



# Lessons Learned from 2017 FMA and PDM Grant Reviews

Best Practices for  
Application Development

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**CDM  
Smith**

**WATER** + ENVIRONMENT + TRANSPORTATION + ENERGY + FACILITIES

# Agenda

- Background and Process
- Best Practices
- Project Type Specific Tips
- Lessons Learned
- **Encourage** audience participation – questions, lessons learned, recommendations, etc.
- **Disclaimer** – non-disclosure requirement with respect to specific applications, so we will keep descriptions general or provide hypothetical examples.



## Hazard Mitigation Assistance Guidance

Hazard Mitigation Grant Program, Pre-Disaster Mitigation Program, and Flood Mitigation Assistance Program

*February 27, 2015*



**FEMA**

Federal Emergency Management Agency  
Department of Homeland Security  
500 C Street, S.W.  
Washington, DC 20472

# Roles and Responsibilities

## FEMA

- Data Download
- Property Validation
- Prioritization
- Briefings
- Selection
- Announcement

## NTR Team

- Initial Screening
- Technical Reviews

## Both

- Issue Resolution
- QA/QC

# Process Overview

## Planning

- FEMA Priorities
- Templates and Tools
- Staffing and Training

## Screening

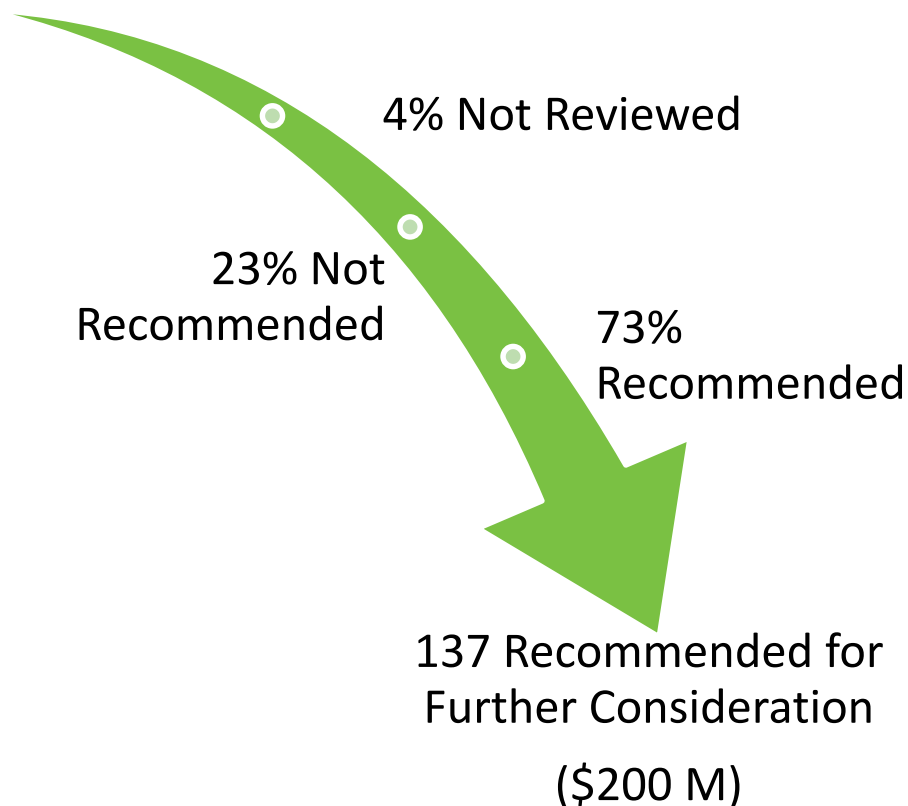
- Project Type and Complexity
- E&C Concerns
- COI, Previous Submittal, Multiple Programs

## Reviews

- Cost Effectiveness
- Feasibility and Effectiveness

# FMA Statistics and Highlights

188 Projects  
Received

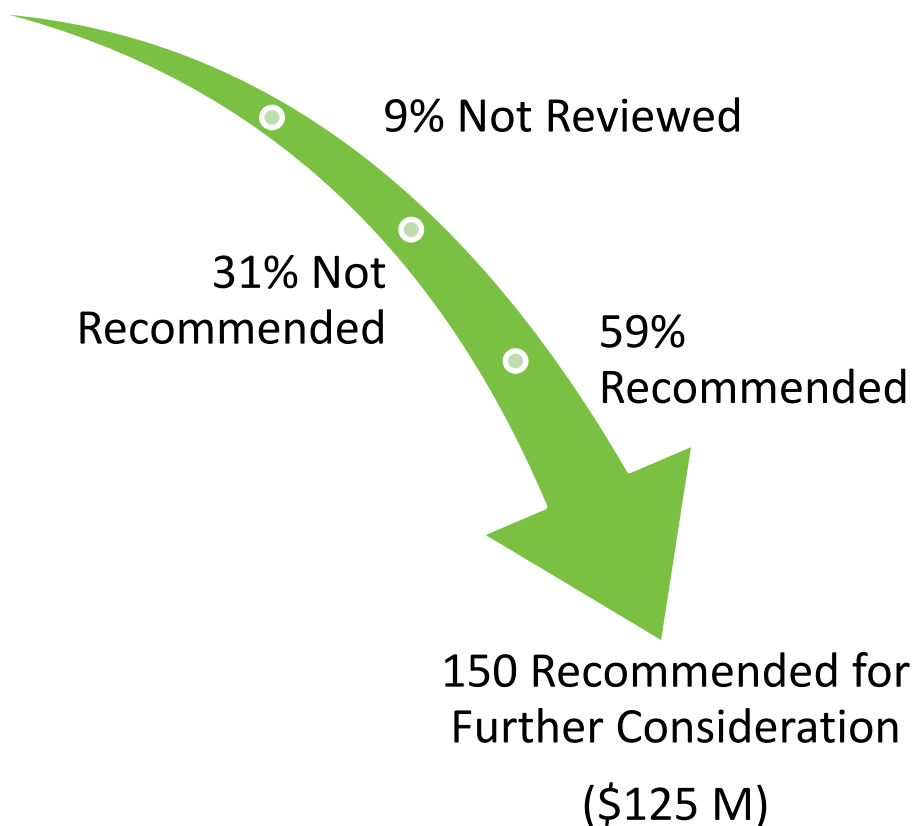


188 FMA Applications

Acquisition	68
Elevation	65
Stormwater Management	20
Flood Risk Reduction	20
Mitigation Reconstruction	1
Advanced Assistance	13
Innovative Drought and Flood Mitigation	1

# PDM Statistics and Highlights

254 Projects  
Received



## 254 PDM Applications

Acquisition	30
Elevation	4
Safe Room	35
Soil Stabilization	9
Stormwater Management	18
Flood Risk Reduction	28
Infrastructure Retrofit	27
Wildfire	5
Generators	50
Structural Retrofit	6
Mitigation Reconstruction	1
Wind Retrofit	22

# Points of Emphasis - Successful Applications

- Proper BCA Approach (Pre-calculated benefits vs. BCA)
  - Submit BCA .zip file

First Floor Elevation	Elevation based upon Flood Study - excerpt attached.	2017-09-11 Flood Elevations.pdf
H & H study title	Flood study attached. FIS study attached as is FIRMETTE.	Flood Study Part 2.pdf; Flood Study .pdf; Flood Insurance Study.pdf; SRL Report.pdf; 2017-09-11 Flood Elevations.pdf; 9-5-17 FIRMETTE.pdf

- Conformance with minimum design standards
  - ASCE 24 (structure elevation requirements)
  - FEMA P-361/ICC-500 (properly size safe room)
- Level of protection/risk reduction identified and consistent

# Most Likely to Succeed

- Complete application
- Consistent
  - NO Conflicting information within application and/or attachments
- Clear conformance with HMA requirements
- Risk Assessment
  - Structural Evaluation
  - Hydrologic and Hydraulic Study
- Shovel ready infrastructure
- Thorough and reasonable cost estimate

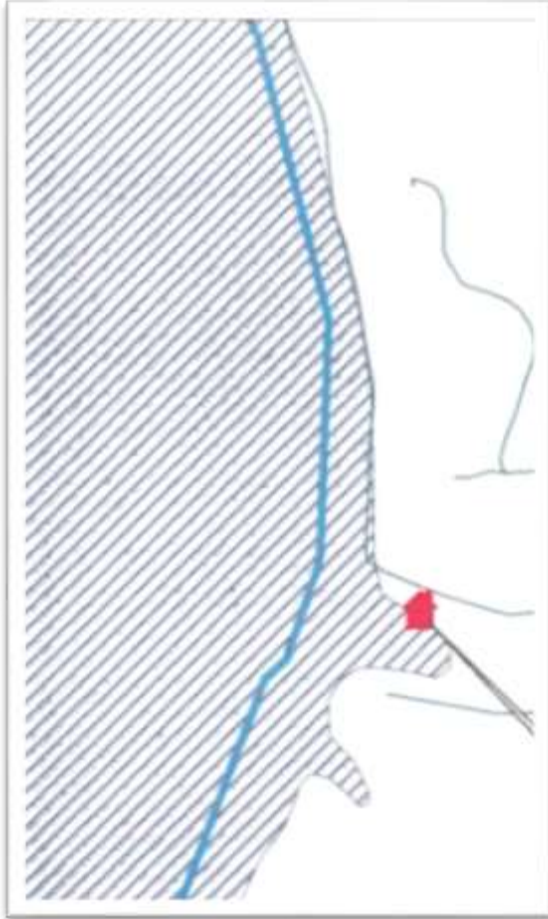
protection from extreme winds. This safe room is not an overnight facility, this safe space is to provide protection for the occupants during a high wind event. The design parameters will be in compliance with the design requirements from FEMA P-361 and ICC 500. The safe room design for tornado and straight-line wind hazards for the shelter design criteria identified in FEMA P-361 and ICC 500. According to FEMA standards, the design of this safe room will comply with the design wind speed used for 250 mph.



# Project Type Best Practices

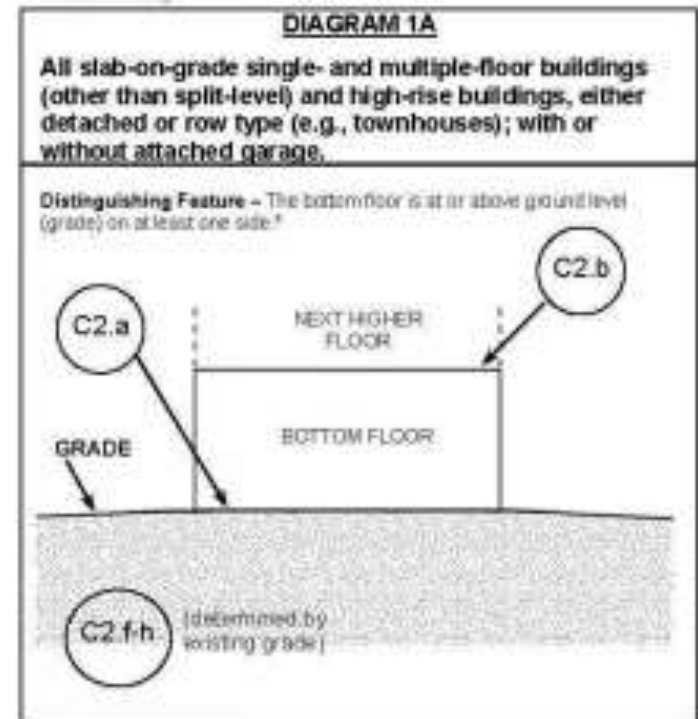


# Pre-Calculated Benefits – Clearly Identify Project Location



# Structure Acquisition or Elevation

- First Floor Elevation
  - Consistent Value Correctly Identified (Elevation Certificate)
- Analysis Duration
  - Construction Date
  - Documentation
- Risk Identification
  - Flood Data
  - Claims



Save and Go Back

Historic Damages Before Mitigation

Analysis year \* 2017

Analysis Duration 42

Year Built \* 1976

User Input Analysis Duration 18

# Structure Acquisition

- Comprehensive Cost Estimate
- Documentation for the market value of each property
- Deed-restricted in perpetuity
- Voluntary participation documentation

## Model Statement of Assurances for Property Acquisition Projects

SEND THIS STATEMENT OF ASSURANCES ATTACHED WITH THE PROJECT APPLICATION, OR SEND TO THE ADDRESS PROVIDED BY THE SPONSORING AGENCY AT THE TIME OF APPLICATION.

NOTE: If you have questions regarding any of these assurances, please consult the program guidance and contact the sponsoring agency.

### Voluntary Mitigation Grant Participation and Waiver

I/We, \_\_\_\_\_, are the current property owner(s) of  
(print name)

\_\_\_\_\_  
(address) (block & lot)

and have elected the following option in regards to my/our participation in a mitigation grant program applications that would be submitted by our jurisdiction to the New York State Division of Homeland Security and Emergency Services – NYS DHSES) for mitigation grant funding consideration:

#### Mitigation Grant Type (select only one)

- |                                                         |                                                       |
|---------------------------------------------------------|-------------------------------------------------------|
| <input checked="" type="radio"/> Acquisition            | <input type="radio"/> Elevation                       |
| <input type="radio"/> Acquisition of lot (no structure) | <input type="radio"/> Relocation                      |
| <input type="radio"/> Acquisition (first option)        | <input type="radio"/> Retrofit (raising of utilities) |
| <input type="radio"/> Elevation (second option)         | <input type="radio"/> Do not wish to participate      |

# Acquisition – Landslide

- Documentation of Structures in Imminent Risk
- Building Replacement Value
- Landslide BCA Tool





# Structure Elevation

- Complies with ASCE 24
- Structurally sound and capable of being elevated safely
- Cost estimate and schedule (survey, engineering, permitting, construction, and site restoration)



# Flood Risk Reduction

- Insufficient technical data and/or preliminary engineering design
  - Without an H&H study it is challenging to evaluate technical feasibility
    - Analysis – peak flow estimating procedures, before and after inundation modeling, up & down stream modeling,
    - Stand alone
- Unique Circumstances
  - Watershed management plan
  - Ongoing/completed project with similar conditions/scope/objectives



# Generators

- Protect a Critical Facility
- Basis for generator sizing and load capacity
- Exterior Enclosures
- Replacing an existing outdated generator
- Wide spectrum of BCA methodologies





# Residential and Community Safe Rooms

- Conform to FEMA 320/361
- Identify Protected Population (and sized accordingly)
- Design Wind Speed
- O&M Plan (Community) or acknowledgement of need
- Pre-Calculated benefits or BCA
  - BCA – Population protected by time period (can't exceed capacity / one should equal design capacity)
  - Rebate Program – Clear Criteria



		School (K-12)	Residences
Day	6:00 AM - 6:00 PM	508.00	0.00
Evening	6:00 PM - Midnight	107.95	323.85
Night	Midnight - 6:00 AM	0.00	228.60

# Structural Retrofit

- Structural evaluation
  - ASCE 41 - Seismic Evaluation and Retrofit Rehabilitation of Existing Buildings
- Engineering schematics, detailed engineering drawings, or engineering designs
- Estimated Level of Protection
- Residential Wind Retrofit (meets P-804 requirements)
- Photographs of existing building
- Benefit Cost Analysis
  - Seismic
  - Wind Retrofit



# Other Project Types

- Mitigation Reconstruction
  - Project Useful Life
- Soil Stabilization
  - Landslide Methodology
- Wildfire Mitigation
  - Clearly Defined Area of Benefits



# Common Issues and Potential Fixes

## Insufficient Data

- Risk Assessment/H&H or report on approach/assumptions/level of protection
- Reference Industry Standards

## BCR does not match/can not be recreated

- Submit .zip file
- Document all inputs
- BCA Helpline

## Data Transfer Issues

- Document and communicate!

## Unclear Conformance with HMA Requirements

- Utilize Resources (ASCE 24 highlights etc.)
- Review HMA Guidance



# Key Points

- College application – one shot analogy
  - Complete Application
    - Submit all information regardless of resubmittal, multiple program, etc.
    - BCA .zip file
  - Organized and accurate
    - Consistency across application and attachments
    - Supporting documentation for **all** BCA inputs

# Additional Advice

- ❑ Capture lessons learned from awards as well as denials
- ❑ Every year is a “new” application
- ❑ Monitor changes in Policy and Tools (BCA)
- ❑ Manage expectations
  - HMA programs are constantly over subscribed
  - FEMA Priorities for funding (NOFO)
- ❑ Document any file transfer issues
- ❑ Identify pre-award tasks eligible for funding
- ❑ Ensure State ‘priority’ applications are complete, technically feasible and cost effective



# Summary



Questions?



# Application Resources

- NOFO and Fiscal Year Fact Sheet
- FEMA HMA Guidance and Addendum
- BCA Toolkit (Tool & Guidance)
- FEMA ASCE 24 and ICC-500 Highlights
- Hazard Mitigation Assistance (HMA) Job Aids and Tools
  - <https://www.fema.gov/media-library/resources-documents/collections/559>
- FEMA Map Service Center / Google Earth .kmz
- ATC Wind / USGC Seismic

