

**MOUNTAINS RECREATION & CONSERVATION AUTHORITY**

Los Angeles River Center & Gardens  
570 West Avenue Twenty-Six, Suite 100  
Los Angeles, California 90065  
Phone (323) 221-9944 Fax (323) 221-9934

September 23, 2019

Chairperson Irma Muñoz  
c/o Rorie Skei, Chief Deputy Executive Director  
Santa Monica Mountains Conservancy  
570 Ramirez Canyon Road  
Malibu, California 90265

**Proposition 68 Competitive Grant Application  
Fire Resilience Improvements to Park Infrastructure**

Dear Chairperson Muñoz and Conservancy Members:

I am pleased to present the enclosed application for a grant for Fire Resilience for MRCA Park Infrastructure. The Mountains Recreation and Conservation Authority (MRCA) requests a grant in the sum of \$750,000 from the California Drought, Water, Parks, Climate, Coastal Protection and Outdoor Access for All Act of 2018 (Proposition 68), under the Conservancy's Competitive Grant. The MRCA's Governing Board approved submittal of this application on September 4, 2019.

The proposed grant would fund fire resilience improvements to park infrastructure at: Carbon Canyon, East Canyon (Santa Clarita Woodlands), Ed Davis Park at Towsley Canyon, King Gillette Ranch, Mentryville, Red Rock Canyon Park, Sage Canyon Park, San Vicente Mountain Park and Temescal Gateway Park. The proposed capital improvements include both building hardening activities to reduce the potential of ignition and installation of semi-automatic suppression systems that would protect a structure as a final line of defense.

Please refer to the enclosed materials that describe the proposed grant and how it fits the Conservancy's Evaluation Criteria. If you have any questions regarding this, please contact me at (323) 221-9944, extension 117.

Sincerely,

Cara Meyer  
Deputy Executive Officer

# Grant Application

Print Form



The Natural Resources Agency

<b>Project Title:</b>	Fire Resilience Improvements to Park Infrastructure	<b>Date:</b>	2019/09/13
<b>Funds:</b>	Proposition 68	<b>Amount:</b>	750,000
<b>Applicant Name:</b>	Mountains Recreation & Conservation Authority	<b>Match amount:</b>	0
<b>Address:</b>	570 West Avenue 26, Suite 100	<b>Match source:</b>	N/A
<b>State/Province:</b>	Los Angeles, CA	<b>Total Project Cost:</b>	750,000
<b>Zip/Postal code:</b>	90065	<b>Brief Project Description:</b>	Capital improvements to park infrastructure at various properties to increase protection from wildfire and protect access to recreation and natural resources.
<b>Phone:</b>	323-221-9944		
<b>Fax:</b>	323-221-9934		

Santa Monica Mountains Conservancy  
 5750 Ramirez Canyon Road  
 Malibu, California 90265  
 Phone: 310-589-3200  
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**Grantee's Authorized Representative:** Cara Meyer, Deputy Executive Officer 323-221-9944 ext. 117 cara.meyer@mrca.ca.gov

*Name and Title Phone Number Email*

**Person with day-to-day responsibility:** Julien Buenaventura 323-221-9944, ext104 julien.buenaventura@mrca.ca.gov

*Name and Title Phone Number Email*

**Project Objective:**

The proposed grant would be used for the planning and execution of improvements to park structures at various MRCA-managed parks to improve public safety, increase structure protection from fire and natural disasters, and facilitate restoration. The proposed capital improvements include both building hardening activities to reduce the potential of ignition and installation of semi-automatic suppression systems that would protect a structure as a final line of defense. The same approach may not be suitable for each park property, and so improvements may also include new water pumps, distribution lines, and storage; modifications to emergency routes and parking; and fuel modification near vulnerable structures.  
 \*Attach additional pages as necessary

**Project Address:**

The proposed improvements are targeted to park infrastructure buildings located in the Wildland-Urban Interface, including Carbon Canyon, East Canyon, Ed Davis Park at Towsley Canyon, King Gillette Ranch, Mentryville, Red Rock Canyon Park, Sage Canyon Park, San Vicente Mountain Park and Temescal Gateway Park.


<b>Latitude:</b>	Various	<b>Acreage:</b>	N/A	<b>Trail Length:</b>	N/A
<b>Longitude:</b>	Various	<b>APN's:</b>	Various	<b>Stream Miles:</b>	N/A
<b>Congressional District:</b>	Various	<b>State Senate District:</b>	Various	<b>Assembly District:</b>	Various

**Tasks / Milestones:** See attached budget. **Budget:** **Completion Date:**

All work is expected to be complete by 6/30/2020 notwithstanding weather or other delays outside of MRCA's control.

\*Attach additional pages as necessary

I certify that the information contained in this Grant Application form, including required attachments, is accurate.

  
 Signature of Authorized Representative

9/13/2019  
 Date

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**SCOPE OF WORK / PROJECT DESCRIPTION**

The Mountains Recreation and Conservation Authority (MRCA) requests grant funding from the California Drought, Water, Parks, Climate, Coastal Protection, and Outdoor Access for All Act of 2018 (Proposition 68) through the Santa Monica Mountains Conservancy's (Conservancy) Proposition 68 Grant Program to facilitate the proposed Fire Resilience Improvements to Park Infrastructure project.

In November 2018, the Woolsey Fire, which heavily damaged properties and structures at several park sites owned and/or managed by the Conservancy and MRCA, provided a clear picture of how a wind-driven wildfire can act and which types of facilities are most vulnerable. Embers dispersed by high winds may cause a fire to "hopscotch" around, making standard fire defense methods less effective. In many of the MRCA and SMMC managed park properties, buildings are near each other, making a potential fire situation more difficult to control for emergency crews. During a conflagration, firefighting resources are highly likely to be stretched thinly and/or concentrating their efforts in areas outside of natural parkland. Capital improvements are needed to protect park infrastructure that is critical to daily park operations.

The proposed capital improvements include both building hardening activities to reduce the potential of ignition and installation of semi-automatic suppression systems that would protect a structure as a final line of defense. The same approach may not be suitable for each park property, and so improvements may also include new water pumps, distribution lines, and storage; modifications to emergency routes and parking; and fuel modification near vulnerable structures.

The term "hardening activities" includes such things as covering attic vents, sealing and painting siding, roofing with non-combustible materials, boxing in eaves and soffits, sealing/caulking holes and cracks, ground skirting, tight-fitting doors and dual-paned windows, chimney screens, and maintaining defensible space around a structure. These measures increase a structure's resilience and ability to withstand flying embers that find weak spots in the construction. Suppression systems include sprinklers and compressed foam gel applications that can be quickly activated, either manually or remotely.

The proposed improvements are targeted to park infrastructure buildings located in the Wildland-Urban Interface. Properties with structures that have been identified include Carbon Canyon, East Canyon (Santa Clarita Woodlands), Ed Davis Park at Towsley Canyon, King Gillette Ranch, Mentryville, Red Rock Canyon Park, Sage Canyon Park, San Vicente Mountain Park and Temescal Gateway Park. While fire may still occur on any property after the work is completed, the proposed improvements will improve firefighters' ability to defend structures and other resources. They also protect access for park users to programs, services, and activities.

The activities to be funded by the proposed grant include pre-improvement planning, purchase of materials and equipment, and construction work. Work would be

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accomplished by a combination of MRCA staff, professional consultants, and subcontractors. The MRCA will keep the Conservancy updated on progress via regular status reports.

If the subject grant is not awarded, MRCA would be unable to complete the project and park infrastructure critical to daily park operations would still be less resilient to fire damage. MRCA will be the agency responsible for the long-term maintenance of the new improvements.

### **BUDGET**

This grant request is for a total of \$750,000. Matching funds are not available. See attached budget.

### **TIMELINE**

The proposed project will be completed approximately 1-2 years after approval. Timeline may vary depending on weather events, and other factors outside of MRCA's control.

### **RESPONSES TO EVALUATION CRITERIA**

#### Prioritization Value

The proposed project achieves the following Proposition 68 grant program priorities:

PV1. Project achieves 80001(b)(4) by providing urban recreation and protecting or restoring natural resources.

The proposed grant will provide urban recreation and protect natural resources by protecting MCRA and SMMC park infrastructure so park users can continue to enjoy all park amenities. Loss or damage of the park infrastructure to be protected would diminish MRCA's ability to provide urban recreation opportunities and continue to protect natural resources.

PV2. Project achieves 80001(b)(5) by providing workforce education and training, contractor, and job opportunities for disadvantaged communities.

The construction work will be either self-performed or completed by contractors via a competitive bid process. Trade organizations representing disadvantaged businesses will be notified of all bid opportunities. MRCA recruits staff via local agencies in disadvantaged neighborhoods, including job training entities.

PV3. Project achieves 80001(b)(6) by having already obtained all required permits and entitlements.

No entitlements are required to complete the scope of the proposed project, and

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none of the work proposed is expected to require a municipal building permit. Any that could be required are likely to be over-the-counter and can only be pulled by the contractor at the time of the work.

PV4. Project achieves 80001(b)(9) - advances solutions to prevent displacement if a potential unintended consequence associated with the project is an increase in the cost of housing.

This criterion is not applicable. The project is only modifications to existing park infrastructure and will have no effect on housing.

PV5. Project achieves three or more actions listed in 80001(b)(8)(A through G).

By preventing loss and damage to park infrastructure, the project will protect the current programs that promote diversity and inclusion in public lands. These opportunities could be reduced if park operations are compromised. MRCA recruits staff from a variety of sources, including job training entities such as the Los Angeles Conservation Corps, training programs such as the Rio Hondo Fire Academy, and outreach to local job centers in disadvantaged communities. A portion of work will be conducted by contractors selected through a competitive bid process, and job training programs are eligible to bid. Any public information about the project and its effects will be multilingual as appropriate.

By nature of the project, an investment in fire resilience and wildfire prevention will result in a protection of public benefits, as recommended by Proposition 68. The greatest public benefit is protecting access to open space and park amenities that currently exist at these properties.

PV6. Project achieves more than one of the Conservancy's Strategic Objectives.

The proposed project furthers the following Conservancy Strategic Objectives:

- *Implement the Santa Monica Mountains Comprehensive Plan.*
- *Implement the Rim of the Valley Trail Corridor Master Plan.*
- Expand Education, Public Access, and Resource Stewardship Components in a Manner That Best Serves the Public, Protects Habitat, and Provides Recreational Opportunities. The primary purpose of the project is to provide capital improvements on existing park infrastructure for fire resilience and wildfire prevention. This protects the natural habitat and access to it, which serves the public.
- Develop long term capital improvement and maintenance plans.

PV7. Project achieves more than one Common Ground guiding principle.

N/A - The proposed project is not within the Common Ground area.

Category Value

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CV1. The project will provide benefits to multiple values including water, recreation, habitat, and interpretation of natural resources.

By preventing loss and damage to park infrastructure, the project results in benefits to all of these resource areas, including water conservation, proper water storage, preservation of habitat and continued access to park amenities for park users to continue to enjoy. The project will also preserve and maintain access to existing interpretation programs, recreational trails, and enjoyment of native habitat lands so that diverse populations continue to have access.

CV2. The project implements a major component of an existing relevant plan related to a major recreational facility, regional ecosystem restoration, or master land protection plan.

A portion of the work will be completed within the boundaries of the Santa Monica Mountains National Recreation Area, which is jointly managed by the National Park Service, California State Parks, the Santa Monica Mountains Conservancy, and MRCA. The National Park Service's *General Management Plan for the Santa Monica Mountains National Recreation Area* states that a Mission Goal for Resource Condition is to "Manage fire throughout the recreation area to mimic natural fire regimes where feasible and reduce the threat of wildfires." Actions that were common to all the alternatives studied in the plan include:

- Manage fire to minimize landscape disturbance; and
- ...appropriate fuel management and fire suppression zones would be maintained around developed structures.
- The activities proposed for Fire Resilience Improvements to Park Infrastructure would contribute to accomplishing these goals and objectives in the *General Management Plan*.

CV3. The project provides a plan or feasibility study to advance cooperative watershed health protection activities or recreation goals important to two or more organizations.

The project does not provide a plan or feasibility study, but actions under the proposed project will advance these cooperative goals, shared by members of MRCA's JPA and the SMMNRA. The prevention of loss or damage due to fire in turn prevents sediment, ash, and organic matter that would run off compromised soils, affecting local water supplies and contaminating coastal stream drainage. As noted above, the project is in compliance with the *General Management Plan for the Santa Monica Mountains National Recreation Area*.

CV4. Applicant has a realistic plan for serving disadvantaged communities upon completion of the improvements.

The prevention of loss or damage to park infrastructure will protect the opportunity for all communities, including disadvantaged, to have access and enjoy the parks. This work will provide increased opportunities for visitation, recreation, and programs to everyone. MRCA will continue to partner with community-based

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organizations to provide access to disadvantaged communities.

- CV5. The project uses renewable or non-potable water sources of water, such as reclaimed water, captured stormwater, or other method.  
The improvements to water pumps, distribution lines, and water storage will reduce the use of potable water by reducing waste and leakage. The use of compressed gel foam as a suppression method may also reduce water consumption in event of fire. If applicable, components will be selected to be compatible with a reclaimed water system.
- CV6. Project implements Best Management Practices (BMP) to treat stormwater.  
The project does not include opportunities to improve stormwater management. However, the prevention of loss or damage to park infrastructure by fire will benefit the water quality and watershed health of each park location. The activities will reduce the potential of sediment, ash, and organic matter from entering creeks and streams. The proposed work allows run off to be uncontaminated which helps with stormwater treatment already in existence.
- CV7. Project provides safe and reliable drinking water supplies to park and open space visitors.  
To the extent that the proposed improvements will prevent loss of park infrastructure, they will protect the drinking water supplies that already exist. The prevention of fire reduces the potential of sediment and ash contaminating potable water supplies.
- CV8. The project provides a high-quality access point for nearby open space, parkland, regional multi-modal trails, or water-based recreation.  
While new access points will not be created, the prevention of loss of park infrastructure will protect what already exists. The parks where work is proposed have very high visitation and loss of access would be a significant impact on regional recreation resources.
- DV9. The project completes a new, significant link in a regional trail system.  
The project does not complete a new, significant link in a regional trail system, but it does benefit regional multi-use trails by reducing the risk of wildfire and erosion. These trails provide access to public lands.
- CV10. Project adds new trail or recreational resources not available within a 0.5-mile radius.  
The project does not add a new trail or recreational resource, but helps protect the existing trails by reducing the risk of wildfire and erosion.
- CV11. The project contains multi-modal accommodations that will benefit hikers, cyclists and equestrians.

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The proposed project will benefit multi-modal accommodations by reducing the risk of wildfire and erosion. These accommodations provide access to public lands.

CV12. The project results in new public access to a natural resource with high interpretive and/or educational value, or enhances existing access.

This work protects existing access and educational resources to the community. Wildfire prevention directly helps to protect plant and animal species and their habitats found near park infrastructure.

CV13. The project provides non-personal interpretive elements that will significantly enhance appreciation and enjoyment of a natural resource.

Any publicity regarding the improvements will be framed with interpretive information that helps the public understand how these measures will protect natural resources. Social media is used to keep the public informed about ongoing activities, and also to educate about the reasons behind these practices. Along with information about the project, postings may also reference personal wildfire action plan pamphlets that discuss how to prepare homes for wildfire prevention.

CV14. The project creates a new venue, or enhances an existing venue, for education and/or interpretation activities that promote natural resources stewardship.

Protection of park structures will help continue to promote stewardship of natural resources and preserve access to these tools and education.

CV15. The project alleviates stress on other overburdened recreational resources within a 0.5-mile radius.

By preventing loss of access to recreational resources, the project will prevent any additional stresses on nearby parks. It will not directly alleviate stress on other recreational resources.

CV16. The project provides a new vista point or overlook for a significant scenic view shed.

No new vista points or overlooks will be created, but access to existing ones will be maintained.

CV17. The project adds visitor-serving amenities, accessibility, and public safety improvements to existing parkland.

The primary purpose of the project is to add public safety improvements to various park infrastructure by hardening critical structures. Having these improvements will increase safety and maintain opportunities for recreation, activities, and programs to a wide variety of people, of all abilities.

CV18. Project results in additional uses for users of a wide range of ability levels.

The purpose of the project is to increase the fire resilience of various park structures, which will ensure that park visitors of all abilities can continue to enjoy the facilities. As applicable, MRCA will use current codes and standards to ensure



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that a wide range of abilities is accommodated.

CV19. The project is designed to accommodate the needs of users from a variety of cultural and economic backgrounds.

To the extent that the proposed improvements will prevent loss of park infrastructure, they will protect the accommodations that currently exist to serve a variety of park users. This will ensure that park visitors from a variety of cultural and economic backgrounds will be able to continue to use the facilities and enjoy the open space. These amenities are, and will continue to be, free of charge. Any public information about the project will be multilingual as appropriate.

CV20. The project directly abuts and increases the ecosystem function of a protected habitat area including fish and wildlife corridors.

Most park sites included in this project are within protected habitat areas. The project will reduce the possibility of damage due to wildfire or erosion, benefiting ecosystem functions.

CV21. The project includes restoration, protection or enhancements of a native ecosystem appropriate to the site.

The project's actions to make structures more defensible will protect native ecosystems that exist at the various park sites. Such preventative efforts also prevent the release of carbon emissions that would otherwise exacerbate climate change and endanger native ecosystems.

CV22. Project will benefit specially protected species pursuant to the California Wildlife Protection Act of 1990.

In June of 1990 voters of California approved Proposition 117, the California Wildlife Protection Act, prohibiting the sport hunting of the California Mountain Lion and declaring them to be a specially protected species. The local population of mountain lions requires large areas of undisturbed habitat to thrive. Prevention of structure fires that could spread into habitat areas will benefit the Mountain Lion population.

CV23. The project employs new or innovative technology or practices.

The project is a proactive approach to fortify some of Southern California's most popular parks from wildfire damage. As an immediate response to the destruction of the Woolsey Fire, the project takes advantage of our firefighters' first-hand experience defending structures in other areas of the Santa Monica Mountains and Simi Hills. The ability to have front line responders actively involved in protection work is uncommon and is an innovative use of our resources. The project will also use new methods to mitigate fire hazards. Protection of structures will include installing devices that will apply a compressed foam gel before a structure could be compromised from a potential fire hazard. Components installed on structures for fire proofing will use materials that are ignition resistant and fire resistant.

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Implementation Value

- IV1. Applicant has proven that implementation of the project is feasible.  
MRCA has years of experience planning, designing, permitting and implementing improvement projects more complex than this, and has researched the project enough to understand what is feasible at the site.
- IV2. Applicant has financial capacity to perform project on a reimbursable basis.  
The majority of projects that the MRCA has historically completed are funded by grants on a reimbursable basis. MRCA has full confidence and capacity to begin and complete the project under this situation.
- IV3. Applicant, or active project partner, has successfully completed multiple projects of similar size and scope.  
MRCA has an in-house Fire Division of full-time staff and seasonal employees who have been protecting MRCA-managed properties since the agency was founded in 1985. MRCA's Construction Division staff similarly has decades of experience implementing improvement projects, the majority of which are focused on park infrastructure.
- IV4. The project is a partnership between two or more organizations and each organization has committed to contributing toward project implementation.  
MRCA is a local public agency exercising joint powers of the Santa Monica Mountains Conservancy, the Conejo Recreation & Park District, and the Rancho Simi Recreation & Park District pursuant to Section 6500 *et seq.* of the Government Code. These three entities each have a voting member on MRCA's Governing Board, which approved the grant application on September 4, 2019.
- A portion of the work will be completed within the boundaries of the Santa Monica Mountains National Recreation Area, which is jointly managed by the National Park Service, California State Parks, the Santa Monica Mountains Conservancy, and MRCA.
- IV5. Applicant has conducted outreach to the affected communities.  
No outreach specifically related to this project has occurred yet, but the grant application was agendaized and considered by the Governing Board in September 2019 at a public meeting. If the improvements will affect the availability of any park features, visitors will be notified ahead of time via signs and social media. In addition, MRCA staff maintains relationships with local community groups, homeowner associations, and other stakeholders to keep affected communities aware of the vegetation management activities. Posted signs provide contact information for the public. Reports on land affected by the Woolsey Fire have been given at multiple publicly-noticed Governing Board meetings.
- IV6. Applicant, or project partner, has 1+ years' experience maintaining and operating

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projects of similar size and scope.

MRCA has more than 30 years of experience maintaining and operating projects similar to this including the subject property.

- IV7. Applicant has identified maintenance funding for at least 2 years after completion.  
The long-term operation and maintenance of the project will continue to be the responsibility of MRCA, and existing funding sources for maintenance are expected to continue. The improvements are expected to decrease maintenance needs.
- IV8. Project has approval from all landowners to complete the project, or Applicant is the landowner.  
Applicant is the landowner.

Climate Change Value

- CC1. The project demonstrates a reduction in baseline greenhouse gas emissions through carbon sequestration or other innovative techniques or project designs, such as diverting organic material from landfills.  
The prevention of fire retains the CO<sub>2</sub> emissions that would be released in atmospheric concentrations. The prevention of fire that could spread to surrounding trees ensures that these trees aid in reducing Greenhouse Gas (GHG) emissions through carbon sequestration, helping to provide clean air for California's residents and helping with the adverse impacts of global warming. Any recoverable materials in the project will be reused instead of disposed.

Refer to Appendix A for carbon emissions calculations.

- CC2. The project implements water saving technologies and techniques to yield quantifiable water and energy savings. Such techniques may include the use of drought-efficient landscaping, including climate resilient and native landscaping whenever possible, stormwater filtration, impervious surfaces, green roofs and other forms of water capture and storage.  
The improvements to water pumps, distribution lines, and water storage will reduce the use of potable water by reducing waste and leakage. The use of compressed gel foam as a suppression method may also reduce water consumption in event of fire. This work will yield quantifiable water and energy savings.
- CC3. The project contributes to tree canopy cover and/or greenways in urban areas to mitigate heat island effects and promote public health and recreation.  
Many of the park locations included in the project are located within the urban metropolis of Los Angeles. The project will benefit tree canopy health by preventing structure fires that could spread to those trees. This prevention ensures the ongoing public health benefits contributed by those trees. Additionally, through its

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protection of drought-tolerant California native trees and shrubs, the project will protect and create additional habitat for local wildlife; ensure public enjoyment of this wildlife and habitat; provide shade to reduce Urban Heat Island effects; promote infiltration; generate oxygen; and sequester carbon and remove pollutants from the air thus helping to further promote and allow for public health and recreation.

- CC4. The project develops or maintains multi-use trails that connect communities, provides access to public resources and reduces vehicle miles traveled.

The proposed project will benefit regional multi-use trails by reducing the risk of wildfire and erosion. These trails provide access to public lands.

- CC5. The project engages local communities through outreach, education, and interpretation regarding long-term stewardship and climate change awareness.

Any publicity regarding the improvements will be framed with interpretive information that helps the public understand the effects of climate change. Social media is used to keep the public informed about ongoing activities, and also to educate about the reasons behind these practices. MRCA staff maintain relationships with local community groups, homeowner associations, and other stakeholders to keep affected communities aware of our activities. Posted signs provide contact information for the public.

- CC6. The project implements water saving techniques that utilize nature-based solutions like wetlands, rain gardens, swales, berms, curb cuts with parkway basins, infiltration trenches, vegetation, tree planting, stream daylighting/restoration, and floodplain reclamation.

The project is focused on measures that increase the fire resilience of structures, and does not include opportunities to accomplish this criterion.

Additional Considerations

- AC1. The site is subject to an imminent threat that would preclude future implementation value.

Completion of the improvements will reduce the destructive potential of future fires and associated high-cost emergency responses. Improvements to the property will reduce operational costs and protect the enterprise activities that occur on various park properties. Protection of the structures reduces the possibility of their losses, and consequent rebuilding and operational expenses.

- AC2. Project utilizes a local job training entity for a portion of the work.

MRCA recruits staff for the Fire Division from a variety of sources, including job training entities such as the Los Angeles Conservation Corps and training programs such as the Rio Hondo Fire Academy. A portion of work will be conducted by contractors selected through a competitive bid process, and job

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training programs are eligible to bid.

- AC3. Project is within 0.25 miles of public transportation.  
Properties in this project are not within .25 miles of public transportation.
- AC4. Project serves a disadvantaged community.  
The project will continue to serve disadvantaged communities by preserving the amenities available to them.
- AC5. Project serves a severely disadvantaged community.  
Properties included in the project are not located in a severely disadvantaged community as defined by the Proposition 68 Grant Guidelines.

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**Appendix A: Carbon Emissions Calculations**

The benefits that would accrue from the subject grant are related to the structures which are being hardened to increase fire resiliency. It is assumed that these structures would not burn in a wildfire: therefore greenhouse gas emissions will be avoided. The project includes multiple structures at various park locations. Specific hardening measures and costs for each building have not been identified, but it is estimated that between 20-30 buildings could be improved by the project. Methodology is taken from the California Air Resources Board's Emission Inventory, Section 7.14 Structure and Automobile Fires, updated March 1999<sup>1</sup>.

Total amount burned per residential fire (fuel loading) = structure loss + content loss  
 = 0.80 + 0.48  
 = 1.28 tons/fire

Structure fire emission factors in pounds per ton of material burned for TOG, CO and PM have been obtained from tests on the burning of model wood buildings.<sup>6</sup> The emission factor for NOx is assumed to be similar to that listed in AP-42 for municipal refuse.<sup>7</sup> These emission factors have been converted to units of pounds per fire using the factor of 1.28 tons/fire.

	<u>Emission Factors for Structural Fires</u>				
	<u>TOG</u>	<u>CO</u>	<u>NOx</u>	<u>SOx</u>	<u>PM</u>
Pounds/Ton	13.9	168.0	4.0	0	10.8
Pounds/Fire	17.8	215.0	5.1	0	13.8

Emissions = [Process Rate (# of Fires)] x (Emission Factor) / 2000 lbs/ton

For calculation purposes, it is estimated that the project will prevent 25 structure fires, that each structure would only potentially burn once during the 40-year benefit timeframe required by the Conservancy's Proposition 1 Guidelines, and that each structure is equivalent to an average residence (as defined in the ARB methodology). By preventing these structure fires, the proposed project would prevent the following greenhouse gases from being emitted:

- Total Organic Gases – 0.2 tons (25 \* 17.8 / 2000)
- CO – 2.7 tons (25 \* 215 / 2000)
- NOx – 0.1 tons (25 \* 5.1 / 2000)
- Particulate Matter – 0.2 tons (25 \* 13.8 / 2000)

<sup>1</sup> <https://ww3.arb.ca.gov/ei/areasrc/fullpdf/full7-14.pdf>

**Budget for Grant Application  
River Center Safety & Accessibility Improvements**

**Grant Request: \$ 750,000**

Budget Item	Amount
<b>A. MRCA Staff</b>	
various Direct Salaries, Payroll Tax, Benefits & Allocations	
Project Management, Pre-Improvement Planning	\$ 19,000
Construction	\$ 112,270
9998, 9999 Administrative Cost	\$ 105,016
<b>SUBTOTAL A, MRCA Staff:</b>	<b>\$ 236,286</b>
<b>B. Materials and Supplies</b>	
5112 Land & Building Improvement - Materials	\$ 70,000
5113 Land & Building Improvement - Equipment	\$ 20,000
5115 Land & Building Improvement - Pre-Construction	
5116 Land & Building Improvement - Other	
7777 Equipment Allocation	\$ 23,714
<b>SUBTOTAL B, Materials and Supplies:</b>	<b>\$ 113,714</b>
<b>C. Consultants and Contractors</b>	
5114 Land & Building Improvement - Subcontractors	\$ 330,000
5115 Land & Building Improvement - Pre-Construction	\$ 70,000
5116 Land & Building Improvement - Other (Inspections)	
<b>SUBTOTAL C, Consultants and Contractors:</b>	<b>\$ 400,000</b>
<b>Grand Total (A+B+C):</b>	<b>\$ 750,000</b>