

Wildfire Mitigation Grant Opportunities

Overview

Wildfires can kill people, ruin homes and communities and cause environmental damage in forests, grasslands and the wildland urban interface. The destruction caused by wildfires also increases flood risks in burned areas for years. Wildfire risks increase in periods with little rain and high winds and can strike in any month of the year. FEMA’s Hazard Mitigation Assistance (HMA) grant programs seek to mitigate wildfire risks to people, the environment, infrastructure and communities

Available Grant Programs

Hazard Mitigation Grant Program (HMGP)	Hazard Mitigation Grant Program Post Fire (HMGP-PF)	Building Resilient Infrastructures and Communities (BRIC)
Provides funding to state, local, tribal and territorial governments so after a presidentially declared disaster so they can rebuild in a way that reduces or mitigates future disaster losses in their community.	Provides funding to help communities implement hazard mitigation measures after wildfire disasters.	Provides funding for pre-disaster mitigation activities. BRIC is a new FEMA mitigation program that replaces the Pre-Disaster Mitigation (PDM) program.

Wildfire Mitigation Opportunities

Post-Fire Mitigation Projects	Program			Complexity			
	HMGP	HMGP-PF	BRIC	Application	Environmental	Legal	
Eligible Activities	Erosion Control - WF-1	✓	✓	✓	Low	Low	Low
	Slope Stabilization - WF-1	✓	✓	✓	Low	Medium	Medium
	Debris Mitigation and Basins - WF-1	✓	✓	✓	Medium	Medium	Medium
	Culvert Upgrades - WF-1	✓	✓	✓	Low	Medium	Medium
	Infrastructure and Utility Protection - WF-1	✓	✓	✓	Low	Medium	Medium
	Sediment Traps or Check Dams - WF-1	✓	✓	✓	Low	Medium	Medium



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Wildfire Mitigation Projects		Program			Complexity		
Eligible Activities		HMGP	HMGP-PF	BRIC	Application	Environmental	Legal
	Ignition Resistant Construction Retrofits - Residential - WF2	✓	✓	✓	High	Medium	Medium
	Ignition Resistant Construction Retrofits - Infrastructure - WF3	✓	✓	✓	Medium	Medium	Low
	Defensible Space - WF4	✓	✓	✓	High	Medium	Medium
	Fuels Reduction - General - WF5	✓	✓	✓	Medium	High	Medium
	Fuels Reduction - Including private property - WF5	✓	✓	✓	High	High	Medium
	HMGP Wildfire and Post Wildfire Early Warning systems - WF6	✓	✓	N/A	Low	Low	Low

Non-Construction Activities		Program			Complexity		
Eligible Activities		HMGP	HMGP-PF	BRIC	Application	Environmental	Legal
	Building Code Improvements - WF7	✓	✓	✓	Low	Low	Low
	Hazard Mitigation Planning (wildfire) - WF8	✓	✓	✓	Low	Low	Low
	Advance Assistance (HMGP) / Project Scoping (BRIC) - WF9	✓	✓	✓	Low	Low	Low

Complexity Ratings

The application complexity ratings are subjective and based on the average time and resources required to complete mitigation applications combined with the impacts of a given mitigation activity. These complexity ratings are meant as a guide and are not definite regulatory thresholds. The intent is to provide an understanding of the commitment of time and resources necessary to apply, receive funding for, and implement a mitigation action.

Application Complexity

The application complexity ratings are subjective and based on the average time required to complete the application as well as the number of supporting elements that may be necessary for proper documentation of the scope of work, budget, benefit cost and/or technical performance.

- **Low Complexity:** Mitigation actions that do not require a benefit costs analysis or specific detailed design documents.

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- **Medium Complexity:** Mitigation actions that require straightforward benefit cost analysis with readily available documentation to support the scope of work, budget, schedule and risk reduction components.
- **High Complexity:** Mitigation actions that are technically complex requiring multiple source documents to support the benefit cost analysis, scope of work, budget, and/or schedule. Also, residential projects with multiple private property owners participating require greater documentation and oversight from application to implementation.

Environmental Complexity

Environmental and historic preservation complexity is based on the number and extent of the consultations with other Federal agencies required for FEMA to evaluate and clear a specific proposal. These complexity estimates are based on historical averages and small differences in proposals can necessitate different levels of review and consultation.

- **Low Complexity:** Mitigation actions with no external consultation requirements.
- **Medium Complexity:** Mitigation actions with one or two consultations required (USACE/SHPO/USFWS/NMFS), including No Adverse Effect (NHPA) and/or Not Likely to Adversely Affect (ESA) determinations.
- **High Complexity:** Mitigation actions with three or more consultations required (USACE/SHPO/USFWS/NMFS), including Likely to Adversely Affect Determination (ESA) and/or Adverse Effect (NHPA) Determinations.

Legal Complexity

Legal complexity is primarily based on the potential for litigation, property ownership issues and impacts to popular natural resources. The more impacts to natural resources or unresolved issues a project has the greater the legal complexity.

- **Low Complexity:** Mitigation actions with limited third-party interest, mitigation actions with no impact to natural resources, ADA or other laws that have citizen suit provisions.
- **Medium Complexity:** Mitigation actions with more than one viable alternative, mitigation actions that impact popular natural resources with complex regulations, or mitigation actions limited property ownership issues that can be resolved prior to approval.
- **High Complexity:** Mitigation actions subject to ongoing or potential litigation, mitigation actions with impacts to resources that may require an Environmental Impact Statement, mitigation actions with unresolved property ownership issues, mitigation actions with controversial impacts to natural resources, or mitigation actions with untested methodologies.

FEMA Mitigation Funding Opportunity Erosion Control and Watershed Protection

Overview

- Post-fire Hazard Mitigation Assistance (HMA) funding opportunities are available to states, local and tribal governments, for the mitigation of wildfire or impacts of wildfire on publicly or privately owned forests or grasslands, which could lead to increased or new damage in the burned area.

Eligible Activities

- Surface erosion control actions necessary to reduce potential threats to structures or facilities (note: this might not be considered an emergency action if there is time to consult with necessary resource agencies prior to initiating the action, e.g. hydro seeding cannot happen until early spring).
- Slope stabilization (Ground disturbance activities and planting non-native vegetation have higher environmental complexity).
- Actions to reduce risk of mass failures or risk to debris flows.
- Debris basins to hold debris flows due to fire (Ground disturbance activities have higher environmental compliance).
- Upgrades to existing culverts to reduce any threat of road failing due to plugged culvert.
- Stabilization of roads or other facilities in danger of failure.
- Installation of permanent gabions, ecology blocks, K-railing and other erosion control measures used to protect at risk structures or facilities.
- Installation of sediment traps or check dams at high risk areas when threat exists.

* NOTE: Where possible, bioengineering should be considered instead of hardened structures along stream banks.

Overall Complexity

Project	Application	Environmental	Legal
Erosion Control	Low	Low	Low
Slope Stabilization	Low	Medium	Medium



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Project	Application	Environmental	Legal
Debris Mitigation and Basins	Medium	Medium	Medium
Culvert Upgrades	Low	Medium	Medium
Infrastructure and Utility Protection	Low	Medium	Medium
Sediment Traps or Check Dams	Low	Medium	Medium

Fire Mitigation Examples



Application Requirements

- Must be a local government, Tribe, or Private Nonprofit (PNP*).
- Must have a FEMA approved Hazard Mitigation Plan (HMP).
- Must fulfill appropriate FEMA and Recipient application requirements including, scope of work, budget, schedule, etc.
- Long-term benefits must outweigh costs (Benefit Cost Ratio greater than 1).
 - Projects that cost less than or equal to \$5,200 per acre of benefit are automatically cost effective. No benefit-cost analysis is required.
 - Projects with costs greater than \$5,200 per acre of benefit must submit a documented benefit-cost analysis.
- 25 percent non-federal match required (Under the BRIC program, small and impoverished communities are eligible for a 10 percent non-federal match).
- Projects affecting private property must have property owner permission.
- Funding limits are set by FEMA and the Recipient.

- No construction is allowed prior to FEMA award approval.

* PNPs are eligible only under HMGP and are not required to have an HMP.

Environmental Requirements

This depends on the action, the resources affected, and the applicable environmental and historic preservation (EHP) laws. Therefore, engagement with the FEMA EHP is required on a project specific basis. For example, under the Clean Water Act, the US Army Corps of Engineers (USACE) has emergency provisions which FEMA may be able to utilize to avoid duplicative compliance reviews. This can be achieved due to a Memorandum of Understanding and other programmatic agreements between FEMA and other resource agencies.

If emergency consultation is deemed necessary, FEMA EHP will contact the relevant resource agencies and provide them as much information as possible regarding the proposed action, design elements, mitigation measures, public risk, and other relevant information.

FEMA Mitigation Funding Opportunity

Ignition Resistant Construction – Residential

Overview

- During a wildfire, combustible exterior components such as roof coverings, siding, and decks can ignite, leading to severe damage to or total loss of the building. The use of noncombustible or fire-resistant materials for exterior components and the creation of a defensible space can increase a building's chance of surviving. The illustration shows the building's envelope or exterior components that can be mitigated. FEMA recommends that State and local codes include requirements for wildfire mitigation for both new construction and upgrades to existing buildings in wildfire zones.



Figure 1. Ignition Resistant Construction Components

Eligible Activities

- Roof – Installation of Class A roofing products such as: asphalt shingles, metal / stone-coated metal, concrete (standard weight and lightweight), clay tile, synthetic, slate or hybrid composite.
- Siding – Encasing building with ignition resistant siding such as rock wall, stucco or cement board.
- Exterior Doors – Installation of door made from non-combustible products such as metal or composites or solid core construction. Installing sliding glass doors or decorative front doors with glass panels made of tempered glass that are designed to withstand impact.
- Windows – Installation of dual pane windows. An aluminum sub-frame should be installed to help the window frame retain its shape when exposed to increased heat.
- Gutters – Installation of metal gutters. Gutter caps can be installed to prevent accumulation of foreign combustible debris.



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- Vents – Install metal vents and vent flashing. Metal mesh screens should be corrosive-resistant. Vent openings should have a maximum net free area of 144 square inches.
- Decks – Replacing flammable materials with heavy timber or noncombustible materials. A minimum 6-inch × 6-inch timber or concrete block or steel should be used for columns. For floor joists and beams, heavy timber, 3-inch to 4-inch nominal thickness fire-retardant treated wood, or concrete block or steel framing should be used. For railings, use minimum 3-inch nominal thickness fire-retardant-treated wood or metal, cables, or tempered glass. For decking and stair treads, use exterior fire-retardant-treated wood, minimum 3-inch nominal thickness, or brick or concrete pavers and a suitable drainage mat over wood decking or metal grates. Light, poured concrete may also be a suitable deck covering.
- Eaves – Cover with 1/8-inch maximum mesh to prevent embers from entering.
- Fuel tanks – Protection of propane tanks or other external fuel sources.
- External water hydration and thermal insulation systems – Purchase and installation of external, structure-specific water hydration and thermal insulation systems with a dedicated delivery system and dedicated self-contained foam or retardant in sufficient volume to protect the structure.
- Paint – Fire resistant primers and paint.

Overall Complexity

Application	Environmental	Legal
High	Medium	Medium

Application Requirements

- Must be a local government, Tribe, or Private Nonprofit (PNP*).
- Must have a FEMA approved Hazard Mitigation Plan (HMP).
- Must fulfill appropriate FEMA and Recipient application requirements including, scope of work, budget, schedule, etc.
- Long-term benefits must outweigh costs (Benefit Cost Ratio greater than 1).
- 25 percent non-federal match required (Under the BRIC program, small and impoverished communities are eligible for a 10 percent non-federal match).
- Projects involving reimbursement payments to homeowners must include details of the reimbursement process and include details if homeowners are performing any of the project work as part of the non-federal match.
- Application should include property level detail for activities including address of property, associated construction activities, and documentation of voluntary participation.

- Each residential structure must have documentation that the property owner has previously created defensible space and agrees to maintain defensible space or that defensible space will be required as part of the Ignition Resistant Construction.
- Funding limits are set by FEMA and the Recipient.
- No construction is allowed prior to FEMA award approval.

* PNPs are eligible only under HMGP and are not required to have an HMP.

Environmental Requirements

Depending on the specific elements of each structure to be retrofitted, and if combined with additional fire mitigation activities such as the creation of defensible space, the applicable environmental and historic preservation (EHP) laws can differ. Given this, engagement with FEMA EHP is required on a project specific basis, such as compliance with Section 106 of the National Historic Preservation Act (NHPA).

Basic EHP requirements for this project type (for each structure):

- Location (address, coordinates in decimal degrees)
- List of proposed retrofits
- Age of construction
- Specific scope of the proposed retrofit work for the structure
- At least five photos (each side and another of the structure with surroundings)
- Identifying if the structure is within a special flood hazard area (SFHA) and include a map.

FEMA Mitigation Funding Opportunity Ignition Resistant Construction – Infrastructure

Overview

- Inadequate infrastructure can hamper fire-suppression efforts and put citizens and firefighters at risk. Reducing the risk of wildfire damage and destruction requires implementing measures beyond those involving an individual building or parcel. It is also essential to enhance mitigation measures at the neighborhood and community levels, which will effectively expand the zone of protection beyond the individual parcel or building. FEMA's Hazard Mitigation Assistance (HMA) has funding available to implement measures that can be taken on a community-wide basis to increase the chances of an entire neighborhood's survival in a wildfire.

Eligible Activities

- Undergrounding existing utility and equipment connections, including all entry points into the building.
- Sealing gaps and penetrations in exterior walls and roofs with fire-resistant caulk, mortar, or fire-rated expanding foam. Filling large gaps with intumescent or fire-protective sheets or pillows. Fire-resistant wrap may be used around ventilation features that are built into and penetrate exterior walls (such as air conditioners).
- Shielding power cables and other wiring with noncombustible or fire-resistant materials to protect the cables and wiring from convection, radiation, and conduction heat, and direct flame contact.
- Use noncombustible or fire-resistant materials for mounting systems of roof-mounted equipment.
- Burying or shielding fuel lines to protect them from radiation, conduction heat, and direct flame contact.
- Burying pressurized storage vessels underground
- Shielding gas meters from hot air and gases, convection and radiant heat, and direct contact by flame, using noncombustible materials such as masonry or concrete.
- Ensuring pressurized storage tanks have a pressure relief valve. As the outside temperature rises in a wildfire, the pressure inside the tank can increase. When the pressure setting is exceeded, the valve will open and relieve the pressure, preventing an explosion.
- Replacing water tanks made with flammable material with non-flammable water tanks.
- Replacing flammable wooden utility poles with non-flammable steel or concrete.
- Replacing water systems that have been burned and caused contamination.



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Overall Complexity

Application	Environmental	Legal
Medium	Medium	Low

Application Requirements

- Must be a local government, Tribe, or Private Nonprofit (PNP*).
- Must have a FEMA approved Hazard Mitigation Plan (HMP).
- Must fulfill appropriate FEMA and Recipient application requirements including, scope of work, budget, schedule, etc.
- Long-term benefits must outweigh the costs (Benefit Cost Ratio greater than 1).
- 25 percent non-federal match required (Under the BRIC program, small and impoverished communities are eligible for a 10 percent non-federal match).
- Application should include details for all activities including exact location and associated construction activities.
- Structures involved in Ignition Resistant Construction must have documented appropriate defensible space and commit to maintaining defensible space.
- Funding limits are set by FEMA and the Recipient.
- No construction is allowed prior to FEMA award approval.

* PNPs are eligible only under HMGP and are not required to have an HMP.

Environmental Requirements

Depending on the specific elements of each structure to be retrofitted, and if combined with additional fire mitigation activities such as the creation of defensible space, the applicable environmental and historic preservation (EHP) laws can differ. Given this, engagement with FEMA EHP is required on a project specific basis, such as compliance with Section 106 of the National Historic Preservation Act (NHPA).

Basic EHP requirements for this project type (for each structure):

- Location (address, coordinates in decimal degrees)
- List of proposed retrofits
- Age of construction for any existing structure to be retrofitted

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- Specific scope of the proposed retrofit work on existing structures or any necessary ground disturbance for underground activities.
- At least five photos (each side and another of the structure with surroundings) for any projects involving existing structures.
- Identifying if the structure is within a special flood hazard area (SFHA) and include a map.

FEMA Mitigation Funding Opportunity

Defensible Space

Overview

- Defensible space is the area around a building in which vegetation, debris, and other types of combustible fuels have been treated, cleared, or reduced to slow the spread of fire to and from the building [see illustration below]. Information about local vegetation, weather, and topography is used to determine the Fire Severity Zone of an area, which can help determine the most effective design of a defensible space. It is one of the most cost-effective ways to protect a building from a wildfire and can often be created by the property owner.
- Defensible space projects for residential structures, commercial buildings, public facilities, and infrastructure must be implemented in conformance with local code requirements for defensible space.

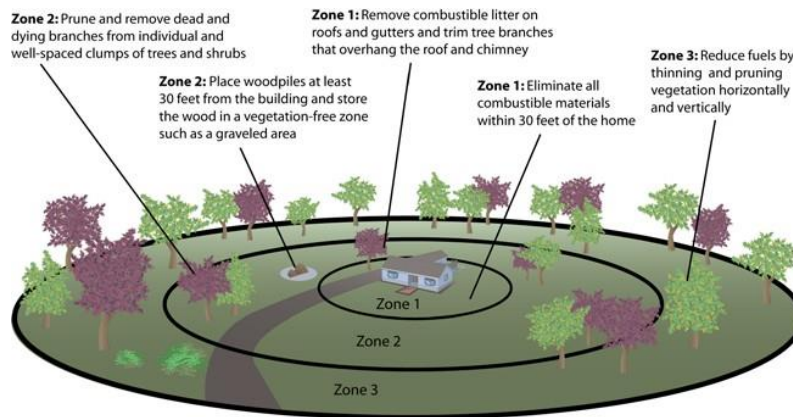


Figure 1. Defensible Space Zones

Eligible Activities

- Replacing flammable vegetation with fire-resistant vegetation by selective removal of flammable species and/or planting and seeding of fire-resistant species.
- Removal of down, dead, or dry vegetation.
- Cutting and clearing of shrubs and brush.
- Pruning trees generally up to 15 feet above ground.
- Removing or trimming tree limbs overhanging roof and chimney.
- Cleaning all needles and leaves from roofs, eaves, and rain gutters.



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- Thinning shrubs or trees so crowns do not intersect and there is space between individual shrubs and trees.
- Conducting outreach to educate homeowners on defensible space and solicit participation in project.
- Inspections by fire officials to confirm that defensible space has been completed adequately.

Overall Complexity

Application	Environmental	Legal
High	Medium	Medium

If incorporated with Fuels Reduction, refer to WF-5 paper for overall project complexity.

Application Requirements

- Must be a local government, Tribe, or Private Nonprofit (PNP*).
- Must have a FEMA approved Hazard Mitigation Plan (HMP).
- Must fulfill appropriate FEMA and Recipient application requirements including, scope of work, budget, schedule, environmental documentation, etc.
- Long-term benefits must outweigh costs (Benefit Cost Ratio greater than 1).
- 25 percent non-federal match required (Under the BRIC program, small and impoverished communities are eligible for a 10 percent non-federal match).
- Projects involving reimbursement payments to homeowners must include details of the reimbursement process and include details if homeowners are performing any of the project work as part of the non-federal match.
- Application should include property level detail for activities including address of property, associated defensible space activities, and documentation of homeowner’s voluntary participation.
- Application should include means by which activities will take place (e.g. will contractors, homeowners, or local jurisdiction staff complete the work?).
- Statement acknowledging that an Operations and Maintenance (O&M) Plan will be submitted to FEMA at closeout.
- Funding limits are set by FEMA and the Recipient.
- No construction is allowed prior to FEMA award approval.

* PNPs are eligible only under HMGP and are not required to have an HMP.

Environmental Requirements

Depending on the specific location and methods the applicable environmental and historic preservation (EHP) laws can differ. Given this, engagement with FEMA EHP is required on a project specific basis, such as compliance with Section 7 of the Endangered Species Act.

Basic EHP requirements for this project type:

- Location of each structure (e.g. Provide a Shapefile or Google Earth kmz file; coordinates in decimal degrees with latitude and longitude in separate columns).
- Photographs and description of the vegetation in the project area.
- Proposed methods for vegetation reduction and type of equipment, including pruning heights (e.g. Handheld tools or vehicle-based equipment? Complete or partial pruning?).
- For trees that will be cut or removed, provide the maximum trunk circumference meaning the diameter at breast height (DBH) and description of removal method (e.g. Will root ball be removed? Will tree be chained/drag dragged?).
- Description of any ground disturbance and planned disposal methods for the cut vegetation.
- Proposed methods to avoid/mitigate impacts to threatened and endangered plants or animals (e.g., timing restrictions, habitat snags, habitat piles).
- Location/Proximity of any project areas in or near the Special Flood Hazard Area (SFHA) and include a map.

FEMA Mitigation Funding Opportunity Hazardous Fuels Reduction

Overview

- The execution of fuel reduction projects as a wildfire mitigation measure has been proven effective in lessening wildfire hazards and threat to human safety and damage to property. The objective is to remove enough vegetation (fuel) so that when a wildfire burns, it is less severe and can be more easily managed. These projects are implemented at the community level and extend beyond defensible space perimeters.
- FEMA will consider funding hazardous fuel reduction projects if they are within two miles of homes and other structures that meet or exceed applicable fire-related codes and standards and the risk reduction for the target community or buildings is demonstrated.

Eligible Activities

- Pruning - Removing the lower (live and dead) limbs of a tree, reduces ladder fuels. This is frequently done alongside roads, thus increasing the effectiveness of the road as an existing fuel- break.
- Utility Vegetation management – Using herbicides to kill unwanted vegetation, brush removal around powerlines and directional pruning. It takes both structural integrity and the health of the tree into consideration. This method guides tree branches away from powerlines and reduces internal decay.
- Removal of Understory – Removing shrubs and plants growing beneath the main canopy of a forest.
- Biomass Removal – Including clearing straw, removing dead or dry vegetation, thinning, and removal of blown-down timber from wind throw, ice or a combination.
- Biomass Burning – Including gathering vegetation into a pile for burning.
- Felling of Hazardous Trees – Including removal of standing burned trees
- Mechanical Treatments – Including disking, mulching, mowing, chopping and removal of such material; Material left onsite must meet appropriate depth practices in accordance with applicable codes and best practices.
- Other Industry Techniques – Must be approved by FEMA.



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Overall Complexity

Application	Environmental	Legal
Medium	High	Medium
Including Private Property...		
High	High	Medium

Application Requirements

- Must be a local government, Tribe, or Private Nonprofit (PNP*).
- Must have a FEMA approved Hazard Mitigation Plan (HMP).
- Must fulfill appropriate FEMA and Recipient application requirements including, scope of work, budget, schedule, etc.
- Long-term benefits must outweigh costs (Benefit Cost Ratio greater than 1).
- 25 percent non-federal match required (Under the BRIC program, small and impoverished communities are eligible for a 10 percent non-federal match).
- Applications must specifically identify project location and include documentation that the project area takes place within two miles of eligible structures.
- Applications must include detail on what species will be removed and method of removal (chemical, mechanical, by hand, etc.).
- Applications involving private property must include property level detail for activities including address of property, and documentation of voluntary participation by property owner.
- Statement acknowledging that an Operations and Maintenance (O&M) Plan will be submitted to FEMA at closeout.
- Applicants must ensure that Duplication of Program (DOP) between Federal agencies will not occur, particularly if project is near federal land. Applicants should contact local USDA or DOI offices to determine potential DOP.
- Funding limits are set by FEMA and the Recipient.
- No construction is allowed prior to FEMA award approval.

* PNPs are eligible only under HMGP and are not required to have an HMP.

Environmental Requirements

Depending on the specific location and methods the applicable environmental and historic preservation (EHP) laws can differ. Given this, engagement with FEMA EHP is required on a project specific basis, such as compliance with Section 7 of the Endangered Species Act.

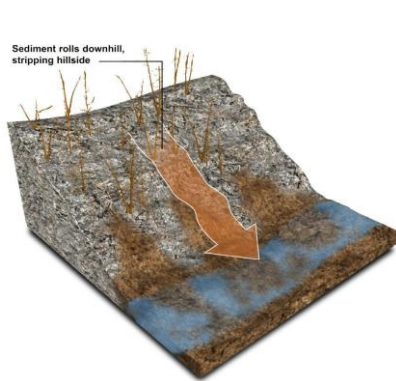
Basic EHP requirements for this project type:

- Location of each structure (e.g. provide a Shapefile or Google Earth kmz file; coordinates in decimal degrees with latitude and longitude in separate columns).
- Photographs and description of the vegetation in the project area.
- Proposed methods for vegetation reduction and type of equipment, including pruning heights (e.g. What is the depth of ground disturbance? Will any of the vehicles be tracked? Will pruning be complete or partial?)
- For trees that will be cut or removed, provide the maximum trunk circumference at the diameter at breast height (DBH) and description of removal method (e.g. Will the root ball be removed? Will the tree be chain dragged?)
- Description of any ground disturbance and planned disposal methods for the cut vegetation (e.g. Will materials be chipped and broadcast? Hauled to a licensed landfill?).
- Proposed methods to avoid/mitigate impacts to threatened and endangered plants or animals (e.g., timing restrictions, habitat snags, habitat piles).
- Location and proximity to any rivers, creeks, streams, or wetland areas.

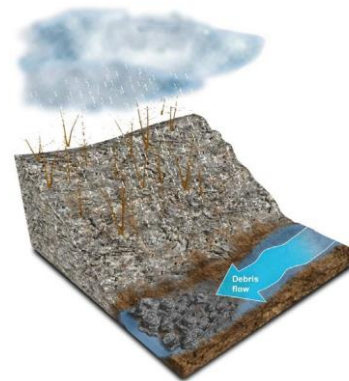
FEMA Mitigation Funding Opportunity HMGP Fire and Post-Fire Early Warning Systems

Overview

- Following a wildfire, burned soil can chemically change and become water repellant which can lead to flash floods and mudflow. In wildfire-affected areas that are typically arid, flash floods have occurred within minutes with as little as 0.3 inches of rainfall. These powerful flash floods create debris flows which can quickly destroy roads, bridges and buildings.



Figures 1: After fire - During summer's fire season, vegetation is burned, causing sediment to roll down steep hills. Within a few hours or days, channel bottoms are loaded with loose sediment.



Figures 2: Rain and runoff - During an intense rain, the water and runoff move sediment in the steep channels, producing debris flows.

- To address this risk, up to five percent of Hazard Mitigation Grant Program (HMGP) and HMGP Post-Fire funding may be available for early warning systems. Eligible warning systems include those that monitor surface water movement and alert citizens of possible post-fire flash floods and debris flows as well as those that monitor for potential fire starts and provide notification to appropriate authorities.
- All methods of alert and notification have advantages and disadvantages related to cost, population coverage, response time, the extent of public awareness, and awareness education. Considerations include the ability to operate with commercial utility power supply, from back-up power alone (e.g., batteries or emergency generator) when the commercial power grid is unavailable, in the absence of telephone line service when disconnected, and the manpower required to keep the system operating.



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Advantages of Warning Systems

It helps reduce damages and loss of life through early detection of potential hazard impacts. Upon receipt of warning, citizens can initiate response activities designed to protect their lives and property.

Types of Warning Systems:

- Sirens
- Stream gauges
- Reverse 911
- Cellular notification systems
- Fire detection cameras



Figures: Fire Camera (left) and Flood Warning System (right)

Overall Complexity

Application	Environmental	Legal
Low	Low	Low

Application Requirements

- Must be a local government, Tribe, or Private Nonprofit (PNP*).
- Must have a FEMA approved Hazard Mitigation Plan (HMP).
- Must fulfill appropriate FEMA and Recipient application requirements including, scope of work, budget, schedule, etc.
- 25 percent non-federal match required (Under the BRIC program, small and impoverished communities are eligible for a 10 percent non-federal match).
- Must include narrative discussion of the benefits of the project (no formal benefit-cost analysis is required).

- Must include plan for how the public will be informed and educated about warnings and messaging.
- Funding limits set by FEMA and the Recipient.
- No construction is allowed prior to FEMA award approval.

* PNPs are eligible only under HMGP and are not required to have an HMP.

Environmental Requirements

Depending on the project scope, applicable environmental and historic preservation (EHP) laws can differ.

Basic EHP requirements:

- Specific scope of work, including access route, staging area, and details of any ground disturbance for trenching, installation, or vegetation clearance.
- Proposed locations (including coordinates in decimal degrees) and where equipment will be physically mounted (e.g. existing tower, existing water tank, etc.).
- Structure age of construction (if being mounted on a structure such as a building).
- Any proposed Best Management Practices.

FEMA Mitigation Funding Opportunity Building Code Improvements

Overview

- Building codes specify the minimum legal design and construction requirements for a given jurisdiction. Structural integrity, construction materials and fire protection are taken into consideration to safeguard the occupants of a building, and to protect the building's structure. The International Code Council (ICC) develops codes in collaboration with FEMA and other Federal, states, local and private authorities.
- Supporting the adoption and enforcement of building codes not only aides in protecting life and property but also increases disaster resilience. This allows individuals and families to rapidly recover, following a disaster, with minimal costs and enable the continuation of operations and essentials services.
- With wildfires as a major threat to the states of Alaska, Idaho, Oregon, and Washington, it's important that building and fire codes are in place and adhered to, to ensure the sustainability of residential and commercial structures. FEMA's Hazard Mitigation Assistance (HMA) has funding opportunities available to states, local and tribal governments to support building code activities.

Eligible Activities

Evaluate adoption and/or implementation of codes that reduce risk.

- Evaluate which code adoption and enforcement activities are best suited for the jurisdiction.
- Adopt building codes or develop building code requirements, including publication of those requirements related to land use, zoning, floodplain management, infrastructure, urban-wildland defensible space, or other area, that help make the community more resilient.

Enhance existing adopted codes to incorporate more current requirements or higher standards.

- Improve or modify current or existing building code requirements to reflect the latest code edition, exceed the latest code edition, or develop or modify building code-coordinated requirements, including publication of those requirements, related to land use, zoning, floodplain management, infrastructure, urban wildland defensible space, or other area, that help make the community more resilient.
- Enhance existing adopted codes and enforcement to incorporate more current requirements, higher standards, electronic permitting, online model code access, virtual inspection technology, and remote building codes administration.



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Develop professional workforce capabilities through technical assistance and training.

- Provide or pursue training, including individual certification courses (inspector, plans reviewer, certified floodplain manager, etc.) and training for both the public and private sectors.
- Develop planning, training, and exercises for post-disaster building code enforcement through the ICC's When Disaster Strike's Institute training course.

Post-Disaster Code enforcement

- Develop activities related to improving code enforcement (evaluate processes, implement an inspection program, improve Building Code Effectiveness Grading Schedule (BCEGS) score, improve Community Rating System (CRS) rating, etc.).
- Develop or acquire software and hardware, and associated training, to assist with plan reviews, permitting, inspections, and records retention.
- Purchase publications or obtain digital license or printing permissions of publications to support building code activities.
- Engage consulting services to support activities related to building codes Cover costs associated with building department accreditation.
- Conduct public awareness outreach activities related to new requirements.

Overall Complexity

Application	Environmental	Legal
Low	Low	Low

Application Requirements

- Must be a local government, Tribe, or Private Nonprofit (PNP*).
- Must have a FEMA approved Hazard Mitigation Plan (HMP).
- Must fulfill appropriate FEMA and Recipient application requirements including, scope of work, budget, schedule, etc.
- 25 percent non-federal match required (Under the BRIC program, small and impoverished communities are eligible for a 10 percent non-federal match).
- Must include narrative discussion of the benefits of the project (no formal benefit- cost analysis is required).
- Funding limits are set by FEMA and the Recipient.

* PNPs are eligible only under HMGP and are not required to have an HMP.

Environmental Requirements

Depending on the specific elements of each building code improvement, the applicable environmental and historic preservation (EHP) laws can differ. Given this, engagement with FEMA EHP is required on a project specific basis, such as compliance with Section 106 of the National Historic Preservation Act (NHPA).

FEMA Mitigation Funding Opportunity

Hazard Mitigation Planning

Overview

- Hazard mitigation planning reduces loss of life and property by minimizing the impact of disasters. Mitigation planning is the process used by state, tribal and local governments in identifying natural disaster risks and vulnerabilities that are common in their area. After identifying these risks, they develop long-term strategies for protecting people and property from similar events. Mitigation plans are key to breaking the cycle of disaster damage, reconstruction, and repeated damage from hazards.
- When applying for certain types of non-emergency disaster assistance, FEMA requires a hazard mitigation plan. FEMA's Hazard Mitigation Assistance (HMA) offers funding for planning activities which are designed to develop State, Tribal, and local mitigation plans or support planning efforts.

Eligible Activities

Preparing a new plan or plan update, including developing regional and multi-jurisdictional plans, strategies, or initiatives.

Updating or enhancing sections of the current FEMA-approved mitigation plan, such as:

- Updating the risk and vulnerability assessment based on new information, including supporting studies, such as economic analyses, mapping, risk assessment, and planning.
- Strengthening the mitigation strategy section by incorporating actions to reduce vulnerabilities over the long-term, as well as linking proposed actions to available funding.
- Augmenting the risk assessment and/or mitigation strategy section by incorporating climate adaptation, green building, nature-based solutions, smart growth principles, or historic properties and cultural resources information.
- Incorporating diverse and/or underserved populations that have unique needs into the planning process, risk assessment, and mitigation strategy.
- Integrating mitigation planning with flood management planning for credit in the National Flood Insurance Program Community Rating System.

Integrating information from mitigation plans, specifically risk assessment or mitigation strategies, with other planning efforts, such as:

- Disaster recovery strategy (pre- or post-disaster plans), preparedness, or response plans, including disaster recovery plans to protect local cultural, artistic, and historic resources.



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- Comprehensive (e.g., land use, master) or community development plans.
- Capital improvement or economic development plans.
- Resource management/conservation plans (e.g., stormwater, open space).
- Community Wildfire Protection Plans (CWPP).
- Resilience and/or climate change adaptation plans.
- Other long-term community planning initiatives (e.g., transportation, housing, recreation, landmark and heritage, economic development, redevelopment, drought, wildfire).

Procuring hazard identification or mapping and related equipment for the implementation of mitigation planning-related activities.

Purchasing Geographic Information System software, hardware, and data.

Evaluating, updating, adopting, and/or implementing land development codes and ordinances that reduce risk and/or increase resilience to future hazards by:

- Promoting flexibility and adaptation approaches in order to protect historic and cultural resources.
- Evaluating the current and future built environment to assess risks and vulnerabilities.
- Improving mitigation strategies, specifically strengthening the linkage between mitigation plan implementation and well-defined actions and projects.

Overall Complexity

Application	Environmental	Legal
Low	Low	Low

Application Requirements

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Environmental Requirements

Hazard mitigation planning and planning related activities projects are categorically excluded from NEPA review as the activity involves no ground disturbance.

FEMA Mitigation Funding Opportunity Advance Assistance/Project Scoping

Overview

- FEMA's mitigation grant programs provide early funding opportunities to accelerate the identification and implementation of mitigation activities. This is offered under the Hazard Mitigation Grant Program (HMGP) as Advance Assistance and under the Building Resilient Infrastructures and Communities (BRIC) program as Project Scoping activities.
- Recipients and sub-recipients may use Advance Assistance/Project Scoping to develop mitigation strategies and obtain data to prioritize, select and develop complete mitigation applications in a timely manner that result in either an improvement in the capability to identify appropriate mitigation projects or in the development of an application-ready mitigation project. FEMA has funding available to assist in identifying and formulating complete grant applications to mitigate wildfire risk and other hazards.

Eligible Activities

Note: This list presents potential advance assistance / project scoping activities. This list is not exhaustive. Recipients and sub-recipients may have needs that extend beyond what has been included here.

- Scoping and developing hazard mitigation projects, including engineering design, feasibility studies and project alternatives analysis.
- Conducting meetings, outreach, and coordination with potential sub-applicants and community residents to identify potential future mitigation projects, including for ignition resistant construction retrofits and defensible space.
- Evaluating facilities or areas to determine appropriate mitigation actions.
- Incorporating environmental planning and historic preservation considerations into project planning activities.
- Collecting data for benefit-cost analyses, environmental compliance, and other program requirements.
- Conducting hydrologic and hydraulic studies for unmapped flood zones or other areas where communities propose to submit hazard mitigation projects.
- Coordinating, scoping, and developing regional or multi-community hazard mitigation projects that require coordination to cohesively address resiliency and sustainability goals.
- Utilizing third-party cost estimation services for project budgeting across sub-applications.



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- Contracting services to address data consistency needs for other project application categories, such as environmental planning and historic preservation, cost-sharing mechanisms, and work schedules.

Overall Complexity

Application	Environmental	Legal
Low	Low	Low

Application Requirements

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Environmental Requirements

While the planning and development of a mitigation project doesn't have any specific environmental concerns in of itself, this should include an evaluation of all considered alternatives and how environmental laws may be affected by these alternatives.

Requests for Advance Assistance / Project Scoping should include a detailed budget for expected needs, such as potential permitting (CWA, EO 11988), surveys and consultation (NHPA), and/or assessment documents (NEPA, ESA, MSA).