



Hazard Mitigation Assistance Information Bulletin

No. 2-2023-HMA

October 18, 2023

MEMORANDUM FOR: Hazard Mitigation Assistance Recipients and Subrecipients

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Date: 2023.10.18

Hazard Mitigation Assistance Division ^{0 8 : 3 6 : 0 7 -0400}

SUBJECT: Updated Technical Requirements and Pre-calculated Benefits for Residential Wind Retrofit Projects and Updated Technical Requirement Compliance Date for Residential Prefabricated Safe Room Projects

I. Purpose

Hazard Mitigation Assistance (HMA) Information Bulletin No. 2-2023-HMA amends the language in the Hazard Mitigation Assistance Program and Policy Guide (HMA Guide), dated March 23, 2023, to update the following:

- Technical design and construction method requirements for residential wind retrofit projects in [FEMA P-804](#), *Wind Retrofit Guide for Residential Buildings* (April 2023).
- Pre-calculated benefit amounts for residential wind retrofit projects, both with and without roof replacement, in FEMA P-804.
- Technical requirement compliance date for residential prefabricated safe room projects to meet the testing, listing, and labeling requirements in 2020 International Code Council® (ICC®) and the National Storm Shelter Association (NSSA®) (ICC/NSSA) *Standard for the Design and Construction of Storm Shelters” (ICC 500)* as referenced by [FEMA P-361](#), *Safe Rooms for Tornadoes and Hurricanes - Guidance for Community and Residential Safe Rooms, 4th Edition* (April 2021).

The updates in this Information Bulletin ensure that residential wind retrofit projects incorporate the latest technical advances in wind engineering over the past decade; pre-calculated benefit amounts better reflect the true cost of a wind retrofit project; and HMA applicants have adequate time to comply with updated technical requirements for residential wind retrofit and residential prefabricated safe room projects.

II. Applicability

The following requirements apply to the Hazard Mitigation Grant Program (HMGP), Hazard Mitigation Grant Program Post Fire (HMGP Post Fire), Building Resilient Infrastructure and

Communities (BRIC), and Congressionally directed Pre-Disaster Mitigation (PDM).

Residential Wind Retrofit Projects – Technical Requirements

The updated technical requirements in FEMA P-804 (April 2023) are required for residential wind retrofit project subapplications submitted on or after April 1, 2024.

FEMA anticipates that this grace period will allow sufficient time for the release of the International Code Council’s 2024 International Residential Code, which is referenced in FEMA P-804.

FEMA will continue to accept subapplications for wind retrofit projects that comply with the requirements of the prior version of FEMA P-804 (2010) before April 1, 2024.

Residential Wind Retrofit Projects – Pre-calculated Benefits

The updated pre-calculated benefit values listed in FEMA P-804 (April 2023) for residential wind retrofit projects may be used for cost-effectiveness determinations effective immediately. These values may be applied to new subapplications and subapplications pending review.

Prefabricated Residential Safe Room Projects

The updated testing, listing and labeling requirements for residential prefabricated safe room projects described in FEMA P-361 are required for all subapplications submitted on or after January 1, 2024.

FEMA anticipates that this grace period will allow sufficient time for manufacturers of prefabricated saferooms to comply with the testing, listing, and labeling requirements of the latest standards.

FEMA will continue to accept subapplications for residential prefabricated saferooms that comply with ICC 500 (2014) and FEMA P-361 (2015) until January 1st, 2024.

III. Background

Residential Wind Retrofit Projects

Every year, houses along the coast are subject to high winds that cause extensive damage and threaten the safety and security of coastal residents. Much of this wind-related damage can be reduced by improving the performance of the existing buildings through retrofits that strengthen the residential building’s envelope and load path.

Recognizing this, FEMA published updated technical design and construction method requirements in FEMA P-804, which are applicable to existing one- and two-family residential buildings, excluding manufactured homes and townhouse units,¹ in hurricane-prone regions of the United States and its territories, as defined by ASCE 7-22.

The HMA Guide requires that wind retrofit projects for one- and two-family residential buildings be designed in conformance with the design criteria found in FEMA P-804. FEMA P-804 defines Mitigation Packages and summarizes the technical information needed for selecting and implementing cost-effective wind retrofit projects for existing one- and two-family dwellings in hurricane-prone

¹ The 2021 International Residential Code defines a townhouse as a “building that contains 3 or more townhouse units,” where a townhouse unit is a “single-family dwelling unit in a townhouse that extends from foundation to roof and that has a yard or public way on not less than two sides.”

regions of the United States and its territories. The second edition of FEMA P-804 clarifies and updates guidance based on post-damage assessments and lessons learned following hurricanes over the past 12 years, as well as research in the ever-growing field of wind engineering. This includes the development of updated pre-calculated benefit values for residential buildings.

Prefabricated Residential Safe Room Projects

In 2021, FEMA published [FEMA P-320](#), *Taking Shelter from the Storm - Building or Installing a Safe Room for Your Home, 5th Edition* (March 2021) and FEMA P-361 (April 2021). FEMA P-361 (2021) incorporates updates from ICC 500 (2020) and includes FEMA Funding Criteria on how to design and construct a safe room that provides near-absolute protection from wind and wind-borne debris for occupants. FEMA P-320 includes guidance on residential safe rooms and prescriptive site-built safe room design plans that meet FEMA P-361 criteria for safe rooms serving one- and two-family dwellings.

Through reference to ICC 500 (2020), FEMA P-361 (2021) requires that safe room impact protective systems (IPS) pass testing specified in ICC 500 Section 306. Successful pressure and missile impact testing and ongoing compliant production of IPS must be verified through listing and labeling by a third-party certification agency. In accordance with ICC 500 Section 106.1, these same listing and labeling requirements now apply to all residential prefabricated safe rooms where sealed submittal documents (including design information required in Section 106.2.1) are not submitted with each permit application.

In 2021, FEMA announced a two-year grace period, until July 1, 2023, for residential prefabricated safe room projects to comply with testing, listing, and labeling requirements in ICC 500 (2020) and FEMA P-361 (April 2021). With this Information Bulletin, FEMA is extending the grace period until January 1, 2024. It is anticipated that this grace period will allow sufficient time for manufacturers of prefabricated safe rooms to comply with the testing, listing, and labeling requirements of the latest standards.

IV. Action

This Information Bulletin updates the language in Part 12 of the HMA Guide concerning residential wind retrofit project compliance with technical requirements in FEMA P-804, the pre-calculated benefit values for residential wind retrofit projects, and the date for residential prefabricated safe room project compliance with ICC 500-2020 and FEMA P-361 (April 2021). The updated language will be reflected in a future update of the HMA Guide, as applicable.

Residential Wind Retrofit FEMA P-804 Technical Requirements

FEMA P-804 (April 2023) is applicable to existing one- and two-family dwellings, excluding manufactured homes and townhouse units, in hurricane-prone regions of the United States and its territories, as defined by ASCE/SEI 7. The 2022 edition of ASCE/SEI 7 defines hurricane-prone regions as the U.S. Atlantic Ocean and Gulf of Mexico coasts where the basic (design) wind speed for Risk Category II buildings (which includes one- and two-family dwellings) is greater than 115 miles per hour (mph), as well as Hawaii, Puerto Rico, Guam, U.S. Virgin Islands, Northern Mariana Islands, and American Samoa.

FEMA P-804 presents residential wind retrofit projects grouped into three Mitigation Package solutions: the Basic Mitigation Package, the Intermediate Mitigation Package, and the Advanced Mitigation Package. Each Mitigation Package consists of several wind retrofit mitigation measures intended to reduce future losses by providing a comprehensive and cost-effective solution. The Mitigation Packages should be implemented cumulatively, beginning with the Basic Mitigation Package. This means that for a house to successfully meet the criteria of the Advanced Mitigation Package, it must also meet the criteria of the Basic and Intermediate Mitigation Packages.

FEMA P-804 describes each Mitigation Package in detail, including the minimum wind design requirements and prescriptive solution limitations, such as maximum wind speed. Where site conditions exceed the limitations of the prescriptive solutions in FEMA P-804, an engineered solution by a registered design professional in accordance with ASCE 7-22 is required.

Residential Wind Retrofit Pre-Calculated Benefits

Updated pre-calculated benefit values have been provided for the Intermediate and Advanced Mitigation Packages, with and without roof replacement. These retrofits are considered cost-effective if the total project costs are less than the maximum pre-calculated benefit costs determined by FEMA.

The pre-calculated benefits values provided in Part 12, Table 35 of the HMA Guide are hereby updated to reflect the information in the following table:

Mitigation Package	Roof Replacement Project	Maximum Costs
Intermediate	No	\$15,784
	Yes	\$29,904
Advanced	No	\$48,302
	Yes	\$62,422

Additionally, the requirements to use the pre-calculated benefit values for cost-effectiveness determinations, listed in Part 12 of the HMA Guide, are hereby updated to the following:

To use these benefit amounts, the applicant must meet the following requirements:

- Wind retrofit projects must be for one- or two-family dwellings, excluding manufactured homes and townhouse units, and must comply with FEMA P-804.
- Residential structures must be located in an area where wind speeds are greater than or equal to 120 mph for Risk Category II Buildings in accordance with the latest published edition of ASCE 7-22.
- Applications must include maps that clearly indicate the structures to be retrofitted as being in an area where wind speeds are greater than or equal to 120 mph to be eligible to use the pre-calculated benefits.
 - Structures in states, boroughs, counties, parishes and territories that meet the qualification requirements are automatically eligible to use the pre-calculated benefit-costs if the application includes a map with the structures clearly indicated on it.
 - Structures in states, boroughs, counties, parishes and territories that are partially located in the 120-mph wind zone will need FEMA to make the determination on a case-by-case basis if the pre-calculated benefits can be used. Applicants and subapplicants will need to submit a map with the structures clearly indicated on it to FEMA, who will then determine if the structure is located in the wind zone and can use the pre-calculated benefits.

Prefabricated Residential Safe Rooms: FEMA P-361 Compliance

Part 12, Section B.8, of the HMA Guide refers to “the latest published edition” of FEMA P-361 and ICC 500 as the basis for minimum safe room design requirements and funding criteria. The safe room eligibility criteria text in Part 12 of the HMA Guide is hereby updated to allow the use of the 2015 edition of FEMA P-361, which references ICC-500 (2014), for residential prefabricated safe room units until January 1, 2024. On January 1, 2024, the HMA Guide will require all prefabricated safe room units to comply with FEMA P-361 (April 2021).

Eligibility criteria in the HMA Guide regarding site-built safe rooms that are not prefabricated units still require compliance with the latest published edition of FEMA P-361. FEMA established this requirement as of July 1, 2021.

V. Questions

Any questions regarding this Information Bulletin may be emailed to the FEMA HMA Policy, Tools, and Training Branch at fema-hma-grants-policy@fema.dhs.gov.

Attachment(s): N/A

cc: N/A