



What are the NFIP Technical Bulletins?

FEMA Technical Bulletins (TBs) provide guidance concerning the National Flood Insurance Program's (NFIP) building performance standards as outlined in Title 44 of the U.S. Code of Federal Regulations at Section 60.3. Eleven Bulletins, covering a range of topics, were released from 1993 to 2010. The Bulletins are intended for use primarily by state and local officials responsible for interpreting and enforcing NFIP regulations and development community members, such as design professionals and builders. The Bulletins are not regulatory, rather they provide specific guidance for complying with the minimum requirements of existing NFIP regulations.

Why is updating the NFIP Technical Bulletins important?

The Bulletins are changing to modernize and streamline their content and presentation, incorporate relevant information from the latest I-Codes and ASCE Standards, provide updated guidance and best practices observed from post-disaster assessments and address known issues identified by a wide range of stakeholders. These changes intended to improve the TBs' usability, credibility, and content while presenting them in a streamlined format.

Overarching additions will include new introductory text, updated tables, figures, photos and updated references along with a section on applicable codes and standards. All updated TBs will have tables comparing codes/standards to the NFIP regulations. The 2018 I-Code and ASCE 24-14 are used as the base codes and standards with the changes from the 2015 and 2012 I-Codes and ASCE 24-05 referenced. Incorporating information and references from the most recent consensus codes and standards keep the Technical Bulletins current and aligned with the field's latest concepts and advances.

How are the NFIP Technical Bulletins being changed?

The TB update process is managed by FEMA Building Science, in coordination with Floodplain Management and Risk Insurance with input from numerous stakeholders, in recognition of the variety of users of these valuable documents. Stakeholders include: FEMA Headquarters, FEMA Regional staff, NFIP State

Coordinators, community floodplain management officials, ASFPM representatives, subject matter experts, and sometimes industry.

The ongoing effort began in 2015. Each TB goes through a standardized review process with drafts reviewed at least twice by subject matter experts, State and local officials, and other stakeholders. All comments received are recorded along with how they were adjudicated, which allows for tracking of outstanding issues and facilitates coordination with reviewers.

FEMA plans to release some updated TBs in late 2018 and the others in late 2019. A phased approach is being taken to avoid overwhelming users by issuing them all at once, while also avoiding confusion associated with issuing updates at random intervals and allowing for a coordinated outreach effort. In 2018, FEMA plans to release updates to 5 TBs. These TBs and a description of their pending updates are described below.

See our current releases and stay updated by visiting our website at www.fema.gov/nfip-technical-bulletins.

Summary of Bulletins and Changes

TB 0, User's Guide to Technical Bulletins

TB 0 describes the Technical Bulletin series' purpose and intended use, common concepts and terms, associated useful resources and a subject index.

New features in TB 0 will include sections on how to use the TBs; a crosswalk between the NFIP Regulations and TBs; a compilation of key terms, useful resources, and supplemental information from succeeding TBs; Key Concepts and Requirements for Structures such as discussion on Special Flood Hazard Areas, lowest floor elevation, Substantial Improvement/Substantial Damage and Coastal Hazards.

TB 1, Openings in Foundation Walls and Walls of Enclosures

TB 1 explains the NFIP requirements for openings on exterior walls and walls of enclosures below elevated buildings. Flood openings equalize flood forces by allowing the entry and exit of floodwaters.

In addition to illustrating enclosures that require openings and those that do not, TB 1 will cover the requirements and guidance for installation of openings including two options for satisfying the requirements,

referred to as engineered openings and non-engineered openings. The TB 1 updates will expand on the guidance for completing the FEMA Elevation Certificate (EC) and is being closely coordinated with the ongoing update of the EC, which is set to expire in November 2018.

The TB 1 update will expand on the guidance for unique configurations such as sloping sites, multiple enclosed areas, large enclosed areas and sites with shallow flooding. New guidance will also be included for openings in above-grade (elevated) enclosures areas; openings in two-level enclosed area and an expanded discussion on documentation required for certification of engineered openings.

TB 4, Elevator Requirements for Buildings Located in SFHAs

Originally published under the title Elevator Installation, TB 4 discusses the NFIP requirements for elevator machinery and equipment that serve buildings and provides guidance on the installation of elevators in special flood hazard areas. Elevator types and their associated equipment are described, along with practical methods of protecting elevators from flood damage. As such, it has been proposed that the publication will be re-named Elevator Requirements for Buildings Located in SFHAs.

The updated TB 4 will be including expanded discussion on the primary types of elevators used in residential and commercial buildings, hydraulic elevators and traction elevators and their subtypes. Other updates will include:

- Clarification of the definition of “basement” as it relates to the construction of elevator pits in accordance with NFIP requirements and as it relates to determining an NFIP flood insurance premiums
- Tables summarizing elevator system components, their physical location, and whether they can be protected from flood by either elevation or by flood damage resistant components
- Descriptions of other conveyance mechanisms, pneumatic elevators, chair lifts and platform lifts

TB 5, Free of Obstruction Requirements

TB 5 provides guidance on the NFIP’s free-of-obstruction requirements in Coastal High Hazard Areas (V Zones) as well as general requirements for construction that minimizes flood damage potential in V Zones. TB 5 discusses potential building and site obstructions that could divert or obstruct the free flow of floodwater and waves below elevated buildings in V Zones. Such obstructions could impose additional flood loads on foundation systems or adjacent buildings.

Updates to TB 5 are to include:

- Clarification on the requirements for V Zone certification
- Expanded discussion for below BFE building elements such as access stairs and ramps, decks and patios, enclosed areas, foundation bracing and percent open area for lattice and louvers
- Expanded discussion on site development practices such as accessory storage structures, detached garages, fences and privacy walls, the use of fill, swimming pools and spas, erosion control structures and others
- New discussion on above grade enclosures, two-level enclosures, and detached garages

TB 8, Corrosion Protection for Metal Connectors and Fasteners in Coastal Areas in Accordance with the National Flood Insurance Program

Originally published under the title Corrosion Protection for Metal Connectors in Coastal Areas TB 8 provides guidance on the NFIP Zone V requirement for maintaining a building’s load paths. It also provides readers with an understanding of the role of connectors and fasteners with proper corrosion protection have in ensuring that buildings in coastal area are adequately anchored and connected to resist flood and wind loads. TB 8 also discusses how if buildings are exposed to moisture and air-borne salt, corrosion protection of metal connectors and fasteners will help prevent structural failure.

New features in TB 8 will include discussion on corrosion protection for metal fasteners in addition to connectors and provides information on how preservative treated wood can impact corrosion protection. Other updates include:

- How to select an appropriate connector and fastener material based on its intended location on the building
- Sample wood product identification tag to understand which metal connectors and fasteners are compatible with various lumber treatments
- Expanded descriptions of connector and fastener materials, corrosion protection coatings and maintenance, including inspection and scheduled replacement
- Guidance for the selection of connectors and fasteners with various corrosion resistant materials and treatments and how combining dissimilar metals can cause premature corrosion