Hazardous Fire Risk Reduction Record of Decision

East Bay Hills, California

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Federal Emergency Management Agency
Department of Homeland Security
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Washington, DC 20472

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RECORD OF DECISION

East Bay Hills Hazardous Fire Risk Reduction

The California Governor's Office of Emergency Services (Cal OES) submitted to the Department of Homeland Security's Federal Emergency Management Agency (FEMA), four grant applications under their Hazard Mitigation Grant Program (HMGP) and Pre-Disaster Mitigation Program (PDM). These proposals intend to cumulatively reduce risk imposed by vegetation fuel in the East Bay Hills of California. This Record of Decision (ROD) documents the decision to proceed with the proposed action, which constitutes vegetation management work, and recommends funding the four grant applications.

As described further, below, FEMA is selecting[1] the proposed action alternative for all four grants, with the exception of the Frowning Ridge. The proposed action with the required mitigation measures is the environmentally preferable alternative. Reduction of hazardous fire risk would reduce the need for future disaster relief and the risk of repetitive suffering and damage. The no action alternative's slow paced risk-reduction would still pose a risk of hazardous wildfire resulting in significant environmental impacts, and therefore would fail to meet the purpose and need for the action.

1.0 Background

The University of California (UCB), City of Oakland (Oakland), and East Bay Regional Park District (EBRPD) submitted a total of four grant applications to FEMA through Cal OES for federal financial assistance to implement hazardous fire risk reduction projects in the East Bay Hills of Alameda and Contra Costa counties, California, and at the Miller/Knox Regional Shoreline in Contra Costa County. The proposed action would be implemented on land owned by UCB and Oakland and within 11 parks owned and maintained by EBRPD.

UCB submitted two grant applications under the PDM program: one for a 56.3-acre area designated Strawberry Canyon-PDM and one for a 42.8-acre area designated Claremont-PDM.

Oakland submitted an application under the PDM program for six projects in Alameda County near the Contra Costa County border. The projects would be implemented by Oakland, UCB, and EBRPD. The six projects are Oakland's North Hills-Skyline-PDM and Caldecott Tunnel-PDM projects; UCB's Frowning Ridge-PDM project; and EBRPD's Tilden Regional Park-PDM (Tilden-Grizzly), Sibley Volcanic Regional Preserve-PDM (Sibley Triangle and Island), and Claremont Canyon-PDM (Claremont Canyon-Stonewall) projects. These six project areas total 359.0 acres.

As noted in the above Summary, the UCB Frowning Ridge project is no longer eligible for FEMA funding. Although FEMA analyzed Frowning Ridge throughout the EIS, this parcel has been rendered ineligible for funding by FEMA under the PDM grant program. In August 2014, UCB was found to have implemented extensive fuel reduction measures prior to the issuance of the final EIS,

[1] In accordance with the Council on Environmental Quality's (CEQ's) NEPA implementing regulations in Title 40 Code of Federal Regulations (CFR) Part 1505.2, FEMA's NEPA procedures in 44 CFR Part 10, and the U. S. Department of Homeland Security (DHS) Directive and Instruction 023-01 "Implementation of the National Environmental Policy Act."

including removal of approximately 600 trees and application of herbicide to stumps. Actions initiated or completed prior to compliance review and documentation under the National Environmental Policy Act (NEPA) are ineligible for funding per FEMA policy on grant program administration.

EBRPD submitted an application under the HMGP for reduction of fuel loads on 540.2 acres in 11 regional parks: Anthony Chabot Regional Park, Claremont Canyon Regional Preserve, Huckleberry Botanic Regional Preserve, Lake Chabot Regional Park, Leona Canyon Regional Open Space Preserve, Miller/Knox Regional Shoreline, Redwood Regional Park, Sibley Volcanic Regional Preserve, Sobrante Ridge Regional Preserve, Tilden Regional Park, and Wildcat Canyon Regional Park.

FEMA prepared a Final Environmental Impact Statement (EIS) for the East Bay Hills Hazardous Fire Risk Reduction proposed project[2]. The EIS evaluated the environmental effects that could occur if vegetation management designed to reduce wildfire hazard and risk were implemented in these 60 project areas in the East Bay Hills, and the Miller/Knox Regional Shoreline. The EIS also addressed potential impacts of connected actions on 45 additional project areas not included in the grant applications. [3].

1.2 NEPA Review Process

In January 2008, FEMA published a NOA for a draft Environmental Assessment (EA) on the Strawberry Canyon project area for public comment[4]. As a result of the public involvement process, which revealed concerns regarding potential impacts (and after consulting with DHS, CEQ, Cal OES, and the subapplicants) FEMA decided to prepare an EIS. The EIS addressed the potential environmental impacts of the vegetation management projects proposed in all of the grant applications submitted by UCB as well as those submitted by Oakland and EBRPD. The NEPA process included the following milestones[5]:

- Notice of Intent (NOI) to prepare an EIS published in the *Federal Register* on June 10, 2010 (pursuant to 40 CFR 1501.7)
- Public scoping period extended from June 10, 2010, through October 1, 2010, and included two public scoping meetings in August 2010
- NOA of the draft EIS published in the *Federal Register* on May 3, 2013
- Public comment period on the draft EIS extended from May 3, 2013, to June 17, 2013, and included three public meetings in May 2013
- NOA of the final EIS published in the *Federal Register* on December 5, 2014[6]

[2] Pursuant to Section 102(2)(c) of the National Environmental Policy Act (NEPA) of 1969 and the Council of Environmental Quality Regulations for Implementing NEPA (40 CFR Parts 1500-1508).
[3] The Draft and Final EIS are incorporated into this ROD by reference and are available online at: http://ebheis.cdmims.com/Home.aspx and http://www.fema.gov/environmental-historic-preservation-documents.
[4] As proposed in UCB's grant application PDM-PJ-09-CA-2005-011.
[5] As required by 40 CFR 1500 et seq.
[6] FEMA, as the lead agency, prepared the final EIS pursuant to NEPA, FEMA's NEPA procedures in 44 CFR Part 10, and DHS Directive and Instruction 023-01.

2.0 Purpose and Need

The purpose of the project is to substantially reduce hazardous fire risk to people and structures in the project area and consequently reduce the need for future disaster relief and the risk of repetitive suffering and damage. The need for the project arises from the severity and repetitive nature of wildfires in the East Bay Hills area and the proximity of residential areas to open spaces that are susceptible to fires[7].

3.0 Alternatives Considered

The alternatives considered including the no action alternative and alternatives considered but eliminated from further study are summarized briefly, below.[8].

3.1 No Action Alternative

Under this alternative, FEMA would not fund any of the proposed grant applications. However, all three subapplicants would continue their own, ongoing vegetation management activities including participation in the Hills Emergency Forum. Ongoing vegetation management activities include annual removal of grass and fuels from roadsides, turnouts, and adjacent to structures, continued maintenance of previous fuel reduction project areas, and other hazardous fuels reduction projects in accordance with each entity's long range plans and funding opportunities.

However, these activities would not result in effective hazardous fire risk reduction along the wildland-urban interface of the East Bay Hills. Therefore, this alternative does not meet the purpose and need.

3.2 Proposed Action

The proposed action consists of both the hazardous fuel reduction by vegetation management work as described in the four grant applications, and the connected actions comprising additional vegetation management activities that are not part of the grant applications but are selected by the subapplicants as the best way to manage their high fire risk lands considering the relationship of those lands to other proposed or connected areas[9]. Together, the proposed and connected actions would provide more effective protection over a large area by creating a continuous firebreak along the most vulnerable wildland-urban interfaces.

All three subapplicants propose to reduce fuel loads and fire intensity, primarily by thinning plant species that are prone to torching, and by promoting conversion to vegetation types with lower fuel loads. In many areas the proposed and connected actions would preserve oak and bay trees and convert dense scrub, eucalyptus forest, and non-native pine forest, to grassland with islands of shrubs.

The proposed and connected actions involve the use of herbicides, which would be applied during initial treatment and certain follow-up maintenance activities. The application of best management practices, compliance with state regulations, and adherence to the mitigation measures described in the EIS and the U.S. Fish and Wildlife Service's Biological Opinion (BO) will govern how herbicides can be applied.

[7] Described in detail in Section 2 of the EIS, *Purpose and Need for Action*
[8] Described in detail in Section 3 of the final EIS, *Alternatives Including the Proposed and Connected Actions*.
[9] The Proposed Action is defined in Section 3.4.2 of the EIS, *Proposed and Connected Actions*.

The development of mitigation and monitoring plans (MMPs) are a requirement of grant funding, and will outline the mitigation, monitoring, and maintenance activities to be conducted over the 10-year duration of the project. Maintenance activities were included in the analysis of effects in the EIS. Ongoing maintenance activities following tree removal would include herbicide treatment of sprouts emerging from stumps or foliage, and the removal of eucalyptus seedlings to prevent re-colonization of treated sites.

At the conclusion of the 10-year timeframe of the project, ongoing maintenance activities by the subapplicants would include removing grass and light fuels (such as twigs, needles, and grasses that ignite and burn rapidly) from roadsides, turnouts, and within 100 feet of structures and adjacent private residences on an annual basis.

The fuels reduction methodology presented in the draft EIS was revised in the final EIS for portions of the four UCB and Oakland treatment areas, and extended to those treatment areas the methods and approaches described for EBRPD. This "unified methodology" was developed to more closely align implementation of the project with the purpose and need for the project, and responded to a number of public comments on the draft EIS. The wildfire hazard reduction in the unified methodology is equivalent in effectiveness to the methodologies described in the draft EIS.

The unified methodology would be applied to portions of four high fire risk treatment areas that are in close proximity to structures: Strawberry Canyon (UCB), Claremont Canyon (UCB), North Hills-Skyline (Oakland), and Caldecott Tunnel (Oakland). The emphasis in these areas under the unified methodology focuses on thinning rather than complete removal to achieve the fire risk reduction goals.

Implementation of the unified methodology does not trigger the need for a supplemental EIS because the proposed action is not substantially changed and no significant new circumstances are created by its implementation. Specifically, implementation of the unified methodology does not change the areas or acreage treated, and it does not change the final outcomes where applied. The final EIS concluded that no increase in the described effects would result from the unified method.

3.3 Other Alternatives Considered but Eliminated

3.3.1 Alternative Hazardous Fuel Reduction Program

These alternative approaches to hazardous fuel reduction were considered (both separately and together as a cohesive program): removal of brush and surface fuels; removal of lower tree limbs; in areas where trees are thick, species-neutral removal of small trees and in some cases understory trees to remove ladder fuels and to create space between trees while maintaining shade to suppress growth of shrubs and grass; removal of eucalyptus debris that falls off the trees after a freeze; keeping grass short by mowing or grazing, especially along roads.

These alternative fuel reduction programs were found to be less effective, more expensive, and likely to result in greater environmental impacts than other alternatives considered. These alternatives would therefore not meet the purpose and need and were not considered in further detail.

3.3.2 Broadcast Burning

Broadcast burning alone was found to be ineffective and dangerous to implement in the vegetation types and intermixed wildland-urban interface setting of the project area. This alternative would not meet the purpose and need and was eliminated from further study.[10]

3.3.3 Additional Specific Wildfire Hazard Reduction Measures

Also considered but eliminated from further study were: creation of defensible space around structures; improvement of firefighting capacity, equipment, and tactics; exterior sprinkler systems; roof replacement; and management of resprouts from stumps without using herbicides (including manual removal, covering stumps with opaque plastic sheeting, coating stumps with natural tar).

These measures are not full alternatives to the proposed and connected actions, and would not meet the purpose and need for the project.

3.4 Environmentally Preferred Alternative

In this case, the environmentally preferable alternative[11] is determined to be the proposed and connected actions alternative. This is because of the proposed and connected action alternatives' ability to significantly reduce the potential for major wildfires. The no action alternative fails to provide a similar reduction. Under the no action alternative, a major wildfire in the East Bay Hills would have significant environmental effects on the natural, historic, and cultural resources and would not offer an opportunity to improve habitat conditions for listed species. The summary of potential effects in the Executive Summary of the EIS shows that there would be the potential for greater significant impacts from a major wildfire than there would be from the mitigation identified in the proposed and connected actions.[12]

4.0 Agency and Public Involvement

The agency and public involvement processes are summarized below[13].

4.1 Cooperating Agencies

Cooperating agencies[14] included the U.S. Forest Service (USFS), the National Park Service (NPS), the U.S. Fish and Wildlife Service (USFWS), the National Marine Fisheries Service (NMFS), Cal OES, UCB, Oakland, and EBRPD. These federal, state, and local agencies were involved in the EIS process because they have special expertise in or knowledge of environmental issues, they have

[10] This technique may be used by EBRPD in certain areas under certain conditions, as part of the proposed and connected actions.

[11] The identification of an environmentally preferred alternative is required by NEPA (40 CFR 1508.2(b)). The environmentally preferred alternative is the alternative that has the least impact on the physical and biological environment and that best protects, preserves, and enhances historic, cultural, and natural resources. Economic, social, technical, and agency mission factors are not considered in the identification of this alternative.

[12] Section 5 of the final EIS contains a more detailed evaluation of impacts associated with the various alternatives, including the no action alternative.

[13] Described in detail in the EIS in Section 1, *Introduction*, and in Section 7, *Public Participation and Coordination.* Agency and public involvement activities

[14] Cooperating Agencies pursuant to Section I02(2)(c) of the National Environmental Policy Act (NEPA) and the Council of Environmental Quality Regulations for Implementing NEPA (40 CFR Parts 1500-1508),

jurisdiction by law, or they must approve a portion of the proposed action. The cooperating agencies assisted with the preparation of the EIS by providing comments, information, and analysis.

4.2 Consultation

4.2.1 Government to Government Consultation

No federally recognized tribes were identified with an interest in or a cultural affiliation to the proposed and connected project areas. Therefore, no government to government consultations were conducted.

4.2.2 Section 106 Consultation

FEMA initiated formal Section 106 consultation under the National Historic Preservation Act (NHPA) with the California State Historic Preservation Officer (SHPO) on February 4, 2011, in accordance with 36 CFR Part 800. FEMA notified the Advisory Council of Historic Preservation (ACHP) and the California SHPO. Consulting parties included federal agencies involved in the undertaking, the ACHP, SHPO, local governments, and individuals with a demonstrated interest in the undertaking.

FEMA consulted with the SHPO on the Area of Potential Effect (APE) for the proposed project. A cultural resources survey of the APE was conducted as part of the analysis for the EIS. Consultation was completed in April 2013 when the SHPO concurred with the findings of no adverse effect from the East Bay Hills Fire Risk Reduction Project.

4.2.3 Section 7 Consultation

FEMA consulted formally with the USFWS, and informally with the NMFS, under Section 7 of the Endangered Species Act (ESA)[15]. Participation letters were sent to USFWS on June 11, 2010, and NMFS on October 15, 2010, to notify them that FEMA would be developing a biological assessment (BA) to determine if the proposed action would have the potential to adversely affect listed species and/or their critical habitat. FEMA informally consulted with USFWS and NMFS during preparation of the BA, including through requests for species lists, and by confirming the breadth of analysis, topics to be analyzed, and refinement of the action description for consultation.

On September 5, 2012, FEMA transmitted the BA to USFWS and NMFS, initiating formal consultation[16] on the proposed hazardous fire risk reduction methods. NMFS issued a letter of concurrence in April 2013 that the proposed and connected actions were not likely to adversely affect listed species under its jurisdiction. USFWS issued Biological Opinion (BO) on May 10, 2013 addressing adverse effects to listed species. The BO required FEMA and subapplicants to implement conservation measures for both proposed and connected actions starting from the date of its issuance.

Due to pre-decisional actions undertaken in August 2014 by UCB in the Frowning Ridge proposed action parcel and subsequent FEMA decision on ineligibility of the Frowning Ridge parcel, FEMA informally consulted with USFWS and NMFS relative to ESA compliance. . On November 17, 2014, it was determined that the previously issued concurrence letter from NMFS to FEMA on April

[15] Compliance with the California Endangered Species Act (CESA) may be necessary. Compliance with state regulations is the responsibility of the subapplicants.

[16] Section 7(a)(2) of the ESA.

26, 2013, and the BO issued by the USFWS on May 10, 2013, are valid for the remainder of the proposed and connected actions. Likewise, they confirmed that the terms and conditions still apply to all three grant applicants for both proposed and connected actions.

4.3 Public Involvement

4.3.1 Public Comments

The official comment period on the draft EIS was from May 3, 2013, to June 17, 2013. The Notice of Availability (NOA) of the final EIS was published in the Federal Register on December 5, 2014. The final EIS addressed comments received on the draft EIS and contained two appendices related to the public review of the draft EIS: Appendix Q, which provides responses to comments received on the draft EIS; and Appendix R, which presents the comments that were received during the public comment period on the draft EIS.

4.3.2 Inputs received on Final EIS

FEMA received several comments between the release of the final EIS and the issuance of this ROD. However, while informative, these comments did not alter the agency's decision or require any modification to the proposed action to be selected.

Comments received from the public on the final EIS were predominantly related to concerns with potential impacts from the use of herbicides (particularly during maintenance activities), information about the removal of trees from UC Berkeley properties, and the recommendation that treated areas be replanted. These comments mirror those raised on the draft EIS or do not identify significant new circumstances or information relevant to environmental concerns. As stated in EIS Sections 5.1, *Biological Resources*, and 5.10, *Human Health and Safety*, all of the mitigation measures related to the use of herbicides would apply to the maintenance phase as well as the initial treatment.

A summarization of additional significant comments received, and explanations as to why changes to the EIS were not warranted, follow here:

EPA expressed concerns with the perceived presumption that the project areas would be able to naturally revegetate. The FEIS and BO require monitoring and reporting, and specifically require FEMA to ensure that each grant applicant perform revegetation activities where the natural succession is not successful. EPA recommends that the ROD clearly identify which herbicide products would be approved for use in which areas. However, the approval of specific herbicide use is subject to federal and state regulatory requirements beyond FEMA control.

Several people commented that the introduction of the unified methodology might pose a procedural issue for the review of the EIS. However, as noted above in section 3.2of this ROD, implementation of the unified methodology would not trigger a supplemental EIS because it does not substantially change the proposed action in a way that is relevant to environmental concerns, or create significant new circumstances.

While the final EIS and ROD were still under development, FEMA was also notified of minor, ongoing maintenance operations in areas of the connected action. However, as stated in the final EIS, regular maintenance operations are required and included in the effect analysis as part of the cumulative or connected actions, therefore no new circumstances were introduced nor was the proposed action changed.

In addition, the public raised concerns about the effect of Frowning Ridge work on the cumulative effects analysis in the EIS and BO. In addition to the proposed and connected actions, the EIS considered other vegetation management activities by each of the subapplicants. Therefore no significant new circumstances were introduced and the proposed action remained unchanged. In addition, FEMA removed Frowning Ridge from a proposed action under the grants, to a connected action to be funded by UCB as part of its ongoing maintenance activities. Thus, the work does not change the total impacts that could potentially occur as a result of the proposed action.

Finally, some commenters were concerned that the work at Frowning Ridge created a procedural issue for the NEPA process, consequently requiring revision to the analysis in the EIS. The final EIS acknowledged that work was completed on a portion of the Frowning Ridge proposed project area. The NEPA process was still followed because the overall impact to resources by the proposed and connected actions was considered and determined to have been reduced by the removal of the entire Frowning Ridge parcel from grant eligibility.

All inputs and comments received on the final EIS were carefully reviewed to determine if they identified significant new circumstances or information relevant to environmental concerns that could bear upon the proposed action. However, FEMA determined that none of the information presented by the commenters required additional NEPA analysis or affected FEMA's ability to complete the NEPA process with the issuance of this ROD.

5.0 Significant Issues and Findings.

Throughout the NEPA process, the public and other agencies assisted FEMA in identifying potential issues to consider in the environmental analysis. The EIS identified unavoidable adverse impacts that would occur with respect to vegetation, wildlife and habitats, protected species, soils, water quality, aesthetics, community character, human health and safety, recreation, and noise. Implementation of required best management practices (BMPs) and mitigation measures would reduce potential adverse impacts on most resources to a less than significant level[17]. Significant adverse impacts remain only with respect to wildlife, aesthetics, community character, and noise.

Significant wildlife impacts would be short-term and limited to common wildlife species, which would be disrupted during implementation and until vegetation communities recover. In the long-term, the proposed and connected actions may benefit wildlife species by providing more habitats composed of native plant species.

Significant adverse visual impacts would occur in two areas in Tilden Regional Park: the area of the Herschell-Spillman merry-go-round and on the Selby Trail near the access point on Summit Road in Berkeley.

Two neighborhoods would experience significant alteration of community character; although the implementation of the unified methodology would lessen the severity of this effect somewhat because the action is spread over 10 years.

At times, when several pieces of heavy equipment are operating simultaneously, significant noise impacts would occur within project areas and at the homes closest to many of the project areas. These impacts would be of relatively short duration and limited to normal working hours.

[17] BMPs and Mitigation measures described in the EIS are described in detail, below, in section 7 of this ROD.

5.1 Findings under relevant Statutes and Executive Orders

Several federal laws, regulations, and executive orders apply to the project. Specific findings are described below for each of the relevant laws or executive orders.

NEPA: FEMA finds that the EIS is compliant with the procedural and analytical requirements of NEPA. The EIS was prepared in accordance with CEQ's NEPA implementing regulations in 40 CFR Parts 1500 through 1508, FEMA's NEPA procedures in 44 CFR Part 10, and DHS Directive and Instruction 023-01 "Implementation of the National Environmental Policy Act." The EIS development and public involvement processes are described in Section 1.2 of this ROD.

Endangered Species Act: As described in Section 4.2.3 of this ROD, FEMA conducted an informal consultation with NMFS and concluded that the proposed action would not likely adversely affect listed salmonids. FEMA also conducted a formal consultation with USFWS on several species that may occur within the project area. USFWS issued a BO with an incidental take statement, required terms and conditions, and a finding that the project would not result in the jeopardy of a listed species. The project is in compliance with ESA.

National Historic Preservation Act: As described in Section 4.2.2 of this ROD, FEMA finds that the proposed project is in compliance with the NHPA and that consultation with the SHPO was completed in April 2013. There would be no adverse effect on historic and cultural resources from the East Bay Hills Fire Risk Reduction Project.

Migratory Bird Treaty Act: With implementation of the migratory bird mitigation measures described in Section 7.2 of this ROD, the proposed action, which includes connected actions, would avoid impacts to migratory birds and the proposed action would be in compliance with the Migratory Bird Treaty Act.

Executive Order 13112 Invasive Species: The proposed action would not contribute to the spread of invasive species. Implementation of the MMPs and the mitigation measures described in Section 7.2 of this ROD would control the spread of invasive species as defined by Executive Order 13112.

Clean Air Act: Potential emissions from the proposed and connected actions would not exceed the General Conformity *de minimis* threshold, including emissions from heavy equipment used to remove vegetation, trucks used to transport trees from the project areas, and emissions from burning of vegetation on-site. Therefore, the proposed action is in compliance with the Clean Air Act.

Clean Water Act: Many of the required BMPs and avoidance and minimization measures are directly related to protection of water quality in conformance with the Clean Water Act. There would be no placement of fill material in waters of the U.S. BMPs and mitigation measures to control erosion and prescribe herbicide use as described in Section 7.2 of this ROD would be implemented. With these measures, the proposed action is in compliance with the Clean Water Act.

Executive Order 11990 Protection of Wetlands: Vegetation and hydrology observed during vegetation mapping suggest that potential small wetlands occur in the proposed and connected project areas generally associated with "riparian woodland" vegetation types primarily in proximity to Wildcat, Strawberry, Claremont, San Leandro, and Redwood Creeks. FEMA followed the 8-step decision making process as follows: 1) FEMA determined that a portion of the project area could be within wetlands; 2) FEMA provided public notice of the proposed action through early scoping and again during the public review of the draft EIS; 3) the EIS identified and evaluated alternatives to

conducting the work as initially proposed in wetland and riparian areas; 4) FEMA identified potential impacts of the proposed action on wetlands in the EIS; 5) through the EIS evaluation process and with consideration of public input, FEMA developed mitigation measures to modify the proposed action and avoid and minimize impacts on aquatic habitats including wetlands; 6) FEMA has determined that the proposed action is practicable as it would not fill wetlands; 7) FEMA provided the public with an explanation of the findings in the final EIS and also in this ROD; 8) implementation of the project is conditioned upon the application of mitigation measures to avoid and minimize impacts from erosion, sedimentation, turbidity, and herbicides.

Executive Order 11988 Floodplain Management: One project area includes a portion of a 100-year floodplain and 14 others are near (less than ½ mile) a 100-year floodplain. FEMA followed the 8-step decision making process as follows: 1) FEMA determined that a portion of the project area is within floodplains; 2) FEMA provided public notice of the proposed action through early scoping and again during the public review of the draft EIS; 3) the EIS identified and evaluated alternatives to conducting the work as initially proposed in floodplains; 4) FEMA identified potential impacts of the proposed action on floodplains in the EIS; 5) through the EIS evaluation process and with consideration of public input, FEMA developed mitigation measures to modify the proposed action and avoid and minimize impacts on floodplains; 6) FEMA has determined that the proposed action is practicable as it would not expose people to flood hazards and would not facilitate development in the floodplain; 7) FEMA provided the public with an explanation of the findings in the final EIS and also in this ROD; 8) implementation of the project is conditioned upon the application of mitigation measures to avoid and minimize impacts from erosion, sedimentation, turbidity, and herbicides.

Executive Order 12898 Environmental Justice: As described in the EIS, the proposed action would not have disproportionately high adverse effects on any minority or low-income populations. Therefore, the proposed action is in compliance with the Executive Order on Environmental Justice

6.0 Decision

The East Bay Hills are subject to repetitive, severe wildfires that kill people and destroy homes. The proposed action would meet the purpose and need to mitigate these hazards. FEMA's decision, based on factors including economical and technical considerations, and the agency's statutory mission aimed at addressing fire risk hazard in the study area, is to proceed with the proposed action, consisting of the proposed vegetation management work. FEMA recommends funding the four grant applications, with the exceptions noted below, and will provide funding for eligible activities through the PDM program and the HMGP.

PDM-PJ-09-CA-2005-011: Strawberry Canyon – UCB is the subapplicant for the proposed work in the Strawberry Canyon project area. This application is meets FEMA's Office of Environmental and Historic Preservation (OEHP) requirements for NEPA compliance and is therefore eligible for funding from the PDM program. The proposed work meets the purpose and need for the project. Approval of grant funding will be subject to implementation of an Maintenance and Monitoring Plan (MMP) and the BMPs and mitigation measures described in Section 7 of this ROD and other programmatic requirements.

PDM-PJ-09-CA-2005-003: Claremont Canyon – UCB is the subapplicant for the proposed work in the Claremont Canyon project area. This application is eligible under OEHP requirements and therefore eligible for funding from the PDM program. The proposed work meets the purpose and need for the project. Approval of grant funding will be subject to implementation of an MMP and

the BMPs and mitigation measures described in Section 7 of this ROD and other programmatic requirements.

PDM-PJ-09-CA-2006-004: Under this application, the City of Oakland is the subapplicant for several project areas. The following project areas are eligible under OEHP requirements and therefore eligible for funding from the PDM program: North Hills-Skyline-PDM (Oakland), Caldecott Tunnel-PDM (Oakland), Tilden Regional Park-PDM (EBRPD), Sibley Volcanic Regional Preserve-PDM (EBRPD), and Claremont Canyon-PDM (EBRPD). The proposed work in the eligible project areas meets the purpose and need. Approval of grant funding will be subject to implementation of an MMP and the BMPs and mitigation measures described in Section 7 of this ROD and other programmatic requirements. This grant may be considered for partial funding.

In August 2014, UCB undertook vegetation treatment measures on approximately 7.5 acres of the 185.2-acre UCB Frowning Ridge project identified in the Oakland PDM grant application.. In undertaking these actions prior to issuance of the final EIS, UCB failed to comply with both the specific conditions of the PDM grant program and also NEPA requirements, which limit applicant action during the NEPA process under 40 CFR 1506.1. Both required UCB to refrain from action until FEMA had completed its environmental review. Therefore, the Frowning Ridge project area is ineligible for PDM grant funding.

HMGP 1731-16-34: Under this application, EBRPD is the subapplicant for work proposed on selected project areas in 11 regional parks. This application is eligible under OEHP requirements and therefore eligible for funding from the HMGP program. The proposed work meets the purpose and need for the project. Approval of grant funding will be subject to implementation of an MMP and the BMPs and mitigation measures described in Section 7 of this ROD and other programmatic requirements.

In reaching a decision, FEMA considered the extensive environmental analysis, including alternatives, the environmental impacts of this project, agency and public comments, and compliance with pertinent federal laws and policies. The mitigation measures identified in the EIS and compiled in this decision, below, in Section 7, will ensure that adverse impacts are avoided and minimized to the maximum extent practicable. In addition, each subapplicant must finalize a MMP that includes annual monitoring, reporting, and adaptive management if performance goals are not met.

Any lack of compliance with the MMPs, the agreed upon measures contained in such MMPs, the Terms and Condition of the Biological Opinion issued by USFWS, the terms and conditions established by NMFS in their No Likely to Adversely Affect (NLAA) concurrence, or with any other measure established in the FEIS, may affect grant eligibility if not properly addressed by corrective measures. The potential for reopening consultation(s) may also arise in certain situations. Ultimately, any violation of the above conditions may jeopardize funding for the grants.

6.1 Monitoring and Enforcement

Following the issuances of the ROD, and once funding for a specific grant is awarded, if a Grantee or subgrantee fails to comply with the terms of a grant award, including the environmental conditions (whether stated in a Federal statute or regulation, an assurance, a State Administrative Plan or application, a notice of award, or elsewhere) and based on prescribed monitoring and reporting as established in the BO and other sections of the EIS, FEMA may take one or more of the following actions: withhold payments pending correction of the deficiency by the Grantee or subgrantee, disallow all or part of the cost of the activity or action not in

compliance, wholly or partly suspend or terminate the current award, withhold further awards for HMA grants, or take other available legal or remedial action.

7.0 Mitigation

As a condition of grant funding, the subapplicants must implement all of the BMPs and project-specific mitigation measures (identified in Section 5 of the EIS) which are compiled below. In addition, as a condition of grant funding, the subapplicants must comply with the terms and conditions identified in the BO, including , requirements for habitat creation and conservation, as well as required studies, management plans, and reporting requirements outlined in the BO.

The subapplicants must finalize MMPs that identify vegetation goals and habitat performance standards for the 10-year monitoring period. During the 10-year project monitoring period, should success criteria not be achieved at the projected rate, adaptive management practices and additional measures must be implemented to improve progress toward the vegetation management goals. Monitoring will be conducted annually, and the results should be addressed in an annual report, submitted to appropriate agencies including USFWS, by March 31 of each year.

7.1 Best Management Practices

Standard BMPs that are included in the conditions for grant eligibility and that must be utilized by the subapplicants in conducting the proposed work, include the following:

- Minimize soil disturbance during and following fuel reduction treatments and inspect disturbed areas for evidence of severe erosion as a result of vegetation management. If severe erosion is occurring at a site, only native plant seeds or stock would be used for erosion control unless otherwise approved by USFWS. If necessary, fencing, signs, maintenance, access control, jute fabric, sediment traps, mulch, straw wattles (without plastic monofilament netting), vegetation management, exotic species control, or any other commonly used erosion control technique may be used to promote the ecological health of the sites.
- BMPs, as identified by the California Regional Water Quality Control Board, would be implemented to control erosion during and after vegetation removal. Erosion control BMPs would include but may not be limited to:
    - Leaving tree stumps and/or root systems in place until vegetation becomes re-established in logged areas
    - Installing storm drain protection prior to vegetation management for project sites near storm drains
    - Placing a deep bed of chips around tree stumps to allow mechanical skidders to travel above the chip bed
    - Using wood chips and tree trunks retained behind stumps to create sediment traps roughly following the slope contour
    - Avoiding operation of heavy equipment on slopes steeper than 35% and developing specific measures to minimize effects of erosion if such areas are unavoidable

  - Stabilizing all entrances and exits to control erosion and sediment discharges from the sites
  - Cleaning and maintaining streets and roads in such a manner as to prevent unauthorized non-stormwater discharges from reaching surface water or MS4 drainage systems
  - Selecting mechanical treatments according to a site's topography, access, vegetation type and potential for environmental impacts

- Vehicle and heavy equipment refueling and maintenance would only be permitted in designated disturbed/developed areas where accidental spills can be immediately contained. All project-related heavy equipment would be regularly maintained to avoid fluid leaks (e.g., gasoline, diesel fuel, hydraulic fluid). All leaking fluid would be stopped or captured in a container until such time that the equipment can be immediately moved off site and repaired. Storage of hazardous materials would not occur within 500 feet of any pond or creek drainage. A plan would be prepared for immediate containment and clean-up of hazardous material spills within or adjacent to each site. Further water quality BMPs may include but would not be limited to:
  - Avoiding crossing drainage areas with running or standing water with mechanical equipment while water is present
  - Complying with the National Pollutant Discharge Elimination System (NPDES) stormwater permitting requirements and preparing Stormwater Pollution Prevention Plans (SWPPP)
  - Applying herbicide to tree stumps and re-sprouts by hand during dry weather and low wind conditions
  - Using hand-fellers for trees within 50 feet of a drainage channel; these trees would be felled perpendicular to ephemeral drainages and processing would be done by a skidder if the skidder could safely handle stems at 50-foot distance from drainage, otherwise, the trees would be lopped and scattered by hand fellers
  - Locating landings to accommodate skidding distances of up to 1,000 feet; for landings near streams, residue piles (sawdust, wood chips, etc.) would be placed away from drainages where runoff could wash residue into streams or wetlands
  - Avoiding skidding across dry or running streams; when that is not possible, temporary crossings would be used during the dry season while ephemeral creeks are dry
  - Taking all necessary safeguards to prevent sedimentation into watercourses during all phases of vegetation management activities
  - Avoiding operating mechanical equipment within the stream buffer zone and, where such impact is unavoidable, employing standard BMPs to mitigate disturbance

7.2 Mitigation Measures

In addition to BMPs, the EIS described required mitigation measures to avoid and minimize potential impacts of the proposed and connected actions on a variety of resources. These mitigation measures (described in Section 5 of the final EIS) are compiled below.

In addition to the conservation measures and terms and conditions described in the BO, the following mitigation measures must be implemented by the subapplicants. Please note that with respect to federally threatened or endangered species, if there is a conflict between the measures described

below and the measures described in the BO (contained in Appendix P of the final EIS), those in the BO control.

Migratory Birds

- To avoid and minimize disturbance to active nesting or fledging, work during avian nesting and fledging season (February 1 through July 31) would only be undertaken if the treatment area was cleared by an avian biologist.
- If active bird nests are present, a 50-foot non-disturbance zone would be maintained, unless adjustment is approved by the biological monitor (see below). If an injured bird is found, the USFWS and the nearest wildlife rehabilitation center would be called.

Protection of Common Wildlife

- Project-related vehicles would observe a 15 mph speed limit in all project areas, except on city or county roads and state and federal highways. Off-road traffic outside of designated project areas would be prohibited.
- To avoid and/or minimize attracting predators to the site, all food-related trash items, such as wrappers, cans, bottles, and food scraps, would be disposed of in a securely covered container. These containers would be emptied, and debris removed from the project site at the end of each working day.

Wildlife Habitat

- Existing strategic fire roads will be used to the maximum extent possible. The access routes would avoid scrub habitat, primary constituent elements for the designated critical habitat of the Alameda whipsnake, and stream and riparian habitats.
- All material stockpiling and staging areas would be located within designated disturbed/developed areas that are outside of sensitive habitat areas as determined by the USFWS and/or NMFS-approved biological monitor(s) and/or USFWS/NMFS.

Exotic Plant Species

- The spread or introduction of exotic plant species would be reduced in compliance with EO 13112 by minimizing soil disturbance to areas during and following fuel reduction treatments.

Herbicide Use

- A 60-foot buffer zone adjacent to standing or flowing water would be established within which there would be no foliar application of herbicides. Within the 60-foot buffer, as well as areas greater than 60 feet from surface waters but where there is potential for herbicides to reach aquatic habitats via runoff or drift, only cut stump application of USFWS and/or NMFS-approved, aquatic-safe formulations of herbicides would be used (e.g., Garlon 3A), and the more toxic Garlon 4 Ultra would not be used.
- Herbicides would be applied directly to stumps, and foliar application will not be used in any areas subject to potential drift to surface water bodies. Stump application of all herbicides would be conducted by a State of California Qualified Applicator or by staff under their supervision. Within the 60-foot stream buffer, cut stump application of approved herbicides would be applied within 60 minutes of felling.
- Herbicides would not be applied within 24 hours of predicted rain events (40% or greater chance for rainfall) to reduce the potential for runoff of herbicides into surface water bodies.

- Foliar application of herbicides or other spray application methods would not be applied when wind speeds exceed 10 mph or are less than 2 mph to reduce likelihood of drift into surface water bodies. Chemical treatment shall be conducted in accordance with a USFWS- and NMFS-approved treatment plan.
- Contractors must have all necessary licensing by the California Department of Pesticide Regulation (CDPR) for herbicide application. Use of herbicides shall be consistent with label instructions, and Material Safety Data Sheets documents shall be maintained.
- Integrated Pest Management Approaches: Applicants would also use nonchemical methods, such as hand pulling or chip deposition, on seed stock to prevent seedling germination, thus, reducing the need for herbicides.
- A liquid herbicide would be applied to each cut tree stump within 60 minutes of felling; a typical tree requires 1 to 2 ounces of diluted solution, which must be applied to the cambium layer, directly beneath the bark. The cut stump formulation may be diluted or adjusted when, at the judgment of the project manager, the rate of material used may exceed the amount allowable per acre per year, by EPA regulations.
- Drift from foliar application will be avoided by implementing measures, such as avoiding windy days (e.g., avoid spraying when wind speeds are more than 10 mph or less than 2 mph) and using proper spraying techniques, and following all CDPR regulations. Herbicide would only be applied by hand during dry weather and low wind conditions, and a back sprayer would be used to selectively apply herbicide to the young foliage of re-sprouted eucalyptus.
- Herbicide applications would be rotated for best impact during the growing season. The lowest effective concentration needed for effectiveness would be used, typically specified as a range on the product label. Note that concentration is dependent on method of application; cut stump mixtures are more highly concentrated than foliar mixtures.
- No herbicides would be intentionally applied to non-target species.
- All containers would be labeled according to CDPR regulations.
- All containers would be disposed of according to CDPR regulations.
- All materials would be stored according to CDPR regulations.
- All materials used would be recorded and reported per CDPR regulations.
- To protect workers, the subapplicants will comply with state and federal OSHA standards for exposure to hazardous materials in the workplace.
- To minimize potential exposure of workers and the public, the amount of herbicide used will be the minimum amount required to achieve the needed results.
- The Applicators will be required to maintain accurate and calibrated application equipment to ensure that the amounts of herbicides applied are as proposed.
- Herbicides will be formulated in accordance with the product label, as approved by EPA.
- All personnel involved with the herbicide application will receive safety training specific to the formulated herbicide product that will be used and will follow the site safety and health plan developed for the project that will prevent exposure to proposed herbicide formulations and other formulation constituents at concentrations that could be expected to affect health.

- The subapplicants will follow procedures for public notification and education, including posting the timing, location, and approximate amounts and types of pesticides or other chemicals to be applied at least 24 hours in advance. Trails and campgrounds would be closed prior to vegetation management activities. Trails and campgrounds and other public use areas would be re-opened when safety risks no longer exist.
- Because the restrictions on use are numerous and species/application dependent, the label instructions or CDPR website would be consulted for a complete (and evolving) set of use guidelines and restrictions.

Biological Monitor Requirements

- At least 20 working days prior to the date the project is initiated in the field, the subapplicant would submit the names and credentials of the onsite project biological monitors to USFWS and/or NMFS for review and approval. The biological monitors would have demonstrated knowledge of the biology and ecology of the Alameda whipsnake (AWS) and California red-legged frog (CRLF) and field experience identifying these species as well as botanical knowledge in regards to the federally listed plants. No project activities would begin until the subapplicant or project proponents have received written approval from USFWS and/or NMFS that the biological monitor(s) are qualified to conduct the work. Information included in a request for authorization as a USFWS and/or NMFS-approved biological monitor should include, at a minimum: (1) relevant education; (2) relevant training on species identification, survey techniques, handling individuals of different age classes, and handling of different life stages by a permitted biologist or recognized species expert authorized for such activities by USFWS and/or NMFS; (3) a summary of field experience conducting requested activities (to include project/research information); (4) a summary of BOs under which they were authorized to work with the listed species and at what level (such as construction monitoring versus handling), including the names and qualifications of persons under which the work was supervised as well as the amount of work experience on the actual project; (5) A list of federal recovery permits [10(a)1(A)] held or under which are authorized to work with the species (to include permit #, authorized activities, and name of permit holder); and (6) any relevant professional references with contact information. USFWS and/or NMFS would provide written approval within 10 business days of receipt of the provided information.
- A USFWS and/or NMFS-approved biological monitor would be on site during implementation of project activities that may result in take of federally listed species. Additionally, the biological monitor would be given the authority through communication with the project manager or the project manager's designee to stop any work that may result in take of the CRLF, AWS, and/or other listed species. If the USFWS and/or NMFS approved biological monitor exercises this authority, USFWS and/or NMFS would be notified by telephone and electronic mail within 1 working day. The USFWS contact is Coast Bay/Forest Foothills Division Chief, Endangered Species Program, at the Sacramento Fish and Wildlife Office at telephone (916) 414-6600. The NMFS contact is the Protected Resources Division Chief, North Central Coast Office/ Santa Rosa National Marine Fisheries Service at telephone (707) 575-6050.
- The USFWS and/or NMFS-approved biological monitor(s) would be on site to monitor the initial vegetation removal and/or ground disturbance activities. The USFWS and/or NMFS-approved biological monitor(s) would perform a clearance survey for listed species immediately prior to the initial ground disturbance.

- An employee education program on the federally listed species would be completed prior to the date of initial groundbreaking or vegetation clearing (whichever date comes first) at the project. The program would consist of a brief presentation by the USFWS and/or NMFS-approved biological monitor(s) to explain endangered species issues to all contractors, their employees, and agency personnel involved in the implementation of the project. The program would include a description of the federally listed species and their habitat needs, an explanation of the status of these species and their protection under the ESA, associated consequences of non-compliance with this opinion, and a description of the measures being taken to reduce effects to these species during project implementation.
- Based on training from the biological monitor, all contractors, their employees, and agency personnel involved in the implementation of the project would check for the presence of snakes or frogs next to stationary vehicles, prior to operating the vehicles. If found, the biological monitor would be contacted prior to operating the vehicle. The biological monitor would contact USFWS immediately if an injured snake or frog is found to determine necessary steps.
- If the USFWS and/or NMFS-approved biological monitor(s) observed either of the two listed species in the work area, they would stop work and move the CRLF to a safe location within walking distance of the location where it was found; or if possible, AWS or CRLF would be allowed to disperse on its own. The individual animal would be monitored by the USFWS and/or NMFS-approved biological monitor until it has been determined that it is not imperiled by predators or other dangers. Neither of these two listed species would be moved to laboratories, holding facilities, or other facilities without the written authorization of the USFWS and/or NMFS.
- The USFWS and/or NMFS-approved biological monitor(s) may use nets or their bare hands to capture CRLF at the project site. The USFWS and/or NMFS-approved biological monitors(s) would not use soaps, oils, creams, lotions, repellents, or solvents of any sort on their hands within 2 hours before and during periods when they are capturing and relocating either of these two listed species. The USFWS and/or NMFS-approved biological monitors(s) would limit the duration of handling and captivity of individuals of the listed amphibian. The USFWS and/or NMFS-approved biological monitor would minimize the potential for infecting CRLF with amphibian diseases when capturing and relocating these species by implementing the measures in *The Declining Amphibian Task Force Fieldwork Code of Practice* (available at the Ventura Fish and Wildlife Office's website at http:// www.fws.gov/ventura/species_information/protocols_ guidelines/docs/DAFTA.pdf). While in captivity, individuals of the CRLF would be kept in a cool, moist, aerated environment, such as a bucket containing a damp sponge. Containers used for holding or transporting adults of the amphibian would not contain any standing water. The AWS would be placed in a pillowcase or similar container for transport to the release site.
- If the USFWS and/or NMFS-approved biological monitor exercises stop work authority, USFWS and/or NMFS would be notified by telephone and electronic mail within 1 working day. The USFWS and/or NMFS-approved monitor would be the contact for any employee or contractor who might inadvertently kill or injure a CRLF and/or an AWS or anyone who finds a dead, injured, or entrapped individual of these two listed species. The USFWS and/or NMFS-approved biological monitor would possess a working cellular telephone whose number would be provided to the USFWS and/or NMFS.

- Sensitive habitat areas, including AWS and CRLF habitat, known populations of pallid manzanita, and wetlands on the project plans, would be clearly indicated. These plans would be submitted to USFWS and/or NMFS for review prior to project implementation.
- Following approval of plans identifying sensitive habitat by USFWS and/or NMFS, sensitive areas would be delineated with high visibility, temporary, orange-colored fence at least 4 feet in height, flagging, or other barriers. These areas would be avoided to the maximum extent practicable.
- During work activities, ground burrows, holes, and tunnels that provide shelter for small animals would be avoided to the maximum extent practicable.

Species-Specific Work Windows

- In coordination with USFWS and NMFS, work windows have been developed during which the treatment activities would be implemented to avoid effects to federally listed species. Minor vegetation removal activities that are unlikely to injure CRLF or AWS could be implemented during the course of the year with proper BMPs in place. Major ground disturbing activities and use of heavy machinery would require consideration of appropriate work windows for each species, resulting in an open work window to occur between August 1 and November 30. This time frame would also address the work windows for avoiding nesting migratory birds (February through July), hibernating AWS (November 1 to March 31), and the wet season for the CRLF (October 15 to May 15). Although November 1 is typically the start of the wet season, the potential for injuring dispersing CRLF would be minimized by installing exclusion fencing prior to the start of the wet season and avoiding work in dispersal habitat on days with 40% or greater chance for rainfall. Additionally, because AWS begin hibernating in November, any activities that may crush burrows would be avoided by not allowing the use of heavy equipment from November 1 through March 31. Additional considerations for species and work windows are provided in the paragraphs below.

Additional Measures Specific to California Red-legged Frog

- All rules, regulations, best practices, and restrictions as imposed by CDPR would be followed during herbicide application. In addition, all instructions, restrictions, use limitations disposal methods, and spill remediation methods described on each herbicide label would be followed. The recommended 60-foot no-use zone is based on information obtained from the website http://www.cdpr.ca.gov/docs/endspec/rl_frog/index.htm. This no-use zone was imposed over certain areas by the U.S. District Court for the Northern District of California. Some of these no-use zones intersect with the project area and are intended for the protection of CRLF. CRLF habitat may occur throughout the project area; therefore, it is reasonable to apply similar conditions on herbicide application throughout the project area. The implementation of the 60- foot no-use zone required for protection of CRLF is assumed to be adequately protective of all aquatic receptors that may occur in project area surface waters, including special status species (e.g., salmonid fish) and aquatic prey items important for the survival of special status species.
- To the extent practicable, treatment activities involving heavy equipment and/or significant ground disturbance would not occur between April 15 and August 1 within any areas determined to be suitable CRLF breeding habitat (aquatic habitat plus a 60-foot linear buffer) or where the species is deemed present by the biological monitor to avoid potential disturbance to breeding CRLF.

- In areas where herbicides would be applied within 60 feet of the ordinary high water mark of areas determined to be suitable CRLF breeding habitat, only aquatic-safe formulations of herbicides (e.g. Garlon 3A) would be used, and they would be applied only by brushing directly onto stumps. Herbicide use in these areas would be limited to August 1 to October 31 to avoid potential impacts to CRLF tadpoles, egg masses, and dispersing adults. No foliar application of herbicides would occur within 60 feet of breeding habitat for the CRLF or in any areas subject to potential drift to breeding habitat for the CRLF. Species-specific BMPs for the protection of CRLF and associated habitats are also discussed in Appendix F and Appendix L, and these are based on application restrictions imposed by the injunction issued on October 20, 2006 by the U.S. District Court for the Northern District of California.
- In areas with potential or known occurrences of CRLF, exclusion fencing would be installed (prior to the start of the wet season) to prevent frogs from entering an active vegetation treatment area. The exclusion fencing would consist of geotextile fabric with one-way exit funnels every 100 feet. The geotextile fabric would be ERTEC-E or equivalent as approved by the USFWS prior to installation. The lower portion of the fence would be buried to a depth of 4 to 6 inches, and the top of the fence would extend at least 36 inches above ground level. Shrubs within approximately 3 feet of the outside of the fence would be trimmed to prevent access via the shrubs over the fence. The fence would be secured to metal posts and/or wooden stakes to ensure it remains upright and does not fall over. Posts/stakes would be placed on the inner side of the fence to ensure AWS do not enter the work site by climbing the posts/stakes. A USFWS-approved biological monitor would be on site during installation of the fencing to relocate any listed species to outside the treatment area. The biological monitor would survey the work area daily to ensure the fencing is secure and that no listed species are trapped inside. The fencing would be continuously maintained until all construction activities are completed. Following project implementation, fencing would be removed.

Additional Measures Specific to Alameda Whipsnake (Alameda Stripe Racer)

- To the extent practicable, treatment activities involving heavy equipment and or significant ground disturbance within any areas determined to be suitable AWS habitat would not occur between November 1 and March 31 to avoid potential disturbance to hibernating snakes. Treatments involving hand crews, light mechanical equipment, or prescribed burning can be implemented during the course of the year with proper BMPs in place.
- Exclusion fencing would be installed around all areas where heavy equipment is operated, including landing areas, access roads, and staging areas. Following project implementation, fencing would be removed. See BR-5 above for details on exclusion fencing.
- Skid trails would be sited a minimum of 10 feet away from core AWS habitat and rock outcrops.
- Rock outcroppings and native shrubs within 50 feet of rock outcrops would be maintained and protected from vehicles using orange construction fencing.
- Wood chips and landings would not be placed within 50 feet of rock outcrops.
- EBRPD would develop, implement, and fund a USFWS-approved study of the effects of the proposed treatment activities (e.g., shrub thinning) on the Alameda whipsnake.
- EBRPD would compensate at a 2:1 ratio for the permanent loss of 193.1 acres of core scrub habitat for AWS by purchasing, preserving, and managing in perpetuity under a conservation

easement at least 386.2 acres of suitable core scrub habitat for AWS at USFWS-approved location(s) within its designated critical habitat. The preserved habitat will be managed for the benefit of the AWS under a USFWS-approved compensation plan with a long-term endowment to provide funding for management of these areas in perpetuity. Currently, EBRPD is considering purchasing and preserving in perpetuity under a conservation easement high quality core scrub habitat within an important dispersal corridor within AWS designated critical habitat Unit 6.

Avoidance Measures to be Implemented During Pile Burning

The following is a list of avoidance measures for pile burning that would be implemented when burning piles at all sites with potential AWS habitat that are not isolated and are connected to known sites or quality sites with rock outcroppings:

- Check for burrows before building pile. Avoid placing piles on rodent burrows.
- Light pile from one end (generally the uphill side on slopes) to allow snakes to escape, rather than lighting the whole pile at once.
- Limit material in pile to 4 inches in diameter or less to limit heat penetration into the ground and provide short escape distance.
- Pile burning would not occur in suitable AWS habitat during the hibernation season (e.g. November 1 to March 31).
- No heavy equipment that could collapse burrows within suitable habitat for AWS during the hibernation period (November 1 – March 31).

Special Status Species Protocol Surveys

- Pre-implementation surveys would be conducted to determine the presence of special-status plants within the project areas where vegetation management activities would be conducted. Botanists would conduct a botanical survey for the listed species during the blooming period for each species before vegetation management activities start. All special-status plants would be clearly flagged with high visibility flagging and avoided.

Additional Measures Specific to Pallid Manzanita

- Prior to conducting activities within recommended treatment areas (RTAs) that support *Arctostaphylos* spp., a USFWS-approved biologist familiar with identifying *Arctostaphylos* spp. and their hybrids would train all project staff regarding habitat sensitivity, identification of pallid manzanitas and their hybrids, and these minimization, avoidance, and compensation measures.
- No *Arctostaphylos* spp., within any project area, would be removed without verification from the USFWS-approved biologist that the *Arctostaphylos* spp. in question is not a pallid manzanita.
- No living pallid manzanitas, as determined by the USFWS-approved biologist and the presence of any photosynthesizing leaves, would be removed or damaged.
- No pallid manzanita branches supporting photosynthesizing leaves would be cut, removed, or damaged.
- All shrubs and trees that are not a component of the maritime chaparral vegetation type within 20 feet of pallid manzanita plants and all shrubs or trees that are excessively shading

pallid manzanita plants (i.e., pines, acacias, eucalyptus, oak, bay, madrone, etc.) would be cut and treated to reduce competition with pallid manzanitas and to reduce fuel loads.

- Prior to any fuel reduction activities within pallid manzanita stands, the stand would be surveyed for mature and seedling (less than 5 years of age) pallid manzanitas except within 25 feet of where *P. cinnamomi* has been identified. All adults and seedlings would be flagged with high visibility flagging and avoided.
- Herbicide use within 300 feet of pallid manzanitas would be applied through direct application to the stump only.
- Goat grazing is prohibited within treatment areas containing pallid manzanitas.
- EBRPD Pallid Manzanita Management Plan: Prior to implementing any activity within any RTA containing pallid manzanitas, EBRPD will develop a USFWS-approved long-term adaptive management plan for all stands of pallid manzanitas that occur on EBRPD lands (nearly 75 percent of pallid manzanita plants range-wide occur on EBRPD lands and thus will be covered under this management plan) (ESA 2013). The plan would be designed to ensure the long-term persistence of the pallid manzanita stands and to guide future management actions in and around this species, including (1) managing and expanding existing pallid manzanita stands in such a way as to maximize individual plant health, maintain species genetic integrity and diversity, and promote stand regeneration in perpetuity; (2) establishing or restoring additional pallid manzanita stands in areas that are not subject to fuel management or other incompatible uses; and (3) controlling the spread of the fungal pathogen, *P. cinnamomi*, within and between pallid manzanita stands.
- To reduce the spread of *P. cinnamomi* within the RTAs containing pallid manzanita plants, the following minimization and avoidance measures would be implemented:
    - Each year or prior to any wildfire hazard reduction activities within a watershed supporting pallid manzanitas, an appropriately timed survey of the site to be treated would be conducted by a qualified person approved by the USFWS to identify areas infected with *P. cinnamomi*.
    - Work within 100 feet of any area known to be infected with *P. cinnnamomi* would be scheduled to occur after all other areas within 500 feet of the infection have been treated.
    - A specific ingress/egress route that minimizes the potential spread of *P. cinnamomi* would be identified by a USFWS-approved biologist when working within watersheds that support pallid manzanitas.
    - A wash station would be established at the ingress/egress location. Prior to entering or exiting the ingress/egress location, any potentially contaminated material would be removed from all boots, hand tools, clothing, and other equipment, then these items would be disinfected using 70% isopropanol (rubbing alcohol) or another USFWS-approved substance known to disinfect *P. cinnamomi* contaminated equipment.
    - All work within 300 feet or upslope of pallid manzanitas would be conducted using hand-tools only.
    - Vehicles are prohibited off of service roads within 200 feet of pallid manzanitas.
    - No treatment activities, except for pile burning, would be conducted during the wet season (October 15 to May 15) within RTAs containing pallid manzanitas.

- Pile burning would not occur within 100 feet of any area infected with *P. cinnamomi* during the wet season (October 15 to May 15).
- Within watersheds that support pallid manzanitas, the transportation of wood, slash, and other debris would only be conducted under the guidance of a USFWS-approved biologist and in a manner that minimizes the potential spread of *P. cinnamomi*.
- Prior to conducting any activities within watersheds that support pallid manzanitas, all personnel would attend an environmental awareness training session designed to inform workers about the long-term effects of *P. cinnamomi*, how it is spread, and these minimization and avoidance measures.

Reasonable and Prudent Measures and Conditions.

The following measures and conditions are part of this ROD:

1. Applicants will implement the BMPs and Conservation Measures in the *Description of the Proposed Project* in the biological opinion issued by the USFWS on May 10, 2013.
2. Each applicant has a final Service-approved 10-year MMP prior to their initiation of the proposed project. The MMPs shall include interim and final success criteria for the cover of native and invasive plant species, the cover of suitable listed species habitat, and the decomposition of wood chips within all proposed treatment areas.
3. Each applicant develop and implement Service-approved contingency plans in case the interim and final success criteria are not achieved.
4. UCB to create at least 167 acres of suitable habitat for the Alameda whipsnake consisting of at least 32 acres of core scrub habitat.
5. Oakland will create at least 40 acres of suitable habitat for the Alameda whipsnake consisting of at least 18 acres of core scrub habitat.
6. EBRPD creates at least 62 acres of suitable habitat for the Alameda whipsnake.
7. EBRPD will have a compensation plan finalized and approved by the Service for the purchase, preservation, and management in perpetuity of at least 386.2 acres of core scrub habitat for the Alameda whipsnake at a Service-approved location within its designated critical habitat prior to EBRPD initiating any vegetation management activities within Alameda whipsnake habitat. The conservation easement will be recorded by EBRPD within nine months of EBRPD initiating the proposed project. The long-term endowment funding for the compensation areas will be in place within nine months of EBRPD initiating the proposed project. The endowment will be Service-approved and will provide funding for management of these areas in perpetuity.
8. EBRPD to develop and initiate a Service-approved study analyzing the effects of the proposed shrub thinning on the Alameda whipsnake prior to the initiation of any vegetation management activities within Alameda whipsnake habitat.
9. EBRPD is required to have a Service-approved long-term management plan for all stands of the pallid manzanita that occur on EBRPD lands prior to the initiation of any vegetation management activities within areas that contain the pallid manzanita.

Conservation Recommendations.

1. UCB, Oakland, and EBRPD should incorporate into their projects the creation of suitable aquatic breeding habitat for the California red-legged frog while eradicating non-native species such as bullfrogs, non-native fish, and non-native tiger salamanders that threaten this listed species.

2. UCB, Oakland, and EBRPD should promote the eradication of non-native eucalyptus, Monterey pine, Monterey cypress, and French broom within and near suitable habitat for the Alameda whipsnake and Presidio clarkia.
3. UCB, Oakland, and EBRPD should encourage or require the use of appropriate California native species in revegetation and habitat enhancement efforts.
4. UCB, Oakland, and EBRPD should avoid the use of rodenticides in suitable habitat for the California red-legged frog and Alameda whipsnake and other listed species that rely on small mammals for creating burrows or as a prey source.
5. UCB, Oakland, and EBRPD should manage scrub, grassland, and oak woodland habitats for the benefit of the Alameda whipsnake. EBRPD should re-route trails away from suitable Alameda whipsnake and pallid manzanita habitat.
6. Oakland should develop and implement a Service-approved long-term management plan for the pallid manzanita similar to the one being developed by EBRPD.
7. EBRPD should acquire, preserve, and manage lands containing the pallid manzanita that are currently unprotected on private lands. EBRPD should educate and work with adjacent landowners to minimize the potential for the introduction and spread of *P. cinnamomi* into areas containing the pallid manzanita.
8. Oakland should persuade private landowners in the Oakland Hills (e.g., Oakland Hills Tennis Club, Sunrise Assisted Living Facility, and the proposed Crestmont development) to monitor the Presidio clarkia subpopulations on their lands and control invasive species as required under their management plans that were developed during the California Environmental Quality Act process (*e.g.*, Center for Biological Diversity 2007; Kanz *in litt*. 2009; EBRPD 2009; Oakland 2006).
9. Oakland should increase education of Oakland road maintenance and vegetation and fire management teams in how to avoid and minimize impacts to the Presidio clarkia including delaying their activities (*e.g.*, mowing and weed-whacking) in areas with Presidio clarkia (Chadbourne Way, Old Redwood Road, and Redwood Regional Park subpopulations) until after the Presidio clarkia have set seed (late summer, early fall). The Center for Biological Diversity, California Native Plant Society, and local residents have documented on multiple occasions in recent years vegetation management activities conducted by Oakland in the Crestmont neighborhood that resulted in the disturbance of Presidio clarkia plants within the Chadbourne Way, Kimberlin Heights Drive, Colgett Drive, Crestmont Drive, and Old Redwood Road subpopulations before the plants had released and dispersed their seeds (Kanz *in litt*. 2006; Augustine *in litt.* 2006; Baker *in litt*. 2009; Baker, pers. comm. 2009; Kanz, pers. comm. 2009; Naumovich, pers. comm. 2009).
10. Oakland should persuade private landowners in the Oakland Hills (*e.g.*, Colgett Drive, Kimberlin Heights Drive, and Crestmont Drive) to remove trees where they have been planted in suitable Presidio clarkia habitat as is being done at Redwood Regional Park and the San Francisco Presidio.

Measures to Prevent the Spread of Sudden Oak Death Syndrome

- If sudden oak death syndrome (SOD) is present in a portion of a treatment area: (a) schedule all landscaping and construction operations to occur first in the SOD-free area and utilize paved and rocked roads and landings to the extent possible; (b) inform personnel that they are working in an area with SOD disease, unauthorized movement of plant material is prohibited, and the intent of mitigation measures is to prevent disease spread; (c) ensure equipment and personnel shoes and boots are cleaned prior to leaving the site after work in the SOD-infested area.

- Conduct operations during the dry season. Utilize paved and rocked roads and landings to the extent possible.
- If property is downwind and down slope from a dense mixed forest with significant infestation, ensuring that water runoff is properly channeled may be beneficial to avoid spread of the disease by water.
- Bay laurels need to be treated with systemic herbicides at least a couple of weeks before being cut down to minimize re-sprouting.
- It is beneficial to attempt to eliminate the pathogen in plants killed or infected by the disease by following these guidelines:
  - Bay and tanoak leaves on the ground will be less conducive to the pathogen than on the tree; thus, simply removing infected foliage and small twigs and mixing them in the top layer of the soil may be beneficial.
  - Composting following EPA guidelines will effectively kill the pathogen.
  - For infected wood, it is best to cut the wood in small logs and allow it to dry without tarping in a sun-exposed and breezy area not far from where the tree was standing.
  - Chipping is effective as long as chips are broadcasted only locally near the area where the tree was growing in a thin layer exposed to sunlight.
  - Burning infected wood is very effective, but do not move firewood from the property where the tree was growing.

Measures to Minimize Landslide Risk

- Prior to implementation of any proposed vegetation removal activity, the recommended treatment area must be screened for landslide activation risk using the following procedure:
  - 1. Subapplicants must refer to:
    a. The most current available landslide mapping from the U.S. Geologic Survey (USGS) or the California Geological Survey for the proposed or connected project area (for example, the USGS 1997 Summary Distribution of Slides and Earth Flows in the San Francisco Bay Region, California. OFR 97-745c).
    b. Geographic information systems slope steepness mapping for the proposed or connected project area.
  - 2. If all of the following criteria are satisfied, no further action to address potential landslide activation would be required:
    a. The area to be treated is in an area listed as “stable,” “few landslides,” or equivalent.
    b. The average slope steepness of the area to be treated is less than 10° (about 18%).
    c. There is no visible evidence of landslide activity (e.g., scarps, crooked trees, landslide generated debris piles) within the area to be treated, as documented by field reconnaissance.
    d. No habitable structures are within 100 feet of the toe of the slope downgradient of the area to be treated.

- 3. Subapplicants must determine on a case-by-case basis whether to retain a qualified professional (e.g., engineering geologist or geotechnical engineer) to conduct a geotechnical reconnaissance to evaluate the potential impacts of fuel reduction activities on future landslide potential if:
    a. A habitable structure is located within 100 feet of the toe of the slope downhill of the treatment area.
    b. The prescribed treatment would include the use of heavy equipment and significant ground disturbing activities (i.e., this requirement would not apply to methods such as hand treatment, weed-eating, or chemical treatment), and one or more of the following conditions is identified:
        i. The treatment area is listed as "unstable" or "many landslides" on applicable slope stability mapping.
        ii. The average slope steepness of the treatment area is greater than 10° (about 18%).
        iii. There is visible evidence of landslide activity (e.g., scarps, crooked trees, and landslide generated debris piles) within the treatment area, as documented by a field reconnaissance.

Measures to Minimize Erosion

- Apply BMPs listed in Section 10.1 of this ROD.
- Existing strategic fire roads will be used to the maximum extent possible.
- New skid trails will be on firm, well-drained soils and grades will typically be less than 15%. Where steep grades are unavoidable, grade breaking techniques and soil-stabilization practices would be implemented.
- Any new temporary access routes and skid trails constructed will be scarified to allow vegetation to reestablish following implementation of the proposed and connected actions.
- Conduct a post-assessment survey for evidence of severe erosion as a result of vegetation management annually for the first 10 years. Survey information will be used to modify, if needed, the maintenance and treatment methods to correct erosion and to achieve vegetation goals. In the event that natural recruitment does not occur as anticipated, additional introduction of native plant species will be implemented. Species introduced would include an assemblage of woody shrubs, forbs, and tree seedlings expected to thrive in the newly opened canopies.
- Hydroseeding may be used as an erosion control adaptive management technique in areas at risk of surface erosion from surface rainwater runoff, or in some cases, in areas that fail to establish native vegetative cover under natural recruitment.
- Unless more stringent application restrictions apply, treatments occurring within or under the jurisdiction of Oakland would be consistent with the City of Oakland Creek Ordinance. Based on this ordinance, trees within 50 feet of watercourses would be cut by hand felling only; no mechanized equipment is intended to be used for either removal or mastication in this 50-foot buffer. If feasible, heavy machinery may be used to end line material out of the buffer area, as long as the machinery itself does not enter or drive inside the buffer zone. Oakland would implement chemical applications per the CDPR pesticide guidance adjacent to water features.

Measures to Protect Air Quality

- All burning would be performed in conformance with Bay Area Air Quality Management District rules and regulations including "Burn Day" requirements.
- Construction sites will be watered twice per day during access road construction on the sites requiring new or repaired access roads.

Measures to Protect Cultural Resources

- During ground disturbing activities (e.g., construction of temporary access roads) the subapplicants will employ a cultural resource monitor to check for the presence of any artifact or burial. The monitor will notify the subpplicant for next steps if any item is encountered.
- EBRPD BMPs will be implemented to ensure avoidance of adverse effects.

Measures Related to Recreation and Transportation

- If trails require temporary closure due to implementation of the proposed and connected actions, the subapplicants will notify the public of any scheduled closures with as much advance notice as possible.
- Adequate warnings to motorists, pedestrians, and bicycle riders will be provided whenever a road or trail is blocked, partially blocked, or closed.
- Flag control warning crews will be used whenever trucks enter or exit public roadways onto adjacent fire trails and landings, large pieces of debris nearby would potentially affect a roadway, or equipment is placed at the project area sites.

Measures To Minimize Noise Impacts

- Each subapplicant will develop a noise control plan for its portion of the proposed and connected actions. The noise control plan will identify procedures for predicting construction noise levels at sensitive receptors prior to beginning work and describe noise reduction measures required to reduce the increased noise levels to the maximum extent possible.
- Equipment will be maintained to reduce noise levels to the maximum extent possible (e.g., exhaust mufflers).
- Hours of work will be limited to 7:00 a.m. to 7:00 p.m. Monday through Friday and 8:00 a.m. to 5:00 p.m. on Saturday. No work will be completed on Sundays.
- Noise complaints will be addressed promptly by the subapplicant and alternate means of project implementation used when feasible, as determined during monitoring as well established reporting.

8.0 Appeal

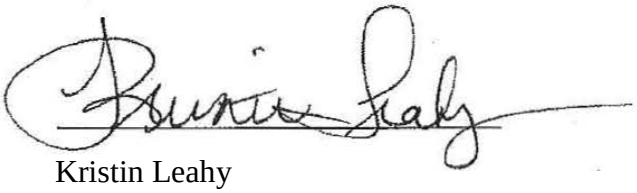
The Regional Administrator's decision to approve this project constitutes the final decision by FEMA in accord with the regulations at 44 CFR 10. Any challenge of this decision, including the authorization of grant funding must be brought in federal district court.

9.0 Issued

2/26/2015

Karen Armes
Acting Regional Administrator
FEMA, Region IX

Date



26 FEB 15

Kristin Leahy
Environmental Officer
Office of Environmental Planning and Historic Preservation
FEMA

Date

10.0 Addresses and Further information

The final EIS and ROD are available at http://www.fema.gov/environmental-historic-preservation-documents. Additionally, copies will be available at the following locations:

Oakland Main Library, 125 14th Street Oakland, CA

Oakland Rockridge Library, 5366 College Avenue Oakland, CA

Berkeley Main Library, 2090 Kittredge Street Berkeley, CA

San Leandro Main Library, 300 Estudillo Avenue San Leandro, CA

Richmond Main Library, 325 Civic Center Plaza Richmond, CA

FEMA Region IX Headquarters, 1111 Broadway, Suite 1200, Oakland, CA

East Bay Regional Park District, 2950 Peralta Oaks Court, Oakland, CA

City of Oakland, Office of the City Clerk, Oakland City Hall, 2nd Floor, 1 Frank H. Ogawa Plaza, Oakland, CA

California Office of Emergency Services, 10390 Peter A. McCuen Blvd., First Floor, Sacramento, CA

For further information contact: Alessandro Amaglio, Regional Environmental Officer, Region IX, FEMA, 1111 Broadway, Suite 1200, Oakland, CA 94607–4052 (510) 627–7222.

11.0 Acronyms

APE	Area of Potential Effect
AWS	Alameda whipsnake
BA	Biological Assessment
BMP	Best Management Practice
BO	Biological Opinion
Cal OES	California Office of Emergency Services
CD	Compact Disk
CDPR	California Department of Pesticide Regulation
CESA	California Endangered Species Act
CEQ	Council on Environmental Quality
CLRF	California Red-Legged Frog
DHS	Department of Homeland Security
EA	Environmental Assessment
EBRPD	East Bay Regional Park District
EIS	Environmental Impact Statement
ESA	Endangered Species Act
FEMA	Federal Emergency Management Agency
HMGP	Hazard Mitigation Grant Program
MMP	Mitigation and Monitoring Plan

NEPA	National Environmental Policy Act
NHPA	National Historic Preservation Act
NMFS	National Marine Fisheries Service
NPS	National Park Service
Oakland	City of Oakland
PDM	Pre-Disaster Mitigation program
ROD	Record of Decision
SHPO	California State Historic Preservation Officer
USFS	United States Forest Service
USFWS	United States Fish and Wildlife Service
UCB	University of California – Berkeley