Updates to the FEMA SDE Version 3.0 Tool

IAFSM Annual Conference – March 15, 2018
Overview

1. Background
2. SDE 3.0 updates
3. Community responsibilities
4. Post-disaster community challenges
   - Tips for SDE data collection and use
5. Common mistakes by SDE inspectors
Background

Purpose of SDE Inspections

1. To *estimate* damages in order to determine if the *overall percent damage* of a structure is above or below the NFIP required 50% threshold for Substantial Damage (SD).

2. The determination must be *reasonable and defensible*.

3. The SDE tool allows local officials to rapidly collect the data based on visual observations to determine substantial damage in a formal, documented manner.
Background

NFIP definition of substantial damage:

Damage of *any origin* sustained by a structure whereby the cost of restoring the structure to its pre-damage condition would *equal or exceed 50%* of the market value of the structure before the damage occurred.

“*Any origin*” refers to any natural or man-made hazards – flood, fire, wind, etc. (“*Damage is damage*”).

*This requirement only applies to structures in the SFHA.*
Background

Substantial damage occurs when:

\[
\frac{\text{Cost of Repairs}}{\text{Pre-damage market value}} \geq 50\%
\]
Background

**The Goal:**

- The goal is not to determine if a structure is 55% or 68% damaged.

- The goal is to determine whether the overall structure damage is *above or below* 50% and that *the overall damage is reasonable* and that SD determination is *supported by the data collected for that inspection.*
Background

The SDE Tool:

- Helps the community manage and formalize their SD responsibilities
  - Identifies required data
  - Provides an organized database
  - SDE individual structure reports
    - Provide structure owners with a detailed summary of data collected
    - Can be used for ICC claims
Background – SD vs. SI

The NFIP requires communities to evaluate both *substantial damage and substantial improvement* for structures in the SFHA.

The determinations are very similar:

\[
SD = \frac{\text{Cost of Repairs}}{\text{Pre-damage market value}} \geq 50\%
\]

\[
SI = \frac{\text{Cost of Addition /Improvements}}{\text{Pre-improvement market value}} \geq 50\%
\]
Background – Question 1

After a disaster, a homeowner seeks the required permit to repair interior damages, but wants to make the following changes:

- Replace wall paneling with drywall
- Replace vinyl flooring with marble tile
- Replace the pre-flood windows with thermal pane windows
- Enlarge the kitchen

1. *Is this substantial damage, substantial improvement, or both?*

2. *How should the community evaluate this?*
Background – Answer 1

• This could potentially be a combination of SD and SI based on an assumption that the drywall, ceramic tile and thermal pane windows are upgrades, and therefore more expensive than the elements they are replacing.

• The community will need to evaluate the combined cost of repairs and improvements (including the expanded kitchen).
Background – Question 2

Can structures with zero feet of water above the first floor have damages?
Background – Answer 2

Answer: Yes

- **Damages may be due to:**
  - Fire
  - Wind
  - Earthquake

- **There may be flood / storm damages to the:**
  - Foundation
  - Roof
  - Superstructure or exterior walls
  - Exterior HVAC
Background

Benefits of the SD/SI Requirements (beyond compliance with the NFIP)

1. Breaks the disaster cycle by *improving resilience*.
2. *Saves money* for property owners through lower flood insurance premiums and reduced damages in the next flood.
3. *Improves the community’s sustainability* by keeping communities safe and affordable for the long-term.
4. *Avoids creating blighted and abandoned neighborhoods*. 

SDE 3.0 Updates (2017)

- **Current Version is 3.0** (FEMA P-784, dated 01.12.18).
  - Go to [www.fema.gov](http://www.fema.gov) and search on “SDE”. The first return will be the link to the FEMA SDE web page.
    - *The SDE User Manual and Field Workbook, installation instructions, sample forms, and other resources can be found on the same and other pages.*
    - **Note:** Minor tool revisions won’t involve a change in version number, so check the FEMA website for the latest release date before starting the SDE inspections.
SDE 3.0 Updates (2017)

- Many of the technical updates are internal and provide improved performance.
- Tool updates include:
  - Improved stability and functionality for large SDE inventories
  - Photo editing
  - New features to facilitate QA reviews
  - “SDE Notes” that allow users to create, edit, and delete reusable notes
  - Faster imports, exports, sorting and filtering
SDE 3.0 Updates - Resources

Includes the following documents:

- Read Me – SDE 3.0 Installation Guide
- User Manual and Field Workbook
- SDE sample forms
- Substantial Damage Estimator Best Practices
- FEMA Building Science SDE FAQs
SDE - Main Menu
SDE – Tools Menu

Edit Photo, SDE Notes, and User Preferences are new features
SDE Updates – New Features

- **Enterprise Import**
  - Imports property level data from Excel
  - Functionality to save column mappings for future imports

- **Custom User Settings**
  - Functionality to import user settings between SDE databases

- When “Damage Undetermined” is selected, the Cost and Element tabs become unusable.
SDE Updates – Photo Editing

Edit Photo
Use the folder icon below to navigate to the photo you would like to edit. For more information about the photo editing tools, click on the help icon.
Community Responsibilities

The community should develop determinations that are:

1. **Accurate** – by using current data
2. **Reasonable** - when compared to appraisals and fair market values
3. **Fair** - by using the same method for all structures
4. **Defensible** – so that others can replicate the determination
5. **Understandable** - by structure owners and elected officials
Post-Disaster Community Challenges

1. Knowing their NFIP obligations
2. Lack of experience with disasters and recovery
3. Multiple, competing interests
4. Limited staff availability
5. Large quantity of affected structures
6. Large number of applicants for permits

The following tips can make inspections more efficient
Tips for SDE Data Collection

1. **Start inspections ASAP** (within a week of the disaster).

2. Verify that inspections **only involve structures within the SFHA**.

3. **Use pilot inspections for 2-3 structures**, with all inspectors in a single group.

4. **Start slow** so that the inspectors feel comfortable with the data requirements.

5. **Review first inspections in detail** to identify errors and data inconsistencies. **Initial errors can easily snowball into significant problems.**
Tips for SDE Data Collection

6. Use a *Letter of Introduction* with a community POC (name and phone number).

7. Determine if the inspectors can eyeball estimates of structure dimensions.

8. *Always check the glass* for HW marks.

9. Check vegetation, fences, and adjacent structures and vehicles for HW marks or debris/dirt lines.

10. Consider using an *address board in the photos* (this helps tie a photo to an address).
Tips for SDE Data Collection

High water dirt mark on vegetation
Tips for SDE Data Collection

Sample address board
Tips for SDE Data Collection

11. Use *two-person inspection teams* (for safety, speed, and consensus on data collection).

12. Identify and review procedures for resident interactions with inspectors.

13. Identify areas with *2 feet or less of water* inside the structures (save for later or determine that there is no SD).
Common Mistakes by SDE Inspectors

1. Use of the *wrong assessment form* (residential for a non-residential structure or vice versa).

2. Use of the non-residential assessment form for *businesses located in SF homes or MHs*.

3. Failure to include damages from sources other than flooding.

Common Mistakes by SDE Inspectors

5. **Missing values** for the Depreciation Rating or the Geographic Adjustment for the base cost. This will result in an error statement of *Data Entry Incomplete*.

6. Photos not showing the complete structure.

7. Photos not showing the *top and bottom of a high water mark*. 
Want More SDE Information?

- See the handout out *FEMA SDE Resources* (includes web addresses).

- Consider volunteering with the *IL RAFT* (Rapid Assistance Flood Team). See:
  - *Mike Sutfin*, Village of Ottawa, Chair of the IAFSM Floodplain Management Committee
  - *Paul Osman* – IL NFIP State Coordinator
Questions ?