

# Hazard Mitigation Assistance (HMA) Application Pitfalls and Best Practices

Observations and Lessons Learned from Past HMA Applications

*November 7, 2023*



# FEMA

# Agenda

- Fiscal Year 2023 NOFO Updates
- Common Pitfalls and Best Practices
  - All Project Types
  - Specific Project Types
- Information Needed for Environmental Planning and Historic Preservation (EHP) Review
- Additional Considerations
- Resources and Questions



# Flood Mitigation Assistance (FMA) Key Changes for Fiscal Year 2023

---

- Funding allocations – increase in Localized Flood Risk Reduction Projects.
- Mitigation Reconstruction cap of \$220,000 federal share per structure, previously \$150,000.
- Bipartisan Infrastructure Law federal cost share using the following three CDC Social Vulnerability Index (SVI) themes: Socioeconomic Status, Household Characteristics, and Housing Type and Transportation.
- Changes to Final Priority Scoring Criterion, tiebreakers, and Individual Flood Mitigation Projects prioritization and thresholds.
  - Properties meeting FMA and NFIP definitions of Severe Repetitive Loss (SRL) and Repetitive Loss (RL) will also be recognized for project prioritization.
  - Individual Flood Mitigation Project prioritization shifted to 75% FMA and NFIP SRL and RL, previously 50%.
  - Equity data measure shift from CDC Social Vulnerability Index (SVI) to [Climate and Economic Justice Screening Tool \(CEJST\)](#)/Justice40 Communities & Community Disaster Resilience Zones.



# Building Resilient Infrastructure and Communities (BRIC)

## Key Changes for Fiscal Year 2023

---

- Building Code Plus-Ups (Tribal and State or Territory)
- Equity data measure shift from CDC SVI to CEJST and Community Disaster Resilience Zones
- State or Territory Allocation includes a minimum of \$400,000 for any combination of capability- and capacity-building activities and projects primarily benefiting Community Disaster Resilience Zones
- Benefiting area maps
- Streamlined cost-effectiveness determination methods and benefit-cost analysis assistance
- Rescoring evaluation criteria
  - Project alignment with top mitigation hazard
  - Building code adoption and enforcement or alternative higher standard
  - Removal of non-federal cost share



# Benefit-Cost Analysis (BCA) Updates

---

FEMA requires all hazard mitigation projects to be cost-effective. Applicants and subapplicants may use one of three standard approaches:

- **Streamlined Determination Method:**
  - For projects with a total cost of less than \$1,000,000 the subapplicant may provide a narrative that includes qualitative and quantitative data demonstrating the benefits and cost-effectiveness of the project.
  - Pre-calculated benefits are available for some project types, including acquisitions, elevations, wind retrofits, tornado safe rooms, hospital generators, and post-wildfire mitigation.
  - Applicants and subapplicants may still opt to use a BCA to show cost-effectiveness of a project.



## Benefit-Cost Analysis (BCA) (Cont.)

---

### ■ Assistance:

- FEMA will review hazard mitigation project subapplications during the pre-award process that are competitive and otherwise eligible for selection.
  - For **BRIC**, a BCA or Benefit-Cost Ratio (BCR) of at least 1.0 is not required at time of application for Federally Recognized Tribes, Economically Disadvantaged Rural Communities, and projects primarily benefitting Community Disaster Resilience Zones.
  - For **FMA**, Federally Recognized Tribes, small and improvised communities and communities in Community Disaster Resilience Zones can submit subapplications without completing a BCA.

### ■ Discount Rate Adjustment:

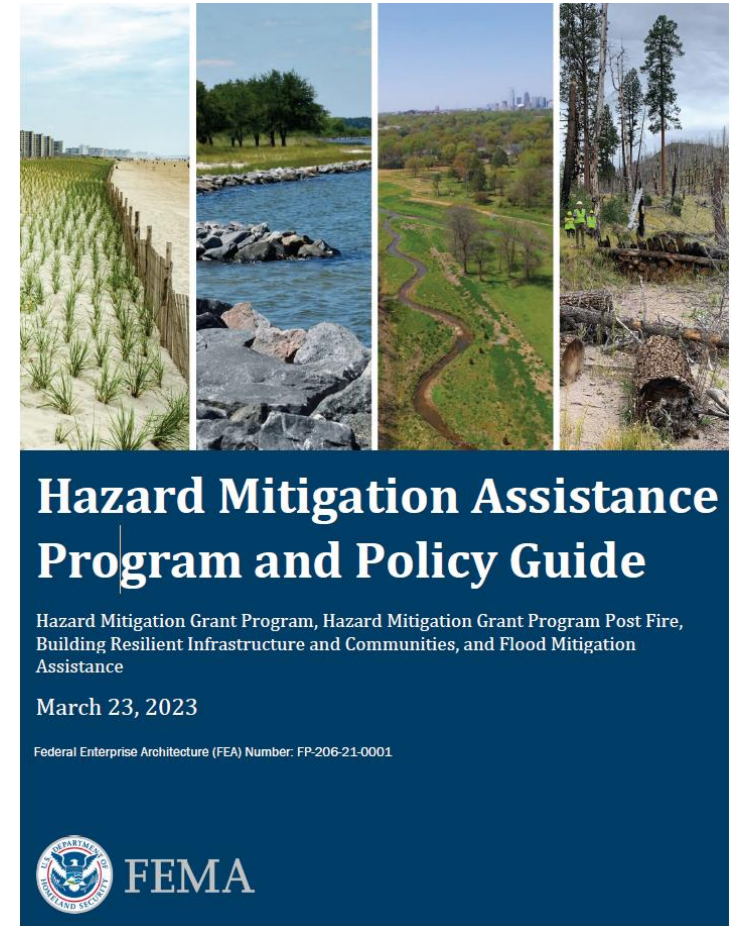
- If a streamlined cost-effectiveness determination method does not apply, a BCA is required to validate cost-effectiveness. FEMA has established a set discount rate of 3% to be used in a BCA for hazard mitigation projects for the FY 2023 BRIC and FMA cycles.



# **Common Pitfalls and Best Practices: All Project Types**

# Common Application Pitfalls for All Project Types

- Unclear or incomplete scope of work (SOW)
  - Project description does not clearly state the problem the project is attempting to mitigate
  - SOW conflicts with industry standards
- Unclear conformance with program requirements
  - Compliance with Hazard Mitigation Assistance (HMA) Program and Policy Guide
  - Compliance with BRIC and FMA program requirements
  - Eligible/ineligible costs
  - Project does not conform with minimum design standards
    - American Society of Civil Engineers (ASCE) 24 (structure elevation requirements)
    - FEMA P-361/ICC 500 (properly sized safe room)





# Common Application Pitfalls for All Project Types (cont.)

---

- Insufficient documentation
  - Lack of technical data and/or preliminary engineering design
  - Unclear level of protection
  - Assumptions not clearly supported
- Application inconsistencies
  - Conflicts within application sections
  - Conflicts between application and Benefit-Cost Analysis (BCA)
- Cost estimate issues
  - Incomplete, unreasonable, or unsupported

## Common Cost-effectiveness Pitfalls for All Project Types (cont.)

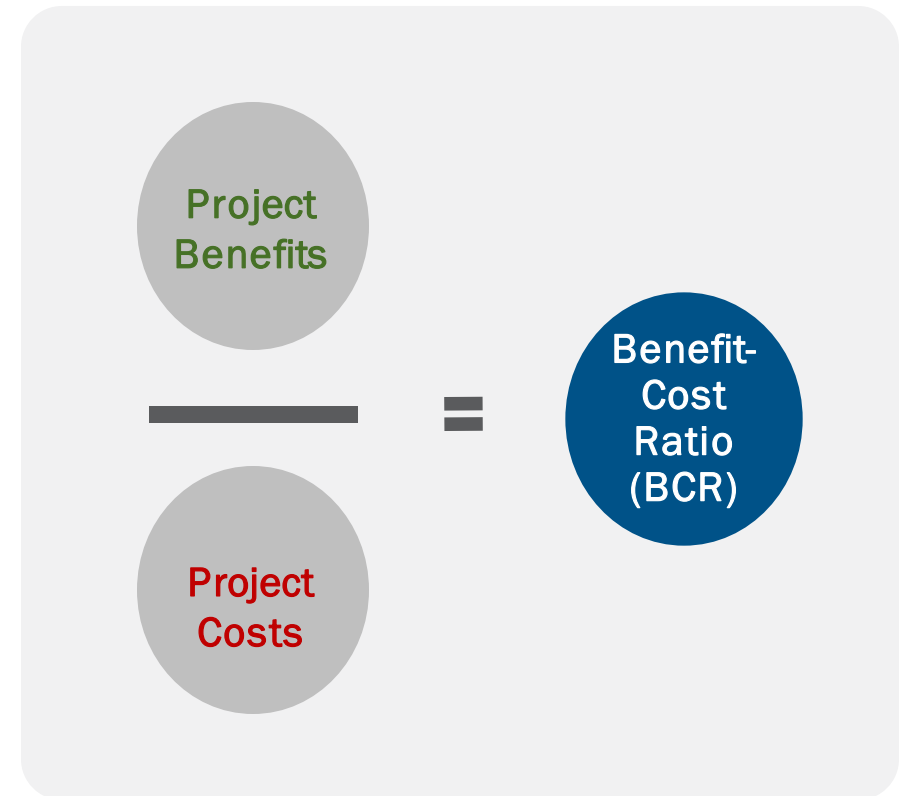
---

- Issues with documentation of building/infrastructure features
  - Building-specific information
    - Building type, use, occupancy, lowest floor elevations, building area, etc.
  - Infrastructure capacity
  - Population served
- Benefit-Cost Ratio (BCR) in subapplication does not match attachments or Benefit-Cost Analysis (BCA) cannot be recreated based on provided documentation
- Multiple BCAs submitted with different results

# Common Cost-Effectiveness Pitfalls for All Project Types

---

- Incorrect Benefit-Cost Analysis (BCA) approach
  - BCA module used
  - Pre-calculated Benefits (PCB) applied when project does not qualify
- Issues with stated recurrence intervals (RIs)
  - RIs should increase with event severity
  - RIs are not equal to the time between two events
- Basis for estimating damages is unclear
  - Unsupported estimated damages
    - Damages should align with event severity
  - Issue with user analysis duration
  - Lack of residual risk



# General Application Best Practices for All Project Types

---

- Reference minimum design criteria and ensure SOW is consistent with criteria
- If engineering/surveying documents are available, include stamped/sealed reports, plans, figures and/or data
- If preliminary design not started, describe performance-based design measures, level of protection desired and expected benefitting area
  - *Example: Project will be designed to [describe level of protection, XYZ industry standard]. Upon completion of project, the benefitting area will be to protect [ABC]*
- Make sure the Phased Project box is checked if you intend to submit a phased project
- Consider program priorities, Notice of Funding Opportunity (NOFO) (Building Resilient Infrastructure and Communities/Flood Mitigation Assistance)

## General Application Best Practices for All Project Types (cont.)



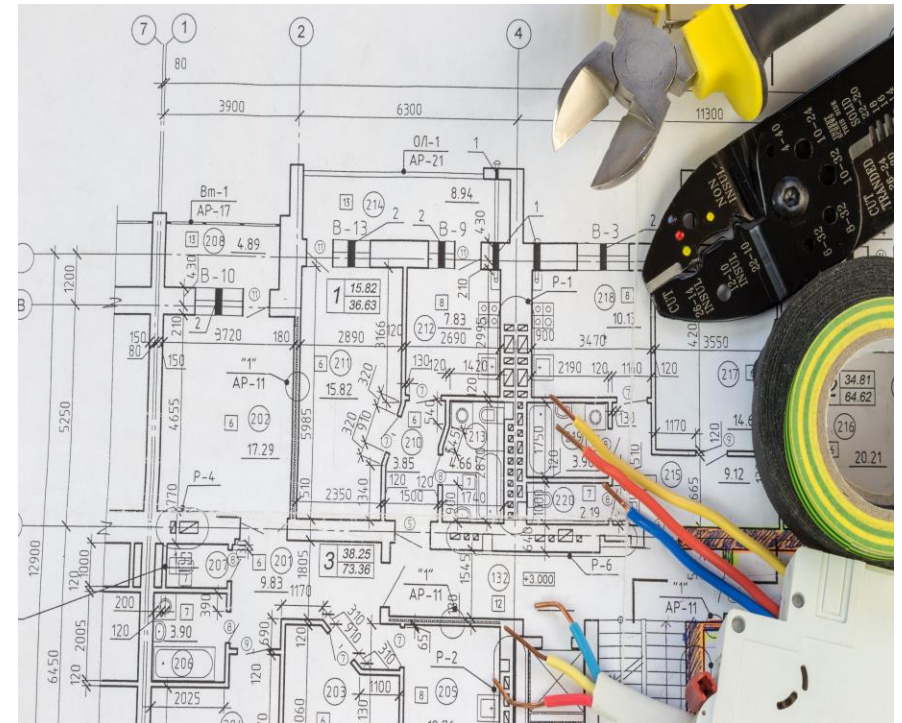
Consider that mitigation efforts which address multiple hazards may provide greater benefits

Leverage opportunities to incorporate nature-based solutions or green infrastructure into project scope of work, design documents and budget and indicate in FEMA GO

Consider opportunities to incorporate system-based mitigation

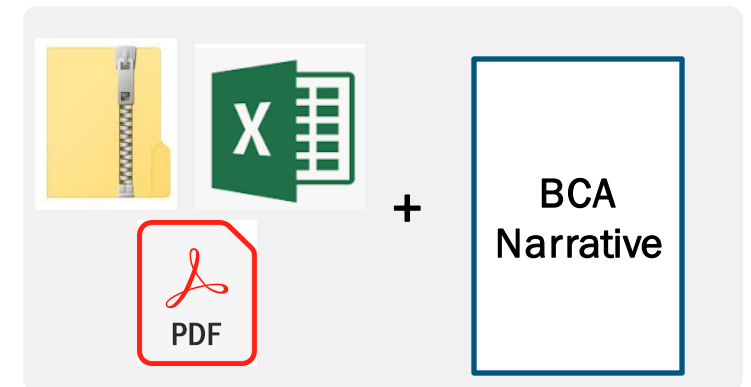
# Phased Projects (BRIC and FMA)

- Identify the phased project approach within the subapplication of FEMA Grants Outcomes (FEMA GO)
- Include available preliminary design and site data
- Note that scope of work must reflect how those gaps will be filled in Phase I of the project
- Remember that project scoping should be considered if assistance is needed to develop mitigation strategies and obtain data



# General Cost-effectiveness Best Practices for All Project Types

- Provide detailed Benefit-Cost Analysis (BCA) narrative
- Use justification boxes in BCA toolkit
- Attach BCA Excel file, .zip file and PDF report
- Use clear and consistent naming conventions for attachments
- Emphasis on relevant, clear and organized information
- Ensure all inputs into BCA are supported and appropriate benefit types are applied
  - Before- and after-mitigation damages
  - User analysis duration
  - Any nondefault inputs



# **Common Pitfalls and Best Practices: Specific Project Types**

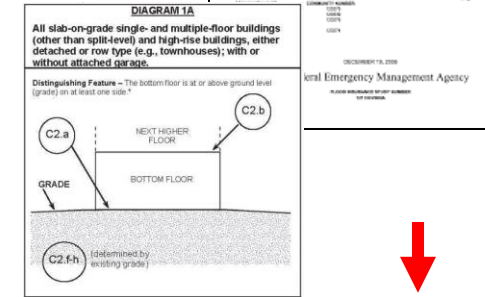
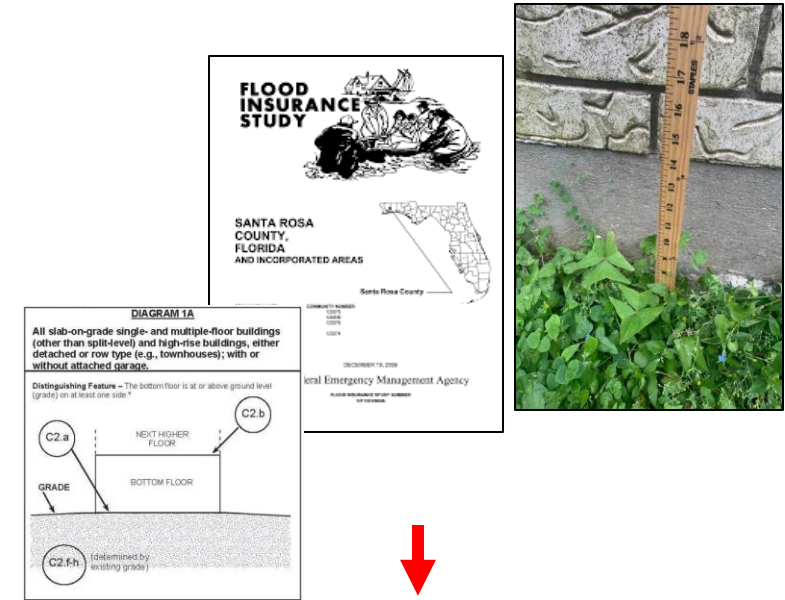




# Acquisition, Elevation, Mitigation Reconstruction Projects

# Acquisition, Elevation, Mitigation Reconstruction – Best Practices (cont.)

- Clearly identify the flood risk
  - Documentation for flood data (Flood Insurance Study [FIS] or hydrologic and hydraulic [H&H] study)
    - Note: Flood data should only come from one source
  - Multiple Flood claims for each structure (Documentation for past flood claims when using historical damages)
- Proper documentation to verify lowest floor elevation (LFE) and check calculation of feet to raise LFE
  - Use correct building diagram type from Elevation Certificate
  - Can include photos with a ruler documenting foundation height and topographic maps clearly indicating ground surface elevation (maximum contour interval of 2ft)



a) Top of bottom floor (including basement, crawlspace, or enclosure floor)	188.00	<input type="checkbox"/> feet	<input type="checkbox"/> meters
b) Top of the next higher floor	196.30	<input checked="" type="checkbox"/> feet	<input type="checkbox"/> meters
c) Bottom of the lowest horizontal structural member (V Zones only)		<input type="checkbox"/> feet	<input type="checkbox"/> meters
d) Attached garage (top of slab)	185.30	<input checked="" type="checkbox"/> feet	<input type="checkbox"/> meters
e) Lowest elevation of machinery or equipment servicing the building (Describe type of equipment and location in Comments)	188.70	<input checked="" type="checkbox"/> feet	<input type="checkbox"/> meters
f) Lowest adjacent (finished) grade next to building (LAG)	185.00	<input checked="" type="checkbox"/> feet	<input type="checkbox"/> meters
g) Highest adjacent (finished) grade next to building (HAG)	196.40	<input checked="" type="checkbox"/> feet	<input type="checkbox"/> meters
h) Lowest adjacent grade at lowest elevation of deck or stairs, including structural support	189.10	<input checked="" type="checkbox"/> feet	<input type="checkbox"/> meters



# Acquisition, Elevation, Mitigation Reconstruction – Common Pitfalls

---



## Acquisition

- Unsupported fair market value (not equal to the building replacement value [BRV])

## Elevation

- Lack of documentation verifying elevation feasibility for older buildings

## Mitigation Reconstruction

- Does not meet \$220,000 federal share cap
- New structure size >10% than original structure
- Proposing to do reconstruction in the V Zone or floodway

# Acquisition, Elevation, Mitigation Reconstruction – Best Practices

---

- Proper application of Benefit-Cost Analysis (BCA) efficiencies
  - Ensure all requirements are met if using Pre-calculated Benefits (PCB)
  - Clearly identify project location
  - No aggregation of PCB and traditional BCA toolkit benefits (Note that elevation PCB and acquisition PCB can be aggregated)
  - Supporting documentation for location factors (if used)
  - Provide proof of substantial damage if using substantial damage waiver approach
- Clearly state that the structures will be elevated or constructed in accordance with the Federal Flood Risk Management Standard (FFRMS)

Acquisition and Elevation  
Pre-Calculated Benefit Values  
Updated Memorandum:

<https://www.fema.gov/grants/guidance-tools/benefit-cost-analysis>

Federal Flood Risk  
Management Standard:

<https://www.fema.gov/floodplain-management/intergovernmental/federal-flood-risk-management-standard>

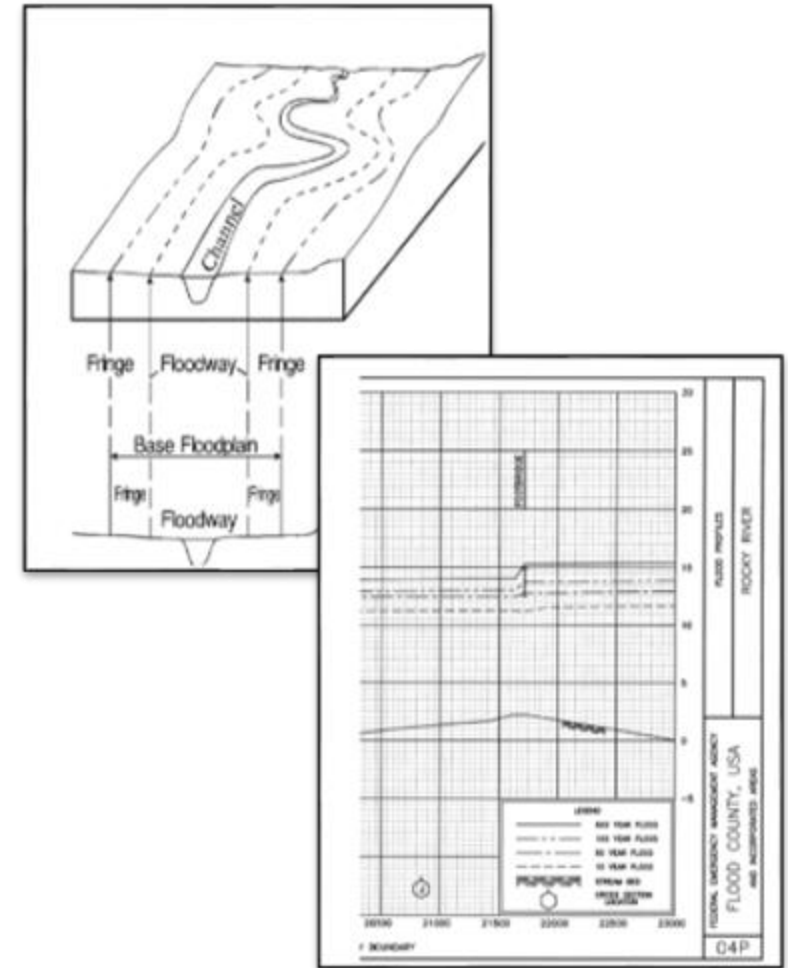




# Flood Risk Reduction Projects

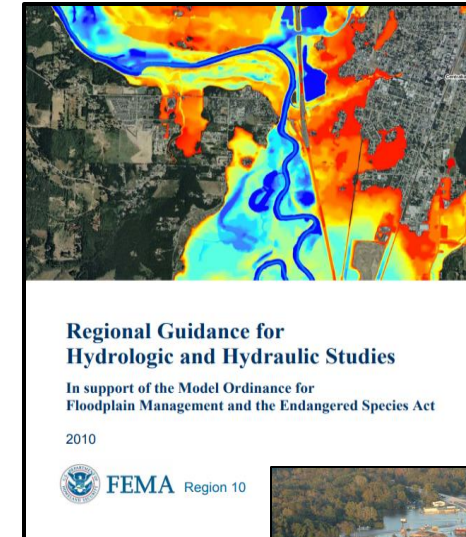
# Flood Risk Reduction – Best Practices

- Include pre- and post-project hydrologic and hydraulic (H&H) data with water surface elevations for multiple recurrence intervals (RIs) and documented lowest floor elevations (LFE) for all structures (or elevation of vulnerable infrastructure – roads)
  - Use reputable RI sources
  - For coastal projects, identify nearest coastal transect to project site
- Use best available data
- Clearly define the level of protection
- Identify if a Conditional Letter of Map Revision/Letter of Map Revision (CLOMR/LOMR) is required



# Flood Risk Reduction – Common Pitfalls

- Scope of work (SOW) unclear if project is a stand-alone solution
- Project does not address upstream and downstream impacts
- Hydrologic and hydraulic (H&H) results are based on a study that includes improvements other than the proposed project
- Regional estimates are used rather than best available, site-specific data
- Lack of supporting documentation for historical damages, downtimes and/or recurrence intervals (RIs)
- After-mitigation damages not included or inconsistent with level of protection in SOW



# Slope Stabilization Projects





# Slope Stabilization – Best Practices

---

- Use landslide acquisition Benefit-Cost Analysis (BCA) module for acquisition of structures at risk of imminent failure
  - Document building replacement value (BRV)
- For slope stabilization projects, utilize the imminent failure methodology if applicable
- Provide documentation to support the estimated impact days with loss of function
- After-mitigation damages should represent residual risk (probability and expected damages of a future slope failure)



# Slope Stabilization – Common Pitfalls

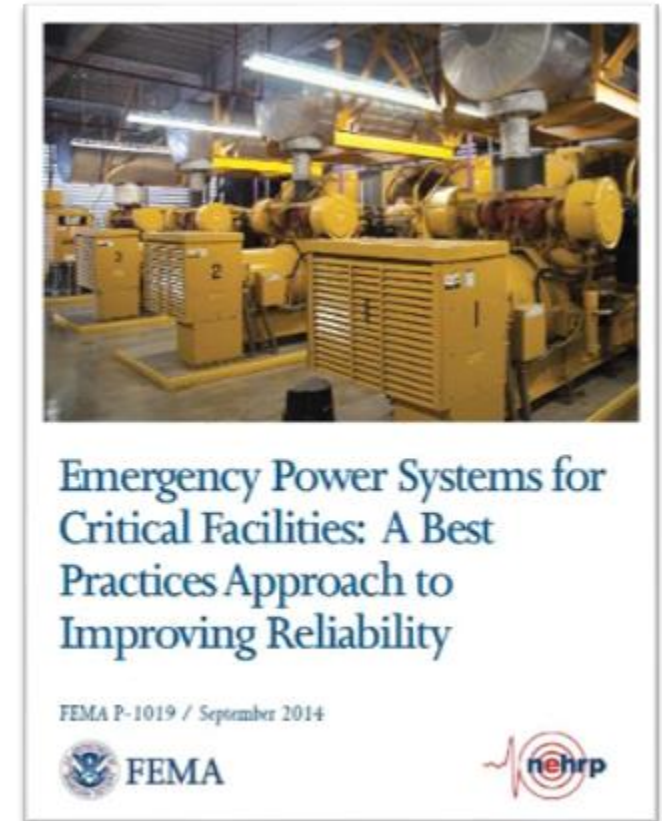
---

- Project description does not specify what will be protected
  - Projects must propose to protect/reduce risk to lives or property
  - If structures not acquired, scope of work (SOW) must address how they will be protected
- Incorrect application of imminent failure
  - Recurrence intervals (RIs) based on estimated time to imminent failure must be supported by documentation (engineer's report and/or statement)
- Incorrect/unsupported RIs
  - If RIs based on historical damages, analysis duration must be documented
  - For non-imminent failure, if the  $RI < \text{Project Useful Life}$ , software interprets this as the slope will fail multiple times instead of from one catastrophic failure



# Energy Resiliency and Generators – Best Practices

- Ensure emergency power needs are for critical facilities
- Complete and multi-hazard solution
  - Account for required equipment
  - Account for protection of equipment under multi-hazards
- Describe conditions of existing electrical infrastructure and how proposed equipment will connect to it
- Establish clear basis for risk
  - Probability (recurrence interval)
  - Exposure (loss of function impact)
- Provide documented occurrences of loss of function



# Energy Resiliency and Generator Projects



# Energy Resiliency and Generators – Common Pitfalls



- Lack of documentation/explanation to support recurrence intervals (RIs) and loss of function impacts
- After-mitigation damages not included
- Lack of explanation regarding basis for required emergency power generation capacity
- Incorrect service type for loss of function

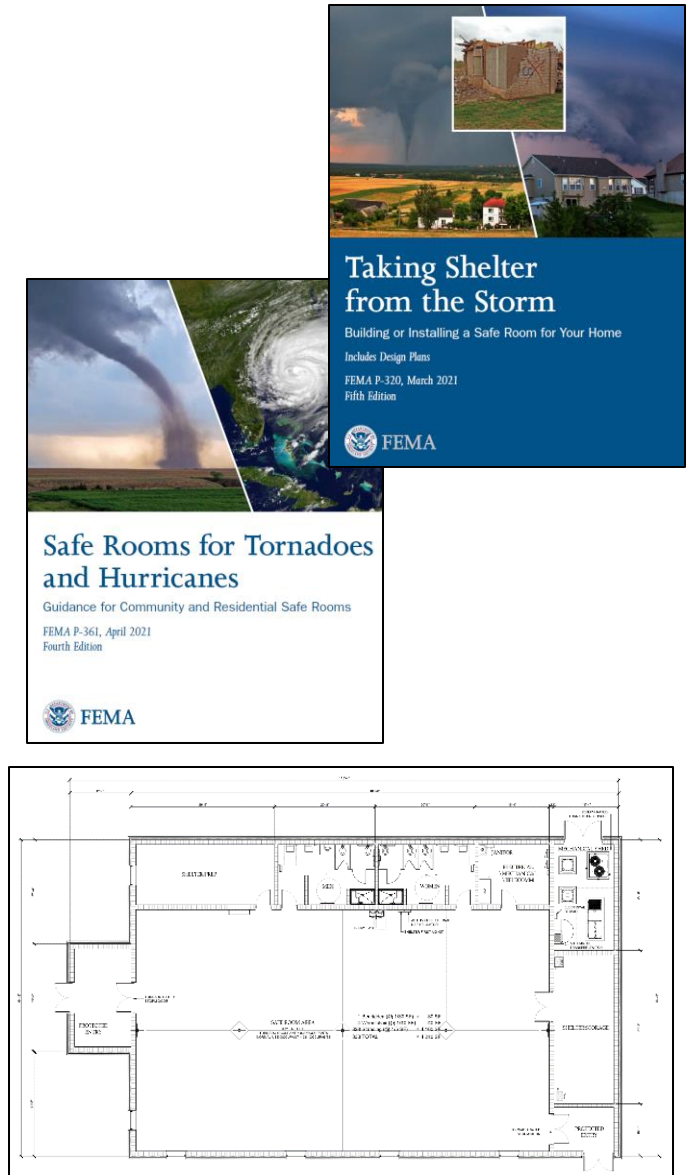


# Safe Room Projects



# Safe Room – Best Practices

- Provide statement that safe room will be designed/constructed in accordance with current edition of FEMA P-361/FEMA P-320, International Code Council (ICC)-500, local building codes, and ADA accessibility codes (as applicable)
- Include conceptual floor plan that identifies usable and unusable areas, restrooms with fixtures, mechanical/electrical/plumbing rooms and emergency power systems
- Provide documentation to support safe room type, safe room location, total gross area, total usable area, period of occupancy, design wind speed, protected population and where they are coming from
- Use an internal pressure coefficient of +/-0.55 as best practice
- Safe room rebate programs: clearly define criteria for rebate and expected number of participants
- Include draft operations and maintenance (O&M) plan or statement that final O&M plan will be provided at project closeout



# Safe Room – Common Pitfalls

---

- Overestimating the number of safe room occupants in the safe room Benefit-Cost Analysis (BCA)
  - Neglecting location and overestimating number of people in area that can reach the safe room when determining the occupancy size
  - Identifying the potential protected occupants from a 0.5-mile radius instead of the 0.5-mile travel distance (for tornado safe rooms)
  - Safe room not adequately sized for proposed occupants (does not meet minimum space requirements)
  - Including future student enrollment for schools without providing adequate documentation
- Use of historical damages module for safe room BCA
- Proposing to retrofit existing structures to be safe rooms without documenting feasibility
- Insufficient planning factors or logistics for large occupancy safe rooms
  - Examples: parking spaces, usable area
  - Lack of documentation indicating an existing residential road network can handle a sudden influx of traffic



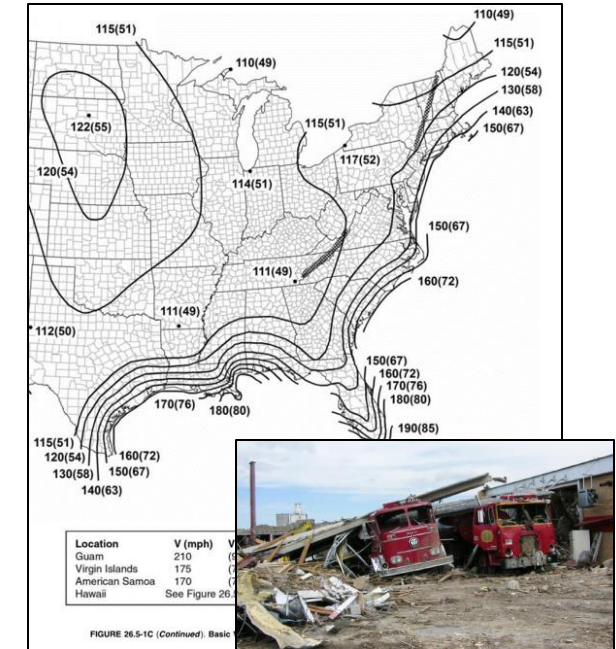




# Wind Retrofit Projects

# Wind Retrofit – Best Practices

- Confirm roof, building envelope and structural systems can resist current code-level wind speeds
- Provide a wind vulnerability assessment report indicating components in need of a wind retrofit
- Verify that impact-protective systems are rated to wind speeds and missile impacts for building type/location
- Specify process for inspecting and certifying retrofit
- Provide documentation for building properties before and after mitigation
- Leverage opportunities for pre-calculated benefits



**Guidelines for Wind Vulnerability Assessments of Existing Critical Facilities**

FEMA P-2062 / September 2019

FEMA

## Wind Retrofit – Common Pitfalls

- Using impact protective systems with known vulnerabilities, such as screens and films
- Project does not address all known building vulnerabilities
  - Example: Addressing only the windows and doors, but not the other building components (roof and/or load path)
- For non-residential buildings, use of pre-calculated benefits when scope of work does not include all items required by the PCB memorandum
- Insufficient documentation for annual operating budget, building replacement value (BRV), and/or loss of function in the BCA

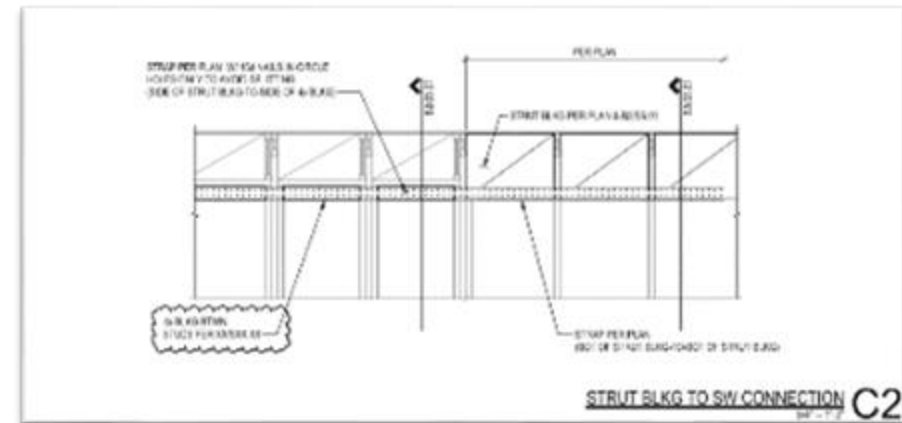


# Seismic Retrofit Projects



# Seismic Retrofit – Best Practices

- Include seismic evaluation report prepared by an engineer and performed in accordance with American Society of Civil Engineers (ASCE)-41 for buildings
- Provide drawings with details of retrofit approach
- For infrastructure retrofit (utility) projects:
  - Document loss of service (number of customers, coverage area)
  - Provide documentation to support recurrence intervals (RIs) based on thorough analysis from an engineer
- Provide documentation to support soil type (if soil type D is not used)



# Seismic Retrofit – Common Pitfalls



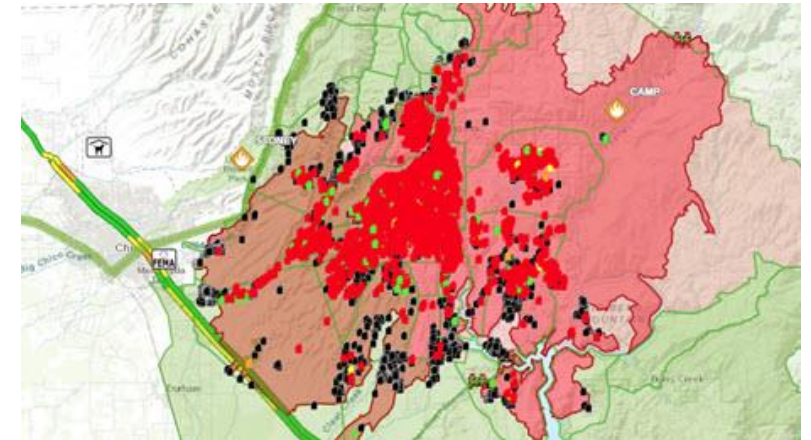
- Determining seismic recurrence intervals (RIs) based on time between seismic events (when using historical damages)
  - Each event has its own Recurrence Interval
- Including land value in building replacement value (BRV)
- Assuming 100% probability of dual probability events occurring, such as uncontrolled fire and loss of potable water utility
- Incorrect application of design code levels (pre-code, low code, medium code, high code) in the seismic BCA

# Wildfire Mitigation Projects



# Wildfire Mitigation – Best Practices

- Provide documentation from qualified source for non-default burn recurrence intervals and other benefits if included (e.g., fire suppression costs, timber value, infrastructure value)
- Include information on treatment area and proximity to other structures
  - Provide maps showing clear project site boundaries and benefiting structures
- For defensible space projects, clearly describe the radius of defensible space that will be provided.
- Include maintenance costs and clearly describe maintenance activities and how costs were determined.
- For combined mitigation actions, clearly indicate which structures are receiving or being protected by each type of mitigation.





# Wildfire Mitigation – Common Pitfalls

---



- Implementing ignition-resistant construction without defensible space measures
- Number of vulnerable structures and location of structures within project area are not clearly defined
- Use a higher than appropriate project useful life (PUL) if implementing multiple mitigation actions
- Application of ecosystem services benefits when not applicable to project

# Drought Mitigation Projects

Category	Description	Possible Impacts	Palmer Drought Severity Index (PDSI)
D0	Abnormally Dry	<p>Going into drought:</p> <ul style="list-style-type: none"> <li>• short-term dryness slowing planting, growth of crops or pastures</li> </ul> <p>Coming out of drought:</p> <ul style="list-style-type: none"> <li>• some lingering water deficits</li> <li>• pastures or crops not fully recovered</li> </ul>	-1.0 to -1.9
D1	Moderate Drought	<ul style="list-style-type: none"> <li>• Some damage to crops, pastures</li> <li>• Streams, reservoirs, or wells low, some water shortages developing or imminent</li> <li>• Voluntary water-use restrictions requested</li> </ul>	-2.0 to -2.9
D2	Severe Drought	<ul style="list-style-type: none"> <li>• Crop or pasture losses likely</li> <li>• Water shortages common</li> <li>• Water restrictions imposed</li> </ul>	-3.0 to -3.9
D3	Extreme Drought	<ul style="list-style-type: none"> <li>• Major crop/pasture losses</li> <li>• Widespread water shortages or restrictions</li> </ul>	-4.0 to -4.9
D4	Exceptional Drought	<ul style="list-style-type: none"> <li>• Exceptional and widespread crop/pasture losses</li> <li>• Shortages of water in reservoirs, streams, and wells creating water emergencies</li> </ul>	-5.0 or less

# Drought Mitigation – Best Practices

- Use drought condition indicators to determine recurrence intervals (RIs)
  - Standard precipitation index (SPI) can be used as a Z-score to determine the probability of specific SPI values, which can be used to develop an RI
- Use location-specific drought condition and water supply data to confirm relationship between drought conditions and reduced supply
  - Statistical analysis of historical drought condition data and water supply data
  - Local water management plans
  - Locally specific groundwater and surface water modeling
- Clearly identify water rights in the subapplication

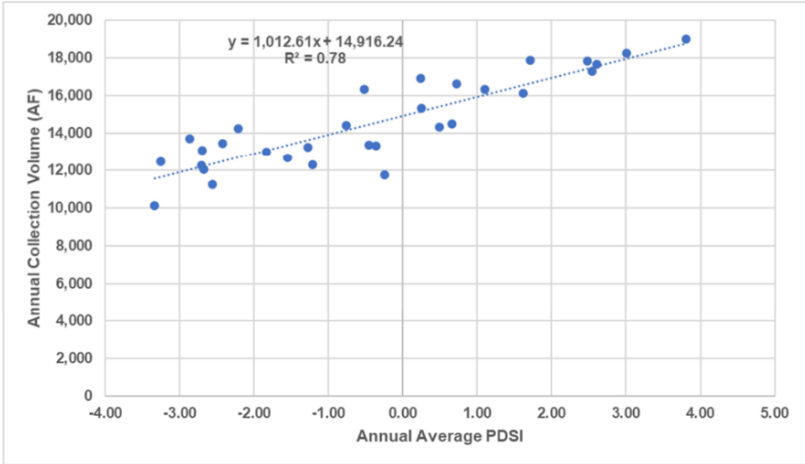


FIGURE 10. ANNUAL SPRING COLLECTION VOLUME VS ANNUAL AVERAGE PDSI

Category	Description	Water Restrictions	WMOP Stage	WMOP Withdrawal Restriction (MGD)
D0	Abnormally Dry	None	Stage 1	1.51
D1	Moderate Drought	Voluntary water conservation begins	Stage 2	1.36
D2	Severe Drought	Water restrictions imposed	Stage 3 & 4	1.28
D3	Extreme Drought	Widespread water shortages or restrictions	Stage 5	1.13
D4	Exceptional Drought	Shortages of water in reservoirs, streams, and wells creating water emergencies	Stage 6	0.68

# Drought Mitigation – Common Pitfalls

- Documenting a deficit between supply and demand due to increased demand rather than decreased supply
- Overreliance on projected population growth and projected demand
- Estimating the duration of the drought event should be based on historical or modeled supply data, if available
- NOTE: Subapplications should not use utility loss of function unless the drought event results in a total inability to supply drinking water

Category	Description	Possible Impacts	Palmer Drought Severity Index (PDSI)
D0	Abnormally Dry	Going into drought: <ul style="list-style-type: none"> <li>• short-term dryness slowing planting, growth of crops or pastures</li> </ul> Coming out of drought: <ul style="list-style-type: none"> <li>• some lingering water deficits</li> <li>• pastures or crops not fully recovered</li> </ul>	-1.0 to -1.9
D1	Moderate Drought	<ul style="list-style-type: none"> <li>• Some damage to crops, pastures</li> <li>• Streams, reservoirs, or wells low, some water shortages developing or imminent</li> <li>• Voluntary water-use restrictions requested</li> </ul>	-2.0 to -2.9
D2	Severe Drought	<ul style="list-style-type: none"> <li>• Crop or pasture losses likely</li> <li>• Water shortages common</li> <li>• Water restrictions imposed</li> </ul>	-3.0 to -3.9
D3	Extreme Drought	<ul style="list-style-type: none"> <li>• Major crop/pasture losses</li> <li>• Widespread water shortages or restrictions</li> </ul>	-4.0 to -4.9
D4	Exceptional Drought	<ul style="list-style-type: none"> <li>• Exceptional and widespread crop/pasture losses</li> <li>• Shortages of water in reservoirs, streams, and wells creating water emergencies</li> </ul>	-5.0 or less

# Extreme Temperatures Mitigation Projects



# Extreme Temperature Mitigation – Cooling/Warming Centers

---

## ■ Best practices

- Consider other sheltering benefits besides life-safety benefits
- Document sheltering capacity for heat/cold sheltering events
- Apply conservative assumptions when estimating life-safety benefits

## ■ Common pitfalls

- For back-up power projects, need to account for dual probability of power outage and extreme temperature event
- Relying on a specific “vulnerable population” definition but not considering how those populations can access the facility
- Using historical health risk data that does not clearly identify temperature-related health impacts

# Information Needed for Environmental Planning and Historic Preservation (EHP) Review

# Information Needed from Subapplicant to Complete Environmental Planning and Historic Preservation (EHP) Review

- Scope of work – detailed description
  - Methods, materials, & quantities
  - Access roads, temporary staging sites, project schedule
- Project area and structure information
  - Maps, dates of construction and modifications, GPS coordinates, photos
- Existing conditions in project area
  - Existing ground cover, land use, site photos





# Information Needed from Subapplicant: Potential Impacts on People, the Environment and Cultural Resources

---

- Public notification or input
- Coordination or consultation with regulatory agencies
  - Permits or consultation documents
- Environmental or cultural studies conducted
- Describe the proposed work that would occur in a floodplain and any changes in floodplain capacity
  - H&H Studies that describe Upstream and Downstream impacts to wetlands, Water surface elevations, infrastructure.
- Describe any work in or near surface waters or wetlands and measures to avoid work in water or wetlands



*Projects with no work in water, wetlands, and floodplains may have more streamlined Environmental Planning and Historic Preservation (EHP) reviews.*

# Information Needed from Subapplicant: Typical Information Requests

### Physical Resources

- Maximum extent of ground disturbance for construction and staging areas
- Construction methods (schedule, equipment, etc.)
- Access/staging areas
- Measures to avoid erosion/ground disturbance
- Soil disposal location
- Type and source of fill material



### Biological Resources

- Vegetation removal/planting
  - Type, number, methods
- Season/time of year of construction
- Seasonal restrictions on work



### Water Resources

- Equipment and methods of work occurring in or near water
- Equipment and methods of work occurring in or near floodplains and wetlands
- Measures identified to avoid waterbodies or impacts on water quality



### Cultural/Tribal Resources

- Historic structures or Districts within or near project area
- History of ground disturbance in project area



### Social Resources

- Roadway closures/detours
- Property acquisition
- Identify structure(s) that would be altered
- Changes to land use
- Identify environmental justice populations
- Presence of hazardous materials
- Known air quality concerns



# Application Support Materials

- Job Aids
  - Project-specific instructions
  - Identifies information needed for Environmental Planning and Historic Preservation (EHP) review
  - Available online: <https://www.fema.gov/grants/mitigation/job-aids>
  - Search by keyword/project type

Hazard Mitigation Assistance Environmental Planning and Historic Preservation Review Job Aid Series

## Flood Risk Reduction: Information Required for Environmental Review

This Job Aid is to help communities applying for Hazard Mitigation Assistance grants for flood risk reduction mitigation projects. It outlines the required documentation needed for FEMA to carry out an Environmental Planning and Historic Preservation review of a project.

Hazard Mitigation Assistance Environmental Planning and Historic Preservation Review Job Aid Series

## Wildfire: Information Required for Environmental Review

This Job Aid is to help communities applying for Hazard Mitigation Assistance grants for wildfire hazard mitigation projects. It outlines the required documentation needed for FEMA to carry out an Environmental Planning and Historic Preservation review of a project.


Hazard Mitigation Assistance (HMA) grants comply with Executive Orders (EOs). During the EHP review process, FEMA evaluates the potential impacts of the project on the human and natural environment.



Hazard Mitigation Assistance Environmental Planning and Historic Preservation Review Job Aid Series

## Wildfire: Information Required for Environmental Review


It is required by law that all projects funded with Hazard Mitigation Assistance (HMA) grants comply with Environmental Planning and Historic Preservation (EHP) laws, regulations and Executive Orders (EOs). During the EHP review process, FEMA evaluates the potential impacts of the project on the human and natural environment.



**Figure 1. A photo of workers dragging and carrying cut vegetation.**

FEMA begins the EHP review process once the project application is submitted. It is your responsibility as the subapplicant to provide documentation that accurately describes the project, its purpose, location, existing environmental conditions in the project area, potential project impacts, best management practices (BMPs), different alternatives considered for the project and mitigation strategies to address environmental impacts of the project.

FEMA will assess the potential impacts of the project. The applicant must wait until the EHP review has been completed by FEMA before starting work on the project. FEMA will also conduct a technical review to verify your project's technical feasibility and cost-effectiveness. Refer to the Wildfire Technical Review Job Aid.




Hazard Mitigation Assistance Environmental Planning and Historic Preservation Review Job Aid Series

## Soil Stabilization: Information Required for Environmental Review

This Job Aid is to help communities applying for Hazard Mitigation Assistance grants for soil stabilization mitigation projects. It outlines the required documentation needed for FEMA to carry out an Environmental Planning and Historic Preservation review of a project.

It is required by law that all projects funded with Hazard Mitigation Assistance (HMA) grants comply with Environmental Planning and Historic Preservation (EHP) laws, regulations and Executive Orders (EOs). During the EHP review process, FEMA evaluates the potential impacts of the project on the human and natural environment.



**Figure 2. A photo of a soil stabilization project along a riverbank below a roadway.**

FEMA begins the EHP review process once the project application is submitted. It is your responsibility as the subapplicant to provide documentation that accurately describes the project, its purpose, location, existing environmental conditions in the project area, potential project impacts, best management practices (BMPs), different alternatives considered for the project and mitigation strategies to address environmental impacts of the project.

FEMA will assess the potential impacts of the project. The applicant must wait until the EHP review has been completed by FEMA before starting work on the project. FEMA will also conduct a technical review to verify your project's technical feasibility and cost-effectiveness. Refer to the Soil Stabilization Technical Review Job Aid.

# Additional Considerations

## Additional Application Considerations (1 of 3)

---

- Ensure that your project meets all program eligibility and prioritization requirements
- Monitor changes in policy
- Plan and follow application directions carefully
  - Watch for grant announcements instructions and deadlines
  - Review program priorities (Notice of Funding Opportunity and Fact Sheet)
  - Hazard Mitigation Plan
- Develop a clear project title. Avoid acronyms and including “BRIC,” “FMA,” or “FY 2023” in the title is not necessary
- Allow time for coordination and gathering of documentation to support application and Benefit-Cost Analysis (BCA) inputs

## Additional Application Considerations (2 of 3)

---

- Organization and accuracy are key
  - Check for consistency across application and attachments
  - Assume FEMA reviewer does not have access to any information/documentation beyond that provided in the subapplication
  - Annotate/highlight key pieces of information to facilitate review
  - Submit all relevant information regardless of whether it is a resubmittal, project was applied to multiple FEMA programs, etc.
    - Do not assume FEMA reviewer has access to previously submitted information
- Include narratives to facilitate the reviewer's understanding of the project
  - Scope of work (SOW) narrative
  - Cost estimate narrative



## Additional Application Considerations (3 of 3)

---

- Check that proposed activities and costs are eligible according to Hazard Mitigation Assistance (HMA) requirements
  - Scope of work (SOW) does not include ineligible activities according to HMA Guidance
  - Cost estimate aligns with SOW
  - Cost estimate not missing major components
  - Documentation provided to support all costs (no lump sums)
  - Capture pre-award costs are for eligible activities
  - Contingencies are within allowable limits according to HMA Guidance
  - Project schedule within allowable period of performance (POP)



# Tips to Improve the Benefit-Cost Analysis (BCA)

---

- If the BCA is not cost-effective, how can benefits be increased to improve the Benefit-Cost Ratio (BCR)?
  - Increase the number of scenario events used in the BCA
    - The more scenario events that are included, the more benefits will be calculated
  - Determine if there are more frequent (smaller events) that would impact the project area
    - While a larger event may cause greater damages, smaller events with less damages happen more frequently
  - Determine if additional benefits can be included in the BCA
    - Think about additional benefit categories that may have been missed such as social benefits
  - Ensure the most recent data is included in the BCA
    - Site conditions may have changed or there may be a more recent study with updated data



# Resources and Q&A

# Resources and Q&A

---

- Hazard Mitigation Assistance Program and Policy Guide:
  - <https://www.fema.gov/grants/mitigation/hazard-mitigation-assistance-guidance>
- FY23 Program Support Materials
  - <https://www.fema.gov/grants/mitigation/building-resilient-infrastructure-communities/resources>
  - <https://www.fema.gov/grants/mitigation/flood-mitigation-assistance/fma-resources>
- FEMA HMA Job Aids:
  - <https://www.fema.gov/grants/mitigation/job-aids>
- FEMA Benefit-Cost Analysis (BCA) Website:
  - <https://www.fema.gov/grants/guidance-tools/benefit-cost-analysis>
- FEMA's BCA Helpline:
  - Email: [bchelpine@fema.dhs.gov](mailto:bchelpine@fema.dhs.gov)
  - Phone: 1-855-540-6744



**FEMA**

## Resources and Q&A

---

- Federal Flood Risk Management Standard for HMA Programs
  - [https://www.fema.gov/sites/default/files/documents/fema\\_policy-fp-206-21-003-0001-implementation-ffrms-hma-program\\_122022.pdf](https://www.fema.gov/sites/default/files/documents/fema_policy-fp-206-21-003-0001-implementation-ffrms-hma-program_122022.pdf)
- State Hazard Mitigation Officers (SHMO) List
  - <https://www.fema.gov/grants/mitigation/state-contacts>
- Unified Federal Environmental and Historic Preservation Review:
  - <https://www.fema.gov/emergency-managers/practitioners/environmental-historic/review>
- Environmental & Historic Preservation Guidance for FEMA Grant Applications
  - <https://www.fema.gov/grants/guidance-tools/environmental-historic>
- Regulations and Directives
  - <https://www.fema.gov/emergency-managers/practitioners/environmental-historic/laws>

### Other Resources:

- [Program Support Material \(PSM\) Resources for the BRIC Grant Program | FEMA.gov](#)
- [Resources for the Flood Mitigation Assistance Grant Program | FEMA.gov](#)
- [Demonstrating Cost-Effectiveness for Projects Less than \\$1 Million Program Support Material \(PSM\)](#)
- FEMA Go Helpline: [femago@fema.dhs.gov](mailto:femago@fema.dhs.gov) or 1-877-611-4700
- Environmental and Historic Preservation: [FEMA-EHPHELPLINE@fema.dhs.gov](mailto:FEMA-EHPHELPLINE@fema.dhs.gov) or 1-866-222-3580