Substantial Damage Estimator (SDE) User Manual and Workbook

Using the SDE Tool to Perform Substantial Damage Determinations

FEMA P-784 / Tool Version 2.2 / September 2015

Substantial SDE Damage Estimator

The SDE is a tool to help local officials administer the Substantial Damage requirements of their floodplain management ordinances in keeping with the minimum requirements of the NFIP.

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For technical assistance, consult your Regional Office of the Federal Emergency Management Agency (FEMA). The addresses and telephone numbers for the FEMA Regional Offices can be found at: http://www.fema.gov/fema-regional-contacts.

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ACV	Actual Cash Value
BCA	Benefit-Cost Analysis
BFE	base flood elevation
CAV	Community Assistance Visit
CID	(NFIP) Community Identification Number
CMU	concrete masonry unit
CRS	Community Rating System
CSV	file extension for a file with comma separated values
DDF	depth-damage functions
EIFS	exterior insulation finishing system
FAQs	Frequently Asked Questions
FEMA	Federal Emergency Management Agency
FIRM	Flood Insurance Rate Map
GB	gigabyte
GIS	geographic information system
GHz	gigahertz
GIS	geographic information system
GPS	global positioning system
HVAC	heating, ventilation, and air-conditioning
ICC	Increased Cost of Compliance
KML	Keyhole Markup Language
KMZ	Compressed KML file
MB	megabyte
MDB	file extension for a Microsoft Access database
NFIP	National Flood Insurance Program
PII	Personal Identifiable Information
POC	point-of-contact
QA	Quality Assurance
SDE	Substantial Damage Estimator
SFHA	Special Flood Hazard Area
WAAS	Wide Area Augmentation System
XLS	file extension for a Microsoft Excel spreadsheet file
XML	file extension for an extensible markup language file

SECTION 1 INTRODUCTION

The Substantial Damage Estimator (SDE) Version 2.2.0 Tool was developed by the Federal Emergency Management Agency (FEMA) to assist State and community officials in estimating Substantial Damage to residential and non-residential structures. Communities that participate in the National Flood Insurance Program (NFIP) are required to determine whether damage, of any origin, to structures within a mapped Special Flood Hazard Area (SFHA) meets the criteria for Substantial Damage. The SDE tool allows community officials with limited appraisal or construction backgrounds to develop reasonable estimates of structure values and damage in accordance with the NFIP requirements.

Substantial Damage

Substantial Damage is defined in the NFIP regulations as "Damage of any origin sustained by a structure whereby the cost of restoring the structure to its before-damaged condition would equal or exceed 50 percent of the market value of the structure before the damage occurred."

The SDE tool is based on the concept of using damage estimates for individual structure elements to determine whether the structure as a whole is substantially damaged. The SDE tool includes assessment options for residential structures (single-family homes, town or row houses, and manufactured homes) and common non-residential structures (e.g., office buildings, strip malls, restaurants). The SDE tool is intended to be used in conjunction with an industry-accepted construction cost-estimating guide.

Special Flood Hazard Area

FEMA defines the SFHA as the land in the floodplain within a community subject to the 1 percent or greater chance of flooding in any given year (i.e., the 100-year flood).

Communities participating in the NFIP often have difficulty determining whether structures are substantially damaged. This difficulty is magnified after a major flood or other disaster where a large number of structures have been damaged and there is a need to provide timely Substantial Damage determinations so that reconstruction can begin. Structures located in an SFHA that are determined to be substantially damaged or improved, must be brought into compliance with the minimum requirements of the community's NFIP-compliant floodplain management laws or ordinances. This requirement applies to all structures in the SFHA, but is independent of the source of damage to the structure; damage as a result of flooding, high winds, fire, or any other source can trigger the requirement. The SDE tool should not be used for structures designated by State or Federal entities as historic buildings because of their complex valuation.

Use of other FEMA tools or tool components to determine Substantial Damage may not be appropriate. Specifically, use of the depth-damage functions (DDFs) from the FEMA Benefit-Cost Analysis (BCA) tools are not appropriate because the DDFs were designed to be specific to a particular hazard and do not consider other sources of damage (fire, wind, earthquake, etc.). The DDFs may underestimate the total structure damage. Furthermore, the BCA DDFs are designed to estimate future damage based on regional or national average damage data that do not consider site-specific factors, such as flood durations, and do not calculate damage that is unique to the structure under consideration.

1.1 Use of the SDE Tool to Manage Substantial Damage Responsibilities

The SDE tool provides a formalized methodology for collecting and organizing the data required to make defensible determinations that meet the NFIP criteria for Substantial Damage or Substantial Improvement. The data needed to make a determination are identified within the tool. Users can attach documentation, including photographs, property surveys or appraisals, and latitude and longitude coordinates, to the structure assessments to further define the structure being inspected.

The SDE tool provides a single location for storage of data collected as part of the Substantial Damage determinations and allows users to import multiple records from an outside database (tax records, previous Substantial Damage determinations, geographic information system [GIS] data, etc.) at one time using the tool's ***Enterprise Import*** function. The tool also includes an assignment function and a data export feature, which allow users to create geo-referenced files that can be used to identify and locate properties in the SDE database.

Users are required to make judgments for three separate data fields: the initial construction quality, the depreciation rating of the structure prior to damage, and the percent damage of each of 12 construction elements for residential structures or 7 elements for non-residential structures. After structure assessments are completed in the SDE tool, the community can begin to build a database of damaged structures for specific damage events. As other events cause damage, the community can add new assessments to existing properties from previous SDE inventories or add new assessments for structures not previously damaged. The SDE tool provides data management, recording and organizing the Substantial Damage data while also facilitating quality assurance (QA) reviews of the data entered into the tool.

Although the SDE tool was developed to assist State and community officials with Substantial Damage determinations, its use is not required. However, community officials are strongly encouraged to use the tool when evaluating damaged structures for Substantial Damage. Ultimately, local officials must make and defend Substantial Damage determinations. The data used in the SDE tool to make the determinations is only as good as the accuracy of the data collected.

The SDE tool formalizes a FEMA-accepted approach for obtaining reasonable Substantial Improvement/Damage determinations for structures. The benefits and limitations of the SDE tool are summarized in Table 1-1.

Non-Residential Buildings

Non-residential buildings can vary considerably in construction materials and in the complexity of their structural elements, mechanical systems, and plumbing and electrical systems. The SDE tool uses a simplified approach to estimate damage for most non-residential structures. Some non-residential buildings use more unique building materials and construction methods, or have specific uses that may require a more detailed approach to estimating damage.

Table 1-1: Benefits and Limitations of Using the SDE 2.2.0 Tool

Benefits	Limitations
• A formalized and organized approach to estimating Substantial Damage and Substantial Improvement • Reasonable and defensible structure values and damage estimates • A FEMA-accepted method for determining Substantial Damage and Substantial Improvement • Demonstrates compliance with the NFIP requirements for Substantial Damage determinations • Structure-specific summary reports that can be included with Substantial Damage determination letters sent to structure owners	• Does not provide exact values of element percent damage • Depends on the local official, not the SDE tool, to provide a consistent method for determining Substantial Damage on a community-wide basis

Substantial Damage and Substantial Improvement Determinations

Additional information regarding Substantial Damage and Substantial Improvement determinations, including the NFIP requirements and implementation guidance, is available on the FEMA Web site (www.fema.gov) at:

- FEMA 213, Answers to Questions About Substantially Damaged Buildings (1991): http://www.fema.gov/library/viewRecord.do?id=1636
- FEMA P-758, Substantial Improvement/Substantial Damage Desk Reference (2010): http://www.fema.gov/library/viewRecord.do?id=4160

The desk reference provides practical guidance and suggested procedures to implement the NFIP requirements for Substantial Damage and Substantial Improvement.

1.2 Users of the SDE 2.2.0 Tool

Under the NFIP, communities are responsible for evaluating potential Substantial Damage, of any origin, for all structures located within the mapped SFHA. Consequently, the target users of the SDE tool are local officials with responsibility for community adherence to their NFIP-compliant floodplain management ordinance and State officials that provide guidance and technical assistance to communities on the implementation of the NFIP regulations. The SDE tool may also be used by other parties, such as contractors, lending agencies, and potential structure purchasers, to assess the overall percent structure damage and determine a very general estimate of repair costs.

The SDE results are not a substitute for a professional appraisal, an insurance adjustment report, or a detailed cost estimate for repairs prepared by a qualified contractor.

1.3 Organization of the SDE 2.2.0 Tool User Manual

This User Manual follows the basic guidelines below for using the SDE tool to make Substantial Damage or Substantial Improvement determinations:

Introduction (Section 1) – Explains the purpose of SDE and who uses it.

Installation (Section 2) – Provides guidance on the installation of the SDE tool on the host computer from either an installation CD provided by FEMA or via a download from the FEMA Web site.

Database Assignment Functions (Section 3) – Reviews the procedures for making and tracking data collection assignments.

Creating SDE Assessments (Section 4) – Guides the use of the tool and the data required to provide a valid Substantial Damage assessment.

Exporting SDE Data (Section 5) – Identifies which of the three export options is best for the intended use of the SDE data.

SDE Reports (Section 6) – Provides guidance on the available SDE 2.2.0 reports for the community files and structure owners.

SDE Field Workbook (follows User Manual) – Provides guidance on field preparations for SDE data collection and damage assessments for residential and non-residential structure elements.

Appendices (follows Field Workbook)

- Appendix A – locations and boundaries for the FEMA Regional Offices.
- Appendix B – forms and checklists to be used in performing SDE damage inspections.
- Appendix C – sample documents, including a letter of introduction for SDE inspections; notices of determination for Substantial Improvement, Substantial Damage, and No Substantial Damage; and guidelines for contact with property owners.
- Appendix D – guidance for preparing a contractor or community estimate of repairs.
- Appendix E – guidance for estimating the percent damage for residential structures.
- Appendix F – guidance for estimating the percent damage for non-residential structures.

Use of the SDE Tool

Additional guidance on the use of the SDE tool can be found on the FEMA Web site (www.fema.gov) for the following SDE documents:

- FEMA Substantial Damage Estimator Best Practices: http://www.fema.gov/library/viewRecord.do?id=5929
- FEMA Substantial Damage Estimator Tool Frequently Asked Questions (FAQs): http://www.fema.gov/frequently-asked-questions

SECTION 2 INSTALLATION

This section explains the system requirements to successfully install and run the SDE tool and provides instructions for computers running Microsoft operating systems Windows XP©, Windows Vista©, Windows 7©, and Windows 8©.

The SDE tool can be installed from either a FEMA SDE 2.2.0 CD or a zip file available on the FEMA Web site. Each installation version (CD or download) includes all the files required to run the SDE Version 2.2.0 Tool. The SDE Version 2.2.0 Tool was developed using Microsoft .NET 4.0 Framework and should not interfere with other existing applications already loaded on the computer. The SDE Version 2.2.0 installation file can be found at http://www.fema.gov/library/viewRecord.do?id=4166.

2.1 System Requirements

Users must have ***full local administrative rights*** on the host computer where the tool is to be installed or must have someone with administrative rights perform the installation. The requirement of administrative rights for installing the SDE tool is set by the agency, community, or other entity that is responsible for the security and maintenance of the user's computer. In addition, if the user does not have full-time administrative rights, the user must install the application in a folder where local write privileges are granted. This is usually the "My Documents" folder on the root directory of the host computer.

Table 2-1 provides the minimum system requirements to run the SDE tool successfully.

Table 2-1: Minimum System Requirements to Run the SDE 2.2.0 Tool

System Element	Recommendation
Processor	32-bit processor, with a 1 gigahertz (GHz) or faster processor
Framework	.NET ("dot NET") Framework 4.0 If .NET Framework 4.0 is not already installed, the SDE installation routine will attempt to install the Framework on the host computer during the SDE 2.2.0 installation.
Operating system	Windows XP with Service Pack 3 or later Windows Vista (32-bit or 64-bit), Windows 7, Windows 8
Memory	1 gigabyte (GB) minimum 2 GB or more recommended
Hard disk space	Approximately 300 megabytes (MB) of available hard-disk space If SDE is installed on a network drive, set up in standalone mode.
Display	Super VGA (1,024x768 pixels) or higher resolution video adapter and monitor
Companion tool	Adobe Reader Version XI or higher Other Adobe Reader versions or other programs may work to display the PDF files, but the recommended version of Adobe Reader should be used for the help links in the tool to work as intended.
Companion tool	Microsoft Office 2007 or later - or - Microsoft Office Access Database Engine 2007 If the user does not already have either of these software options installed, Microsoft Office Access Database Engine 2007 is included in the documentation folder within the directory where the SDE tool is installed. Locate the SDE2.2.0 directory, click on the Documentation folder, then click Microsoft_2007_AccessDatabaseEngine.exe to start the install process.

2.2 Installation Steps

Prior to installing SDE 2.2.0, export and save any existing SDE data from previous versions of the SDE Tool. Uninstall all previous versions of the SDE tool from the host computer using the Windows Add/Remove Programs function.

Installing using the FEMA SDE 2.2.0 CD

1. Insert the CD into the computer. Go to My Computer and select the CD drive.
2. Double-click on ***setup.exe*** as shown in Figure 2-1.

Installing using a zip file downloaded from the FEMA Web site

1. After opening the FEMA Web site (www.fema.gov), search on "SDE" or use the SDE Web page (http://www.fema.gov/library/viewRecord.do?id=4166) to locate the SDE tool download function.
2. Download and unzip the SDE folder. Installation steps vary depending on the host computer setup and the unzip utility installed on the computer.
3. In many cases, users can unzip the folder by right-clicking and selecting the option ***Extract All...*** from the list of options or by double-clicking the zip folder and selecting the option ***Extract all files*** from the list of choices displayed. Some users may have an unzip utility installed that activates automatically when they click on the folder.

Double-click on ***setup.exe*** (Figure 2-1) to install the SDE tool.

Figure 2-1: Setup.exe location

When the ***Welcome to the InstallShield Wizard for SDE-Substantial Damage Estimator*** window appears, click ***Next*** to continue (Figure 2-2).

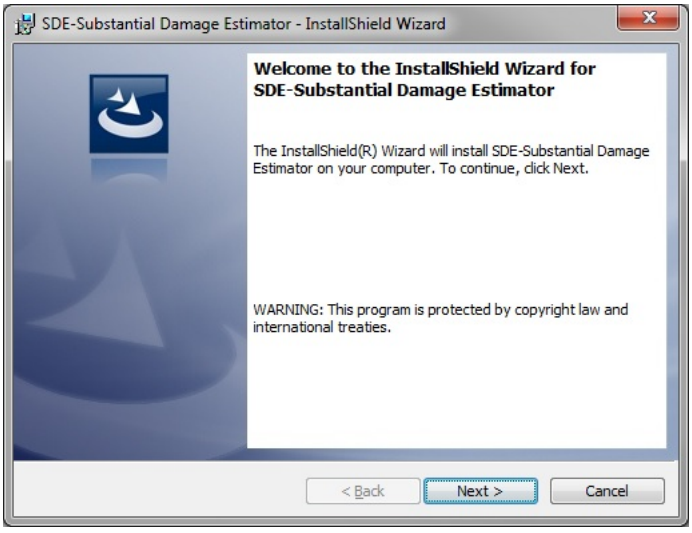

Figure 2-2: InstallShield Wizard Welcome

After the user accepts the License Agreement, they will see the ***Destination Folder*** window (Figure 2-3), which allows the user to proceed with the default location, or change the location of the installation. Click ***Next*** to continue.

USER NOTE: Windows Vista, Windows 7, and Windows 8 Users should replace the default installation path with C:\Users\<user name>\My Documents\Substantial Damage Estimator 2.2.0, where <user name> is your user name on the computer.

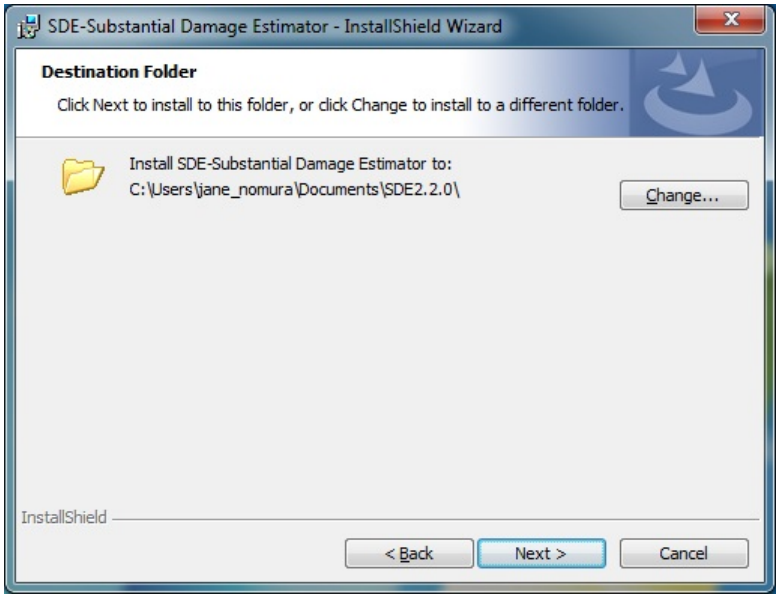

Figure 2-3: Selecting the destination folder

When the ***Ready to Install the Program*** window appears, review the current settings then click ***Install*** to continue (Figure 2-4).

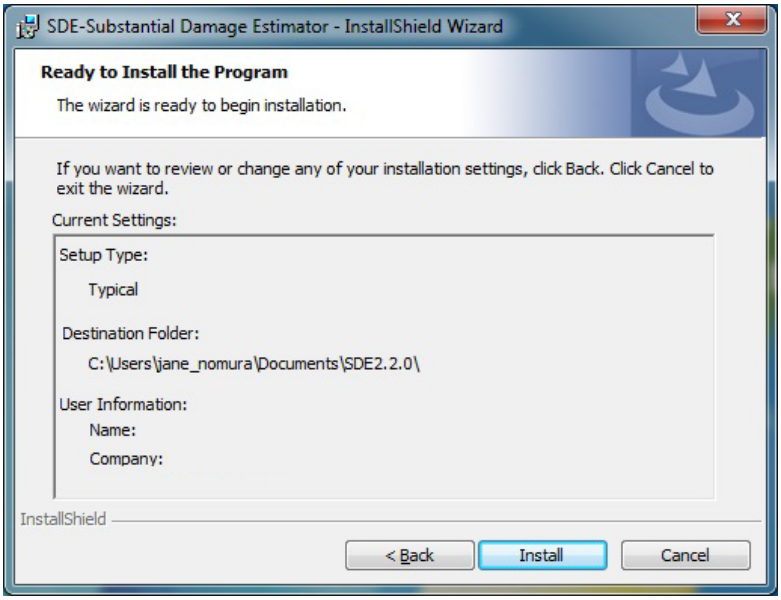

Figure 2-4: Confirming installation

Once the installation is complete, click ***Finish*** (Figure 2-5).

USER NOTE: A host computer can only have one installation of the SDE tool.

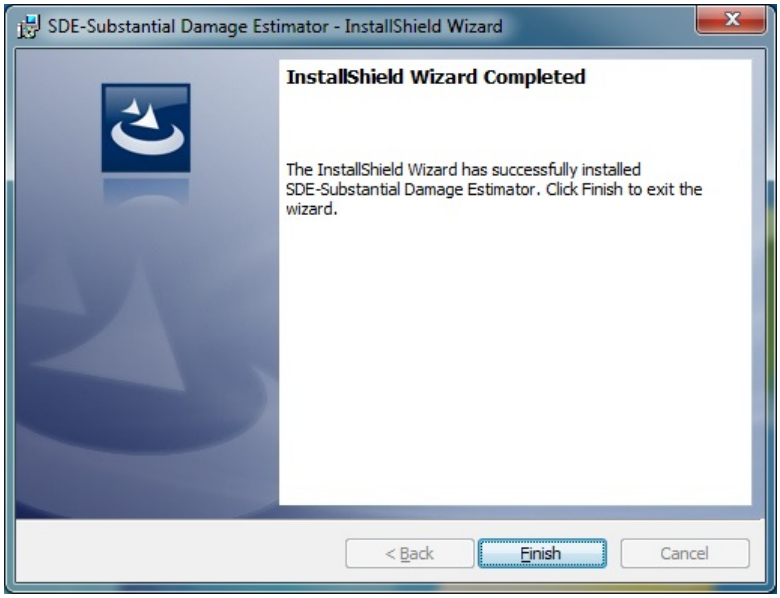

Figure 2-5: Completed installation screen

The installation process will place an SDE icon similar to the one in Figure 2-6 on the host computer desktop. Double-click the icon to run the SDE tool.

Figure 2-6: The SDE icon

2.3 Selection of the Database Type

The first time the tool is run on the host computer, the ***Database Information*** window (Figure 2-7) will appear, prompting the user to select the database type. The database type determines whether the user can make or obtain assignments for SDE field data collection.

Select ***Server*** if you are a supervisor and will be assigning properties to inspectors.

Select ***Client*** if you are an inspector and will be receiving property assignments.

Select ***Stand Alone*** if you will not be making or receiving assignments.

After selecting the database type, the user may enter a database name.

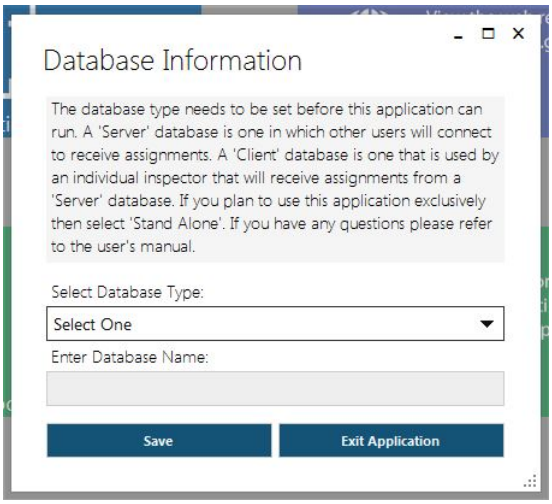

Figure 2-7: Selecting the database type during installation

The selection of the database type can only be made when opening the tool for the first time after installation. If a database type is not selected when the tool is first opened and the user needs to be able to make or obtain assignments, the user must export the SDE data previously entered (if any), uninstall the SDE tool, reinstall it, and then import the previous SDE data.

See Section 3 for additional information on client and server machines.

SECTION 3 DATABASE ASSIGNMENT FUNCTIONS

Similar to previous SDE Tool versions, with the SDE Version 2.2.0, supervisors can make inspection assignments based on inspector names and then send the assignments to inspectors in the field. This action is performed through the ***Database Functions*** menu on the ***Main Toolbar***. The first time the tool is run after installation, the user must select one of three options for the database type: ***Server***, ***Client***, or ***Stand Alone***. The ***Stand Alone*** option eliminates the assignment functionality. The ***Server*** and ***Client*** options lead the user to either the supervisor or inspector roles, respectively. If the ***Stand Alone*** option is selected prior to the decision to make assignments, the SDE data recorded up to that point will need to be exported as an SDE database and the SDE tool will need to be removed and then re-installed on the host computer so that the ***Client*** or ***Server*** database type can be selected.

3.1 Server/Supervisor Instructions

Set up the SDE tool in ***Server*** mode if the user will be creating/editing inspector information and assigning properties.

1. First, the supervisor sets the database location by clicking on the ***Database Functions*** menu from the ***Main Toolbar***.
2. Once the database location is selected, the tool will create a database file in the database location and will confirm the action. If successful, the supervisor will be able to begin creating inspectors. At a later time, the supervisor may choose to change the location of the database file through the ***Database Functions*** menu by selecting ***Set/Reset Server Database Location***.
3. Inspectors may be entered under the ***Assignments*** menu, through the ***Inspector Functions*** submenu. By selecting ***Add New Inspector***, the supervisor will be prompted to enter an ***Inspector Name***, ***Phone Number***, and ***Password***. Inspectors will have to provide the same name and password to log in and retrieve assignments. Inspector information may be updated through the ***Inspector Functions*** submenu at any time.
4. The supervisor may begin assigning properties for data collection after at least one inspector has been created. By selecting the ***New Assignments*** submenu under the ***Assignments*** menu, the supervisor can choose to make assignments from existing properties or new properties, or make “batch” assignments for multiple assignments of new or existing properties. The ***Existing*** and ***New Property Assignment*** functions allow the supervisor to make one assignment at a time, while the ***Batch Assignment*** function allows the supervisor to make multiple assignments to multiple inspectors.
5. Once assignments have been made, the supervisor may review them by selecting the ***Search Assignments*** function under the ***Assignments*** menu. This will display all assignments made in the database. Double clicking on an assignment on this screen brings the user to a screen displaying the assignment details, including the ***Assignment Status***, ***Inspector Name, Property Owner Name,*** and ***Address***. These fields can be edited.

3.2 Client/Inspector Instructions

Set up the SDE tool in Client mode if the user is an inspector.

1. To receive assignments, the user must first map to the database location by selecting ***Set/Reset Server Database Location*** under the ***Database Functions*** menu.
2. Once the database location has been successfully established, the inspector can synchronize with the database to retrieve assignments (this is the same subset of data created by the server/supervisor instance above) by using the ***Inspector Functions*** submenu under ***Assignments***. If the supervisor has created an inspector profile for the inspector and has made at least one assignment, the inspector may begin the synchronization.
3. Upon notification of successful synchronization, the inspector may then log in through the ***Log In*** function under the ***Inspector Functions*** submenu.
4. After logging in, the inspector must select the ***Synchronize Assignments*** function, under the ***Assignments*** menu. The tool will display a message informing the inspector of the success of this operation.
5. The ***Search Assignments*** function under the ***Assignments*** menu will display any assignments that the supervisor has given to the inspector. By double-clicking on an assignment, the inspector can view the assignment details and can edit them as appropriate. The inspector may then select either the ***Save and Close*** button to exit back to the ***Main Menu*** or the ***Open Current Assessment*** button to begin entering the assessment data on the assigned property.

Although the SDE assignment function provides users in the field with the ability to actively receive and complete assignments provided by the supervisor, the functionality is one way. The inspector cannot transmit the assessment data back to the supervisor through the network database. The ***Export SDE Data*** function, described in Section 5, may be used to transfer completed assessments from the inspector's computer to the supervisor's computer.

SECTION 4 CREATING SDE ASSESSMENTS

Users can create assessments using three methods: (1) by importing property data and adding assessment data; (2) by importing existing assessments from another SDE database; or (3) by creating properties and assessments in the tool. Prior to developing any records or assessments, users should familiarize themselves with the use of the tool.

Note that there is a difference between "records" and "assessments" (see text box at right).

Records refer to property data entered into the tool before adding the data collected in the field. A record is therefore a partial assessment.

Assessments include one or more records for a single structure and include data collected in the field. The term "assessment" is used to describe a complete entry and can be used for a Substantial Damage determination.

User Manual Formatting Explanation: To allow readers to easily differentiate between the various elements of the tool, terms that indicate elements of the screen captures are formatted as follows:

- **Bold Lucinda Sans font** is used to indicate which of the seven standard SDE 2.2.0 menu tabs, as shown in Figure 4-1, should be selected (e.g., Address, Structure/Damage/NFIP Info, Cost, etc.).
- ***Italic Lucinda Sans font*** is used to indicate SDE tool functions that can be clicked (e.g., "Next," "OK," "Submit"), menus, and data fields.

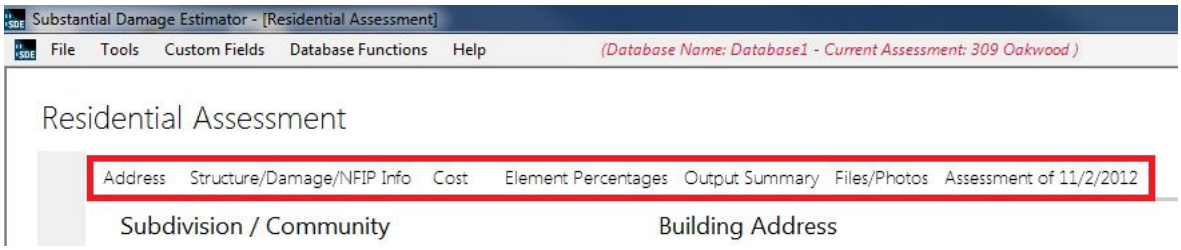

Figure 4-1: SDE Version 2.2.0 Tool menu tabs

4.1 Main Menu Options

Once the SDE tool is installed and the database type selected, the tool will open with the ***Main Menu*** as shown in Figure 4-2.

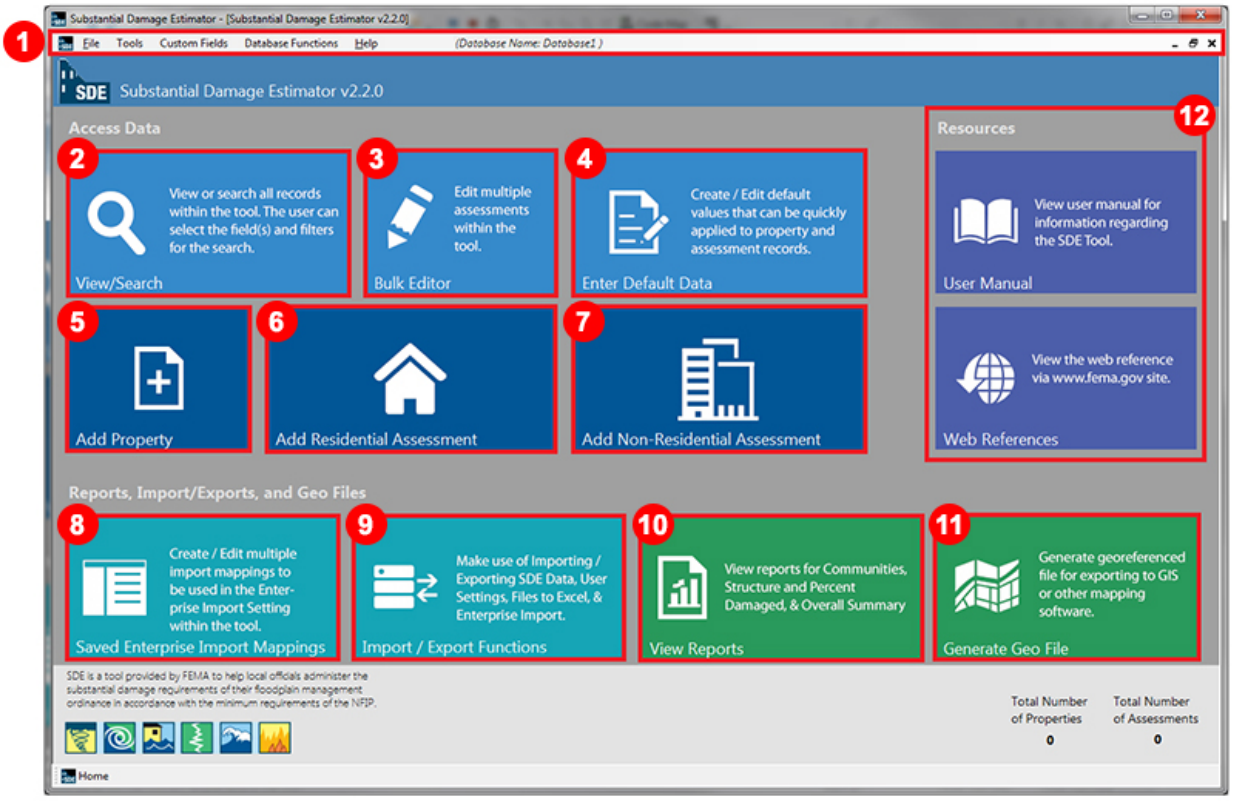

Figure 4-2: Main Menu for SDE Version 2.2.0 Tool

Figure 4-2 shows the following ***Main Menu*** navigation options numbered according to the following list:

1. **Main Toolbar** – This toolbar can be accessed from any screen within the SDE tool, providing the user with access to both basic and specific functions. Many functions in the ***Main Toolbar*** can also be accessed from the ***Main Menu***.

   - ***File***
     - Create a new residential or non-residential assessment
     - Access and open recent assessments
     - Save the current assessment
     - Access the ***Main Menu*** screen
     - Exit the tool
   - ***Tools***
     - Turn the latitude and longitude validation function on or off

- Import or export completed records or assessments
- Print the SDE ***Summary Report*** (1 page) or the ***Detailed Report*** (5 pages) for the current assessment
- Import or export latitude and longitude coordinate data
- Edit Photo (see section 4.2)
- Spell Checker for Current Record (see section 4.3)
- SDE Notes (see section 4.4)
- Import / Export User Settings (see section 4.8.4)
- User Preferences (see section 4.5)

➢ ***Custom Fields***

- Add, edit, or delete custom fields

➢ ***Database Functions***

- Update the database name
- Perform an enterprise import of non-SDE data
- Add a property to the database
- Search and Replace (see Section 4.6)
- Delete all SDE data (see Section 4.7)

➢ ***Assignments***

- Make or receive assignments, depending on whether the user has selected a "Client," "Server," or "Stand-Alone" database type
- Assignments are discussed in more detail in Section 3

Assignments

Whether the user will make or receive assignments dictates the database type selected and must be decided when the tool is first opened after installation (see Section 3 for more information on the use of assignments).

➢ ***Help***

- Access the online SDE 2.2.0 User Manual

2 **View/Search** – This function allows the user to view or search all records within the tool based on selected filters for the search. Users can also open a record or assessment to edit or add data.

3 **Bulk Editor** – This function allows the user to edit and save multiple assessments within the tool based on selected data fields and filters. For more information, see Section 4.12.2.

4 **Enter Default Data** – This function allows the user to create or edit default values that can be quickly applied to property and assessment records. See Section 4.9 for information on using the default data function.

5 **Add Property** – This function allows the user to create a new property.

6 **Add Residential Assessment** – This function allows the user to add a residential assessment to an existing property.

7 **Add Non-Residential Assessment** – This function allows the user to add a non-residential assessment to an existing property.

8. **Saved Enterprise Import Mappings** – This function allows the user to create or edit multiple import mappings to be used in the Enterprise Import Setting within the tool. See Section 4.10 for information on using the mapping function.

9. **Import/Export Functions** – This function allows the user to import and export SDE data, import and export user settings, perform an enterprise import, and export files to Excel. For more information on importing and exporting, see Sections 4.8 (importing data) and 5.0 (exporting data).

10. **View Reports** – This function allows the user to generate fixed, pre-defined *Community, Structure & Percent Damage*, or *Summary Reports* for assessments in the SDE database. For more information on reports, see Section 6.

11. **Generate Geo File** – This function generates a geo referenced file for export to geographic or spatial mapping programs. The file is a compressed Keyhole Markup Language (KML) file. For more information, see Section 5.4.

12. **Resources (User Manual & Web References)** – Help documentation references the *SDE 2.2.0 User Manual* and applicable online references (*Web References*) to assist the user in the assessment process and use of the SDE tool.

4.2 Edit Photo

This function in the SDE 2.2.0 Tool allows users to perform simple editing operations for photos (Figure 4-3). This feature can be accessed from the ***Main Toolbar*** under ***Tools*** or from the assessment **Files & Photos** tab by selecting the ***Edit Selected Photo*** button.

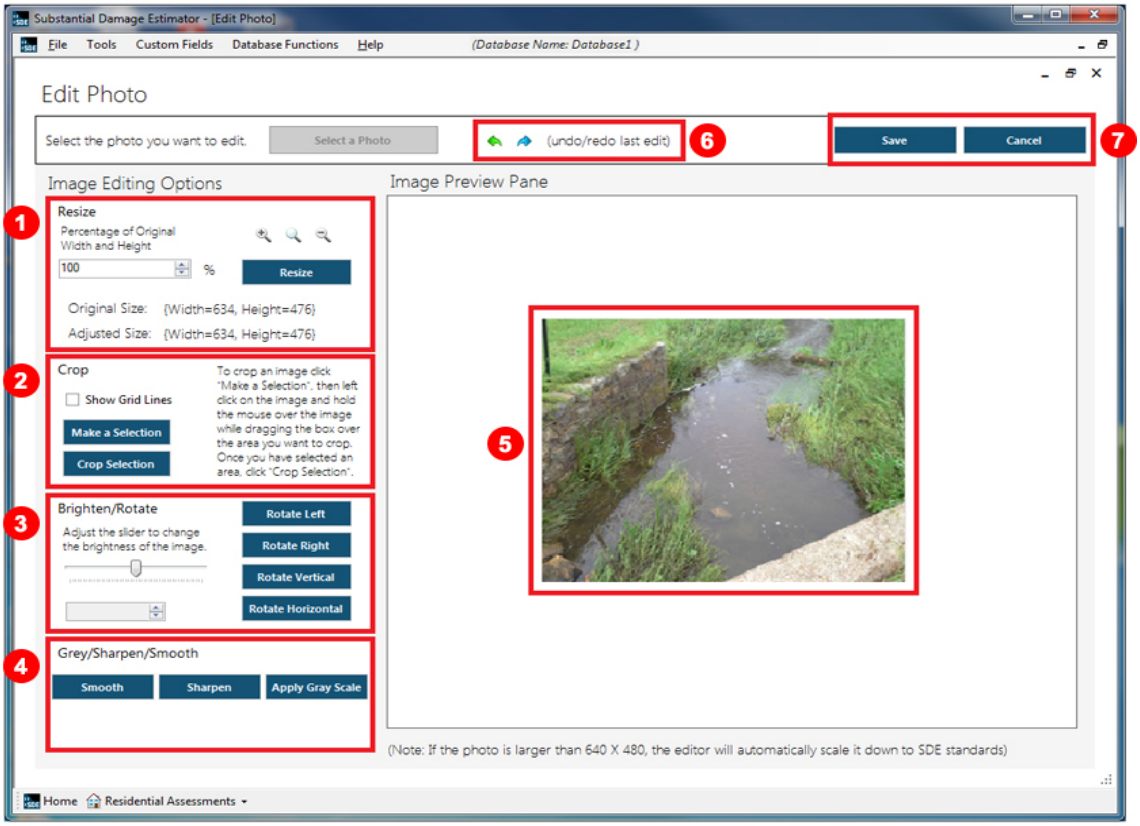

Figure 4-3: Window when editing photos

Figure 4-3 shows the following ***Edit Photo o***ptions numbered according to the following list:

1. **Resize** – This section will allow users to resize the image to a particular size. The resize options are percentage based. As users resize the image, they will be able to preview the resulting image in the ***Image Preview Pane.***

2. **Crop** – This section will allow users to crop a particular section of the image using the mouse. Select the option ***Make a Selection*** to activate the crop tool, then left click on the image and while holding the left click down drag the mouse across the image to size the area you want to crop. Once a user has selected the option to crop release the left click and select the option ***Crop Selection***. Once they crop the image, they'll be able to preview the resulting image in the ***Image Preview Pane***.

3. **Brighten / Rotate** – This section will allow users to adjust the brightness of an image. Simply slide the scale left or right to either darken or lighten the image. If a user needs to rotate an image from portrait to landscape or vice versa they can select any of the 4 preconfigured options available for them.

4. **Grey / Sharpen / Smooth** – This section will allow users to adjust the contrast scales. Using any of these options, they'll be able to convert the image from color to black and white or even sharpen or smooth any images that may be too ruff or too soft.
5. **Image Preview Pane** – This section is the viewing area where the users will be able to see any of the edits that might be made to the current image.
6. **Undo / Redo** – This section will allow users to make adjustments to changes that they might want to remove or re-apply. The tool will track basic adjusts that are being made and will use these options to give users the ability to either ***Undo*** or ***Redo***.
7. **Save / Cancel** – These two options will allow users to either save or cancel the changes that are made to any image that is currently selected.

4.3 Spell Checker

This function in the SDE 2.2.0 Tool allows users to perform a spell check on text fields for any opened Property, Assessment, or Default Data screen that is currently opened. Please note that it only works for these screens. It will not perform a spell check on the ***Export to Excel*** or ***Bulk Editor*** screens. To run the spell checker, select ***Tools*** from the ***Main Menu*** bar then select ***Run Spell Check for Current Record*** (Figures 4-4 and 4-5). By default, the ***Spell Checker*** will automatically run when a user closes a screen that is able to perform a spell check. This default setting however can be changed by the user (see Section 4.5).

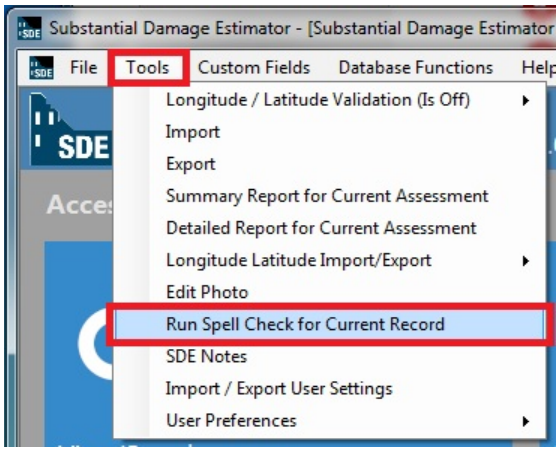

Figure 4-4: Open spell checker

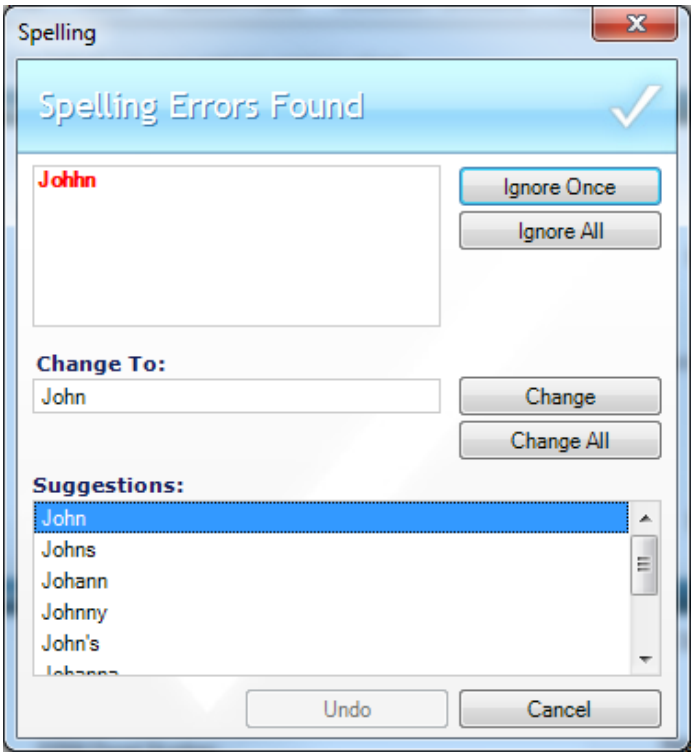

Figure 4-5: Window for spell checker

4.4 SDE Notes

This function in the SDE 2.2.0 Tool allows users to create, edit and delete reusable notes. To open the ***SDE Notes*** section, select ***Tools*** from the ***Main Menu*** bar then select ***SDE Notes*** (Figure 4-6).

The ***SDE Notes*** can be accessed at any time within the ***SDE Tool***. Once a user has selected the ***SDE Notes*** option from the ***Tools*** menu, they will see the window for accessing their ***SDE Notes*** (Figure 4-7).

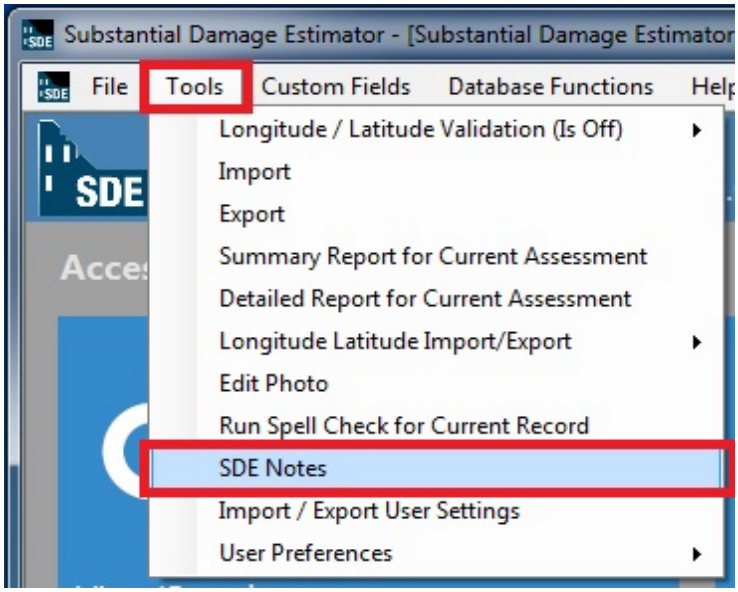

Figure 4-6: Opening SDE Notes

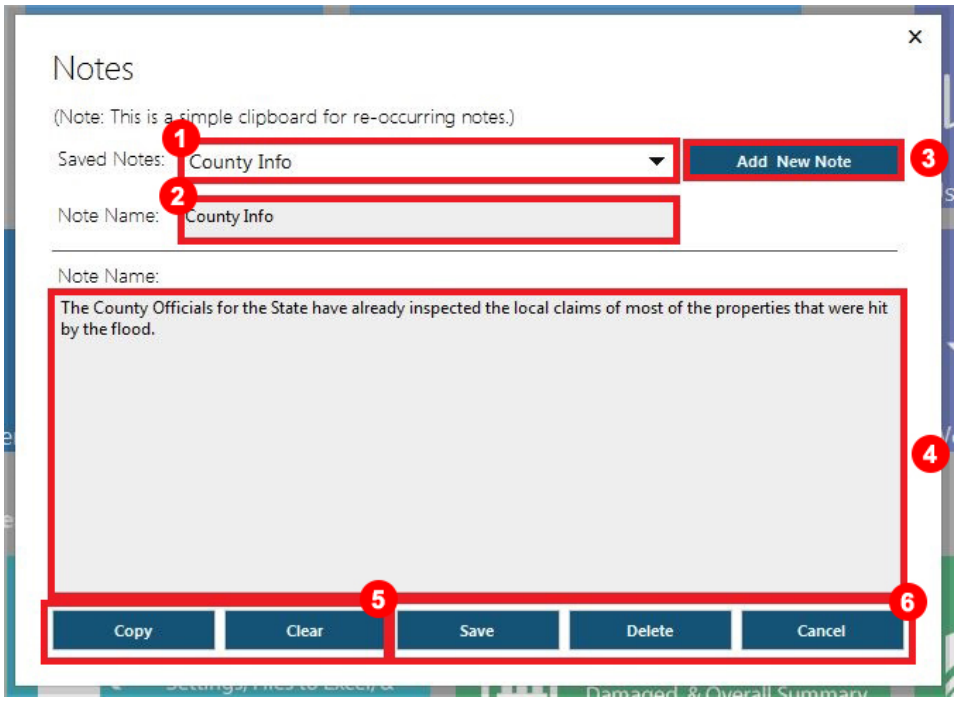

Figure 4-7: Window for SDE Notes

Figure 4-7 shows the following ***SDE Notes o***ptions numbered according to the following list:

1. **Saved Notes** – This section will allow users to select any SDE Notes that are already saved in the tool. When the user selects a saved note, the name of that note will populate the text field for the note name (number 3) and the text of that note will populate the text field for the note (number 4).
2. **Create New Note** – This section will allow users to create a new SDE Note. When the user selects this option, they will be able to enter a new name for note that will populate the text field for the note name (number 3) and enter new text that will populate the text field for the note (number 4).
3. **Note Name** – This section will allow users to make any adjustment to the name of either a selected note or a newly created note.
4. **Note Text** – This section will allow users to make any adjustment to the text value of either a selected note or a newly created note.
5. **Copy / Clear Note Values** – This section will allow users to copy the contents of the note and paste them to any text field within the ***SDE Tool***.
   - To copy the user simply selects the ***Copy*** button. This will copy the entire text value to the pc clipboard.
   - To clear the values the user simply selects the ***Clear*** button. This will remove the note name and note text value.
6. **Confirming Note Options** – These options will allow users to save, delete or cancel the changes that are made to any note that is currently selected.

   Please note that the user will have the ability to import (refer to section 4.8.4) and export (refer to section 5.3) their notes for reuse it they chose to do so.

4.5 User Preferences

This function in the SDE 2.2.0 Tool allows users to set their own preferences to overwrite the following:

- Usage settings for the ***Auto Check Default Values*** function. By default, the SDE Tool does not automatically assume that the users will want to use the ***Default Values*** when creating a new Property or Assessment every time. By setting this selection to ***Checked*** the user now has the ability to have the ***Default Values*** brought in with the creation of a new Property or Assessment record without having to select the option ***Use Default Values*** every time (see Section 4.11.2).
- Usage settings for the ***Auto Spell Check***. By default, the ***Spell Checker*** will automatically run when a user closes a screen that is able to perform a spell check. By setting this selection to ***On*** or ***Off*** the user now has the ability to dictate when a spell check will take place. Please note that even if a user turns this feature off they can still preform a spell check by manually selecting it from the menu (refer to section 4.3 of manual).

To adjust either setting, just select ***Tools*** from the ***Main Menu*** bar then select ***User Preferences*** (Figure 4-8).

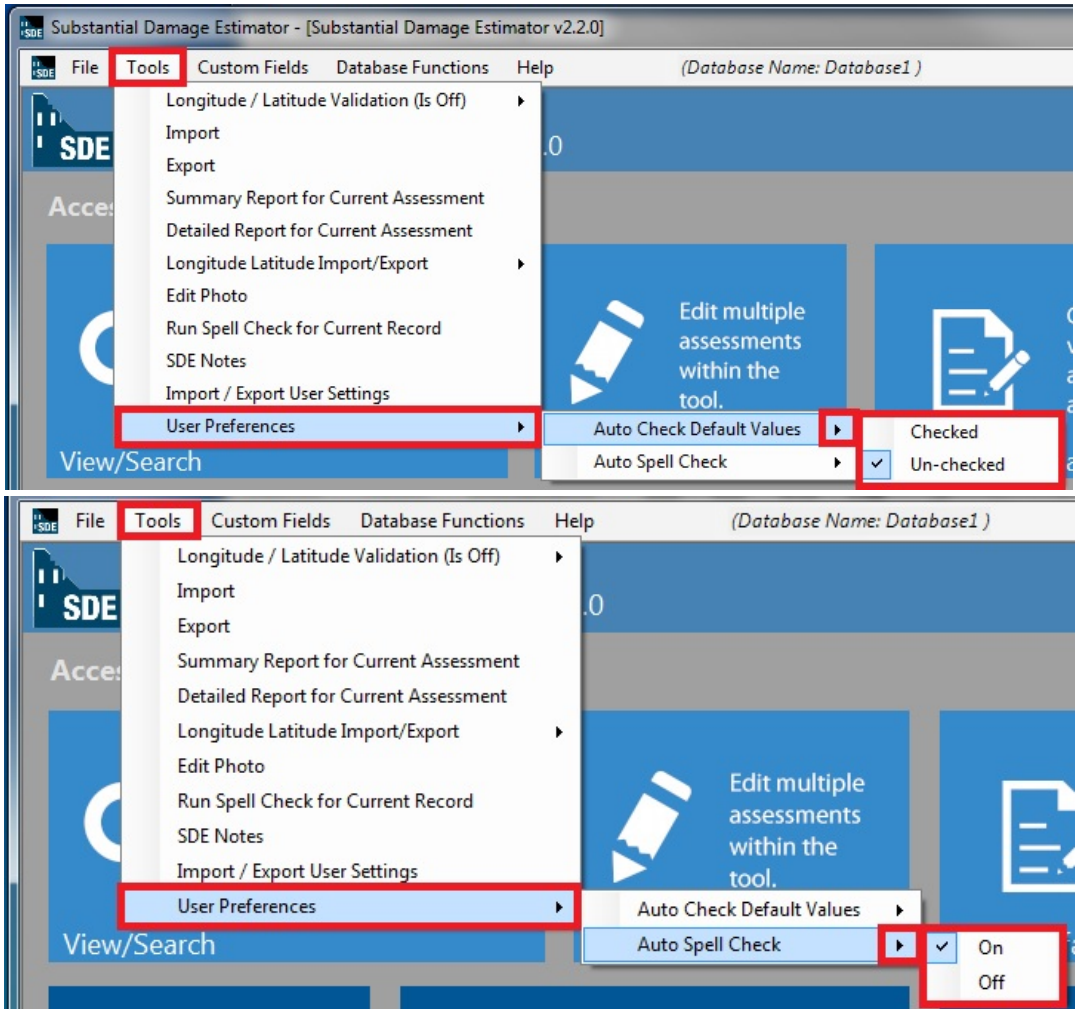

Figure 4-8: Options for User Preferences

4.6 Search and Replace

This function in the SDE 2.2.0 Tool allows users to perform simple search and replace on text fields for any record. Please note that it only works for the text field that you specify. To run the search and replace, just select ***Database Functions*** from the ***Main Menu*** bar then select ***Search and Replace*** (Figure 4-9).

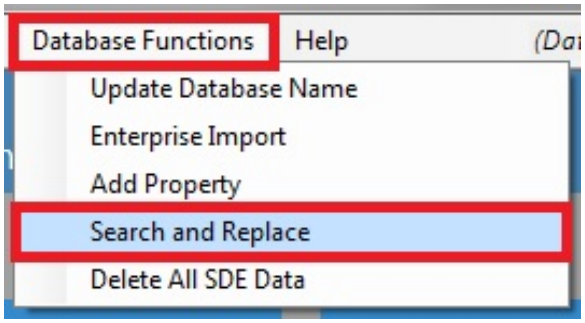

Figure 4-9: Opening Search and Replace

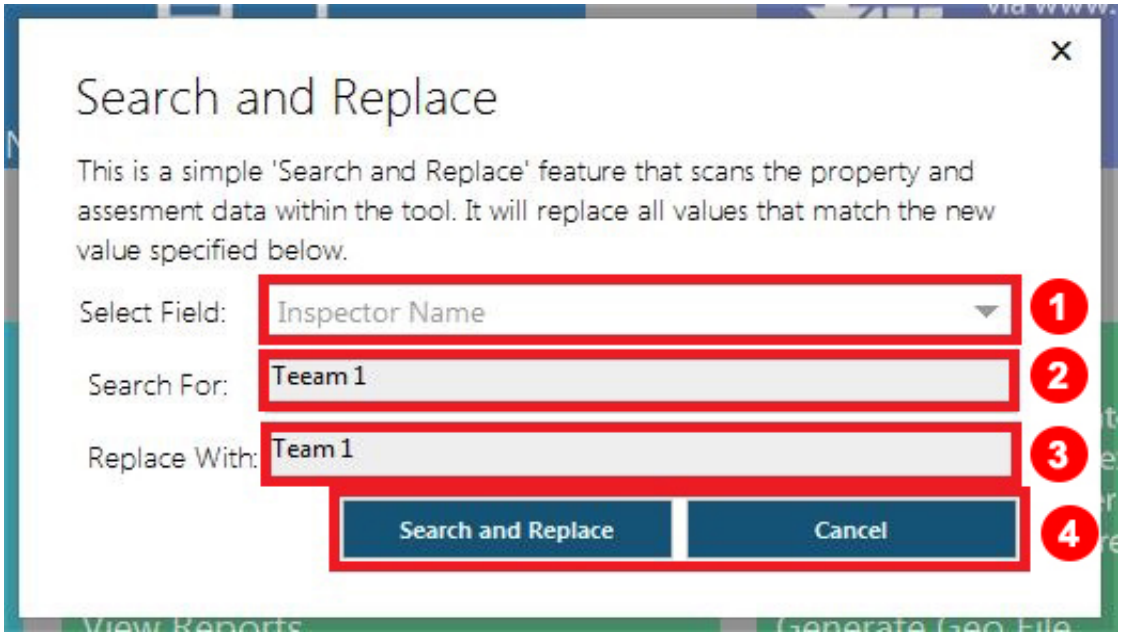

Figure 4-10: Window for Search and Replace

Figure 4-10 shows the following ***Search and Replace o***ptions numbered according to the following list:

1. **Eligible Field Values** – This section will allow users to select an eligible field to perform a search and replace. When the user selects a field from the dropdown list, the text value from the search text field (number 2) will be replaced by the text value from that of the replace text field for the note (number 3).
2. **Search Text** – This section will allow users to enter the text value that they want to perform a search for based on the selected field from the dropdown list (number 1).
3. **Replace Text** – This section will allow users to enter the text value that they want to replace based on the selected field from the dropdown list (number 1). It will replace whatever text value the user has entered into the search text field (number 2).
4. **Options** – These options will allow the users to perform the search and replace function or cancel the ***Search and Replace*** window.

4.7 Deleting All Existing SDE Data

The delete records function for the SDE 2.2.0 Tool allows users to clear all records and assessments, clear all default values, clear all enterprise import settings, and clear all SDE Notes.

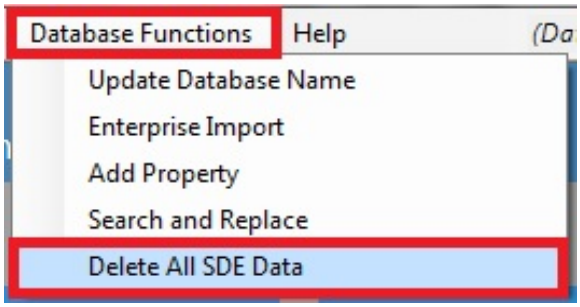

Figure 4-11 : Delete All SDE Data Menu Option

Users can select to delete all SDE data prior to entering data for a new inspection day, inspection team, community, county or new damage event. The user can remove all data from an active database using the ***Delete All SDE Data*** function on the ***Database Functions Menu*** of the ***Main Menu*** (Figure 4-11). Once selected a new window with the delete options will appear (Figure 4-12). Prior to completing the delete action, the ***Warning: Deleting All Records*** window shown in Figure 4-13 will appear to prevent inadvertent deletion of data.

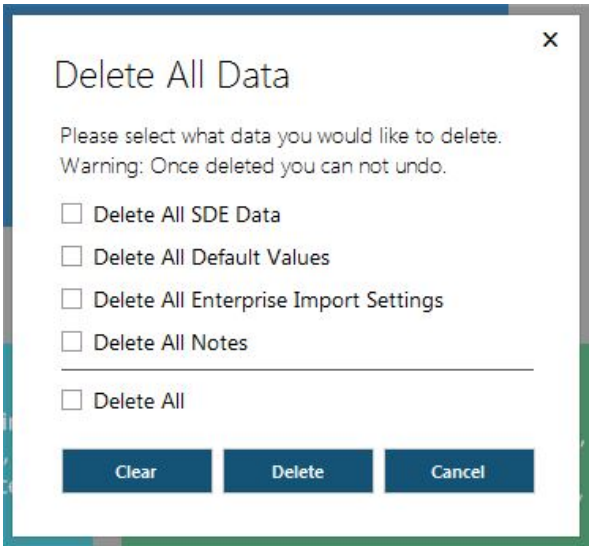

Figure 4-12: Delete Records Selection Window

When the ***Delete All SDE Data*** function is selected, all data in the active SDE database will be permanently deleted and cannot be recovered. Consequently, users are strongly encouraged to save existing data by exporting any records and assessments that may be needed in the future prior to selecting "Yes" in this window.

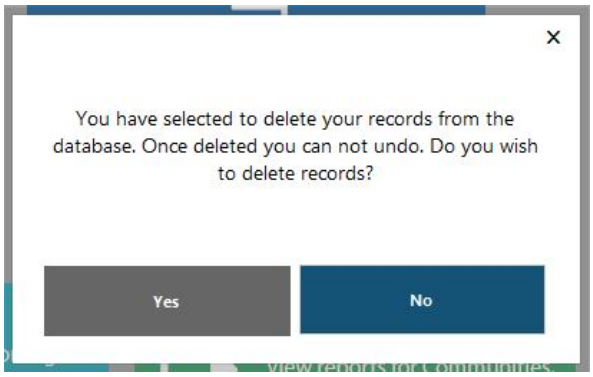

Figure 4-13: Deleting Records Warning Window

4.8 Importing Data

Three options are available for adding data, assessments, and user settings to the tool:

- Importing SDE data from another SDE database

- Importing non-SDE property data, such as tax information, property lists, or appraisal data, using the ***Enterprise Import*** function from community databases or Excel files
- Importing latitude and longitude coordinate data
- Importing predefined user settings such as ***Default Values***, ***Enterprise Import Settings***, or ***SDE Notes***.

The type of import to use depends on the types of data and databases that are available. The import of data from an SDE database is fairly straightforward. Data from a non-SDE database or an Excel file must be imported using the ***Enterprise Import*** function built into the tool.

Please note that the user settings import process can only bring in exported SDE generated settings. This feature was designed to give users mobility in their user settings once created, allowing them to export and move to different installations.

4.8.1 Importing SDE Data

The purpose of the ***Import SDE Data*** and ***Export SDE Data*** functions is to allow data to be imported and exported from multiple computers to create a large inventory of SDE records on a single computer. To import data, the user must click on the ***Import/Export Functions*** button on the SDE ***Main Menu***, then click the ***Import SDE Data*** button (Figure 4-14).

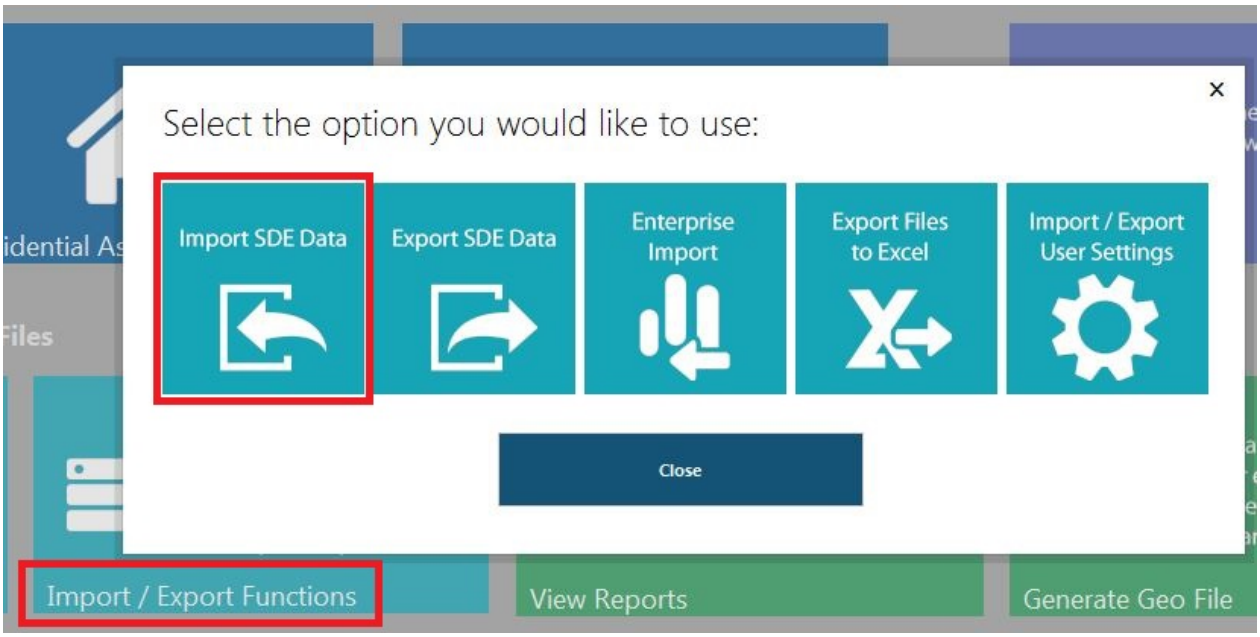

Figure 4-14: Import SDE Data function

The ***Import SDE Data*** screen will appear. The user must click on the ***Select Directory*** button to open the ***Browse For Folder*** window to select a directory for the location of the files (Figure 4-15). Data that have been exported using the SDE tool will be located in a folder titled "SDE Assessments" (usually located on the root directory of the computer). This folder contains subfolders with the individual properties and assessments. The user should select the root folder "SDE Assessments" to import the data from all the subfolders.

Once a folder location is selected and the user clicks ***OK***, the assessments will be listed as rows in the table shown on the ***Import SDE Data*** screen (Figure 4-16). The user can select the assessments to be imported by either clicking ***Check All*** or checking the box next to each desired property or assessment. Users also have the option of checking ***Overwrite Property*** or ***Overwrite Assessment*** to automatically overwrite any duplicate properties or assessments during the import process.

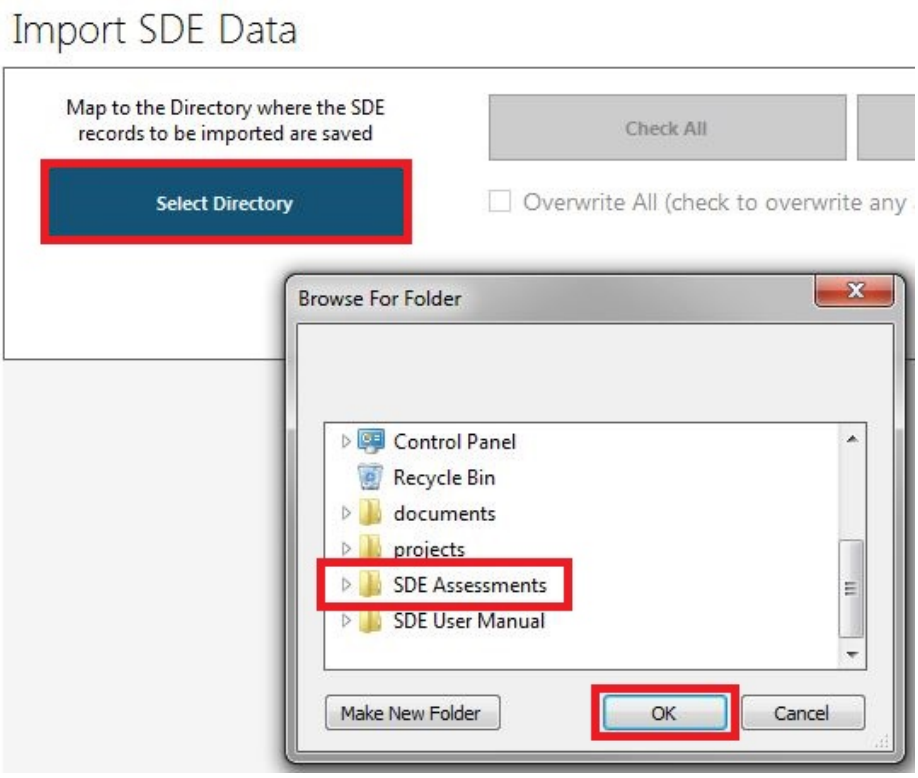

Figure 4-15: SDE Import directory

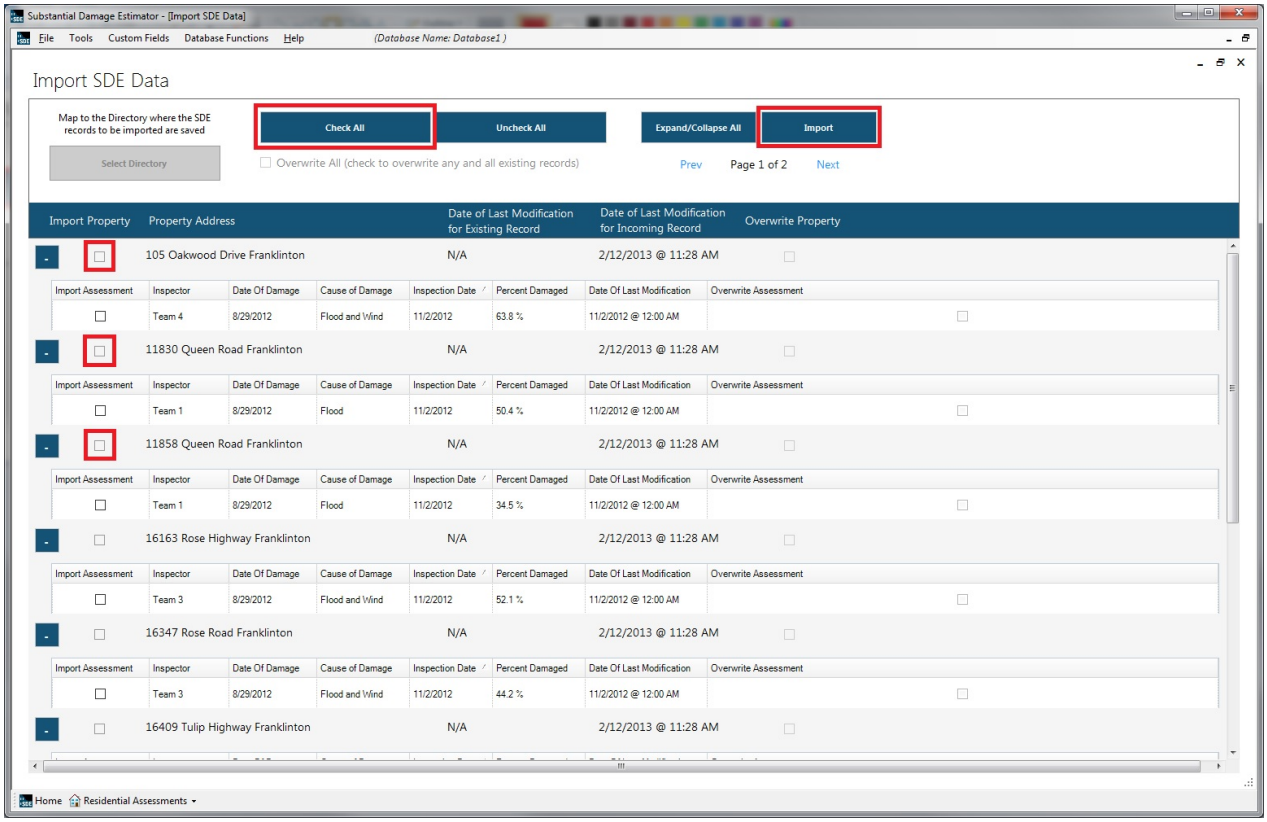

Figure 4-16: Import of individual or all SDE assessment data

Once the import is complete, a window will appear indicating that the files have been successfully imported (Figure 4-17). After importing separate databases from the same inventory, the user should review the data and delete any duplicate records or assessments.

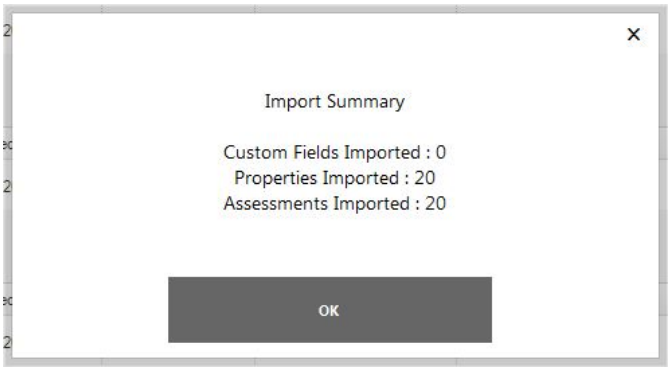

Figure 4-17: Import summary and confirmation

4.8.2 Enterprise Import

The ***Enterprise Import*** function is used to import multiple properties at one time from non-SDE databases. This can be a very useful function for a large number of assessments, and any number of the available fields may be selected for import.

USER NOTE: Only property-level data can be imported using the ***Enterprise Import*** function. Assessment data cannot be imported from non-SDE databases.

By creating an XLS, CSV, XML, or MDB file outside of the tool, the user may list fields for multiple properties. The process is easier if column headers describing the fields are inserted into the file. If users have access to pre-existing databases of property data, these databases can often be easily adapted for import to the SDE tool. The user may choose to import any or all of the fields identified in Table 4-1. An electronic copy of the database to be imported into the SDE tool must be copied to the host computer prior to importing.

Table 4-1: SDE Fields for Enterprise Import

1. Owner's First and Last Names	16. Community NFIP ID
2. Lot Number	17. FIRM Panel
3. Parcel Number	18. FIRM Zone
4. Address Lines 1 and 2	19. BFE
5. Street Suffix	20. Suffix
6. Cardinal (N, E, S, W) or quadrant directions (NW, SW, NE, SE) either preceding or following the street name	21. Residential or Non-Residential (structure type)
7. Apartment, Unit, etc.	22. Phone Number
8. City	23. Date of FIRM Panel
9. State	24. Regulatory Floodway (Yes, No, or Possible)
10. County	25. Subdivision
11. Zip (code)	26. First Floor Elevation
12. Year of Construction	27. Datum
13. Longitude	28. Total Square Footage
14. Latitude	29. Custom Fields (maximum of 3 fields)
15. Community Name	

NFIP = National Flood Insurance Program
FIRM = Flood Insurance Rate Map
BFE = base flood elevation

A maximum of three custom fields may also be imported using this function. Before entering the ***Enterprise Import*** screen, the user must create the custom fields in the tool (see Section 4.11.2.1) . If they have not been created, the custom fields will not be imported. Once the user has created the file to import and has populated it with the desired fields, the ***Enterprise Import*** function may be run.

By selecting the ***Get File*** button, the user will be prompted to browse and select the appropriate import file from the host computer directories. After the file has been selected a button will appear allowing the user to proceed with file formatting. The tool will then ask the user specific questions regarding the type of file selected for import. For example, if an XLS file is used, the tool will ask the user whether the file contains column headers. Once these and other questions have been answered, a button will appear allowing the user to advance to the mapping stage of the function.

The user will then see a function that allows the user to select a ***Saved Enterprise Import Column Mappings.*** If a preconfigured mapping has been created they will be able to apply this by selecting it from the dropdown list. If no preconfigured mappings exist then this option will be disabled (For more information regarding the ***Saved Enterprise Import Column Mappings*** refer to section 4.10).

If a ***Saved Enterprise Import Column Mappings*** is not selected the user is then required to map (or identify the relationship) between the data fields in the import file to the corresponding data fields in the SDE tool. Each field within the import file that will be imported must be tied to a SDE data field via the drop-down menus for each field on the ***Enterprise Import*** screen.

USER NOTE: Be careful when using or creating an Excel file and importing it into the SDE tool. Improperly named headers (e.g., two columns that have the same header) or incorrect mapping will cause errors in the import process and the assessments.

Also, if the ***Structure Type*** information (residential or non-residential) is imported, the user must specify the naming convention for residential versus non-residential structures in the ***Residential or Non-Residential*** field of the ***Enterprise Import*** screen. The labels for residential and non-residential must be consistent throughout the source file. If labels are different for different properties in the source document and do not match the data string(s) entered into the SDE tool, the ***Enterprise Import*** function will not be able to assign a structure type for each property or assessment imported.

If a field within the file requires parsing (i.e., separation of data from one field in the import file into two fields in SDE) the method in which it should be parsed must also be chosen from a drop-down menu. For example, if the import file contains the full name for the owner in one field, the tool requires the user to identify the parsing as "[First] [Last]" in either the ***Owner's First Name*** or ***Owner's Last Name*** fields, so that the data may be imported properly into SDE.

Once all the desired fields have been mapped and, if applicable, parsed, the user should select the ***Import Data*** button to finalize the import. The tool will display a message indicating the success of the import, after which the SDE tool will prompt the user to save the current mappings if not already saved within the tool for future use then return to the ***Main Menu***. After importing data from separate databases into the SDE tool, the user should review the data within the SDE tool and delete duplicate records if they exist.

Additional guidance on pre-populating the SDE database and the use of available community data can be found in the *FEMA SDE Best Practices* document (May 2012) at http://www.fema.gov/library/viewRecord.do?id=5929.

4.8.3 Importing Latitude and Longitude Coordinate Data

Latitude and longitude coordinates can be imported into the tool using the ***Import Spreadsheet*** function in the ***Longitude Latitude Import/Export*** submenu under the ***Tools*** menu. This function will direct users to a screen where they can select ***Map to Excel Spreadsheet*** to choose the spreadsheet with the data to be imported. This will show all of the records in the spreadsheet and allow users to check each property they wish to import. After selecting the desired properties, the user should select the ***Import Data*** button to execute the command and import the desired data into the tool.

Guidance for Obtaining GPS Coordinate Data

There are no specific requirements for the level of accuracy of global positioning system (GPS) coordinates obtained during SDE inspections. The general guidance is that the coordinate data

must be accurate enough so that someone other than the original SDE inspector can locate the structure in the field or on a GIS map.

The recommended level of accuracy for GPS coordinate data is four decimal places and 10 feet (or 3 meters) horizontally, with a 95 percent level of accuracy. This will facilitate importing and plotting the data on local maps, shareware maps, or fee-based maps available from commercial sources. This level of accuracy is necessary so that the recorded GPS data are valid for only one structure. Less accurate coordinate data may encompass larger areas that include multiple lots and structures even though the data was obtained on an individual lot.

To achieve the above-mentioned level of accuracy, the GPS data should be collected using a Wide Area Augmentation System (WAAS)-enabled, high-sensitivity GPS unit. A WAAS corrects for GPS signal errors caused by ionospheric disturbances, timing, and satellite orbit errors.

Wide Area Augmentation System (WAAS)

Motor vehicle GPS units, and some hand-held navigation systems, smart phones, or digital cameras with a GPS receiver, may not be WAAS-enabled. Local officials and inspectors should not attempt to use such GPS units to record lot-specific coordinate data. The GPS data obtained from non-WAAS units have been found to be limited, inconsistent, and sometimes unreliable, resulting in GPS coordinate data varying from one lot to several thousand feet away from the actual data collection point.

The following procedures are recommended to calibrate the GPS unit and verify the accuracy of the data for WAAS and other GPS units.

To verify the calibration of the GPS units:

1. All inspectors should gather in one location each morning to obtain and verify GPS coordinates for that location on each GPS unit.
2. GPS readings should agree within four decimal points for the same location.
3. GPS units that do not match the coordinates obtained by other GPS units during the daily test should be recalibrated.

A potential reception issue can occur when capturing GPS coordinate data in an area of dense foliage or where a thick tree canopy exists near a structure. The foliage may limit the reception of the GPS unit and impair the accuracy of the GPS data. When dense foliage or a thick tree canopy is present, inspectors should either move to a part of the property with a clear line-of-sight to the sky to obtain the GPS data or obtain multiple GPS readings at various locations around the structure (possibly at the four corners) to verify that the readings are consistent.

4.8.4 Import User Settings

This function in the SDE 2.2.0 Tool allows users to import or export (refer to section 5.3) their user settings.

In order for users to import their settings they will need to click the ***Import/Export Functions*** option on the ***Main Menu***, then click the ***Import/Export User Settings*** button (Figure 4-18). Afterwards the ***Import/Export User Settings*** window will appear, prompting the user to either select to import or export (Figure 4-19). If the user

selects to import then they will need to select the parent directory of the import file(s) to be imported (Figure 4-20), similar process to importing SDE Assessment Data.

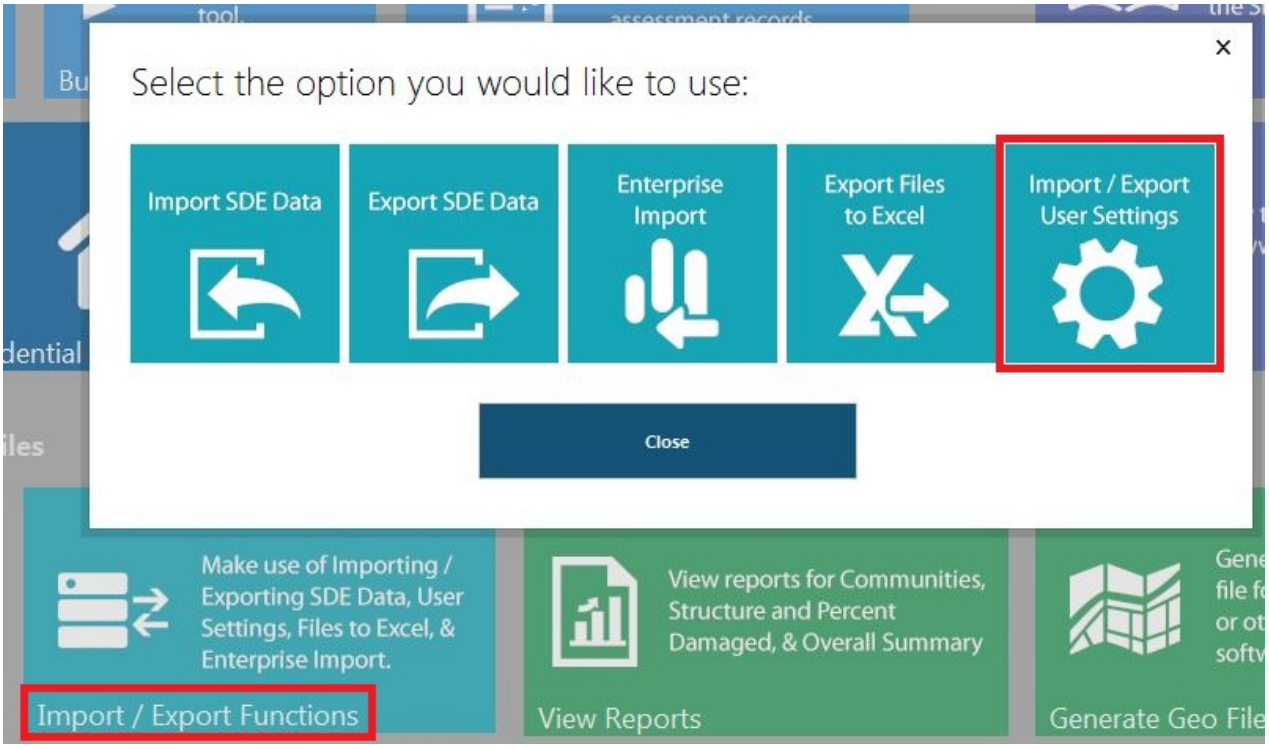

Figure 4-18: Import / Export User Settings

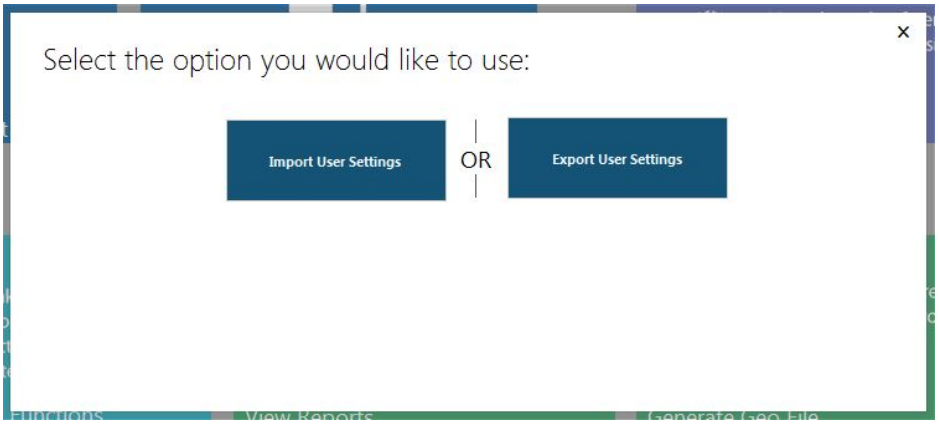

Figure 4-19: Import / Export User Settings Window

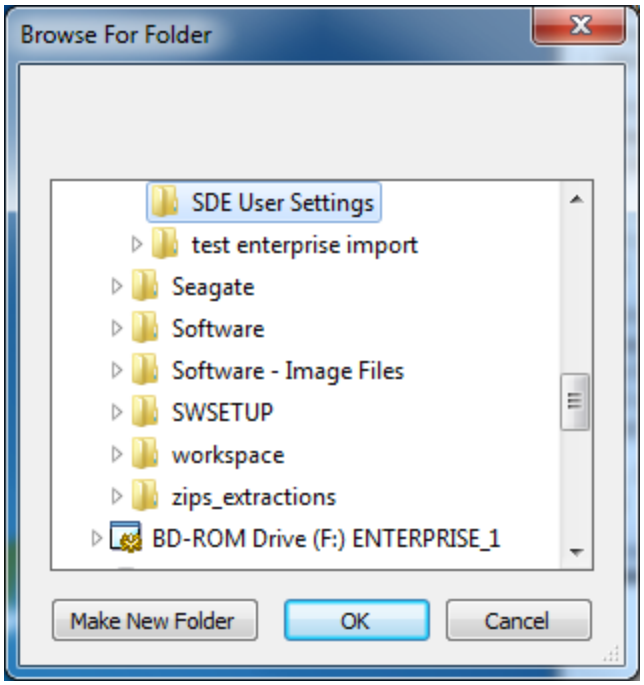

Figure 4-20: Browse for Folder Window

Please note that you will only be able to import user settings that were created and exported by the SDE Tool. The SDE Tool only reads the files that were generated when users have elected to export their settings. An example of SDE generated user setting files that a user would find in the parent directory would look similar to the files shown in Figure 4-21.

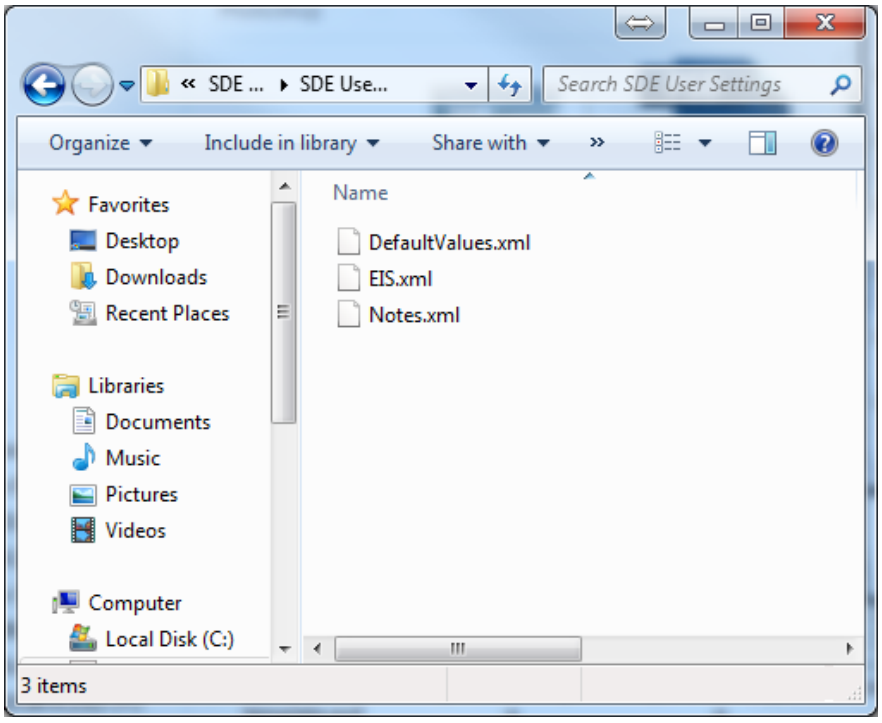

Figure 4-21: Sample files of what the SDE Tool will look for

Once the parent directory has been selected, the SDE Tool will scan that directory and display an update on the ***Import/Export User Settings*** window with the available import options (Figure 4-22).

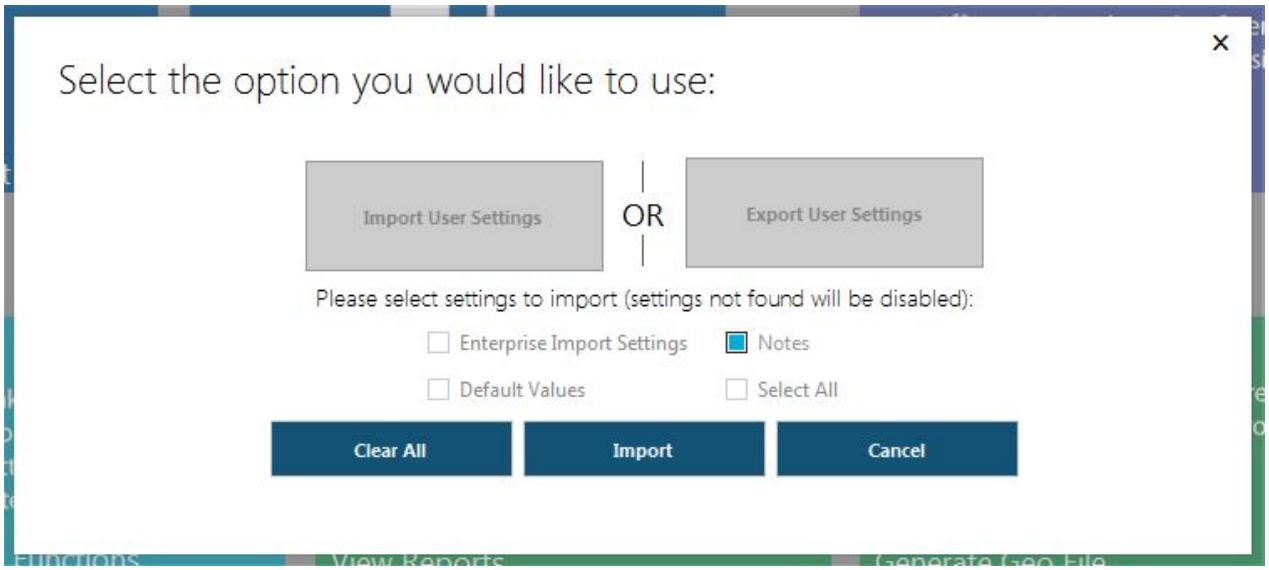

Figure 4-22: Import / Export User Settings Window

Once the user has selected the settings that they wish to import they will then select the ***Import*** button. Once the SDE Tool has finished importing the settings the user will then see a confirmation screen (Figure 4-23).

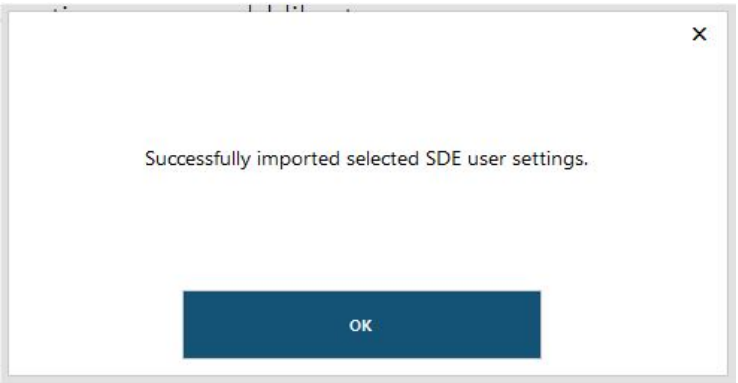

Figure 4-23: Confirmation of Import / Export User Settings

4.9 Using Default Data

A useful function in the SDE 2.2.0 Tool is the ***Enter Default Data*** function. This function provides users with the option to pre-populate up to 24 commonly used data fields for each new assessment created in the SDE tool. Reducing typographic and consistency errors as well as the amount of data the user must enter for a valid assessment. This function is limited to new assessments only and cannot be used for imported records and assessments.

The ***Enter Default Data*** function is accessed from the ***Main Menu*** (Figure 4-24). The user may enter data for any combination of the 24 data fields (Table 4-2). Once entered, the default data remains intact and available for new assessments (see Section 4.11.2) until the user opens the default window to change any or all of the data fields. After adding the default data to a new assessment, the user can overwrite any of the pre-populated data fields. Default data can also be set to automatically populate new assessments (see Section 4.5)

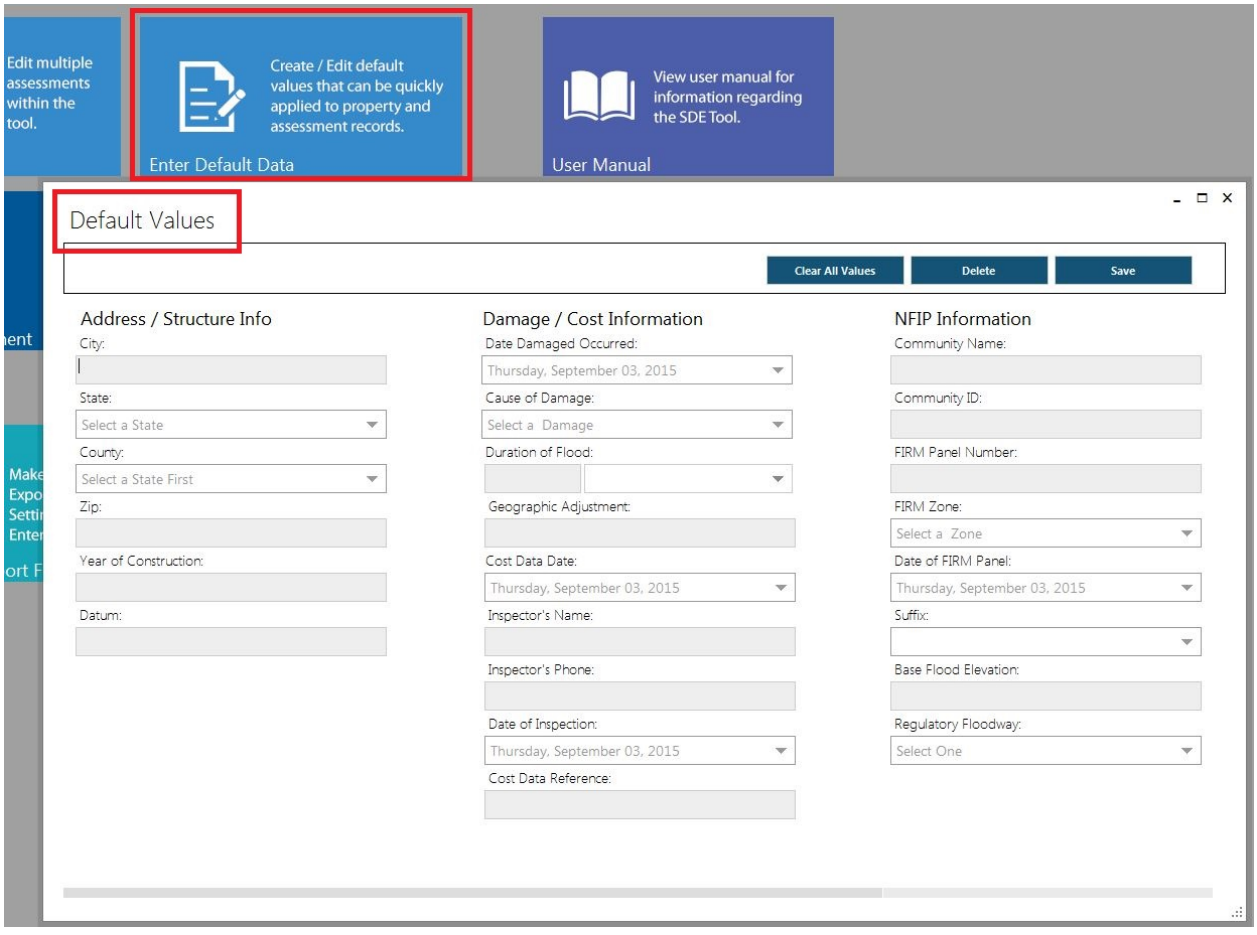

Figure 4-24: Enter Default Data window

The data options for the ***Enter Default Data*** function are identified in Table 4-2.

Table 4-2: SDE 2.2.0 Tool Default Data Fields

Information Type	Data Fields	
Address/Structure Information	• City • State • County (Parish)	• Zip • Year of Construction • Datum
Damage Cost Information	• Date Damage Occurred • Cause of Damage • Duration of Flood and time units (hours or days) • Geographic Adjustment • Cost Data Date	• Inspector's Name • Inspector's Phone • Date of Inspection • Cost Data Reference
NFIP Information	• NFIP Community Name • NFIP Community ID • FIRM Panel Number • Suffix • FIRM Zone	• Date of FIRM Panel • BFE • Regulatory Floodway • Community Specific Information (text box)

NFIP = National Flood Insurance Program
FIRM = Flood Insurance Rate Map
BFE = base flood elevation

4.10 Using Saved Enterprise Import Mappings

This function in the SDE 2.2.0 Tool allows users to create and save column mappings to be used when importing via the ***Enterprise Import*** option (Figure 4-25). The whole concept for having saved column mappings is to help assist users in speeding and aiding in the existing ***Enterprise Import*** process. With this feature users can create mappings one time and reuse them as often as they like given that the format of the data remains the same (i.e. column names don't change when the records are updated).

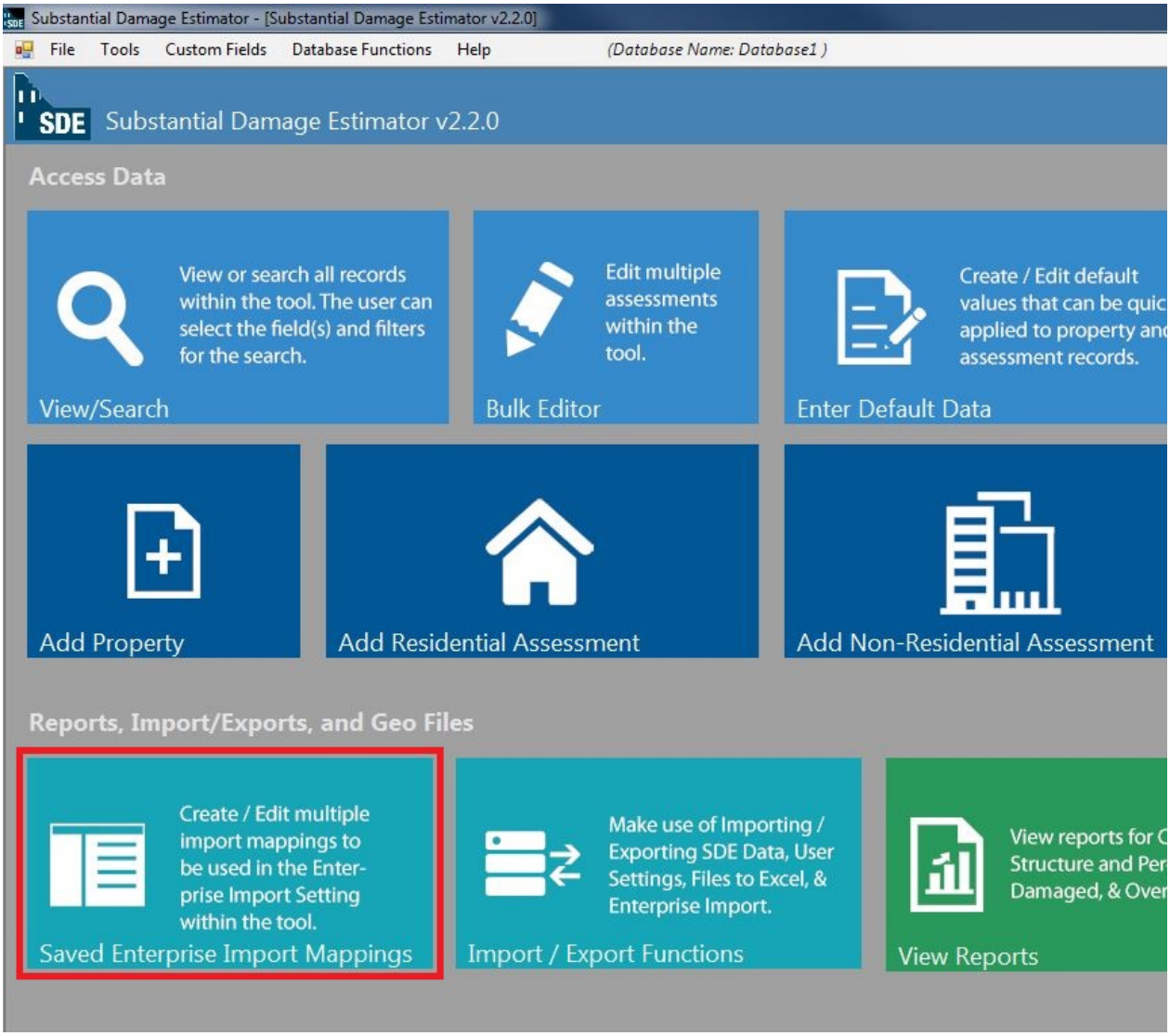

Figure 4-25: Saved Enterprise Import Mappings option

When the user selects this option they will see a screen that will allow them to either create or edit a saved enterprise import column mapping (refer to Figure 4-26).

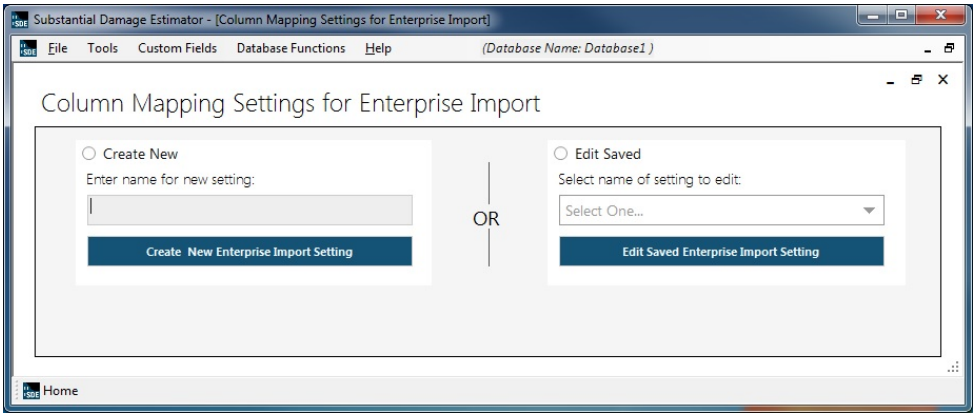

Figure 4-26: Window for Saved Enterprise Import Mappings

4.10.1 Creating a New Enterprise Import Column Mapping

In order for users to create a new mapping setting they will need to select the Create New option, enter the name of the new setting, and then select the Create New Enterprise Import Setting option (Figure 4-27).

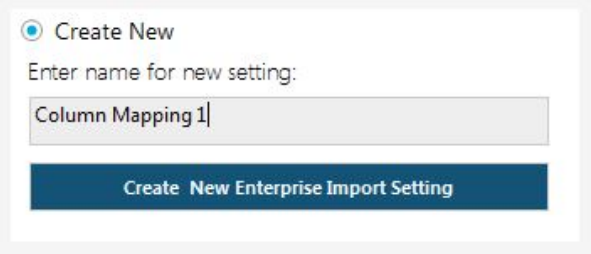

Figure 4-27: Creating New Mapping Setting

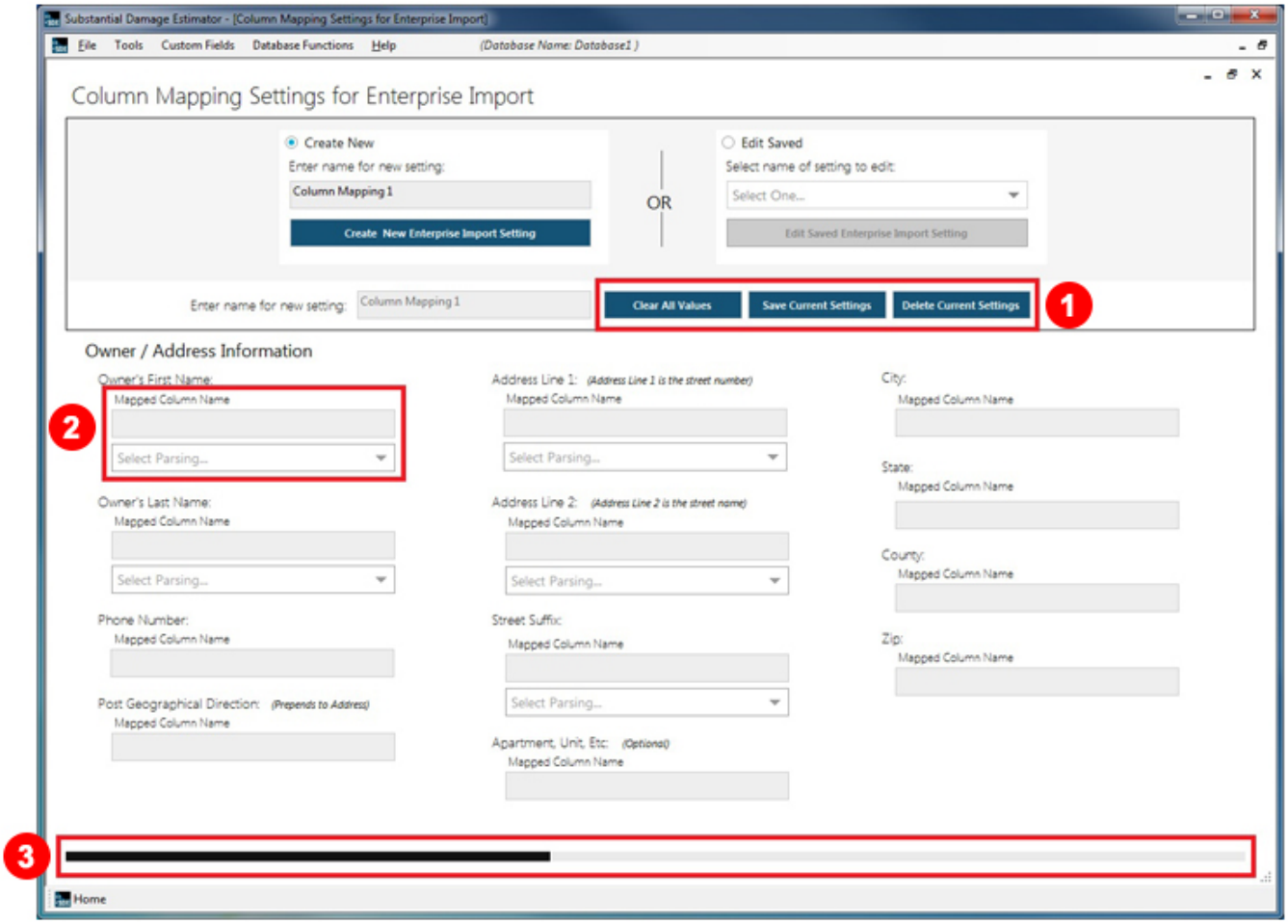

Figure 4-28: Creating New options

Figure 4-28 shows the following ***Create New*** Options numbered according to the following list:

1. **Save / Delete / Clear** – This section will allow users to either clear all the mapping values, save the current values, or delete the mapping currently displayed. Once a mapping has been saved the user will be able to use the mapping during the Enterprise Import option to prepopulate the mappings for their data (refer to section 4.8.2).

2. **Column Mapping** – This section will allow users to enter the column names to match that of the column names of the data that they are trying to import when using the Enterprise Import option. For some of the values, users can even select the parsing to match the format of the data (i.e. If the users data has three columns called, "fname", "lname", and "phone" then they would need to enter those names into their corresponding fields here to match them).

3. **Horizontal Scroll Bar** – This feature will allow users to scroll horizontally to access the different sections. The sections contain the columns that are eligible for mapping when using the Enterprise Import.

4.10.2 Editing a Saved Enterprise Import Column Mapping

In order for users to edit an existing mapping setting they will need to select the Edit Saved option, select the name of the saved setting, and then select the Edit Saved Enterprise Import Setting option (Figure 4-29). The user can edit the mapping values the same way as they did when creating them (refer to section 4.10.1)

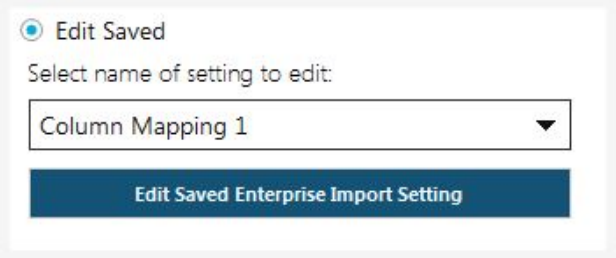

Figure 4-29: Editing Saved Mapping Setting

4.11 Creating an Assessment

This section describes the steps required to create an assessment. Assessments can be created for either new or existing properties. Assessments can also be imported in large quantities from other SDE databases using the ***Import SDE Data*** function. Properties can be imported from tax records or other community resources using the SDE ***Enterprise Import*** function. Users have the option to either use properties in the existing database or enter a new property for a new assessment. A single property may have multiple assessments to record damages from multiple events.

4.11.1 Creating a New Property

The SDE tool allows users to create property records that can be selected later to add field-collected data to develop assessments. The user should select ***Add Property*** from the ***Main Menu*** (Figure 4-30). A single screen will appear with fields for the property data and NFIP information (Figure 4-31). A horizontal scroll bar is located at the bottom of the screen to access all fields.

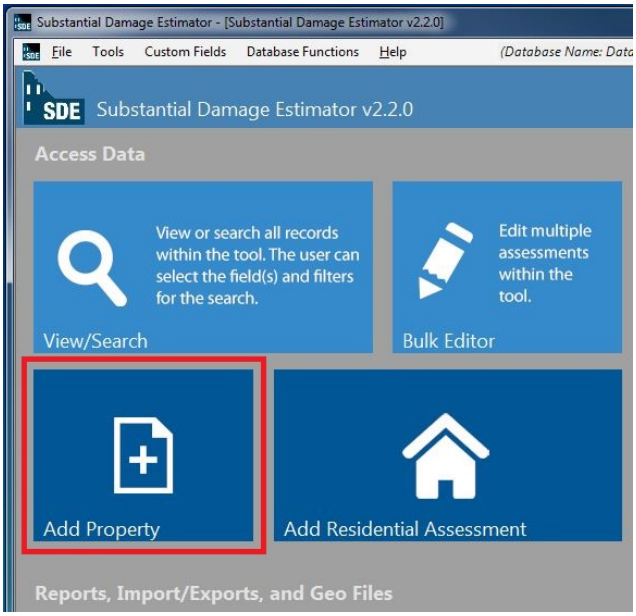

Figure 4-30: Add Property Menu Option

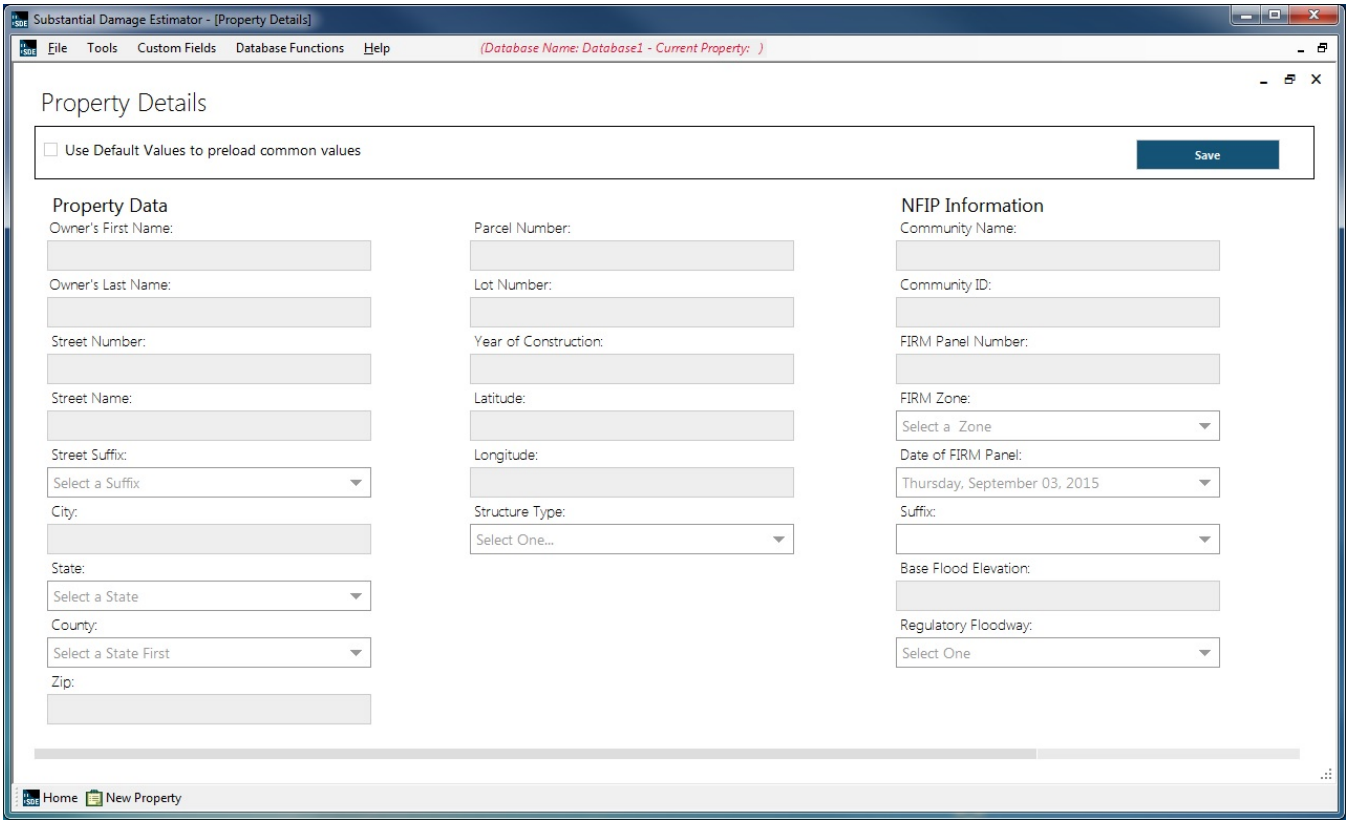

Figure 4-31: Add Property - Property Details

4.11.2 Creating a New Residential Assessment

Six separate SDE tabs or screens for will be available for assessments of a new property and seven tabs will be available for an assessment of an existing property. The first six tabs (Figure 4-32, from left to right) contain the same assessment information for both new and existing properties.

The first four tabs contain fields for key information. The fifth tab provides the results of the Substantial Damage determination plus options for determining Substantial Damage via other methods. The sixth tab is an interface that allows users to attach documents and photographs to the assessment. If previous assessment data is available the seventh tab (***Assessment of MM/DD/YYYY***) contains a read-only summary of the inspection data collected for the previous assessment. Edits to the data may be made on the first six tabs only.

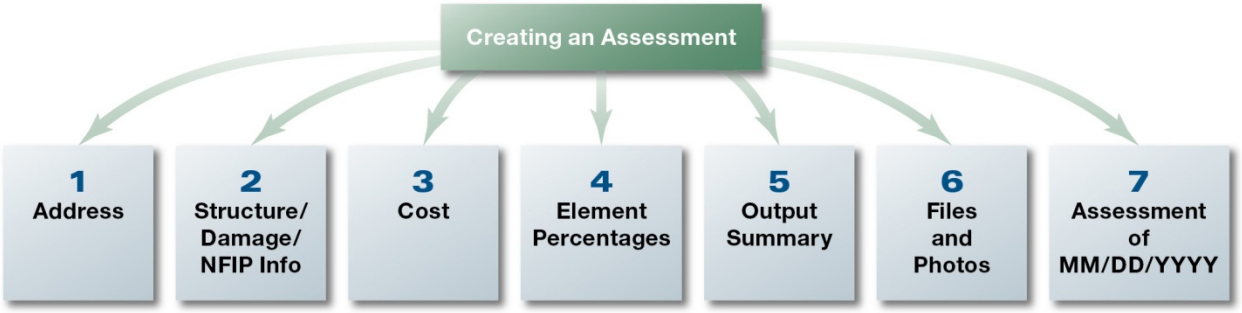

Figure 4-32: SDE 2.2.0 Tool tabs for residential and non-residential assessment data

To create an assessment, the user should select the *Add Residential Assessment* button on the ***Main Menu*** (Figure 4-33). A property selection window will appear listing available properties (Figure 4-34). If an existing property is selected, the **Address** tab in the new assessment will be automatically populated with available data. If a ***New Property*** is selected, the user must fill out the **Address** tab when creating the assessment. If default data has been entered into the tool, the user will have the option of using that default data to pre-populate certain data fields within the assessment (Figure 4-34).

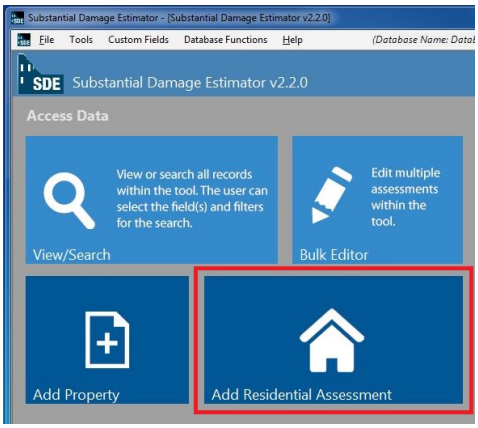

Figure 4-33: Add Residential Assessment Menu Option

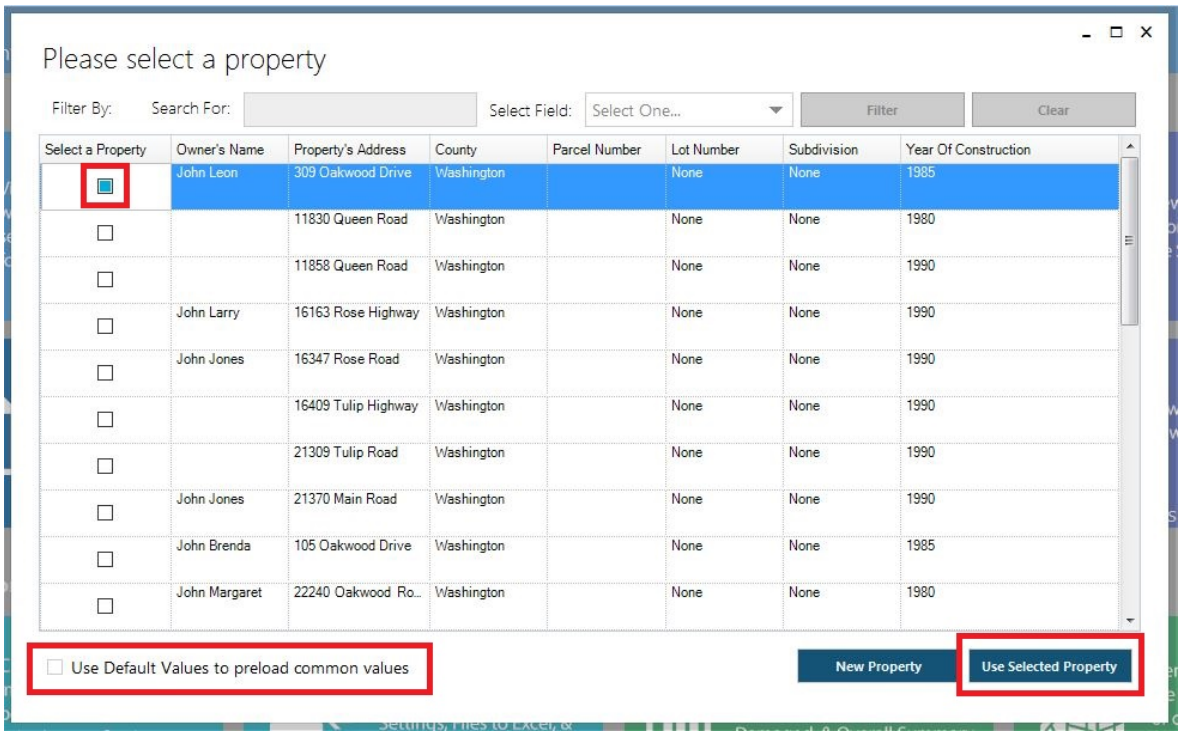

Figure 4-34: Create a New Residential Assessment-Select Property

When a new assessment is created for an existing property, the property data and some of the assessment data are pre-populated for the new assessment. These data can be revised as part of the new assessment. The data fields on the **Cost** and **Element Percentages** tabs must be completed for a valid assessment.

4.11.2.1 Address

The data fields in this tab (Figure 4-35) will be pre-populated if an existing property is selected for the assessment. This tab is the same for both residential and non-residential assessments. The **Address** tab includes:

- **Subdivision/Community Information** – subdivision name, parcel number, lot number, elevation of lowest floor, elevation datum, NFIP Community ID, NFIP community name, and coordinates for latitude and longitude.
- **Building Address Information** – homeowner first and last names, address information, and phone number. Please note that if there are multiple owners, users will have the ability to include them by selecting the option for additional owners at the bottom of the Building Address fields.
- **Mailing Address** – same fields as Building Address Information, with the additional field "Care of."
- **Custom Data Fields** – located on the far right of the Address tab (use is optional).

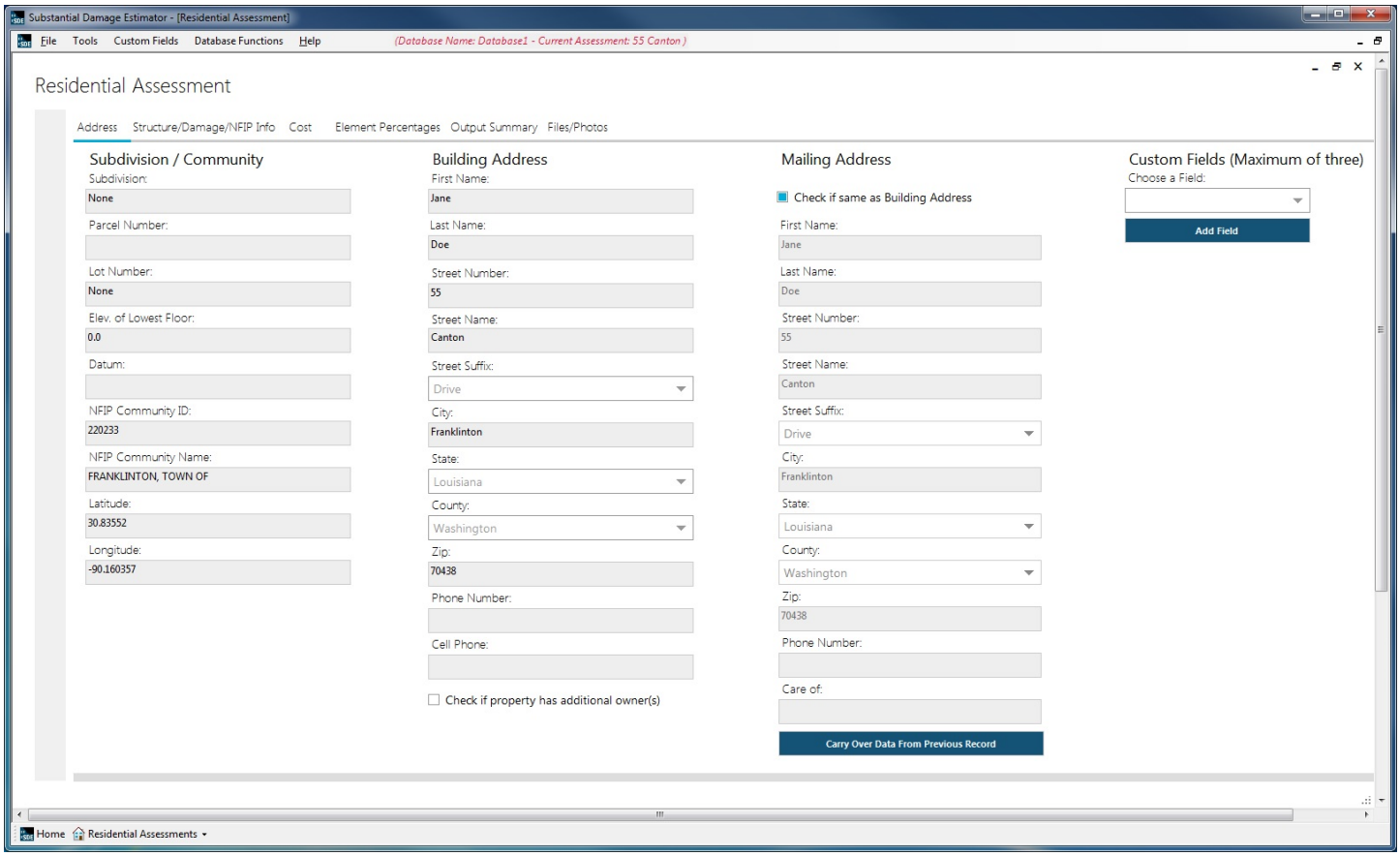

Figure 4-35: Address Tab and Custom Fields

Default data can also be used to pre-populate this and other tabs for a new property and assessment. Custom fields can be used to create fields that are not standard inputs in the tool. For example, if Substantial Damage assessments are being performed after a hurricane, the user may wish to create a custom field for “Hurricane Name” so that all assessments for that particular storm are tagged with the name of the storm.

The user can create a maximum of three custom fields through the Custom Fields menu on either the Main Toolbar or at the far right of the Address tab. When the user selects Add/Edit/Delete Custom Field from the Main Menu, the tool displays a window (Modify Custom Fields) in which the user can select an existing custom field to edit or add a new field (Figure 4-36). Once either an existing field is selected or "Add New Field" is clicked, more options will display to the user. The user can select to automatically display custom fields and/or make them unique to each property, add or edit the name of the custom field, and save/delete/cancel.

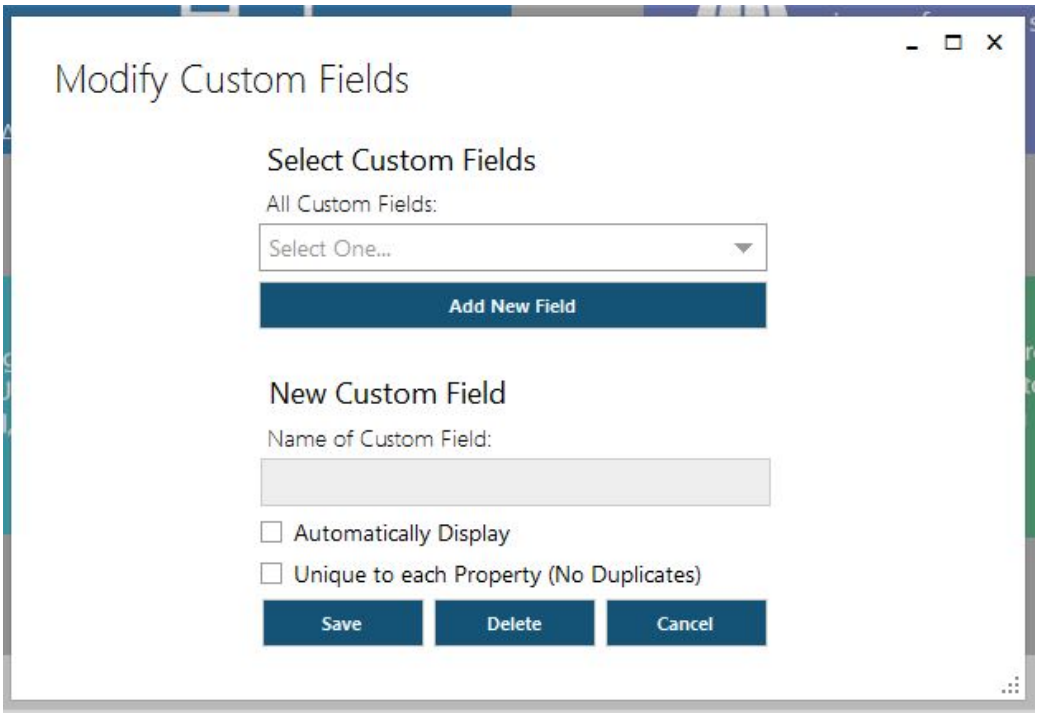

Figure 4-36: Modify custom fields

If the ***Latitude and Longitude Validation*** function (accessed through the ***Tools*** menu) is turned on, latitude and longitude will be checked internally by the tool upon input to determine whether the data entered are within the State where the structure is located.

The **Address** tab also contains a button at the bottom right labeled ***Carry Over Data From Previous Record***. If selected, this button will automatically pull the subdivision name, NFIP Community ID, structure address street name and suffix, city, State, and zip code from the previous assessment created and include these data in the current assessment.

4.11.2.2 Residential Structure/Damage/NFIP Info

This tab includes structure attributes and information, inspector information, NFIP and community information, and damage event information. This tab provides different data fields for structure attributes and information for residential and non-residential (refer to Section 4.11.3) assessments. The other data fields on this tab are the same for both types of assessments. The **Structure/Damage/NFIP Info** tab includes these data fields:

- **Structure Attributes/Information** – drop-down lists for the types of residences, foundations, superstructures, roof coverings, exterior finishes, HVAC system, number of stories, and quality, a text field for year of construction, and a residence information comment box
- **Inspector/Damage Information** – name, phone number, and date of inspection, date damage occurred, cause of damage, duration of flood (in hours or days), estimated depth of flood above ground, and estimated depth of flood above first floor
- **Damage Undetermined** – checkbox for undetermined damage. If Damage Undetermined is checked, the dropdown field located directly below the checkbox becomes available. Select one of the following items: No Physical Damage Sustained, Vacant Lot/Property, Residence Refused Inspection, Address Does Not Exist, or Other (If *Other* is selected an instructional pop-up screen will appear letting the user know to type in a clarification for *Other* in the "Residence Information" text field; this is suggested, not required.)
- **NFIP/Community Information** – NFIP Community ID (carried over from the Address Tab), Flood Insurance Rate Map (FIRM) panel number, FIRM panel suffix, date of FIRM panel, FIRM zone, base flood elevation (BFE), regulatory floodway (yes, no, possible), and a comment box for community-specific information such as name or number of the declared disaster, use of best available flood data other than the effective Flood Insurance Study, etc.

Residential assessments (Figure 4-37) require the user to select a ***Residence Type***, after which each element type (***Foundation***, ***Superstructure***, ***Roof Covering***, etc.) must be chosen. The accompanying SDE Field Workbook provides information on the various options for the structure attributes.

Number of Stories: The SDE tool includes options for residential structures with either one story or two or more stories. There is no option for one-and-a-half-story residences. However, these structures can be included in the SDE inventory based on the following methodology.

A typical one-and-a-half-story structure includes a full aboveground lower (or first) level with the main living space (kitchen, bathroom, and bedroom) and an upper level that is less than a complete story. This structure type may or may not have a basement. The upper level may also have less floor space and may be finished with bedrooms and a bathroom or left unfinished for storage. The ceilings are lower, and the floor-to-ceiling height varies because the upper level is built directly under the roof, which slopes downward from the peak toward the walls (and forms part of the ceiling). The usable floor space of the upper level is approximately one-third less than the lower level.

Users should select ***Two or More Stories*** on the **Structure/Damage/NFIP Info** tab. This is because the additional floor space and features (electrical, HVAC, insulation, drywall, and plumbing) will be closer to those of a two-story structure than a one-story structure. Users should use the following approach:

1. Select "***Two or More Stories***" in the "***Story***" data field in the Structure Attributes portion of the **Structure/Damage/NFIP Info** (or second) tab of the SDE.
2. On the **Cost** tab (reviewed in Section 4.11.2.3), enter the dimensions of the lower floor and use 1.5 for the number of stories in the SDE square footage calculator. Using a value of 1.5 instead of 2 for the number of stories will yield a total square footage that is closer to the true square footage for a one-and-a-half-story residence.

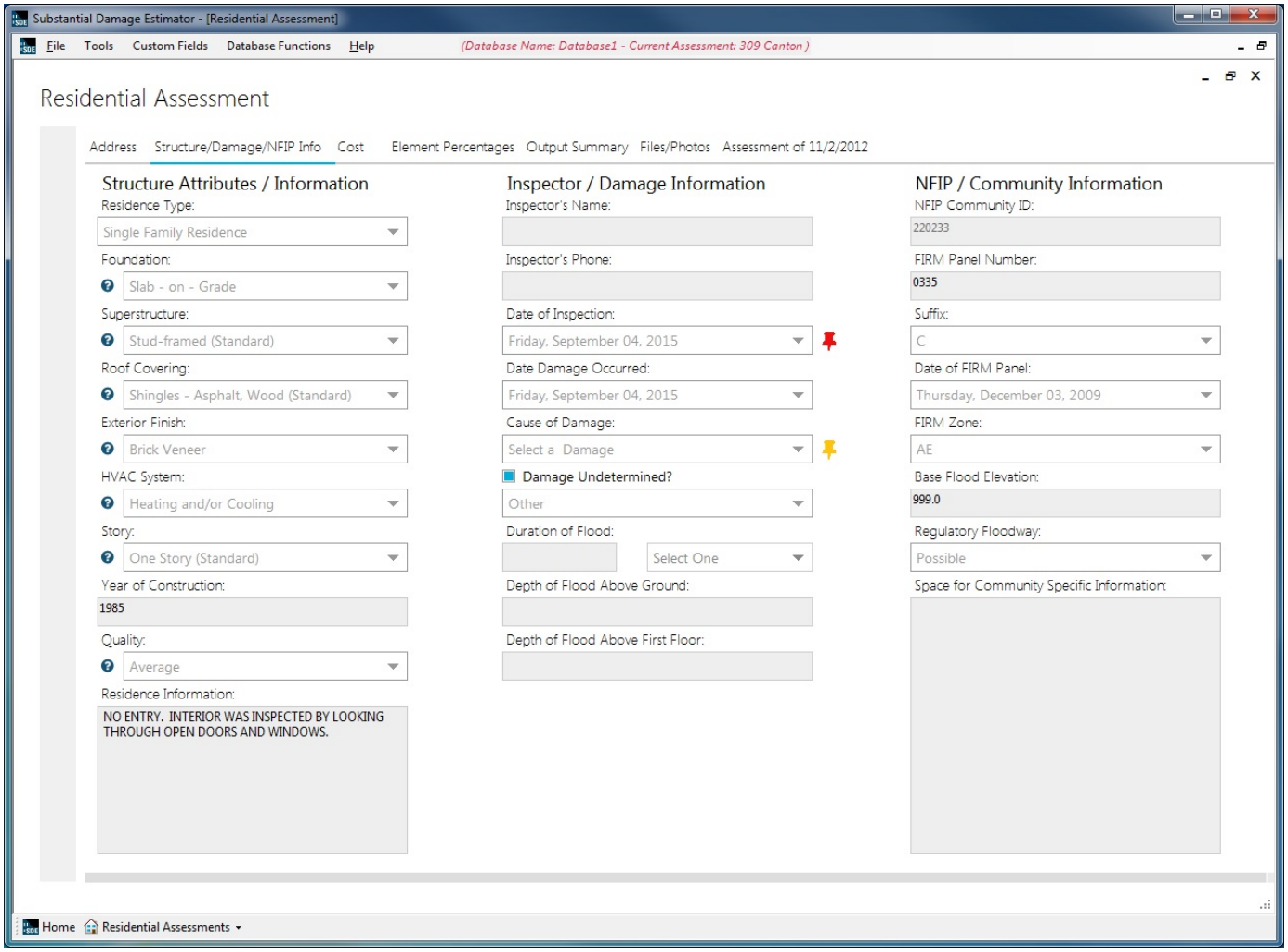

Figure 4-37: Residential Structure, Damage, and NFIP Information tab

Construction Quality: The user must also select the initial (not current) construction quality for the residence from a drop-down menu. The five quality levels range from low to excellent, with excellent involving higher-end or custom-built elements. If the initial construction quality is difficult to determine based on depreciation or damage, the inspector should select between budget, average, and good, unless he or she observes elements that would suggest that the quality level should be either low or excellent. Table 4-3 provides guidance on the quality level options for residential construction.

Table 4-3: Initial Construction Quality for Residential Construction

Initial Construction Quality	Method of Production		Interior Finishes	Exterior Finishes	Architectural Interior Elements	
	Mass	Custom			Mass	Custom
Low	X		Plain, inexpensive, no attention to detail	Plain, inexpensive, no attention to detail	X	
Budget[1]	X		Plain	Limited ornamentation on front elevation	X	
Average[1]	X		Average finish	Some ornamentation on front elevation	X	
Good[1]	X	X	Well finished, paneling, wallpaper	Ornamentation and adjustments throughout	X	X
Excellent		X	Unique, high quality	Well detailed and refined with custom ornamentation		X

[1] Quality of construction types used in most homes in subdivisions

The initial construction quality level does not have a direct effect on the Substantial Damage determination, but it does determine which unit cost table should be used for the base cost on the **Cost** tab. Most industry-accepted cost-estimating guides have different unit cost tables, based on the initial construction quality. Users should compare the quality level descriptions in Table 4-3 to the quality levels in the cost-estimating guide being used to verify that the appropriate unit cost tables are used for structure cost.

Additional Comments: The user may enter additional comments in two areas of the **Structure/Damage/NFIP Info** tab. The "***Residence Information***" comment box for residential assessments (and the similar "***Structure Information***" comment box for non-residential assessments) can be used to enter any information or commentary specific to the property being assessed. The "***Community Specific Information***" comment box can be used to enter community-specific information, for example to explain an unusual situation about the current structure or flood event. This may include information such as "Flood was estimated by city engineer to be between a 50-year and 100-year event according to the community's Flood Insurance Study." Information on the type of mitigation performed within the community in the past or for the structure in question could also be included.

Cause of Damage: When damage is undetermined users have the option of selecting ***Damage Undetermined***. If Damage Undetermined is checked, the dropdown field located directly below the checkbox becomes available. Select one of the following items: No Physical Damage Sustained, Vacant Lot/Property, Residence Refused Inspection, Address Does Not Exist, or Other. Select *No Physical Damage Sustained* for structures within an inventory that have no apparent damage or are elevated above the high water mark of the damage event for an area. Selecting this option reduces the amount of data required to save a valid assessment and the structure will be identified with 0 percent damage in any SDE reports or exports. When using this feature, the ***Depth of Flood Above Ground*** and the ***Depth of Flood Above First Floor*** should be entered as 0.01 foot to confirm that there is no physical damage.

4.11.2.3 Cost

Although the ***Cost Adjustments*** portion of the tab varies a little, the data fields in the **Cost** tab (Figure 4-38) are primarily the same for both residential and non-residential assessments. On this tab, the user can enter the square footage, the cost per square foot (unit cost) for the structure, the geographic adjustment factor, unit or lump-sum costs for adjustments (when applicable), and an estimated depreciation rating to determine the replacement value and actual cash value (ACV) of the structure.

USER NOTE: For the purposes of this tool, ACV is considered to be the market value of the structure.

Information regarding structure unit costs and adjustments, as well as appropriate descriptions, can be found in industry-accepted residential cost-estimating guides among other sources, such as locally or regionally developed cost data.

The **Cost** tab includes:

- **Square Footage** – square footage (using either the calculator or direct entry method), base cost per square foot, and the geographic adjustment factor
- **Cost Adjustments** – modify residence features to match the structure being inspected
- **Additional Adjustments** – for cost adjustments not covered in the cost adjustments above
- **Depreciation Determination** – a depreciation rating between 1 (very poor condition) and 6 (excellent condition) or Other (if Other is selected, a text box will appear that requires an explanation for the depreciation; there is also a text box for the depreciation percentage used by the inspector)
- **Computed Actual Cash Value** – summation of base cost and all cost adjustments and depreciation percentage

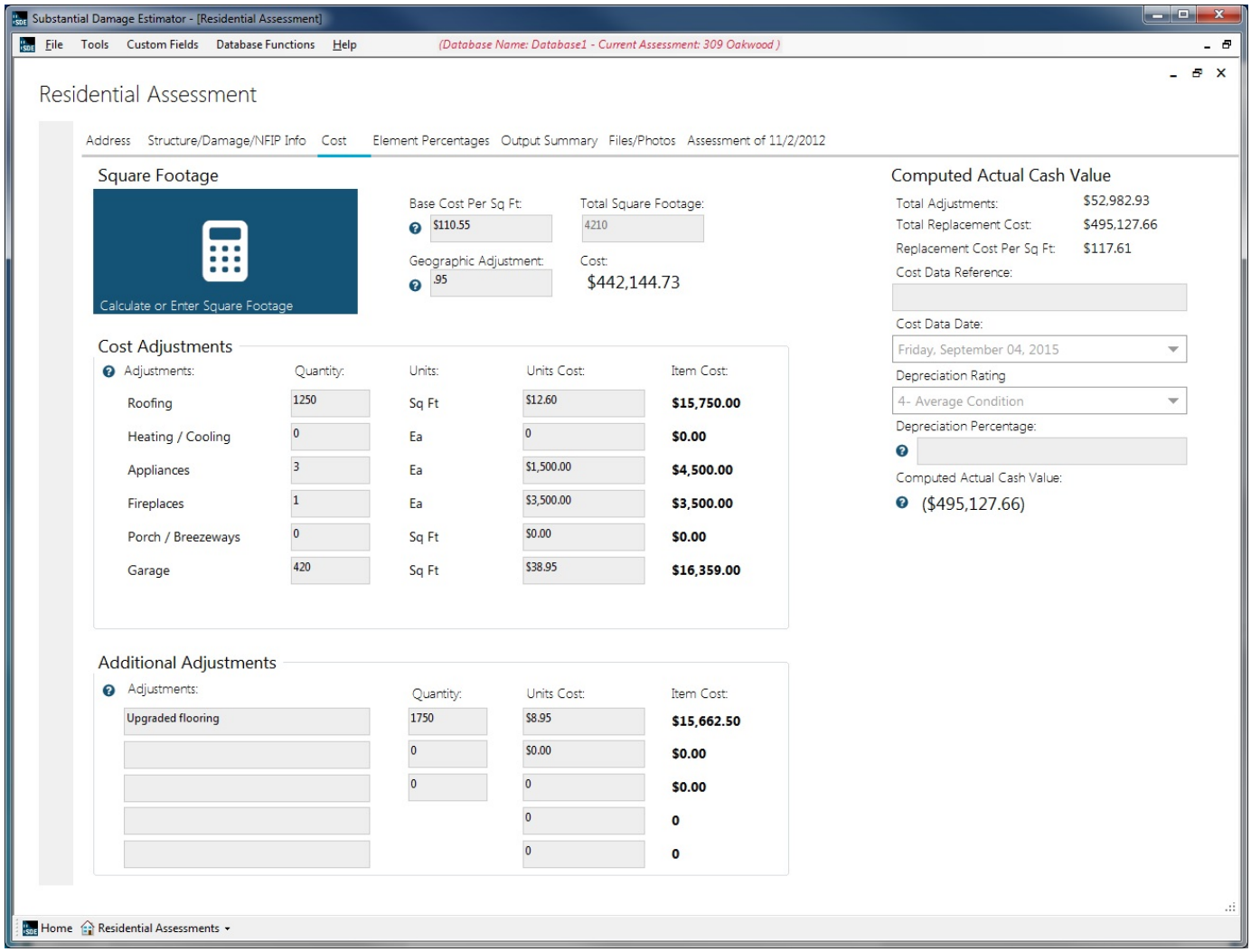

Figure 4-38: Cost tab

Square Footage: In the ***Square Footage*** section of the tab, the user has the option to calculate, directly input, or use the ***Enterprise Import*** function (Section 4.8.2) to enter the square footage that is required to develop the computed ACV for the structure. To calculate the square footage based on structure dimensions, the user should click on the ***Calculate or Enter Square Footage*** button, which will open the ***Square Foot Calculator*** window. Within this window, the user can choose from four structure shapes (i.e., "L" shaped, "T" shaped, rectangular, and "U" shaped) (Figure 4-39).

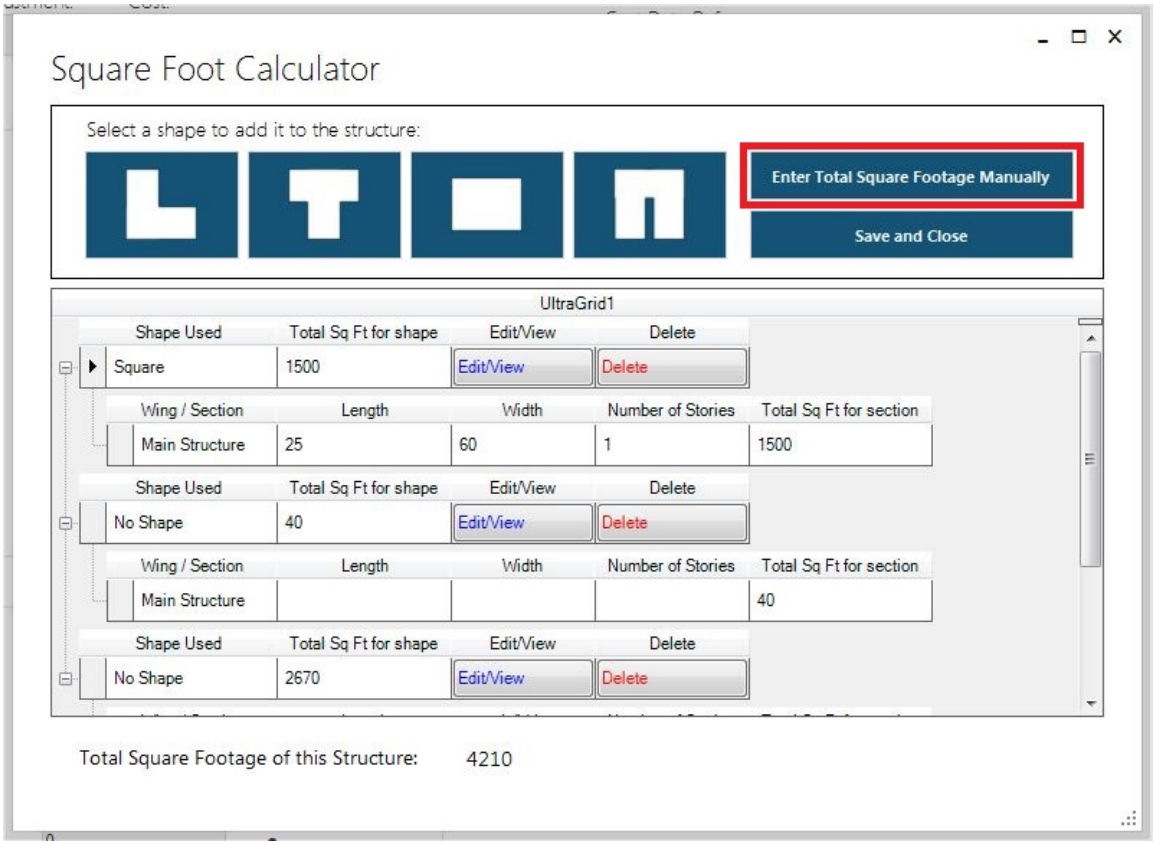

Figure 4-39: Square Foot Calculator function

When the user selects a structure shape, another window opens to allow the user to enter the estimated dimensions and the number of stories for the selected shape (Figure 4-40).

Once the dimensions are entered, the user should click the ***Save*** button to calculate the total square footage. Dimensions for additional areas for multi-section structures can be added to the previously calculated square footage to calculate the total square footage for the structure. When the user has completed data entry for all sections, they should click the ***Save*** button to return to the **Cost** tab. The ***Total Square Footage*** field will be populated.

To directly enter the total square footage, the user should click the ***Calculate or Enter Square Footage*** button and then click on the ***Enter Total Square Footage Manually*** button to open the ***Enter Total Square Footage*** data field to enter the value for the total square footage from tax records, an appraisal, or another valid source of area data. After entering the square footage, the user should click the ***Save*** button and to return to the ***Square Foot Calculator*** window and click ***Save and Close*** button to return to the **Cost** tab.

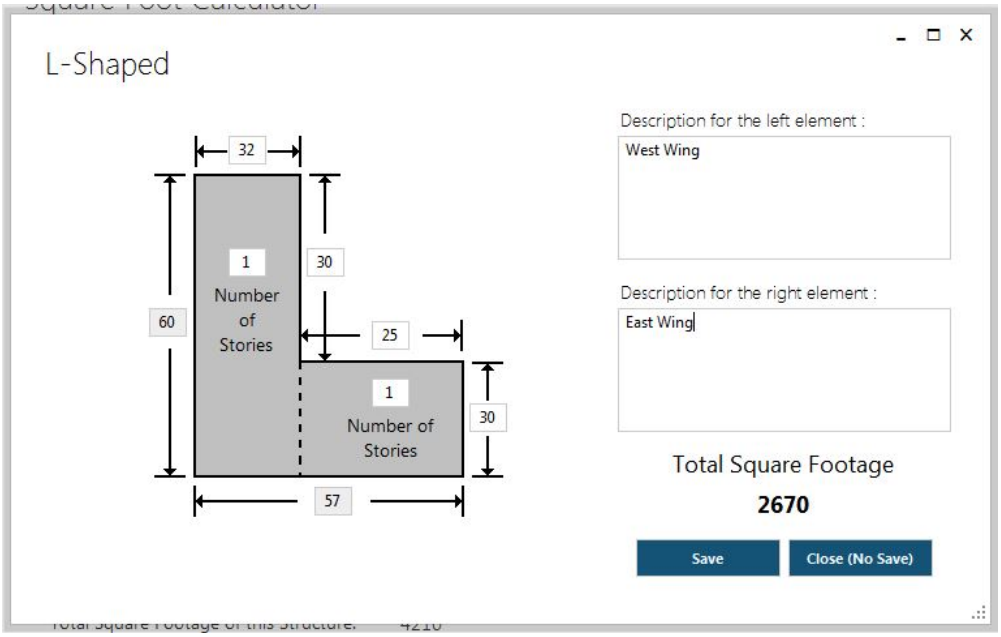

Figure 4-40: Data entry window for the Square Foot Calculator

Next, a unit or base cost per square foot is entered for the structure. The ***Base Cost per square foot*** is entered in the data field at the top of the **Cost** tab. The unit cost can be obtained from an industry-accepted national cost-estimating guide, contractor's estimates, and community estimates from local structure and repair permits, or professional appraisers.

Base Cost per Square Foot

The ***Base Cost per square foot*** is the cost to replace the structure with a functionally equivalent structure of the same size, style, and construction quality, based on the current cost of labor and materials.

The structure cost requires a ***Geographic Adjustment*** factor. This factor can be found in a national unit cost-estimating guide and is a base cost multiplier with a value above or below 1.0. This recognizes that structures in some areas of the country are more expensive to build than in other areas. This factor equalizes labor and material costs between areas of high and low construction cost around the country. For unit costs developed based on local data, the ***Geographic Adjustment*** value entered in this data field should be 1.0.

USER NOTE: A ***Geographic Adjustment*** factor greater than 1.0 indicates higher than national average construction costs, whereas a factor below 1.0 indicates lower than average costs.

Cost Adjustments: In the ***Cost Adjustments*** section, some adjustments, such as fireplaces and porches, are in addition to those included in the base cost of the structure. Other adjustments, such as upgraded roofing or floor covering, are added to the base cost (through adjustments) when the initial construction quality of the item exceeds what is normally found in the initial construction quality selected in the ***Structure Attributes/Information*** section of the **Structure/ Damage/NFIP Info** tab. The items listed under the ***Cost Adjustments*** section should involve quantities and unit costs for adjustments in excess of the standard features for the selected type of residence.

Additional Adjustments: In the ***Additional Adjustments*** section, adjustments not listed in the ***Cost Adjustments*** section can be entered into the fields provided. An industry-accepted cost-estimating guide should be referenced to determine unit or lump-sum costs for additional adjustments.

Depreciation: The **Cost** tab also requires the user to enter a depreciation rating of the structure. The SDE tool includes a revised depreciation methodology that is no longer based on the age of the structure. A depreciation rating of 1 to 6 (with 1 being the lowest) is based on the condition of the structure prior to the damage event (Table 4-4). The depreciation ratings have been revised since the previous version of the SDE tool and are based on a U.S. Army Corps of Engineers' methodology. The deprecation ratings for non-residential structures vary based on the number of stories and structure use. The "Other" option can be used to enter a specific depreciation value.

Depreciation Methodology

The new depreciation methodology described in this manual will only work in the SDE 2.0 or higher. Any assessments developed in either the SDE 1.0 or 1.1 Tool and imported into the SDE 2.0 or higher will retain their original depreciation values.

Table 4-4: SDE 2.0 or higher Depreciation Ratings – Residential Structures

Depreciation Rating	Definition	Depreciation
1	**Very Poor Condition.** The structure is dilapidated and deteriorating. The residence is most likely abandoned.	88.9%
2	**Requires Extensive Repairs.** The residence can be inhabited, but is in need of extensive maintenance.	66.5%
3	**Requires Some Repairs** and maintenance.	38.8%
4	**Average Condition.** There is normal wear on the house, but no signs of major repairs or maintenance needed.	24.2%
5	**Above Average Condition.** Little visible wear and tear on structure, but it is not considered "brand new." Most functional value is remaining.	13.4%
6	**Excellent Condition.** Structure was recently built (2 years old or less). There is no visible deterioration. This condition is rare in structure inventories and should be	2.9%

Depreciation Rating	Definition	Depreciation
	reserved for only “brand new” structures that have all functional value remaining.	
Other	Determined by inspector (must provide a reason in pop-up ***Depreciation Explanation*** window)	Value defined by user

Computed Actual Cash Value: The name and effective date of the industry-accepted residential or non-residential cost-estimating guide, professional appraisal, locally developed and vetted cost data, or other acceptable cost data reference used as the basis for the determinations made within the tool should be entered in the ***Cost Data Reference*** and ***Cost Data Date*** fields in the ***Computed Actual Cash Value*** section at the right of the **Cost** tab. Some estimating guides involve either quarterly or annual cost updates. Consequently, the publication date is vital when specifying the document used as source material.

4.11.2.4 Residential Element Percentages

The fields in this tab are different for residential and non-residential (refer to Section 4.11.3) assessments. The **Element Percentages** tab (Figure 4-41) is used by the inspector to enter the damage percentage, based on a rapid, visual evaluation, for each of the 12 elements in a residence. Table 4-5 lists the 12 elements and their individual components for residential structures in the SDE tool.

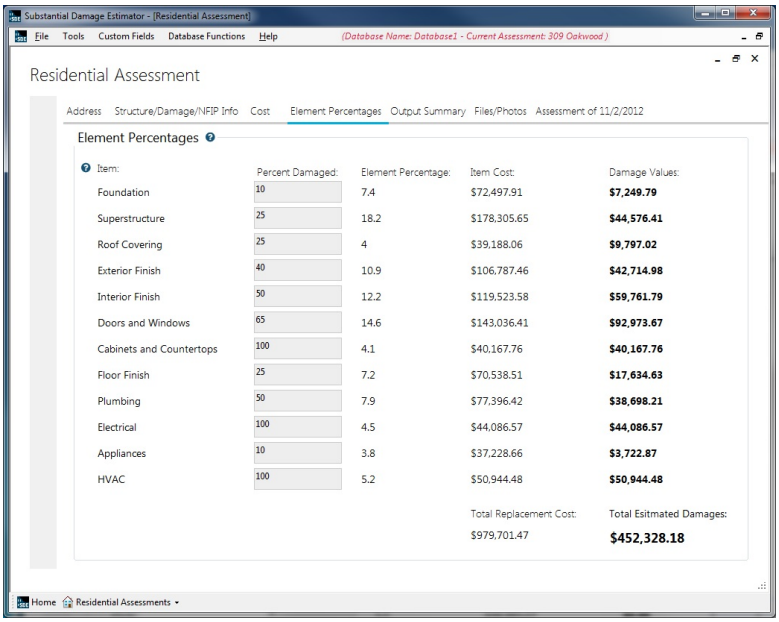

Figure 4-41: Residential Element Percentages tab

For estimating purposes, a structure is divided into general construction categories (e.g., plumbing, foundations, and appliances). The SDE tool uses pre-determined, fixed element percentage for each of these categories based on the attributes of the subject structure.

Once the user has completed the information on the **Structure/Damage/NFIP Info** tab, the ***Element %*** for each category is calculated and is populated on the **Element Percentages** tab. The ***Item Cost*** is the result of the ***Element %*** multiplied by the ***Total Replacement Cost*** from the **Cost** tab. The

monetary ***Damage Values*** for each item are determined by multiplying the ***Item Cost*** by the user-entered ***% Damaged*** values. The sum of the individual damage values is equal to the ***Total Estimated Damages*** value.

The input data required from the field inspection include the ***% Damaged*** of each element listed. These data are determined based on the judgment of the inspector and should be defensible values. The values should be entered as whole numbers between 0 and 100. The ***% Damaged*** values are the only values that must be provided by the user on this tab.

Table 4-5: Residential Structure Elements

Element	Description
1. Foundations	• Continuous perimeter foundations • Footings • Piers • Foundation-level components not included in other elements
2. Superstructure (wall support system extending from the foundation wall to the roof structure)	• Exterior wall • Sheathing panels • Shear panels • Bracing panels • Structural members that support the roof deck, such as rafters and trusses, but not roof sheathing
3. Roof covering	• Covering material (shingles, tile, slate, metal roofing, built-up roofing) • Roof sheathing • Roof flashing • Does not include structural framing members that support the roof deck
4. Exterior finish	• Wall covering system that covers the wall sheathing (e.g., stucco, vinyl or wood siding, brick veneer, stone veneer) • Insulation and weather stripping
5. Interior finish	• Gypsum board, drywall, plaster, or paneling that make up the wall and ceiling surfaces • Trim around door and window frames • Baseboards • Casings • Chair rails • Ceiling moldings
6. Doors and windows	• All doors and windows • Locks • Hinges • Frames • Handles

Element	Description
7. Cabinets and countertops	• Built-in, wall-mounted, or isolated cabinets and countertops (kitchens, bathrooms)
8. Floor finish	• Carpet • Hardwood • Vinyl composition tile • Sheet vinyl • Ceramic tile • Marble • Does not include carpet or re-carpeting installed over finished flooring such as wood or tile
9. Plumbing	• Incoming water service (municipal water supply or well service) • Water heater • Water distribution system • Wastewater system
10. Electrical	• Circuit breaker panels and distribution wiring • Outlets • Switches • Receptacles • Lighting • Ceiling and exhaust fans • Electric baseboard heaters
11. Appliances	All built-in, permanent appliances in the structure
12. HVAC	• The system with which conditioned air is distributed throughout the structure; a typical system in residential structures involves a forced-air heating system with duct work • Exterior air conditioning units • Heat pumps • Furnaces

4.11.2.5 Output Summary

This tab (Figure 4-42) summarizes the computations for structure value and damages as well as the calculated damage percentage. It also includes options that allow the user to select which of three damage estimates and three structure values to use in making the Substantial Damage determination. Two report printing options are at the bottom right of the **Output Summary** tab (see Section 6 SDE Reports for details on reports).

Percent Damaged: The ***Percent Damaged*** section of the **Output Summary** tab contains ***Value of Building*** and ***Cost of Repairs/Improvements*** fields. Both of these can be calculated using three different methods. These methods include ***Computed ACV***, ***Adjusted Tax Assessed Value***, and ***Professional Market Appraisal*** (usually obtained and paid for by the structure owner) for the

structure value, and ***Computed Damages***, ***Contractor's Estimate***, and ***Community's Estimate*** for the repair/improvement costs.

The three options under the ***Value of Building*** and ***Cost of Repairs/Improvements*** boxes permit the user to select the most appropriate sources of data for use in the Substantial Damage determination. The default selections, computed within the SDE tool, are the ***Computed ACV*** and ***Computed Damages***. The calculated ***Percent Damaged*** is shown near the middle of the upper portion of the tab (outlined in red in Figure 4-42). If the structure has a ***Percent Damaged*** of 50 percent or higher, then the NFIP requirements for substantially damaged structures apply.

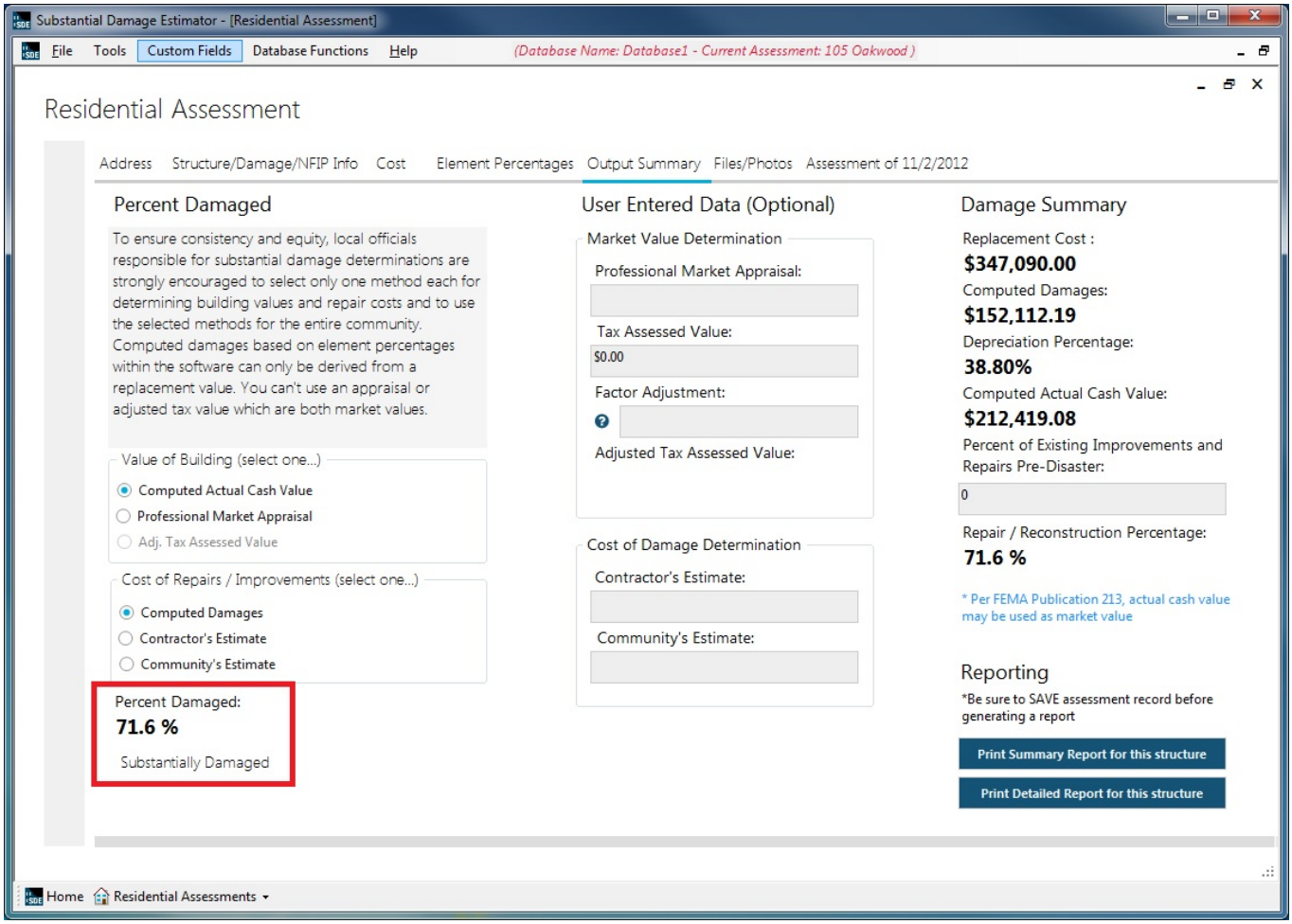

Figure 4-42: Output Summary tab

Damage Summary: The ***Damage Summary*** section carries over the ***Replacement Cost***, ***Computed Damages***, ***Depreciation %***, and ***Computed Actual Cash Value*** from previous tabs. If available, the user may enter an estimated value for a ***Percent of Existing Improvements and Repairs Pre-Disaster***. This value should reflect the percent of the structure that has been renovated, repaired, or improved prior to the current damage event. The purpose of this field is to record pre-existing work repair or improvement work to the structure, so that the cumulative determination for the structure can be calculated outside of the tool as needed.

Community officials can use any combination of methods (one from each of the ***Value of Building*** and ***Cost of Repairs*** categories) to determine Substantial Damage. Optional data, including appraisal, adjusted tax assessed value, or non-SDE estimates of damages, are entered in the middle portion of the **Output Summary** tab in the section identified as ***User Entered Data (Optional)***. However, officials are strongly urged to be consistent in their determinations by using the same cost and damages methods on a community-wide basis to ensure that Substantial Damage determinations are prepared and evaluated in a consistent and equitable manner.

User-Entered Data (Optional): When ***Optional User-Entered Data*** are being considered the accuracy of this data must be evaluated. This is especially true when the tool indicates that the structure is between 40 percent and 60 percent damaged. The closer the level of repair/improvement costs are to 50 percent of the value of the structure, the greater the precision needs to be in determining Substantial Damage. Situations in which the property owner requests an administrative or judicial review or appeal most likely will occur when the structure is declared substantially damaged and the ***Percent Damaged*** falls between 50 percent and 60 percent.

A ***Professional Market Appraisal*** or a ***Tax Assessed Value*** may be entered in lieu of the ***Computed ACV*** determined by the SDE tool. If the appraisal value is based on the value of the land and structure, the value of the land must be subtracted from the appraisal value because Substantial Damage is based on structure value only. These two valuation methods are discussed below.

The ***Professional Market Appraisal*** involves the value of the structure without the land value, as determined by an appraiser licensed within the state where the structure is located. This can be used within the SDE tool in-place of the structure ***ACV***.

If the ***Tax Assessed Value*** is based solely on the structure, an adjustment factor may be required to increase the value to market value, because the tax assessed values tend to be less than ***Computed ACV*** or market value. This adjustment may be made by using a ***Factor Adjustment*** in the data field provided, and should be based on the normal adjustment procedures used in the county or community where the structure is located. The factor likely will be higher than 1.00 and should be entered with two decimal places (trailing zeroes are dropped). For example, to increase the assessed structure value by 43%, input a value of 1.43.

Local officials may use a ***Contractor's Estimate*** or a ***Community's Estimate*** in lieu of the SDE-computed damages. These two text fields are located in the Cost of Damage Determination section. Contractor estimates should be based on a specific structure, all-inclusive of the work required to put the structure back to its pre-damaged state,

and reflect reasonable material and labor costs for the area. Donated or discounted materials and labor must be evaluated at fair market value for the area, because the Substantial Damage determination process requires use of the true cost of repairs. Communities can provide their own repair estimates if the estimates are complete and reflect the general cost of materials and labor for the area. A community providing its own repair estimate must be able to justify the estimates. Appendix D of the SDE Field Workbook contains a list of recommended construction elements to be included in either contractor or community estimates of repair costs.

4.11.2.6 Files & Photos

The primary function of **Files & Photos** tab (Figure 4-43) is to upload and store digital photographs and electronic files (e.g., maps, drawings, permits, certificates, property surveys, appraisals) associated with the subject structure that will provide backup information for the Substantial Damage determination.

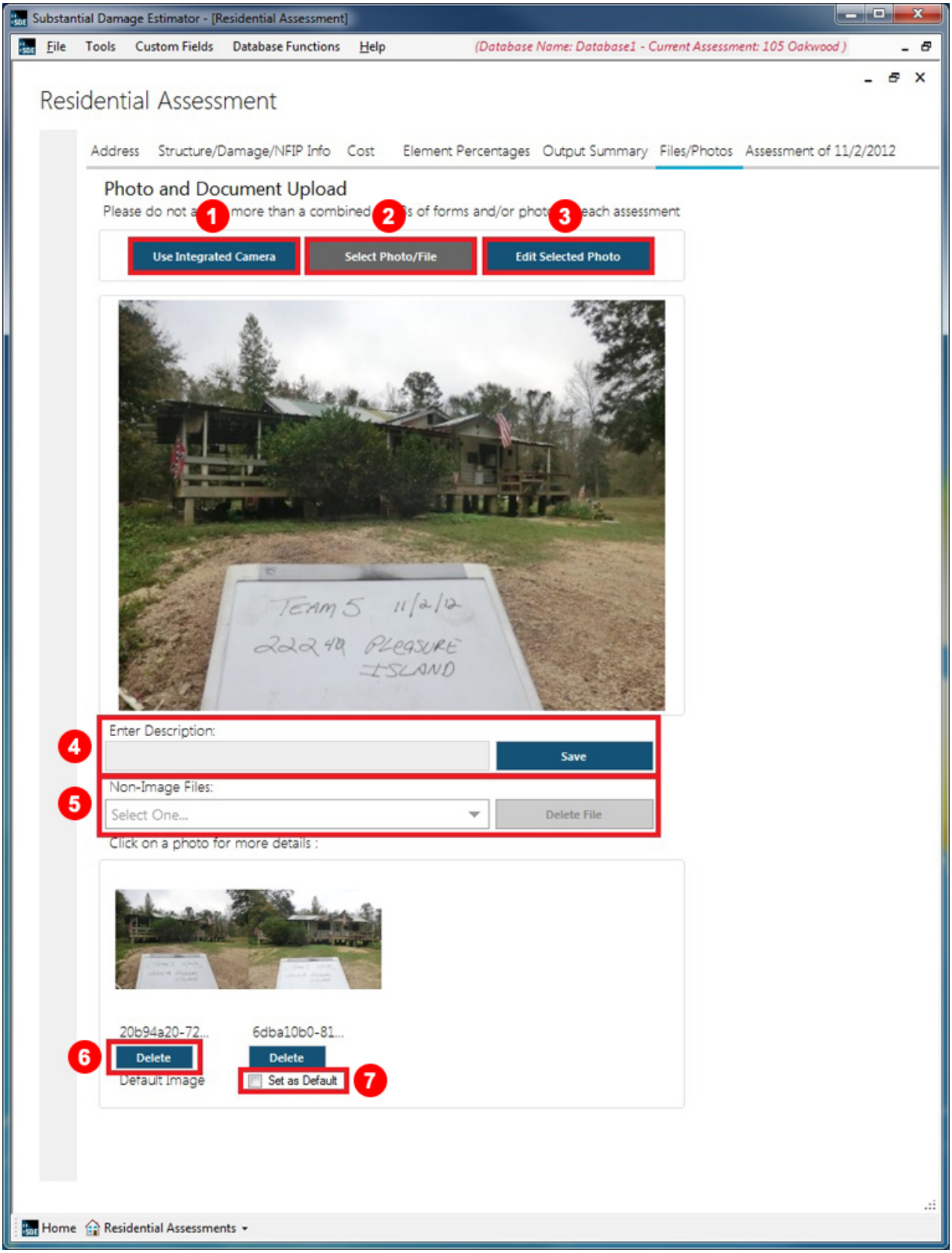

Figure 4-43: Files & Photos tab

Figure 4-43 shows the following ***Files & Photos*** options numbered according to the following list:

1. **Use Integrated Camera** – This control will allow users to take advantage of the integrated camera for the computer if one is found. This is ideal for laptop data entry while in the field.
2. **Select Photo/File** – This option allows the user to choose a file to be added from the file directory.
3. **Edit Selected Photo** – This section will allow users to edit the current photo that is in the main view (see Section 4.2 for photo editing features).
4. **Enter Description** – This feature allows the user to enter and save the description of the selected photo.
5. **Non-Image Files** – This section will allow users to see attached files or documents if needed. This is primarily for use in situations where a user may need to associate documents with the assessments (i.e. documentation that was issued by a local community or state). To attach a file or document simply select the option ***Select Photo / File*** (as you would a photo), then when the selection dialog becomes visible change the file type extension (located bottom left of window) from that of an image format to ***All files (*.*)*** and then browse to the file or document that you wish to attach to the assessment.
6. **Delete** – This control allows the user to delete an existing image.
7. **Set as Default** – This option allows the user to set the default image file to be displayed in the ***Summary Report*** and ***Community Report*** for that assessment.

4.11.3 Creating a New Non-Residential Assessment

To create an assessment, the user should select the *Add Non-Residential Assessment* button on the ***Main Menu*** (Figure 4-44). If an existing property is selected, the **Address** tab in the new assessment will be automatically populated with available data. If a ***New Property*** is selected, the user must fill out the **Address** tab when creating the assessment. If default data has been entered into the tool, the user will have the option of using that default data to pre-populate certain data fields within the assessment.

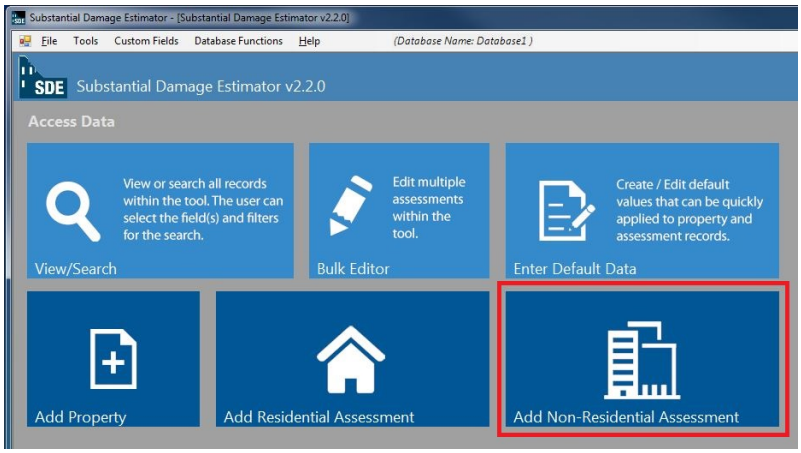

Figure 4-44: Add Non-Residential Assessment

When a new assessment is created for an existing property, the property data and some of the assessment data are pre-populated for the new assessment. This data can be revised as part of the new assessment. The data fields on the **Cost** and **Element Percentages** tabs must be completed for a valid assessment.

The data fields required to complete a valid non-residential assessment are very similar to those required for a residential assessment (see Section 4.11.2). The data fields contained on the **Address, Cost**, and **Output Summary** tabs are nearly identical for the two assessment types. For the **Element Percentages** tab, a non-residential assessment requires a damage evaluation of 7 elements, while a residential assessment requires the evaluation of 12 elements. The differences between the data requirements for the two assessment types are contained on the **Structure/Damage/NFIP Info** tab and the **Element Percentages** tab.

For non-residential structures, structure type is not directly used as the basis for determining the appropriate element percentage array within the tool. Instead, ***Structure Use*** and the ***Number of Stories*** are the determining factors for the array. For each ***Structure Use***, the SDE tool uses representative structure types and their specific characteristics to determine the element percentage arrays. Therefore, although the user does not directly choose the superstructure type, foundation type, etc., these characteristics are assigned based on the representative structures for each use and are, therefore, built into the element percentage arrays. Table 4-6 shows the ***Structure Uses*** available within the SDE tool.

Table 4-6: Non-Residential Structure Uses

Structure Use	1-Story	2 to 4 Stories	5 or More Stories
Apartments	✓	✓	✓
Auditorium	✓		
Commercial retail	✓		
Convenience store	✓		

Structure Use	1-Story	2 to 4 Stories	5 or More Stories
Courthouse	✓	✓	
Department store	✓	✓	
Fast food restaurant	✓		
Fire station	✓		
Grocery store	✓		
High school		✓	
Hospital	✓	✓	✓
Hotel			✓
House of worship	✓		
Industrial		✓	
Long-term care facility	✓	✓	
Mini-warehouse	✓		
Motel	✓	✓	
Municipal building	✓	✓	
Office building	✓	✓	✓
Police station	✓	✓	
Restaurants	✓		
Strip malls	✓		

4.11.3.1 Non-residential Structure/Damage/NFIP Info

For non-residential structures, the user should select the ***Number of Stories*** and ***Structure Use***, and then complete the other data fields (Figure 4-45) on the **Structure/Damage/NFIP Info** tab. The list for non-residential structure uses is limited to 22 options and based on the number of stories. Although the list could easily exceed 100 different non-residential structure uses, such a large list would be overwhelming and impractical for most SDE users. The current list strikes a balance between too many and too few structure uses while offering a reasonable range of structure heights (number of stories) and functions. Furthermore, the list of elements and the element percentages as part of the entire structure do not vary significantly for the non-residential structure uses beyond those contained on the current lists.

USER NOTE: Given the limited number of structure use options, users should select the non-residential structure use that best fits the structure being inspected.

Consider the structure use (whether it is more like a factory, a warehouse, or an office building), the building materials (schools and hospitals have different construction materials than a warehouse), and the variations in quality (warehouses and factories are usually of a lower quality

construction than an office building or a house of worship). As an example, the list of non-residential structure uses for a school has the option of either a one-story elementary school or a two- to four-story high school. The best choice for a two-story middle school would be a high school because of its additional features (larger gym, larger auditorium, pool), as well as the number of stories. Similarly, the best choice for a medical office would be an office building rather than a hospital.

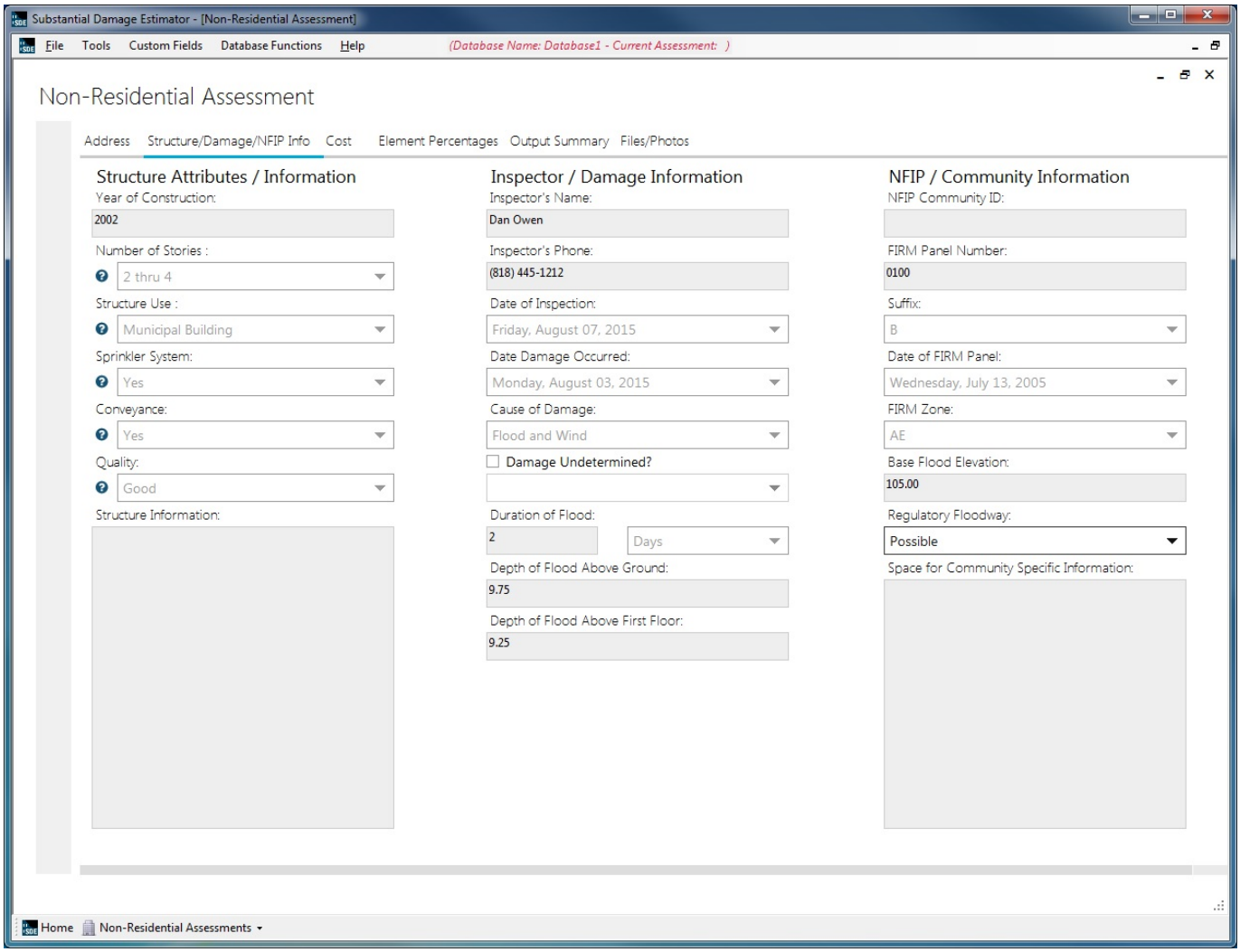

Figure 4-45: Non-Residential Structure, Damage, and NFIP Information tab

The non-residential **Structure/Damage/NFIP Info** tab contains the following data fields:

- **Structure Attributes/Information** – year of construction, number of stories, structure use, sprinkler system (yes or no), conveyance (elevator or escalator, yes or no), quality (drop-down list allows selection from "low" to "excellent"), and Structure Information (text box for comments)

- **Inspector/Damage Information** – name, phone number, and date of inspection, date damage occurred, cause of damage, duration of flood (in hours or days), depth of flood above ground, and depth of flood above first floor
- **Damage Undetermined** – checkbox for undetermined damage. If Damage Undetermined is checked, the dropdown field located directly below the checkbox becomes available. Select one of the following items: No Physical Damage Sustained, Vacant Lot/Property, Residence Refused Inspection, Address Does Not Exist, or Other (If *Other* is selected an instructional pop-up screen will appear letting the user know to type in a clarification for *Other* in the "Residence Information" text field; this is suggested, not required.)
- **NFIP/Community Information** – NFIP Community ID (carried over from the Address tab), FIRM panel number, FIRM panel suffix, date of FIRM panel, FIRM zone, BFE, regulatory floodway (yes, no, possible), and Space for Community Specific Information text box for comments

4.11.3.2 Non-Residential Element Percentages

The **Element Percentages** tab (Figure 4-46) is used by the inspector to enter the damage percentage based on a rapid visual evaluation for each of the seven non-residential structural elements.

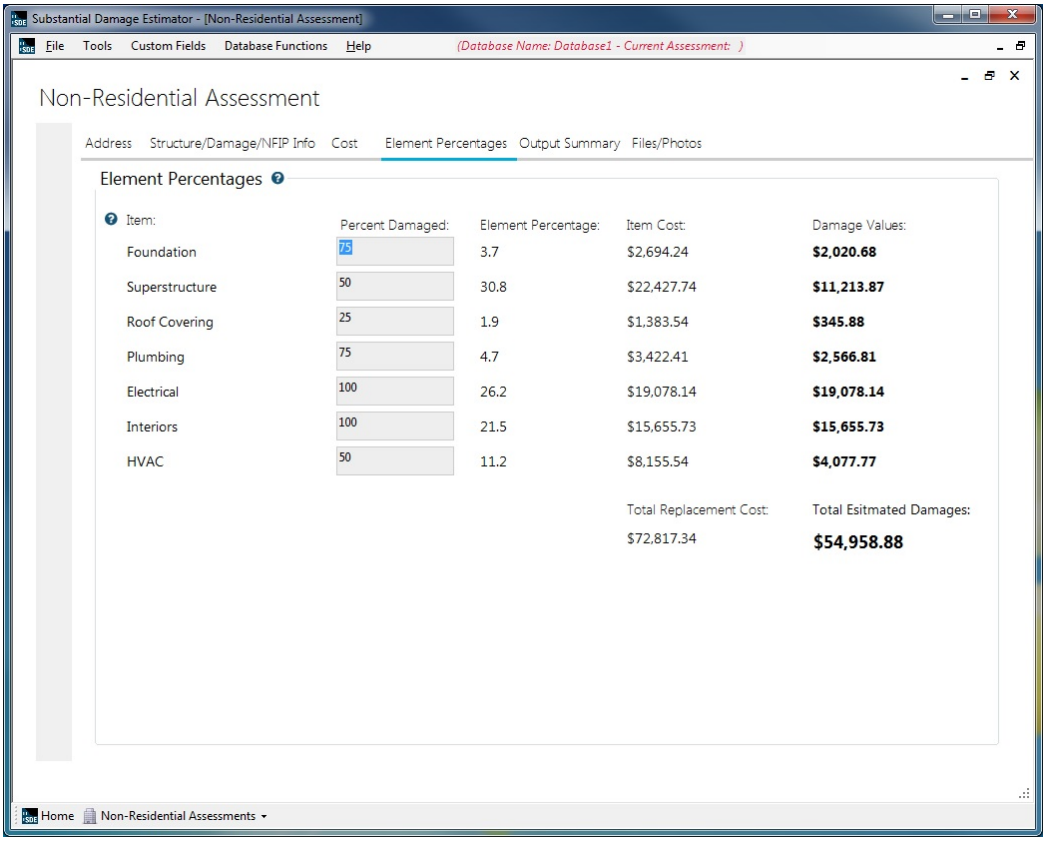

Figure 4-46: Non-Residential Element Percentages

Table 4-7 lists the elements and their individual components for non-residential structures in the SDE tool.

Table 4-7: Non-Residential Structure Elements

Element	Description
1. Foundations	All foundation elements
2. Superstructure	• Load-bearing system that extends from the foundation to the roof structure (does not include the foundation) • Structural members that support the roof deck, such as rafters and trusses, but not roof sheathing • Exterior finishes, such as exterior wall, siding, exterior doors, and windows
3. Roof covering	• Covering material (shingles, tile, slate, metal roofing, built-up roofing) • Roof sheathing • Roof flashing • Does not include structural framing members that support the roof deck
4. Plumbing	• Plumbing fixtures • Water distribution • Wastewater system • Exterior drainage (roof gutters, downspouts) • Fire protection
5. Electrical	• Electrical wiring system (junction boxes, circuit breaker panels, wiring, outlets, switches, receptacles) • Lighting • Ceiling and exhaust fans • Electric baseboard heaters • Communications • Conveyance • Security systems
6. Interiors	• Partitions • Interior doors • Interior surface finishes (wall, floor, and ceiling)
7. HVAC	• Heating units • Cooling units • Ventilation

4.11.4 Required Data Fields

When creating an assessment, certain key data fields are required to save a valid assessment. These fields are provided in Table 4-8 for both residential and non-residential assessments. The only differences between residential and non-residential assessments are the structure attributes and the elements to be evaluated for damage on the **Structure/Damage/NFIP Info** and **Element Percentages** tabs.

Table 4-8: Required and Suggested Data Fields for Residential and Non-Residential SDE Assessments

Tool	Fields
Required to Save an Assessment	• NFIP Community ID • Date of Inspection Residential-specific: • Residence Type • Story (options: 1 or 2 or more) Non-Residential-specific: • Number of Stories (options: 1, 2–4, 5 or more) • Structure Use
Required to Save a Valid Assessment (The same fields are required for both residential and non-residential structures)	• Elevation of Lowest Floor • Longitude • Latitude • Year of Construction • Initial construction quality • Date Damage Occurred • Cause of Damage • FIRM Panel Number • Date of FIRM Panel • FIRM Zone • BFE • Regulatory Floodway • Base Cost per Square Foot • Depreciation Percentage • Depreciation Explanation (if manual depreciation value is entered)
Suggested (The same fields are suggested for both residential and non-residential structures)	• Building Owner Name and Address Information • Owner Mailing Address • Inspector's Name and Phone Number

When the key data fields are empty or contain incorrect data and the user attempts to save the assessment, an error window opens to identify the remaining data fields that must be completed to save a valid assessment (Figure 4-47). A scroll bar is available along the right side of each of the three lists when the number of errors exceeds the normal view portion of the window. The user can select ***Close current assessment without saving*** it or ***Address Errors/Warnings***.

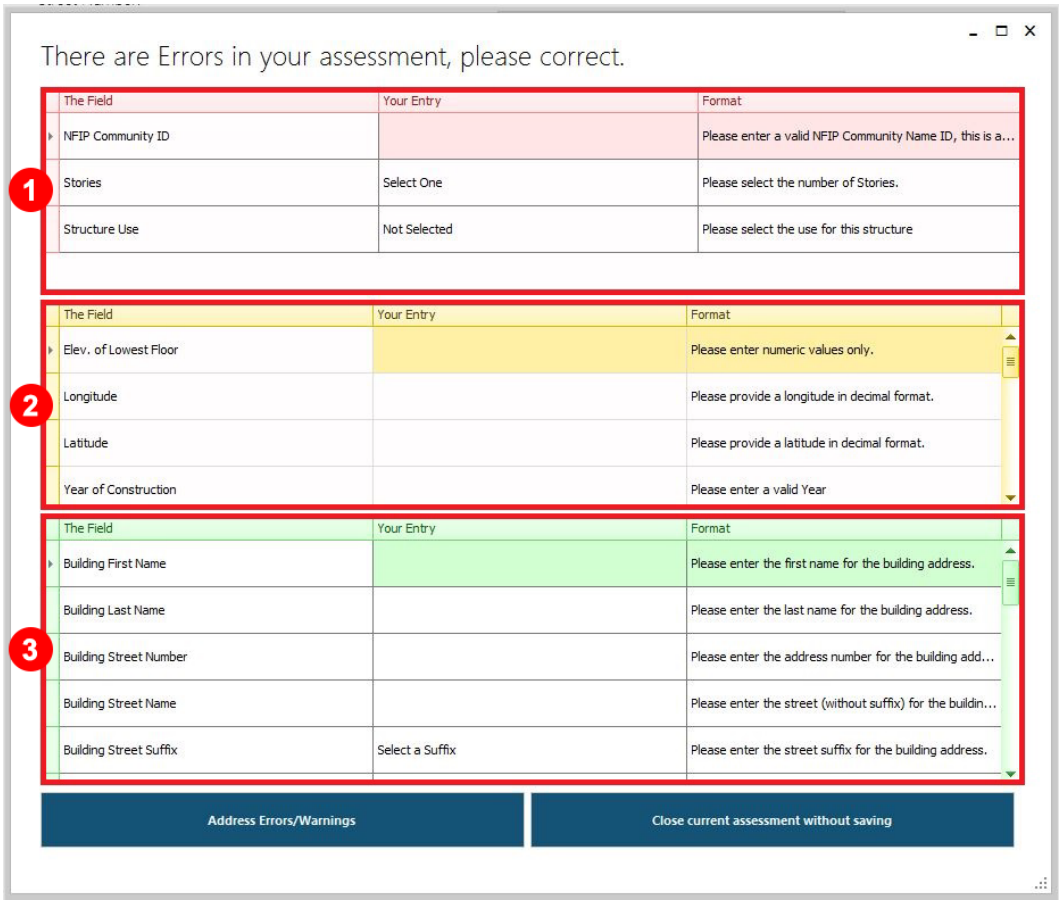

Figure 4-47: Error window identifying incomplete or blank data fields

1 The first region (red) in figure 4-47 indicates the fields are required to save the assessment.

2 The second region (yellow) in figure 4-47 indicates the fields are required for valid assessment.

3 The third region (green) in figure 4-47 indicates the fields are recommended, but not required.

If the user selects ***Address Errors/Warnings***, red, yellow, or green pushpins (Figure 4-48) will appear next to the data field(s) with incorrect or missing data on the each of the six tabs.

- Red pushpin – the data field is required to save the assessment
- Yellow pushpin – the data field is required for a valid assessment
- Green pushpin – the data field is recommended, but not required

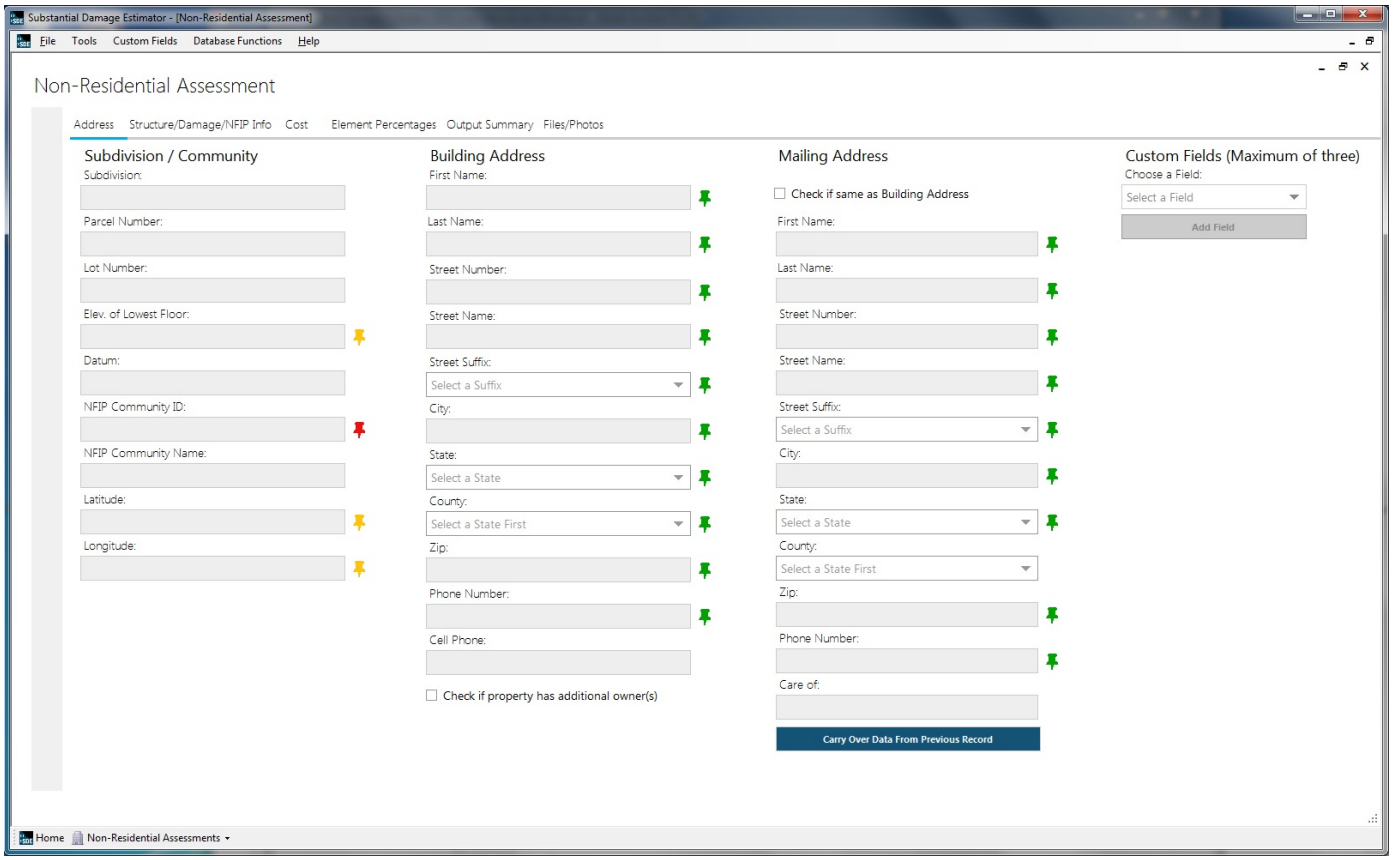

Figure 4-48: Example of colored pins that identify missing or incomplete data

In Figure 4-48, the Elev. of Lowest Floor, Latitude, and Longitude fields are all required for valid assessment, indicated by yellow pushpins. The NFIP Community ID field is required to save the assessment, indicated by a red pushpin. All of the pushpins present under the Building Address and Mailing Address columns are green and indicate those fields are recommended, but not required. There are tooltips available for the pushpins to indicate their current state.

4.12 Viewing and Editing Assessments

Users may view records or assessments using the ***View/Search*** or ***Bulk Editor*** functions on the ***Main Menu***. In the ***View/Search*** function, users can select the structure type, Residential or Non-Residential, to filter the displayed assessments.

4.12.1 View/Search

The ***View/Search*** function shows a grid of partial property assessment data, with key data such as assessment date, address, percent damaged, and a photo of the structure (if available) visible in this view. Users can click on a property/assessment to open up the Current Record Detail screen that displays useful information, such as the owner, address, community ID, community, inspection date, inspector, and percent damaged. There are four button options on this screen: (1) View/Edit Property Info, (2) Delete Property, (3) View/Edit Assessment Info, (4) Delete Assessment. The view within ***View/Search*** function contains 24 assessments per page by default, but this setting can be changed.

For large inventories of assessments, users can locate individual assessments by filtering on the following criteria:

USER NOTE: Users should click the Clear Filters button before using new filters.

- ***Structure Type*** – Residential, non-residential, or both
- ***Inspection Date*** – Range of dates
- ***Percent Damaged*** – Range of percent damage from 0% to 100%
- ***Search For*** – Enter a value from one of the optional data fields in the Search Fields filter
- ***Select Field*** – Select one data field from among:
  - ***View All Records***
  - ***Owner's Name (first or last)***
  - ***Building Address***
  - ***City***
  - ***NFIP Community Name***
  - ***Zip Code***
  - ***County***
  - ***NFIP Community ID***
  - ***FIRM Panel***
  - ***Inspector Name***
  - ***Parcel Number***
  - ***Lot Number***

The filters and their parameters can only be used in the ***View/Search, Bulk Editor, Generate Geo File, Add Residential Assessment, Add Non-Residential Assessment, Community Report,*** and ***Structure & Percent Damage Report*** functions. The filters apply to the current view and are removed when the view is closed or other filters are used.

4.12.2 Bulk Editor

USER NOTE: All edits are saved as they are made, and overwritten data is permanently erased from the assessment.

In the SDE 2.2.0 Tool, the ***Bulk Editor*** allows users to edit all data fields for as many assessments as wanted from a single view. The edits are made directly to the current assessments in the SDE 2.2.0 database. When the user clicks on the ***Bulk Property Editor*** function on the ***Main Menu***, the view shown in Figure 4-49 appears. The user has access to each assessment in the active SDE inventory. There is one assessment per row and the scroll bars along the bottom and right side can be used to navigate to a specific data field within a specific assessment. To edit a data field, the user clicks on the field to highlight the current data. The edits can be done by either typing over the current data or using the copy and paste functions. Edits must be made one at a time, on a field-by-field and assessment-by-assessment basis.

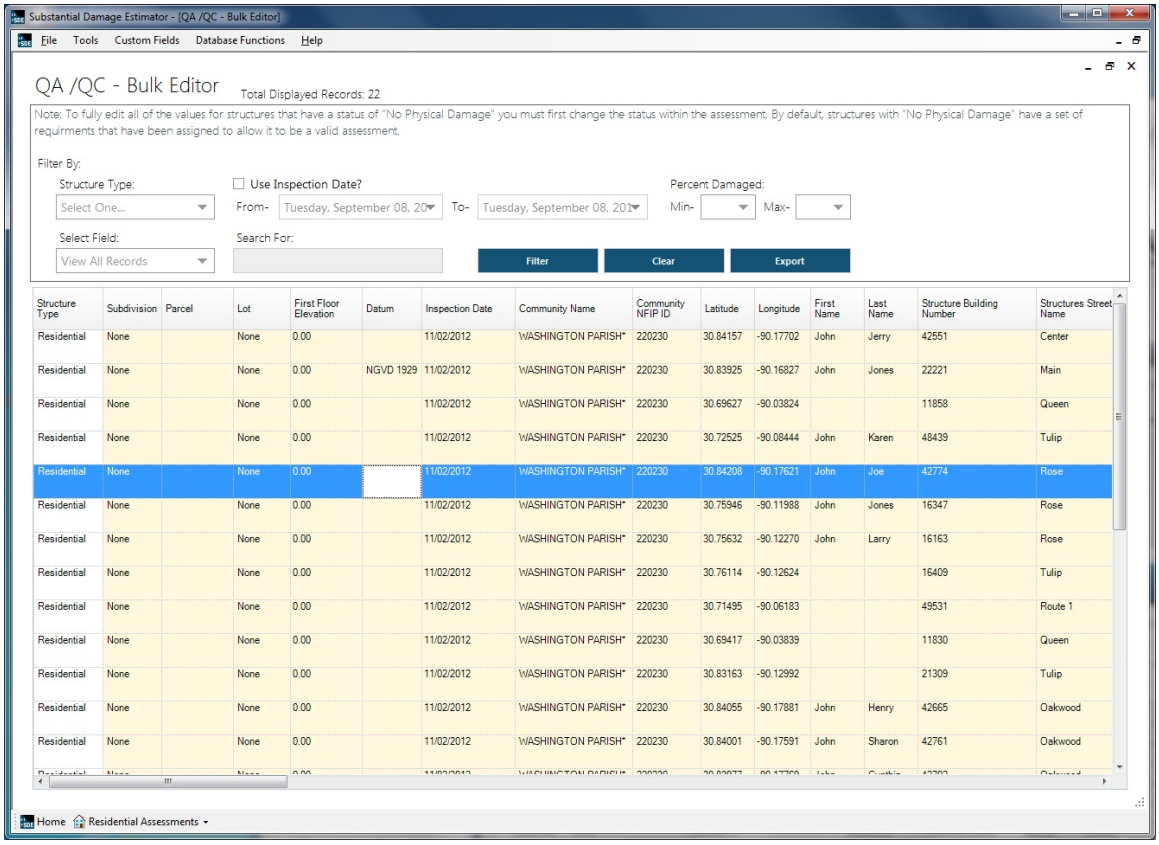

Figure 4-49: Bulk Editor View

Data can be sorted by clicking on the column header. The first click sorts the data either numerically (from low to high) or alphabetically (from A to Z). A second click on the column header produces a reverse sort (from high to low or Z to A).

Similar to the filters for the ***View/Search All Records*** function, the filters on the ***Bulk Property Editor*** can be used to view assessments by ***Structure Type***, ***Inspection Date***, a range of ***Percent Damaged*** values, and ***Select Field*** to filter by ***Owner's Name***, ***Building Address***, ***City***, ***NFIP Community Name***, ***Zip Code***, ***County***, ***NFIP Community ID***, or ***FIRM Panel***. The filter parameters are only in effect for the current view and are removed when either new filters are applied or the view is closed or other filters are used. User should click the ***Clear Filters*** button before using new filters.

The ***Bulk Editor*** function can also be used for QA reviews to check the completeness and consistency of the assessment data recorded in SDE tool. The QA reviews can be accomplished

by sorting each data column A to Z and then from Z to A to identify missing data, spelling errors, or other inconsistencies. Some suggested QA reviews include:

- Review the entire database for duplicate records from the current or previous days.
- Verify that the correct community name, street names and suffixes, county/parish, State, inspection date, flood information, inspector names and contact information, and NFIP information were entered into the tool and are consistent for all assessments within the same community.

SECTION 5 EXPORTING SDE DATA

SDE data can be exported from the ***Main Menu*** by clicking Import/Export Functions, then choosing Export SDE Data, Export Files to Excel, or Import/Export User Settings (Figure 5-1). Data exported as an SDE database must be imported back into the SDE tool to either view the assessments or make edits. A data export to Excel is basically a one-way data export because data edited within the Excel file cannot be imported back into the SDE tool unless the ***Enterprise Import*** function is used. A limited amount of data per assessment can also be exported as a georeferenced file for viewing in a geospatial image viewer.

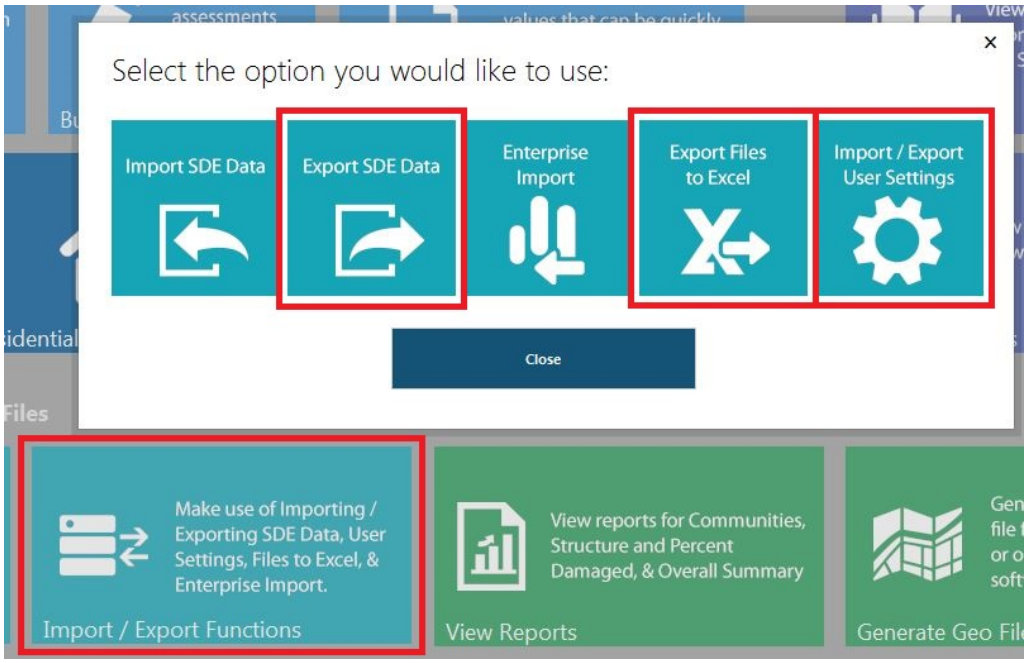

Figure 5-1: Export of SDE data

5.1 Exporting SDE Data

The purpose of the ***Export SDE Data*** function is to allow assessment data to be exported from the tool and imported back into the tool on the same or different computers. To export data, the user must click on the ***Export SDE Data*** button (figure 5-1). This will open a window (Figure 5-2) that provides assessment filter criteria at the top. For large inventories of assessments, filters can be used to identify individual assessments for export by ***Structure Type***, ***Inspection Date***, a range of ***Percent Damaged*** values, and ***Search For*** names or values based on ***Owner's Name***, ***Building Address***, ***City***, ***NFIP Community Name***, ***Zip Code***, ***County***, ***NFIP Community ID***, or ***FIRM Panel***. The filter parameters are only in effect for the current view and are removed when the view is closed or other filters are used. User should click the ***Clear Filters*** button before using new filters.

To view specific assessments for export, the user must enter the filter information to view the desired assessments. To view all assessments in the database, the user must select ***Both*** from the ***Structure Type*** drop-down menu and leave the other fields blank. Once the filter fields have been entered, the user should click the ***Filter Results*** button. All the assessments that meet the filter criteria will be available in the export view. The user should either select the ***Check All*** button for all assessments (and records) or select individual records of property data or assessments using the checkbox at the left end of the record or assessment row to be exported.

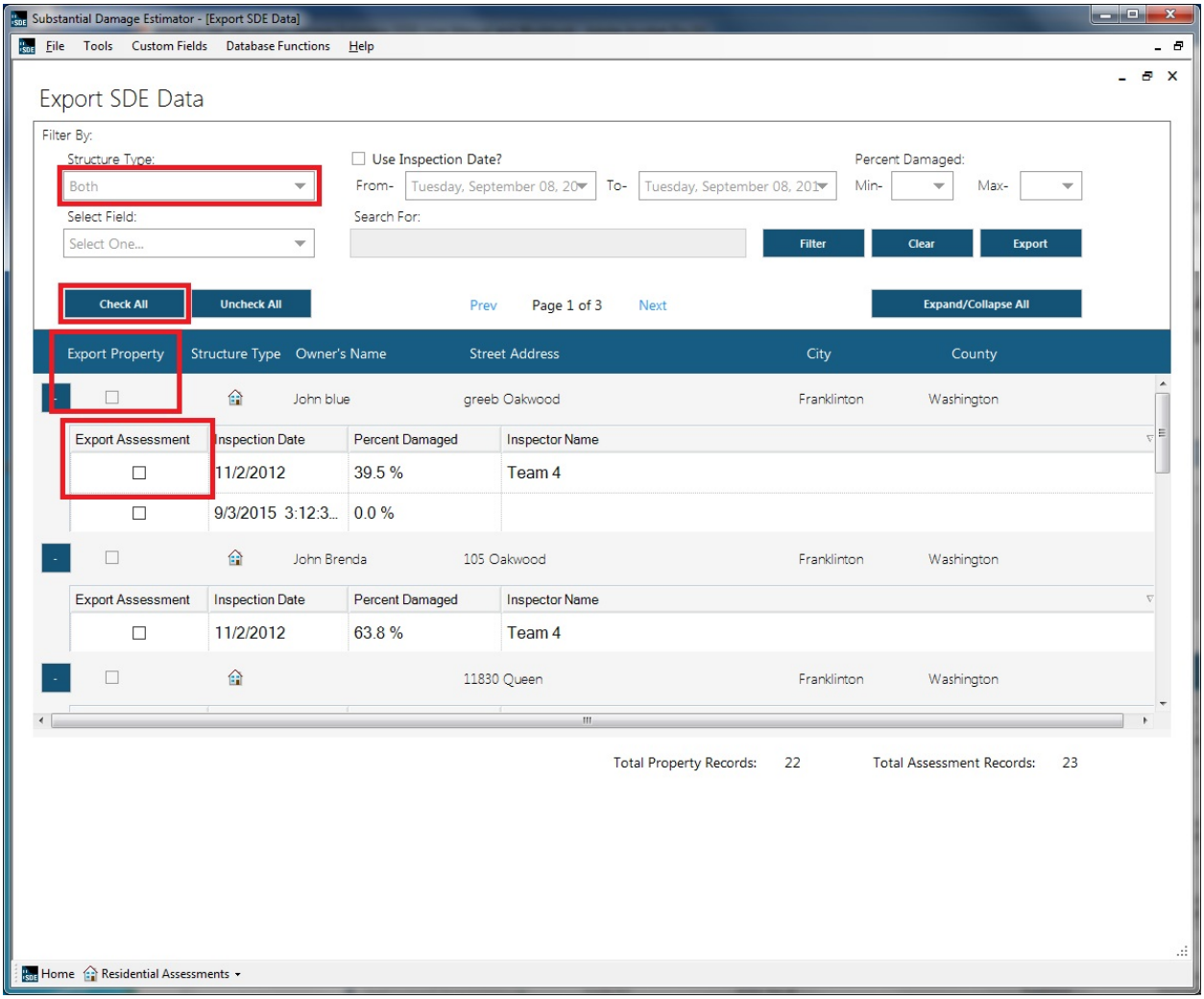

Figure 5-2: Export SDE Data screen with filter, record, and assessment options

Once a selection is made and the user clicks the ***Export*** button, a window will open to allow the user to select a location on the host computer to save the exported file. Once the export is complete, a window will appear showing the file path and confirming that the files have been

exported to a new folder called "SDE Assessments." The user will then be returned to the SDE 2.2.0 ***Main Menu***.

5.2 Exporting to Excel

The ***Export Files to Excel*** function allows the user to export all of the data located in the tool to an XLS file. When the user clicks on this function, a window will open (Figure 5-3) that provides filter criteria at the top for the assessments to be exported. The user must enter the filter information and select ***Filter Results*** to view the desired records. To view all records in the database, the user must select ***Both*** from the ***Structure Type*** drop-down menu. To change the filter results, the user should click on the ***Clear Filters*** button and enter new filter criteria. Once the filter parameters have been entered and the user clicks the ***Filter Results*** button, the ***Creating Data Set to Export*** progress bar will appear.

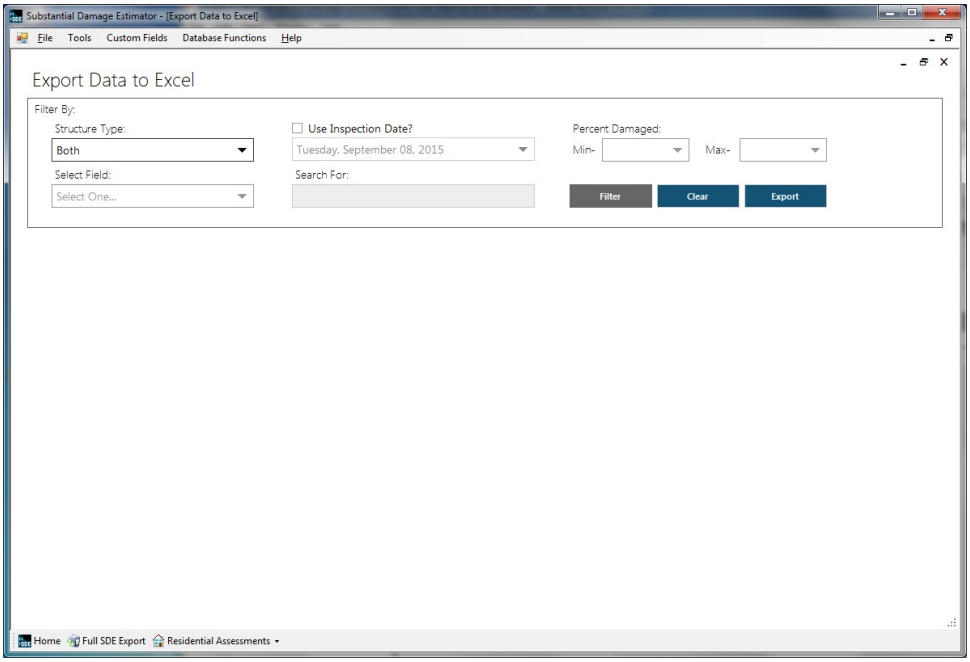

Figure 5-3: Export Data to Excel Filter Options

After the export progress bar reaches 100 percent, the assessments (one assessment per row) will appear in the window similar to how the data will appear in the XLS file (Figure 5-4). A scroll bar along the bottom of this screen allows the user to see all of the data fields that will be included in the Excel file. Once the desired records have been filtered, the user can export all of the data shown to an XLS file by selecting the ***Export Data*** button.

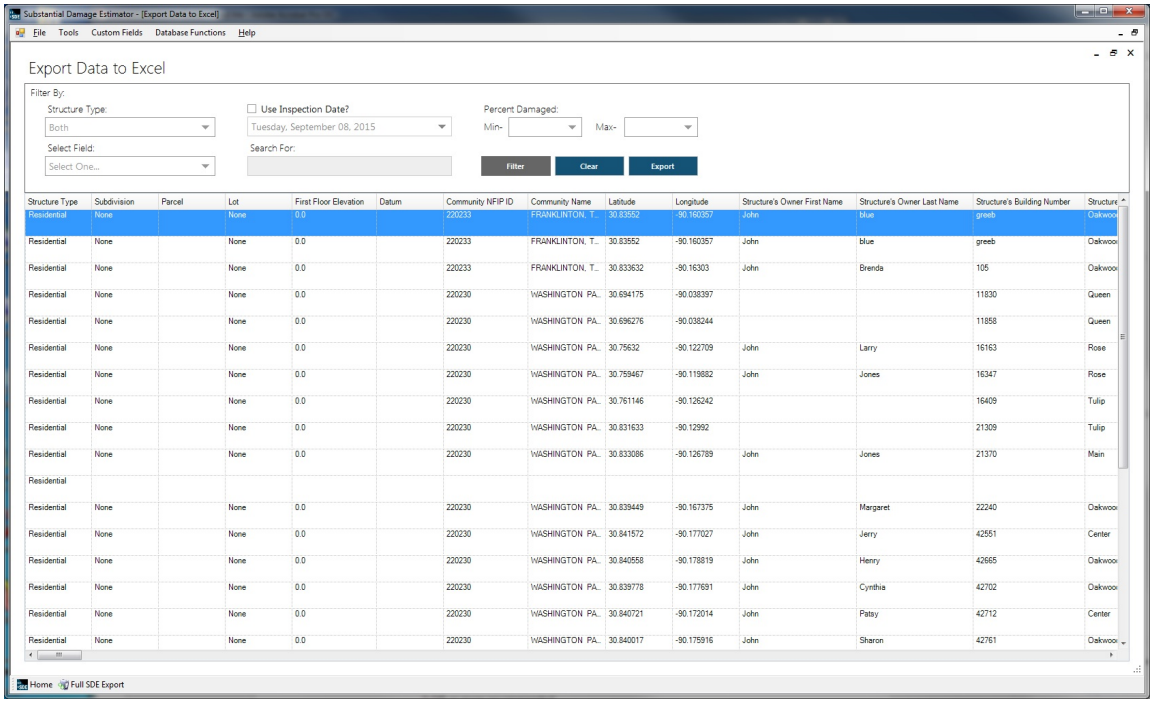

Figure 5-4: Export Data to Excel-Assessments Data View (prior to exporting)

After the export is complete, a message will appear (Figure 5-5) that confirms the export and identifies the location on the host computer where the Excel file was saved. After selecting ***OK***, the user will be returned to the ***Main Menu***.

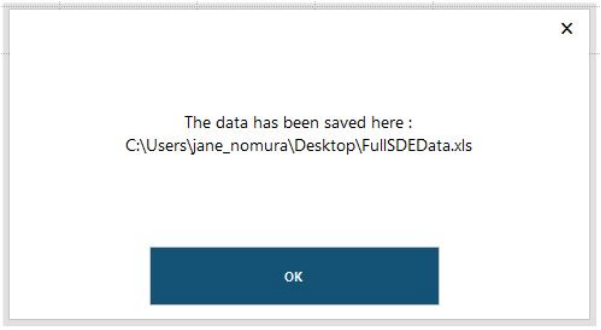

Figure 5-5: Export Data to Excel Confirmation

5.3 Exporting User Settings

This function in the SDE 2.2.0 Tool allows users to import (refer to Section 4.8.4) or export their settings. In order for users to import their settings they will need to click on the ***Import/Export Functions*** button from the ***Main Menu***, then select the ***Import /Export User Settings*** option (Figure 5-6). Afterwards the ***Import / Export User Settings*** window will appear, prompting the user to either select to import or export (Figure 5-7).

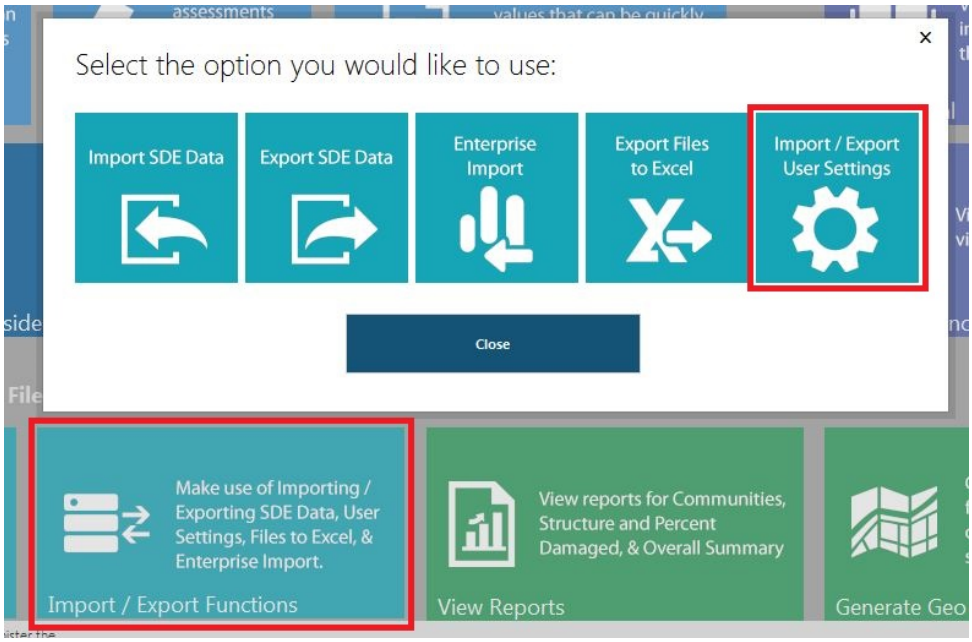

Figure 5-6: Import / Export User Settings

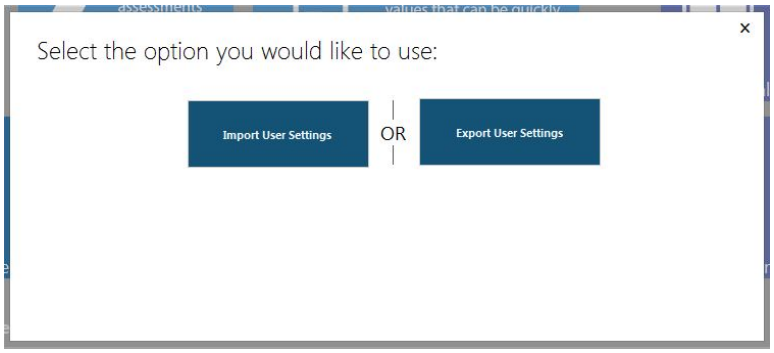

Figure 5-7: Import / Export User Settings Window

If the user selects to export then the user will see the ***Import / Export User Settings*** window with the options available to the user to select what they wish to export (Figure 5-8). Please note that the user will only be able to export user settings that were found within the tool (i.e. if the user has not created Enterprise Import Settings but the tool finds Default Values and Notes then the Enterprise Import Settings will be disabled).

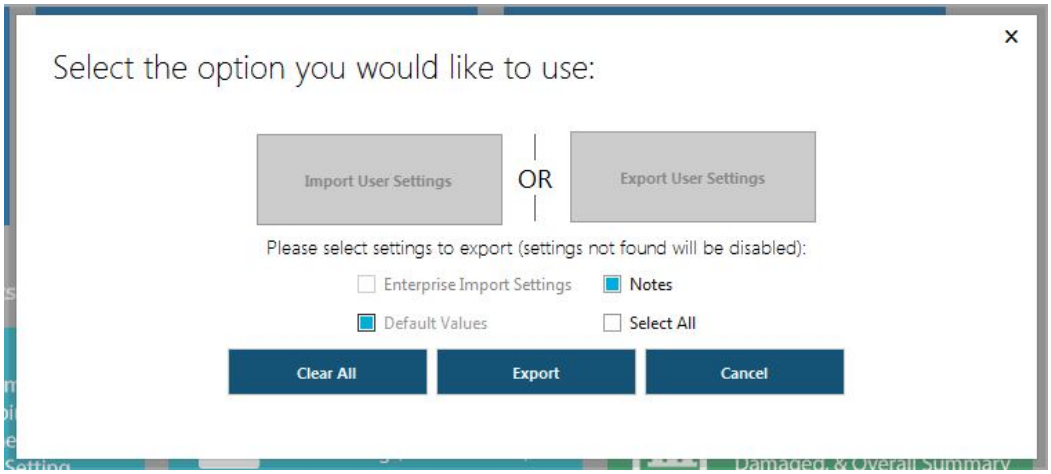

Figure 5-8: Import / Export User Settings Window

Once the user has selected the settings that they wish to export they will then select the ***Export*** button. A Browse for Folder window will appear to select the export location. Once the SDE Tool has finished exporting the settings the user will then see a confirmation screen showing them where the settings were exported.

5.4 Generating Georeferenced Files

A KML file is an XML-based file that can be used for geographic annotation by a geospatial image viewer. A file with a .KMZ extension is a KML file that has been zipped (or compressed) to reduce the file size.

The SDE tool can generate a KMZ file and format place marks according to the degree of damage to a structure using KMZ's style capabilities. To generate a georeferenced file, click on the ***Generate Geo File*** function on the ***Main Menu*** (Figure 5-9).

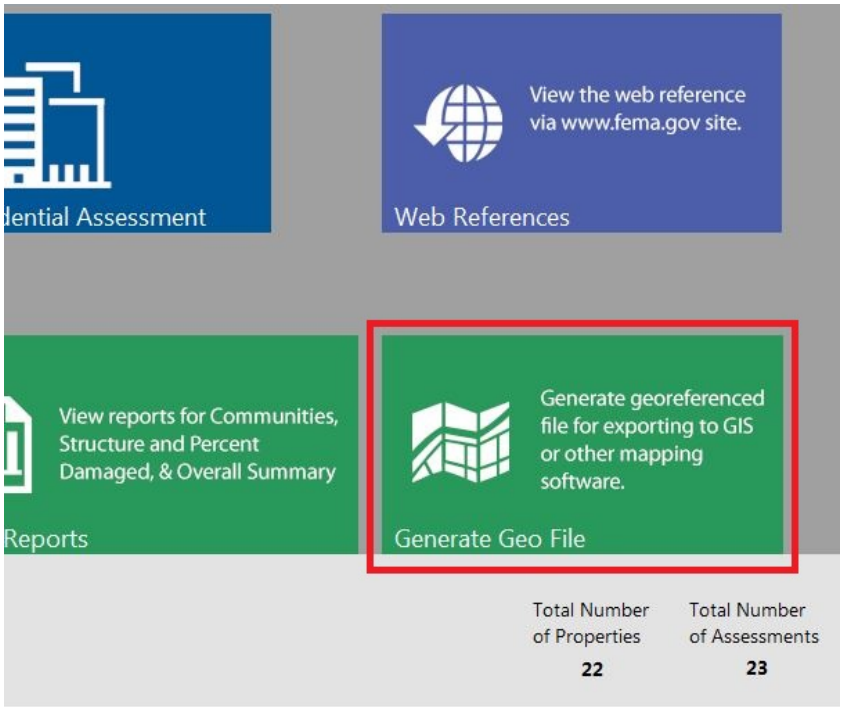

Figure 5-9: Generate georeferenced file

For the ***Generate Geo File*** function, next the user will see a window with the ability to filter the results.

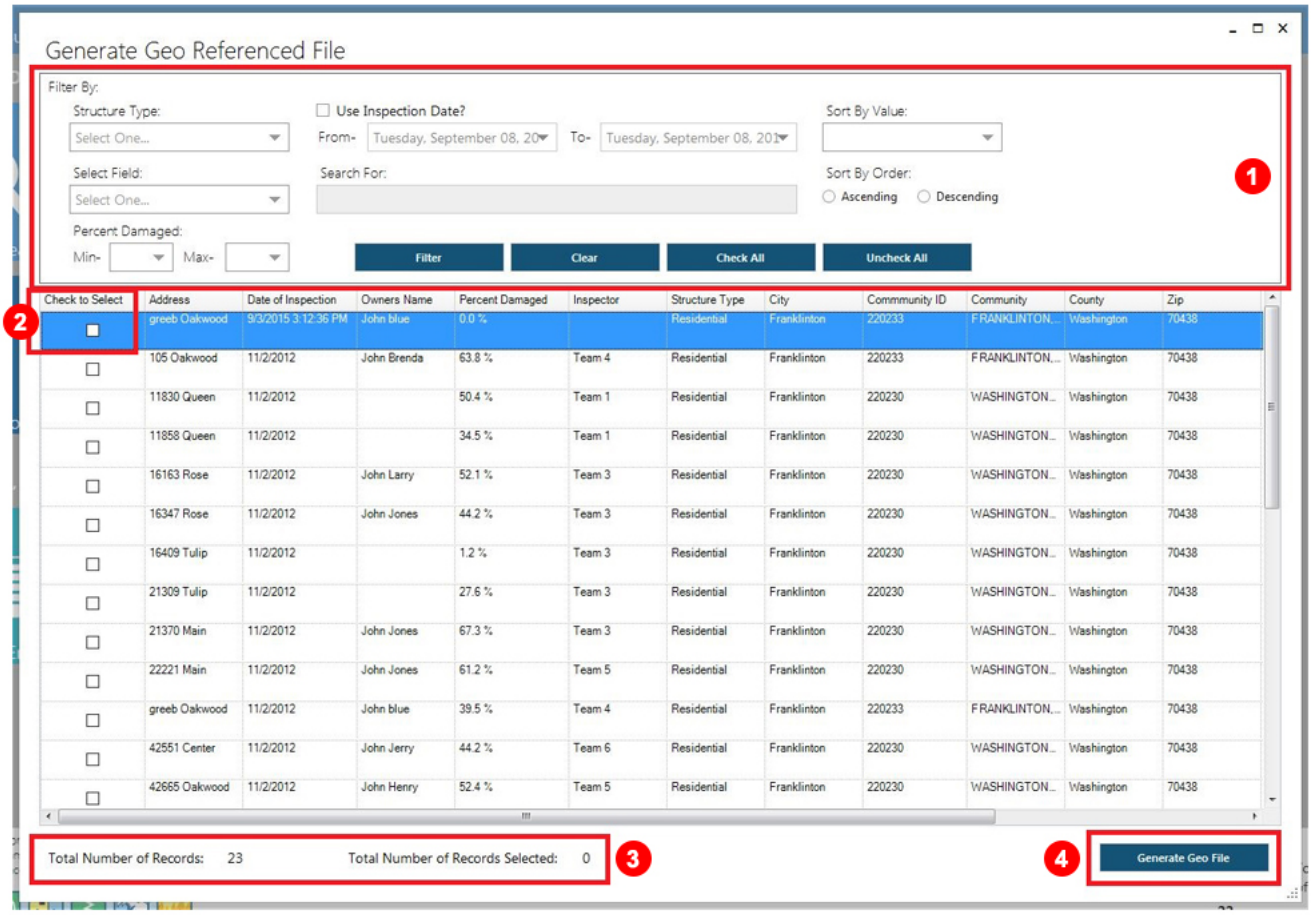

Figure 5-10: Window when filtering for georeferenced data

Figure 5-10 shows the following options numbered according to the following list:

1. **Filters** – This section will allow users to apply filters to narrow the dataset that they would want to generate a geo file for.
2. **Selections** – This section will allow users to "check" which records they would want to be included into the dataset that they would generate a geo file for.
3. **Counts** – This section will allow users to see updated counts of the number filtered records within the dataset after a filter has already been applied as well as the total count of the number of records that they have selected to be included in the geo file once generated.
4. **Generate** – This section will allow users to create the georeferenced file based on the data selected after the user has already either filtered and/or marked the records the want to be included in the data that gets generated. Once selected it will generate the georeferenced file and the KMZ file will be saved to the computers desktop. A window will open to confirm that the export was successful and display the KMZ file name. Place

marks for residential properties appear at their respective latitude and longitude as either not substantially damaged (less than 50 percent damaged) or substantially damaged (50 percent or more damaged). Non-residential properties display as one of three types: not substantially damaged (0–40 percent damaged), possibly substantially damaged (40–60 percent damaged), or substantially damaged (greater than 60 percent damaged). Place marks are color-coded: green for not substantially damaged, yellow for possibly substantially damaged, and red for substantially damaged structures. Photos of the structures are included in the KMZ file. Limited attributes, such as the address of the structure, are shown in the browser or 2-dimensional visualization tool.

SECTION 6 SDE REPORTS

The SDE tool can generate three primary report types that involve nine options. These reports are pre-defined with a fixed format and can be accessed through the SDE ***Main Menu*** (Figure 6-1) and the **View Reports** button. When the reports are selected in the tool, users have the option to either view or print the reports for all assessments in the inventory or for specific assessments using one or more of the available report filter criteria.

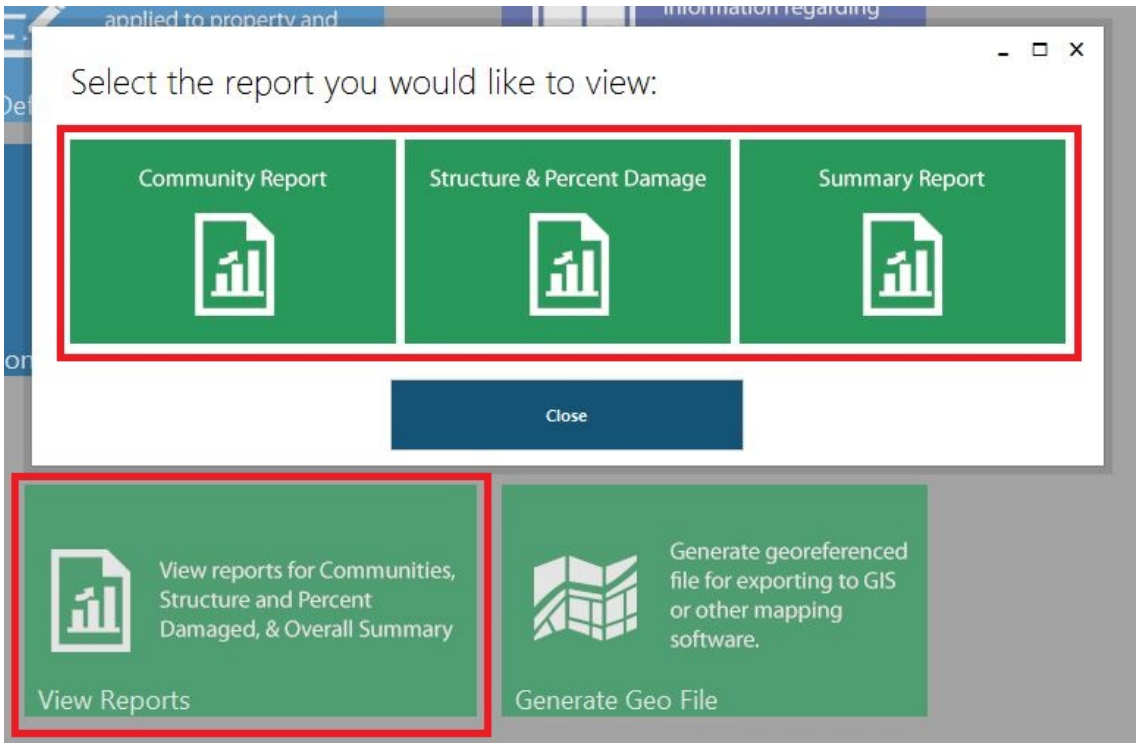

Figure 6-1: Reports access on the Main Menu

Table 6-1 identifies the three primary and one secondary report types and their contents.

Table 6-1: SDE Report Types and Contents

Report Type	Contents
Community Reports	• All residential structures • All non-residential structures • All structures (both residential and non-residential structures)
Structure & Percent Damage Reports	• All residential structures • All non-residential structures

Report Type	Contents
	• All structures (both residential and non-residential structures)
Summary Reports (from ***Main Menu***)	• One-page summary reports for either all residential or all non-residential structures (from the ***Main Menu***)
Individual Structure Summary Reports (from **Output Summary** tab)	• Summary Report (1-page) • Detailed Report (5-page)

6.1 The Community and Structure & Percent Damage Reports

The ***Community Report*** and the ***Structure & Percent Damage Report*** can be accessed through the ***View Reports*** function of the ***Main Menu***. These reports can be filtered beyond residential and non-residential structures to search for specific assessment dates, a range of damage between 0 percent and 100 percent (in 5 percent increments), specific names (owner, city, NFIP community, or county), or specific numeric values (address, zip code, NFIP Community ID). The filter criteria are temporary and will only be active as long as the report is open in the tool. The reports will contain all assessments that meet the filter criteria selected by the user.

The ***Community*** and ***Structure & Percent Damage Reports*** can be printed with or without structure photos. The without-structure photos option may be useful for large inventories of more than 200 structures because the data can be filtered or printed faster. In addition, both of these reports can be opened within the SDE tool and quickly scanned to verify that each assessment has at least one structure photograph.

The reports contain all of the structures within the inventory and are sorted numerically by NFIP Community ID and then alphabetically by full property address. The ***Community Report*** contains the following data:

- Community NFIP Community ID and Name
- Structure Address, Community, State, and Zip Code
- Inspection/Assessment Date
- Owner Name (last, first)
- Basis for Value of Building (Computed Actual Cash Value, Adjusted Tax Assessed Value, or Professional Appraisal) and Building Value
- Basis for Cost of Repairs (Computed Damages, Contractor's Estimate, or Community's Estimate) and Cost of Repairs
- Actual Cash Value of the Building

Report Sharing

The ***Community*** and ***Structure & Percent Damage*** reports should not be shared with structure owners because the reports contain Substantial Damage data on all structures in the SDE inventory. Individual structure SDE data should not be shared with anyone but the structure owner or his or her representative.

- Type of Structure
- Percent Damaged
- Additional Owners (if available, refer to 4.11.2.1)
- Default Photograph (if available)

The ***Structure & Percent Damage Report*** contains the following data:

- Community NFIP Community ID and Name
- Structure Address, Community, State, and Zip Code
- Inspection/Assessment Date
- Owner Name (last, first)
- City and State
- County
- Percent Damaged
- Default Photograph (if available)

The ***Community*** and ***Structure & Percent Damage Reports*** can be printed and used by community offices as quick references for Substantial Damage determinations and assessments that have been completed in the inventory.

6.2 Summary Report

The structure summary reports can be accessed through either the ***Main Menu (View Reports)*** or the ***Print Summary Report for this Structure*** button at the bottom right of the **Output Summary** tab. The ***Summary Reports*** accessed from the ***Main Menu (View Reports)*** allow the batch printing of residential or non-residential 1-page ***Summary Reports*** based on the available filters. The same 1-page ***Summary Report*** can also be printed for the specific structure assessment that is open for review or editing from the print button at the bottom right of the **Output Summary** tab.

The ***Summary Report*** involves a single structure and contains the following data organized by section name:

- **Subdivision** – subdivision name, parcel #, lot number, elevation of the lowest floor, and datum
- **Community** – NFIP community name, NFIP Community ID, and latitude and longitude
- **Building Address** – owner name, structure address, phone number, and additional owners (if available, refer to Section 4.11.2.1)
- **Building Information** – year of construction, structure type, and initial construction quality

- **Damage Information** – date of inspection, inspector information, date of damage, cause of damage, duration of flood and units (hours or days), and estimated depth of flooding above lowest floor
- **NFIP Information** – FIRM panel #, suffix, date of FIRM panel, FIRM zone, BFE, and regulatory floodway
- **Percent Damaged** – value of building, method of structure valuation used for Substantial Damage determination, percent damaged, Substantial Damage determination (not substantially damaged or substantially damaged), value of the cost of repairs/improvements, and method of damages used for Substantial Damage determination
- **Damage Summary** – replacement cost, depreciation percentage, computed structure value, computed damages, percent of existing improvements and repairs pre-disaster, and repair reconstruction %
- **Optional User Entered Data** (if used) – professional appraisal, tax adjustment factor, adjusted tax assessed value, and contractor's or community's estimate of repairs/improvements
- **Signature and Printed Name of Local Official**

6.3 Individual Structure Detailed Report

The 5-page ***Detailed Report*** contains all the data entered into the assessment on the six tabs for the structure that is open for review or editing. The ***Print Detailed Report for this structure*** button can be found at the bottom right of the **Output Summary** tab, just below the print button for the 1-page ***Summary Report***.

6.4 SDE Report Use

Communities are encouraged to share either the 1-page individual structure ***Summary Report*** or the 5-page individual structure ***Detailed Report*** with the respective structure owners or their representatives. The reports:

1. Demonstrate that the SDE inspection process is formalized and thorough
2. Identify the elements that were damaged
3. Identify the degree of damage per element
4. Verify community adherence to the NFIP regulations
5. Can support Increased Cost of Compliance claims by structure owners
6. Provide a complete summary of evaluations that can be included with Substantial Damage determination letters to structure owners
7. Help track cumulative Substantial Damage for individual structures from multiple events

8. Can be used as community evidence for Substantial Damage determinations challenged by structure owners
9. Support permit applications for structure repair