



[Commission Name]

CONSENT CALENDAR
December 13, 2022

To: Honorable Mayor and Members of the City Council

From: Disaster and Fire Safety Commission

Submitted by: Weldon Bradstreet, Vice Chairperson, Disaster and Fire Safety Commission

Subject: Measure FF Budget Recommendation - Expanded Fire Prevention Inspection Program

RECOMMENDATION

Summary. With the risk of catastrophic wildfire steadily increasing due to climate change, the Disaster and Fire Safety Commission (DFSC) recommends prioritizing wildfire fuel reduction in the FY 23 and FY 24 Measure FF budget by expanding the Fire Department's Fire Prevention Inspection Program and fully enforcing the existing Fire Code to clear vegetation build-up and overgrowth within 100 feet of structures in Berkeley's Very High Fire Severity Zones (VHFSZs) (Fire Zones 2 and 3). In addition, the Fire Code would be strengthened as needed to require removal of hazardous vegetation on the entirety of properties beginning in FY 25. The program would provide for City vegetation management crews to clear vegetation where property owners opt into the program or fail to comply, with no-interest liens placed upon properties to recover direct costs upon transfer. Special emphasis should be placed on eucalyptus groves due to their high flammability and potential to create spot fires.

Funding for this expanded program, together with the Fire Department's existing home inspection program, which is focused on creating defensible space around structures, would be supported by devoting 21 percent and 26 percent of Measure FF revenues for FY 23 and FY 24, respectively. (See table below.)

Description. The Fire Department's existing home inspection program is focused primarily on ensuring 30 feet of defensible space around structures in Fire Zones 2 and 3. Consistent with Berkeley's and California's regulations, the DFSC recommends that the program be expanded to routinely require defensible space within 100 feet of any structure, particularly on any portion of a slope, including the removal of particularly fire-prone vegetation. The City should develop additional regulations to require removal of highly fire-prone vegetation on the entirety of properties beginning in FY 25. Highly fire-prone vegetation is widely recognized to include eucalyptus, Monterey pine, juniper, and limited other species.

The DFSC also recommends that the City expand its capability, possibly in conjunction with the Parks and Recreation Department, to clear brush and remove trees as necessary to meet existing regulations where property owners fail to comply, with liens placed upon properties to recover direct costs upon transfer, as provided under BFC Sec. 4907.2.2. As a City program is likely to provide economies of scale, other efficiencies, and expert guidance, and as the health and safety of Berkeley residents is promoted by facilitating compliance, property owners should be allowed to opt into the City's vegetation clearance program with cost-recovery provided through property liens. In either case, no interest should be assessed on direct costs, given the public benefits and the availability of Measure FF funds to carry the cost.

This proposed program is consistent with the recommendations of the Hills Emergency Forum, of which the City is a member along with other East Bay authorities, to thin and remove hazardous vegetation on private property as well as public property.¹ The initial phase of the program (FY 23) would be focused on requiring removal of debris build-up on the ground, loose bark to 8 feet above ground, tree limbs to 10 feet above ground, and saplings and subordinate trees that could ignite upper canopy throughout each property. The second phase (planned in FY 23, implemented beginning no later than FY 24) would require removal of hazardous trees and other hazardous vegetation, provide for any necessary erosion control measures, and encourage revegetation with native, fire-resistant species. Beginning in FY 25, property owners would be required to properly maintain their entire property, adding or clarifying Fire Code provisions as necessary that the Fire Department and the DFSC would develop in consultation with the City Attorney for Council's consideration. The proposed budgets may include a program manager, additional inspectors, expert consultants, and crews as needed.

Three additional elements of the program should include: (a) removal of trees and vegetation on private and City property to meet existing regulations that require unobstructed 20-foot clearance for emergency egress and emergency vehicle access²; (b) removal of hazardous trees and vegetation on City property as needed,³ and (c) removal of large trees posing public safety hazards on private property that have been identified outside of the VHFSZs, included in this program as an equity measure, if possible.⁴ The cost of clearing City property could be funded through Measure FF as needed.

¹ See Hills Emergency Forum (<http://www.hillsemergencyforum.org/MgmtRecmdtn.html>).

² Cal. Code Regs. tit. 14 § 1273.01.

³ The City's Parks and Recreation Department is currently addressing these hazards in city parks and may largely complete the effort in FY 22.

⁴ Consultation with the City Attorney as to the ability to expend Measure FF funds on trees posing safety hazards other than wildfire is advised.

| RECOMMENDATIONS - EXPANDED INSPECTION PROGRAM | | |
|---|---------------------|---------------------|
| | FY 23 \$ | FY 24 \$ |
| Continue current (FY 22) spending on Inspection Program, recurring) (Estimated) | \$ 1,000,000 | \$ 1,080,000 |
| Expanded Program* | \$ 770,000 | \$ 1,140,000 |
| Develop new fire safety regulations as needed | \$ - | \$ - |
| Total | \$ 1,770,000 | \$ 2,220,000 |
| Measure FF Annual Revenue | \$ 8,500,000 | \$ 8,500,000 |
| TOTAL % FF Funds | 21% | 26% |

* Cost of fuel removal, where necessary, to be recovered via property liens

POLICY COMMITTEE RECOMMENDATION

On November 21, 2022, the Public Safety Committee adopted the following action: M/S/C (Kesarwani/Wengraf) Positive recommendation to adopt the City Manager’s recommendation as presented in the companion report. Vote: All Ayes.

FISCAL IMPACTS OF RECOMMENDATION

This DFSC recommendation addresses the prioritization of Measure FF funds and will have no impact on General Funds. However, by prioritizing the reduction of flammable vegetation throughout Berkeley’s VHFSZs, these recommendations will reduce the likelihood of wildfire and the intensity and severity of any wildfires that occur in the City, which would destroy homes and other property and have other far-reaching negative fiscal impacts, including exacerbation of the existing housing crisis.

The Fire Department recently abandoned an application for a CalOES/FEMA grant to address hazardous vegetation due to competing priorities, disqualifying events, costs and disproportionate commitment of staff time needed for grant application and performance.⁵

CURRENT SITUATION AND ITS EFFECTS

At the April 27 Special Meeting, the commission passed a motion to recommend prioritizing wildfire fuel reduction in the FY 23 and FY 24 Measure FF budget by expanding the Fire Department’s Fire Prevention Inspection Program and fully enforcing the existing Fire Code to clear vegetation build-up and overgrowth within 100 feet of structures in Berkeley’s Very High Fire Severity Zones (VHFSZs) (Fire Zones 2 and 3). M/SC: (Stein, Bradstreet) Ayes: Bradstreet, Rader, Cutler, Stein, Simmons; Noes: Bedolla, Abstain: None; Absent: Dean, Degenkolb.

⁵ BFD Monthly Report to the DFSC, March 23, 2022.

The Fire Department's existing home inspection program is generally limited to addressing a 30-foot radius around structures in Fire Zones 2 and 3, and removal of hazardous vegetation (e.g., eucalyptus and junipers) is generally not required. Therefore, the inspection program does not address major areas of vegetation build-up and hazardous trees on private land. Such vegetation is widely recognized to contribute to the likelihood, severity and speed of a wildfire and thus poses an immediate wildfire threat to the City. As discussed below, however, California's and Berkeley's regulations provide for more aggressive inspections and enforcement.

BACKGROUND

Measure FF passed on November 3, 2020, with a 74.2 percent "yes" vote and generates approximately \$8.5 million annually. Among other important objectives, including improvements to the 9-1-1 dispatch system, training facility improvements, and funding of new ambulances and technicians, the measure supports wildfire prevention and preparedness activities including vegetation management. In a 2020 community survey, a tax for wildfire prevention received 69 percent approval from residents and was the most popular rationale for a new tax to support fire and emergency services.⁶

Measure FF funds have been used in part to create a home inspection program housed in the Fire Department, which is aimed primarily at creating 30 feet of "defensible space" around structures. "Defensible space" means the area adjacent to a structure where wildfire prevention or protection practices are implemented to provide defense from an approaching wildfire or to minimize the spread of a structure fire to wildlands or surrounding areas.⁷ Slope is a primary factor that increases an area's susceptibility to wildfire.⁸ Berkeley's Fire Department inspectors may require additional treatments within 100 feet of any property,⁹ however this is the "exception rather than the rule."¹⁰ State

⁶ See p. 5 of the supplemental material for item 13 on the June 2, 2020 Council meeting: https://www.cityofberkeley.info/Clerk/City_Council/2020/06_June/City_Council_06-02-2020_-_Regular_Meeting_Agenda.aspx.

⁷ See Cal. Gov. Code Sec. 51177(a) and BFC Sec. 4907.2.1. <https://berkeley.municipal.codes/BMC/19.48.020>.

⁸ See CalFire, Prepare for Wildfire – Defensible Space, <https://www.readyforwildfire.org/prepare-for-wildfire/get-ready/defensible-space/>.

⁹ Berkeley Fire Department, "Fire Prevention Inspection Report, Wildland-Urban Interface Area" (Rev. 05/2020) (included in June 1, 2021, Berkeley Fire Department mailing to Berkeley property owners).

¹⁰ According to Chief May of the BFD, "State law technically makes a property owner responsible for providing defensible space on their property out to a distance of 100 ft. from structures. However, the same law allows for varying intensity of vegetation management between 0 ft. – 30 ft. and 30 ft. – 100 ft. from structures. Based on our local lot size and geometry the Berkeley Fire Department is concentrating on the space

law, however, requires 100 feet of defensible space for all properties in wildfire-urban interface areas,¹¹ and most of Fire Zones 2 and 3 is on slopes. Given the threat of wildfire and given that many private property areas within Berkeley contain dense and hazardous vegetation that will go untreated under current practice, Berkeley should fully enforce state requirements, which are consistent with Berkeley's Fire Code that requires maintenance of an effective firebreak by "removing and clearing away flammable vegetation and combustible growth." Flammable vegetation is widely recognized to include eucalyptus, Monterey pine, juniper and limited other species.^{12,13}

Berkeley has many areas of vegetative fuel build-up that are beyond 30 feet of any structure. Examples of large such areas include numerous concentrations of eucalyptus and other hazardous vegetation that exist throughout Fire Zones 2 and 3, including canyons with creeks, such as Cerritos Creek and Codornices Creek canyons, and areas between homes on the long slopes between tiered streets that are often untended and overgrown. Eucalyptus trees are a particular hazard, due to their high fuel-loading per acre, ease of ignition, fire intensity and flame length.¹⁴

The Hillside Fire Safety Group has identified seven eucalyptus groves of 15 trees or more on 103 private properties and three groves of 15 trees or more in three City parks (Remillard, Cragmont Rock and Glendale-La Loma). Smaller groups or single trees have also been found on 16 private properties and on seven other City properties (Two parks and 5 Right-of-Ways). In total, Eucalyptus trees have been found on approximately 119 private properties and 10 City locations. The 10 groves private and City property account for most of the approximately 717 eucalyptus trees north of the

0 ft. – 30 ft. from structures as well as within 10 ft. of road and street frontages. There may be some circumstances where [defensible space] greater than 30 ft. is necessary and achievable, but these will be exceptions rather than the rule. There is no requirement to 'groom hillsides' (i.e., to cut/trim vegetation just to cut vegetation). Vegetation management is required where conditions in one of the defensible spaces around a structure or other target area require it." (Response to October 18, 2021, questions posed by DFSC Commissioner Rader.)

¹¹ See CalFire, "Homeowners Checklist" (2009). <https://www.readyforwildfire.org/wp-content/uploads/Homeowners-Checklist.pdf>

¹² See notes 13, 14, 22, and 28 *infra*.

¹³ Flammable vegetation expressly does not include "[s]pecimens of trees, ornamental shrubbery or similar plants which are used as ground cover, if they do not form a means of rapidly transmitting fire from the native growth to any building or structure." BFC Sec. 4907.2.

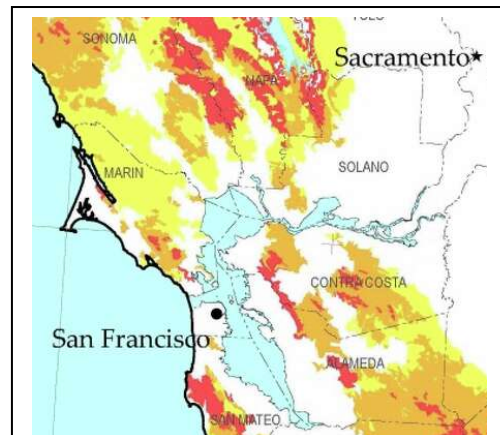
¹⁴ See East Bay Regional Park District, "Blue Gum Eucalyptus: A Wildfire Threat" (<http://www.hillsemergencyforum.org/docs/EucTreatment.pdf>); Russell and McBride, 2002, Agree et al., 1973, and Chenny, 1981, as cited in J.R. McBride's Fuel Management Proposal for Claremont and Strawberry Canyons, 2019. (Available at <https://www.claremontcanyon.org/fuel-management-proposal>.)

UC Berkeley and Berkeley Lab campuses.¹⁵ When one adds the approximately 415 Eucalyptus trees along the northern boundary of the UC Berkeley and Berkeley Lab campus, the total number of Eucalyptus trees in north Berkeley is 1,132. This does not include the Eucalyptus trees further to the south inside the UC Berkeley and Berkeley Lab campuses.

A significantly smaller number of additional hazardous trees exist in Fire Zone 3 (Panoramic Hill) and in the Fire Zone 2 area south of campus (areas of which burned in the 1991 Tunnel Fire). Many, if not most, of these areas require clean up. Better fuel management can also enable firefighters to assemble and more safely undertake fire suppression activities.¹⁶

The consultant recently hired by the Fire Department to prepare its Community Wildfire Protection Plan (CWPP) has explained the “unparalleled” potential of burning eucalyptus embers to create spot fires, which create some of the most destructive wildfires. The consultant noted that “[p]revention of crown fire in eucalyptus in the Berkeley/Oakland hills, and elsewhere in the East Bay *is of paramount importance to the fire safety of a very large population.*”¹⁷ For this reason, eucalyptus groves should be prioritized in the City’s inspection program.

It is well understood that ladder fuels can carry fire from ground fuels to tree crowns where it can become a devastating fire that quickly spreads.¹⁸ Within its “State Responsibility Area,” CalFIRE has embarked on many programs to reduce fuel loads and create horizontal and vertical fuel breaks to protect California’s most wildfire-vulnerable communities.¹⁹ CalFIRE is not responsible for densely populated areas, however, which falls to local governments such as Berkeley. (See Figure at right.) While CalFIRE addresses fuel loads in areas near or adjacent to vulnerable urban areas, it is



CalFire map shows Northern California's fire severity zones, with red areas, including the Berkeley hills, signifying very high risk. Much of the very-high-risk areas shown have burned in

¹⁵ Hillside Fire Safety Group presentation to the DFSC Rock Park and additional groves and trees in areas not

¹⁶ Note 14 *supra* (McBride 2019).

¹⁷ Carol Rice, Wildland Res Mgt, UC Berkeley [Wildland](#) pp. 25-27 (July 2020 Draft). Emphasis added.

¹⁸ See CalFIRE, Fire and Fuels Treatment: <https://www.fire.ca.gov/programs/resource-management/resource-protection-improvement/wildfire-resilience/forest-stewardship/fire-and-fuels-treatment/>.

¹⁹ See, e.g., CalFIRE’s Fuel Reduction Guide (2021) (<https://www.fire.ca.gov/media/4jqerfjh/fuels-reduction-guide-final-2021-interactive.pdf>).

obviously at least equally important to address fuel loads *within* dense urban areas to reduce the likelihood and impacts of catastrophic wildfire.

The California Constitution generally prohibits “gifts of public funds” to any public or private person; however, such gifts are allowed for a public purpose, and that public purpose is to be liberally construed.²⁰ The city and state have numerous programs that spend public funds on private property for the purposes of disaster preparedness and public safety.²¹ Using public funds to reduce fuels that significantly contribute to the risk of wildfire would likely be considered a public purpose, particularly given the limited incidental benefits that would accrue to landowners. Berkeley’s City Attorney should confirm this view.

ENVIRONMENTAL SUSTAINABILITY

Acting on these recommendations will reduce the likelihood, intensity and severity of a wildfire in the City, potentially avoiding devastating and far-reaching human and environmental impacts in our City. Burnt landscapes can be slow to recover and can lead to polluted water sources, erosion or landslides, and health impacts from airborne ash.²²

The proposed City-run crews would promote the replacement of flammable, non-native tree and shrub species with natural, more fire-resistant native species that provide superior habitat for many insect, avian, and mammal species, compared with eucalyptus.²³ To prevent regrowth of eucalyptus, City crews should rely on non-pesticidal, manual sprouting control for several years following eucalyptus removal, if

²⁰ See League of California Cities, “Gift of Public Funds (Spoiler Alert: It’s Illegal)” at p. 1. Available at: <https://www.cacities.org/Resources-Documents/Member-Engagement/Professional-Departments/City-Attorneys/Library/2016/Annual-2016/10-2016-Annual-Forbath-Gift-of-Public-Funds-Spoile.aspx>.

²¹ Several City of Berkeley programs provide public funds for private benefit, including a FEMA-funded seismic retrofit program providing grants of up to \$150,000 (see https://www.cityofberkeley.info/uploadedFiles/Planning_and_Development/Level_3_-_Building_and_Safety/RetrofitGrants_ProgramRules.pdf), and a free fuel chipper and debris bin program, funded through a refuse bill surcharge (see https://www.cityofberkeley.info/fire_fuel_program/). Alameda County offers grants of up to \$10,000 per homeowner to abate lead hazards (see <https://www.achhd.org/programs/leadfunding.htm>).

²² Cartier, K. M. S. (2022), U.S. fires quadrupled in size, tripled in frequency in 20 years, *Eos*, 103, <https://doi.org/10.1029/2022EO220188>. Published on 08 April 2022.

²³ See: California Native Plant Society East Bay (<https://ebcnps.org/conservation/balancing-fire-safety-with-native-ecosystem-protection-2022-02/>); Hills Emergency Forum (<http://www.hillsemergencyforum.org/MgmtRecmdtn.html>); East Bay Regional Park District, “Blue Gum Eucalyptus: A Wildfire Threat” (<http://www.hillsemergencyforum.org/docs/EucTreatment.pdf>);

stumps are not removed. In drafting expanded or clarified portions of the Fire Code, the City should consider requiring property owners to employ manual sprouting control and revegetation with fire-resistant native species that also promote erosion control as necessary. The Hills Emergency Forum, of which the City is a member along with other East Bay authorities, has developed best management practices (BMPs) to reduce potential environmental impacts of fuel reduction projects and to comply with various laws and regulations which may be consulted.²⁴

The revegetation component of the program is expected to partially mitigate the carbon impact of removing hazardous trees. The City could mitigate remaining carbon impacts by using additional Measure FF funds to supplement the City's existing program to plant trees in northwest and southwest Berkeley.²⁵

Permits are not required to prune or remove any tree on private property, with the exception of coast live oak²⁶ (which is not fire-prone).

Land use projects that require trees to be cut down are often not considered significant environmental effects under the California Environmental Quality Act (CEQA).²⁷ While the City may nevertheless find "detriment" under the City's zoning ordinance for impacts not considered significant, the environmental and public safety benefits of removing hazardous vegetation more than outweigh any such detriments, particularly given the revegetation element of the program.

RATIONALE FOR RECOMMENDATION

The geography, weather patterns, drought conditions and dense vegetation in the East Bay create ideal conditions for wildfire, which could have devastating consequences to Berkeley. Reducing these fuels wherever they exist has been identified as a high priority in the CWPPs of other East Bay jurisdictions²⁸ that have identified eucalyptus and Monterey pine as a particular hazard "due to their rapid growth, height at maturity,

²⁴ See Hills Emergency Forum, Best Management Practices Working Paper, 10/17/08 (<http://www.hillsemergencyforum.org/docs/BMPs.pdf>).

²⁵ See *Berkeleyside*, "Berkeley residents can request free saplings to combat tree inequity" (March 8, 2022) (<https://www.berkeleyside.org/2022/03/08/trees-make-life-better-berkeley>). Also see: https://www.cityofberkeley.info/tree_planting/.

²⁶ See City of Berkeley, Tree Pruning and Removal (https://www.cityofberkeley.info/pruning_removal/).

²⁷ See City of Berkeley, General Information on CEQA ([https://www.cityofberkeley.info/Planning_and_Development/Land_Use_Division/Environmental_Review_\(CEQA\).aspx](https://www.cityofberkeley.info/Planning_and_Development/Land_Use_Division/Environmental_Review_(CEQA).aspx)).

²⁸ See the CWPPs of El Cerrito-Kensington, Contra Costa County, Alameda County and others available at the website of the Diablo Firesafe Council, www.diablofiresafe.org. Also see EBRPD, note 5 *supra*.

dense foliage, shallow root structure, flammability, breakability or invasiveness.”²⁹ “[E]ucalyptus ... are subject to torching and crown fires with potential high ember flight rates into residential areas.”³⁰

UC Berkeley (UCB) has also recognized the threat, having cleared eucalyptus trees in Claremont Canyon.³¹ UCB is currently in the process of removing eucalyptus and other trees and ladder fuels in the hills behind UCB along the Jordan Fire Trail, as part of a larger plan entailing the widespread removal of eucalyptus trees.³² LBNL is currently seeking \$2.9 million from CalFire to remove all 1,500 eucalyptus trees on its property.³³

The areas containing the greatest mass of hazardous fuel build-up in Berkeley exist on private property beyond 30 feet of any structure (or 100 feet on slopes) and are not currently being routinely addressed by the Fire Department’s residential vegetation management inspection program. Removal of hazardous vegetation is the most effective and timely means available to the City for reducing the severe risk of wildfire. In addition, tall trees posing public safety hazards have been identified outside of the VHFSZs and should be included in this program if possible.

The City could pattern the program after the Parks & Recreation’s vegetation removal program (or expand the program), where Parks conducts competitive bidding and issues umbrella contracts to several firms that are then called upon for specific jobs. Parks may also have procedures to cost share where private property is involved.

The DFSC estimates that all of Berkeley’s hazardous vegetation could be removed by continuing this program for an additional one to three years beyond FY 24, depending on the rate of homeowner opt-in to the City’s clearance program and compliance failure rates, the actual cost of removing trees and revegetating, and the timeliness of any necessary changes to the Fire Code.

²⁹ See *El Cerrito - Kensington Wildfire Action Plan*, p. 1.7. Also see *Contra Costa County Community Wildfire Protection Plan Update*, p. 2.5 and *Sunol Wildfire Action Plan* at 4.2.

³⁰ *Ibid.*

³¹ See <https://www.dailycal.org/2021/01/19/uc-berkeley-project-removes-claremont-canyon-trees-for-evacuation-route/#:~:text=In%20a%20project%20spearheaded%20by%20UC%20Berkeley%2C%20eucalyptus,November%202020%2C%20according%20to%20campus%20spokesperson%20Janet%20Gilmore.>

³² See <https://www.berkeleyside.org/2021/09/06/popular-cal-trail-closes-fire-safety-work/>.

³³ Personal correspondence between Jennifer Tang, Director of Community Relations, Lawrence Berkeley National Laboratory and Henry DeNero, Hillside Fire Safety Group, January 2022.

Measure FF Budget Recommendation - Expanded Fire Prevention Inspection CONSENT CALENDAR Program

December 13, 2022

Adopting this recommendation will ensure that the City immediately reduces the extreme risk of wildfire, reduces the likelihood of ignition of homes and other structures in the event of wildfire, and meets the City's obligations under Measure FF.

ALTERNATIVE ACTIONS CONSIDERED

The DFSC considered and rejected an alternate proposal that would have used Measure FF funds to pay for the removal of hazardous vegetation, rather than requiring property owners to do so at their own expense or via placement of liens.

The Fire Department may have alternative proposed recommendations for the expenditure of Measure FF funds.

CITY MANAGER

See Companion Report

CONTACT PERSON

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