPACTS

Wildfires that transition to a structure-to-structure conflagration have acute and far-reaching consequences, not only for the environment and climate, but also for the stability and well-being of impacted communities. These fires release large amounts of pollutants into the air, including soot and carbon dioxide, which contribute to climate change and degrade air quality. Additionally, toxic byproducts from burning structures, vehicles, and other synthetic material can pose significant health risks to residents and responders.

A commitment to strong fire safety regulations ultimately benefits the entire community—protecting public health, safeguarding financial resources, and ensuring a resilient and sustainable future.

RATIONALE FOR RECOMMENDATION

Adoption of the CALFIRE Local Responsibility Area maps is required by California GC 51178.

ALTERNATIVE ACTIONS CONSIDERED

Recommending that the Very High Fire Hazard Severity Zone be adopted in the area recommended to be adopted as High Fire Hazard Severity Zone. This would more closely align with the current fire zone boundary, and would continue to require that those parcels be in compliance with defensible space regulations. However, the number of parcels in the larger area exceeds 9,000 and the Department would not be able to provide an adequate amount of support to that number of residents. The Department believes it will be more achievable to work towards adequate compliance with defensible space inclusive of Zone 0 and home hardening in smaller, more manageable slivers of the community. Once a sliver has adequate compliance we would move to the next sliver.

CONTACT PERSON

David Sprague, Fire Chief, 510-981-3473

Attachments:

1: Ordinance

- CALFIRE Fire Hazard Severity Zone Map within the Local Responsibility Area
- Additional Area Recommended as a Very High Fire Hazard Severity Zone by the City of Berkeley
- Additional Area Recommended as a High Fire Hazard Severity Zone by the City of Berkeley
- Panoramic Hill Mitigation Area with Fire Pathway Overlay
- Historical Fire Boundaries

¹² Home Innovation Research Labs (2020). *Cost Impact of Building a House In Compliance with IWUIC*. Page 18
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- Year Built, North Hills. Shows which structures have been built to the new Chapter 7A building standards.
- Year Built, South Hills. Shows which structures have been built to the new Chapter 7A building standards.
- Very High and High FHSZ with Fire Pathway Overlay
- Fire Hazard Severity Zone 2019 to 2025 Comparison

2: Local Responsibility Area - Legislation Factsheet.pdf

ORDINANCE NO. -N.S.

ADOPTION OF CALFIRE MAP DESIGNATING CITY OF BERKELEY FIRE HAZARD SEVERITY ZONES

BE IT ORDAINED by the Council of the City of Berkeley as follows:

Section 1: Findings

Pursuant to California Government Code 51177-51179, California Department of Forestry and Fire Protection (CALFIRE) has released recommended updates to Fire Hazard Severity Zones in the Local Responsibility Area. This process last occurred in 2007 and is directed by state law. Fire Hazard Severity Zones consist of Very High, High, and Moderate designations. Of note, when the current maps were released in 2007 the High and Moderate designations did not apply to the Local Responsibility Area and only Very High designations were adopted by the City Council. Senate Bill 63 (Stern, 2021) amended Government Code 51178 to add the Moderate and High Fire Hazard Severity Zones in the Local Responsibility Area.

Panoramic Hill and the areas immediately surrounding it are recommended for inclusion in the Very High Fire Hazard Severity Zone due to narrow structure separation distance and high housing density, limited retrofitting of structures to bring them in compliance with Chapter 7A of the Building Standards Code, a single evacuation route that will cause extended evacuation time, proximity to dense vegetation and topographic features capable of supporting fast moving wind driven fire¹³, the benefits to evacuation and wildfire risk reduction associated with long term replacement of existing housing stock with structures that meet wildfire resistive construction standards, and the strategic opportunity that the relatively straight, wide, north-south street selected as the western boundary could provide in terms of stopping or slowing the advance of a fire moving from the hills, west into the City.

The areas recommended for inclusion in the High Fire Hazard Severity Zones are included due to fire history (with major fires occurring in and around this area in 1905, 1923, 1970, 1980, and 1991), the narrow structure separation distance between homes, the limited retrofitting of structures to bring them in compliance with Chapter 7A of the Building Standards Code^{14 15}, the benefits to evacuation and wildfire risk reduction associated with long term replacement of existing housing stock with wildfire resistive construction, limited east to west evacuation routes that will cause extended evacuation time, and the strategic opportunity that the relatively straight, wide, north-south streets selected as western boundaries could provide in terms of stopping or slowing the advance of a fire moving from the hills, west into the City.

¹³ Panoramic Hill Mitigation Area with Fire Pathway Overlay

¹⁴ Year Built, North Hills. Shows which structures have been built to the new Chapter 7A building standards.

¹⁵ Year Built, South Hills. Shows which structures have been built to the new Chapter 7A building standards.

Community members in areas designated as Very High Fire Hazard Severity Zones are required to maintain defensible space within 100 feet of structures, or the property line, whichever is closer and in the case of new construction or major remodels classified by the Building Official as new construction, to meet the wildfire resistant construction requirements included in Chapter 7A of the Building Standards Code.

Community members in areas designated as High Fire Hazard Severity Zones are required to meet the wildfire resistant construction requirements included in Chapter 7A of the Building Standards Code and in the case of new construction or major remodels classified by the Building Official as new construction.

Finally, community members selling property in the Very High and High Fire Hazard Severity Zones must conduct a natural hazard real estate disclosure at time of sale per CA CIV 1102.19 (AB 38, 2019).

Section 2: Adoption of CALFIRE recommended Fire Hazard Severity Zones:

The City hereby designates the Fire Hazard Severity Zones as recommended by the CALFIRE pursuant to Government Code Section 51178, and

Section 3: Designation of Additional Lands as Fire Hazard Severity Zones:

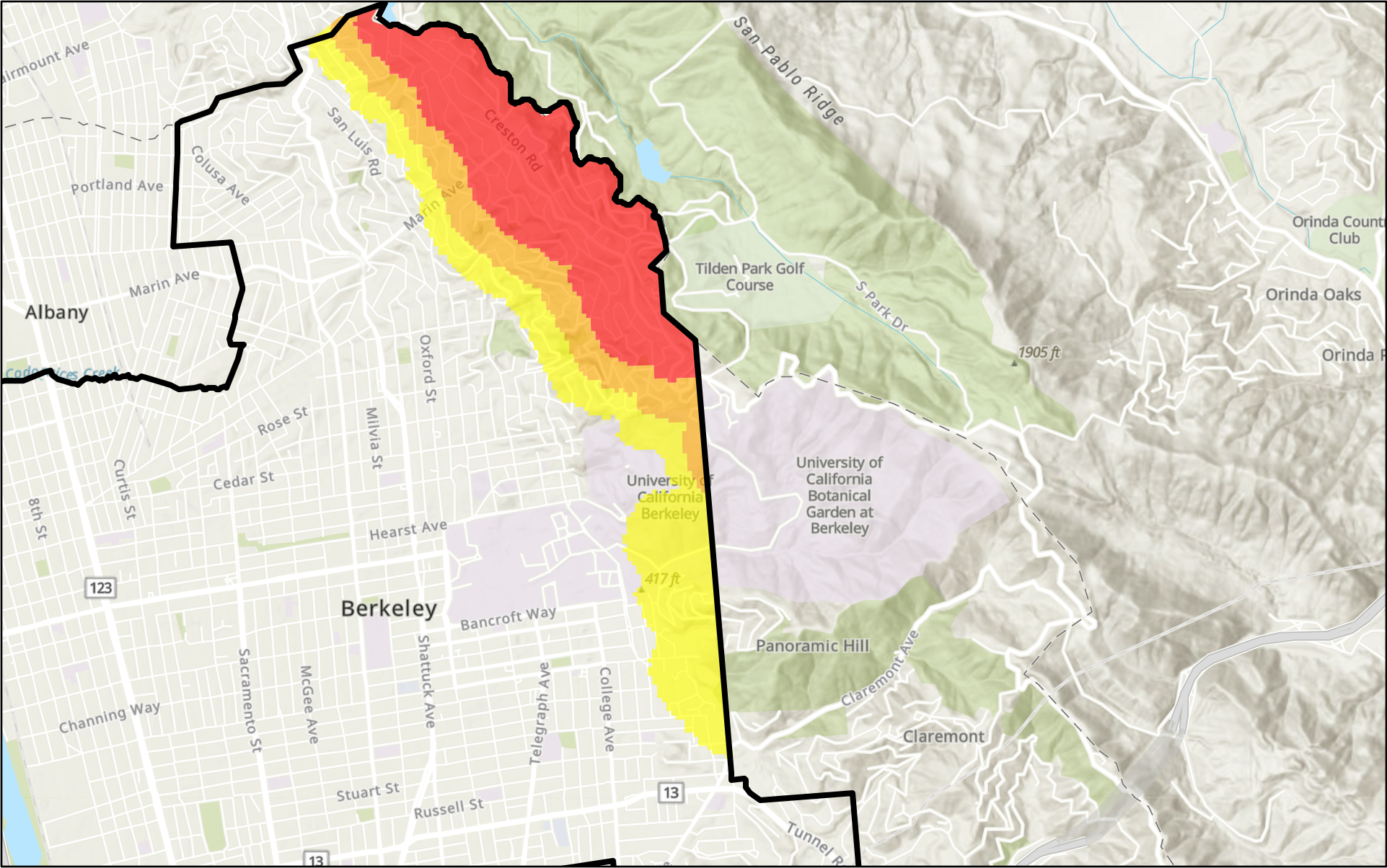
Notwithstanding the minimum fire safety standards required by state law, under the authority included in Government Code 51175 the City has the authority to establish more stringent wildfire safety standards. Further, as part of the Local Responsibility Area map adoption process, the City may designate areas not included in the recommended CALFIRE maps as Moderate, High, or Very High Fire Hazard Severity Zones. The City may not reduce the recommended designations, or boundaries, included on the CALFIRE maps.

Staff have reviewed the recommended maps and suggest the following changes:

1. Designate as Very High Fire Hazard Severity Zones those areas of the City bounded by the line formed by these roads. Homes addressed on, or with a structural frontage on either side of these road segments are included in the zone:
 - a. Canyon Road from the Oakland border to Stadium Rim Way
 - b. Stadium Rim Way from Canyon Road to Bancroft Way
 - c. Bancroft Way from Stadium Rim Way to Prospect Street
 - d. Prospect Street from Bancroft Way to Bancroft Steps
 - e. Bancroft Steps from Prospect Street to Warring Street
 - f. Bancroft Way from Warring Street to Piedmont Avenue
 - g. Piedmont Avenue from Bancroft Way to Dwight Way
 - h. Dwight Way from Piedmont Avenue to the Oakland border

2. Designate as High Fire Hazard Severity Zones those areas of the City west of the CALFIRE Very High Fire Hazard Severity Zone and east / northeast of the line formed by these roads. Homes addressed on, or with a structural frontage on either side of these road segments are included in the zone:
 - a. The Arlington Avenue from the Kensington Border to Marin Avenue
 - b. Sutter Street from the Southern portal of the Northbrae Tunnel to Eunice Street
 - c. Spruce Street from Eunice Street to Hearst Avenue
 - d. Gayley Road from Hearst Avenue to Stadium Rim Way
 - e. Piedmont Avenue from Stadium Rim Way to Bancroft Way
 - f. Warring Street from Dwight Way to Derby Street
 - g. Belrose Avenue from Derby Street to Garber Street
 - h. Claremont Boulevard from Garber Street to Claremont Avenue
 - i. Claremont Avenue from Claremont Boulevard to the Oakland Border
 - j. Tunnel Road from Ashby Avenue to the Oakland Border

Section 4. Copies of this Ordinance shall be posted for two days prior to adoption in the display case located near the walkway in front of the Maudelle Shirek Building, 2134 Martin Luther King Jr. Way. Within 15 days of adoption, copies of this Ordinance shall be filed at each branch of the Berkeley Public Library and the title shall be published in a newspaper of general circulation.

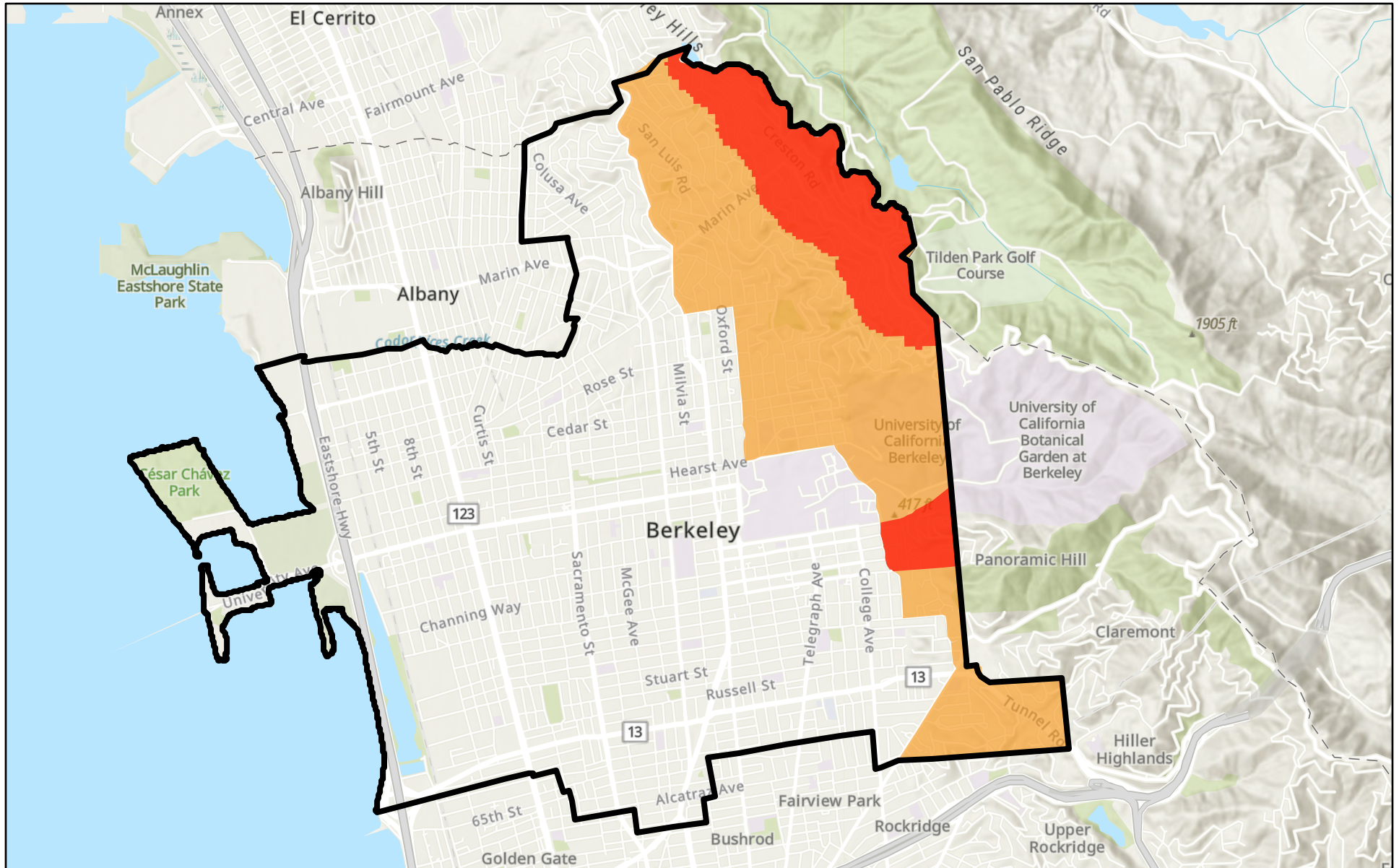


3/12/2025

City_of_Berkeley Very High Moderate
City Boundary High World_Hillshade

1:46,747
0 0.3 0.6 1.2 mi
0 0.5 1 2 km
Esri, NASA, NGA, USGS, FEMA, Sources: Esri, TomTom, Garmin, FAO, NOAA, USGS, (c) OpenStreetMap contributors, and the GIS User

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 Additional Areas Recommended as FHSZ by the COB



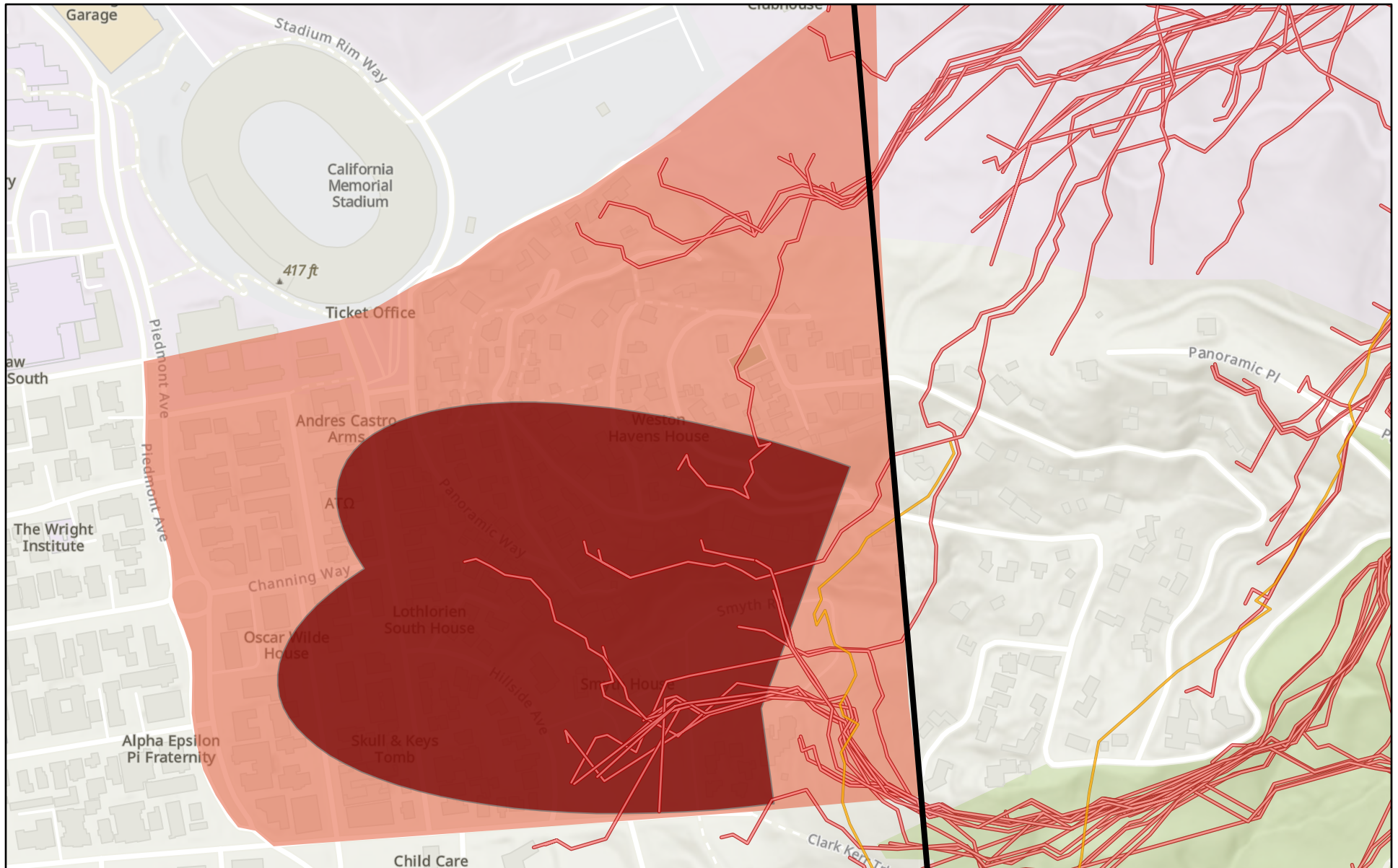
3/18/2025

City Boundary
 CALFIRE Very High
 COB Very High (2025)

COB High (2025)

1:58,718
 0 0.4 0.8 1.6 mi
 0 0.5 1 2 km
 Esri, NASA, NGA, USGS, FEMA, Sources: Esri, TomTom, Garmin, FAO, NOAA, USGS, (c) OpenStreetMap contributors, and the GIS User

Panoramic Hill Mitigation Area with Fire Pathway Overlay



3/12/2025

City_of_Berkeley

City Boundary

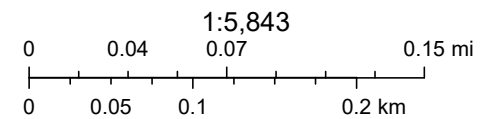
SW Fire Pathways

NE Fire Pathways

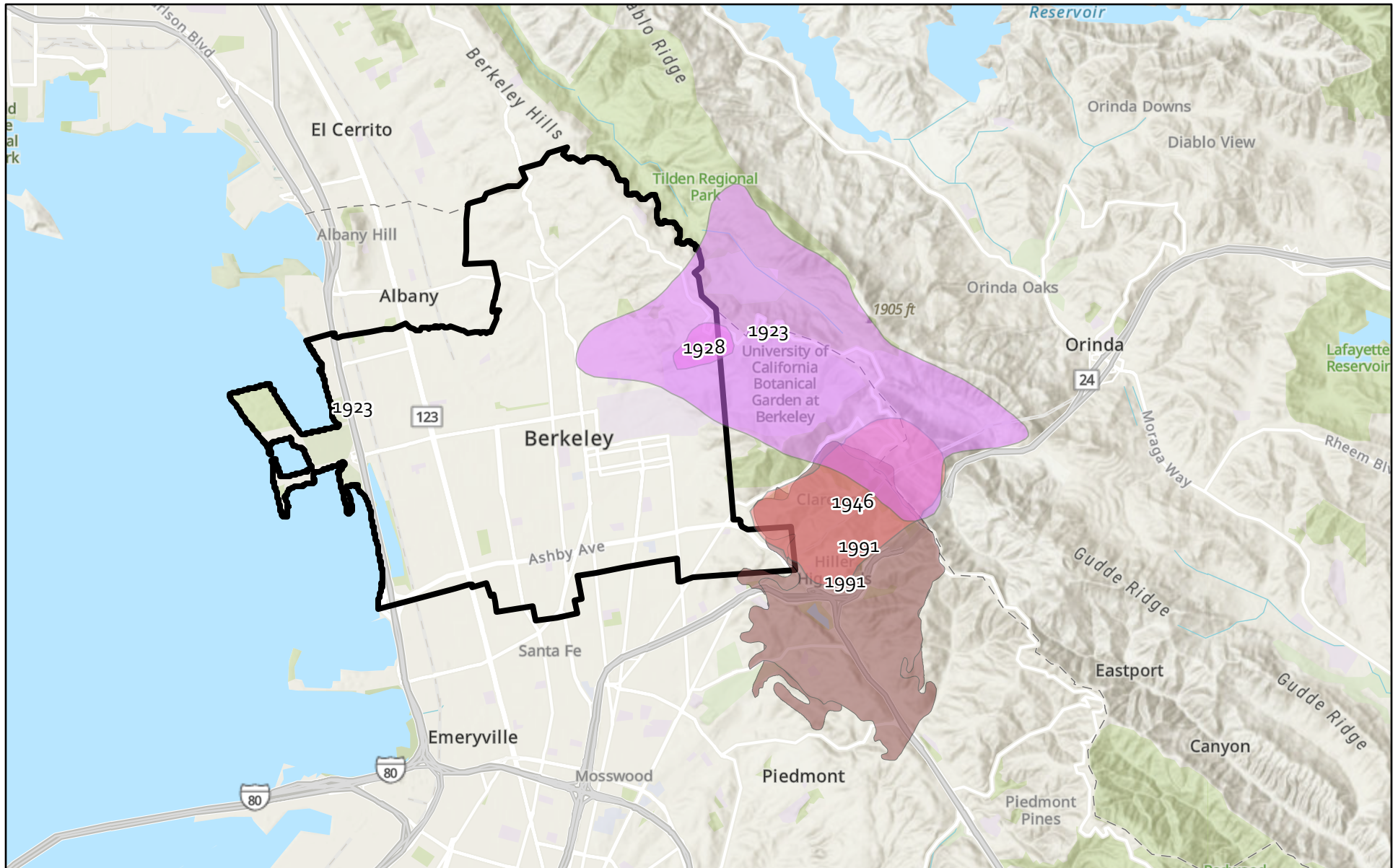
NE Entry

COB Very High FHSZ (2025)

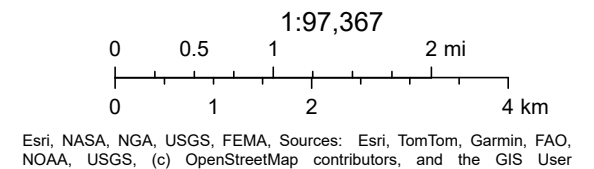
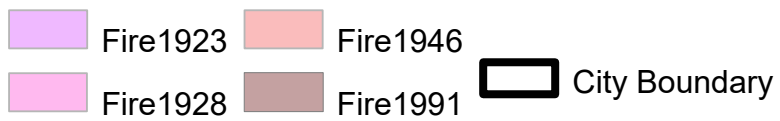
World_Hillshade

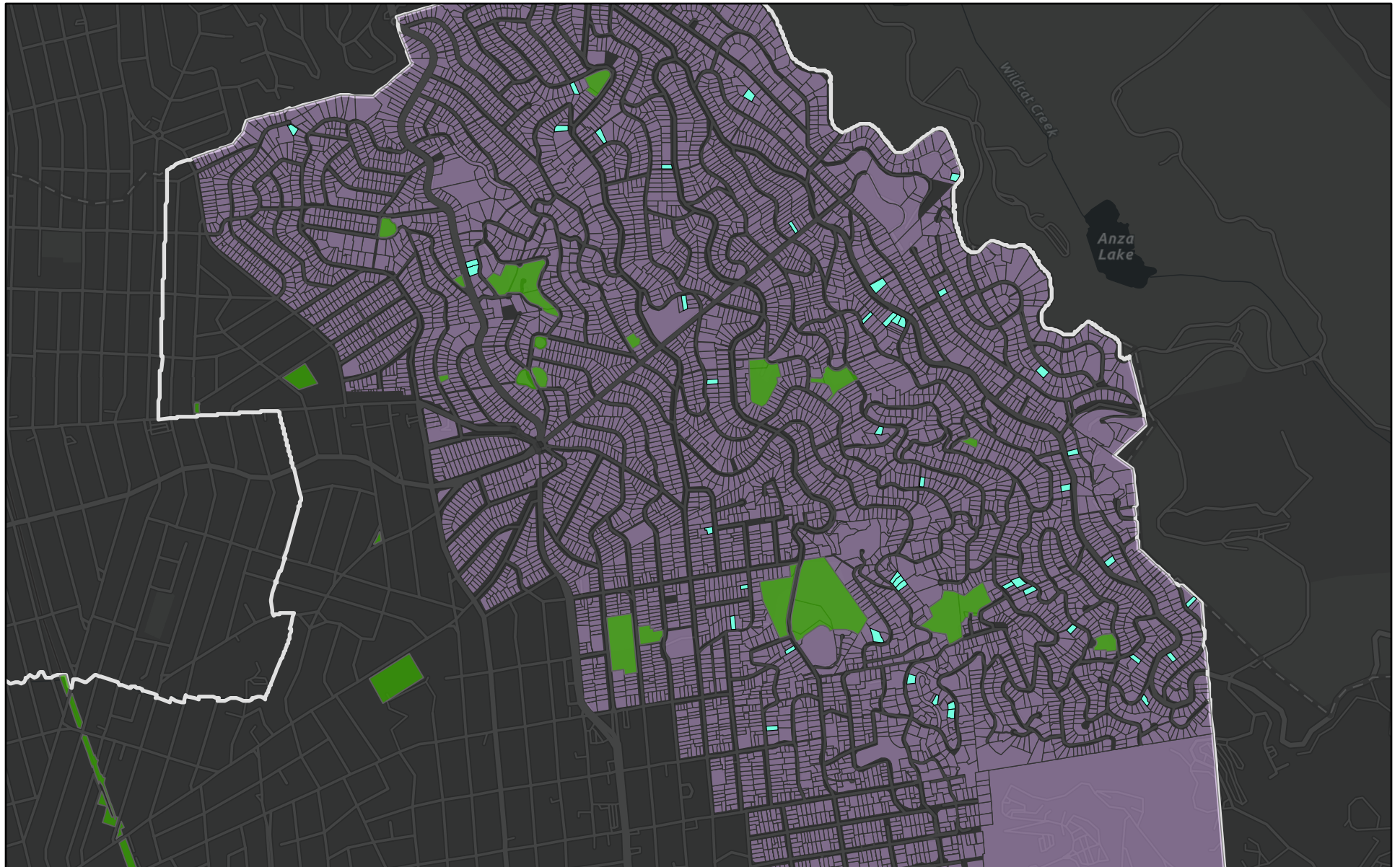


Sources: Esri, TomTom, Garmin, FAO, NOAA, USGS, (c) OpenStreetMap contributors, and the GIS User Community, Sources: Esri, Maxar, Airbus DS,

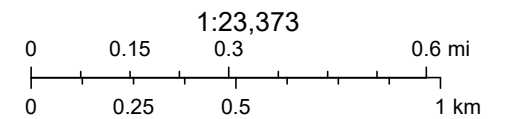
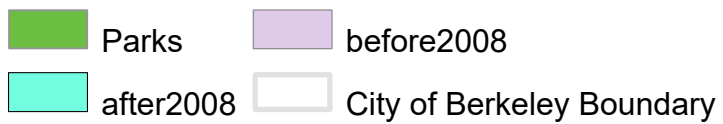


3/14/2025

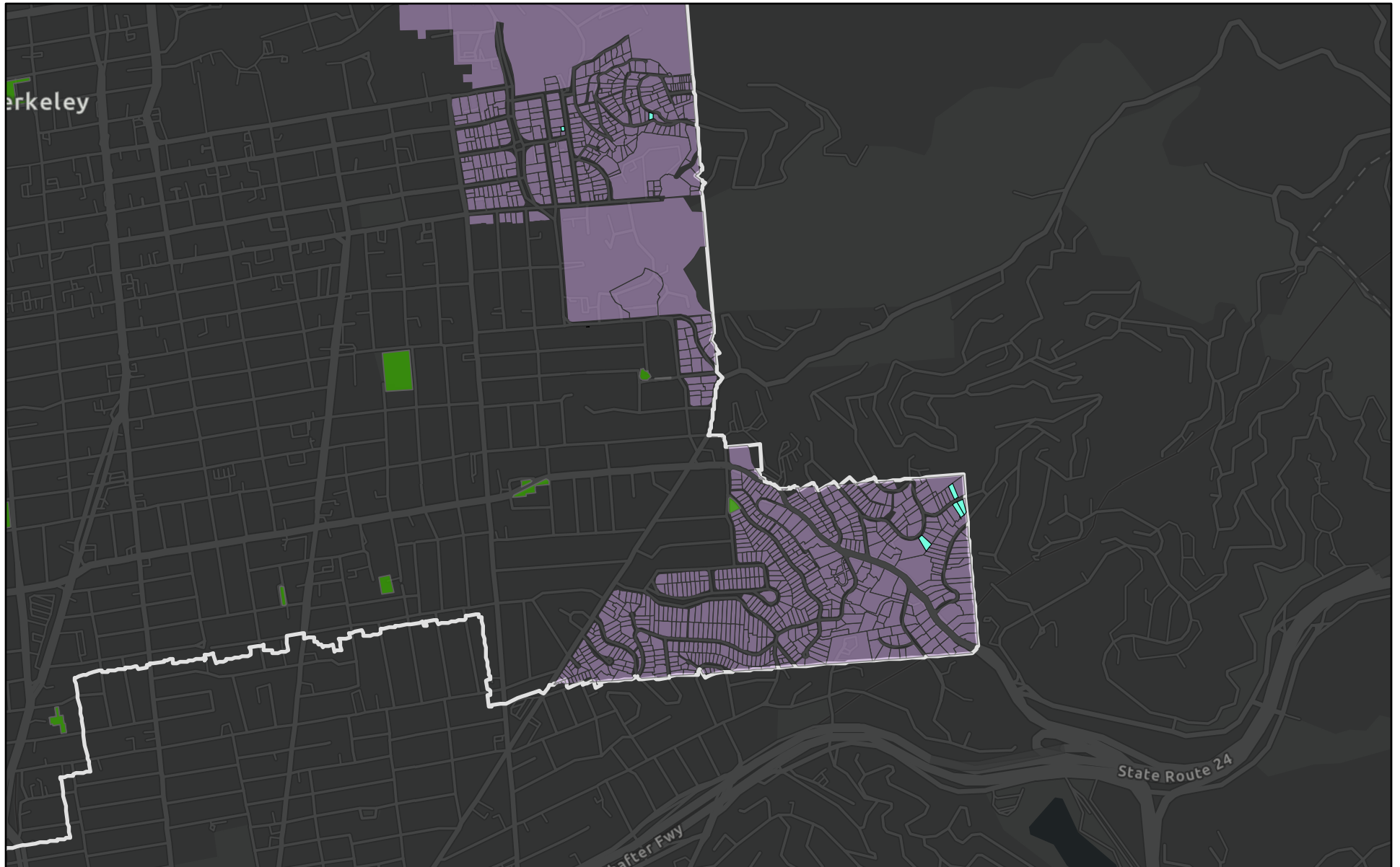




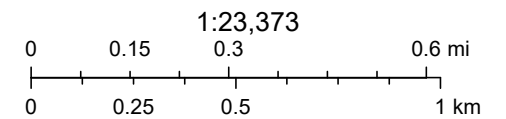
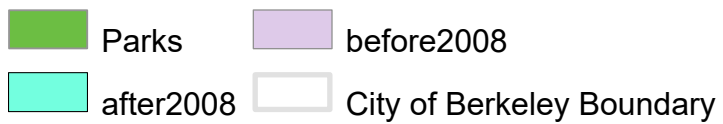
3/12/2025



Sources: Esri, TomTom, Garmin, FAO, NOAA, USGS, © OpenStreetMap contributors, and the GIS User Community

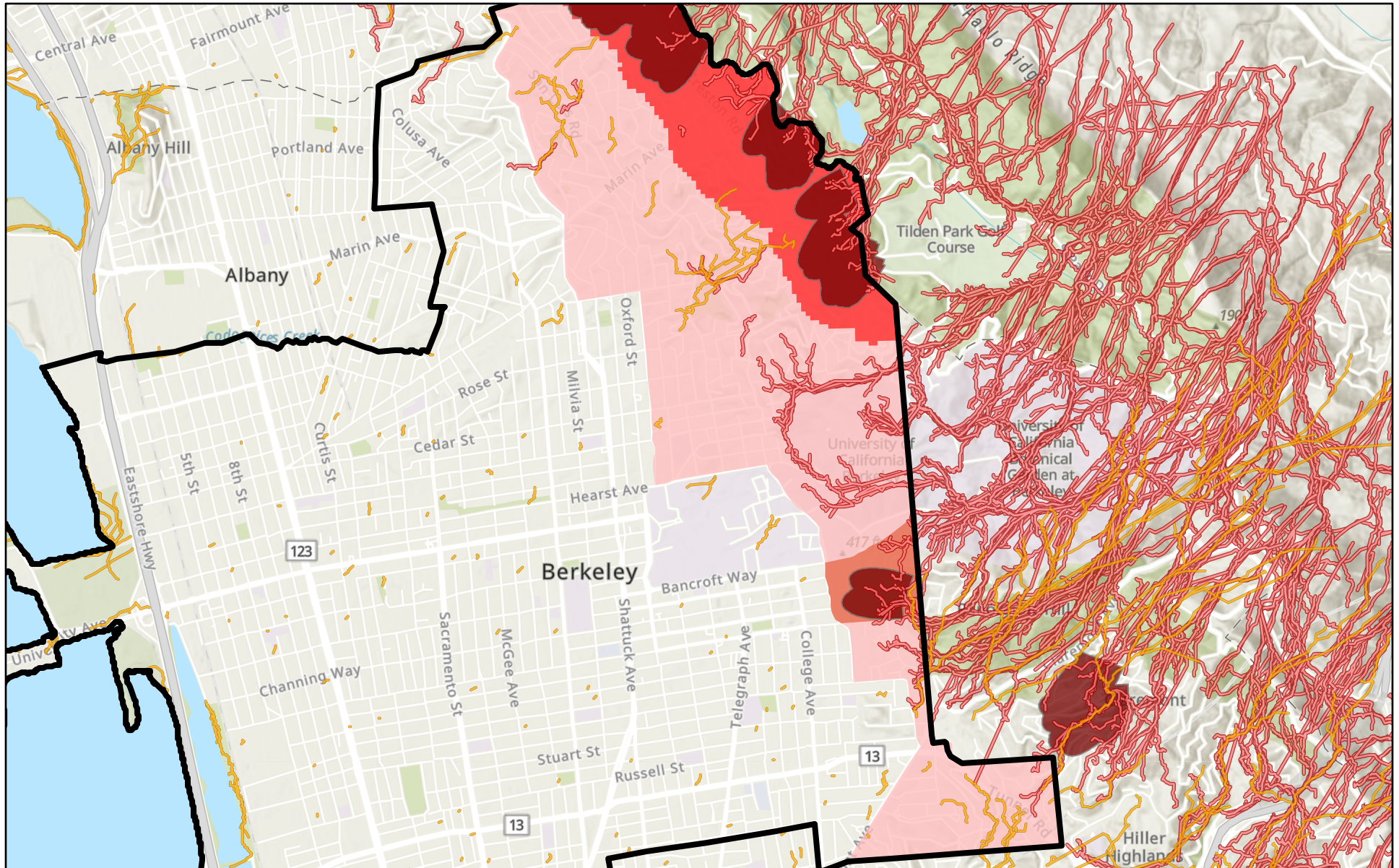


3/12/2025



Sources: Esri, TomTom, Garmin, FAO, NOAA, USGS, © OpenStreetMap contributors, and the GIS User Community

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 Very High & High FHSZs with Fire Pathway Overlay



3/12/2025

City_of_Berkeley

City Boundary

SW Fire Pathways

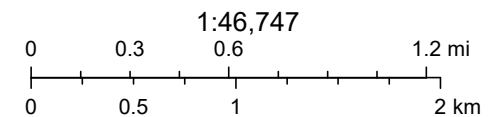
NE Fire Pathways

NE Entry

CALFIRE Very High (2025)

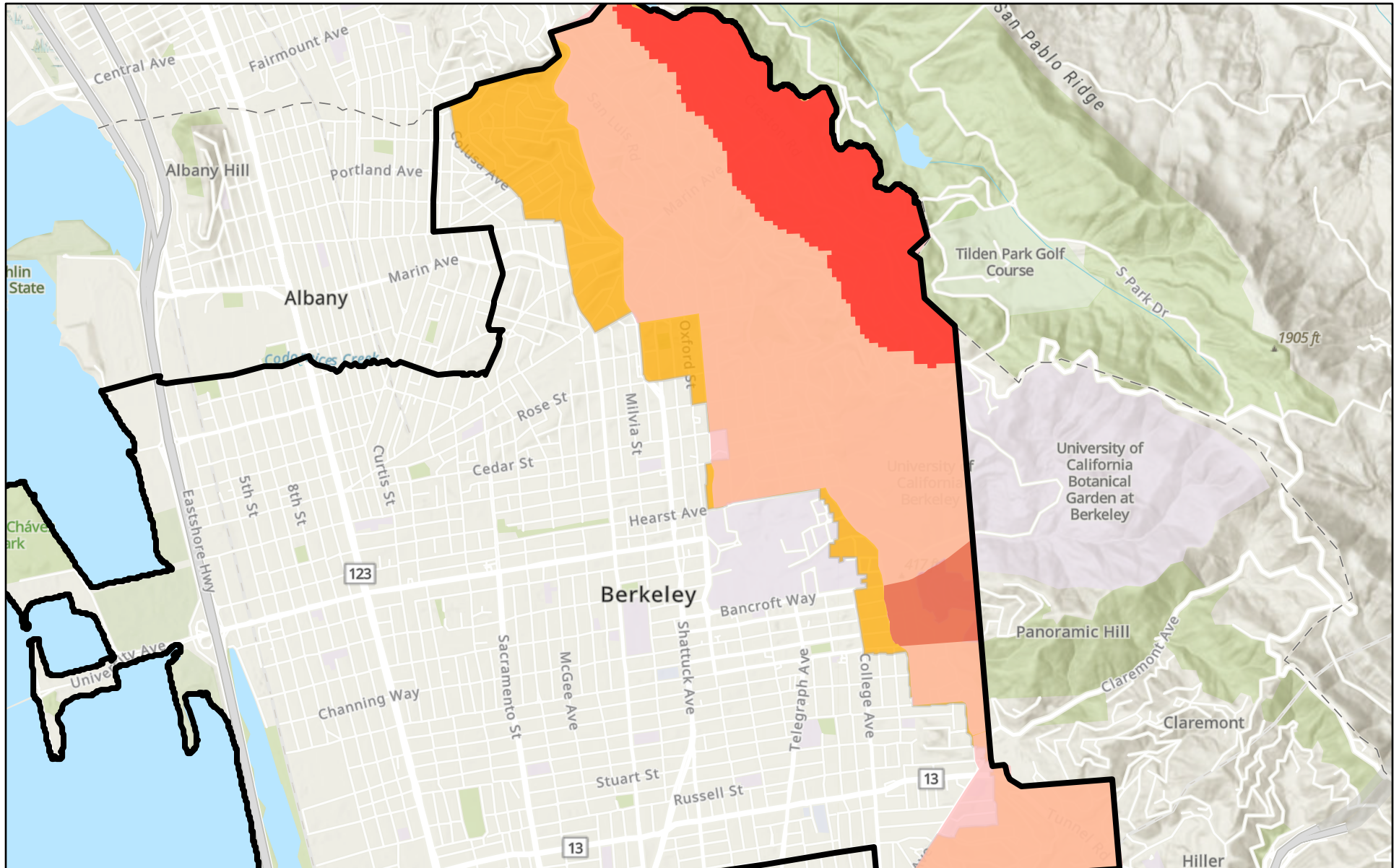
COB Very High FHSZ (2025)

COB High FHSZ (2025)

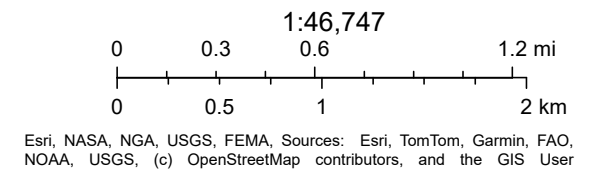


Esri, NASA, NGA, USGS, FEMA, Sources: Esri, TomTom, Garmin, FAO, NOAA, USGS, (c) OpenStreetMap contributors, and the GIS User

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FHSZ Comparison 2019 to 2025



- City Boundary
- CALFIRE Very High (2025)
- Additional Area Recommended as a **Very High** Fire Hazard Severity Zone by the City of Berkeley(2025)
- Very High FHSZ (2019)
- Additional Area Recommended as a **High** Fire Hazard Severity Zone by the City of Berkeley (2025)





Fire Hazard Severity Zones Local Responsibility Area

Fire Hazard Severity Zones

What is a Fire Hazard Severity Zone?

The State Fire Marshal shall identify areas in the State as Moderate, High, and Very High Hazard Severity Zones based on consistent statewide criteria and the severity of fire hazard that is expected to prevail in those areas. – [CA GOV 51178](#)

When did Fire Hazard Severity Zones begin in Local Responsibility Area?

Assembly Bill 337 (Bates 1992), prompted by the devastating Oakland Hills fire of 1991, calls for CAL FIRE to evaluate fire hazard severity in local responsibility area and to make a recommendation to the local jurisdiction where Very High FHSZ exist. – [CA GOV 51175](#)

What do Fire Hazard Severity Zones measure?

The maps evaluate "Hazard", not "Risk". Hazard is based on physical conditions that create expected fire behavior over a 50-year period without considering short-term modifications. Risk is the potential damage a fire can do to the area under existing conditions, including fuel reduction projects, defensible space, and ignition resistant building construction. – osfm.fire.ca.gov/fhsz

Will the new Fire Hazard Severity Zone maps affect my insurance?

Insurance companies use risk models, which differ from hazard models, because they consider the susceptibility of a structure to damage from fire and other short-term factors that are not included in hazard modeling. Insurance risk models incorporate additional factors that change more frequently than those that CAL FIRE includes in its hazard mapping, which is built to remain steady.

– [California Department of Insurance](#)

What are the requirements within Fire Hazard Severity Zones?

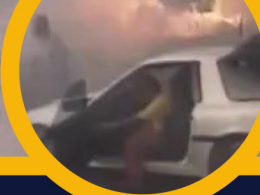
- Materials and Construction Methods for Exterior Wildfire Exposure – [CBC Chapter 7A](#)
- Natural hazard real estate disclosure at the time of sale – [CA CIV 1102.19 \(AB 38 2019\)](#)
- 100-foot defensible space clearance requirements – [CA GOV 51182](#)
- Property development standards such as road widths, water supply, and signage – [CA PRC 4290](#)
- Consideration during future development of Cities and Counties General Plan – [CA GOV 65302](#)

1980



Panorama Fire burns 28,800 acres, destroying 325 structures and resulting in 4 fatalities in San Bernardino.

1991



Tunnel Fire burns 1,600 acres, destroying 2,900 structures and resulting in 25 fatalities in the Oakland Hills.

PRC 4201 mandates that CAL FIRE develop Fire Hazard Severity Zones.

1982

Fire Hazard Severity Zone maps are created.

1985

The "Bates Bill" calls for CAL FIRE to identify Very High Fire Hazard Severity Zones in LRA.

1992

Frequently Asked Questions



Is there an easy way to determine the Fire Hazard Severity Zone of my property?

You can search by address to find your current designation on the website: osfm.fire.ca.gov/fhsz

Why are Fire Hazard Severity Zones being updated?

The hazard maps are being updated to more accurately reflect the zones in California that are susceptible to wildfire. The process will incorporate new science in local climate data and improved fire assessment modeling in determining hazard ratings. – [PRC 4125](#) and [GC 51178](#)

What are the key elements of the Fire Hazard Severity Zone Model?

The model has two key elements: probability of an area burning and expected fire behavior under extreme fuel and weather conditions. The factors considered in determining fire hazard within wildland areas is fire history, flame length, terrain, local weather, and potential fuel over a 50-year period. Outside of wildlands, the model considers factors that might lead to buildings being threatened, including terrain, weather, urban vegetation cover, blowing embers, proximity to wildland, fire history, and fire hazard in nearby wildlands. This is not a structure loss model, as key information regarding structure ignition is not included. – osfm.fire.ca.gov/fhsz

Why does the model place an emphasis on the spread of embers?

Embers spread wildfire because they can travel long distances in the wind and ignite vegetation, roofs, attics (by getting into vents), and decks. – osfm.fire.ca.gov/fhsz

What is the difference between SRA and LRA?

State Responsibility Area (SRA) is a legal term defining the area where the State has financial responsibility for wildland fire protection and prevention. – [CA PRC 4102](#)

Local Responsibility Area (LRA) includes incorporated cities, urban regions, agriculture lands, and portions of the desert where the local government is responsible for wildfire protection. – [CA PRC 4125](#)

How are Fire Hazard Severity Zones determined in Local Responsibility Areas?

CAL FIRE uses an extension of the state responsibility area Fire Hazard Severity Zone model as the basis for evaluating fire hazard in Local Responsibility Area. The Local Responsibility Area hazard rating reflects flame and ember intrusion from adjacent wildlands and from flammable vegetation in the urban area.

– [PRC 4202](#) and [GC 51178](#)

2017



Tubbs Fire burns 36,810 acres, destroying 5,643 structures and resulting in 22 fatalities in Santa Rosa.

2018



Camp Fire burns 153,336 acres, destroying 18,804 structures and resulting in 85 fatalities in Paradise.

CAL FIRE finalizes the Statewide FHSZ Model to include Very High FHSZ in LRA.

2007

AB 642 and SB 63 require CAL FIRE to identify Moderate and High FHSZ in LRA.

2021

AB 211 requires local agency to designate by ordinance Moderate and High FHSZ in LRA.

2022



General

What is a Fire Hazard Severity Zone or FHSZ?

[Public Resource Code 4202](#); The State Fire Marshal shall classify lands within State Responsibility Areas into Fire Hazard Severity Zones. Each zone shall embrace relatively homogeneous lands and shall be based on fuel loading, slope, fire weather, and other relevant factors present, including areas where winds have been identified by the department as a major cause of wildfire spread.

[Government Code 51178](#); The State Fire Marshal shall identify areas in the state as Moderate, High, and Very High Fire Hazard Severity Zones based on consistent statewide criteria and based on the severity of fire hazard that is expected to prevail in those areas. Moderate, High, and Very High Fire Hazard Severity Zones shall be based on fuel loading, slope, fire weather, and other relevant factors including areas where winds have been identified by the Office of the State Fire Marshal as a major cause of wildfire spread.

Will the new Fire Hazard Severity Zones affect my ability to get or maintain insurance?

Insurance companies use risk models, which differ from hazard models, because they consider the susceptibility of a structure to damage from fire and other short-term factors that are not included in hazard modeling. It is unlikely that insurance risk models would utilize CAL FIRE Fire Hazard Severity Zones as a factor, but much of the same data that is used in the Fire Hazard Severity Zone model are likely included in the insurance companies' risk models. However, insurance risk models incorporate many additional factors and that change more frequently than those that CAL FIRE includes in its hazard mapping, which is built to remain steady for the next 10+ years.

What do Fire Hazard Severity Zones measure?

The Fire Hazard Severity Zone map reflects "hazard," not "risk". The map is like flood zone maps, where lands are described in terms of the probability level of a particular area being inundated by floodwaters, and not specifically prescriptive of impacts.

"Hazard" is based on the physical conditions that create a likelihood and expected fire behavior over a 30 to 50-year period without considering mitigation measures such as home hardening, recent wildfire, or fuel reduction efforts.

"Risk" is the potential damage a fire can do to the area under existing conditions, accounting for any modifications such as fuel reduction projects, defensible space, and ignition resistant building construction.



General

What are the key elements of the Fire Hazard Severity Zone model?

The fire hazard severity model for wildland fire has two key elements: probability of an area burning and expected fire behavior under extreme fuel and weather conditions. The zones reflect areas that have similar burn probabilities and fire behavior characteristics. The factors considered in determining fire hazard within wildland areas are fire history, flame length, terrain, local weather, and potential fuel over a 50-year period. Outside of wildlands, the model considers factors that might lead to buildings being threatened, including terrain, weather, urban vegetation cover, blowing embers, proximity to wildland, fire history, and fire hazard in nearby wildlands. FHSZs are not a structure loss model, as key information regarding structure ignition (such as roof type, etc.) is not included.

Where do Fire Hazard Severity Zones apply?

Fire Hazard Severity Zones are found in areas where the state has financial responsibility for wildfire protection and prevention, called the State Responsibility Area. More than 31 million acres are in this area. Under [Senate Bill 63 \(Stern, 2021\)](#), [Government Code 51178](#) was amended to also identify the Moderate and High Fire Hazard Severity Zones with the Very High in Local Responsibility Area (LRA).

What are the uses of Fire Hazard Severity Zones?

The zones are used for several purposes including to designate areas where California's defensible space standards and wildland urban interface building codes are required. They can be a factor in real estate disclosure, and local governments may consider them in their general plan.

When were the maps last updated?

In 2007, CAL FIRE updated the FHSZs for the entire State Responsibility Area (SRA). Between 2008-2011 the department worked with local governments to make recommendations of the Very High Fire Hazard Severity Zones within Local Responsibility Area (LRA).

Why are fire hazard severity maps being updated?

The hazard maps are being updated to more accurately reflect the zones in California that are susceptible to wildfire. The hazard mapping process will incorporate new science in local climate data and improved fire assessment modeling in determining hazard ratings.



General

How do the Fire Hazard Severity Zone Maps differ from California Public Utilities Commission (CPUC) High Fire Threat District Maps?

The California Public Utilities Commission (CPUC) sponsored map, known as "CPUC High Fire Threat District Map" (HFTD), includes similar factors as those in the FHSZ maps, however the CPUC HFTD Map is designed specifically for identifying areas where there is an increased risk for utility associated wildfires. As such, the CPUC map includes fire hazards associated with historical powerline-caused wildfires, current fuel conditions, and scores areas based on where fires start, as opposed to where potential fires may cause impacts.

How are Fire Hazard Severity Zones determined?

CAL FIRE used the best available science and data to develop, and field test a model that served as the basis of zone assignments. The model evaluated the probability of the area burning and potential fire behavior in the area. Many factors were included such as fire history, vegetation, flame length, blowing embers, proximity to wildland, terrain, and weather.

What new data will be included in the new model, and how does this differ from the previous model?

A 2 km grid of climate data covering the years 2003-2018 is being used in the update. The previous model used stock weather inputs across the state to calculate wildland fire intensity scores. The updated model will adjust fire intensity scores based on the most extreme fire weather at a given location, considering temperature, humidity, and wind speed. In addition, ember transport is being modeled based on local distributions of observed wind speed and direction values instead of using a generic buffer distance for urban areas adjacent to wildlands.

Why is my property in a different zone than the adjacent area, which looks similar?

In wildland areas, zone edges are a result of the way zones are delineated. Specifically, zones represent areas of similar slope and fuel potential. Zone boundaries divide zones based on geographic and vegetation features that align with fire hazard potential; although, at a local scale, it may appear that the immediate area is similar on both sides of the edge. The class value within a zone is based on the average hazard score across the whole zone, so areas that are in the same zone but not immediately adjacent to a local area can have an influence on the final zone classification. Classification outside of wildland areas is based on the fire hazard of the adjacent wildland and the probability of flames and embers threatening buildings.



General

Why does the model place an emphasis on the spread of embers?

Embers spread wildfire because they can travel long distances in the wind and ignite vegetation, roofs, attics (by getting into vents), and decks.

Why do waterbodies have a Fire Hazard Severity Zone Classification?

All areas in State Responsibility Area, including water bodies, require a Fire Hazard Severity Zone designation. The 2007 FHSZ maps zoned all water as Moderate by default. In the 2023 FHSZ model we added a buffer of FHSZ from the surrounding wildland into water bodies to account for potential threat of embers to buildings on docks and house boats, as well as variation in reservoir height that occurs with drought.

How does CAL FIRE assist Local Governments in Fire Hazard Severity Zones?

CAL FIRE's Land Use Planning Program is a specialized unit that provides support to local governments by providing fire safety expertise on the State's wildland urban interface building codes, wildfire safety codes, as well as helping in the development of the safety elements in general plans.

How can I search the Fire Hazard Severity Zone of a property?

You can search by address to find your current designation on the web at: osfm.fire.ca.gov/FHSZ



State Responsibility Area

What is State Responsibility Area or SRA?

SRA is a legal term defining the area where the state has financial responsibility for wildland fire protection and prevention. Incorporated cities and federal ownership are not included. Within the SRA, CAL FIRE is responsible for fire prevention and suppression. There are more than 31 million acres in SRA, with an estimated 1.7 million people and 800,000 existing homes.

How is State Responsibility Area determined?

The Board of Forestry and Fire Protection (Board) classifies land as State Responsibility Area. The legal definition of SRA is found in the [Public Resources Code Section 4125](#). The Board has developed detailed procedures to classify lands as State Responsibility Area. Lands are removed from SRA when they become incorporated by a city, change in ownership to the federal government, become more densely populated, or are converted to intensive agriculture that minimizes the risk of wildfire. While some lands are removed from SRA automatically, the Board typically reviews changes every five years.

What Fire Hazard Severity Zones are in State Responsibility Area?

All of the State Responsibility Area is in a Fire Hazard Severity Zone. Lands are either ranked as Moderate, High or Very High Fire Hazard Severity Zones.

What are the wildland urban interface (WUI) building codes in State Responsibility Area?

The WUI building codes ([California Building Code \(CBC\) Chapter 7A](#)) reduce the risk of embers fanned by wind-blown wildfires from igniting buildings. The codes for roofing, siding, decking, windows, and vents apply throughout all State Responsibility Area regardless of the fire hazard severity ranking. Ember-resistant building materials can be found at: <https://osfm.fire.ca.gov/divisions/fire-engineering-and-investigations/building-materials-listing/>



State Responsibility Area

What is the difference between the various Fire Hazard Severity Zones?

Classification of a wildland zone as Moderate, High or Very High Fire Hazard is based on the average hazard across the area included in the zone, which have a minimum size of 200 acres. In wildlands, hazard is a function of modeled flame length under the worst conditions and annual burn probability. Both these factors generally increase with increasing hazard level, but there may be instances where one value is Very High and the other is low, pushing the overall hazard into a more intermediate ranking. On average, both modeled flame length and burn probability increase by roughly 40-60% between hazard classes.

Is the GIS data for Fire Hazard Severity Zones available for download?

The data inputs used to develop the Fire Hazard Severity Zones are identified in the Initial Statement of Reasons (ISOR) Title 19 Development (ca.gov). CAL FIRE has developed an additional data package which consists of sequential modeling steps, including any data inputs that were not already publicly available and referenced in the ISOR. The data package encompasses 34 spatial datasets and 8 tables, provided in raster, polygon, and table format. These datasets are formatted for Esri ArcGIS software, except for four tables provided in Excel. Ten of the datasets are updated versions used to produce an edited SRA FHSZ map following the public comment period that ended April 4, 2023. Upon formal adoption of the FHSZ map, the final SRA FHSZ geospatial data file will become available. The data package is available on the FHSZ website Fire Hazard Severity Zones (ca.gov) under the science and methods banner.



Local Responsibility Area

What is Local Responsibility Area or LRA?

Local Responsibility Areas (LRA) are incorporated cities, urban regions, agriculture lands, and portions of the desert where the local government is responsible for wildfire protection. This is typically provided by city fire departments, fire protection districts, counties, and by CAL FIRE under contract.

When did Fire Hazard Severity Zones begin in Local Responsibility Area?

Assembly Bill 337 (Bates, 1992) prompted by the devastating Oakland Hills Fire of 1991, calls for CAL FIRE to evaluate fire hazard severity in Local Responsibility Area and to make a recommendation to the local jurisdiction where Very High FHSZ exist. [Government Code 51175](#) then provides direction for the local jurisdiction to take appropriate action.

How are Fire Hazard Severity Zones determined in Local Responsibility Areas?

CAL FIRE uses an extension of the State Responsibility Area Fire Hazard Severity Zone model as the basis for evaluating fire hazard in Local Responsibility Area. The Local Responsibility Area hazard rating reflects flame and ember intrusion from adjacent wildlands and from flammable vegetation in the urban area.

What are the requirements for landowners in Fire Hazard Severity Zones in Local Responsibility Areas?

California's WUI building codes ([CBC Chapter 7A](#)) apply to the design and construction of new buildings located in High and Very High FHSZs in Local Responsibility Areas. Local ordinances may require ignition resistant construction for remodel projects. Check with your local building department to determine which ignition resistant building codes apply to your project. In addition, Government Code Section 51182 calls for defensible space clearance and other wildland fire safety practices for buildings. Owners are also required to make a natural hazard disclosure as part of a real estate transfer. For information regarding home hardening and defensible space clearance, visit www.readyforwildfire.org.

Does the designation of Very High Fire Hazard Severity Zones in the Local Responsibility Area trigger the 100-foot clearance requirement?

Yes, per [Government Code 51182](#) unless a local government has passed a more stringent requirement, the 100-foot defensible space clearance applies. For information regarding home hardening and defensible space clearance, visit www.readyforwildfire.org.



Local Responsibility Area

What is the process for developing Fire Hazard Severity Zones in the Local Responsibility Area?

CAL FIRE uses the same modeling data that is used to map the State Responsibility Area. The map, along with a model ordinance, are then sent to the governing body for adoption.

How are the new Fire Hazard Severity Zones impacting development?

Many of the changes expanding Fire Hazard Severity Zones in Local Responsibility Areas have been supported by the building industry. CAL FIRE works closely with the building industry when setting various building codes and defensible space requirements, so we are working together to not affect development itself but to make sure development matches the hazards of that area.

When will the Local Responsibility Area Map be released?

The Local Responsibility Area map process will happen after the State Responsibility Area process has been completed, which is estimated to occur in winter of 2025.

Why haven't Moderate and High Fire Hazard Severity Zone classes been classified before in the Local Responsibility Area?

New legislation, [Senate Bill 63 \(Stern, 2021\)](#), now requires the adoption of all three Fire Hazard Severity Zone classes in the Local Responsibility Area. Previously only Very High Fire Hazard Severity Zones were required for adoption in Local Responsibility Areas.

Why is my property in a different zone than the adjacent area, which looks similar?

In non-wildland areas, zone edges occur based on distance to the wildland edge. Because hazard in these areas is largely determined by incoming embers from adjacent wildland, urban areas that are similar in vegetation type and housing density may have a change in FHSZ class as the distance to the wildland edge increases. Areas immediately adjacent to wildland receive the same FHSZ score as that wildland where fire originates, and the model then produces lower scores as the distance to wildland edge increases.

LRA Legislation Factsheet



Assembly Bill No.337

An act to add Chapter 6.8 (commencing with Section 51175) to Part 1 of Division 1 of Title 5 of the Government Code, and to amend Section 13108.5 of the Health and Safety Code, relating to fire protection.

[Enrolled, January 28, 1991]

AB 337, Bates. Very high fire hazard severity zones.

- (1) Under existing law, the State Board of Forestry is required to classify all lands within the state, in accordance with prescribed criteria, for the purpose of determining areas in which the financial responsibility of preventing and suppressing fires is primarily the responsibility of the state.

This bill would declare that the prevention of fires is not a municipal affair but is instead, a matter of statewide concern, and would make a finding and declaration of the Legislature that its provisions apply to all local agencies, including, but not limited to, charter cities, charter counties, and charter cities and counties. The bill would prohibit that finding from limiting the authority of a local agency, as defined, from imposing more restrictive fire and panic safety requirements, as otherwise authorized by law.

The bill would state that it is not the intent of the Legislature to limit or restrict the authority of a local agency to impose more restrictive fire and panic safety requirements, as otherwise authorized by law.

This bill would require the Director of Forestry and Fire Protection to identify areas in the state as very high fire hazard severity zones within all counties pursuant to a prescribed schedule. The bill would require local agencies, as defined, to designate, by ordinance, very high fire hazard severity zones in their jurisdiction after receiving recommendations from the director, except as prescribed. The bill would authorize local agencies to include or exclude areas following certain findings and would require changes made by local agencies to be final and not rebuttable by the director. By requiring local agencies to designate very high fire hazard severity zones within their jurisdictions, this bill would impose a state-mandated local program. The bill would require the State Fire Marshal to prepare and adopt a model ordinance that provides for the establishment of any high fire hazard security zones.

LRA Legislation Factsheet



Assembly Bill No.337 (Continued)

- (2) Under existing law, any person who owns, leases, controls, operates, or maintains any building or structure in, upon, or adjoining any mountainous area or forest-covered lands, brush-covered lands, or grass-covered lands, or any land that is covered with flammable material, is required to undertake specified fire protection measures, including the maintenance of specified firebreaks.

The bill would enact requirements of this nature for any person who owns, leases, controls, operates, or maintains, any occupied dwelling or occupied structure in, upon, or adjoining any mountainous area, forest-covered land, brush-covered land, grass-covered land, or land covered with flammable material, which area or land is within a very high fire hazard severity zone, as described in (1).

The bill would authorize local agencies to exempt certain structures and would exempt certain land or water areas.

The bill would make violation of these requirements an infraction or misdemeanor, as specified, thereby imposing a state-mandated local program by creating a new crime, and would specify related matters.

This bill would require local agencies to notify owners of property of violation and would authorize local agencies to correct the conditions and make a lien upon the property, as prescribed. By creating these requirements, this bill would impose a state-mandated local program.

The bill would permit a violation of these requirements to be considered a public nuisance, as specified.

- (3) Existing law requires the State Fire Marshal to adopt, amend, and repeal regulations for roof coverings and openings into the attic areas of buildings in those fire hazard severity zones in state responsibility lands as designated by the director. Existing law requires the director to classify lands within state responsibility areas into fire hazard severity zones.

This bill would instead require the State Fire Marshal to propose, and would require the State Building Standards Commission to adopt, amend, and repeal those regulations. The bill would also require the State Fire Marshal to propose, and would require the State Building Standards Commission to adopt, amend, and repeal, those regulations for buildings in very high fire hazard severity zones in state responsibility lands, designated by the director, and in very high fire hazard severity zones as described in (1). The bill would require roofs on all new buildings and certain existing buildings in both of those zones to be at least a class B roof that complies with Standard 32-7 of the Uniform Building Code, as adopted in the California Building Standards Code. The bill would impose requirements on installers and roofing materials and make other related changes. The bill would exempt historic buildings, as defined, from these provisions.

LRA Legislation Factsheet



Senate Bill No.63

CHAPTER 382

An act to amend Sections 51177, **51178, 51178.5**, 51182, and 51189 of the **Government Code**, to amend Section 13108.5 of the Health and Safety Code, and to amend Sections 4124.5 and 4291 of, and to add and repeal Sections 4123.8, 4291.5, and 4291.6 of, the Public Resources Code, relating to fire prevention.

[Approved by Governor September 28, 2021. Filed with Secretary of State September 28, 2021.]

SB 63, Stern. Fire prevention: vegetation management: public education: grants: defensible space: fire hazard severity zones.

- (1) Existing law requires the Director of Forestry and Fire Protection to identify areas of the state as very high fire hazard severity zones based on specified criteria. Existing law requires a local agency, within 30 days after receiving a transmittal from the director that identifies very high fire hazard severity zones, to make the information available for public review, as provided. This bill, among other things, would also require the director to identify areas of the state as moderate and high fire hazard severity zones. The bill would modify the factors the director is required to use to identify areas into fire hazard severity zones, as provided. The bill would require a local agency to make this information available for public review and comment, as provided. By expanding the responsibility of a local agency, the bill would impose a state-mandated local program.

This bill would also make conforming changes.

- (2) Existing law requires a person who owns, leases, controls, operates, or maintains an occupied dwelling or structure in, upon, or adjoining a mountainous area, forest-covered land, brush-covered land, grass-covered land, or land that is covered with flammable material that is within a very high fire hazard severity zone, as designated by a local agency, or a building or structure in, upon, or adjoining those areas or lands within a state responsibility area, to maintain a defensible space of 100 feet from each side and from the front and rear of the structure, as specified. Existing law authorizes a greater distance than specified above on the specified land in a very high fire hazard severity zone. Existing law specifies that clearance beyond the property line may only be required if state law, local ordinance, rule, or regulation includes certain findings and specifies that clearance on adjacent property shall only be conducted following written consent by the adjacent landowner.

LRA Legislation Factsheet



Amended by Senate Bill No.63

Government Code 51178

The State Fire Marshal shall identify areas in the state as moderate, high, and very high fire hazard severity zones based on consistent statewide criteria and based on the severity of fire hazard that is expected to prevail in those areas. Moderate, high, and very high fire hazard severity zones shall be based on fuel loading, slope, fire weather, and other relevant factors including areas where winds have been identified by the Office of the State Fire Marshal as a major cause of wildfire spread.

(Amended by Stats. 2021, Ch. 382, Sec. 2.5. (SB 63) Effective January 1, 2022.)

Government Code 51178.5

Within 30 days after receiving a transmittal from the State Fire Marshal that identifies fire hazard severity zones pursuant to Section 51178, a local agency shall make the information available for public review and comment. The information shall be presented in a format that is understandable and accessible to the general public, including, but not limited to, maps.

(Amended by Stats. 2021, Ch. 382, Sec. 3.5. (SB 63) Effective January 1, 2022.)

LRA Legislation Factsheet



Assembly Bill No. 211

CHAPTER 574

An act to amend Sections 11891, 11893, 12581, 12996, 12998, 12999.4, and 12999.5 of, and to add Sections 12999.6 and 13001 to, the Food and Agricultural Code, **to amend Section 51179 of the Government Code**, to amend Sections 44274.10, 44274.11, 44274.12, 44274.13, and 44274.14 of the Health and Safety Code, to amend Sections 3113, 4799.05, 14503.5.1, 14538, 14549.2, 14581, 42052, and 42060 of, to add Sections 14537.5, 14548, 14555, and 21166.3 to, to add Part 5 (commencing with Section 75250) to Division 44 of, and to repeal Section 75250.1 of, the Public Resources Code, to amend Section 43152.6 of, and to amend and repeal Section 43152.10 of, the Revenue and Taxation Code, to amend Section 13198 of the Water Code, to amend the Budget Act of 2021 (Chapters 21, 69, and 240 of the Statutes of 2021) by amending Item 8570-002-0001 of Section 2.00 of that act, and to amend the Budget Act of 2021 (Chapter 44 of the Statutes of 2022) by amending Items 3540-101-0001 of Section 2.00 of that act, relating to public resources, and making an appropriation therefor, to take effect immediately, bill related to the budget.

[Approved by Governor September 27, 2022. Filed with Secretary of State September 27, 2022.]

AB 211, Committee on Budget. Public resources trailer bill.

- (2) Existing law requires the State Fire Marshal to identify areas of the state as moderate, high, and very high fire hazard severity zones based on specified criteria. Existing law requires a local agency to designate, by ordinance, very high fire hazard severity zones in its jurisdiction within 120 days of receiving recommendations from the State Fire Marshal. Existing law authorizes a local agency, at its discretion, to include areas within the jurisdiction of the local agency, not identified as very high fire hazard severity zones by the State Fire Marshal, as very high fire hazard severity zones following a finding supported by substantial evidence, as provided.

This bill would additionally require a local agency to designate, by ordinance, moderate and high fire hazard severity zones within 120 days of receiving recommendations from the State Fire Marshal. By expanding the responsibility of a local agency, the bill would impose a state-mandated local program. The bill would additionally authorize a local agency, at its discretion, to include areas within the jurisdiction of the local agency, not identified as moderate and high fire hazard severity zones by the State Fire Marshal, as moderate and high fire hazard severity zones, respectively. The bill would prohibit the local agency from decreasing the level of fire hazard severity zone as identified by the State Fire Marshal for any area within the jurisdiction of the local agency, as provided.

LRA Legislation Factsheet



Amended by Assembly Bill No. 211

Government Code 51179

- (a) A local agency shall designate, by ordinance, moderate, high, and very high fire hazard severity zones in its jurisdiction within 120 days of receiving recommendations from the State Fire Marshal pursuant to Section 51178.
- (b) (1) A local agency may, at its discretion, include areas within the jurisdiction of the local agency, not identified as very high fire hazard severity zones by the State Fire Marshal, as very high fire hazard severity zones following a finding supported by substantial evidence in the record that the requirements of Section 51182 are necessary for effective fire protection within the area.
- (2) A local agency may, at its discretion, include areas within the jurisdiction of the local agency, not identified as moderate and high fire hazard severity zones by the State Fire Marshal, as moderate and high fire hazard severity zones, respectively.
- (3) A local agency shall not decrease the level of fire hazard severity zone as identified by the State Fire Marshal for any area within the jurisdiction of the local agency, and, in exercising its discretion pursuant to paragraph (2), may only increase the level of fire hazard severity zone as identified by the State Fire Marshal for any area within the jurisdiction of the local agency.
- (c) The local agency shall transmit a copy of an ordinance adopted pursuant to subdivision (a) to the State Board of Forestry and Fire Protection within 30 days of adoption.
- (d) Changes made by a local agency to the recommendations made by the State Fire Marshal shall be final and shall not be rebuttable by the State Fire Marshal.
- (e) The State Fire Marshal shall prepare and adopt a model ordinance that provides for the establishment of very high fire hazard severity zones.
- (f) Any ordinance adopted by a local agency pursuant to this section that substantially conforms to the model ordinance of the State Fire Marshal shall be presumed to be in compliance with the requirements of this section.
- (g) A local agency shall post a notice at the office of the county recorder, county assessor, and county planning agency identifying the location of the map provided by the State Fire Marshal pursuant to Section 51178. If the agency amends the map, pursuant to subdivision (b) or (c) of this section, the notice shall instead identify the location of the amended map.

(Amended by Stats. 2022, Ch. 574, Sec. 10. (AB 211) Effective September 27, 2022.)

LRA Legislation Factsheet



Increasing Fire Hazard Severity Zone (FHSZ) Area and Designation

Government Code section 51179 requires a local agency to designate, by ordinance, moderate, high, and very high FHSZ within 120 days of receiving the identified FHSZ's from the State Fire Marshal pursuant to Section 51178.

The law does not allow for a local jurisdiction to request changes or provide comments to the State Fire Marshal on the FHSZ designations. However, a local agency may choose to increase the designation of a FHSZ from the FHSZ identified by the State Fire Marshal, or designate areas as having a FHSZ that were not designated in a FHSZ by the State Fire Marshal. This may occur because FHSZ zone edges in the maps and data from the State Fire Marshal are not aligned with parcel boundaries or roads that some may consider for lines of convenience when adopting ordinances. A local agency is not allowed to reduce the designation of a FHSZ classification from the State Fire Marshal (i.e. a local agency cannot make an area designated as High by the State Fire Marshal, Moderate in its adopted ordinance).

However, a local jurisdiction can increase the designation from the one identified by the State Fire Marshal. If a local agency decides to increase the designation of a FHSZ, it may do so if it does the following:

1. If increasing the designation to Very High, a local agency must make a finding supported by substantial evidence in the record that the requirements of Government Code section 51182 are necessary for effective fire protection.
2. If increasing the designation to Moderate or High, a local agency may do this at its discretion.

If a local agency decides to include areas in its FHSZ adopted ordinance not identified as being in a FHSZ by the State Fire Marshal, it may include those areas if it does the following:

1. If including areas not identified as being in a FHSZ and designating it as Very High, a local agency must make a finding supported by substantial evidence in the record that the requirements of Government Code section 51182 are necessary for effective fire protection.
2. If including areas not identified as being in a FHSZ and designating it as Moderate or High, a local agency may do this at its discretion.

LRA Legislation Factsheet





Land Use Planning Program

CAL FIRE's Land Use Planning Program is a specialized unit that provides support to local governments by providing fire safety expertise on the State's wildland urban interface building codes, as well as collaborating in the development of Safety Elements in General Plans.



For More Information
osfm.fire.ca.gov/fhsz



Office of the City Manager

ACTION CALENDAR
April 15, 2025

To: Honorable Mayor and Members of the City Council
 From: Paul Buddenhagen, City Manager
 Submitted by: David Sprague, Fire Chief
 Subject: Modification and Adoption of Berkeley Fire Code Local Amendments

RECOMMENDATION

1. Adopt the first reading of an Ordinance (Attachment 1) which proposes to amend certain portions of Section 19.48.020 of the Berkeley Municipal Code ("Amendments to the California Fire Code");
2. Adopt a Resolution (Attachment 2) setting forth findings as to local conditions applicable to the revised portions of Section 19.48.020 that require more stringent standards than those provided by the 2022 California Fire Code ("CFC") and amending Resolution number 70,611–N.S.;
3. In compliance with state law on adopting such codes by reference, hold a public hearing following the first reading, and before the second reading, and schedule the second reading and public hearing for May 6, 2025.

POLICY COMMITTEE RECOMMENDATION

On March 24, 2025, the Public Safety Committee adopted the following action: M/S/C (Blackaby/O'Keefe) to send item to City Council with a positive recommendation.

Vote: Ayes – O'Keefe, Blackaby; Noes – None; Abstain – Kesarwani; Absent – None.

SUMMARY

Fire Code:

On December 6, 2022 the Berkeley City Council adopted the current edition of the Berkeley Fire Code (BFC), which was based on the State of California adoption of the 2022 California Fire Code. On June 4, 2024 the City Council adopted mid-cycle amendments that were issued by the State of California to the 2022 California Fire Code. These new amendments took effect on July 1, 2024. On February 11, 2025 at a Special Meeting, the Council referred the following proposals to Staff; (1) Create a new Fire Zone within the Fire Code to include – at minimum - the areas between Wildcat Canyon Rd. to the east, Grizzly Peak Blvd to the west, and the Berkeley City Limits to the south and north; and (2) Repeal the Berkeley Fire Code (BMC Chapter 19.48) and reenact BMC Chapter 19.48 to include an Ember Resistant Zone (Zone 0) and other

defensible space best practices and schedule a Public Hearing for the first reading on April 15, 2025 pursuant to state law.

Local jurisdictions may adopt local amendments to the California Fire Code (CFC), and to any supplemental building standards which may subsequently amend the CFC. These local Berkeley fire code amendments address local conditions specific to our community that effect our local fire risks and life safety. The City has adopted multiple fire code amendments in the past that are designed to address these concerns.

Fire Risk:

Fire is a historical part of our landscape since long before modern city planning or residential settlement of the Berkeley Hills. Eliminating the likelihood of fire has been proven both inadequate and ill-informed. Post-incident analysis and laboratory testing suggest that we should focus our efforts on the threatened structures instead.

This report provides evidence that informs the most up to date recommendations that protect homes from wildfire and urban conflagration. Best practice requires removing flammable materials and maintaining vegetation to minimize wildfire exposure, particularly within the critical Ember Resistant Zone (Zone 0) and surrounding Home Ignition Zones 1 and 2. These measures require elimination of all combustible materials from within 5 feet of a structure, including vegetation and accessories.

These mitigations work best when they are taken on by a contiguous group of homes. To be effective, the Berkeley Fire department will focus inspection efforts on residences on Panoramic Hill and east of Grizzly Peak Blvd. Phase I will cover the Panoramic Mitigation Area and the Grizzly Peak Mitigation Area. Phase II will include remaining parts of the CALFIRE Very High Fire Hazard Severity Zone. Later phases will finish work in the Very High Zone. Following City Council approval, additional slices of the High Fire Hazard Severity Zone would be included in defensible space until all of the High Fire Hazard Severity Zone is included in defensible space requirements. The Department will be able to provide a better estimate of how long subsequent phases will take once staff have begun work in Phase I.

FISCAL IMPACTS OF RECOMMENDATION

Substantial staff time will be required to update and implement these Fire Code modifications including updating all public facing documents and websites, modifications to the City's inspection software, inspection guides, forms and training for staff.

CURRENT SITUATION AND ITS EFFECTS

Amendments to the Berkeley Municipal Code, Section 19.48 – Berkeley Fire Code:

A city, county, or city and county may establish more restrictive building standards as reasonably necessary because of local climatic, geological or topographical conditions. Findings of the local condition(s) and the adopted local building standard(s) must be filed with the California Building Standards Commission. Berkeley has long elected to establish more restrictive building standards in accordance with Calif. Health & Safety Code Sections 18941, 17958, 17958.5, 17958.7 and other statutes.

The City's adoption of stringent fuel mitigation and exterior hazard abatement standards is designed to decrease the risk of structure fires spreading to adjacent vegetation and the risk of vegetation fires and wildfires spreading to structures. The Council bases these standards, in part, upon its finding (Attachment 2) that the climatic, vegetative, geological, and topographical conditions within the City create a grave risk of wildfire and resulting loss of life and property.

Staff's recommendations on modifications to local amendments in addition to the previously approved local amendments to adopt in this cycle's fire code, include:

1. **Modify Section 4902.1 General** to rename Berkeley Fire Zones 1, 2 and 3 to the Flatlands (Zone 1), Hills (Zone 2) and Panoramic (Zone 3) Mitigation Zones, respectively and to create the Grizzly Peak Mitigation Zone (Zone 4) to encompass the area east of Grizzly Peak Boulevard and to the City boundary to the north and south.
2. **Modify Section 4904.4 Berkeley Fire Hazard Severity Zones** to exclude Hills Mitigation Zone (Zone 2) from Section 4907.6.
3. **Add Section 4907.6 Specific requirements** to establish the requirements for removing flammable materials and maintaining vegetation to minimize wildfire risk, particularly within the critical Ember Resistant Zone (Ignition Zone 0) and surrounding Ignition Zones 1 and 2. These measures aim to reduce ignition risks from embers, radiant heat, and direct flame by implementing evidence-based practices.

Precipitating Conditions:

The fire tragedy suffered by the Los Angeles area is the most recent demonstration that wildfire is a recurring feature of our landscape, even more so as climate change results in more frequent extreme weather events. Maintaining the status quo in communities with exposure to wildfire will inevitably result in similar, disastrous outcomes. Below is a partial list of recent wildfires that remind us of the potential for destruction of property and loss of life that is possible in Berkeley. We have the opportunity and agency to take actions to reduce the probability of wildfire loss in our community.

Fire Name	County	Acres	Date	Structures	Deaths
Lahaina	Maui	2,170	08/2023	2,200	102
Camp	Butte	153,336	11/2018	18,804	86
Tunnel	Alameda	1,600	10/1991	2,900	29
Thomas	Ventura, Santa Barbara	281,893	12/2017	1,063	23
Tubbs	Napa, Sonoma	36,807	10/2017	5,643	22
Eaton	Los Angeles	14,117	01/2025	7,000+	16
North Complex	Plumas, Butte	318,935	08/2020	2,352	15
Cedar	San Diego	273,246	10/2003	2,820	15
Palisades	Los Angeles	23,713	01/2025	6,000+	11

These wildfires transitioned into areas of dense structures due to key vulnerabilities that enabled their devastating fire behavior. Common factors included widespread pre-2008 construction which lacks modern fire-resistant standards as found in the California Building Code, lack of home hardening measures to retrofit these vulnerable structures; delays in statewide adoption of ember resistant zone “Zone 0”, and the need for more stringent and focused fire prevention measures in vulnerable neighborhoods particularly at points where wildfire pathways enter communities. These factors have, again and again, contributed to vegetative wildfires penetrating communities, igniting structures, and transitioning into a wind driven structure-to-structure conflagration¹, which overwhelm available firefighting resources. It is time to voraciously engage with what we know will save homes and lives.

Adoption of unadulterated, scientifically validated mitigation measures proven to reduce the vulnerability of a neighborhood from ignition during a wildfire offers the best chance of minimizing the probability of vegetative to urban fire transition. This staff report outlines a trio of policies aimed at achieving a community that is safer from wildfire. These policies are structured around proactive measures to be implemented at the demonstrated most effective point -- before a fire occurs.

BACKGROUND AND DISCUSSION

The City of Berkeley has climatic, geological, and topographical conditions, which require local amendments to mitigate potential hazards, and to reduce loss of life caused by fires or natural disasters. To address local fire and life safety impacts, the City of Berkeley has adopted local amendments to address local conditions which are more protective than the CFC requirements. These include requiring sprinkler systems

¹ CAL FIRE TV. (2025, January 26). *CAL FIRE: When homes fall like dominos*. [Video]. YouTube. <https://youtu.be/LfTVKfcBvEk?si=q0MpxZ9w1gNFr3yz>

and fire alarms for existing hotels, fraternities, and sororities, and measures to improve firefighter safety and operations in high-rise construction.

Fire History in Berkeley and Around the East Bay

Berkeley and the East Bay Hills have a cyclical relationship with wildfire. Before European colonizers arrived, California experienced many small, frequent fires². These low-intensity fires benefitted the landscape because they cleaned out underbrush — which otherwise serve as fuel for larger fires — and helped native species regenerate. Along with other wildfire prone regions, the East Bay has suffered from the exclusion of traditional wildfire patterns from the landscape for over 150 years. This has resulted in a triad of risk: an abundance of vegetative fuel, a dense urban development of vulnerable homes, and an undersized network of roadways relative to the volume of vehicles. This is not new information, a 1974 report prepared for the city regarding the fire risk for Panoramic Hill states the following:

Panoramic Hill originally was composed of grasslands and brush on the ridges with dense tree and other growth along the creeks. However, man has altered the environment greatly.... Within the neighborhood, residents have planted dense stands of trees and other vegetation, such that the homes look as though they had been built within the forest.³

The suppression of natural fire patterns to protect a now populated topography has not eliminated the risk but rather held it back as the fuel load – both vegetative and built – has increased. The effects of climate change have exacerbated the historical problem, compressing the rainy season and increasing the drying of fuels. This combination creates a fire problem that is now demonstrably more destructive when it overwhelms suppression efforts. The immediate Berkeley area has experienced a significant wildfire on average every 20 years⁴ since 1905, with 2024 marking the 33rd year since the last major fire in the area. Since 2020, the city has been moving with great haste to revisit our historical thinking to research and bring best practices in wildfire planning, prevention and response to Berkeley.

² Hao, C., (2022, October 15). This one fact will completely change how you think about California wildfires. *The San Francisco Chronicle*. <https://www.sfchronicle.com/projects/2022/california-wildfire-history/>

³ Berkeley Planning Department, June 1974. *Panoramic Hill Area Development and Environmental Resources Study*, p. 38.

⁴ East Bay Parks (retrieved February 1, 2025). https://www.ebparks.org/sites/default/files/history_all_fires.pdf

Progress thus far

The Berkeley City Council unanimously declared wildfire prevention and safety a top priority on October 15, 2019⁵. This declaration helped establish this issue as one of the key priorities of the 2020 Measure FF tax.

Since the passage of Measure FF, the Department has created and funded a Wildland Urban Interface (WUI) Division. The WUI Division has annually inspected all private property in Fire Zones 2 and 3. Thus far, that has resulted in 21,856 inspections. These have uncovered 11,042 violations, of which 9,972 have been resolved.

The WUI Division also provides a number of free services to the community. In 2024 crews removed 3,234 cubic yards of green waste from private property using these services. A home hardening mesh program has also been launched which provides CBC Chapter 7A compliant ember resistant mesh to homes in the highest hazard area, including the current Berkeley Fire Zone 3, proposed Grizzly Peak Mitigation Zone, and both recognized and budding FireWise communities. That program has thus far provided material to 50 homes and continues to expand as material and staff time allow. Crews are about to embark on a vegetation (fuel) mitigation project along common public rights of way and critical evacuation routes and in 2025 a \$1 million CAL FIRE grant will be leveraged to assist low income and disabled homeowners with vegetation management on private property.

A Focused and Phased Approach

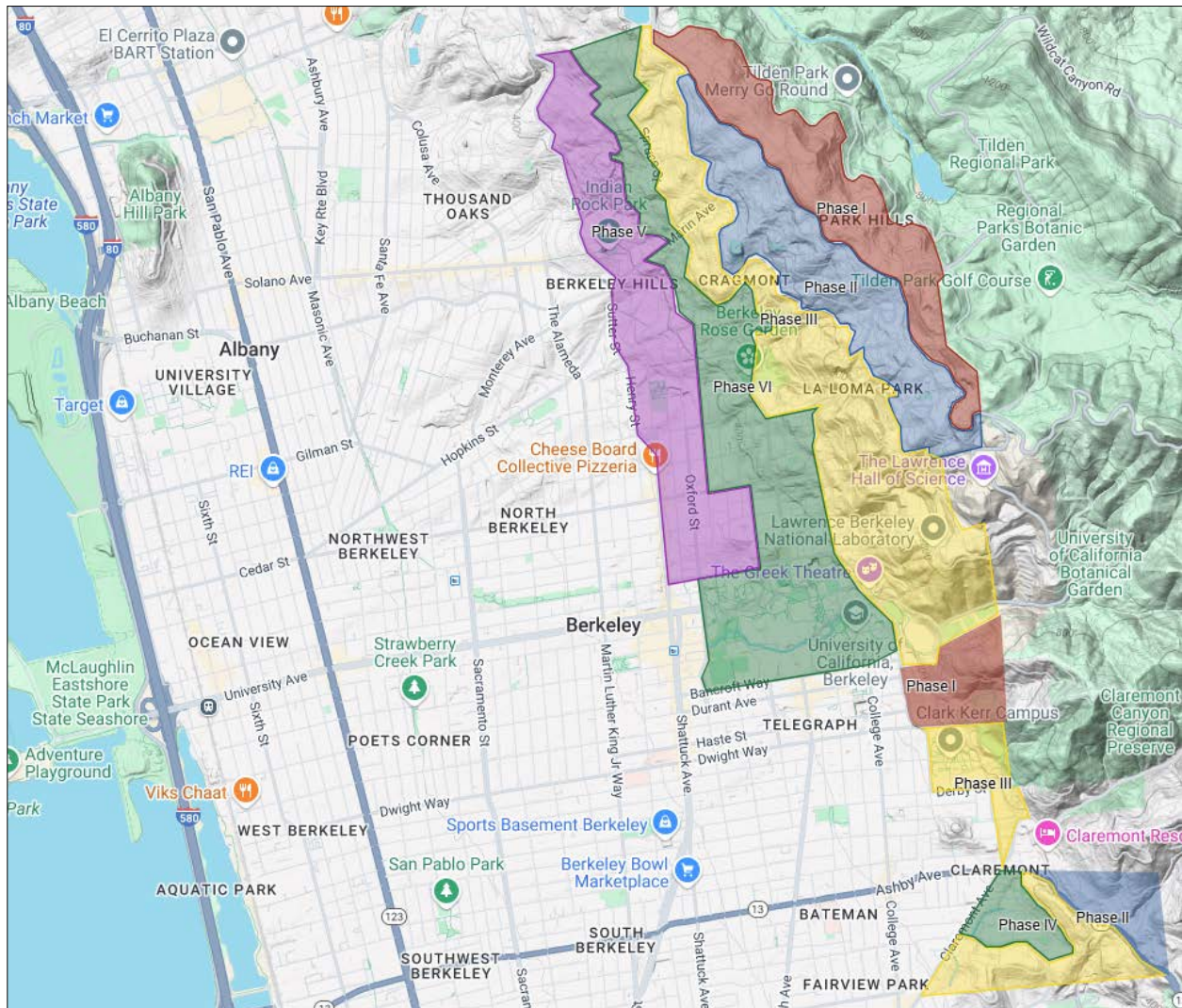
The effectiveness of the City's Defensible Space Inspection program is reduced by the size of the impacted geographic region, as well as being limited by laws that require permission from residents to enter private property. While the Fire Department is launching a program in 2025 to pre-authorize inspector entry, moving over 9,000 parcels through this degree of modification will take too long.

The current Defensible Space Inspection program does not meet the threshold that would adequately prepare a neighborhood for exposure to a wildfire – primarily it lacks Ignition Zone 0. A more effective fire code must be combined with home hardening to meet minimum thresholds to create resilience. The resilience of an individual property only increases if done in conjunction with adjacent properties. Thus, successful implementation and enforcement will be more effective if concentrated in one region of the City at a time.

The Department will strive to implement these same recommendations in iterative phases that can be adjusted as the department and community continue the work of

⁵ Berkeley City Council Meeting 10/15/2019

reducing the community's wildfire risk. A map showing conceptual phasing for this work is below.



Limitations of Other Areas of Focus

Focusing on the values at risk (homes), and working outwards, is better supported by the evidence than trying primarily to address the origin of the fire, although these measures often receive less attention.⁶ The vegetative landscape east of Berkeley is dominated by large trees, some of which are more fire hazardous than others. While mitigation of these trees is discussed as a solution, removal of trees will not eliminate the risk or threat of fire. In many of the above referenced destructive fires, the initial

⁶ Dale, L., Barrett, K. (2023). Missing the Mark : Effectiveness and Funding in Community Wildfire Risk Reduction. *Headwaters Economics, Columbia Climate School*. [HE_2023_Missing-the-Mark-Wildfire.pdf](https://www.headwaters.org/wp-content/uploads/2023/07/HE_2023_Missing-the-Mark-Wildfire.pdf)

exposure into the built environment was from grass and low-lying shrubs. Removal of mature trees without a methodical and ongoing approach to additional mitigations will result in similar fire prone conditions; grasslands still pose a significant regional threat⁷, especially if those grasslands are not held in check by either regular intervals of naturally occurring fire, tree canopies, or aggressive fuel mitigation. The “historical” landscape before the arrival of non-native tree species was fire-dependent, as well. The admittedly limited evidence around vegetation thinning beyond the immediate area around homes suggests limited effectiveness^{8,9} and one study suggests thinning may actually increase the chance of crown fires¹⁰; where fire moves into the treetops and can move exponentially faster than on the ground. In all research, extreme weather appears to nullify most interventions¹¹, however, there are many wildfire scenarios that are much more likely, and thus much more manageable, than just the worst-case scenario under extreme conditions: the measures outlined in these amendments are thus still critically important. .

Because the forested lands are outside of the City’s jurisdiction, and the limited evidence informing thinning and removal is inconclusive at best, prioritizing elsewhere will be more protective.

⁷ Cheney, N.P., Coleman, J., 1988. The level of fire risk associated with plantations. In:

Paper presented to Plantation 2020 The Local Government Perspective, 13–14

May 1988. Old Parliament House, King George Terrace Park, Canberra. P. 3

⁸ Mirra, I.M., Oliveria, T.M., Barros, A.M.G., Fernandes, P.M. (2017). Fuel Dynamics following fire hazard reductions treatments in blue gum (*Eucalyptus globulus*) plantations in Portugal. *Forest Ecology and Management* 398. P.1.

⁹ Weise, C.L., Brussee, B.E., Coates, P.S., Shinneman, D.J., Crist, M.R., Aldridge, C.L., Heinrichs, J.A., Ricca, M.A. (2023, September). A retrospective assessment of fuel break effectiveness for containing rangeland wildfires in the sagebrush biome. *Journal of Environmental Management* 341(1).

<https://www.sciencedirect.com/science/article/abs/pii/S0301479723006916> ct

¹⁰ Price, O.A., Bradstock, R.A., (2012). The efficacy of fuel treatment in mitigating property loss during wildfires: Insights from analysis of the severity of the catastrophic fires in 2009 in Victoria, Australia. *Journal of Environmental Management*. Volume 113. p. 154

¹¹ Price, O.A., Bradstock, R.A., (2012). The efficacy of fuel treatment in mitigating property loss during wildfires: Insights from analysis of the severity of the catastrophic fires in 2009 in Victoria, Australia. *Journal of Environmental Management*. Volume 113. p. 1 p. 153

Why implementing home hardening and Ignition Zone 0 together is key to hazard reduction

Two entities, widely considered to lead the science and best practices for wildfire mitigation, are cited here. The first is the National Institutes for Science and Technology (NIST) Wildland Urban Interface Division¹² and the Insurance Institute for Business and Home Safety (IBHS)¹³, an independent, 501(c)(3) nonprofit scientific research and communications organization supported by property insurers, reinsurers, and affiliated companies. IBHS helps develop standards used by many insurers to establish how insurable a home is by understanding if they are prepared and defensible.

Based on this research, many after action reports, and lived experience during numerous wildfires, the U.S. Fire Service has an understanding of the mitigations required to protect homes from wildfire. There is sufficient evidence to implement measures that would mitigate the cause of up to 90% of structure ignitions. The City of Berkeley has the ability to adopt these scientifically validated mitigation measures to reduce the vulnerability of our neighborhoods to wildfire ignition. Implementing these mitigations at scale sets our city on a path to a fire adapted future characterized by a significant reduction in the probability of a vegetative wildfire transitioning to an urban conflagration. However, to be protective, these mitigations must be considered as a package.

Clear evidence shows that limited enforcement of a code that does not meet the current consensus requirements results in inadequate mitigation of risk. When it comes to mitigations against wildfire loss, both NIST and IBHS agree that "something is not better than nothing". Wildfires pose an ignition threat to structures from both direct flame and embers, with embers being especially hazardous since they can travel long distances beyond municipal and property boundaries. While we can reduce the risk of wildfire spreading on the ground by managing vegetation and removing flammable materials around homes, embers remain a significant challenge. To truly protect a home, it must be "hardened" to resist both fire and embers—meaning it is built or retrofitted with materials and features that can withstand these exposures. Partial hardening offers some protection in mild conditions but is nearly useless during fast moving wildfires as fire is opportunistic and finds gaps. The volume of embers a home is subjected to under these conditions requires complete compliance, as any one penetrating ember can result in the ignition that leads to complete structure loss. Additionally, accessory structures like sheds, pergolas, hot tubs or vehicles located too close to a home can catch fire and spread flames to the house. To provide homes the best chance of survival on their own [without organized suppression efforts] during a wildfire, they need

¹² NIST. (2025, February 1). *Wildland Urban Interface Group*. <https://www.nist.gov/el/fire-research-division-73300/wildland-urban-interface-fire-73305>

¹³ Insurance Institute for Business & Home Safety (2025, February 1). *IBHS*. <https://ibhs.org/risk-research/wildfire/>

thorough ember and fire hardening, along with thoughtful management of nearby hazards.

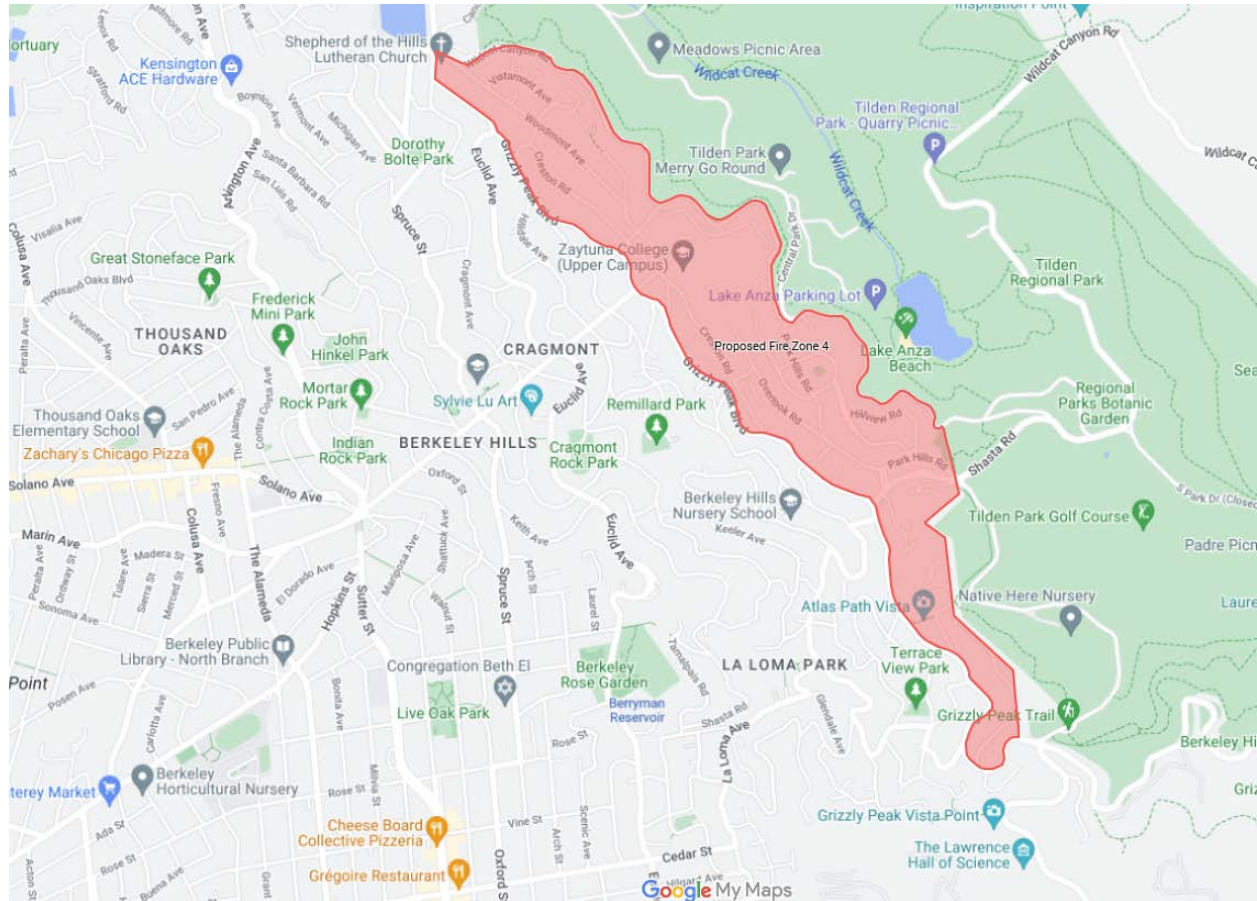
Mitigating some vegetation without, for instance, enforcing the ember resistant zone in the first five feet around a home to the proven standard, is not measurably helpful. Neither is a private property with compliant vegetation where the home is not built to the current Chapter 7A of the building code (or retrofitted and hardened¹⁴), which provides the standard by which homes in the Wildland Urban Interface (WUI) should be built. This is because each mitigation action is complementary and provides a defense that other mitigations rely on. The wildfire scenario we may encounter is so persistent, that mitigating one part without the other will not save the home.

Creating Ignition Zone 0 and hardening a home is effective at reducing wildfire risk, but will not stop fires from spreading between houses once a structure catches fire. This is because the heat energy produced from a burning house can be much greater than the heat from burning vegetation. In the Berkeley Hills, most homes are close together, making it easier for fires to spread from one house to another. If the fire department cannot respond quickly enough, house-to-house fires become the biggest danger. Fighting just one house fire, during normal weather conditions typically requires five to six fire apparatus and at least 15 firefighters – during an urban conflagration, it is frequently the case that only one fire engine and between two to four firefighters will be assigned to a home. To give firefighters more time to respond and for residents to evacuate, we must take strong preventive actions now, before a wildfire ignites that will slow down its transition from vegetative fire to structural conflagration.

In partnership with stakeholders from throughout the community, we are proposing a trio of policies designed to develop a community that is prepared for exposure to wildfire. These policies are structured around durable pre-fire measures proven to reduce the risk of structure ignitions.

¹⁴ CAL FIRE. (Retrieved 2025, February 1). *Home Hardening: Address your home's vulnerabilities to better withstand wildfire*. <https://www.fire.ca.gov/home-hardening>

Proposal 1: Establishing Grizzly Peak Mitigation Zone (Zone 4), East of Grizzly Peak



Map: New proposed Grizzly Peak Mitigation Zone (Zone 4). A quarter mile buffer that will help prevent the transition of a wind driven wildfire to a structure-to-structure conflagration¹⁵

While the City's existing Defensible Space Inspection program has resulted in considerable progress, engagement, and compliance, it has also demonstrated the limitations of implementing change across a large swath of the City.

Adopting Ignition Zone 0 and home hardening in this proposed Grizzly Peak Mitigation Zone (Zone 4) would create a buffer of prepared parcels along the eastern perimeter of the community with fewer vulnerabilities that can lead to structure ignition. Specifically, these homes would be more resistant to wildfire ignition through the combination of defensible space that minimizes the structure's exposure to direct flame and radiant heat, reduces the presence of receptive fuel beds capable of supporting ember caused

¹⁵

<https://www.google.com/maps/d/viewer?hl=en&mid=1tNP0IWFdz2ACKj2v6ejjTLBBaboYc9o&ll=37.87781780237876%2C-122.25571155&z=14>

ignitions, and seals the structure against ember intrusion. The more time it takes a vegetative fire to ignite combustibles around homes and homes themselves, the more time there is for the community to evacuate and for firefighting resources from around the region to amass in Berkeley and suppress the ignitions that do occur. Recent experience in Paradise¹⁶ (CA), Santa Rosa¹⁷ (CA), Lahaina¹⁸ (HI), Boulder County¹⁹ (CO), and Los Angeles²⁰ (CA) clearly shows the results of wildfire becoming established in high density neighborhoods. Berkeley also has lessons painted in our institutional memories from 1991²¹ and 1923²²

Prioritizing our resources in strategically targeted areas will benefit all of Berkeley. By focusing education, incentives, and enforcement on these adjoining properties we can achieve network effects and create a wildfire buffer. Contiguous properties that implement the scientifically validated best practices that follow will form a resilient unit, rather than a scattered, salt-and-pepper approach with some mitigated properties surrounded by those with unmitigated hazards. In fact, post-incident analysis of the Camp Fire in Paradise shows that, had the town of Paradise met the parameters that follow, a 53% reduction in loss would have occurred²³.

Why did we choose these specific regions to begin this work?

While a fire can ignite anywhere in the community, few locations within the built environment provide enough vegetative fuel to provide the “runway” necessary for a wildfire to gain the size, speed and energy required to transition to a structure-to-

¹⁶ Porter, K., Scawthorn, C., Sandink, D. (2021) An impact analysis for the National Guide for Wildland-Urban Interface Fires., *Institute for Catastrophic Loss Reduction*. <https://www.iclr.org/wp-content/uploads/2021/05/ICLR-SPA-Risk-Impact-Analysis-for-the-National-WUI-Fire-Guide-2021.pdf>

¹⁷ Garrison, J. (2025, January 22). This California city lost thousands of homes to fire. Santa Rosa's rebuilding has lessons for L.A. *The Los Angeles Times*. <https://www.latimes.com/california/story/2025-01-22/santa-rosa-offers-hope-lessons-for-rebuilding-after-la-fires#:~:text=On%20the%20night%20of%20Oct,at%20low%20risk%20for%20wildfire.>

¹⁸ Kerber, S., Alkonis, D., (2024) Lahaina Fire Comprehensive Timeline Report. *UL Research Institutes Fire Safety Research Institute*. <https://fsri.org/research-update/lahaina-fire-incident-analysis-report-released-attorney-general-hawaii>

¹⁹ Giammanco, I.M., Hedayati, F., Hawks, S.R., Sanchez Monroy, Z.S., Sluder, E. (2023). The Return of Conflagration in Our Built Environment. *IBHS Wildfire Research Report*. https://ibhs.org/suburban_wildfire_conflagration_whitepaper/

²⁰ IBHS. (2025). 2025 LA County Wildfires: Early Insights. *The Insurance Institute for Business & Home Safety*. <https://ibhs.org/wp-content/uploads/2025-LAFires-EarlyInsights-FINAL.pdf>

²¹ Sullivan, M., Fowler, D., Ed. (1993 December). Report on the Response of the Berkeley Department of Fire and Emergency Services to the Berkeley-Oakland Conflagration of 1991. *City of Berkeley Department of Fire and Emergency Services*.

²² Andrews, R.E., Raines, H. (1923). Report on the Berkeley, California Conflagration of September 17, 1923. *National Board of Fire Underwriters Committee on Fire Prevention and Engineering Standards*.

²³ Chamberlain, M., Lee, R., Deacon, T., Watkins, N., David, K., Lei, F., Meftah, I. (2023) *Town of Paradise California Resilience Challenge Task 1 to Task 4; Risk Reduction, Climate Change, and Insurance Premiums*. Milliman and CoreLogic.

structure conflagration. The most likely scenario for a wildfire of this magnitude to occur is from an ignition to the east of the city within Tilden or Wildcat Canyon Regional Parks. Such an ignition, during a Diablo Wind event, has the potential to significantly impact the eastern edges of Berkeley. If the properties at Berkeley's eastern edge are not prepared to receive wildfire, they may facilitate a wildland fire's transition to a structure-to-structure conflagration that would burn west toward the Bay until the wind stops or changes direction.

In addition to areas on Panoramic Hill (known as Panoramic Mitigation Zone), properties between Grizzly Peak Blvd and Wildcat Canyon Rd (proposed Grizzly Peak Mitigation Zone) have one of the greatest wildfire exposure and access challenges in Berkeley. As such, it is important to implement focused wildfire risk reduction efforts in these areas. These efforts include education, incentives and enforcement to encourage adoption of enhanced defensible space and home hardening requirements that meet the scientific threshold for meaningful risk reduction. The areas east of Grizzly Peak Blvd are bounded by relatively wide roads, whose non-burnable features form a fire break separating private property from park lands and homes on the eastern aspect from those on the opposite west facing slope.

Proposal 2: Ignition Zone (Zone Zero) and Best Practice Modifications to the Fire Code in the Grizzly Peak and Panoramic Mitigation Zones

In August 2020, following Governor Gavin Newsom's proclamation of a State of Emergency due to widespread wildfires, the California State Legislature enacted Assembly Bill 3074 (AB 3074). This legislation established a critical new fire mitigation measure known as the "ember-resistant zone," or Zone 0. The law aimed to enhance existing defensible space requirements by requiring the five-foot perimeter surrounding structures in Fire Hazard Severity Zones²⁴ to be cleared of combustible materials, a practice proven to significantly reduce the risk of structural ignition during wildfires.

We know that during a wildfire, embers from burning material fly long distances ahead of the fire front. When these embers find receptive fuel beds, which are often at the base of structures²⁵, they can start new spot fires ahead of the main body of fire, essentially expanding the fire front exponentially. When these spot fires are adjacent to structures, those structures can also ignite.

Under the timeline mandated by AB 3074, new homes were expected to comply with Ignition Zone 0 regulations beginning in 2023, with existing homes required to comply starting in 2024. However, despite the legislative directive, the State delayed the formal rulemaking process necessary to implement these requirements until it was spurred to

²⁴ CAL FIRE. (retrieved February 1, 2025). Fire Hazard Severity Zones. *Cal Fire*. <https://osfm.fire.ca.gov/what-we-do/community-wildfire-preparedness-and-mitigation/fire-hazard-severity-zones>

²⁵ Quarles, S. L., Standohar, C., Hedayati, F., & Gorham, D. (2023). Factors Influencing Ember Accumulation Near a Building. *International Journal of Wildland Fire*

action by the LA Wildfires that ignited in January of 2025. The delay in rulemaking has been attributed to political and administrative challenges. If the State affirms Zone 0 as expected by December of 2025, new structures built in the Very High Fire Hazard Severity Zone must comply within one year, and existing structures within the Very High Fire Hazard Severity Zone must comply within three years.

During this same period of time, the insurance industry and the California Department of Insurance adopted Ignition Zone 0 as one component of how they measure wildfire risk. The absence of Ignition Zone 0 from the Statewide fire code means that few communities are enforcing this standard. This then places homeowners in peril: even if their properties comply with the state and local code, they may face insurance non-renewal - or damage and destruction during a wildfire - because their property does not meet these scientifically validated standards. Further, the few homeowners who voluntarily adopt Ignition Zone 0 face significant risk from adjacent properties that have not adopted this mitigation measure.

The scientifically validated version of Ignition Zone 0 eliminates combustible material within the first five feet of a home and any outbuildings, attached decks, and stairs. Ignition Zone 0 also includes the area *under* attached decks and stair landings.

Materials not allowed include weeds, grass, plants (including climbing vines), debris, wood mulch products, combustible fencing and gates, plastic trash and recycle cans, trellis, pergolas, shade coverings, combustible planters, privacy walls, boats, RVs, and other material that could be ignited by embers or direct flame. A version of Ignition Zone 0 that does not fully adopt this standard, and allows fuel to remain, has not been studied and the benefits of a partial Ignition Zone 0 adoption have not been established.

Proactive steps to maintain Insurance

One common point of frustration with the current standards is that the existing fire code is less strict than the risk evaluation process of many insurers, who often follow the above-described evidence, leaving homeowners free of violations following an inspection, but unable to obtain insurance or facing non-renewal. Full adoption, and enforcement of the recommendations, outlined in this report would also align the affected home with industry standards for establishing risk. Because this would take place in a region, rather than with an individual property, congruent homes would meet the designation, likely reducing the overall neighborhood risk score. While the Department cannot guarantee this would increase eligibility in traditional insurance markets, it would align City requirements with the scientifically validated best practices adopted by that industry. Additionally, in cases where traditional insurance is still not an option, following these standards gives a home the scientifically validated best chance of survival during a wildfire.

ENVIRONMENTAL SUSTAINABILITY AND CLIMATE IMPACTS

Wildfires that transition to a structure-to-structure conflagration have acute and far-reaching consequences, not only for the environment and climate but also for the stability and well-being of impacted communities. These fires release large amounts of pollutants into the air, including soot and carbon dioxide, which contribute to climate change and degrade air quality. Additionally, toxic byproducts from burning structures, vehicles, and other synthetic material can pose significant health risks to residents and responders.

The water used to combat these fires is often sourced from the city's potable water supply. Once used, it can become contaminated with chemicals, ash, and debris, potentially polluting groundwater and local waterways.

The destruction of homes, businesses, and critical infrastructure leads to substantial economic burdens that jeopardize the financial stability of impacted communities. Rebuilding efforts require significant financial investment, as well as the production, transportation, and installation of new materials—all of which generate additional emissions. For individual residents, the loss of a home or business can lead to long-term financial instability, displacement, and increased insurance costs.

Beyond the physical and financial toll, these disasters leave lasting emotional and psychological scars on affected communities. Residents may experience trauma, anxiety, and grief, particularly when lives are lost, homes are destroyed, or neighborhoods are permanently altered. The social fabric of a community can be disrupted as families and businesses struggle to recover, sometimes forcing relocation and reducing neighborhood cohesion.

Investing in a strong fire code is one tool the city uses to reduce the frequency and severity of fires. Effective fire prevention also contributes to environmental sustainability by reducing emissions, preserving water resources, and minimizing the need for costly rebuilding efforts. A commitment to strong fire safety regulations ultimately benefits the entire community—protecting public health, safeguarding financial resources, and ensuring a resilient and sustainable future.

RATIONALE FOR RECOMMENDATION

The fire and seismic danger and other local conditions justify the proposed local amendments that are stricter than the California Fire Code.

A city, county, or city and county may establish more restrictive building standards as reasonably necessary because of local climatic, geological or topographical conditions. The City's adoption of stringent fuel mitigation and exterior hazard abatement standards is designed to decrease the risk of structure fires spreading to adjacent vegetation and the risk of vegetation fires spreading to structures. The Council bases these standards, in part, upon its finding that the climatic, vegetative, geological, and topographical conditions within the City create a grave risk of wildfire and resulting loss of life and property.

ALTERNATIVE ACTIONS CONSIDERED

None.

CONTACT PERSON

David Sprague, Fire Chief, 510-981-3473

Attachments:

- 1: Ordinance – “Amendment of Section 19.48.020 of the Berkeley Municipal Code (“Amendments to The California Fire Code”)”
- 2: Resolution - “Adopting Findings as to Local Climatic, Geological And Topographical Conditions Rendering Reasonably Necessary Various Enumerated Local Fire Standards That Are More Stringent Than Those Mandated By The California Fire Code And Amending Resolution No. 70,611–N.S.”
- 3: California Department of Insurance - Safer from Wildfire Standard
- 4: IBHS Wildfire Prepared Home - Base Designation Checklist

ATTACHMENT 1

**ORDINANCE NO. ##,###-N.S.
REPEALING AND RE-ENACTING BERKELEY MUNICIPAL CODE CHAPTER 19.48
(BERKELEY FIRE CODE)**

BE IT ORDAINED by the Council of the City of Berkeley as follows:

Section 1. That Berkeley Municipal Code Chapter 19.48 is hereby repealed and reenacted as to read as follows:

**Chapter 19.48
BERKELEY FIRE CODE***

Sections:

- 19.48.010 Adoption of the California Fire Code including Appendix B – Fire-Flow Requirements for Buildings and Appendix L – Requirements for Fire Fighter Air Replenishment Systems**
- 19.48.020 Amendments to the California Fire Code**
- 19.48.030 Validity**

Section 19.48.010 Adoption of the California Fire Code

- A. The California Fire Code, 2022 edition, as adopted in Title 24, Part 9 of the California Code of Regulations, including Chapter 1 (excluding Section 103), Chapter 3, Section 503 of Chapter 5, Sections 1103.5.6 through 1103.5.6.3 (new sections as created by BMC 19.48.020, Amendments to the California Fire Code), Appendix Chapters D, E, F, L (as amended by BMC 19.48.020, Amendments to the California Fire Code) and O published by the International Code Council not included in the California Building Standards Code, are adopted by this reference into this Chapter, and are hereby adopted and made a part of this Chapter as though fully set forth herein, subject to the modifications thereto which are set forth this ordinance. One copy of this Code is on file in the office of the City Clerk of the City of Berkeley.
- B. This chapter shall be known as the "Berkeley Fire Code" and shall be referred to in this chapter as "this code".
- C. This Chapter will become effective on June 1, 2025.

Section 19.48.020 Amendments to the California Fire Code

The following additions, changes and deletions to the 2022 California Fire Code, as detailed below, are adopted as part of the Berkeley Fire Code.

ATTACHMENT 1

Chapter 1 of the California Fire Code is adopted in its entirety subject to the modifications thereto which are set forth below.

CHAPTER 1 – SCOPE AND ADMINISTRATION

SECTION 101 SCOPE AND GENERAL REQUIREMENTS

[A] Section 101.1 Title. These regulations shall be known as the Berkeley Fire Code shall be known as the ~~Fire Code~~ of, shall be known as the Berkeley Fire Code, hereinafter referred to as "this code."

SECTION 102 APPLICABILITY

[A] 102.6 Historic buildings. The provisions of this code relating to the construction, alteration, repair, enlargement, restoration, relocation or moving of buildings or structures shall not be mandatory for existing buildings or structures identified and classified by the state or local jurisdiction as historic buildings where such buildings or structures do not constitute a distinct hazard to life or property. Fire protection in designated historic buildings shall be provided with an approved fire protection plan as required in Section 1103.1.1 in accordance with the 2022 California Historical Code.

SECTION 104 DUTIES AND POWERS OF THE FIRE CODE OFFICIAL

Section 104.13. Authority to arrest and issue citations. The Fire Chief, or their designee shall have authority to arrest or to cite any person who violates any provision of this Chapter involving the International Fire Code or the California Building Standards Code regulations relating to fire and panic safety as adopted by the State Fire Marshal, in the manner provided for the arrest or release on citation and notice to appear with respect to misdemeanors or infractions, as prescribed by Chapters 5, 5c and 5d of Title 3, Part 2 of the California Penal Code, including Section 853.6, or as the same hereafter may be amended. It is the intent of the City Council that the immunities provided in Penal Code Section 836.5 are applicable to aforementioned officers and employees exercising their arrest or citation authority within the course and scope of their employment pursuant to this Chapter.

Section 104.14 Authority to abate fire nuisance [Additional subsection]. The Fire Chief or the Fire Chief's designee shall have the authority to order the abatement of fire nuisances.

SECTION 105 PERMITS

105.5.18 Flammable and combustible liquids. An operational permit is required:

1. To use or operate a pipeline for the transportation within facilities of flammable or combustible liquids. This requirement shall not apply to the offsite transportation in pipelines regulated by the Department of Transportation (DOT) nor does it apply to piping systems.

ATTACHMENT 1

2. To store, handle or use Class I liquids in excess of 5 gallons (19 L) in a building or in excess of 10 gallons (37.9 L) outside of a building, except that a permit is not required for the following:
 - 2.1 The storage or use of Class I liquids in the fuel tank of a motor vehicle, aircraft, motorboat, mobile power plant or mobile heating plant, unless such storage, in the opinion of the fire code official, would cause an unsafe condition.
 - 2.2 The storage or use of paints, oils, varnishes or similar flammable mixtures where such liquids are stored for maintenance, painting or similar purposes for a period of not more than 30 days.
3. To store, handle or use Class II or Class IIIA liquids in excess of 25 gallons (95 L) in a building or in excess of 60 gallons (227 L) outside a building, except for fuel oil used in connection with oil-burning equipment.
4. To store, handle or use Class IIIB liquids in excess of 110 gallons in containers, or in tanks or portable tanks for fueling motor vehicles at motor fuel-dispensing facilities or where connected to fuel-burning equipment.

Exception: Fuel oil and used motor oil used for space heating or water heating.

5. To remove Class I or II liquids from an underground storage tank used for fueling motor vehicles by any means other than the approved, stationary on-site pumps normally used for dispensing purposes.
6. To operate tank vehicles, equipment, tanks, plants, terminals, wells, fuel-dispensing stations, refineries, distilleries and similar facilities where flammable and combustible liquids are produced, processed, transported, stored, dispensed or used.
7. To place temporarily out of service (for more than 90 days) an underground, protected above-ground or above-ground flammable or combustible liquid tank.
8. To change the type of contents stored in a flammable or combustible liquid tank to a material that poses a greater hazard than that for which the tank was designed and constructed.
9. To manufacture, process, blend or refine flammable or combustible liquids.
10. To engage in the dispensing of liquid fuels into the fuel tanks of motor vehicles at commercial, industrial, governmental or manufacturing establishments in accordance with Section 5706.5.4 or to engage in on-demand mobile fueling operations in accordance with Section 5707.
11. To utilize a site for the dispensing of liquid fuels from tank vehicles into the fuel tanks of motor vehicles, marine craft and other special equipment at commercial, industrial, governmental or manufacturing establishments in accordance with Section 5706.5.4 or, where required by the fire code official, to utilize a site for on-demand mobile fueling operations in accordance with Section 5707.

Section 105.5.55 Christmas tree sales lot. An operational permit is required to operate a Christmas tree sales lot.

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Section 105.5.56 Escort convoy service. Police and/or Fire Department convoy service is required for vehicle transportation of extremely hazardous materials.

Section 105.5.57 Fire Fighter Air Replenishment System (FARS). An annual operational permit is required to maintain a FARS system in accordance with Appendix L.

Section 105.5.58 General use permit. For any activity or operation not specifically described in this code, which the fire code official reasonably determines, may produce conditions hazardous to life or property.

Section 105.5.59 Parking facility, special events] An operational permit is required to use buildings or structures for vehicle parking, including parking for special events (i.e. football games, etc.).

Section 105.6.25 Fire fighter air replenishment system (FARS). A building permit is required for installation of or modification to a FARS system in accordance with Appendix L.

Section 105.6.26 Window bars, operational constraints and opening control devices. A building permit is required to install window bars or other equipment which imposes operational constraints and opening controls on emergency escape and rescue openings on exterior doors or windows of any sleeping rooms in accordance with fire code Section 1031.2.1 of this code.

SECTION 107 FEES

Section 107.2 Schedule of permit fees. Where a permit is required, a fee for each permit shall be paid as required, in accordance with the schedule ~~as established by the applicable governing body.~~ of fees for permits and inspections as set forth by the City Council by resolution.

Section 107.4 Work commencing before permit issuance. A person who commences any work, activity or operation regulated by this code before obtaining the necessary permits shall be subject to a fee ~~established by the applicable governing authority, which shall be in addition to the required permit fees.~~ equivalent to three times the amount of the required fees to obtain a permit for that work, activity or operation regulated by this code.

Section 107.7. Expense of securing emergencies. The expense of securing any emergency that is within the responsibility for enforcement of the fire code official as given in Sections 104.1 or 104.11 is a charge against the person who caused the emergency. Damages and expenses incurred by any public agency having jurisdiction or any public agency assisting the agency having jurisdiction shall constitute a debt of such person and shall be collectible by the fire code official for proper distribution in the same manner as in the case of an obligation under contract expressed or implied. Expenses as stated above shall include, but not be limited to, equipment and personnel committed and any payments required by the public agency to outside business firms requested by the public agency to secure the emergency, monitor remediation, and clean up.

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SECTION 111 MEANS OF APPEALS

Section 111.1 Board of appeals established. Appeals Procedure In order to hear and decide appeals of orders, decisions or determinations made by the fire code official relative to the application and interpretation of this code, ~~there shall be and is hereby created a board of appeals. The board of appeals shall be appointed by the applicable governing authority and shall hold office at its pleasure. The board shall adopt rules of procedure for conducting its business and shall render all decisions and findings in writing to the appellant with a duplicate copy to the fire code official.~~ an appeal therefore may be taken to the City Council by the applicant or permit holder. Notice of the appeal must be filed with the City Clerk of the City of Berkeley within ten days from the date of mailing of the fire code official's decision to the applicant or permit holder. The notice of appeal shall contain a statement of the reasons for the appeal. The City Clerk shall forward one copy thereof to the fire code official. Within thirty days after the filing of the notice of appeal, the fire code official shall transmit to the City Council all their records pertaining to the decision appealed from.

Section 111.1.1 Stay of Proceedings The filing of the notice of appeal shall stay all proceedings by all parties in connection with the matter upon which the appeal is taken until determination of the appeal as hereinafter provided, unless the fire code official determines that such a stay could result in an imminent threat to public safety.

Section 111.3 Qualifications. ~~The board of appeals shall consist of members who are qualified by experience and training to pass on matters pertaining to hazards of fire, explosions, hazardous conditions or fire protection systems, and are not employees of the jurisdiction.~~ **Decisions:** The City Council shall review the action of the fire code official and shall do any one of the following:

- a. Refer the matter back to the fire code official.
- b. If the facts stated in or ascertainable from the application, the Notice of Appeal, the written statement of the fire code official setting forth the reason for their decision, and the other papers, if any, constituting the record do not, in the opinion of the City Council, warrant further hearing, the City Council may affirm the decision of the fire code official. Such decision shall be final.
- c. If, in the opinion of the City Council, said facts warrant further hearing, the City Council shall set the matter for hearing and shall give notice of the time and place of said hearing by mailing a copy of such notice by certified mail to the address of the applicant as stated in the Notice of Appeal, at least ten (10) days before the time fixed for the hearing. The City Council may continue the hearing from time to time.
- d. Following such hearing, the City Council shall reverse, affirm wholly or partly modify any decision of the fire code official, or make any other decisions or determinations or impose such conditions as the facts warrant. Such decision or determination shall be final.
- e. If none of the above actions have been taken by the City Council within thirty (30) days from the date the appeal first appears on the City Council agenda, then the decision of the fire code official shall be deemed affirmed and the appeal shall be deemed dismissed.

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- f. If the appeal is set for hearing but the disposition of the appeal has not been determined within ninety (90) days from the date the appeal first appears on the City Council agenda, then the decision of the fire code official shall be deemed affirmed and the appeal deemed dismissed.

111.4 Administration. The fire code official shall take immediate action in accordance with the decision of the Board City Council .

SECTION 112 VIOLATIONS

Section 112.1 Unlawful acts [Amended subsection]. It shall be unlawful for a person, firm or corporation to erect, construct, alter, repair, remove, demolish or utilize a building, occupancy, premises or system regulated by this code, or cause same to be done, in conflict with or in violation of any of the provisions of this code, or to create, maintain or allow to continue any fire hazard.

Section 112.4 Violation penalties. Persons who shall violate a provision of this code or shall fail to comply with any of the requirements thereof or who shall erect, install, alter, repair or do work in violation of the approved construction documents or directive of the fire code official, or of a permit or certificate used under provisions of this code, shall be guilty of a [SPECIFY OFFENSE], punishable by a fine of not more than [AMOUNT] dollars or by imprisonment not exceeding [NUMBER OF DAYS], or both such fine and imprisonment misdemeanor, but may be cited or charged, at the election of the enforcing officer or City Attorney, as infractions, subject to an election by the defendant under Penal Code Subsection 17 (d). Each day that a violation continues after due notice has been served shall be deemed a separate offense. In addition to all other legal remedies, civil or criminal (as set forth above), any violation of this code constitutes a public nuisance in accordance with B.M.C Chapter 1.26, and is subject to all provisions of B.M.C. Chapter 1.26, as well as abatement under B.M.C. Chapter 1.24, "Abatement of Nuisances". All such violations are also subject to the issuance of an administrative citation in accordance with B.M.C Chapter 1.28 at the discretion of the enforcing officer or the City Attorney.

SECTION 114 UNSAFE STRUCTURES OR EQUIPMENT

Section 114.7 Summary abatement. Where conditions exist that are deemed hazardous to life and property, the fire code official or fire department official in charge of the incident is authorized to abate summarily such hazardous conditions that are in violation of this code. Where the owner does not comply with an abatement order under Section 114.4 within the period specified, the City of Berkeley may perform or cause to be performed the necessary work. The costs incurred shall be recoverable under the procedures in Section 114.7.1

Section 114.7.1 Abatement process [Additional subsection] The abatement process shall be conducted in accordance with the notice and hearing requirements of the nuisance abatement provisions of Berkeley Municipal code chapter 1.24, including summary abatements of structures or premises determined by the City of Berkeley to constitute an imminent hazard or emergency condition.

ATTACHMENT 1

Chapter 2 of the California Fire Code is adopted in its entirety subject to the modifications thereto which are set forth below.

CHAPTER 2 – DEFINITIONS

SECTION 202 GENERAL DEFINITIONS

Section 202 Definitions – BBERKELEY MARINA. The area shall mean all those, parts of the City of Berkeley west of the Interstate 80 Freeway

Section 202 (Definitions — F). FIRE HAZARD. Anything or act which increases or could cause an increase of the hazard or menace of fire to a greater degree than that customarily recognized as normal by persons in the public service regularly engaged in preventing, suppressing or extinguishing fire or anything or act which could obstruct, delay, hinder or interfere with the operations of the fire department or the egress of occupants in the event of fire. Fire hazards as defined herein are hereby declared to be public nuisances subject to abatement by the City of Berkeley.

Section 202 (Definitions — F). FIRE NUISANCE. Anything or act, which is annoying, unpleasant, offensive or obnoxious because of fire.

Section 202 (Definitions – J). JURISDICTION. The City of Berkeley. The governmental unit that has adopted this code.

Section 202 (Definitions — W). WASTE OIL is a Class III-B waste liquid resulting from the use of Class III-B combustible liquids such as waste motor oil, hydraulic oil, lubricating oil, brake fluids and transmission fluids.

Chapter 5 of the California Fire Code is adopted in its entirety subject to the modifications thereto which are set forth below.

CHAPTER 5 – FIRE SERVICE FEATURES

SECTION 504 ACCESS TO BUILDING OPENINGS AND ROOFS

Section 504.1.1 Marking of Exterior Building Openings. Where exterior doorways are not otherwise marked with identification such as building addresses, room/suite numbers or business names which identify the area(s) they provide access to, or a functional description for the space, such opening shall be provided with signs or labels indicating the areas they serve. Doorways to be marked shall include but are not limited to doors serving building circulation (such as stairwells/exit passageways), potential hazards (such as trash rooms), and building service and utility spaces (such as electrical, gas, HVAC and elevator machine rooms). Signs/labels shall be permanent, weather and sunlight resistant with lettering not less than ¾" high with a 1/16" width stroke on a contrasting background. Such signs or labels shall be affixed to the door frame or wall above the door. Such signs and labels shall be maintained.

Exception: Doors associated with private dwellings, the main entrance to normally occupied spaces or when determined to be unnecessary by the fire code official.

ATTACHMENT 1

Chapter 7 of the California Fire Code is adopted in its entirety subject to the modifications thereto which are set forth below.

CHAPTER 7 – FIRE AND SMOKE PROTECTION FEATURES

SECTION 705 DOOR AND WINDOW OPENINGS

Section 705.2.5 Smoke - and heat-activated doors. Smoke-activated doors shall be maintained to self-close or automatically close upon detection of smoke. Existing fusible-link-type automatic-door closing devices are permitted if the fusible-link rating does not exceed 135°F (57°C). Doors required for fire and smoke separation for interior exit stairways and floor separation in R-1 or R-2 occupancies shall not be maintained in an open position with fusible links.

Chapter 9 of the California Fire Code is adopted in its entirety subject to the modifications thereto which are set forth below.

**CHAPTER 9 – FIRE PROTECTION AND LIFE SAFETY SYSTEMS
SECTION 903
AUTOMATIC SPRINKLER SYSTEMS**

Section 903.2.10.1 Commercial parking garages. An automatic sprinkler system shall be provided throughout buildings used for storage of commercial motor vehicles ~~where the fire area exceeds 5,000 square feet (464 m²).~~

Section 903.2.11.1 Stories without openings. An automatic sprinkler system shall be installed throughout all buildings having stories, including basements, ~~of all buildings where the floor area exceeds 1,500 square feet (139.4 m²)~~ and where the story does not comply with the following types of exterior wall openings:

1. Openings below grade that lead directly to ground level by an exterior stairway complying with Section 1011 or an outside ramp complying with Section 1012. Openings shall be located in each 50 linear feet (15 240 mm), or fraction thereof, of exterior wall in the story on not fewer than one side. The required openings shall be distributed such that the lineal distance between adjacent openings does not exceed 50 feet (15 240 mm).
2. Openings entirely above the adjoining ground level totaling not less than 20 square feet (1.86 m²) in each 50 linear feet (15 240 mm), or fraction thereof, of exterior wall in the story on not fewer than one side. The required openings shall be distributed such that the lineal distance between adjacent openings does not exceed 50 feet (15 240 mm) The height of the bottom of the clear opening shall not exceed 44 inches (1118 mm) measured from the floor.

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Section 903.2.11.2. Rubbish, Recycling and linen chutes. An automatic sprinkler system shall be installed at the top of rubbish and linen chutes and in their terminal rooms. Chutes shall have additional sprinkler heads installed at alternate floors and at the lowest intake. Where a rubbish chute extends through a building more than one floor below the lowest intake, the extension shall have sprinklers installed that are recessed from the drop area of the chute and protected from freezing in accordance with Section 903.3.1.1. Such sprinklers shall be installed at alternate floors, beginning with the second level below the last intake and ending with the floor above the discharge. Access to sprinklers in chutes shall be provided for servicing. Activation of any fire sprinkler in a chute shall activate a separate water flow switch to indicate waterflow in the chute. All fire sprinklers in the chute shall be controlled by a separate, electrically supervised control valve with tamper switch.

Section 903.2.22 Structures in the Berkeley Marina Area. An automatic sprinkler system shall be installed in all structures located in the Berkeley Marina Area in accordance with NFPA 13 standards.

Exceptions: Gear lockers not designed to permit human entry, municipal restrooms unattached to other structures, the existing City of Berkeley Harbor Master's office, and any temporary construction site structures.

Section 903.2.23 Public Self-Storage Buildings. An automatic sprinkler system shall be installed in any building erected or existing building that was converted and/or subdivided for public self-storage use on or after August 19, 1982, in accordance with NFPA 13 standards.

Section 903.2.24 Environmental Safety - Residential District. Reserved

Section 903.3.1.2 NFPA 13R sprinkler systems. Automatic sprinkler systems in Group R occupancies shall be permitted to be installed throughout in accordance with NFPA 13R as amended in Chapter 80.

1. Four stories or less above grade plane.
2. The floor level of the highest story is 30 feet (9144mm) or less above the lowest level of fire department vehicle access.
3. The floor level of the lowest story is 30 feet (9144mm) or less below the lowest level of fire department access.

The number or stores of Group R occupancies constructed in accordance with Sections 510.2 and 510.4 of the *California Building Code* shall be measured from grade plane.

Exception: Sprinkler systems in residential / commercial mix-use buildings are to be in accordance with NFPA 13.

Section 903.3.9 Floor control valves. Floor control valves and waterflow detection assemblies shall be installed at each floor where any of the following occur:

1. Buildings where the floor level of the highest story is located ~~more than 30 feet~~ or more above the lowest level of fire department vehicle access.
2. Buildings that are ~~four~~ three or more stories in height.
3. Buildings that are two or more stories below the highest level of fire department vehicle access.

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Exception: In Group R-3 and R-3.1 occupancies, floor control valves and waterflow detection assemblies shall not be required.

Section 907.2 Where required—new buildings and structures. An approved fire alarm system installed in accordance with the provisions of this code and NFPA 72 shall be provided in new buildings and structures in accordance with Sections 907.2.1 through 907.2.29 and provide occupant notification in accordance with Section 907.5, unless other requirements are provided by another section of this code.

Not fewer than one manual fire alarm box shall be provided in an approved location to initiate a fire alarm signal for fire alarm systems employing automatic fire detectors or water-flow detection devices. ~~Where an automatic and manual, or a manual fire alarm system is required by this code or Berkeley local ordinance, other sections of this code allow elimination of fire alarm boxes is prohibited. due to sprinklers or automatic fire alarm systems, a single fire alarm box shall be installed at a location approved by the enforcing agency.~~

Exceptions:

1. The manual fire alarm box is not required for fire alarm control units dedicated to elevator recall control, supervisory service and fire sprinkler monitoring.
2. The manual fire alarm box is not required for Group R-2 occupancies unless required by the fire code official to provide a means for fire watch personnel to initiate an alarm during a sprinkler system impairment event. Where provided, the manual fire alarm box shall not be located in an area that is open to the public.
3. The manual fire alarm box is not required to be installed when approved by the fire code official.

Section 907.2.1 Group A. A manual fire alarm system that activates the occupant notification system in accordance with Section 907.5 shall be installed in Group A occupancies where the occupant load due to the assembly occupancy is 300 or more, or where the Group A occupant load is more than 100 persons above or below the lowest level of exit discharge. Group A occupancies not separated from one another in accordance with Section 707.3.10 of the *California Building Code* shall be considered as a single occupancy for the purposes of applying this section. Portions of Group E occupancies occupied for assembly purposes *with an occupant load of less than 1000* shall be provided with a fire alarm system as required for the Group E occupancy.

Exception: Manual fire alarm boxes are not required where the building is equipped throughout with an automatic sprinkler system installed in accordance with Section 903.3.1.1 and the occupant notification appliances will activate throughout the notification zones upon sprinkler water flow.

Every Group A building used for educational purposes shall be provided with a manual or automatic fire alarm system. This provision shall apply to, but shall not necessarily be limited to, every community college and university.

Exception: *Privately owned trade or vocational schools or any firm or company which provides educational facilities and instruction for its employees.*

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Section 907.2.2 Group B. A manual fire alarm system, which activates the occupant notification system in accordance with Section 907.5, shall be installed in Group B occupancies where one of the following conditions exists:

1. The combined Group B occupant load of all floors is 500 or more.
2. The Group B occupant load is more than 100 persons above or below the lowest level of exit discharge.
3. The fire area contains an ambulatory care facility.
4. *For Group B occupancies containing educational facilities, see Section 907.2.2.2.*

Exception: ~~Manual fire alarm boxes are not required where the building is equipped throughout with an automatic sprinkler system installed in accordance with Section 903.3.1.1 and the occupant notification appliances will activate throughout the notification zones upon sprinkler water flow.~~

Section 907.2.4 Group F. A manual fire alarm system that activates the occupant notification system in accordance with Section 907.5 shall be installed in Group F occupancies where both of the following conditions exist:

1. The Group F occupancy is two or more stories in height.
2. The Group F occupancy has a combined occupant load of 500 or more above or below the lowest level of exit discharge.

Exception: ~~Manual fire alarm boxes are not required where the building is equipped throughout with an automatic sprinkler system installed in accordance with Section 903.3.1.1 and the occupant notification appliances will activate throughout the notification zones upon sprinkler water flow.~~

Section 907.2.7 Group M. A manual fire alarm system that activates the occupant notification system in accordance with Section 907.5 shall be installed in Group M occupancies where one of the following conditions exists:

1. The combined Group M occupant load of all floors is 500 or more persons.
2. The Group M occupant load is more than 100 persons above or below the lowest level of exit discharge.

Exceptions:

1. A manual fire alarm system is not required in covered or open mall buildings complying with Section 402 of the *California Building Code*.
2. ~~Manual fire alarm boxes are not required where the building is equipped throughout with an automatic sprinkler system installed in accordance with Section 903.3.1.1 and the occupant notification appliances will automatically activate throughout the notification zones upon sprinkler water flow.~~

Section 907.2.8.1 Manual fire alarm system. A manual and automatic fire alarm system that activates the occupant notification system in accordance with Section 907.5 shall be installed in Group R-1 occupancies.

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Exceptions:

1. A manual fire alarm system is not required in buildings not more than two stories in height where all individual sleeping units and contiguous attic and crawl spaces to those units are separated from each other and public or common areas by not less than 1-hour fire partitions and each individual sleeping unit has an exit directly to a public way, egress court or yard.
2. Manual fire alarm boxes are not required throughout the building where all the following conditions are met:
 - 2.1. The building is equipped throughout with an automatic sprinkler system installed in accordance with Section 903.3.1.1 or 903.3.1.2.
 - 2.2. The notification appliances will activate upon sprinkler water flow.
 - 2.3. Not fewer than one manual fire alarm box is installed at an approved location.

Section 907.2.8.2 Manual and Automatic fire alarm systems

system. An A manual and automatic smoke detection fire alarm system that activates the occupant notification system in accordance with Section 907.5 shall be installed throughout all interior corridors and common areas of Group R-1 occupancies. The detection device for this purpose shall be a smoke detector (or heat detector as approved), which is system connected and electronically supervised serving sleeping units.

Exception: An automatic smoke detection system is not required in buildings that do not have interior corridors serving sleeping units and where each sleeping unit has a means of egress door opening directly to an exit or to an exterior exit access that leads directly to an exit.

Section 907.2.9.1 Automatic and Manual fire alarm system. An automatic and manual fire alarm system that activates the occupant notification system in accordance with Section 907.5 shall be installed in Group R-2 occupancies where any of the following conditions apply:

1. The building is three or more stories in height and Any any dwelling unit or sleeping unit is located three or more stories above the lowest level of exit discharge.
2. Any dwelling unit or sleeping unit is located more than one story below the highest level of exit discharge of exits serving the dwelling unit or sleeping unit.
3. The building contains more than 16 dwelling units or sleeping units.
4. *Congregate residences with more than 16 occupants.*

Exceptions:

1. A fire alarm system is not required in buildings not more than two stories in height where all dwelling units or sleeping units and contiguous attic and crawl spaces are separated from each other and public or common areas by not less than 1-hour fire partitions and each dwelling unit or sleeping unit has an exit directly to a public way, egress court or yard.

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2. ~~Manual fire alarm boxes are not required where the building is equipped throughout with an automatic sprinkler system installed in accordance with Section 903.3.1.1 or 903.3.1.2 and the occupant notification appliances will automatically activate throughout the notification zones upon a sprinkler water flow.~~
3. 2. A fire alarm system is not required in buildings that do not have interior corridors serving dwelling units and are protected by an approved automatic sprinkler system installed in accordance with Section 903.3.1.1 or 903.3.1.2, provided that dwelling units either have a means of egress door opening directly to an exterior exit access that leads directly to the exits or are served by open-ended corridors designed in accordance with Section 1027.6, Exception 3.

Section 914.3.9 Fire Fighter Air Replenishment Systems. New high-rise buildings shall install an approved Fire Fighter Air Replenishment System (FARS) or equivalent equipment or systems as determined by the fire code official to provide a breathing air supply for firefighting self-contained breathing air tanks. Such system or equipment shall provide adequate pressurized breathing air supply through a permanent piping system or other means acceptable to the fire code official for the replenishment of portable life sustaining air equipment carried by fire department, rescue and other personnel in the performance of their duties. Design, installation, testing and maintenance of such air replenishment systems shall be made in accordance with Appendix Chapter F of the California Plumbing Code. Each property owner shall be responsible for maintaining such equipment or systems including annual air sampling and testing.

Exceptions:

1. Buildings equipped with Firefighter Access Elevators as required by Berkeley Building Code section 403.6.1
2. Where an alternate method of supplying breathing air replenishment is approved by the fire code official.

ATTACHMENT 1

Chapter 11 of the California Fire Code is adopted in its entirety subject to the modifications thereto which are set forth below.

CHAPTER 11 – CONSTRUCTION REQUIREMENTS FOR EXISTING BUILDINGS

SECTION 1103 FIRE SAFETY REQUIREMENTS FOR EXISTING BUILDINGS

Section 1103.5 Sprinkler systems. An automatic sprinkler system shall be provided in existing buildings in accordance with Section 1103.5.1 through 1103.5.5-6.3

SECTION 1103.5.6 AUTOMATIC SPRINKLER REQUIREMENTS FOR EXISTING HOTELS

Section 1103.5.6.1 Definitions. For the purposes of this Section, the following terms shall be defined as follows:

1. "Hotel" shall mean any building, including motels, dormitories, rooming houses, fraternity houses and sorority houses, which contain six or more rooms which were intended or designed to be used, or which are used, for the purposes of renting, hiring or letting to residential occupants for sleeping purposes but shall not include apartment buildings as defined in this code.
2. "Story" is as defined in the Berkeley Building Code.
3. "First Story" is as defined in the Berkeley Building Code.
4. "Basement" is as defined in the Berkeley Building Code.
5. "Balcony, Exterior Exit" shall mean a landing or porch projecting from the wall of a building which serves as a required exit. The long side shall be at least 50 percent directly open to the exterior, and the open area above the guardrail shall be so configured as to prevent the accumulation of smoke or toxic gases.

Application: This section shall apply to every hotel in which the rooms used for sleeping are rented or let above the ground floor, if the hotel was built prior to 1992, and also meets one of the following two conditions:

The height of the hotel is three or more stories or two stories plus an inhabited basement, which is used for purposes other than exclusively servicing the maintenance and other needs of the building; or the hotel contains 20 or more rooms, or regularly accommodates 20 or more residential occupants.

Exception: No hotel in which the exits from sleeping rooms lead either to the outside of the building either directly or via approved exit balconies with approved exterior stairways(s) in accordance with the requirements of the Berkeley Building Code is required to comply with this section.

Section 1103.5.6.2 Types of Fire Sprinklers. In the sleeping units of the building, only residential or quick response sprinkler heads shall be used.

Section 1103.5.6.3 Supervision of fire sprinkler systems. All automatic sprinkler systems installed under this subsection shall be monitored for supervision and alarms in accordance with Section 903.4.

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Section 1103.7 Fire Alarm Systems. An approved fire alarm system shall be installed in existing buildings and structures in accordance with Sections 1103.7.1 through 1103.7.6 and provide occupant notification in accordance with Section 907.5 unless other requirements are provided by other sections of this code. Existing high-rise buildings shall comply with Section 1103.7.9. Where an automatic and manual or a manual fire alarm system is required by this code or Berkeley local ordinance, elimination of fire alarm boxes in buildings equipped with an approved sprinkler system is prohibited.

Exception: Occupancies with an existing, previously approved fire alarm system.

Section 1103.7.5.1 Group R-1 hotels, and motels, and congregate residences manual and automatic fire alarm system. A manual and automatic fire alarm system that activates the occupant notification system in accordance with Section 907.5 shall be installed in existing Group R-1 hotels, and motels, and congregate residences ~~more than with three or more stories or with more than 20 or more sleeping units.~~

Exceptions:

1. ~~A manual fire alarm system is not required in buildings less than two stories in height where all sleeping units, attics and crawl spaces are separated by 1-hour fire-resistance-rated construction and each sleeping unit has direct access to a public way, egress court or yard.~~
2. ~~A manual fire alarm system is not required in buildings not more than three stories in height with not more than 20 sleeping units and equipped throughout with an automatic sprinkler system installed in accordance with Sections 903.3.1.1 or 903.3.1.2.~~
3. ~~Manual fire alarm boxes are not required throughout the building where the following conditions are met:~~
 - 3.1. ~~The building is equipped throughout with an automatic sprinkler system installed in accordance with Section 903.3.1.1 or 903.3.1.2.~~
 - 3.2. ~~The notification appliances will activate upon sprinkler water flow.~~
 - 3.3. ~~Not less than one manual fire alarm box is installed at an approved location.~~

Section 1103.7.6 Group R-2. A manual and automatic fire alarm system that activates the occupant notification system in accordance with Section 907.5 shall be installed in existing Group R-2 occupancies three or more stories in height or with 16 or more dwelling or sleeping units. Congregate residences shall retrofit existing manual-only fire alarm systems with manual and automatic fire detection. Other types of R-2 occupancies (such as apartment buildings) shall retrofit existing manual-only fire alarm systems with manual and automatic fire detection when the existing fire alarm control unit is replaced for any reason. Automatic detection shall be accomplished by use of a smoke detector (or heat detector as approved), which is system connected and electronically supervised. Detectors shall be installed in all interior corridors and common areas.

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Exceptions:

1. Where each living unit is separated from other contiguous living units by fire barriers having a fire-resistance rating of not less than 3/4 hour, and where each living unit has either its own independent exit or its own independent stairway or ramp discharging at grade.
2. ~~A separate fire alarm system is not required in buildings that are equipped throughout with an approved supervised automatic sprinkler system installed in accordance with Section 903.3.1.1 or 903.3.1.2 and having a local alarm to notify all occupants.~~
3. A fire alarm system is not required in buildings that do not have interior corridors serving dwelling units and are protected by an approved automatic sprinkler system installed in accordance with Section 903.3.1.1 or 903.3.1.2, provided that dwelling units either have a means of egress door opening directly to an exterior exit access that leads directly to the exits or are served by open ended corridors designed in accordance with Section 1027.6, Exception 3.
4. A fire alarm system is not required in buildings that do not have interior corridors serving dwelling units, do not exceed three stories in height and comply with both of the following:
 - 4.1. Each dwelling unit is separated from other contiguous dwelling units by fire barriers having a fire-resistance rating of not less than ¾ hour.
 - 4.2. Each dwelling unit is provided with smoke alarms complying with the requirements of Section 907.2.11.

Section 1103.7.10 Monitoring of Group R Occupancies. All existing R occupancies that are required to provide both a fire alarm and fire suppression system shall have the system monitored by a central station, remote supervising station, or proprietary supervising station.

ATTACHMENT 1

Chapter 49 of the California Fire Code is adopted in its entirety subject to the modifications thereto which are set forth below.

CHAPTER 49 – REQUIREMENTS FOR WILDLAND-URBAN INTERFACE FIRE AREAS

SECTION 4902 DEFINITIONS

Section 4902.1 General. *For the purpose of this chapter, certain terms are defined as follows:*

DIRECTOR. *Director of the California Department of Forestry and Fire Protection (CAL FIRE).*

FIRE PROTECTION PLAN. *A document prepared for a specific premises, project or development, either existing or proposed for a Wildland-Urban Interface (WUI) area. It describes ways to minimize and mitigate potential for loss from wildfire exposure.*

FIRE HAZARD SEVERITY ZONES. *Geographical areas designated pursuant to California Public Resources Codes, Sections 4201 through 4204 and classified as Very High, High, or Moderate in State Responsibility Area or as Local Agency Very High Fire Hazard Severity Zones designated pursuant to California Government Code, Sections 51175 through 51189.*

The California Code of Regulations, Title 14, Section 1280 entitles the maps of these geographical areas as "Maps of the Fire Hazard Severity Zones in the State Responsibility Area of California."

FLATLANDS MITIGATION ZONE (ZONE 1) shall encompass the entire City of Berkeley except for areas in the Hills, Panoramic and Grizzly Peak Mitigation Zones.

FUEL BREAK. A natural or human caused change in fuel characteristics which affects fire behavior so that fires burning into them can be more readily controlled (NWCG PMS 205).

FIRE-RESISTANT VEGETATION. *Plants, shrubs, trees and other vegetation that exhibit properties, such as high moisture content, little accumulation of dead vegetation, and low sap or resin content, that make them less likely to ignite or contribute heat or spread flame in a fire than native vegetation typically found in the region.*

[Note: The following sources contain examples of types of vegetation that can be considered fire-resistant vegetation (Fire-resistant Plants for Home Landscapes, A Pacific Northwest Extension publication; Home Landscaping for Fire, University of California Division of Agriculture and Natural Resources; Sunset Western Garden Book)].

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GRIZZLY PEAK MITIGATION ZONE (ZONE 4) encompasses the area east of Grizzly Peak Boulevard to the city boundary west, north and south. Homes addressed on, or with a structural frontage on either side of Grizzly Peak Boulevard are included in the zone. The Grizzly Peak Mitigation Zone is designated as a Very-High Fire Hazard Severity Zone and Wildland-Urban Interface area.

HILLS MITIGATION ZONE (ZONE 2) encompasses those areas designated as Very High and High Fire Hazard Severity Zones that are not included in the Grizzly Peak or Panoramic Mitigation Zones. The Hills Mitigation Zone is designated as a Wildland-Urban Interface area. This area includes areas of the City east / north east of the line formed by these roads. Homes addressed on, or with a structural frontage on either side of these road segments are included in the zone:

- a. The Arlington Avenue from the Kensington Border to Marin Avenue
- b. Sutter Street from the Southern portal of the Northbrae Tunnel to Eunice Street
- c. Spruce Street from Eunice Street to Hearst Avenue
- d. Gayley Road from Hearst Avenue to Stadium Rim Way
- e. Piedmont Avenue from Stadium Rim Way to Dwight Way
- f. Warring Street from Dwight Way to Derby Street
- g. Belrose Avenue from Derby Street to Garber Street
- h. Claremont Boulevard from Garber Street to Claremont Avenue
- i. Claremont Avenue from Claremont Boulevard to the Oakland Border
- j. Tunnel Road from Ashby Avenue to the Oakland Border

IGNITION-RESISTANT MATERIAL. A type of building material that complies with the requirements in Section 704A.2 in the *California-Berkeley Building Code*.

LOCAL RESPONSIBILITY AREAS (LRA). Areas of the state in which the financial responsibility of preventing and suppressing fires is the primary responsibility of a city, county, city and county, or district.

PANORAMIC MITIGATION ZONE (ZONE 3) encompasses those areas of the City bounded by the line formed by these roads. The Panoramic Mitigation Zone is within the area designated as a Very High Fire Hazard Severity Zone and Wildland-Urban Interface area. Homes addressed on, or with a structural frontage on either side of these road segments are included in the zone.

- a. Canyon Road from the Oakland border to Stadium Rim Way
- b. Stadium Rim Way from Canyon Road to Bancroft Way
- c. Bancroft Way from Stadium Rim Way to Prospect Street
- d. Prospect Street from Bancroft Way to Bancroft Steps
- e. Bancroft Steps from Prospect Street to Warring Street

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- f. Bancroft Way from Warring Street to Piedmont Avenue
- g. Piedmont Avenue from Bancroft Way to Dwight Way
- h. Dwight Way from Piedmont Avenue to the Oakland border

STATE RESPONSIBILITY AREA (SRA). *Lands that are classified by the Board of Forestry pursuant to Public Resources Code Section 4125 where the financial responsibility of preventing and suppressing wildfires is primarily the responsibility of the state.*

WILDFIRE. *Any uncontrolled fire spreading through vegetative fuels that threatens to destroy life, property, or resources as defined in Public Resources Code, Sections 4103 and 4104.*

WILDFIRE EXPOSURE. *One or a combination of radiant heat, convective heat, direct flame contact and burning embers being projected by vegetation fire to a structure and its immediate environment.*

WILDLAND-URBAN INTERFACE (WUI). *A geographical area identified by the state as a "Fire Hazard Severity Zone" in accordance with the Public Resources Code, Sections 4201 through 4204, and Government Code, Sections 51175 through 51189, or other areas designated by the enforcing agency to be at a significant risk from wildfires. The Berkeley Hills, Panoramic, and Grizzly Peak Mitigation Zones are designated as Wildland-Urban Interface areas. See Government Code Chapter 6.8 Very High Fire Hazard Severity Zones and Public Resources Code Article 9 Fire Hazard Severity Area for the applicable referenced sections.*

SECTION 4903 PLANS

Section 4903.3 Submittal, approval and fees. When required to submit a Fire Protection Plan or Vegetation Management Plan for any reason the responsible party shall prepare or cause to be prepared a Fire Protection Plan in accordance with the latest standards of the Berkeley Fire Department. The Fire Protection Plan shall be submitted to, reviewed and approved by the Berkeley Fire Department and shall be enforced and maintained by the responsible party or their designated agent. The Berkeley Fire Department may charge an appropriate fee for the review, approval and processing of the Fire Protection Plan in accordance with the hourly rate established by City Council resolution.

SECTION 4904 FIRE HAZARD SEVERITY ZONES

Section 4904.4 Berkeley Fire Hazard Severity Zones.

HILLS MITIGATION ZONE (ZONE 2) is designated a Very-High and High Fire Hazard Severity Zone and Wildland-Urban Interface Fire Area. All requirements of Berkeley Fire Code Chapter 49 and Berkeley Municipal Code Section 19.28.030 (Berkeley Building Code, Chapter 7A) shall apply to the areas designated as Very-High and all requirements of Berkeley Municipal Code Section 19.28.030 (Berkeley Building Code, Chapter 7A) shall apply to the areas designated as Very High and High.

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PANORAMIC MITIGATION ZONE (ZONE 3) is designated a Very-High Fire Hazard Severity Zone and Wildland-Urban Interface Fire Area. All requirements of Berkeley Fire Code Chapter 49 and Berkeley Municipal Code Section 19.28.030, Berkeley Building Code, Chapter 7A shall apply.

GRIZZLY PEAK MITIGATION ZONE (ZONE 4) is designated a Very-High Fire Hazard Severity Zone and Wildland-Urban Interface Fire Area. All requirements of Berkeley Fire Code Chapter 49 and Berkeley Municipal Code Section 19.28.030 (Berkeley Building Code, Chapter 7A) and shall apply.

VERY HIGH FIRE HAZARD SEVERITY ZONE is also a Wildland-Urban Interface Fire Area. All requirements of Berkeley Fire Code Chapter 49 and Berkeley Municipal Code Section 19.28.030 (Berkeley Building Code, Chapter 7A) shall apply to the areas designated as Very-High and all requirements of Berkeley Municipal Code Section 19.28.030 (Berkeley Building Code, Chapter 7A) shall apply to these areas.

SECTION 4905 WILDFIRE PROTECTION BUILDING CONSTRUCTION

Section 4905.2 Construction methods and requirements within established limits. *Within the limits established by law, construction methods intended to mitigate wildfire exposure shall comply with the wildfire protection building construction requirements contained in the California Building Standards Code Berkeley Building Code and Berkeley Residential Code, including the following:*

1. *California Building Code, Chapter 7A.* Chapter 7A of the Berkeley Building Code (B.B.C), Berkeley Municipal Code Section 19.28.030.
2. *California Residential Code Section R337* of the Berkeley Residential Code (B.R.C.), Berkeley Municipal Code Section 19.29.050.
3. *California Referenced Standards Code, Chapter 12-7A.*

SECTION 4907 DEFENSIBLE SPACE

Section 4907.4 Specific requirements. Persons owning, leasing, controlling, operating or maintaining buildings or structures in, or upon the Very High Fire Hazard Severity Zone or Wildland-Urban Interface Fire Areas shall at all times comply with the specific requirements set forth within the references listed in CFC Section 4907.3, as well as the following minimum requirements.

Persons owning, leasing or controlling land adjacent to such buildings or structures that are in the Wildland-Urban Interface Fire Area, regardless of the status of their land as developed or undeveloped, shall at all times comply with the specific requirements set forth within the references listed in CFC Section 4907.3, as well as the following minimum requirements. The minimum area(s) of these properties that are required to comply with CFC Section 4907.3 and the following requirements are to be based on a 100-foot distance from structures on all adjacent lands, unless the Fire Code Official determines that compliance with section 4907.4, Item 3 is required.

Property owners are not required or authorized by this code to enter the properties of another person to implement the requirements of this Section. Persons described above shall at all times:

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1. Create and maintain effective defensible space **within 100 feet** of such buildings or structures, not to exceed the property line, by removing and clearing away flammable vegetation and combustible growth capable of readily transmitting fire from such areas as defined below.
2. In accordance with Government Code Section 51182, the amount and intensity of fuels management may vary within the 100-foot perimeter of the structure as determined by the inspecting fire department personnel, with more intense fuel reduction being used between 5 and 30 feet around the structure, and a fire-resistant zone being required within 5 feet of the structure based on regulations promulgated by the State Board of Forestry and Fire Protection; and
3. Maintain additional fire protection or fuel break by removing brush, flammable vegetation and combustible growth located **more than 100 feet** from such buildings when the fire department determines that conditions exist which may cause a firebreak of 100 feet to be insufficient to provide reasonable fire safety against a wildfire burning under average weather conditions. This section does not require or authorize property owners to manage vegetation beyond their property lines; and
4. Zone 1 – 5 to 30 feet from any structure:
 - a. Remove any privacy hedges or contiguous vegetation that will create a pathway for fire to reach a Structure.
 - b. Maintain 6 feet of vertical clearance between branches and all other parts of trees overhanging the roof or other portion of any Structure or attached deck.
 - c. Maintain any tree, shrub, or other plant adjacent to or overhanging any Structure or attached deck free of dead branches, dead limbs, or other Combustible Material.
 - d. Maintain the roof and roof gutters of any structure, and the surface of any attached deck free of leaves, needles, Hazardous Vegetation, and Combustible Materials.
 - e. Maintain trees to remove Ladder Fuels so that foliage, twigs, or branches are greater than 8 feet above the ground or surface fuels.
 - f. Remove all branches within 10 feet of any chimney or stovepipe outlet.
 - g. Storage of firewood, lumber, or other Combustible Material is not permitted.
 - h. Remove any privacy hedges or rows of bushes that will create a pathway for fire to reach a Structure.

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- i. Keep low-growing shrubs spaced apart or in small groupings (no more than 3 shrubs or a maximum of 10 feet wide and 10 feet apart from other plantings) that result in a discontinuous path of vegetation.
 - j. If there are multiple structures, such as a shed, hot tub, and playset, ensure these structures are spaced at least 10 feet apart. Have at most three (3) of these structures within 30 feet of your home.
 - k. Relocate exposed firewood piles outside of Zone 1 unless they are completely covered in a fire-resistant material.
- 5. Zone 2 – 30 to 100 feet from any structure:
 - a. All exposed wood piles must have a minimum of ten feet (10 ft.) of clearance, down to bare mineral soil, in all directions.
 - b. In this zone create horizontal and vertical spacing among shrubs and trees using the “Fuel Separation” method, the “Continuous Tree Canopy” method or a combination of both to achieve defensible space clearance requirements. Further guidance regarding these methods is contained in the State Board of Forestry and Fire Protection's, “General Guidelines for Creating Defensible Space, February 8, 2006,” incorporated herein by reference.
- 6. For both Zones 1 and 2:
 - a. Remove all flammable vegetation and combustible material capable of transmitting fire to a structure as determined by the Fire Code Official.
 - b. Dead and dying woody surface fuels and aerial fuels shall be removed. Loose surface litter, normally consisting of fallen leaves or needles, twigs, bark, cones, and small branches, shall be permitted to a maximum depth of three inches (3 in.).
 - c. Cut annual grasses and forbs down to a maximum height of four inches (4 in.).
 - d. Non-irrigated brush is not permitted.
 - e. Vertical Spacing: Limb trees and shrubs by removing hanging bark, debris and branches that are within eight feet (8 ft.) of the ground, or four times the height of the understory vegetation, whichever is greater. Where a tree / shrub is not adaptable to limbing to the height described above, use a combination of limbing and/or modify and remove fuels adjacent to and underneath the plant to provide clearance above grade that is equivalent to four times the height of the tallest understory fuel.
 - f. Horizontal spacing between shrubs:
 - i. Flat or mild slope (less than 20%): Two times the height of the shrub.
 - ii. Mild to moderate slope (20-40%): Four times the height of the shrub
 - iii. Moderate to steep slope (greater than 40%): Six times the height of the shrub

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- g. Space between trees:
 - i. Flat or mild slope (less than 20%): 10 feet.
 - ii. Mild to moderate slope (20-40%): 20 feet.
 - iii. Moderate to steep slope (greater than 40%): 30 feet.
- h. Trim trees regularly to keep branches a minimum of 10 feet from other trees. New trees shall be planted and maintained so that the tree's drip line at maturity is a minimum of 10 feet from any structure or the canopy of other trees.

Section 4907.6 Specific requirements. Effective January 1, 2026 the Grizzly Peak and Panoramic Mitigation Zones shall be subject to 4907.6 instead of 4907.4:

Performance-Based Approach: The prescriptive standards within this section must be met as a baseline. For situations that are not clearly covered by the prescriptive requirements, a performance-based approach using methods that are substantiated by evidence-based practices, research, or testing data deemed acceptable by the Fire Code Official may be used. The Fire Code Official reserves the authority to evaluate and approve proposed methods based on their ability to meet the established performance objectives. This performance-based approach allows for innovation, adaptability, and site-specific solutions while maintaining the primary goal of reducing the ignition risk to vegetation and structures.

A variety of techniques, materials, and strategies may be used, provided they effectively achieve the following performance objectives:

1. Maintain defensible space that mitigates the potential that vegetation, debris or other combustible material on a parcel creates a wildfire exposure to structures and accessory structures on the property or adjacent properties.
2. Vegetation will be evaluated based on the type, density, configuration, and arrangement on a parcel and how those factors are likely to contribute, or prevent, the spread of fire by radiant heat, ember and direct flame. Each parcel must contribute to the resiliency and reduction of the ignition risk the community faces.
3. Effectiveness of defensible space can be enhanced with improvements to the fire resistance of structures by completing "home hardening" retrofitting that is compliant with California Building Standards Code, including the following: California Building Code, Chapter 7A, California Residential Code, Section R337, California Referenced Standards Code, Chapter 12-7A, or other features deemed acceptable by the Berkeley Building Official.

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Persons owning, leasing or controlling land adjacent to such buildings or structures that are in the Very High Fire Hazard Severity Zone or Wildland-Urban Interface Fire Area, regardless of the status of their land as developed or undeveloped, shall at all times comply with the specific requirements set forth within the references listed in CFC Section 4907.3, as well as the following minimum requirements. The minimum area(s) of these properties that are required to comply with CFC Section 4907.3 and the following requirements are to be based on a 100-foot distance from structures on all adjacent lands, unless the Fire Code Official determines that compliance with section 4907.6, No. 3 (below) is required.

Property owners are not required or authorized by this code to enter the properties of another person to implement the requirements of this Section. Persons described above shall at all times:

1. Create and maintain effective defensible space **within 100 feet** of such buildings or structures, not to exceed the property line, by removing and clearing away flammable vegetation and combustible growth capable of readily transmitting fire from such areas as defined below.
2. In accordance with Government Code Section 51182, the amount and intensity of fuels management may vary within the 100-foot perimeter of the structure as determined by the inspecting fire department personnel, with more intense fuel reduction being used between 5 and 30 feet around the structure, and Zone 0 is required within 5 feet of Structures.
3. Maintain additional fire protection or fuel break by removing brush, flammable vegetation and combustible growth located **more than 100 feet** from such buildings when the Fire Code Official determines that conditions exist which may cause a firebreak of 100 feet to be insufficient to provide reasonable fire safety against a wildfire burning under average weather conditions. This section does not require or authorize property owners to manage vegetation beyond their property lines.
4. Zone 0 – 0 to 5 feet from any structure:
 - a. Maintain all areas within five (5) horizontal feet of any structure, including any outbuildings, attached decks, stairs, hot tubs and the area under attached decks and stair landings free of combustible material.
 - i. Combustible materials include but are not limited to vegetation, climbing vines, combustible boards, timbers, firewood, debris, synthetic lawn, wood mulch products, combustible fencing and gates (e.g.: wood/vinyl), playsets, plastic trash and recycle cans, trellises, pergolas, shade coverings, planters, attached window boxes, privacy walls, boats, RVs, and other material that could be ignited by embers, radiant heat, or direct flame.
 - ii. Hardscape materials, such as gravel, pavers, concrete, and other noncombustible mulch materials are permitted.

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- iii. Exception: Plants in pots are allowable if they are in areas that are not directly beneath, above, or adjacent to a window; are kept in an unaffixed, non-combustible pot or container that is no larger than 5-gallon capacity; and set apart by 1.5 times the height of the plant or 12 inches, whichever is greater, from the structure and each other. These plants shall be no greater than 18 inches in height. Dead or dying material on, around and under the plants shall be removed.
 - b. No trees are permitted in Zone 0.
 - i. Exception: If the bole of a tree is present within Zone 0, that tree is permitted if it is taller than the adjacent Building or Structure's roof ridgeline, does not have any dead and dying branches; and all live tree branches shall be kept ten feet (10') above the adjacent Building or Structure's roof ridgeline, ten feet (10') away from chimneys and stovepipe outlets, and five feet (5') away from the sides of any Building, Structure, decks, stairs, and hot tubs.
 - c. The roof and rain gutters of a Building or Structure shall be kept clear of leaves and needles.
 - d. Combustible gates that are directly attached to a Building or Structure are not permitted in Zone 0.
 - e. Fences that are directly attached to a Building or Structure shall have a five foot (5 ft) non-combustible span at the point of attachment. After the effective date of this regulation, no new sections of combustible fence (parallel or perpendicular) are permitted within 5 feet of a Building or Structure including an attached deck.
 - f. Outbuildings are not permitted in Zone 0, unless constructed according to the standards in Chapter 7A (commencing with Section 701A.1) of Part 2 of Title 24 of the California Code of Regulations. Outbuildings that meet these standards shall be considered part of the Building or Structure.
- 5. Zone 1 – 5 to 30 Feet from any structure:
 - a. Remove any privacy hedges or contiguous vegetation that will create a pathway for fire to reach a Structure.
 - b. Keep low-growing shrubs spaced apart or in small groupings (no more than 3 shrubs or a maximum of 10 feet wide and 10 feet apart from other plantings) that result in a discontinuous path of vegetation.
 - c. If there are multiple structures, such as a shed, hot tub, and playset, ensure these structures are spaced at least 10 feet apart. Have at most three (3) of these structures within 30 feet of your home.
 - d. Relocate exposed firewood piles outside of Zone 1 unless they are completely covered in a fire-resistant material.
- 6. Zone 2 – 30 to 100 feet from any structure:
 - a. All exposed wood piles must have a minimum of ten feet (10 ft.) of clearance, down to bare mineral soil, in all directions.

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- b. In this zone create horizontal and vertical spacing among shrubs and trees using the "Fuel Separation" method, the "Continuous Tree Canopy" method or a combination of both to achieve defensible space clearance requirements. Further guidance regarding these methods is contained in the State Board of Forestry and Fire Protection's, "General Guidelines for Creating Defensible Space, February 8, 2006," incorporated herein by reference.
7. For both Zones 1 and 2:
- a. Remove all flammable vegetation and combustible material capable of transmitting fire to a structure as determined by the Fire Code Official.
 - b. Dead and dying woody surface fuels and aerial fuels shall be removed. Loose surface litter, normally consisting of fallen leaves or needles, twigs, bark, cones, and small branches, shall be permitted to a maximum depth of three inches (3 in.).
 - c. Cut annual grasses and forbs down to a maximum height of four inches (4 in.).
 - d. Non-irrigated brush is not permitted.
 - e. Vertical Spacing: Limb trees and shrubs by removing hanging bark, debris and branches that are within eight feet (8 ft.) of the ground, or four times the height of the understory vegetation, whichever is greater. Where a tree / shrub is not adaptable to limbing to the height described above, use a combination of limbing and/or modify and remove fuels adjacent to and underneath the plant to provide clearance above grade that is equivalent to four times the height of the tallest understory fuel.
 - f. Horizontal spacing between shrubs:
 - i. Flat or mild slope (less than 20%): Two times the height of the shrub.
 - ii. Mild to moderate slope (20-40%): Four times the height of the shrub
 - iii. Moderate to steep slope (greater than 40%): Six times the height of the shrub
 - g. Space between trees:
 - i. Flat or mild slope (less than 20%): 10 feet.
 - ii. Mild to moderate slope (20-40%): 20 feet.
 - iii. Moderate to steep slope (greater than 40%): 30 feet.
 - h. Trim trees regularly to keep branches a minimum of 10 feet from other trees. New trees shall be planted and maintained so that the tree's drip line at maturity is a minimum of 10 feet from any structure or the canopy of other trees.

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Section 4907.5 Corrective Actions. The fire department is authorized to take enforcement actions as necessary to achieve compliance with Chapter 49 of this code, including but not limited to those actions specified in Sections 104.13 (“Authority to arrest and issue citations”), 112.4 (“Violation penalties”) and 114.7 (“Summary abatement”) of this code, and as authorized by Berkeley Municipal Code, Chapter 1.24, “Abatement of Nuisances”, and in accordance with all other applicable portions of the Berkeley Municipal Code. Corrective actions may also include the use of abatement warrants and the imposition of property liens as appropriate and in accordance with law.

Section 4912 SUPPRESSION AND CONTROL OF HAZARDS IN WILDLAND-URBAN INTERFACE AREAS]

Section 4912.1 Permit. The fire code official is authorized to stipulate conditions for permits. Permits shall not be issued when public safety would be at risk, as determined by the fire code official.

Section 4912.2 Restricted Entry. The fire code official shall determine and publicly announce when Wildland-Urban Interface areas shall be closed to entry and when such areas shall again be opened to entry. Entry on and occupation of Wildland-Urban Interface areas, except public roadways, inhabited areas or established trails and camp sites which have not been closed during such time when the Wildland-Urban Interface areas are closed to entry, is prohibited.

Exceptions:

1. Residents and owners of private property within Wildland-Urban Interface areas and their invitees and guests going to or being upon their lands;
2. Entry, in the course of duty, by peace officers, and other duly authorized public officers, members of a fire department and members of the United States Forest Service

Section 4912.3 Trespassing on Posted Property

Section 4912.3.1 General. When the fire code official determines that a specific area within a Wildland-Urban Interface Areas presents an exceptional and continuing fire danger because of the density of natural growth, difficulty of terrain, proximity to structures or accessibility to the public, such areas shall be closed until changed conditions warrant termination of closure. Such areas shall be posted as hereinafter provided.

Section 4912.3.2 Signs. Approved signs prohibiting entry by unauthorized persons and referring to this section shall be placed on every closed area.

Section 4912.3.3 Trespassing. Entering and remaining within areas closed and posted is prohibited.

Exception: Owners and occupiers of private or public property within closed and posted areas, their guests or invitees, and local, state and federal public officers and their authorized agents acting in the course of duty.

Section 4912.4 Smoking. Lighting, igniting or otherwise setting fire to or smoking tobacco, cigarettes, pipes or cigars in Wildland-Urban Interface areas are prohibited.

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Exception: Places of habitation or within the boundaries of established smoking areas or campsites as designated by the fire code official.

Section 4912.5 Spark Arresters. Chimneys used in conjunction with fireplaces, barbecues, incinerators or heating appliances in which solid or liquid fuel is used, upon buildings, structures or premises located within Wildland-Urban Interface areas shall be provided with a spark arrester. See Berkeley Building Code Section 705A.5 for specifications.

Section 4912.6 Tracer Bullets, Tracer Charges, Rockets and Model Aircraft. Tracer bullets and tracer charges shall not be possessed, fired or caused to be fired into or across Wildland-Urban Interface areas. Rockets, model planes, gliders and balloons powered with an engine, propellant or other feature liable to start or cause fire shall not be fired or projected into or across Wildland-Urban Interface Areas.

Section 4912.7 Explosives and Blasting. Explosives shall not be possessed, kept, stored, sold, offered for sale, given away, used, discharged, transported or disposed of within Wildland-Urban Interface areas except by permit from the fire code official.

Section 4912.8 Fireworks. Fireworks shall not be used or possessed in Wildland-Urban Interface areas. The fire code official is authorized to seize, take, remove or cause to be removed fireworks in violation of this section.

Exception: Fireworks allowed by the fire code official under permit when not prohibited by applicable local or state laws, ordinances and regulations.

Section 4912.9 Apiaries. Lighted and smoldering material shall not be used in connection with smoking bees in or upon Wildland-Urban Interface areas except by permit from the fire code official.

Section 4912.10 Open-Flame Devices. See Berkeley Fire Code Sections 308.1.6 Open Flame Devices and 308.1.6.1 Signals and Markers.

Section 4912.11 Outdoor Fires. Outdoor fires shall not be built, ignited or maintained in or upon Wildland-Urban Interface areas, except by permit from the fire code official.

Exception: Outdoor fires within habited premises or designated campsites, where such fires are built in a permanent barbecue, portable barbecue, outdoor fireplace, incinerator or grill and are a minimum of 30 feet (9144 mm) from a grass-, grain-, brush or forest-covered area.

Permits shall incorporate such terms and conditions, which will reasonably safeguard public safety and property.

Outdoor fires shall be prohibited in or upon Wildland-Urban Interface areas under the following conditions:

1. When red flag conditions exist as defined by the National Oceanic and Atmospheric Administration,
2. When a person age 17 or over is not present at all times to watch and tend such fire, or
3. When public announcement is made that open burning is prohibited. Permanent barbecues, portable barbecues, outdoor fireplaces, fire pits or grills shall not be used if solid or liquid fueled.

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Section 4912.12 Incinerators and Fireplaces. Incinerators, outdoor fireplaces, fire pits, permanent barbecues and grills shall not be built, installed or maintained in Wildland-Urban Interface areas without prior approval of the fire code official. Existing incinerators, outdoor fireplaces, fire pits, permanent barbecues and grills shall be maintained in good repair and in a safe condition at all times. Openings in such appliances shall be provided with an approved spark arrester, screen or door.

Exception: When approved, unprotected openings in barbecues and grills necessary for proper functioning shall be allowed.

Section 4912.13 Dumping. Garbage, cans, bottles, papers, ashes, refuse, trash, rubbish or combustible waste material shall **not** be placed, deposited or dumped in or upon Wildland-Urban Interface areas or in, upon or along trails, roadways or highways in Wildland-Urban Interface areas.

Exception: Approved public and private dumping areas.

Section 4912.14 Disposal of Ashes. Ashes and coals shall not be placed, deposited or dumped in or upon Wildland-Urban Interface areas.

Exceptions:

1. In the hearth of an established fire pit, camp stove or fireplace;
2. In a noncombustible container with a tight-fitting lid, which is kept or maintained in a safe location not less than 10 feet (3048mm) from combustible vegetation or structures;
3. Where such ashes or coals are buried and covered with 1 foot (304.8mm) of mineral earth not less than 25 feet (7620 mm) from combustible vegetation or structures.

Section 4912.15 Use of Fire Roads and Firebreaks. Motorcycles, motor scooters and motor vehicles shall not be driven or parked upon, and trespassing is prohibited upon, fire roads or firebreaks beyond the point where travel is restricted by a cable, gate or sign, without the permission of the property owner(s). Vehicles shall not be parked in a manner, which obstructs the entrance to a fire road or firebreak.

Exception: Public officers acting within their scope of duty. Radio and television aerials, guy wires thereto, and other obstructions shall not be installed or maintained on fire roads or fire breaks unless located 16 feet (4877 mm) or more above such fire road or firebreak.

Section 4912.16 Use of Motorcycles, Motor Scooters and Motor Vehicles. Motorcycles, motor scooters and motor vehicles shall not be operated within Wildland-Urban Interface areas, without a permit by the fire code official, except upon clearly established public or private roads. Permission from the property owner(s) shall be presented when requesting a permit.

Section 4912.17 Tampering with Fire Department Locks, Barricades and Signs. Locks, barricades, seals, cables, signs and markers installed within Wildland-Urban Interface areas, by or under the control of the fire code official, shall not be tampered with, mutilated, destroyed or removed. Gates, doors, barriers and locks installed by or under the control of the fire code official shall not be unlocked.

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Section 4912.18 Liability for Damage. The expenses of fighting fires and securing emergencies, which result from a violation of this code, Chapter 6.15.030 of the Berkeley Municipal Code ("Unauthorized barbecues and fire on public property"), Sections 13000-13011 of the California Health and Safety Code, Sections 4421-4446 of the California Public Resources Code, or Sections 451, 451.5, 452 or 455 of the California Penal Code is a charge against the person(s) whose violation of the code section(s) caused the fire. Damages caused by such fires shall constitute a debt of such person(s) and shall be collectable by the fire code official in accordance with Section 107.7 of the BMC.

Chapter 50 of the California Fire Code is adopted in its entirety subject to the modifications thereto which are set forth below.

CHAPTER 50 – HAZARDOUS MATERIALS – GENERAL PROVISIONS

SECTION 5001 GENERAL

Section 5001.7 Hazardous materials transportation restrictions. No vehicle containing hazardous materials, including a hazardous materials transportation tank truck, trailer, semi-trailer or tank wagon containing flammable or combustible liquids, hazardous chemicals, liquefied petroleum gases, poisonous gases, or cryogenic fluids, shall be operated on any city street without a permit from the fire code official. A map showing the proposed route of the vehicle shall accompany applications for such permits. If a permit is granted, the map shall be carried at all times in the vehicle and the vehicle shall not deviate from the approved route as shown on the map. Such a permit may contain conditions, including restrictions on the hours within which certain routes may be used and limitations on the size of the vehicle allowed to travel the approved route. No route shall be approved that includes passage over or adjacent to subway entry or vent structures, through the Northbrae Tunnel, in any area designated an environmental safety residential district by the City of Berkeley's Zoning Ordinance, or in an area which may be designated as a hazardous fire area. Departure from the approved route, travel outside the permitted hours, and violation of any vehicle size limitation imposed, or failure to carry a map showing route approval shall constitute a violation of this Code. The transportation of extremely hazardous materials may, in the discretion of the fire code official, require both a permit and accompaniment by a Fire Department or Police Department convoy. The following streets contain purge chamber openings which lead directly into the subway section of the Bay Area Rapid Transit (BART) System in Berkeley and their use by tank vehicles or trailers for transportation or delivery of flammable or combustible liquids, hazardous chemicals, liquefied petroleum gases, poisonous gases, or cryogenic fluids is prohibited and a violation of this Code:

- a. On Addison Street between Martin Luther King Jr. Way and Oxford Street;
- b. On Shattuck Avenue between University Avenue and Dwight Way;
- c. On Virginia Street between Franklin and Sacramento Streets;
- d. On Sacramento Street between Virginia Street and Hearst Avenue;
- e. On Hearst Avenue between McGee Avenue and Milvia Street;

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- f. On Adeline Street between Ward and Stuart Streets; and
- g. On Adeline Street between Ashby Avenue and Woolsey Street

CHAPTER 56 – EXPLOSIVES AND FIREWORKS

SECTION 5601 GENERAL

5601.1.3 Fireworks. The possession, manufacture, storage, sale, handling and use of fireworks, including fireworks which are classified as Safe and Sane fireworks by the California State Fire Marshal's Office, are prohibited within the City of Berkeley.

Exceptions:

- ~~1. Storage and handling of fireworks as allowed in Section 5604.~~
- ~~2. Manufacture, assembly and testing of fireworks as allowed in Section 5605 and Health and Safety Code Division 11.~~
- ~~31. The use of fireworks for fireworks displays, pyrotechnics before a proximate audience and pyrotechnic special effects in motion pictures, television, theatrical or group entertainment productions as allowed in Title 19, Division 1, Chapter 6 Fireworks reprinted in Section 5608 and Health and Safety Code Division 11 when stored, transported, handled and used under the required fire department permit(s) and in accordance will all applicable requirements of Chapter 56.~~
- ~~42. The possession, storage, sale, handling and use of specific types of Division 1.4G fireworks where allowed by applicable laws, ordinances and regulations, provided that such fireworks and facilities comply with NFPA 1124, CPSC 16 CFR Parts 1500 and 1507, and DOTn 49 CFR Parts 100– 185, as applicable for consumer fireworks and Health and Safety Code Division 11.~~

Section 5604.1 General. The storage and handling of explosives within City of Berkeley limits is prohibited. ~~Storage of explosives and explosive materials, small arms ammunition, small arms primers, propellant- actuated cartridges and smokeless propellants in magazines shall comply with the provisions of this section~~

Exception: Where expressly permitted by applicable laws, ordinances or regulations provided such storage and handling of explosives and explosive materials, small arms ammunition, small arms primers, propellant-actuated cartridges and smokeless propellants in magazines is conducted in accordance with Section 5604 and all applicable provisions of Chapter 56.

CHAPTER 57 – FLAMMABLE AND COMBUSTABLE LIQUIDS

SECTION 5701 GENERAL

Section 5701.4.1 Transfer of flammable and combustible liquids. Transfer to or from containers or mobile tanks, above ground or underground tanks of flammable and combustible liquids shall not be made from or on the street or public way except by written approval by the fire code official.

Exceptions:

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1. Transfer of not more than 5 gallons flammable or combustible liquids using a listed or approved portable fuel container of not more than 5 gallons capacity.
2. The transfer of combustible liquids to or from approved, fixed mechanical or electrical system equipment such as a Standby or Emergency electric power generator when the transfer is completed by a commercial fuel vendor using approved dispensing equipment via a previously approved, fixed tank filling port which met code requirements at the time of installation.

SECTION 5704 STORAGE

Section 5704.2.11.1.1 Restrictions on underground storage tanks. The storage of flammable and combustible liquids in underground tanks is prohibited in all areas zoned solely for residential occupancies, closely built commercial properties, and any other area deemed unsafe by the fire code official.

Section 5704.2.13.1.4 Tanks abandoned in place. Tanks may be abandoned only under permit and following City of Berkeley Fire Department procedures. The owner shall demonstrate to the satisfaction of the City of Berkeley Toxics Management Division (TMD) that no unauthorized release has occurred. If the soil is contaminated, mitigation must be completed to the satisfaction of the Toxics Management Division (TMD). A notice shall be placed in the deed to the property. This notice shall describe the precise location of the closed underground storage tank, the hazardous substances that it contained, and the closure method. Tanks abandoned in place shall be as follows:

1. Flammable and combustible liquids shall be removed from the tank and connected piping.
2. The suction, inlet, gauge, vapor return and vapor lines shall be disconnected.
3. The tank shall be filled completely with an approved inert solid material.
4. Remaining underground piping shall be capped or plugged.
5. A record of tank size, location and date of abandonment shall be retained.
6. All exterior above-grade fill piping shall be permanently removed when tanks are abandoned or removed.

Section 5704.2.14 Removal and disposal of tanks. Removal and disposal of tanks shall comply with Sections 5704.2.14.1 and 5704.2.14.2. Removal of all tanks shall be authorized under a fire permit, abiding by City of Berkeley Fire Department procedures. The applicant shall submit the following:

1. **A site plan showing the location of the tanks.**
2. **A detailed description of the scope of work.**
3. **A site safety plan.**
4. **A vicinity map to the closest hospital, in an event of an emergency.**
5. **Proof of workers compensation insurance.**

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The owner shall demonstrate to the satisfaction of the City of Berkeley Toxics Division that no unauthorized release has occurred. If the soil is contaminated, mitigation must be completed to the satisfaction of the Toxics Division or the California Water Board.

CHAPTER 61 – LIQUIFIED PETROLEUM GASES

SECTION 6104 LOCATION OF LP-GAS CONTAINERS

Section 6104.1.1 Restrictions on storage of LP-gas containers. It shall be unlawful to store any liquefied petroleum gas cylinder with a capacity greater than 2-1/2 lbs. water capacity or a portable tank within any structure or building with an occupancy classification of A, R-1, R-2 or R-4, unless specifically authorized by this Code.

APPENDIX B – FIRE FLOW REQUIREMENTS FOR BUILDINGS

Section B105.2 (Appendix B), Table B105.2, “Required Fire-Flow for Buildings Other Than One- And Two-Family Dwellings, Group R-3 And R-4 Buildings And Townhouses” [Amended Table]

**TABLE B105.2
REQUIRED FIRE-FLOW FOR BUILDINGS
OTHER THAN ONE- AND
TWO-FAMILY DWELLINGS, GROUP R-3 AND R-4
BUILDINGS AND TOWNHOUSES**

AUTOMATIC SPRINKLER SYSTEM (Design Standard)	MINIMUM FIRE-FLOW (gallons per minute)	FLOW DURATION (hours)
No automatic sprinkler system	Value in Table B105.1(2)	Duration in Table B105.1(2)
Section 903.3.1.1 of the <i>California Fire Code</i>	2550% of the value in Table B105.1(2) ^a	Duration in Table B105.1(2) at the reduced flow rate
Section 903.3.1.2 of the <i>California Fire Code</i>	2550% of the value in Table B105.1(2) ^b	Duration in Table B105.1(2) at the reduced flow rate

For SI: 1 gallon per minute= 3.785 Lit.

a. The reduced fire-flow shall be not less than 1,000 gallons per minute.

b. The reduced fire-flow shall be not less than 1,500 gallons per minute.

APPENDIX L – REQUIREMENTS FOR FIRE FIGHTER AIR REPLENISHMENT SYSTEMS

SECTION L104 DESIGN AND INSTALLATION

ATTACHMENT 1

Section L104.5.1 Stored pressure air supply. A stored pressure air supply shall be designed based on Appendix Chapter F of the California Plumbing Code Chapter 24 of NFPA 1901 except that the provisions applicable only to mobile apparatus or not applicable to system design shall not apply. A stored pressure air supply shall store not less than 5,000 Standard Cubic Feet (SCF) of air or be capable of refilling not less than 50 empty breathing air cylinders of a size and pressure used by the fire department, whichever is greater.

Section 19.48.030 Validity. Should any section, paragraph, sentence or word of this Chapter or of the Code or Standards be declared invalid, all other portions of this Chapter shall remain in effect.

Section 2. Copies of this Ordinance shall be posted for two days prior to adoption in the display case located near the walkway in front of the Maudelle Shirek Building, 2134 Martin Luther King Jr. Way. Within 15 days of adoption, copies of this Ordinance shall be filed at each branch of the Berkeley Public Library and the title shall be published in a newspaper of general circulation.

RESOLUTION NO. ##,#### - N.S.

ADOPTING FINDINGS AS TO LOCAL CLIMATIC, GEOLOGICAL AND TOPOGRAPHICAL CONDITIONS RENDERING REASONABLY NECESSARY VARIOUS ENUMERATED LOCAL FIRE STANDARDS THAT ARE MORE STRINGENT THAN THOSE MANDATED BY THE CALIFORNIA FIRE CODE AND AMENDING RESOLUTION NO. 70,611–N.S.

BE IT RESOLVED by the Council of the City of Berkeley as follows:

WHEREAS, the City is proposing to adopt various enumerated changes and modifications to the California Fire Code, as set forth below; and

WHEREAS, Health & Safety Code §17958 allows the City to make modifications or changes to the California Fire Code and other regulations adopted pursuant to Health & Safety Code §17921(a) which result in more stringent local requirements; and

WHEREAS, Health & Safety Code §17925, §17958.5 and §17958.7 require that such changes be supported by findings made by the governing body that such more stringent local requirements are necessary because of “local climatic, geological or topographical conditions or factors;” and

WHEREAS, such findings must be made available as a public record and a copy thereof with each such modification or change shall be filed with the California Building Standards Commission:

NOW THEREFORE, BE IT RESOLVED by the City Council that it finds that each of the various proposed changes or modifications to the California Fire Code which are enumerated below are reasonably necessary because of local conditions in the area encompassed by the City of Berkeley, as set forth below:

1. LOCAL CONDITIONS

a. Climatic Conditions

i. Discussion

The City of Berkeley is located at the geographic center of the Bay Area. The western limits are defined by the Bay at near sea level and the eastern limits by the abruptly rising Berkeley Hills to 1,200 feet. The eastern limit faces open parklands and open space (covered with vegetative fuel loading) to the east and is exposed to a unique danger from wildland fires during periods of hot, dry weather in the summer months. Many of the Berkeley homes in this area have wood shake and shingle roofs and are surrounded by brush type vegetation. The situation is made even worse by the negative effects of high wind conditions during the fire season. During May to October, critical climatic fire conditions occur where the temperature is greater than 80°F, wind speed is greater than 15 mph, fuel moisture is less than or equal to 10 percent, wind direction is from north to

the east-southeast and the ignition component is 65 or greater. These conditions occur more frequently during the fire season but this does not preclude the possibility that a serious fire could occur during other months of the year. The critical climate fire conditions create a situation conducive to rapidly moving, high intensity fires. Fires starting in the wildland areas along the easterly border are likely to move rapidly westward into Berkeley's urban areas.

- In September 1923, critical climatic fire conditions were in effect and Berkeley sustained one of the most devastating fires in California's history. A fire swept over the range of the hills to the northeast of Berkeley and within two hours was attacking houses within the City limits. A total of 130 acres of built-up territory burned. 584 Berkeley buildings were wholly destroyed and about 30 others seriously damaged. By far the greater portion were single-family dwellings, but among the number were 63 apartments, 13 fraternity, sorority and students' house clubs and 6 hotels and boarding houses.
- In September 1970, during critical climatic fire conditions characterized by hot, dry winds out of the northeast, a fire started along Fish Ranch Road and Grizzly Peak. This fire rapidly spread into the surrounding neighborhoods of Oakland and Berkeley, burning 400 acres and destroying 37 homes. An additional 18 homes were badly damaged before the fire was brought under control.
- In December of 1980, during critical climatic fire conditions, a small fire started at Berkeley's northeast limits and within minutes five homes were totally destroyed by fire.
- On October 20, 1991, a disastrous firestorm swept down from the Oakland hills. Within the first few hours, thousands of people were evacuated. Ultimately over 3,000 dwelling units were destroyed, of which more than 70 were in Berkeley. This fire matched the pattern established by the fires of 1923 and 1980. Additionally, the conditions that led to it were the same as the conditions that led to a 1970 fire that destroyed 37 homes in Berkeley and Oakland.

ii. Summary.

Local climatic conditions of limited rainfall, low humidity, high temperatures and high winds along with existing building construction create extremely hazardous fire conditions that adversely affect the acceleration intensity and size of fires in the City. The same climatic conditions may result in the concurrent occurrence of one or more fires, which may spread in the more populated areas of the City without adequate fire department personnel to protect against and control such a situation.

b. Geological Conditions.

i. Discussion.

The City of Berkeley is in a region of high seismic activity and is traversed by the Hayward fault. It has the San Andreas earthquake fault to the west and the Calaveras earthquake fault to the east. All three faults are known to be active as evidenced by the damaging earthquakes they have produced in the last 100 years and can, therefore, be expected to do the same in the future. Of primary concern to Berkeley is the Hayward

Fault, which has been estimated to be capable of earthquakes exceeding a magnitude of 7.0 on the Richter scale. It extends through many residential areas and passes through a small business district and the University of California. A large number of underground utilities cross the fault, including major water supply lines. Intensified damage during an earthquake may be expected in those areas of poorer ground along the Bay, west of Interstate 80 and in known slide areas, as well as hillside areas (occupied mainly by dwellings) located within or near the fault zone; some areas are steep and have been subjected to slides.

The waterfront areas and areas in the Berkeley flatlands immediately adjacent to creeks and water streams present a major potential for soil liquefaction hazard. The Eastshore Freeway may liquefy and fail under heavy shaking or it may be inundated by a tsunami. The north hill area is most susceptible to landslides because of the presence of soft and unconsolidated sediments, extensive water content in the ground and the steepness of slopes.

Great potential damage can be related to the likely collapse of freeway overpasses. In the event of a major earthquake, Berkeley's firefighting capability could be greatly affected by loss of its main water supply. There is also the strong possibility of inundation due to failure of water reservoirs in the hill area. The replacement of Summit Reservoir at the Kensington border in Berkeley was completed in December 2018. Berryman Reservoir North has been demolished and replaced by a steel tank in 2012. Berryman Reservoir South has received a seismic upgrade. Additional potential situations following an earthquake include broken natural gas mains and ensuing fires in the streets; building fires, as the result of broken service connections; trapped occupants in collapsed structures; and rendering of first aid and other medical attention to a large number of people.

ii. Summary.

Local geological conditions include high seismic activity and large concentrations of residential type buildings as well as a major freeway. Since the City of Berkeley is located in a densely populated area having buildings and structures constructed over and near a vast array of fault systems capable of producing major earthquakes, the modifications cited herein are intended to better limit life safety hazards and property damage as a result of a seismic activity.

c. Topographical Conditions.

i. Discussion.

The City of Berkeley has many homes built throughout the urban portion of the Berkeley Hills that are reached by narrow and often winding paved streets which hamper access for fire apparatus and escape routes for residents. In addition, many of the hillside homes are on the extreme eastern edge of the City and require longer response times for the total required firefighting force. Panoramic Way and other hill areas with narrow and winding streets may face the problem of isolation from the rest of the City.

In the areas north and south of the University of California, there are large concentrations of apartments, rooming houses, and fraternity and sorority houses. A number of apartments in these areas are of wood frame construction and are up to five stories in

height from grade level. The fire potential is moderately high due to building congestion, heights, and wood shingle roof coverings and siding. Fires can be expected to involve large groups of buildings in these areas. It is noted that Berkeley most probably has more physically impaired people per capita than any other community in the United States. It is estimated that 14% of the approximate population of 112,580 per 2010 Census in Berkeley are physically impaired. Emergency egress and rescue for these people are more difficult during a fire or other life safety emergency.

The Eastshore Highway, running along the western edge of Berkeley, is one of the most heavily used and congested freeway sections in the state. Noted impacts have been increased rates of asthma, particularly among children. The proximity of Berkeley to this freeway and its location downwind from prevailing patterns negatively affects air quality, thus increasing the impact of wood smoke in Berkeley.

d. Summary.

Local topographical conditions include hillside housing with many narrow and winding streets with slide potential for blockage in the abruptly rising Berkeley hills. These conditions create an extremely serious problem for the Fire Department when a major fire or earthquake occurs. Many situations will result in limiting or total blockage of fire department emergency vehicular traffic, overtaxed fire department personnel and a total lack of resources for the suppression of fire in buildings and structures in the City of Berkeley. In addition, under these local conditions, the presence of wood smoke can cause increased disease, including asthma, and increased deaths from heart and lung disease.

2. REASONABLE NECESSITY

The proposed changes and modifications to the California Fire Code are reasonably necessary due to the local climatic, geological and topographical conditions set forth above. They are further justified for the reasons set forth below.

In adopting the California Fire Code as the Berkeley Fire Code, the City proposes to make certain substantive modifications whose effect is to impose more stringent requirements locally than are mandated by the California Fire Code. These are specifically listed below, but may be generally characterized as relating to: the preservation of building and roof accessibility and emergency egress; maintenance of building compartmentation using fusible links; amendment of automatic sprinkler requirements; amendment of fire alarm system requirements; amendment of fire flow requirements; requirements for high-rise air supply and the regulation of hazards including hazardous materials, Wildland-Urban Interface management, temporary assembly attractions, fireworks and explosives. These more stringent local requirements are reasonably necessary to address risks created by local conditions set forth above for the following reasons:

1. Section 105.6.26 (Window bars, operational constraints and opening control devices) is a local amendment which regulates window bars or other opening control devices that impose operational constraints on emergency escape and rescue openings. This amendment does not impose more stringent requirements on the devices or equipment than is set forth in Section 1031.2.1 of this code, but it does impose the requirement that a fire department permit be obtained prior to the installation of such

equipment. Section 1031.2.1 of this code contains detailed requirements for the installation conditions of this equipment yet the California Fire Code provides no mechanism to verify that the code requirements are being met. This provision is adopted due to Berkeley's increased local geological risk of earthquakes and the likelihood that exterior escape and rescue openings may be needed by occupants to evacuate buildings.

2. Section 503 (Fire apparatus access roads) and Appendix D (Fire apparatus access roads) are adopted in their entirety as local code amendments. They are adopted due to: local geological conditions of severe earthquake potential which may result in landslides and the collapse of "built-environment" features which may block access roads; local topographical conditions including narrow streets and steep hills which slow and hinder emergency response and evacuation; and local climatic conditions including the need for rapid, unhindered citizen evacuation from and emergency responder access into wildfire prone areas of the City.
3. Section 504.1.1 (Marking of Exterior Building Openings) is added due to local topographical conditions which promote multi-story and on-slope construction to maximize buildable space within the City. The limited space available for development encourages developers and designers to crowd exterior openings into limited available space, often resulting in groups of building openings without any obvious cues for firefighters as to the area(s) served within the building or the purpose of the openings. This amendment is intended to inform firefighters as to the area served and/or purpose of an exterior opening and therefore reduce the amount of time firefighters may spend searching for or forcing entry into otherwise unmarked doorways.
4. Section 705.2.5 (Smoke- and heat-activated doors) is amended due to the increased risks caused by fires resulting from earthquakes and proximity to the wildland-interface. These risks, which are particularly severe in Berkeley due to its high population density, are shown by its past history of above average death and property loss due to fire in these types of occupancies. This amendment will maintain the fire and smoke separation requirements and prevent spread of smoke and fire in apartments, boarding houses, and congregate living spaces.
5. Sections 903.2.10.1, 903.2.11.1, 903.2.11.2, 903.2.22, 903.2.23, 903.3.1.2, 903.3.9 and 1103.5, 1103.5.6, 1103.5.6.1, 1103.5.6.2, 1103.5.6.3 (Fire Sprinkler Systems) are amended due to the increased risks caused by fires resulting from earthquakes and proximity to the wildland-interface. These risks, which are particularly severe in Berkeley due to its high population density, are shown by its past history of above average death and property loss due to fire in these types of occupancies. Automatic fire sprinkler systems significantly reduce the loss of life and fire spread with early suppression and control of a fire. Additionally, these amendments will maintain the standards established in 1992 after the 1990 fraternity fire and 1991 Berkeley Oakland firestorm.
6. Amendments and additions to Sections 907.2, 907.2.1, 907.2.2, 907.2.4, 907.2.7, 907.2.8.1, 907.2.8.2, 907.2.9.1 and 1103.7, 1103.7.5.1, 1103.7.6, and 1103.7.10 (Fire Alarm Systems) are amended due to the increased risks caused by fires

resulting from earthquakes and proximity to the wildland-interface. These risks, which are particularly severe in Berkeley due to its high population density, are shown by its past history of above average death and property loss due to fire in these types of occupancies. Automatic fire alarm systems significantly reduce the loss of life and fire spread with early detection and notification of firefighting personnel. Additionally, these amendments will maintain the standards adopted in 1998 as part of the Berkeley Fire Code.

7. Section 914.3.9 ["Fire Fighter Air Replenishment Systems"], Appendix Chapter L ["Requirements for Fire Fighter Air Replenishment Systems" in its entirety as amended), Section L104.5.1 ["Stored pressure air supply" as amended], Section 105.5.57 [operational permit to maintain a "firefighter air replenishment system (FARS)"] and Section 105.6.25 [construction permit to install or modify "Firefighter air replenishment system(FARS)"] are added due to the local geological condition of severe risk of earthquake and ensuing fires. Fire Fighter Air Replenishment Systems are intended to maximize the operational efficiency of available firefighting forces, and to reduce the impacts of high-rise fire incidents on limited firefighting forces that may already be challenged by the aftermath of a major seismic event. Additionally, these amendments will maintain the standards adopted in 2002 as part of the Berkeley Fire Code to require air supply systems for firefighting operations. The proposed code adoption recognizes Appendix Chapter L of the International Fire Code as the standard for the design, installation, testing and maintenance of such a system. It provides potential owners, designers and installers with a standard that they may refer to in order to better understand a type of system that many may not be familiar with.
8. Section 4911.12 (Incinerators and Fireplaces), is created which mandates that certain potential ignition sources within Wildland-Urban Interface (WUI) fire areas such as incinerators, outdoor fireplaces, fire pits, permanent barbecues and grills shall not be constructed without prior approval of the fire code official. Also, continued use of such constructed equipment (termed 'maintained' in the fire code ordinance) is prohibited unless the equipment is maintained in good repair and safe condition at all times. This section also requires that such equipment be provided with appropriate spark arrestors, similar to the requirements in the Berkeley Building Code for fixed mechanical equipment associated with structures and regulated under the Berkeley Building Code. This added section requires fire department approval, spark arresters and maintenance of this equipment due to steep topography and Mediterranean climatic conditions. These conditions result in a large wildland-interface fire area which has a history of large, catastrophic fires.
9. Section 5704.2.11.1.1 (Restrictions on underground storage tanks), Section 5704.2.13.1.4 (Tanks abandoned in place), Section 5704.2.14 (Removal and disposal of tanks) and section 6104.1.2 (Restrictions on storage of LP-gas containers) of the Berkeley Fire Code are local amendments to the California Fire Code. These subsections are necessitated by local topographical conditions including the dense population of residential dwellings throughout the City; the narrow winding streets of the hazardous hill area; and the presence of a major transportation system underground (BART with its surge chambers and other

openings at the street level in various areas of the city). These factors make it very important for purposes of fire safety to regulate hazardous material storage to ensure that it does not intrude in these areas.

10. Section B105.2 (Appendix B, “Fire Flow Requirements for Buildings”, Table B105.2, “Required Fire-Flow For Buildings Other Than One- And Two-Family Dwellings, Group R-3 And R-4 Buildings And Townhouses”) is amended due to the geological conditions of the City with its proximity to major earthquake faults. Predictions by the local water utility company are that many water mains will break as the result of a magnitude 6.7 earthquake on the Hayward Fault.
11. Appendix O (Temporary haunted houses, ghost walks and similar amusement uses) is adopted as a local amendment to the California Fire Code and is adopted based on local geological conditions (the potential for severe earthquake with accompanying fire and/or structural collapse) and local topographical conditions including the need to ensure adequate separation of structures and uses in densely developed urban areas. Fire alarm systems (as required in this appendix) are shown to significantly reduce the life safety threat to occupants of structures during fire events. Regulation of these structures and activities ensures that adequate safety provisions have been made for limiting occupancy to safe numbers of guests and for the evacuation of attraction guests in crowded urban environments. Adoption of this appendix also allows for the regulation of related features such as the combustibility of decorations and the management of hazards such as temporary electrical wiring and the use of portable generators.

BE IT FURTHER RESOLVED by the Council of the City of Berkeley that certain local amendments to the codes are not building standards more stringent than the provisions of the California Fire Code but rather cover matters not addressed by those codes as building standards, or are administrative in nature, as follows:

1. Chapter 1 (as amended in Sections 101.1, 102.6, 104.13, 104.14, 105.5.18, 105.5.55, 105.5.56, 105.5.58, 105.5.59, 107.2, 107.4, 111, 111.1, 111.1.1, 111.3, 112.1, 112.4, 114.7, and 114.7.1 provides administrative provisions, an appeal process, and additional clarification and non-building standard permit requirements required to implement the fire code.
2. Chapter 2 as amended in section 202 (Definitions) provides additional definitions required to clarify and implement the local adoption of the fire code.
3. Chapter 3 (General Requirements) is adopted in its entirety. The adopted sections of this chapter impose controls on a wide range of hazards that are not building standards. Hazards addressed include asphalt kettles, combustible waste materials, control of ignition sources, open burning/recreational fires, open flames, powered industrial equipment, smoking, securing of vacant premises, vehicle impact protection, fueled equipment, general storage and hazards to firefighters.
4. Chapter 49 as amended, including Sections 4902.1, Table 4902.1, 4903.3, 4904.4, 4905.2, 4906.5, 4906.5.1, 4906.5.2, 4906.5.2.1, 4906.5.2.2, Table 4906.5.2.2, 4906.5.2.3, Table 4906.5.2.3, 4906.5.3, 4906.5.4, 4906.5.5, 4906.6, 4906.7, 4907.4, 4907.6 provides definitions related to local Wildland-Urban Interface (WUI) fire areas,

directs interested parties to appropriate BMC Chapter 19.28 sections (Berkeley Building Code) for building construction requirements in WUI areas, and imposes various non-building standard requirements for the management of vegetation. Added Sections 4911, 4911.1, 4911.2, 4911.3, 4911.3.1, 4911.3.2, 4911.3.3, 4911.4, 4911.5, 4911.6, 4911.7, 4911.8, 4911.9, 4911.10, 4911.11, 4911.13, 4911.14, 4911.15, 4911.16, 4911.17, and 4911.18 impose various non-building standard requirements for the suppression and control of fires in WUI areas.

5. Section 5001.7 (Hazardous Materials Transport Restrictions) is a local amendment to the California Fire Code that restricts the transportation, storage and transfer of hazardous materials but does not create or modify any building standards. It simply imposes additional requirements necessitated by local conditions. This new subsection is necessitated by the dense population of residential dwellings throughout the City; the narrow winding streets of the hazardous hill area; and the presence of a major transportation system underground (BART with its surge chambers and other openings at the street level in various areas of the city). These factors make it very important for purposes of fire safety to regulate hazardous material transportation to ensure that it does not intrude in these areas.
6. Section 5601.1.3 (Fireworks) prohibits (with suitable exceptions) the possession, manufacture, storage, sale, handling and use of fireworks within the jurisdiction (including fireworks classified by the State Fire Marshal as Safe and Sane fireworks). Section 5604.1 ("General" section of 5604, "Explosive and Fireworks") is modified to prohibit the storage and handling of explosives within the jurisdiction. Both sections are intended to preserve the ban on storage, handling and use of these materials within City limits which have historically been deemed unsafe and inappropriate activities within the jurisdiction.
7. Section 5701.4.1 (Transfer of flammable and combustible liquids) prohibits dispensing of flammable liquids on or from a street or public way and provides administrative provisions, additional clarification and non-building standard approval or permit requirements required to implement the fire code.
8. Appendix E (Hazard Categories) and Appendix F (Hazard Ranking) are local amendments to the California Fire Code related to hazardous materials management. These chapters define the hazard categories and rankings associated with the storage, handling and use of hazardous materials, and provide the qualitative and quantitative rankings used on hazardous materials information signs posted for the benefit of firefighters and other first responders. These hazard categories and rankings are administrative in nature and do not constitute building standards.

BE IT FURTHER RESOLVED, that Resolution No. 69,170–N.S is hereby rescinded.

Being Safer from Wildfires Can Help With Your Insurance



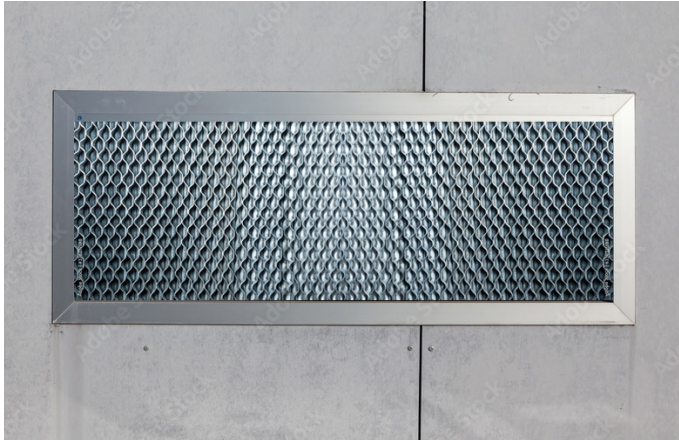
Safer from Wildfires is a ground-up approach to wildfire resilience with three layers of protection — for the structure, the immediate surroundings, and the community. Following these achievable steps can help you save money on your insurance.



Safer from Wildfires was created by an interagency partnership between Insurance Commissioner Ricardo Lara and the emergency response and readiness agencies in Governor Gavin Newsom's administration. Learn more at insurance.ca.gov

3 Ways to Get Started with **Safer from Wildfires**

Don't know where to start? Here are 3 low-cost steps you can take today.



Keep embers out

Installing 1/16 to 1/8 inch noncombustible, corrosion-resistant metal mesh screens over attic vents can keep wind-blown embers out of your house.



Clear the first 5 feet

Removing greenery and replacing wood chips with stone or decomposed granite 5 feet around your home prevents fire from getting a foot in the door.



Be safer together

With Firewise USA, communities as small as 8 dwelling units or as big as 2,500 can create an action plan and start being safer together. Firewise USA is a nationally recognized program with proven results, sponsored by the National Fire Prevention Association.

Do more, save more

Every action under **Safer from Wildfires** will qualify you for an insurance discount. By doing more, you can save more.

- Class A fire-rated roof
- 5-foot ember-resistant zone around the structure
- Noncombustible 6 inches at the bottom of walls
- Ember- and fire-resistant vents
- Double pane windows or added shutters
- Enclosed eaves
- Cleared vegetation and debris from under decks
- Move sheds and outbuildings at least 30 feet away
- Trim trees and remove brush in compliance with state and local defensible space laws
- Neighborhoods can form a Firewise USA community
- Cities, counties, and local districts can become certified as a Fire Risk Reduction Community

Scan to find more resources



How-to Prepare Your Home Checklist

Wildfire Prepared Home Base Designation

Typically achieved through retrofits to existing homes—This group of required actions includes creating a 5-foot noncombustible home buffer, preparing the home's exterior, and maintaining the deck/covered porch and yard. **To receive a designation certificate, your home must meet all requirements listed for this level.**

CREATE A 5-FOOT HOME BUFFER (0-5 FEET)

1. Create a 5-foot noncombustible buffer around your home and decks.

- ☐ **Remove ALL vegetation** and combustible ground covers such as wood mulch within 5 feet of your home. This means all bushes, grass/artificial turf, flowers, trees, succulents, etc., down to bare dirt or hardscape.
- ☐ **Remove trees and trim branches that overhang the 5-foot area;** the home buffer extends to the sky. Don't forget your deck too.
- ☐ **Install hardscape:** Clear the 5 feet around your home including decks/covered porches, under and around the stairs to bare dirt. You may also, use hardscapes such as gravel, pavers, river rocks, DG base, steppingstones, or concrete to create an attractive noncombustible buffer zone.
- ☐ **Replace combustible (wood/vinyl) fencing, posts, and gates within 5 feet of the home** with a noncombustible fence, such as metal (aluminum, chain link, or iron) or concrete blocks.
- ☐ **Remove vines** from the home, pergolas, fences, and within 5 feet.
- ☐ **Clear and maintain the 5-foot noncombustible buffer area.**
 - Clear tree debris, weeds, leaves, and grass regularly.
 - Do not park or store any vehicles, boats, RVs, trailers, or ATVs within 5 feet of the home. Ideally, relocate these stored items in a closed garage or park them at least 30 feet away from the home.
 - Remove all combustible items such as firewood, potted plants, outdoor furniture, trash cans, pet houses, lawn tools, sheds, hot tubs, etc., from this zone.

5-foot Home Buffer Tips:

- o Use a measuring tape from the base of the walls and deck to measure out to 5 feet. If you have a covered porch, it should be measured out to 5 feet from the cover, including vertical supports.
- o Homeowners with less than 5-feet of setback will have to work with neighbor(s) to create and maintain the 5-foot buffer zone.



During a wildfire, embers can travel miles ahead of a fire front and accumulate at the base of your home's exterior walls and within the first 5 feet. By implementing a 5-foot noncombustible buffer zone, you significantly reduce the chances of your home being ignited by wildfire.



Wood and vinyl fences when ignited can provide a pathway for fire to reach your home.

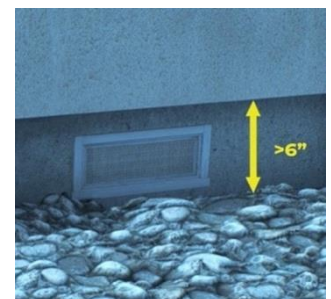
PREPARE YOUR HOME'S EXTERIOR

2. Check and maintain your roof and gutters.

- ☐ **Clear all tree debris from your roof and gutters** regularly.
- ☐ **Replace a wood shake/shingle roof** with a Class A fire-rated roof cover such as asphalt shingles, tile, slate, or metal. Barrel tile and some metal must also include bird stops at the edges, to prevent intrusion under the tile by birds or other wildlife.
- ☐ **Replace plastic/vinyl gutters** and downspouts with metal.

3. Ensure a 6-inch vertical clearance on exterior walls.

- ☐ Ensure there is a minimum of **6 vertical inches** (measured from the ground up and from any attached horizontal surface like a deck) of noncombustible siding material around your home. This can include fiber-cement, brick, stone, stucco, or exposed concrete foundation. Additionally, metal flashing can be used above deck walking surfaces and posts.



6-inch clearance: Embers accumulate against homes at the base of exterior walls and on other horizontal surfaces like decks that can ignite the home.

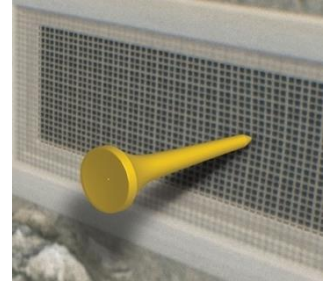
4. Install ember-resistant vents.

- ☐ Install ember-resistant vents or cover all existing vents with 1/8-inch metal wire mesh.
- ☐ Ensure your dryer vent has working louvers or a flap to reduce ember entry. Due to its design and function, wire mesh should not be used on dryer vents.

Note: Plumbing vents are excluded from these requirements.

Vent Tips

- o Check your current vent mesh size using a golf tee or the tip of a pen. If the tee does not fit through the mesh openings, it is the correct size.
- o You can cover your current vents by installing the 1/8-inch metal mesh from the inside or outside.



*Wind-blown embers can enter your home through **vents** in your attic, roof, gables, and crawlspace and ignite materials inside.*

MAINTAIN DECKS & YARD (5-30 FEET)

5. Clear and maintain decks and covered porches.

On the surface of a deck, patio, or under a covered porch:

- ☐ **Clear all tree debris** regularly.
- ☐ **Remove large rugs and combustible furniture** such as wood, wicker, or plastic. Use noncombustible cast aluminum or metal furniture instead.
- ☐ Ensure if you have **a few small items**, they can easily be moved inside on Red Flag days and keep them out of the 5-foot buffer.
 - o You may have up to 10 small, noncombustible terra cotta or ceramic planters with small flowers or plants; avoid woody vegetation or trees in the pots.
 - o You may have a few cushions and a small door mat.
- ☐ **Remove combustible structures such as a pergola or gazebo from wood or composite decks.** You may replace it with a noncombustible material such as metal.
- ☐ **Retrofit vinyl/wood pergolas within 30 feet with all the following:**
 - o **Place pergola on a noncombustible surface** and include the surrounding 5-foot noncombustible buffer.
 - o **Remove 50% of the slats or cover the roof with a Class A material** such as metal or asphalt shingles.
 - o **Install 6 inches of noncombustible siding material** to the bottom of the posts where they meet the ground. Materials can include metal flashing, concrete block, fiber cement siding, or stone/brick veneer.
- ☐ **Remove all accessories from the structures** such as hanging plants, vines, and any curtains/drapes/ screens.
- ☐ **Remove hot tubs** from underneath a covered porch and from combustible (wood or composite) decks. **Place hot tubs to at least 10 feet away** from the home if located on a noncombustible patio material such as stones, pavers, or concrete. Ensure it includes the surrounding 5-foot noncombustible buffer and 6 vertical inches of noncombustible material such as flashing.



***Decks** attached to or built near your home provide a path for fire to reach your home. Reducing or eliminating the vulnerabilities of a deck or porch—including items on top of or underneath—reduces the chance your*

Note: Detached decks, covered porches, and pergolas within 30 feet of the home must meet the same requirements as attached decks.

Underneath the walking surface of a deck:

- ☐ **Remove anything stored** under the deck or stairs.
- ☐ **Remove all vegetation**—including grass or weeds—from under the deck and stairs.

To apply for a designation certificate or learn more visit wildfireprepared.org.

- ❑ **Install 6 inches of noncombustible siding material to the bottom of the posts** where they meet the ground.
- ❑ **Include a 5-foot noncombustible buffer** around deck and stairs.
- ❑ **Additionally, for decks with a walking surface at a height of 4 feet or less** from the ground, enclose the area underneath with one of the following:
 - Install 1/8-inch or finer metal wire mesh around the outer edge of the walking surface extending to the ground, **or**
 - Install a noncombustible wall covering.



For low decks, enclose the area underneath to keep debris and embers out which can easily ignite a deck from underneath.

6. Maintain the yard, trees, and structures from 5 to 30 feet.

- ❑ **Maintain the yard**
 - **Cut grass** to no more than 4 inches and keep watered.
 - **Routinely clear tree debris** such as leaves and pine needles.
 - **Remove dead vegetation**, including piles from pruning. **Firewood** should be stored 30 feet from any structures.
- ❑ **Trim trees**
 - **Remove tree limbs less than 6 feet** from the ground.
 - **Trim upper branches** of trees to ensure at least 10 feet of space between the canopies of neighboring trees.
- ❑ **Maintain shrubs**
 - Choose low-growing, fire-resistant plants.
 - **Relocate any shrubs located under or near trees.**
 - Keep low-growing shrubs **spaced apart or in small groupings** (no more than 3 shrubs or a maximum of 10 feet wide and 10 feet apart from other plantings) that will result in a discontinuous path of vegetation.
 - **Remove any privacy hedges or rows of bushes** that will create more fuel and a pathway for fire to reach your home.
- ❑ **Maintain structures within 30 feet of your home (i.e., sheds, hot tubs, pergolas, and playsets)**
 - **Place structures at least 10 feet away** from the home or any attached decks.
 - Create a **5-foot noncombustible buffer** around and under each structure.
 - **Clear all vegetation** such as vines growing on and tree branches overhanging these structures.
 - **Ensure there is a minimum of 6 vertical inches** (measured from the ground) of noncombustible siding material at the base of each structure or any horizontal surfaces, such as a hot tub, just as you would for your home. For an elevated structure like a shed, enclose the base with no larger than 1/8-inch or finer metal wire mesh.
 - **If you have multiple structures**, such as a shed, hot tub, and playset, ensure these structures are spaced at least 10 feet apart. Have at most 3 of these structures within 30 feet of your home.
 - **Move large stationary propane tanks to 30 feet away from the home.** If there is not an option to move the tank 30 feet from your home, it should be placed a minimum of 10 feet from the home and one of the following:
 - Buried underground.
 - Enclosed on all 4 sides with concrete block, 1/8-inch mesh over the top for ventilation, and 5-feet of noncombustible groundcover surrounding the structure.*

*This is a suggestion, retrofit in coordination with your propane provider.



Embers blown from miles away can easily start spot fires around your home. Creating and maintaining defensible space on your property will slow the spread of fire and reduce flame intensity near your home. By spacing out bushes and trees, you are removing ladder fuels that allow fire to spread and reducing the intensity of a fire near your home.

Note: Best practice is to place structures 30+ feet away from your home. To meet the Plus level designation, it is required to have all structures placed at least 30 feet from the home.

Communications – April 15, 2025

Council rules limit action on Communications to referral to the City Manager and/or Boards and Commissions for investigation and/or recommendations. All communications submitted to Council are public record.

Item #1: Adoption of CALFIRE Map and Additional Areas Designated as the City of Berkeley Fire Hazard Severity Zones (Reviewed by the Public Safety Committee)

1. Scott Murray
2. Jason Warriner
3. Robert Godes
4. Roger and Zoe Hill
5. Dr Bruce Feingold

Item #2: Modification and Adoption of Berkeley Fire Code Local Amendments (Reviewed by the Public Safety Committee)

6. Robert and Frederica Breuer
7. Ann Hoyer
8. Lisa Titus
9. Patricia and Michael Henry
10. Greg Murphy
11. Miriam Nathanson
12. Kuniko Weltin-Wu and Hung-His Wu
13. Joan MacQuarrie
14. Krista Denton
15. David Cumpton and David Folzenlogen
16. Linda Friedman
17. Joan Lester
18. Ruth Langridge
19. John Hitchen
20. Elizabeth Shedd
21. Miki Tal
22. Margaret Cullen
23. Pamela Montanaro
24. Shivaom

From: Scott Murray <ssworldtrot@hotmail.com>
Sent: Sunday, April 6, 2025 8:35 AM
To: All Council
Subject: EMBER proposal

WARNING: This is not a City of Berkeley email. Do not click links or attachments unless you trust the sender and know the content is safe.

We are homeowners at 1064 Creston Rd, in Zone Zero.

Please do not adopt ordinances regarding fire suppression which are beyond those adopted by the State.

We have been and continue to make our home and property fire-safe, without onerous regulations.

Our best protection comes from requiring Tilden Park to clear a 200-foot swath of their property adjoining the City of fire-spreading fuels. You have the power to make that resolution.

Thank you.

From: Jason Warriner <jason.jaywar@gmail.com>
Sent: Friday, April 4, 2025 9:49 AM
To: All Council; Kesarwani, Rashi
Subject: Zoning changes

WARNING: This is not a City of Berkeley email. Do not click links or attachments unless you trust the sender and know the content is safe.

I am writing to demand that all property owners and renters be notified of the proposed zoning changes. We need to see drawings that compare what is currently allowed to the maximum build-out scenario under the proposed zoning BEFORE the city council takes it up for a vote.

The city should consider how to encourage 2-4 unit missing middle housing outside the fire zones, where increased density is not appropriate, using existing zoning districts with existing height, setback and lot coverage standards (e.g. R-2, R-2A).

Jason

From: Robert Godes <reg@brillouinenergy.com>
Sent: Thursday, April 3, 2025 8:08 PM
To: Humbert, Mark; All Council
Cc: Kevin H. Rose JD
Subject: Zoning Changes Proposed for Berkeley's Neighborhoods

WARNING: This is not a City of Berkeley email. Do not click links or attachments unless you trust the sender and know the content is safe.

As homeowners in District 8, we oppose the development of buildings larger than three stories in the middle of residential neighborhoods. All property owners and renters **MUST** be notified of the very significant proposed changes. The city should consider how to encourage 2-4 unit missing middle housing outside the fire zones, where increased density is not appropriate, using existing zoning districts with existing height, setback, and lot coverage standards (e.g., R-2, R-2A).

As a result of changes to state law, up to four units are already allowed on residential lots.

Count the three voters living at 2509 Prince St. as opposed to the currently proposed changes. We are all too busy to attend the council meeting but have plenty of money to launch legal action against multiple parties if such a measure passes.

Best regards,

Robert E. Godes
President and Chief Technology Officer
Brillouin Energy Corp.
(510)821-1432
brillouinenergy.com



Clean Energy for a Clean World™

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From: Roger and Zoe <rogerzoehill@sbcglobal.net>
Sent: Monday, April 7, 2025 6:31 PM
To: All Council
Subject: Fire storm

WARNING: This is not a City of Berkeley email. Do not click links or attachments unless you trust the sender and know the content is safe.

Small plants and flowers will not keep a fire storm from destroying homes in the fire zone.

Be sensible about the vegetation you ask to be removed.

We live in a fire zone.

Roger and Zoe Hill

1155 Keeler Avenue

Sent from my iPhone

From: bhfein@aol.com
Sent: Tuesday, April 1, 2025 5:55 PM
To: Berkeley Mayor's Office; Berkeley Mayor's Office; All Council
Subject: Fw: Wildfire Safety

WARNING: This is not a City of Berkeley email. Do not click links or attachments unless you trust the sender and know the content is safe.

Dear Mayor and Council,,

This is third time I have written to the mayor and have not received a response, nor did I receive a response from other council members, except Mr Humbert.

You all ran on platforms that you would be responsive to citizens so I would like to hear your thoughts about the issues I am raising

I applaud and support the new efforts for defensible space in our most vulnerable areas of Berkeley.

But, as i wrote before I believe it is imperative that we have buffer zones between our wildland areas and our home areas and that we coordinate with UCB, EBMUD and East Regional parks. As I wrote I think clarifying and educating the community about these efforts is really important.

Please see my complete email below.

Regards,
Dr Bruce Feingold
Berkeley, CA

PREVIOUS EMAIL

Thank you to the council who have worked for years on comprehensive guidelines & actions to reduce fire danger in Berkeley. We have come a long way since the Oakland Hills Fire in 1991.

As you know, fire safety has taken on a new urgency since the L.A. fires. Also, as you probably know, the fires in LA , the Palisades and other areas were heavily related to the Santa Monica mountains several miles above the Palisades village and miles away from Malibu. These areas had decades of a dry build up of coastal chaparral which easily ignited, and due to the Santa Ana winds, the firestorm swept into residential areas and destroyed thousands of homes.

I applaud the efforts we have made over the years, Our wild/urban interface is similar to the Santa Monica Mountains. Claremont Canyon in my district & Tilden Park in the Berkeley Hills abut our neighborhoods. In 1991 if the winds hadn't shifted, the fire could have jumped Tunnel Road and swept through the Claremont, Elmwood and commercial area of College Avenue and beyond. No one ever thought that in LA, the fires, which began miles away, in the mountains, could travel to Malibu on the beach and into the Palisades village.

Also, for those who lived through the 1991 fire, we understand that is not just a 'hills' issue. The loss of over three thousand homes in the Oakland fire created housing shortages, increased rents and hurt local businesses. It took years to recover, and psychologically, it was a terrible trauma for all of Berkeley and Oakland.

From my understanding about the proposed plans, it appears there are ideas and proposals about how to make reduced fire zones near Tilden Park but I don't know if there are similar plans about how to create reduced vegetation zones near Claremont Canyon and on the Alvarado Road area.

I hope you will clarify these plans and educate the community about efforts in the Berkeley Hills and in my district to create buffer zones because I fear that all the residential efforts of fire safety will be fruitless if the park areas began to burn under severe Diablo wind conditions.

Secondly, I also would like to understand how the city of Berkeley is coordinating with UCB, EBMUD, and East Bay Regional Parks (especially Tilden & Claremont Canyon) in their efforts to thin vegetation & reduce fire danger in their respective areas.

Thanks for your thoughts on these issues.

Sincerely,

Bruce H. Feingold, Ph.D
16 Hazel Rd
Berkeley

Bruce H. Feingold, Ph.D.
2930 Domingo Avenue, #241
Berkeley, CA 94705
(510) 915-2587
BHFein@aol.com

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From: Robert Breuer <rfbreuer@gmail.com>
Sent: Saturday, April 5, 2025 2:02 PM
To: All Council
Subject: Berkeley Fire Code

WARNING: This is not a City of Berkeley email. Do not click links or attachments unless you trust the sender and know the content is safe.

Simple question: when, exactly, will there be a public hearing on amendments to the Berkeley Fire Code? Public input is of great importance as plenty of devils exist in the details of its implementation.

Sincerely,

Robert and Frederica Breuer
29 Mosswood Rd, Berkeley

Durr, Jasmine

From: Ann Hoyer <hoyer2000@aol.com>
Sent: Saturday, April 5, 2025 10:06 AM
To: All Council
Subject: EMBER policy

WARNING: This is not a City of Berkeley email. Do not click links or attachments unless you trust the sender and know the content is safe.

Dear Council ,

I am asking that the City of Berkeley to NOT adopt the EMBER regulations.

These regulations are extreme.

Berkeley architecture and its gardens are treasures. 50+ year old Wisteria grace many homes, Will these have to be removed? Removing mulch is questionable as well. **I know someone in the Oakland fires whose home was the only one left standing because of her Redwood mulch!** Of course, mulch reduces water use and is so beneficial for the plants and native bees. With bee and butterfly populations collapsing, do we really advocate for desertification of our neighborhoods?

I am so upset by these extreme regulations. Please do NOT adopt EMBER.

Let's rise above FEAR and create beautiful oasis for the birds, bees, wildlife and humanity.

Sincerely,

Ann Hoyer

752 Cragmont Ave

From: Lisa <titusmcdonnell@gmail.com>
Sent: Thursday, April 3, 2025 8:23 PM
To: All Council
Subject: Changes to building codes

WARNING: This is not a City of Berkeley email. Do not click links or attachments unless you trust the sender and know the content is safe.

To the Council,

Im writing to demand that all property owners and renters be notified of the proposed changes to building codes. We need to see drawings that compare what is currently allowed to the maximum build-out scenario under the proposed zoning BEFORE the city council takes it up for a vote.

The city should consider how to encourage 2-4 unit missing middle housing outside the fire zones, where increased density is not appropriate, using existing zoning districts with existing height, setback and lot coverage standards (e.g. R-2, R-2A).

Let's add smart, taking into consideration, light , space and architectural integrity.

Lisa Titus

1705 La Loma Ave

Berkeley, CA 94709

From: Mike Henry <mhenrybiotech@gmail.com>
Sent: Thursday, April 3, 2025 6:38 PM
To: All Council
Subject: Help Us Pay for the EMBER Proposal

WARNING: This is not a City of Berkeley email. Do not click links or attachments unless you trust the sender and know the content is safe.

Berkeley City Council:

We live in Berkeley in the proposed Fire Zone 4 between Wildcat Canyon Road and Grizzly Peak Boulevard. We support the proposed EMBER fire code and building code amendments, but we cannot afford to pay for defensible space and home hardening (DSHH). Most of our neighbors say that they cannot afford to pay for DSHH.

At the Special Meeting of the Berkeley City Council on February 11, 2025, most of the comments were in support of EMBER and few of the comments expressed concern about the burden placed on homeowners. You are hearing from a vocal minority of EMBER supporters and you are not hearing from the silent majority of affected homeowners who cannot afford to pay for DSHH. Some of the EMBER supporters are telling us neighbors that we should move away if we cannot afford DSHH.

Berkeley Fire Department repeatedly tells us that our neighborhood is the first line of defense against wildfire and that the changes we make under the new EMBER codes will protect all of Berkeley. We are willing to make sacrifices, but it is only fair that the City of Berkeley should pay for our DSHH that benefits the entire city of Berkeley.

Councilmember Blackaby has shared some ideas — grants, tax deductions — about paying for DSHH. We support an Alameda County tax deduction to pay for DSHH. We pay over \$17,000 annually in Alameda County taxes and we would be glad to divert this money to DSHH. Your financial support for DSHH in our neighborhood would lead to faster and greater compliance with the new codes, achieving the 80%+ of compliance required to reduce the risk of fire in Berkeley.

Sincerely,

Patricia and Michael Henry
762 Creston Road
Berkeley, CA 94708
781-526-8347
mhenrybiotech@gmail.com

From: Greg Murphy <gsmjfcs@gmail.com>
Sent: Wednesday, April 2, 2025 3:48 PM
To: All Council

WARNING: This is not a City of Berkeley email. Do not click links or attachments unless you trust the sender and know the content is safe.

I serve as Chair of the Disaster and Fire Safety Commission, but am communicating to you as a private Berkeley Resident. I am writing to ask you to approve the proposed EMBER Ordinance as presented by the Berkeley Fire Dept.

If you have received various versions of the following, I apologize, but because I authored the template I have asked supporters to modify into their own words, I am sending this on to you as it is truly coming from me.

Now is the time to take pragmatic action and adopt unadulterated, scientifically validated mitigation measures that are known to reduce the vulnerability of a neighborhood from ignition during a wildfire are the best chance that a community has to minimize the risk of this vegetative to urban fire transition. The EMBER ordinance addresses these vulnerabilities to achieve the safest conditions that we know to be possible sans a managed retreat from the Berkeley Hills. The ordinance is structured to address measures to be implemented (1) before a fire occurs, (2) when forecasted fire weather is announced, and (3) in response to an actual ignition during a period of high fire danger.

While some of these measures will have a tremendous financial impact on affected residents, I urge you to move forward with approving the ordinance and at the same time aggressively seek out possible financial resources to help mitigate the costs to individual homeowners.

Thank you for considering this vital measure.

--

Please excuse any typographical errors.

Greg Murphy
1530 LaLoma Ave.
Berkeley, CA 94708

510-542-0839

From: Miriam Nathanson <miriam4clay@gmail.com>
Sent: Tuesday, April 8, 2025 6:39 PM
To: All Council
Subject: Ember

WARNING: This is not a City of Berkeley email. Do not click links or attachments unless you trust the sender and know the content is safe.

I support the ember suggestions 100%. I strongly urge the city council not to give in to crazy people who think that they know more than the fire department. I do not wish to live in a fire zone where fire regulations are not enforced. I consider it the job and responsibility of the city council to make the fire danger areas as safe as possible.

I'm Miriam Nathanson 1072 Overlook Road Berkeley 94708

From: Kuniko Weltin-Wu <weltinwu@gmail.com>
Sent: Tuesday, April 8, 2025 5:25 PM
To: All Council
Subject: EMBER, Zone 0

WARNING: This is not a City of Berkeley email. Do not click links or attachments unless you trust the sender and know the content is safe.

To whom it may concern,

My husband, Hung-Hsi Wu, and I would like to express our support for the Zone 0 proposal. We are naturally not happy about having to make changes to our landscaping, but we want safety above all for all of us.

Thank you very much for your efforts in this matter.

Sincerely,

Kuniko Weltin-Wu
Hung-Hsi Wu
1044 Park Hills Rd

From: Joan MacQuarrie <joanmacquarrie1@gmail.com>
Sent: Tuesday, April 8, 2025 5:17 PM
To: All Council
Subject: EMBER and Zone 0

WARNING: This is not a City of Berkeley email. Do not click links or attachments unless you trust the sender and know the content is safe.

Dear Mayor and Council,

I strongly support the EMBER initiative and Zone 0. We must do everything we can - gutter guards, foundation vents, zone 0, double pane windows and the like, to save lives and prevent conflagrations like the recent ones in LA.

Additionally, I request you to implement parking on one side of the street only during high fire danger days.

Respectfully,

Joan MacQuarrie

Sent from my iPad

From: Krista Denton <kristadenton@mac.com>
Sent: Tuesday, April 8, 2025 5:12 PM
To: All Council
Subject: EMBER Proposal

WARNING: This is not a City of Berkeley email. Do not click links or attachments unless you trust the sender and know the content is safe.

Dear Council,

I live in the Berkeley Hills next to Tilden Park. I appreciate the City taking the fire risk so seriously and working with partners to avoid a disaster.

I support most of the proposals if used in conjunction with efforts to also save lives like parking restrictions year round with enforcement and stricter restrictions on parking on Red Flag days.

However I don't know how plausible it is to ask everyone to keep dirt or gravel yards without consideration of low fire risk plants.

I also think the proposed changes need to include exceptions for homeowners who take fire abatement measures that have shown to be extremely effective such as permanent roof and area sprinkler systems that are monitored and proven to save homes in the recent LA area fires.

I fear some of the suggested changes are too harsh and will be cost prohibiting, particularly in the current economy. We have been in talks with several contractors for tree and vegetation removal, replacing wood fencing and getting bids over 60k. Additional measures we want to do such as replacing some exterior doors and windows to further protect our home puts the cost even higher.

In closing I would like the Council to fully appreciate the very high cost of tree maintenance alone. Depending on the home this alone is an impossibly expensive. I think it's also very necessary. Perhaps the City look to funds raised by the very high property taxes homeowners pay as a way to provide the necessary services for free or perhaps work with the County to let homeowners skip payment of property taxes if they can show they have spent all this money on the new requirements. Otherwise this is mostly dead in the water because the majority of homeowners cannot self fund the changes the City is requiring with little notice years or decades after they bought their homes in this area.

Thank you

Krista Denton
1044 Overlook Rd
Park Hills

From: David Cumpton <david.cumpton@gmail.com>
Sent: Tuesday, April 8, 2025 2:08 PM
To: All Council
Subject: EMBER Program is a Non-Starter

WARNING: This is not a City of Berkeley email. Do not click links or attachments unless you trust the sender and know the content is safe.

Dear Council Members,

I'm writing to share the concerns held by many of my fellow neighbors here in the Wildcat Hills neighborhood of Berkeley. While all of us want to reduce the likelihood of wildfire decimating our homes and neighborhoods, much of what we've seen and read about the EMBER program seems to be misinformed and based on little or no hard evidence.

We encourage you to do more research and develop stronger strategies for combating fires here in the Hills before you implement the EMBER Proposal as it stands. Lush, green live plants are rarely the root cause of wildfire spread. Having homeowners rip out long established foliage and greenery is not the answer. Many of us are opposed to the 5 foot clearance issues and the impact that will have on long established greenery here in our neighborhoods.

If you truly want to create a firebreak, consider razing a 25' or 30' area just E of Wildcat Canyon Road in Tilden Park. That would be considerably more effective than removing a 50-year old wisteria vine from a homeowners garden trellis. Please know that this concern is shared by many of my neighbors here in this area. Please don't vote to pass the EMBER Proposal as it stands.

David Cumpton and David Folzenlogen
629 Woodmont Avenue
Berkeley, CA 94708

From: Linda Friedman <lindabf@sonic.net>
Sent: Tuesday, April 8, 2025 1:57 PM
To: All Council
Subject: Ember requirements

WARNING: This is not a City of Berkeley email. Do not click links or attachments unless you trust the sender and know the content is safe.

The Ember Plan is not in any way appropriate or even doable! "No in-ground vegetation"? I guess my valued vegetable garden will have to go away. Or maybe we should all use plastic fake greenery to spruce up our outdoors. Oh, but plastic is now on the microplastic environmentally unfriendly list.

Come up with a reasonable plan & reasonable requirements.

Sincerely,

Linda Friedman
Park Hills Resident.

--

Linda Friedman

From: Joan Lester <joanlester@joanlester.com>
Sent: Tuesday, April 8, 2025 1:42 PM
To: All Council
Subject: Opposed to Ember proposal

WARNING: This is not a City of Berkeley email. Do not click links or attachments unless you trust the sender and know the content is safe.

As a longtime (29 years) Park Hills resident, I am strongly opposed to this proposal. Scientific evidence is mixed on what measures actually are most effective and costs are prohibitive. I appreciate the desire to avoid fire and save houses, and of course I strongly concur. I have done everything possible in my own front and back gardens, working assiduously to keep debris clear and incurring no violations from fire inspections.

However I would find the new regulations impossible (financially as well as privacy-wise). Please don't start imposing fines on us older folks who are unable to comply.

Thank you.

Joan Lester

1016 Middlefield Road

Winner of the PEN-Josephine Miles Award for *LOVING BEFORE LOVING: A Marriage in Black and White*. "This memoir reveals more than most about what makes activists tick." Kirkus Reviews
<https://www.JoanLester.com>

From: Ruth Langridge <rlangrid@ucsc.edu>
Sent: Tuesday, April 8, 2025 1:39 PM
To: All Council
Cc: Berkeley Mayor's Office; Kesarwani, Rashi; Taplin, Terry; Bartlett, Ben; Tregub, Igor; O'Keefe, Shoshana; Blackaby, Brent; Lunaparra, Cecilia; Humbert, Mark
Subject: EMBER proposal

WARNING: This is not a City of Berkeley email. Do not click links or attachments unless you trust the sender and know the content is safe.

Dear Mayor and City Council Representatives,

Thank you for all the work you do on our City Council.

I am writing regarding the proposal regarding a rigid rule of no vegetation around the first five feet of a home that has been emphasized at recent Berkeley meetings.

I oppose this rigid rule for several reasons.

First, the emphasis on mitigation rather than prevention is misplaced. The focus should be on not letting a fire happen and spread in the first place. I propose that more attention be paid to the safety of power lines and improved forest management. Once a major fire starts and spreads, a well watered and cared for shrub in front of my house will not be what causes my house to burn down. I propose that increased emphasis be on PG&E and the Tilden Park administration, to better manage our next door woodlands for fire prevention, including reducing fuel loads and very flammable vegetation. And if a small fire does begin having clear fire breaks will help in the spread. Native people knew that selectively pruning in the woodlands is the best way to avoid huge fires like the one in LA. We need to learn from that!

Second, regarding landscape hardening, there are significant negative impacts to the rigid rule of no vegetation within 5 feet of a home. Creating paved over surfaces increases heat and soil moisture deficits, both implicated in the recent LA fires. A recent peer reviewed published paper (<https://www.mdpi.com/2571-6255/2/3/49>) points to landscape hardening as being less significant in affecting what homes burn as compared with home hardening. Other articles note that outside landscaping that is not flammable and that is well looked after and irrigated is appropriate.

I propose that a more reasonable approach is to focus on removing highly flammable vegetation from the zone 0 as well as other areas around a home, along with clearing out dead and dried out vegetation. I recently removed a juniper tree from next to my house as juniper is very flammable and cleared some tree branches that were touching my house. The cost was significant, over \$1,500.00. Homeowners should be encouraged to prioritize home hardening which is demonstrated to be the most effective fire mitigation strategy.

Respectfully,

Ruth Langridge
60 The Crescent
Berkeley

Ruth Langridge

Researcher

University of California, Santa Cruz

<https://droughtreserves.ucsc.edu/>

PI-CA Climate Change Assessment Central Coast Report

<https://lci.ca.gov/climate/icarp/climate-assessment/regional-synthesis.html>.

From: John Hitchen <johnhitchen@outlook.com>
Sent: Tuesday, April 8, 2025 12:16 PM
To: All Council
Subject: EMBER

WARNING: This is not a City of Berkeley email. Do not click links or attachments unless you trust the sender and know the content is safe.

Hello All,

As a former 27 year employee of the Regional Parks, I think that I am well qualified to weigh in on fire hazard reduction policy.

I managed 300 acres of blue gum eucalyptus at Point Pinole for many years, and prioritized the thinning and removal of thousands of trees during my tenure there.

In my professional opinion, the real threat to Berkeley is the same as it was 102 years ago when the 1923 fire caused so much destruction.

The 1923 fire started near Inspiration Point, and quickly swept up Wildcat Canyon, and then over the ridge top to the hill area.

Under the right conditions, such as fire could happen again, but I seriously doubt that 5 foot vegetation free zones in our residential areas are going to make the slightest difference in outcomes.

There is one simple strategy that would truly reduce our fire danger permanently-and that is to remove all eucalyptus, monterey pines, and other highly flammable tall trees from Tilden and the other Regional Parks, EBMUD, and UC properties along the ridgeline all of the way to Castro Valley. These trees should also be prohibited within the city limits as is the case in El Cerrito.

I cannot speak for the Regional Parks Board of Directors and its Fire and Stewardship Departments, but their overall priority is to intensively thin and manage the eucalyptus stands, and I suspect that the Regional Parks are amenable to massive reductions in the fuel loads of its parks. The cost of such a vast undertaking is large, but far from prohibitive. With professional forestry scale machinery, large areas of Tilden could be cleared of flammable trees in just a few years.

I know it feels good to pass new legislation to supposedly increase public safety, but there have not yet been sufficient studies to impose such draconian rules upon the entire residential hills community.

I urge you all to slow down and gather more data and explore alternative strategies, rather than this small scale homeowner impacted approach.

Respectfully,

John Hitchen
Former Regional Parks Supervisor 1988-2015.
845 Oxford Street resident since 1985

From: Elizabeth Shedd <elizabethshedd6@gmail.com>
Sent: Tuesday, April 8, 2025 10:50 AM
To: All Council

WARNING: This is not a City of Berkeley email. Do not click links or attachments unless you trust the sender and know the content is safe.

Vote NO on ember. We chose to live here because of the abundant vegetation.

From: Miki Tal <mikital@gmail.com>
Sent: Monday, April 7, 2025 10:25 PM
To: All Council
Subject: Ember program opposition

WARNING: This is not a City of Berkeley email. Do not click links or attachments unless you trust the sender and know the content is safe.

I am writing to express my opposition to the extreme Ember proposal. It is overboard and appears to be applied randomly to a limited number of houses. It will impact privacy, native plants and will cost exorbitant amounts of money. Is the city going to pay for implementation? Why are only a limited number of houses affected? This needs further research and resources.

Thank you,

Miki Tal

From: Margaret Cullen <margcullen@gmail.com>
Sent: Monday, April 7, 2025 9:48 PM
To: All Council
Subject: I object to EMBER!

WARNING: This is not a City of Berkeley email. Do not click links or attachments unless you trust the sender and know the content is safe.

To the Members of the Council,

I strongly object to overriding the careful conclusions of the Cal State Fire Safety group and do not believe that by forcing more restrictive codes on Berkeley citizens will accomplish anything but hardship. Of 7,000 homes, do you expect 100% compliance? If 1% of those people don't comply, the whole enterprise is a waste of precious plants, resources, money, shade, heat protection, ect etc. It makes no sense at all and is unduly restrictive and punitive. You will drive even more people out of Berkeley if you persist with this ill-conceived plan.

Sincerely,
Margaret Cullen

25 year resident of Berkeley.

Margaret Cullen, MFT
margaretcullen.com

Founder

Compassion Corps

Founding Faculty

Compassion Institute

Advisory Board

Global Compassion Coalition

From: pam <pammontanaro@barglow.com>
Sent: Monday, April 7, 2025 8:08 PM
To: All Council
Subject: No to the EMBER measure!

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Hello,

I am a Berkeley citizens who lives in the Hills.

I do not approve of the EMBER measure.
It is too broad a brush.

Not all trees, bushes and plants are fire hazards!

Many kinds of vegetation play an important role in keeping moisture in the air and reducing the temperature on hot days.
Plus their roots in the ground stabilize the soil in the Hills.

There is a reciprocal relationship between soil, plants and air that helps us maintain a working ecosystem.

One can imagine a reasonable measure that would help citizens move toward more fire resistant vegetation.
But to say ALL vegetation within 5 feet of a home should be removed is draconian and counterproductive.

Thank you,

Pamela Montanaro
pammontanaro@barglow.com
510-318-4910

From: shivaom@comcast.net
Sent: Monday, April 7, 2025 7:49 PM
To: All Council
Subject: Ember

WARNING: This is not a City of Berkeley email. Do not click links or attachments unless you trust the sender and know the content is safe.

Please do not make us destroy our entire garden. Not all plants are a fire hazard. Please allow for some exceptions. I have some full grown camelias that have have taken 70 years to mature. They are rare species that cannot be found anymore. They are well watered and fire resistant. Please don't make us destroy them. There needs to be some leeway in deciding what must be removed.

Thank you for your kind consideration.

