Individuals and Households Program (IHP)

Line Item Tutorial

Presented by:

Date:

FEMA

Civil Action No. 5:21-cv-00071
11th Interim Response
008639

Foundation/Masonry – Line Items

- Chimney Cap, Replace
- Chimney Clean & Inspect
- Chimney, Remove
- Chimney, Replace
- Concrete Foundation, Wall, Replace
- Concrete Slab, Replace
- Concrete, Pressure Grout
- Firebrick, Replace
- Foundation Knee Wall, Replace
- Foundation, Footing, Replace
- Jack & Re-level
- Jack & Shore
- Jack House, Reset on Foundation
- Lally Column, Replace
- Lump Sum – Found/Masonry
- Masonry Access Step, Replace
- Masonry Fireplace, Remove
- Masonry Fireplace, Replace
- Masonry Veneer, Replace
- Pier/Column, Replace
- Service Call – Found/Masonry
- Stone/Brick Exterior Wall Foundation Replace
- Tuck Point

FEMA

Chimney Cap, Replace

Description: Use to remove and/or replace one chimney cap or screen per flue. Chimney caps and screens may be constructed of masonry or metal preventing rain from entering the shaft or protecting the environment from ashes.

Common COD's: Tornado/Wind

FEMA

Return to Foundation/Masonry – Line Items

Civil Action No. 5:21-cv-00071
11th Interim Response
008641

Chimney, Clean & Inspect

Description: To inspect a chimney that does not display extensive cracks or loose bricks, for structural damages. If the chimney is found to be structurally safe, the chimney will be cleaned.

Common COD's: Earthquake, Tornado/Wind

FEMA

Return to Foundation/Masonry – Line Items

Chimney, Remove

Description: Use only to remove a damaged chimney or one that has separated from the dwelling causing a safety hazard.

Common COD's: Earthquake, Tornado/Wind

FEMA

Return to Foundation/Masonry – Line Items

Real Property – Foundation/Masonry

Chimney, Replace

Description: Use to install a new chimney. This does not include removal of damaged chimney.

Common COD's: Earthquake, Tornado/Wind

FEMA

Return to Foundation/Masonry – Line Items

Civil Action No. 5:21-cv-00071
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008644

Concrete Foundation, Wall, Replace

Description: Use to remove and replace block or poured concrete foundation walls. Does not include Jack & Shore, the cost for the footing, or for each utility connection. Also used for above-grade concrete or block exterior walls.

Common COD's: Earthquake, Flood, Tornado/Wind

FEMA

Return to Foundation/Masonry – Line Items

Concrete Slab, Replace

Description: Use to remove and replace a damaged section of the slab when cracked beyond repair, seriously out of level from uplifting, or when undermined. This item does not include jack and shore.

Common COD's: Earthquake, Flood

FEMA

Return to Foundation/Masonry – Line Items

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008646

Concrete, Pressure Grout

Description: Labor and material to repair concrete/masonry structural cracks with high pressure grout.

Common COD's: Earthquake, Flood

FEMA

Return to Foundation/Masonry – Line Items

Real Property – Foundation/Masonry

Firebrick, Replace

Description: Use to remove and replace firebricks in fireplace.

Common COD's: Earthquake, Tornado/Wind

FEMA

Return to Foundation/Masonry – Line Items

Foundation Knee Wall, Replace

Description: Labor and material to replace a load bearing framed wall between the foundation and the floor joists, sometimes referred to as a cripple wall. This line item does not include Jack & Shore.

Common COD's: Earthquake, Flood, Tornado/Wind

FEMA

Return to Foundation/Masonry – Line Items

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11th Interim Response
008649

Foundation, Footing, Replace

Description: Use to remove and replace foundation footings. This line item does not include Jack & Shore.

Common COD's: Earthquake, Flood

FEMA

Return to Foundation/Masonry – Line Items

Jack & Re-level

Description: Use to jack and re-level house. Use if the house is out of level requiring shimming, resetting of piers or other adjustments to the foundation. Do not use this line item for mobile homes.

Common COD's: Earthquake, Flood

FEMA

Return to Foundation/Masonry – Line Items

Jack & Shore

Description: Use to jack house and install cribbing to temporarily support house so foundation work can be accomplished. Use this item when major repairs are required such as replacement of collapsed foundation walls, footings, knee walls or replacement of piers. Do not use this line item for mobile homes.

Common COD's: Earthquake, Flood

FEMA

Return to Foundation/Masonry – Line Items

Jack House, Reset on Foundation

Description: Use to raise the dwelling, supporting the structure while repairs are made to the foundation and resetting the dwelling on the existing or repaired foundation. Use this line item when the house has moved laterally off the foundation.

Common COD's: Earthquake, Flood

FEMA

Return to Foundation/Masonry – Line Items

Real Property – Foundation/Masonry

Lally Column, Replace

Description: Use to remove and replace a damaged Lally column. A Lally column is a vertically installed steel pipe used to support the main beam of the dwelling frequently found in a basement. Do not use for post and beam construction commonly found within crawlspaces. Use Support Column Wood Replace.

Common COD's: Earthquake, Flood, Tornado/Wind

FEMA

Return to Foundation/Masonry – Line Items

Civil Action No. 5:21-cv-00071
11th Interim Response
008654

Lump Sum – Foundation/Masonry

Description: A lump sum is a fixed dollar amount to address eligible disaster related real property repairs when no other available line item exists.

Common COD's: Earthquake, Flood, Tornado/Wind

FEMA

Return to Foundation/Masonry – Line Items

Masonry Access Step, Replace

Description: Use to remove and replace a single existing masonry or concrete step. For example; a damaged concrete stoop with 4 damaged steps will require the recording of 4 units.

Common COD's: Earthquake, Flood

FEMA

Return to Foundation/Masonry – Line Items

Masonry Fireplace, Remove

Description: Use to remove a damaged fireplace.

Common COD's: Earthquake, Tornado/Wind

FEMA

Return to Foundation/Masonry – Line Items

Civil Action No. 5:21-cv-00071
11th Interim Response
008657

Masonry Fireplace, Replace

Description: Use to install a new fireplace. This does not include removal of fireplace.

Common COD's: Earthquake, Tornado/Wind

FEMA

Return to Foundation/Masonry – Line Items

Masonry Veneer, Replace

Description: Use to remove and replace new brick or stone veneer on the exterior of a home.

Common COD's: Earthquake, Tornado/Wind

FEMA

Return to Foundation/Masonry – Line Items

Real Property – Foundation/Masonry

Pier/Column, Replace

Description: Use to remove and replace damaged brick or masonry columns; or pile driven timbers to support elevated structures. This item does not include jack and shore and is not to be used on mobile homes. For damaged wooden post supporting the floor system, use line item "Wood Post Replace".

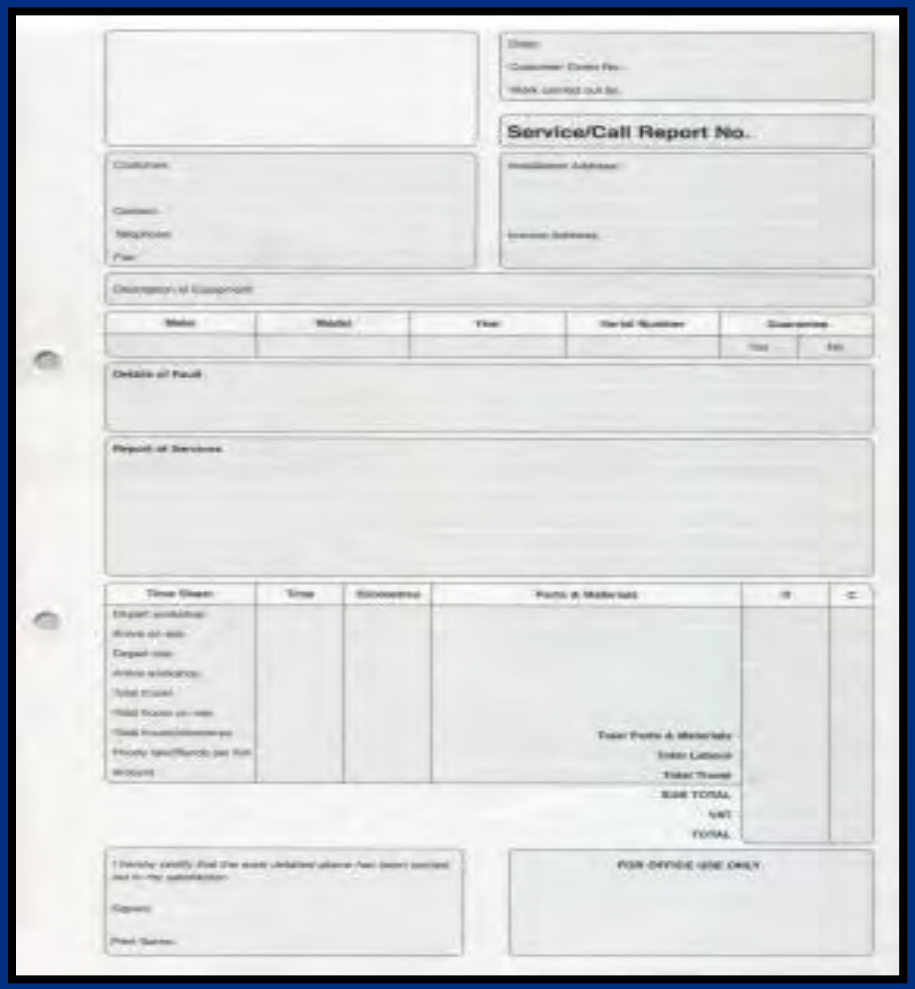
Common COD's: Earthquake, Flood, Tornado/Wind

FEMA

Return to Foundation/Masonry – Line Items

Civil Action No. 5:21-cv-00071
11th Interim Response
008660

Service Call – Foundation Masonry



Service/Call Report No.

Description: Use if the extent of damage is unknown and a professional will be needed to prepare an estimate.

Common COD's: Earthquake, Flood, Tornado/Wind

FEMA

Return to Foundation/Masonry – Line Items

Civil Action No. 5:21-cv-00071
11th Interim Response
008661

Stone/Brick Exterior Wall Foundation Replace

Description: Use to remove and replace a true stone or brick masonry foundation or exterior wall (not a veneer). Does not include Jack & Shore, the cost of the footing, or for each utility reconnection. Do not use this line item for a block or poured concrete walls.

Common COD's: Earthquake, Flood

FEMA

Return to Foundation/Masonry – Line Items

Tuck Point

Description: Use to seal minor cracks in masonry not affecting the structural integrity of the dwelling, and does not exceed 1/4".

Common COD's: Earthquake

FEMA

Return to Foundation/Masonry – Line Items

ACE 4 – Rapid Damage Assessment

Minot, ND, June 25, 2011 (source: FEMA)

ACE 4 – Rapid Damage Assessment

Course Main Objectives

- Define Rapid Damage Assessment (RDA)
- When do we use RDA
- How to use RDA
- Gain confidence and the ability to utilize RDA when available.

Define RDA

- RDA is a feature in the ACE 4 software that will allow the inspector to perform a larger number of inspections when there is a higher urgency and circumstances permit.

- It is not intended to be as accurate as a complete inspection but will allow more survivors to receive benefits in a more manageable and timely manner.

ACE 4 – Rapid Damage Assessment

When Do We Use RDA

- **Currently RDA is designed to only work with FLOOD type water events where the HWM is > 3”.**

- **FEMA must determine that RDA is appropriate for the Disaster and turn on the setting to allow it in ACE 4**

Using RDA: Objective: Preparation

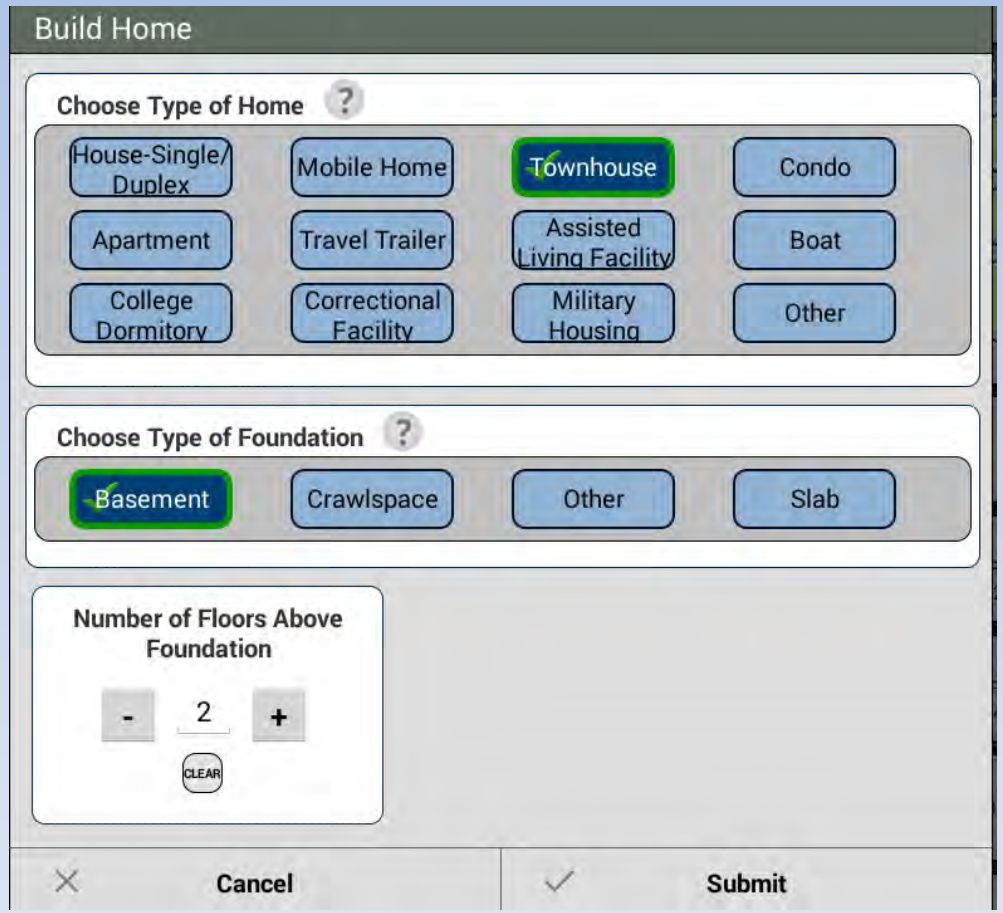
- Begin your inspection in ACE 4
- Touch the ACE 4 Icon and log in.
- Select an inspection

Objective: Begin the Inspection

- Complete the APP INFO, HOME INFO and LOSSES/EXPENSES tabs as you normally would for any inspection type.
- Select the BUILD HOME tab [1]
- Select the Build Home (yellow button) Option [2]

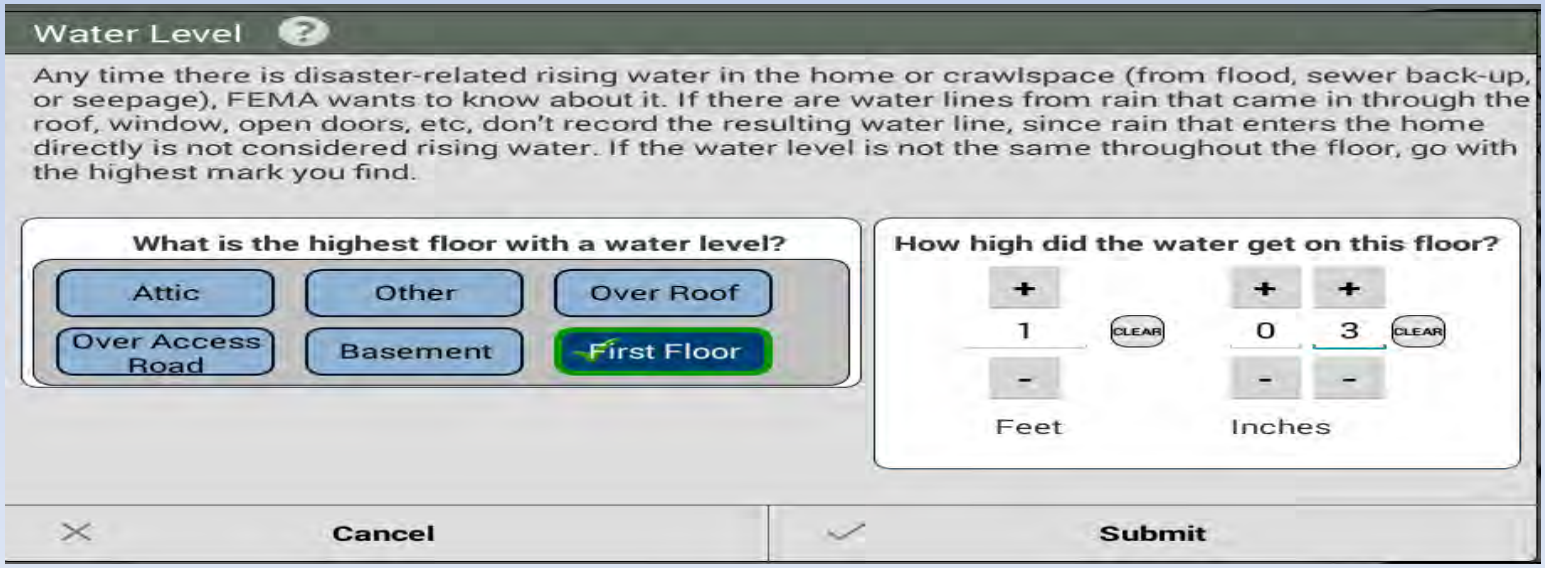
Build Home Function
Objective: Define Structure

- Choose Type of home
- Choose Foundation Type
- How many floors above foundation
- Submit



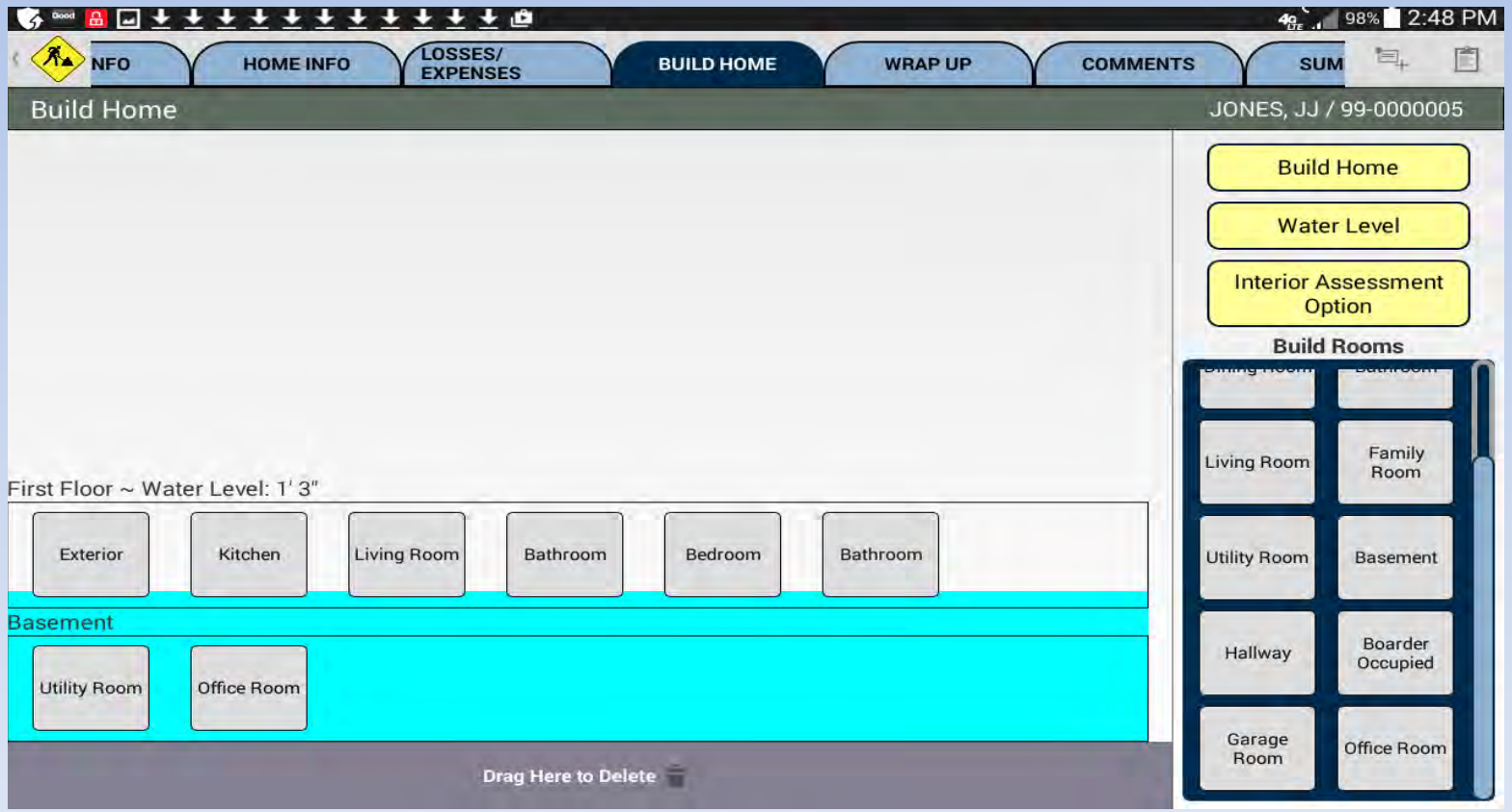
Objective: Set Water Level

- Determine highest floor with water level
- Set the High Water Mark (HWM)
- Note: Changing the HWM after performing RDA will delete all RDA line items – RDA will have to be run again



Objective: View Water Level

- Returning to the Build Home tab you get a visual representation of the water level

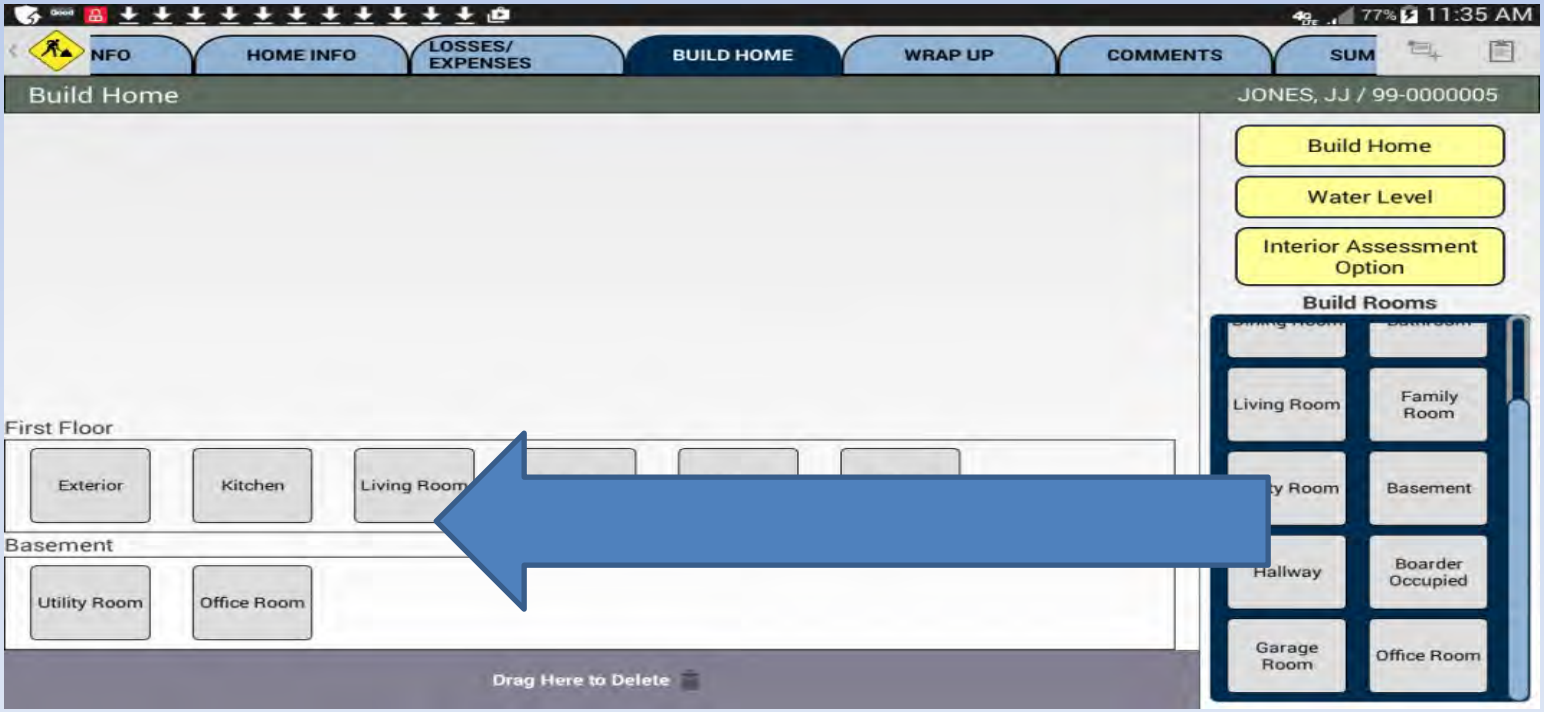


ACE 4 – Rapid Damage Assessment

Build Home Function

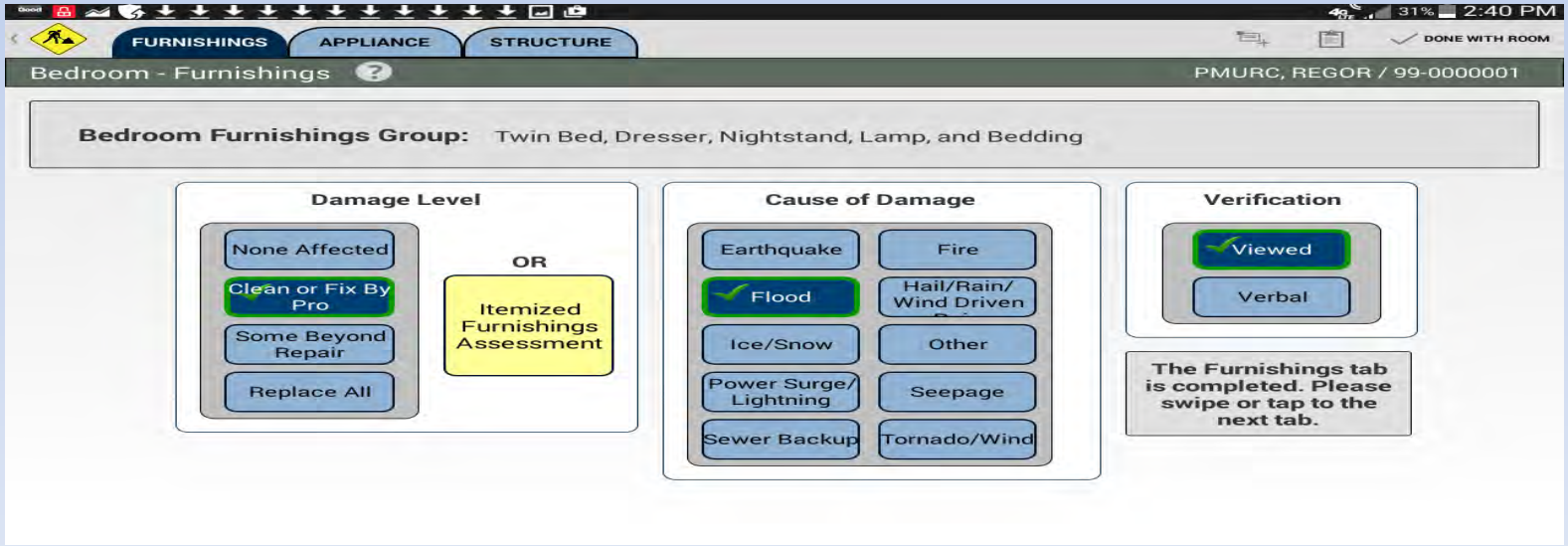
Objective: Add All Rooms

- Touch and drag rooms to appropriate floor



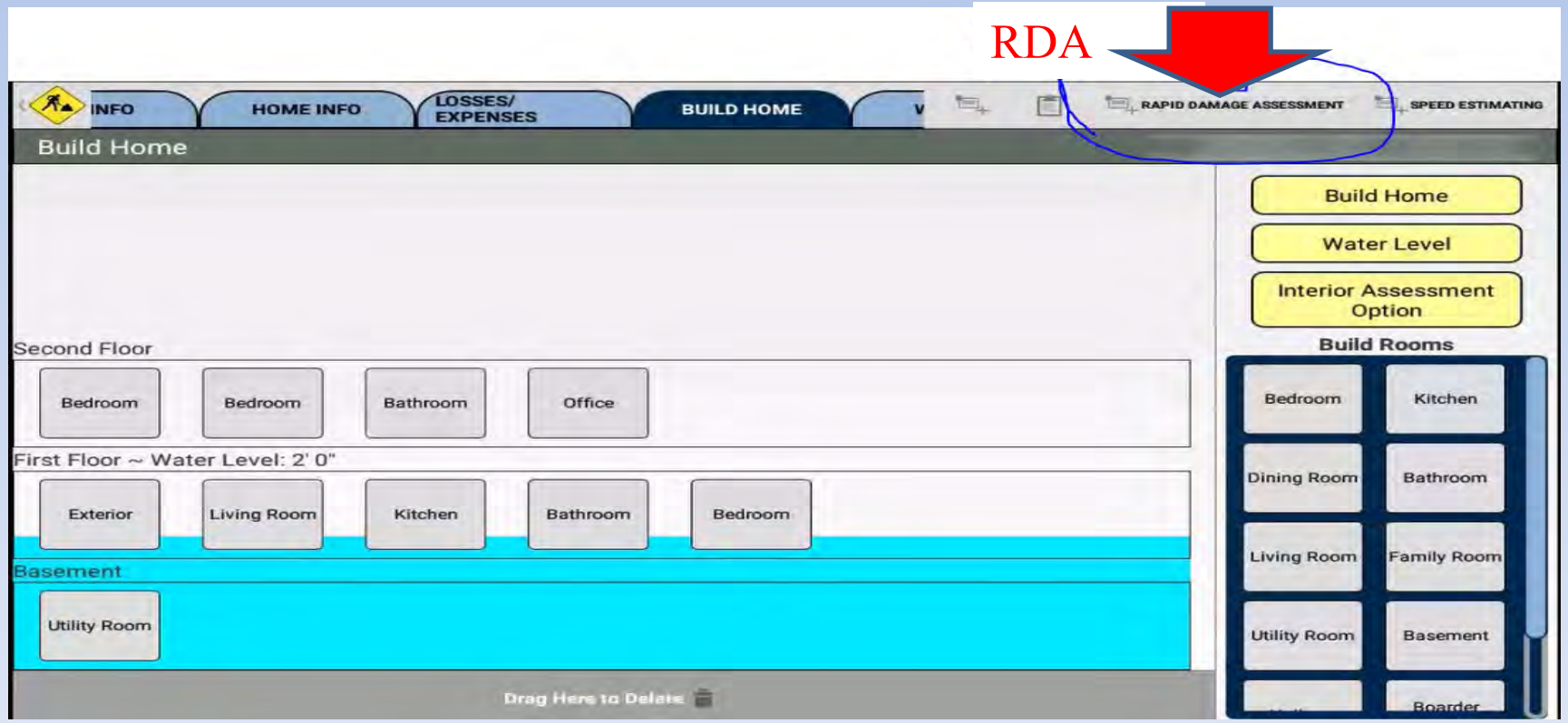
Objective: Completing rooms

- All rooms must be completed and show the checkmark.
- Remember while performing an RDA inspection we still record all disaster related damages caused by other perils (CODs) such as Hail/ Rain/ Wind Driven rain, etc. **Do not record any RP damages with COD flood in individual rooms as you go through the home!
- Access tabs as necessary then touch Done with room
- All rooms must be completed to validate



Objective:
Begin the Rapid Damage Assessment

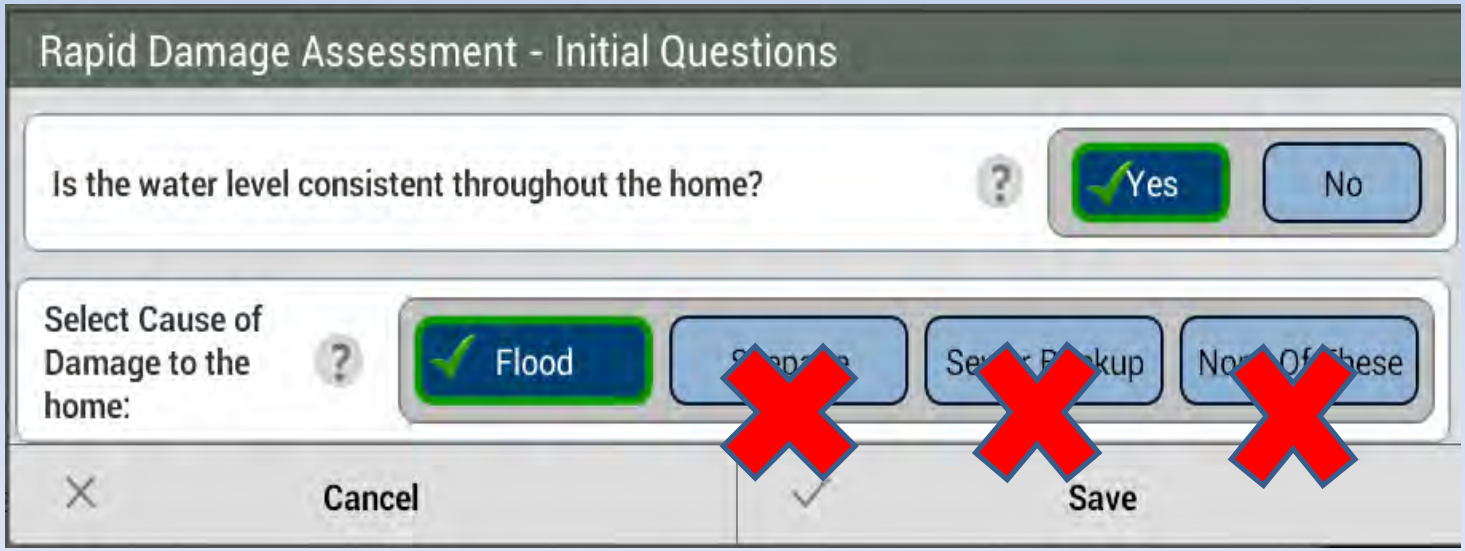
- The Banner changes when the water level > 3”Touch Rapid Damage Assessment
- Touch RAPID DAMAGE ASSESSMENT



Objective: Ensure You Have Added All Rooms

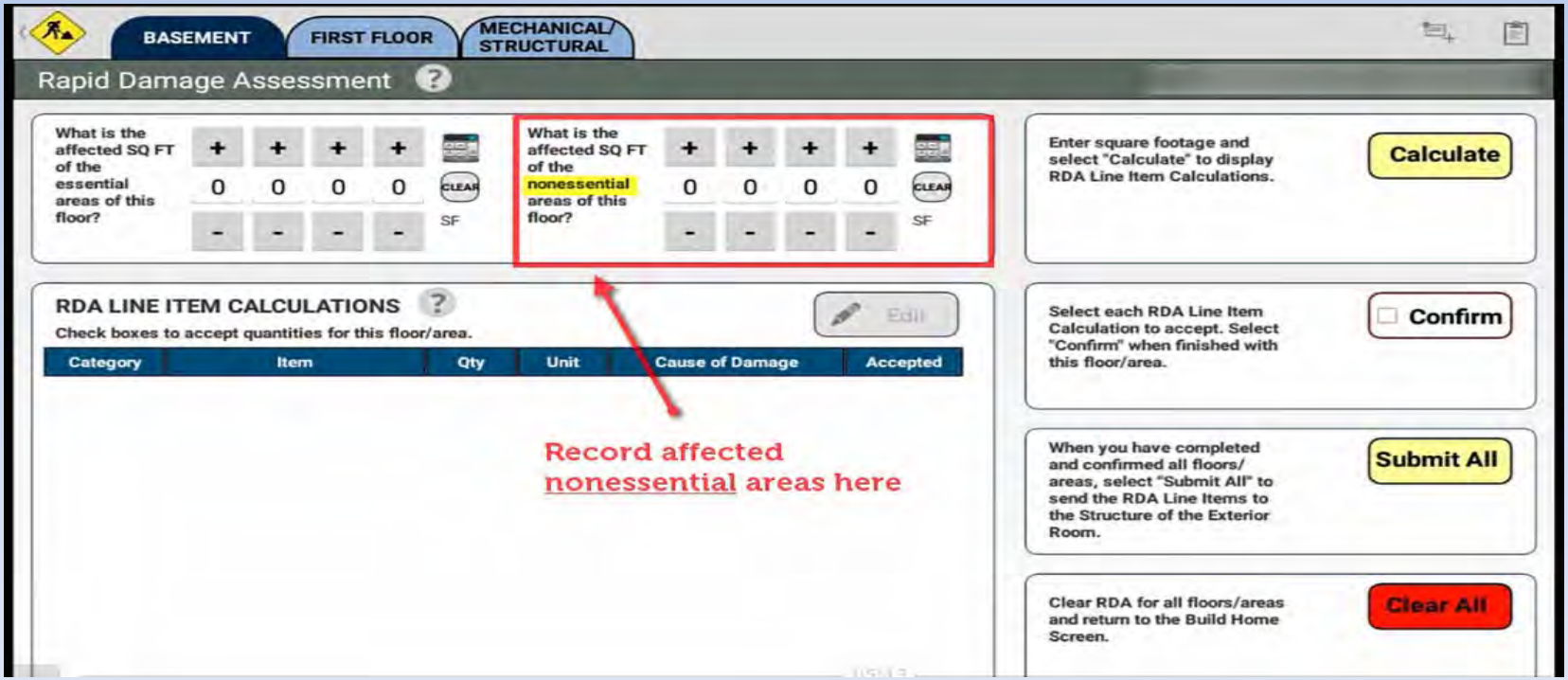
Objective: Ensure You Have Added All Rooms

- Message appears
- The water level must be a consistent height throughout the home to utilize RDA.
- Touch Yes if so
- **Reminder = Flood is the only COD acceptable when using RDA.



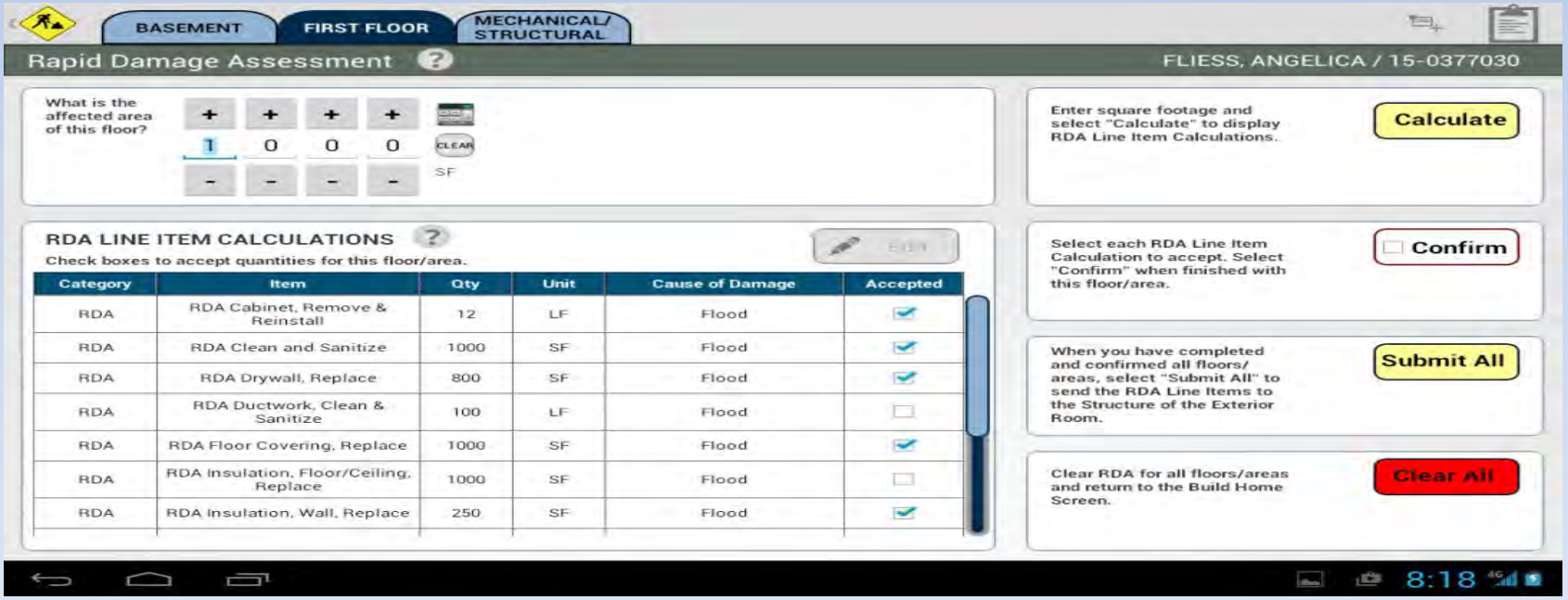
Objective: Determine SF for affected area

- Each floor and the basement if applicable will be represented by a tab.
- For basements enter the affected essential area and non-essential area separately.



Objective: Calculate line items and Confirm

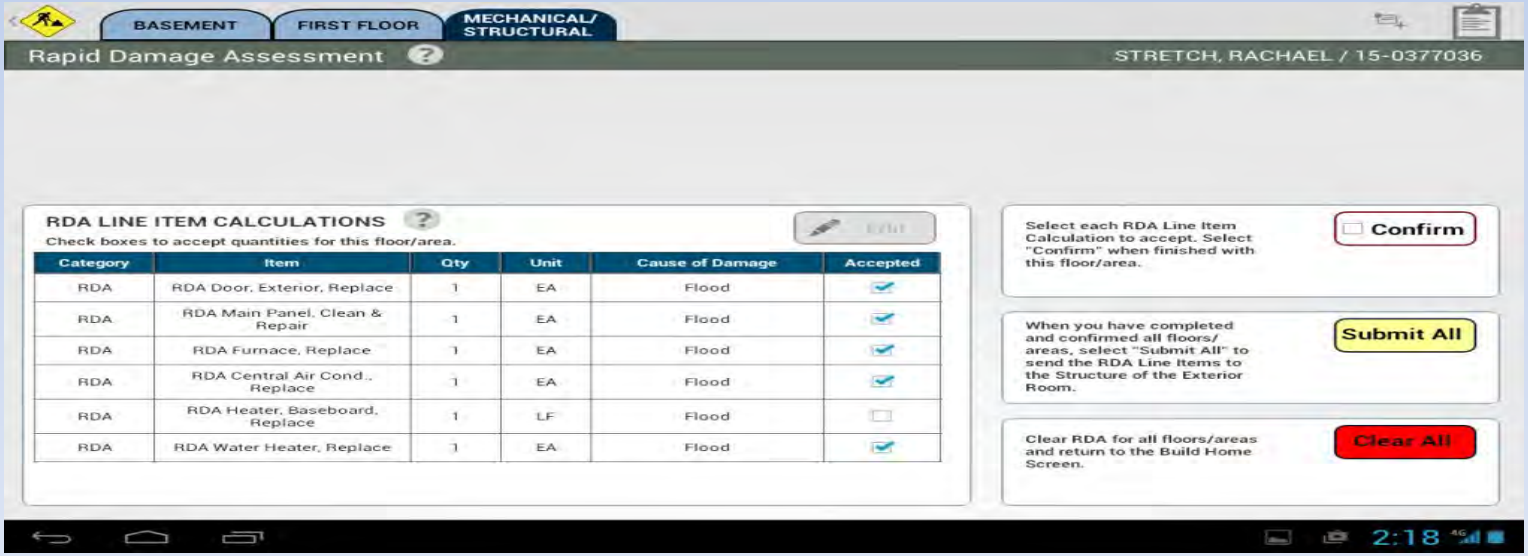
- After you submit the SF the screen changes to include a list of line items.
- Review line items and accept those that you agree with then touch Confirm
- ****Never use the edit quantities function in RDA, this will result in an automatic FCOR.**



Category	Item	Qty	Unit	Cause of Damage	Accepted
RDA	RDA Cabinet, Remove & Reinstall	12	LF	Flood	☑
RDA	RDA Clean and Sanitize	1000	SF	Flood	☑
RDA	RDA Drywall, Replace	800	SF	Flood	☑
RDA	RDA Ductwork, Clean & Sanitize	100	LF	Flood	☐
RDA	RDA Floor Covering, Replace	1000	SF	Flood	☑
RDA	RDA Insulation, Floor/Ceiling, Replace	1000	SF	Flood	☐
RDA	RDA Insulation, Wall, Replace	250	SF	Flood	☑

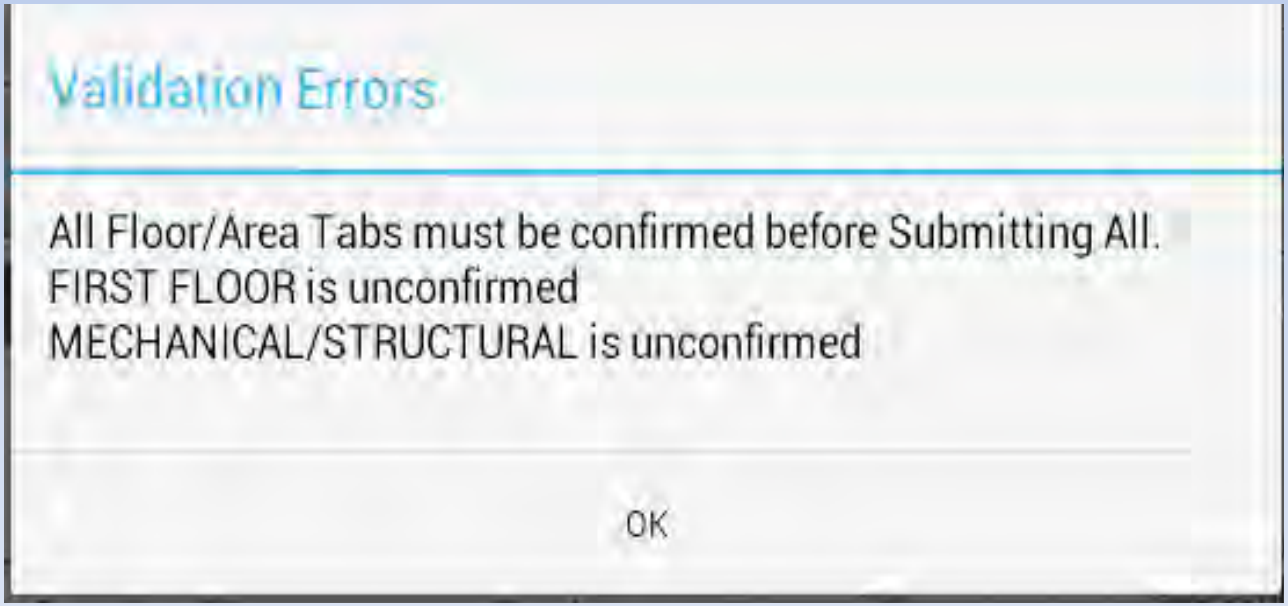
Objective:
Add all line items you have confirmed

- Once all tabs have been completed and confirmed press **Submit All**
- If any tab is incomplete you will be forced to return to the incomplete tab to finish.
- Touching **Clear All** will remove all line items for all tabs.



Submit with Validation Errors

- If you attempt to Submit without confirming each tab you will receive a Validation Error
- Touch Okay, then complete and Confirm all tabs and Submit again

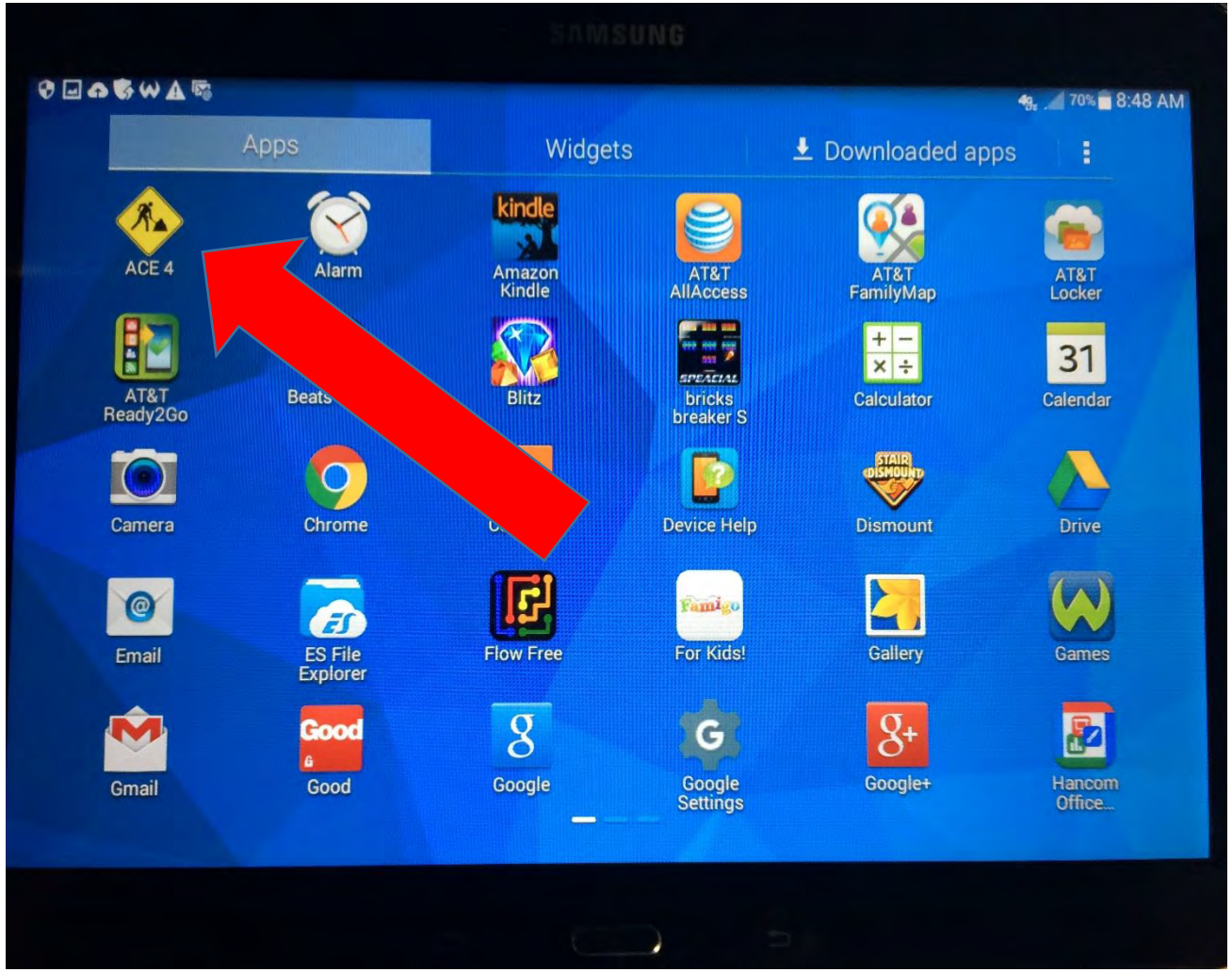


Summary

- When do we use RDA
- What do we need to know to activate RDA
- Building the Home
- Calculating and selecting pre-calculated line items
- Completing Rooms

Getting Started

Tap the “ACE4” icon.



Login Screen Appears

Enter Assessor User name if not already populated.

Enter Password.

Tap Login.

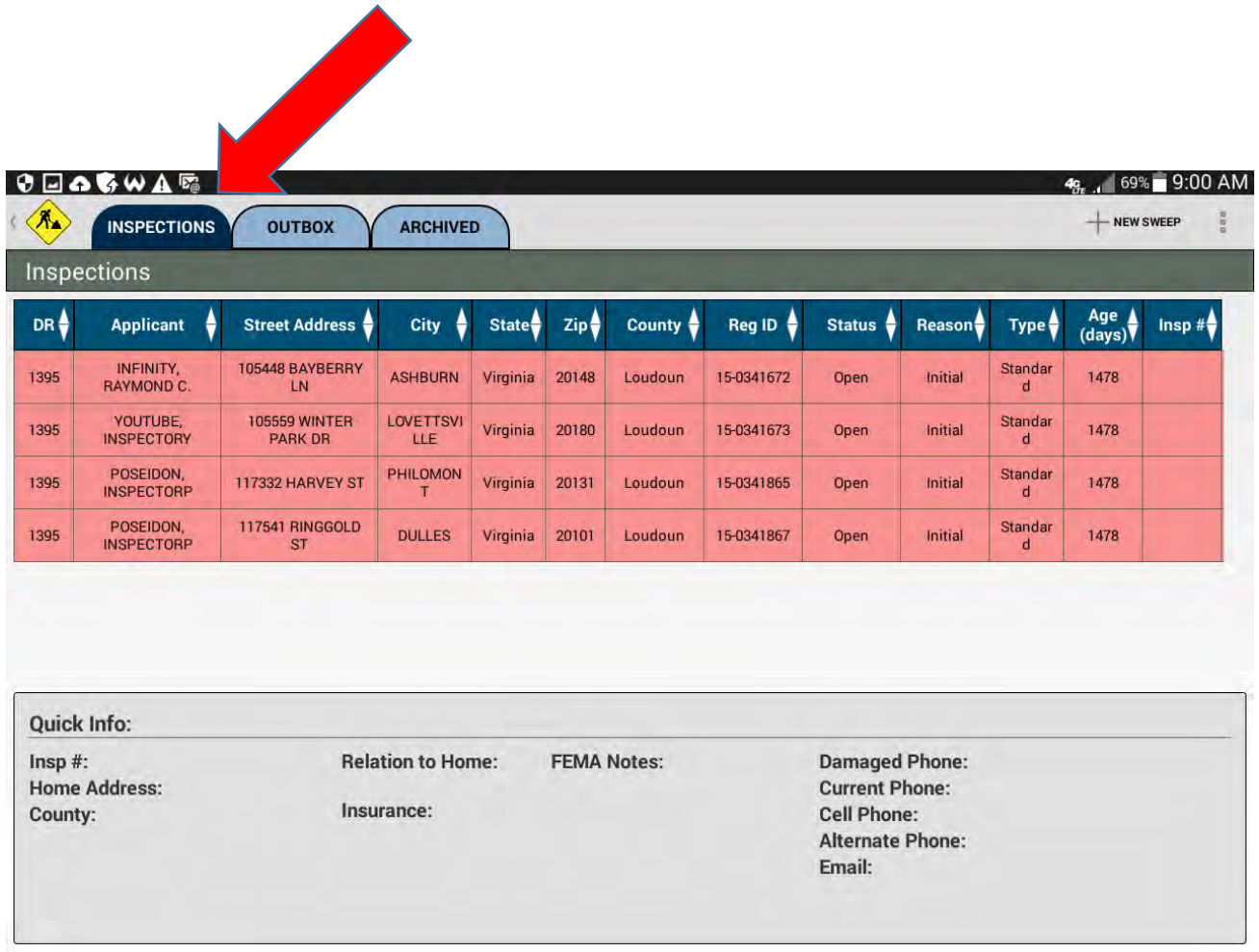
This is the Home Page

Note the Inspections tab is darker in color.

Below this is the list of inspections that have been assigned to this tablet.

ACE provides a visual indicator to identify aging by highlighting inspections based on the length of time the assessment was assigned.

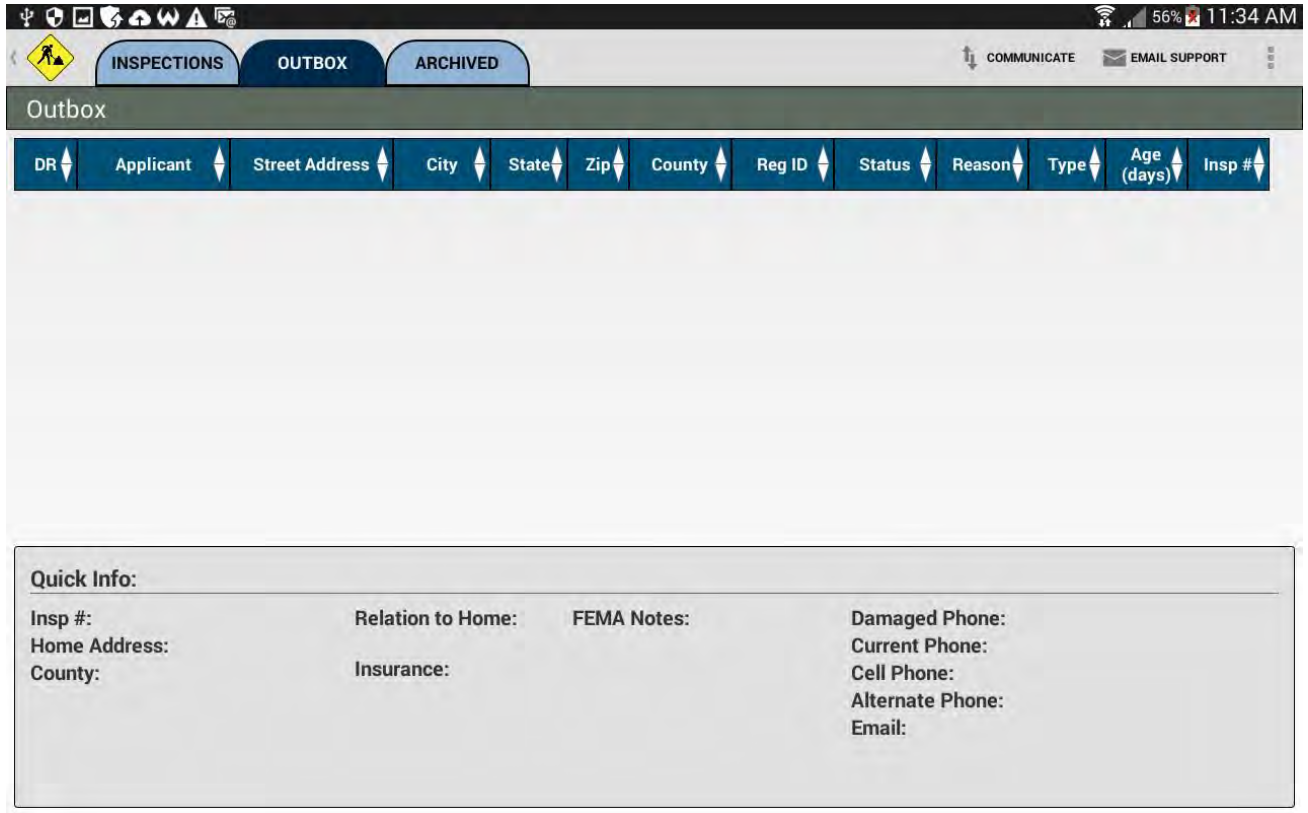
- Assessments assigned between 1 and 3 days prior to the current date will be white
- Assessments assigned between 4 and 5 days prior to the current date will be highlighted in yellow.
- Assessments assigned 6 days or more prior to the current date will be highlighted in red.



Outbox

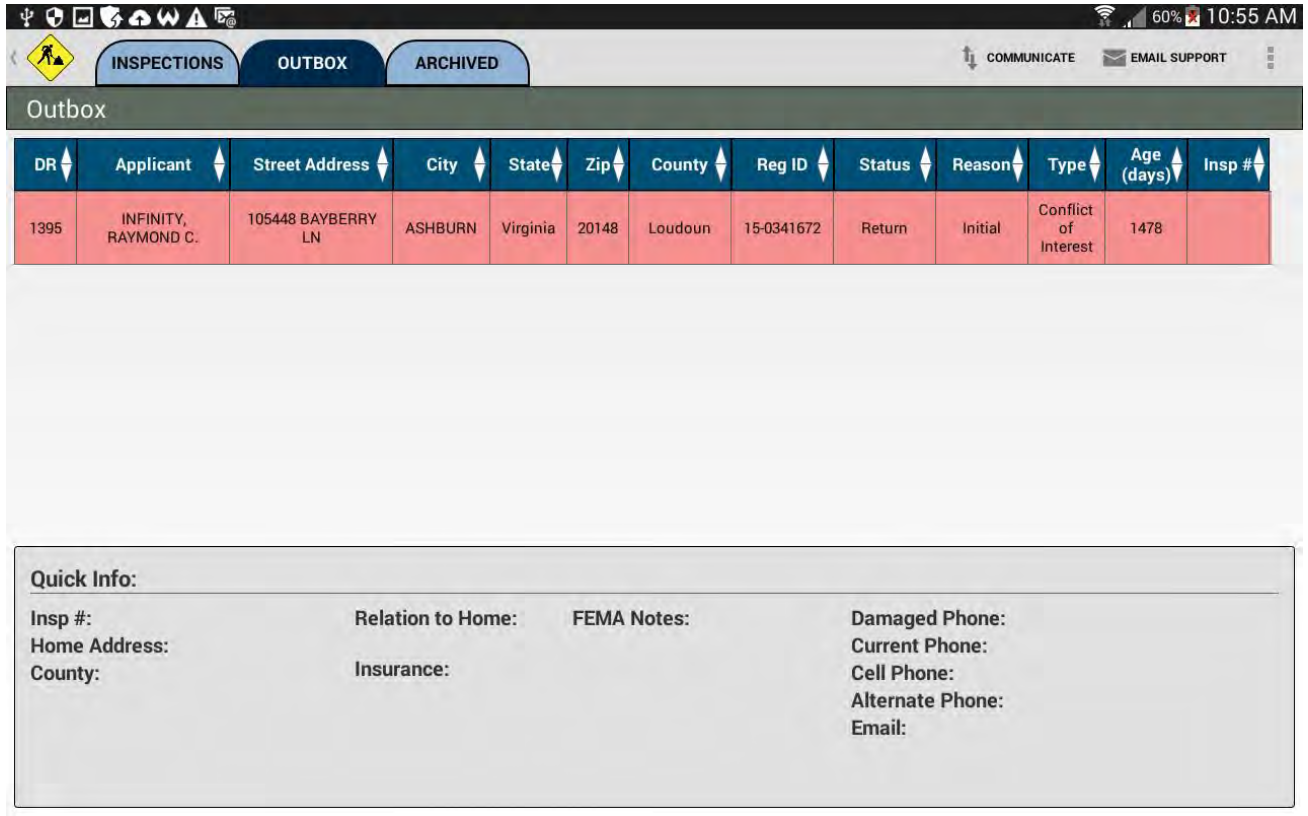
Contains the completed assessments that are ready to be communicated / uploaded to NEMIS.

In this case there are no assessments ready to be communicated.



Outbox

In this example, there is an assessment ready to be communicated.



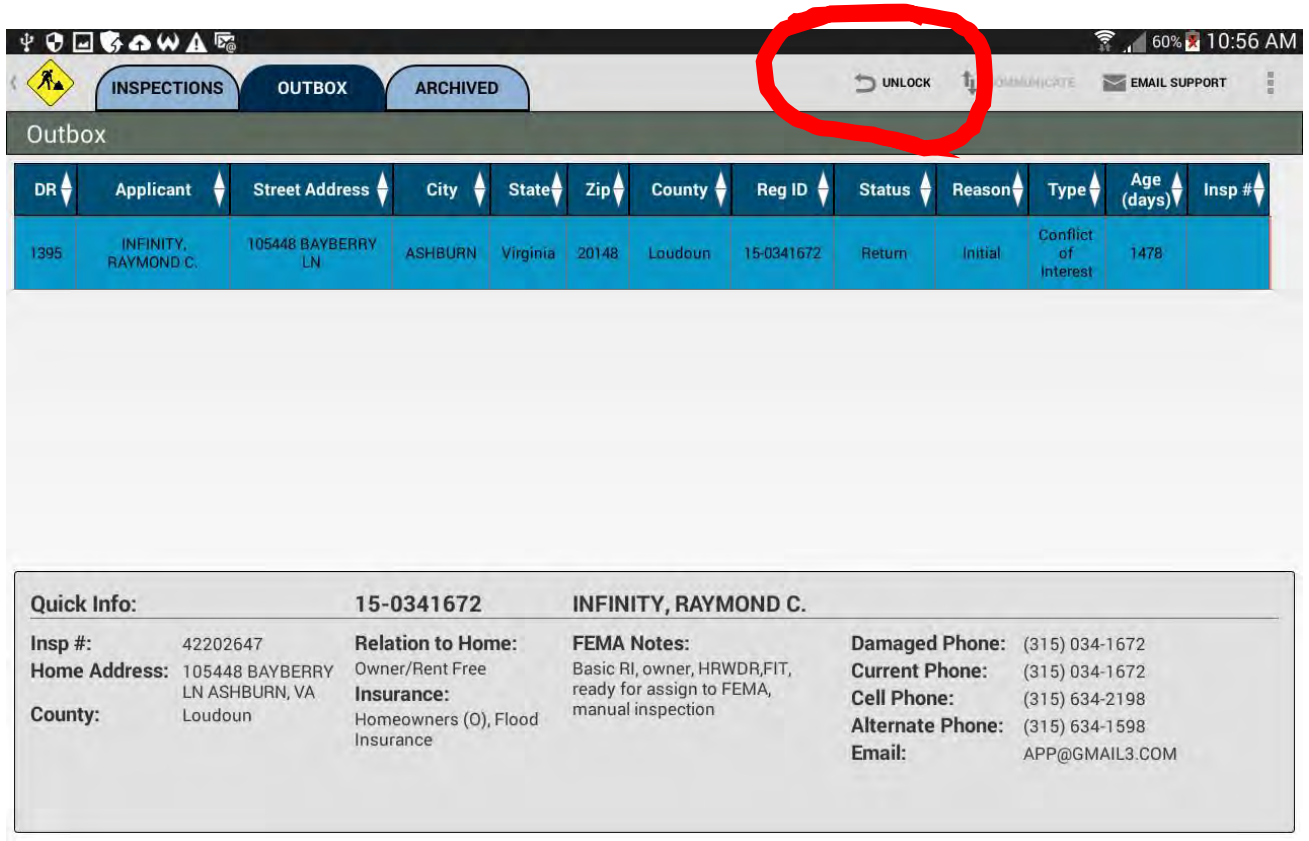
Outbox

Unlocking a case.

Tap case you desire to unlock.

Once highlighted tap Unlock.

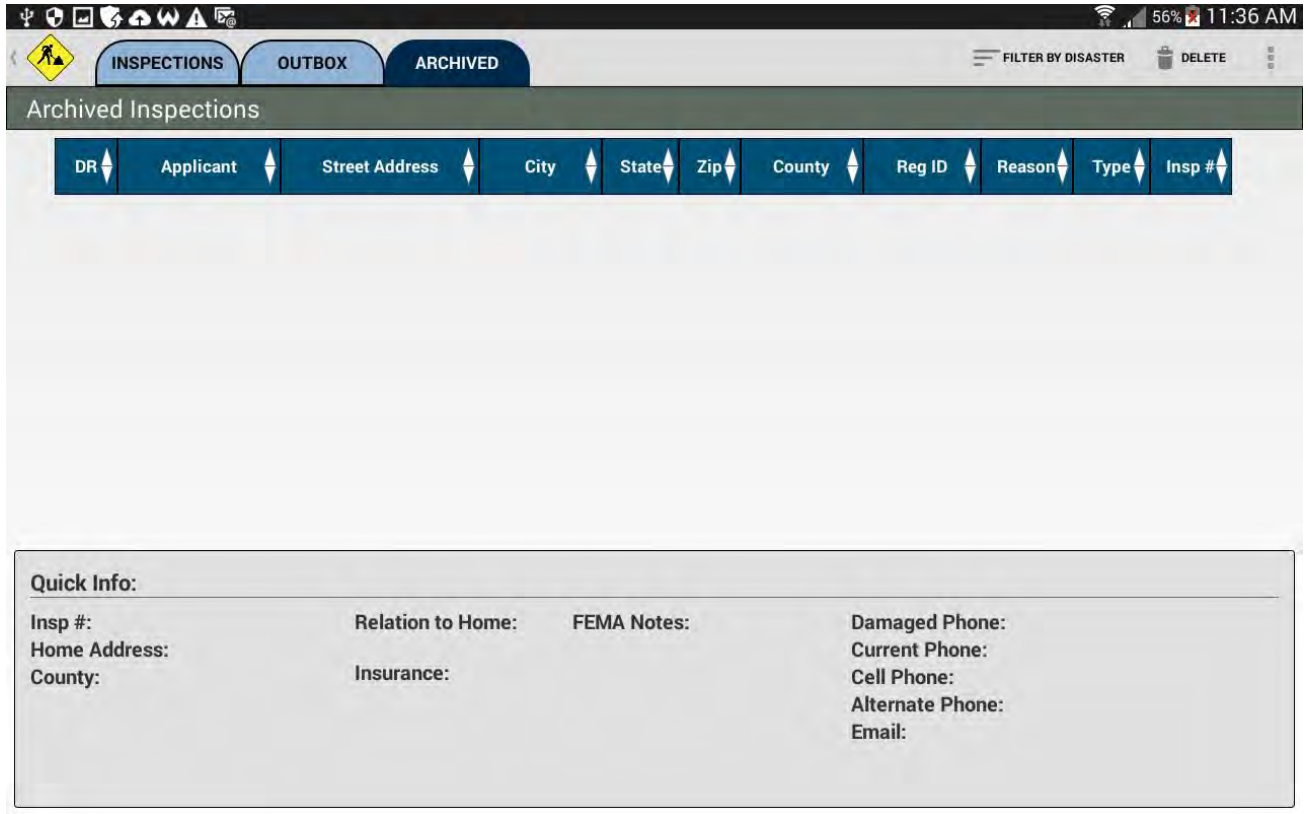
This returns the case to the inspections tab and you can start over or make a change.



Archived

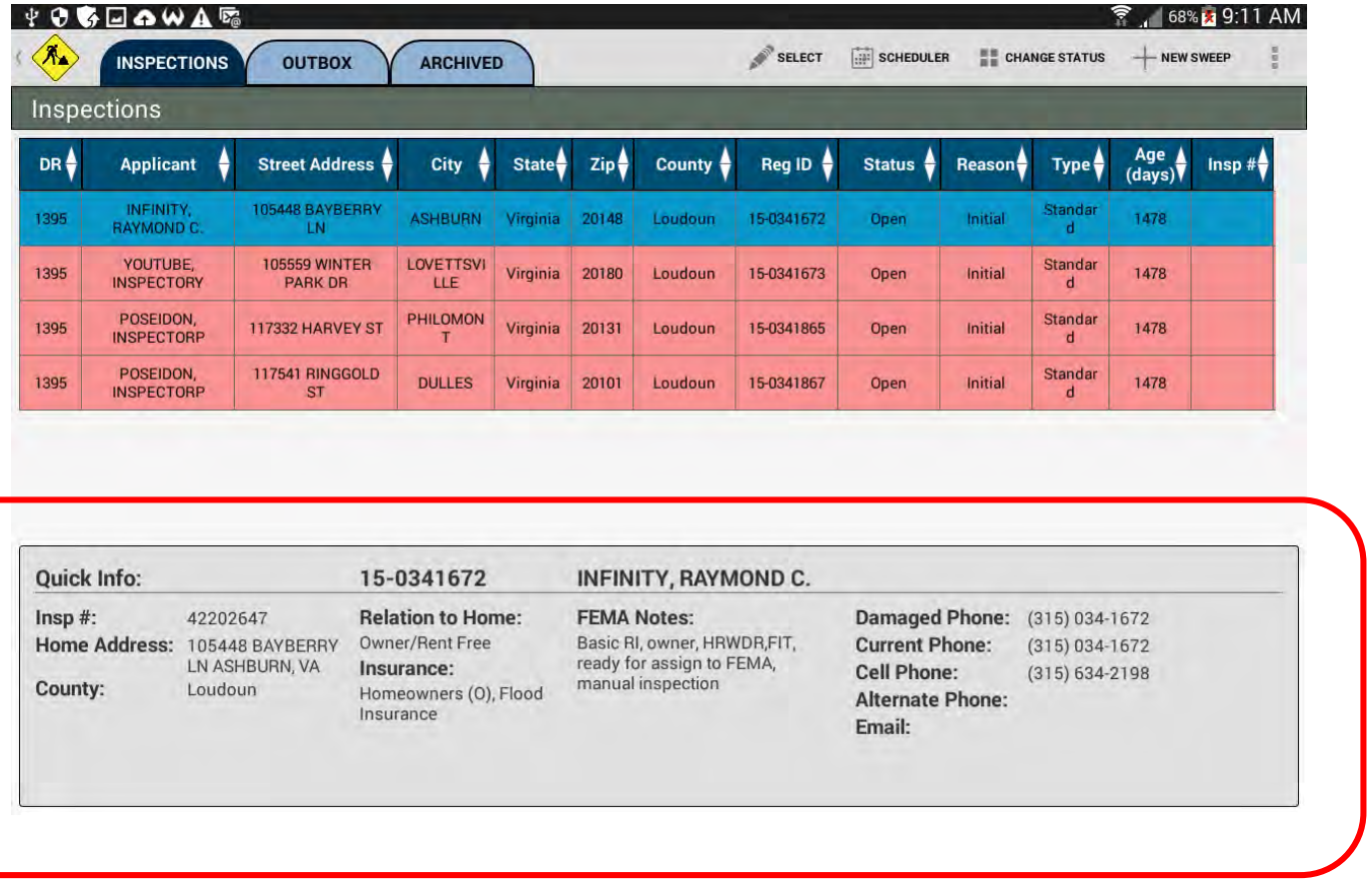
Assessments that have been completed and communicated can be viewed for up to 7 days after they have been communicated. After 7 days, the system will purge the data.

No assessments have been completed using this pad within the last seven days.



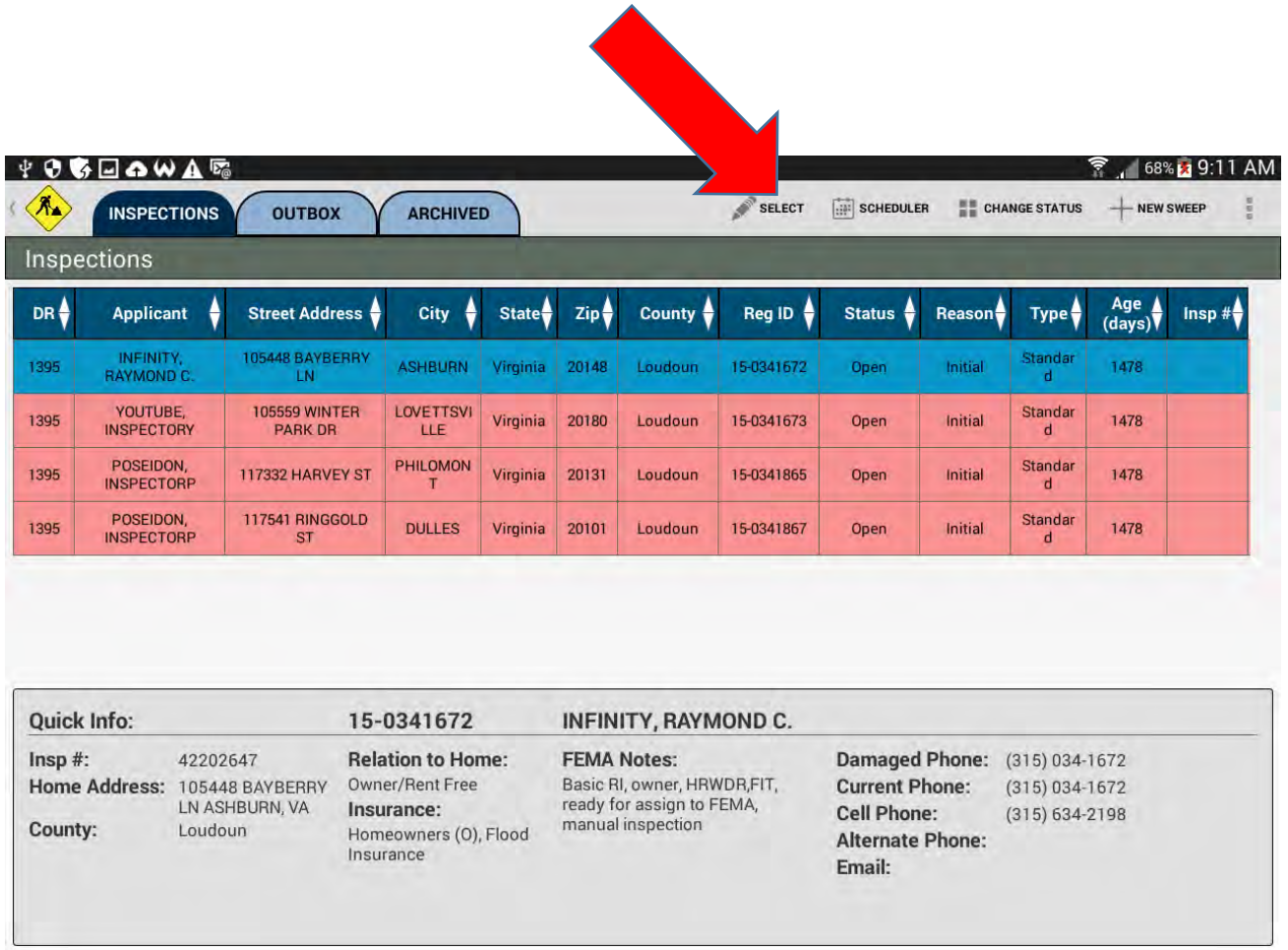
A single tap on an assessment row allows the Quick Info to populate

Quick Info provides the registration number, home address, whether the applicant is owner or renter, notes associated with the application and contact numbers.



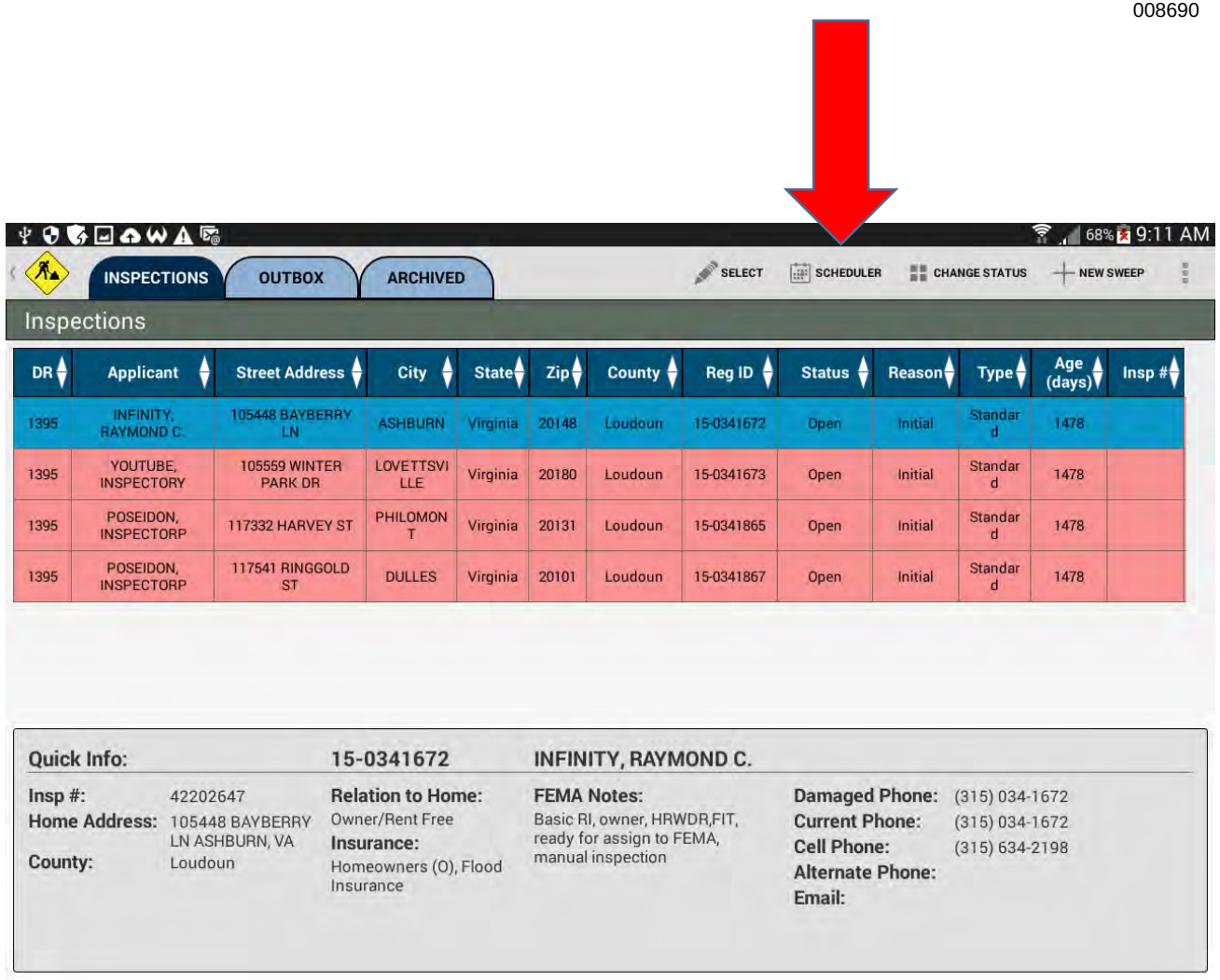
Select

Tapping on select will open the case for assessment.



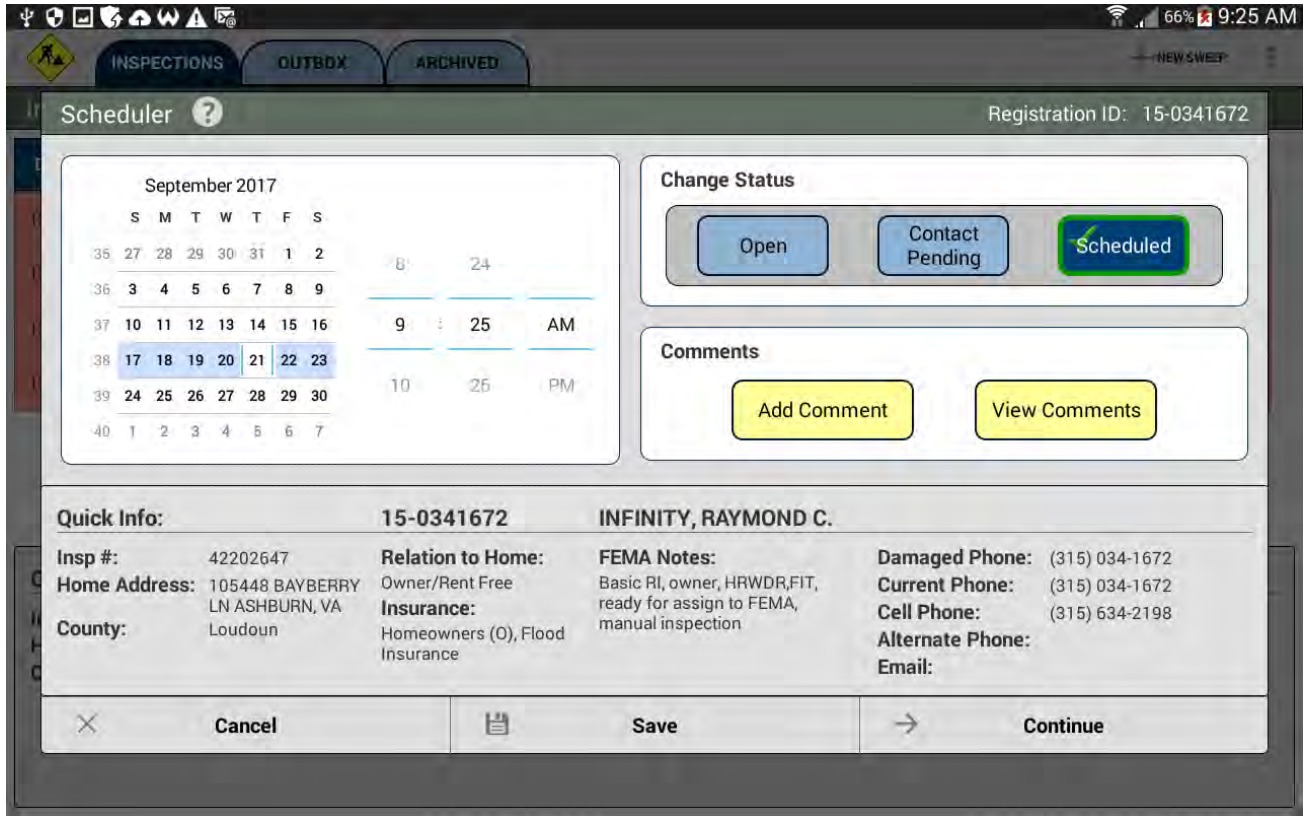
Scheduler

Select the applicants assessment then tap scheduler; this will open the the scheduling screen.



Scheduler

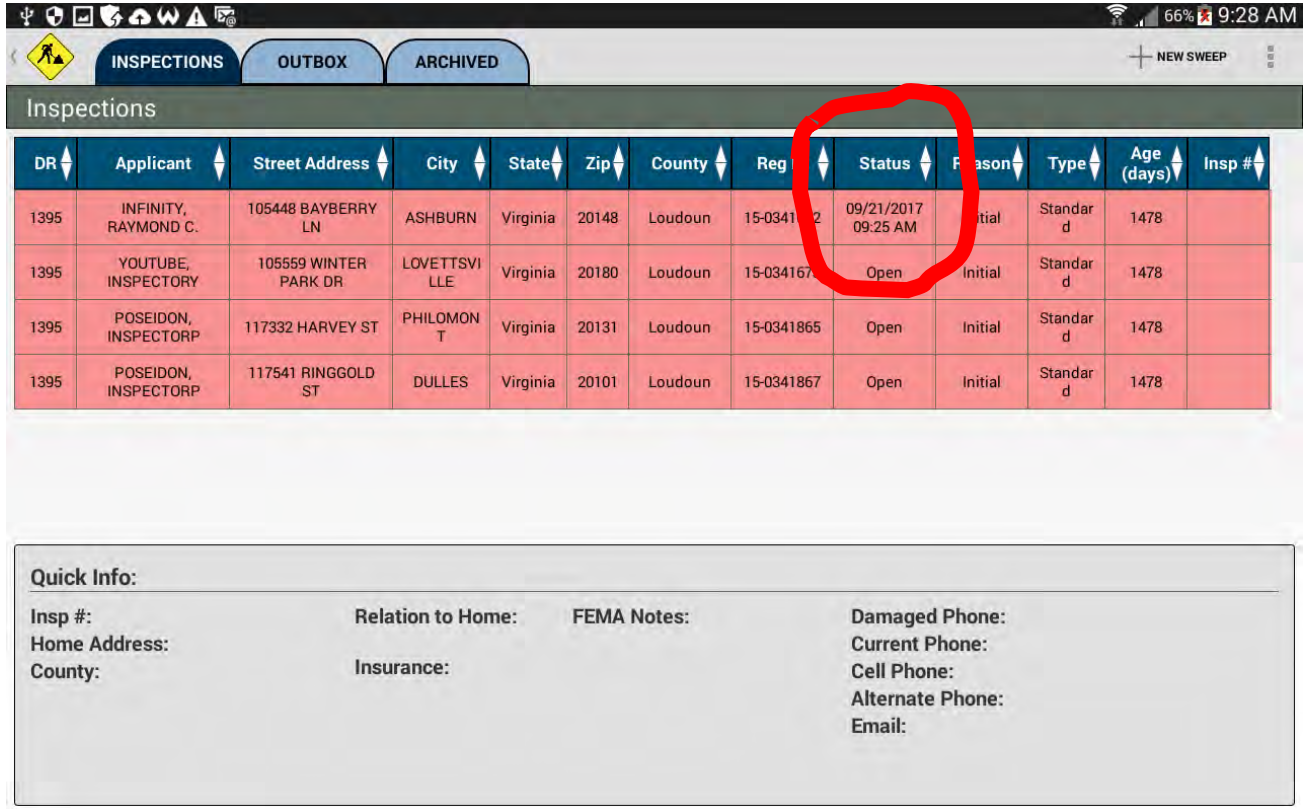
Set the date and time for the scheduled assessment. Change the status to Scheduled and save.



Scheduled appointment

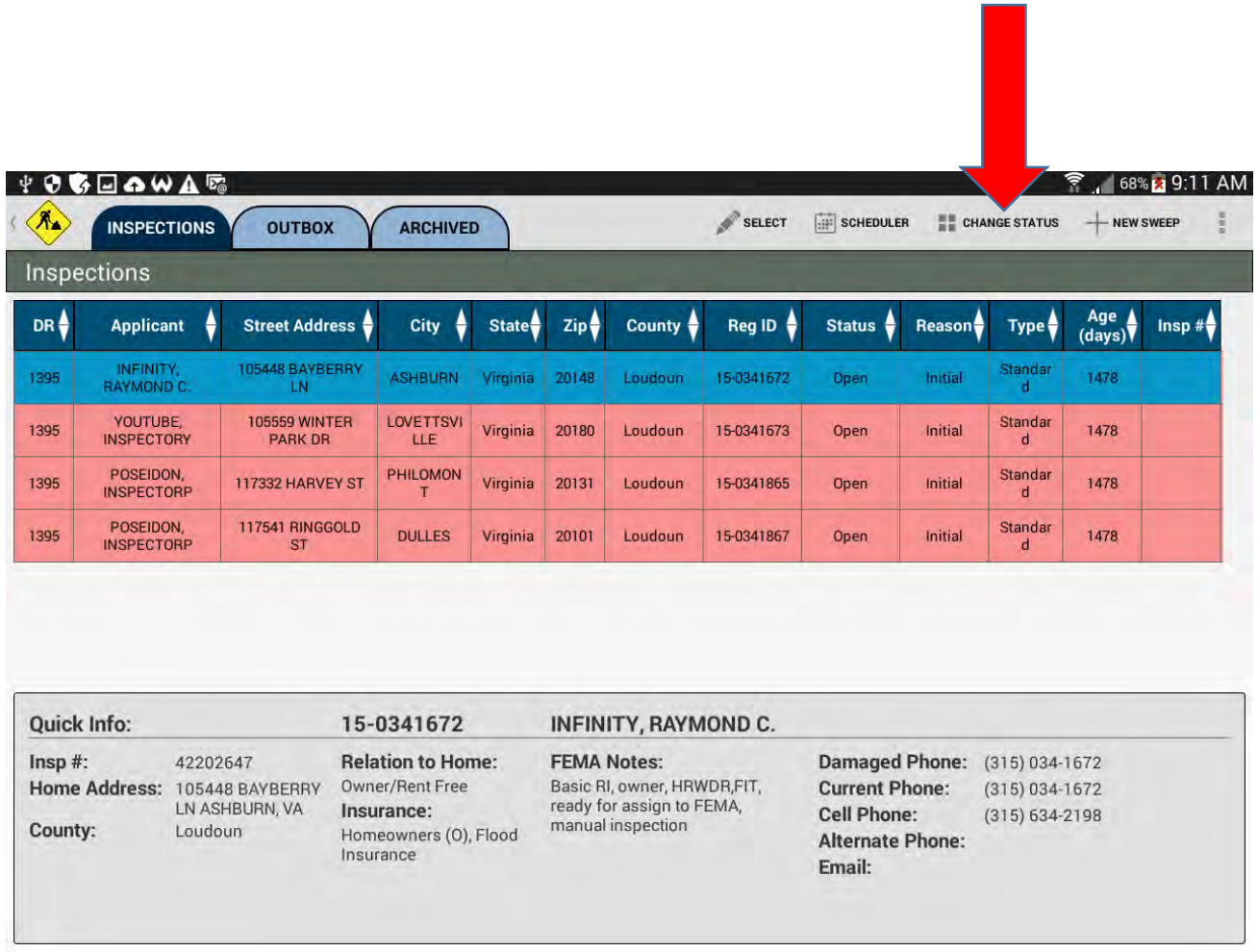
Notice under status, the date and time of the scheduled assessment appointment.

Note: By clicking the “Status” column header, the scheduled assessments will appear at the top of the list of assessments in order of their scheduled date and time.



Change Status

Select an assessment row and the available options appear; tap on Change Status.

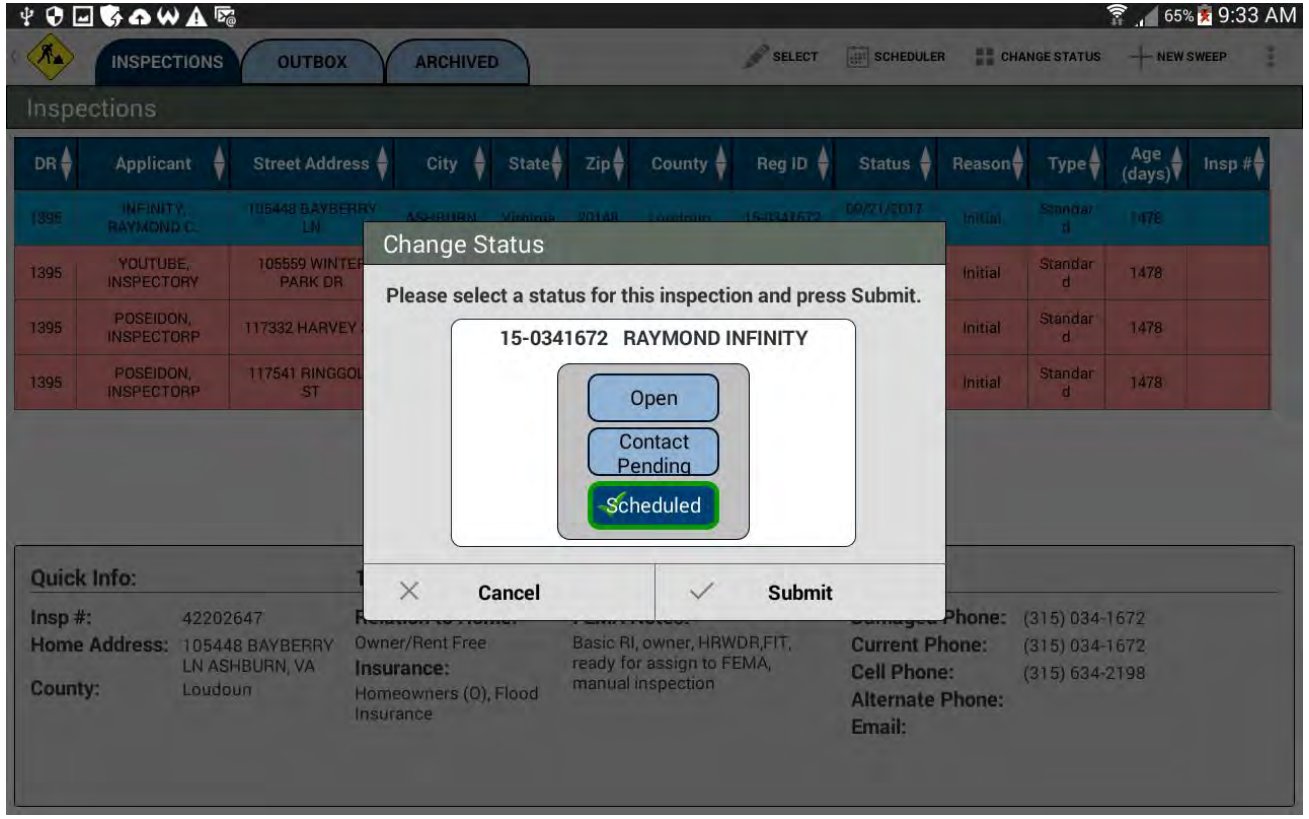


Change status

Provides the means to change application status to Open, Contact Pending or scheduled.

For example, if you called an applicant and left a message trying to set an appointment, the status can be changed to Contact Pending to identify applicants you've tried to reach.

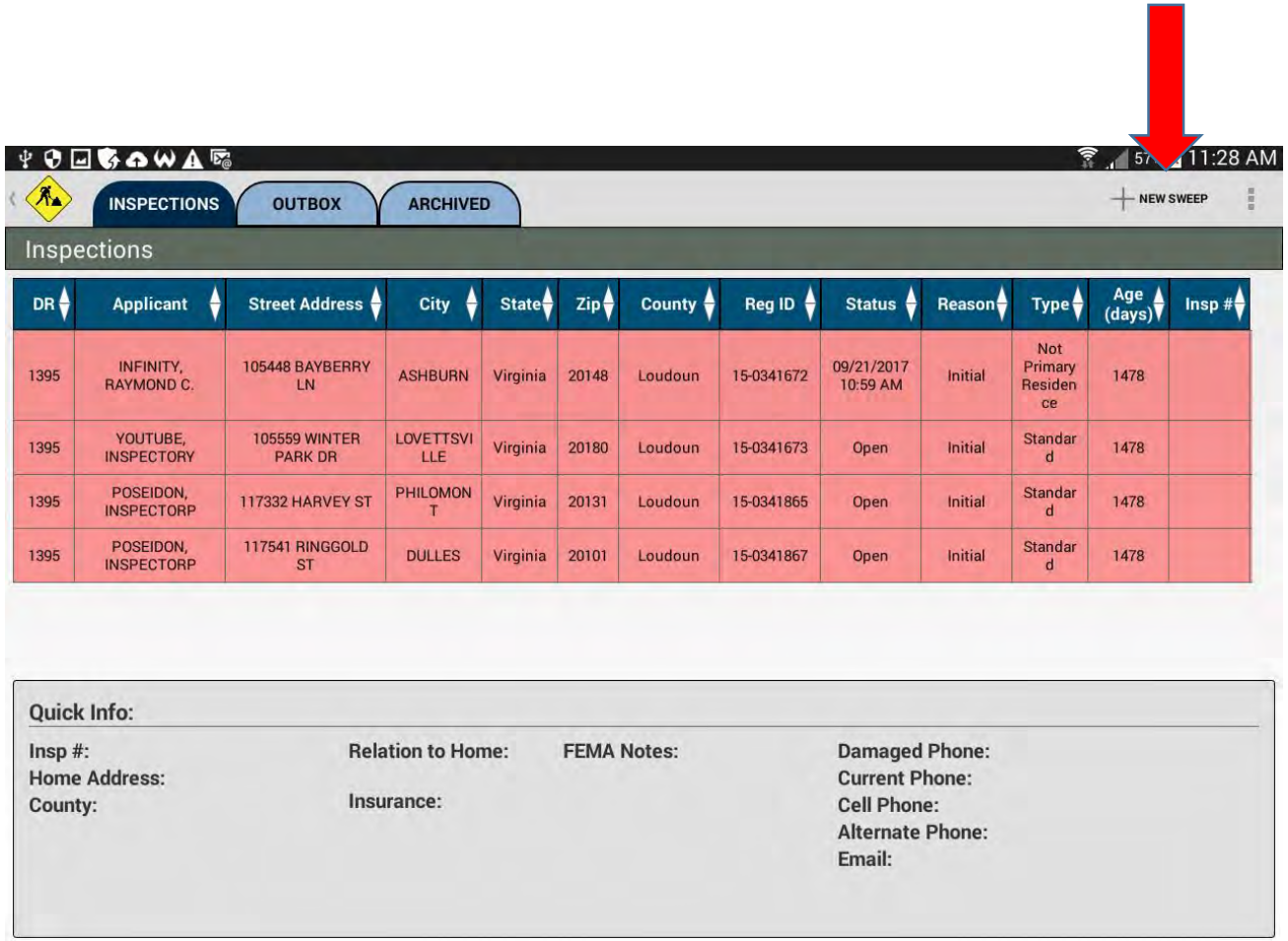
When done tap submit.



New Sweep

Only used if instructed.

This is intended for remote areas where applicants can not register through traditional methods. This type of assessment registers the applicant and allows the assessment to be performed at the same time. This will only work when Sweep assessments are activated.



Skills Check

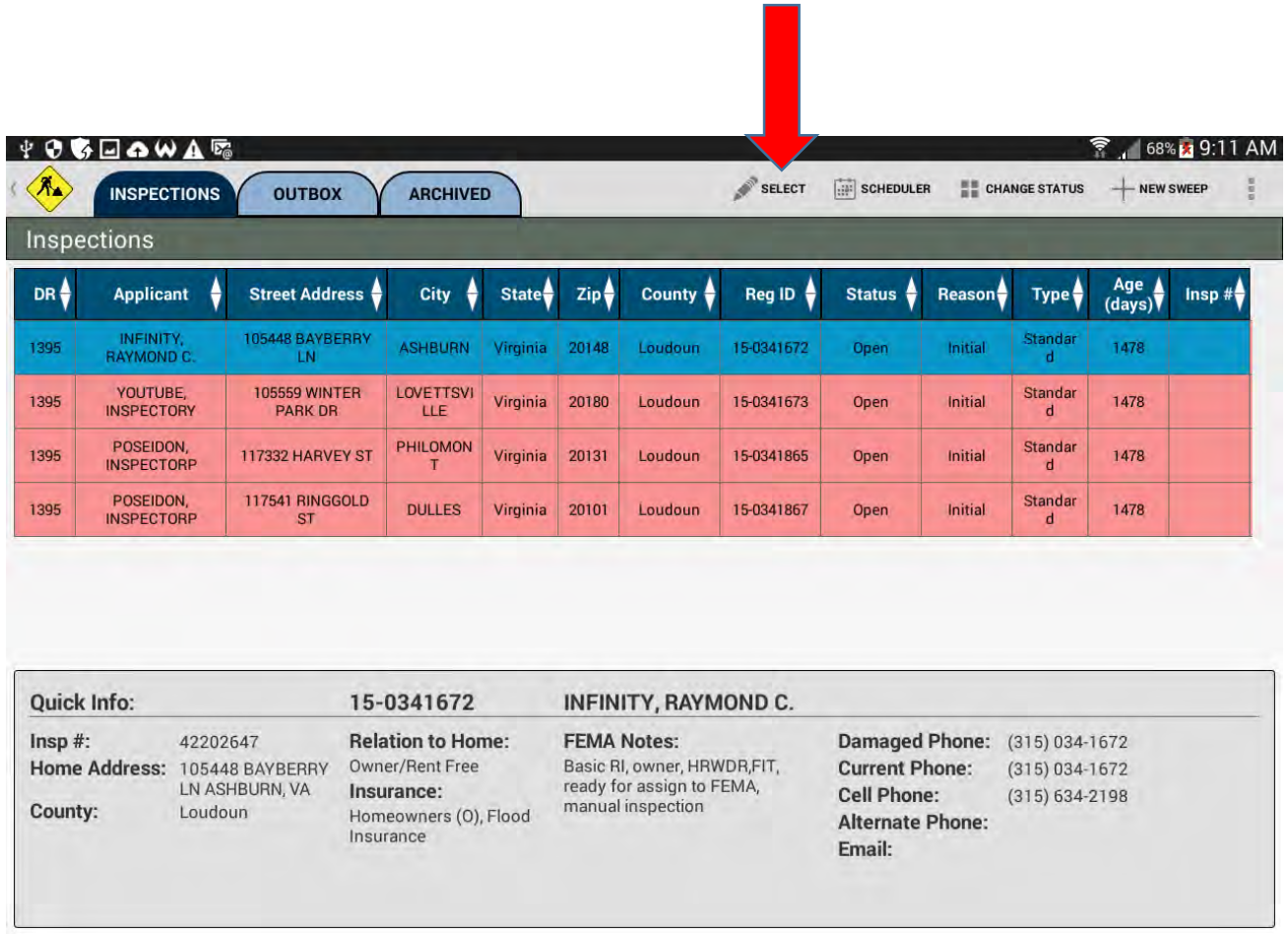
- Which tab can you find completed assessments ready to be communicated back to FEMA?
- What do the color coded assessments mean?
- What are the three choices in Change Status?

Standard Assessment

October 26, 2018

Select the assessment to be completed

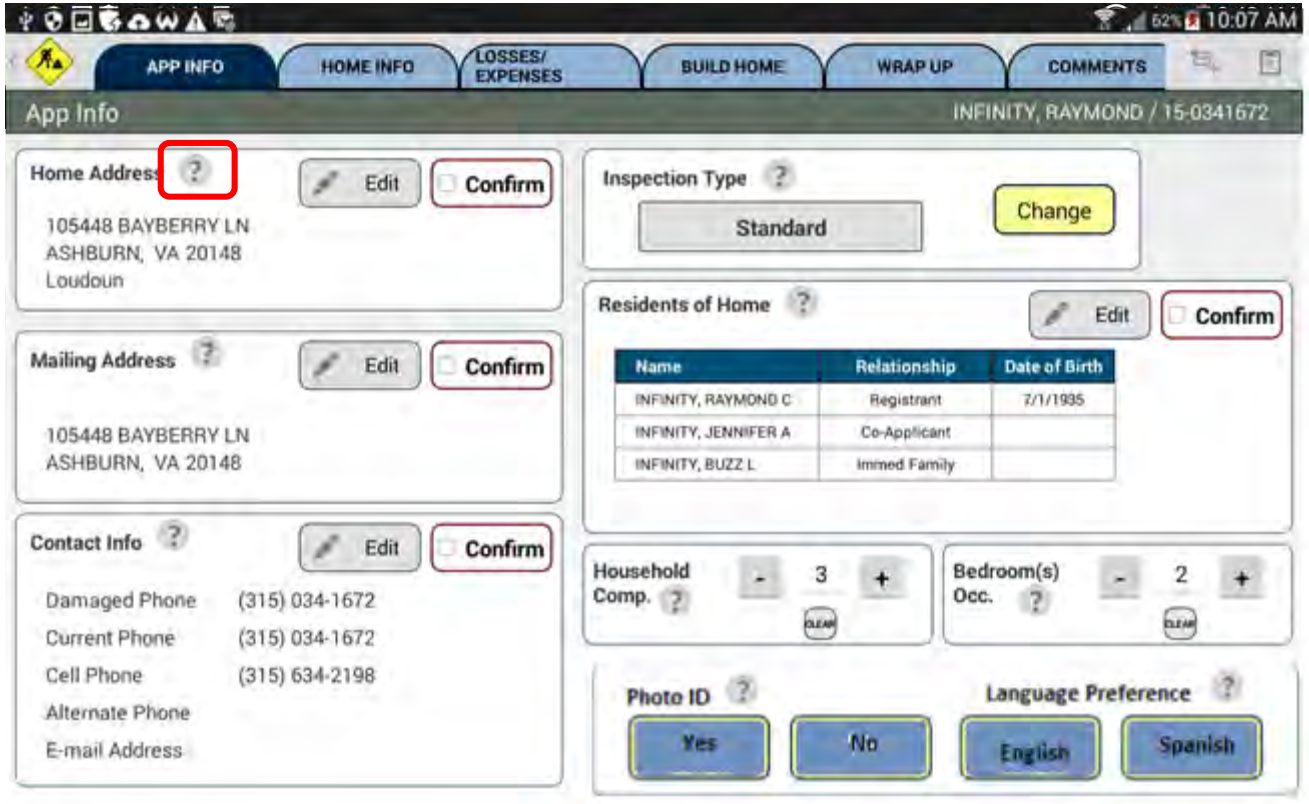
Note the color changed; now tap Select to open the applicants assessment.



App info tab

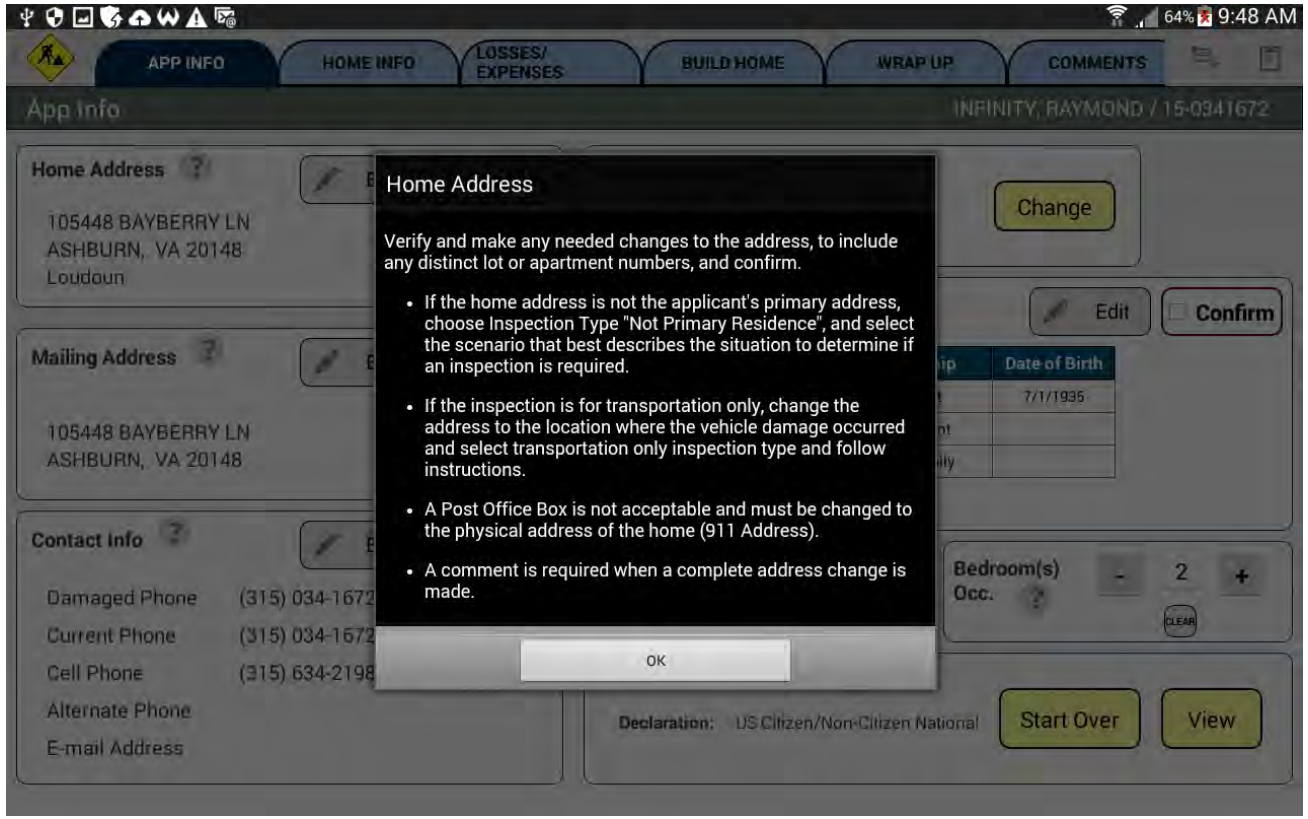
This is the default screen the application opens to.

Note the question marks. By tapping on the question mark a help screen appears.



Help screen

This is the help screen information under Home Address. When done tap okay.



Applicant Info

Home Address:

Verify the information is correct:

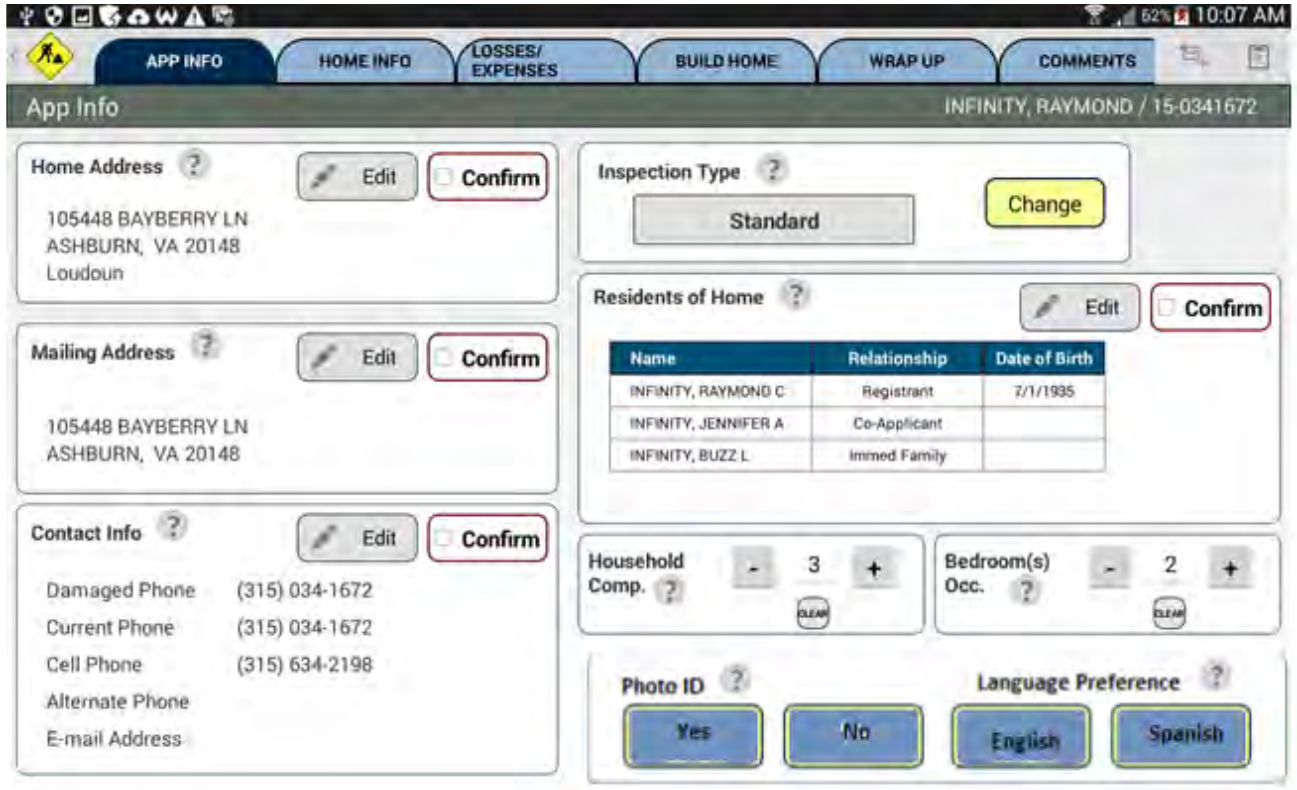
House number

Street name

City, State , Zip Code and County

If incorrect tap Edit.

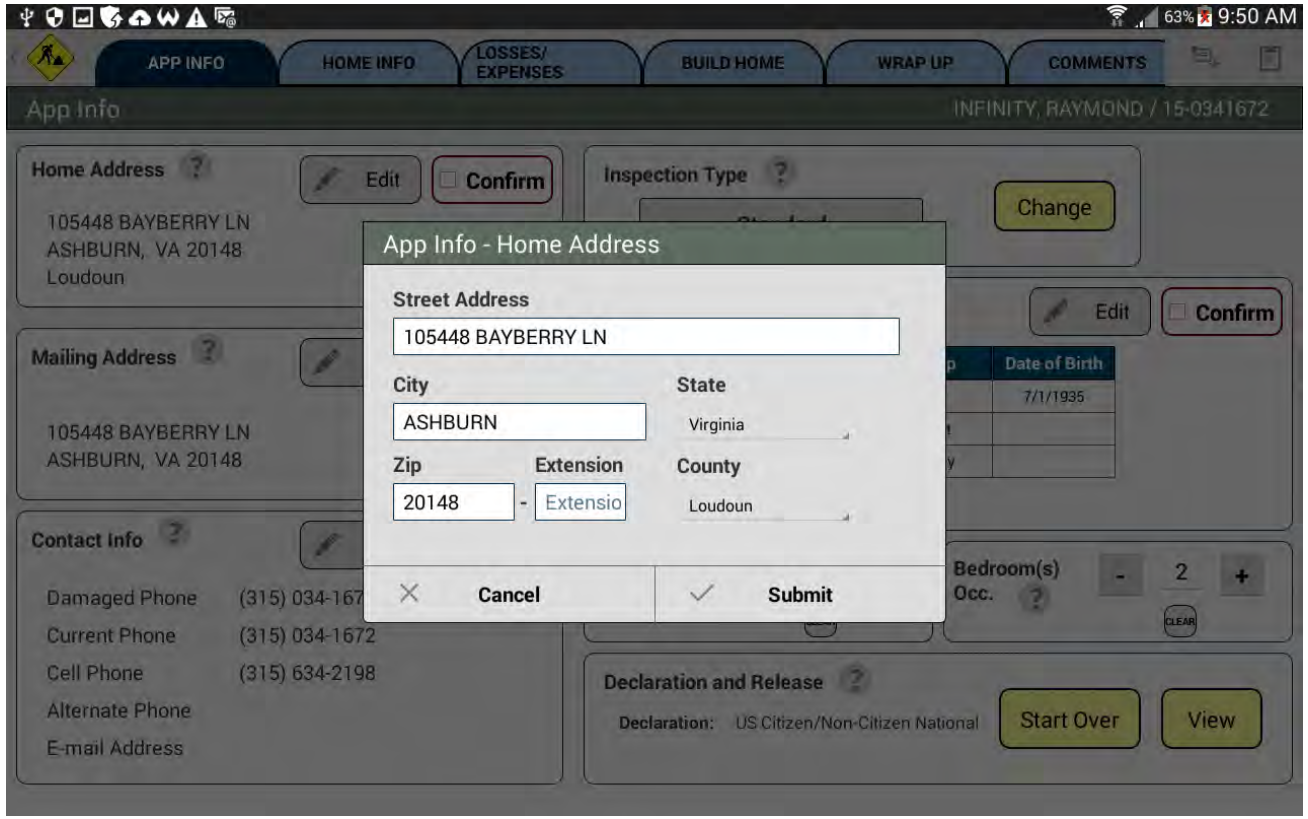
If correct tap confirm.



Editing Information

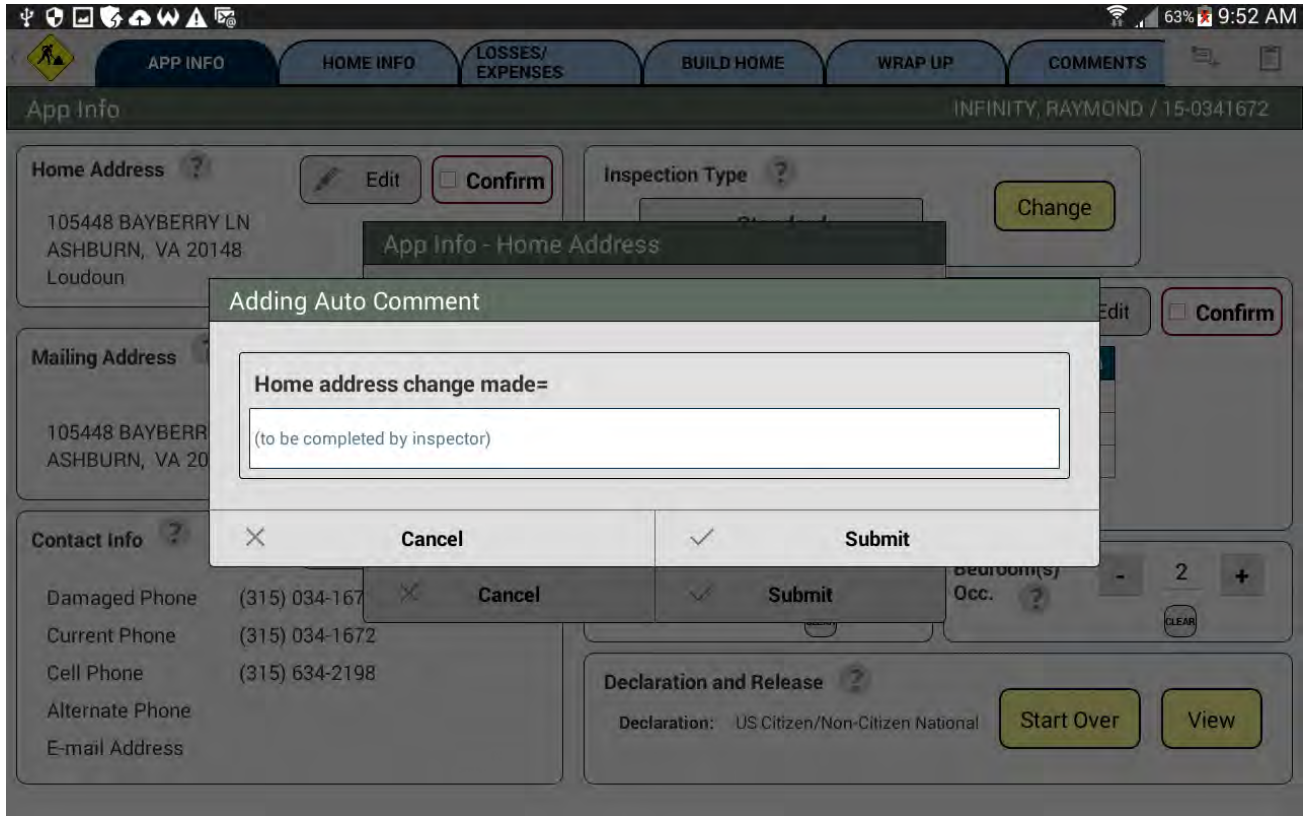
Enter correct data or change spelling. When done tap submit.

Another screen for adding a required comment for the address change will automatically appear.



This is an Automatic comment

The Home Address change is a field that requires a comment from the assessor.

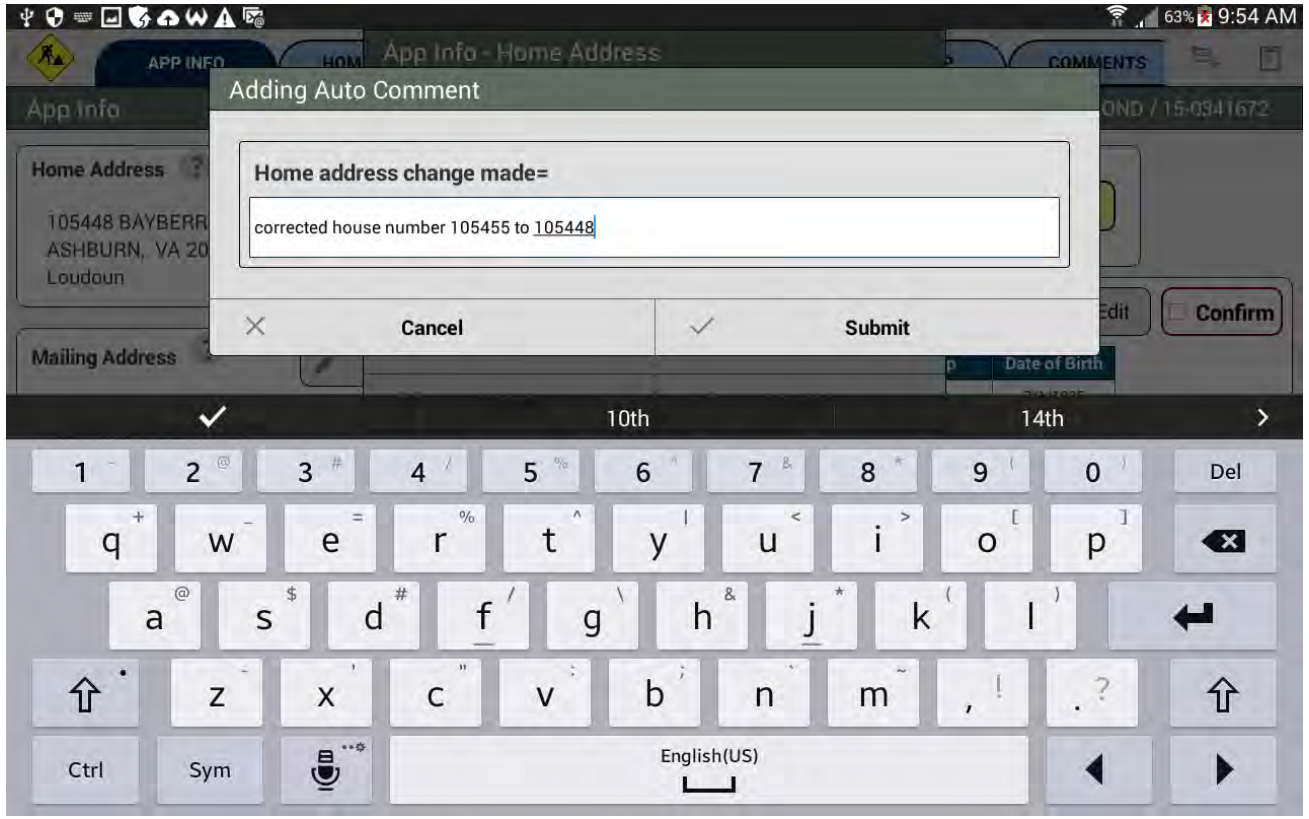


Home address change comment

This would be a good comment, short and precise:

“Corrected House number 105455 to 105448”

Tap submit.

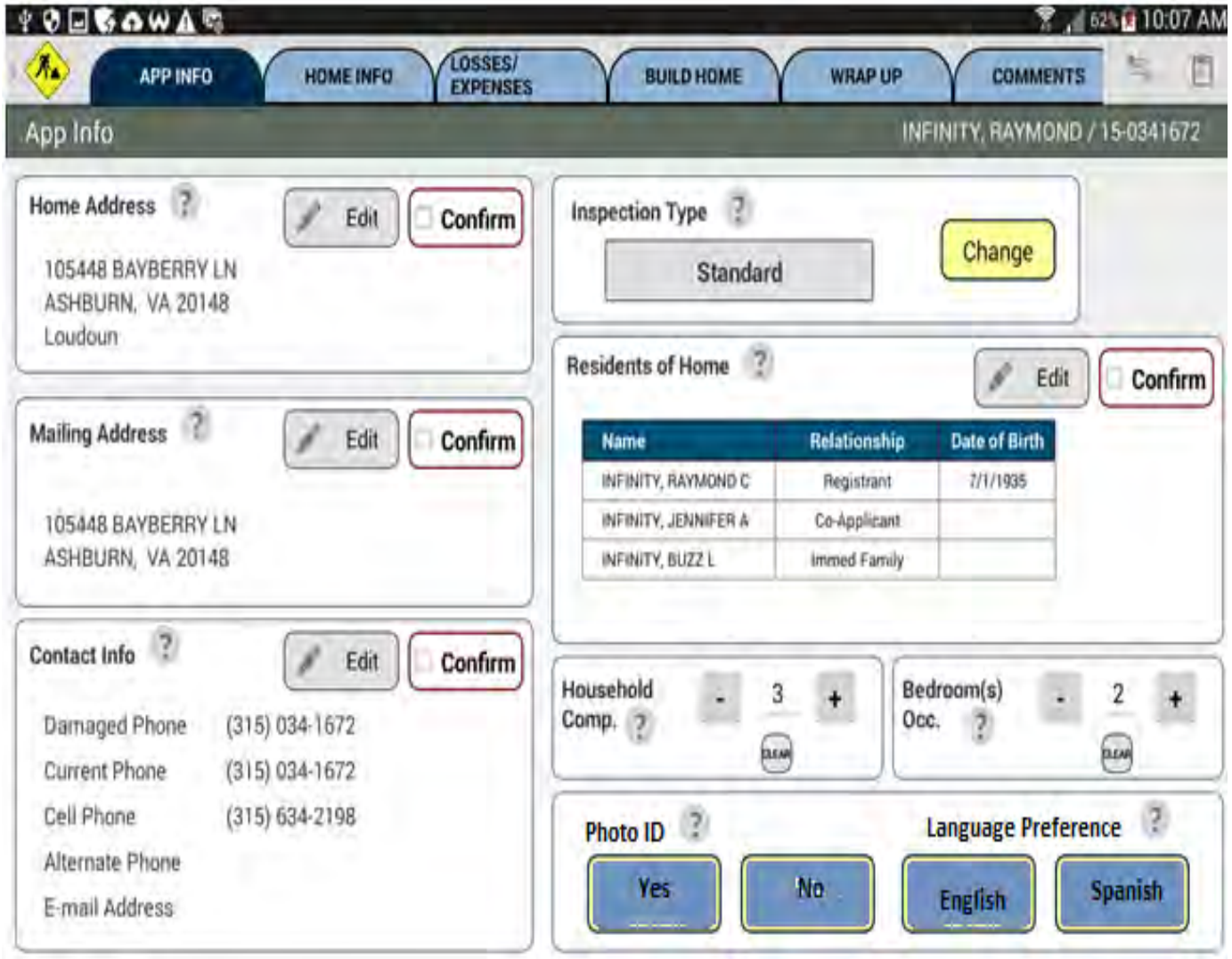


Applicant Info- continued

Home address, mailing address and contact information are verified and edited in the same manner.

Changing the Mailing Address or changing and/or adding phone numbers or email address does not require a comment.

Assessors are only permitted to make minor name changes to the Registrant; i.e. changing letters that have been transposed, or adding a second last name if the assessor verifies the Registrant's name on a Social Security Card.



Inspection types

Standard = most commonly used and is default.

Other types:

Conflict of interest

Inaccessible

Not primary residence

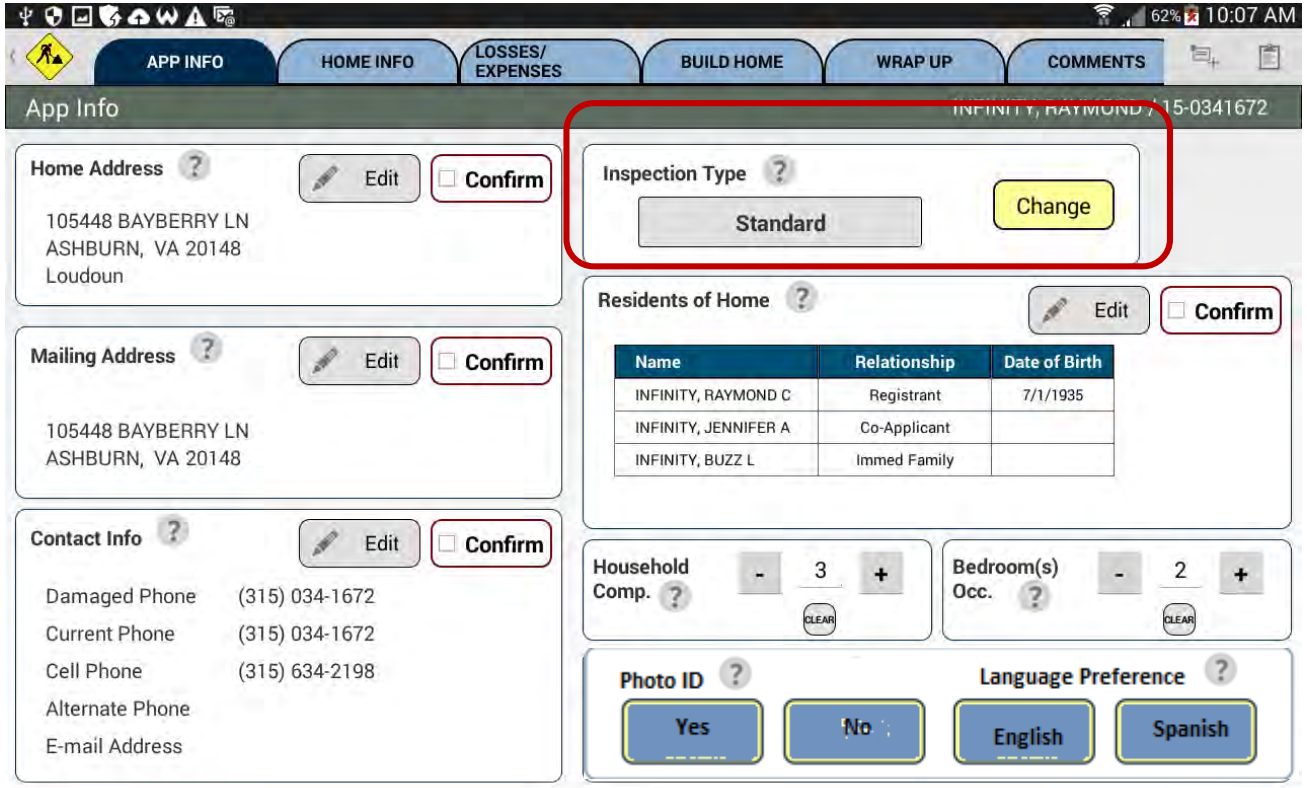
Outside incident period

Unable to contact

Undeclared county

Vehicle only

Withdrawn

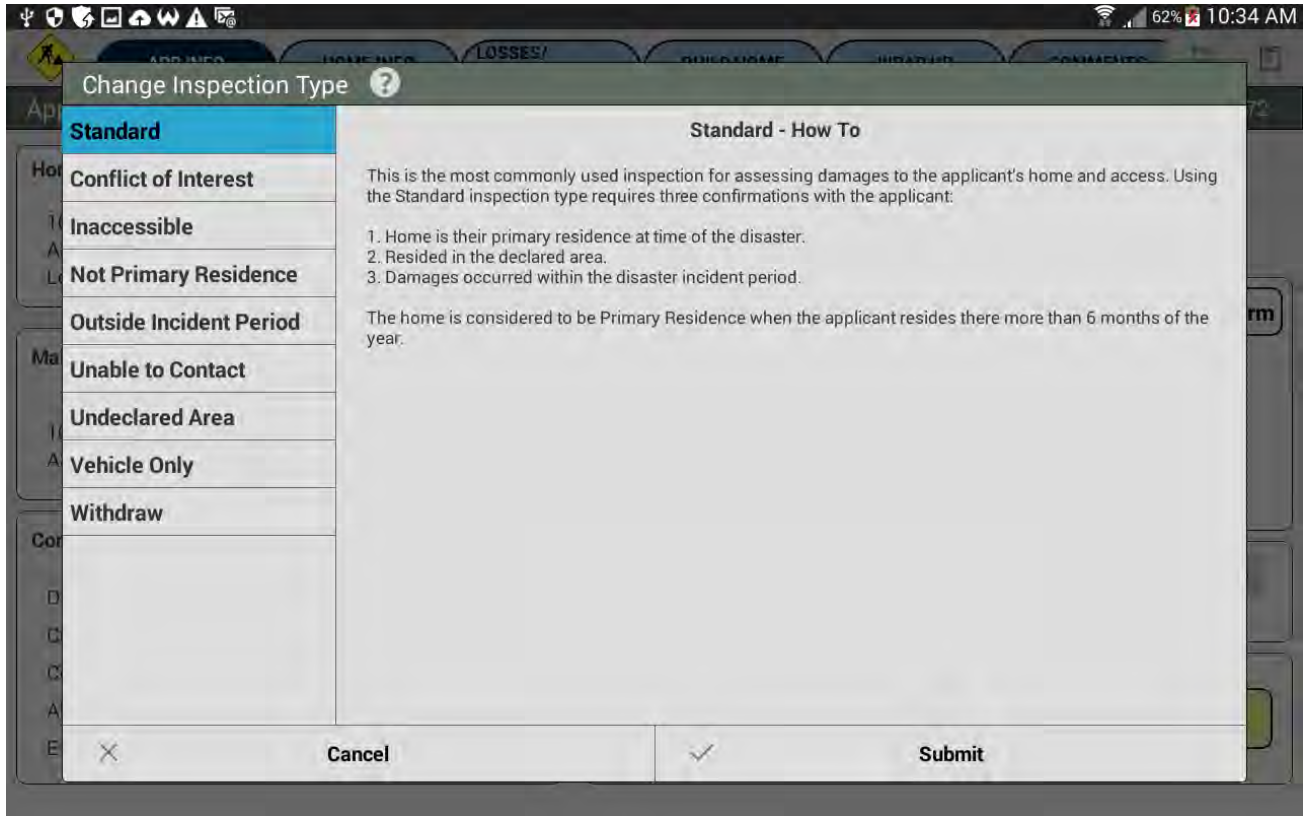


Standard

A Standard type of assessment is performed if:

- The home is their primary residence at time of the disaster. (The home is considered to be Primary Residence when the applicant resides there more than 6 months of the year.)
- They resided in the declared area.
- Damages occurred within the disaster incident period.

Reference the help button and your current ACE 4 user guide for detailed instructions on other inspection types.

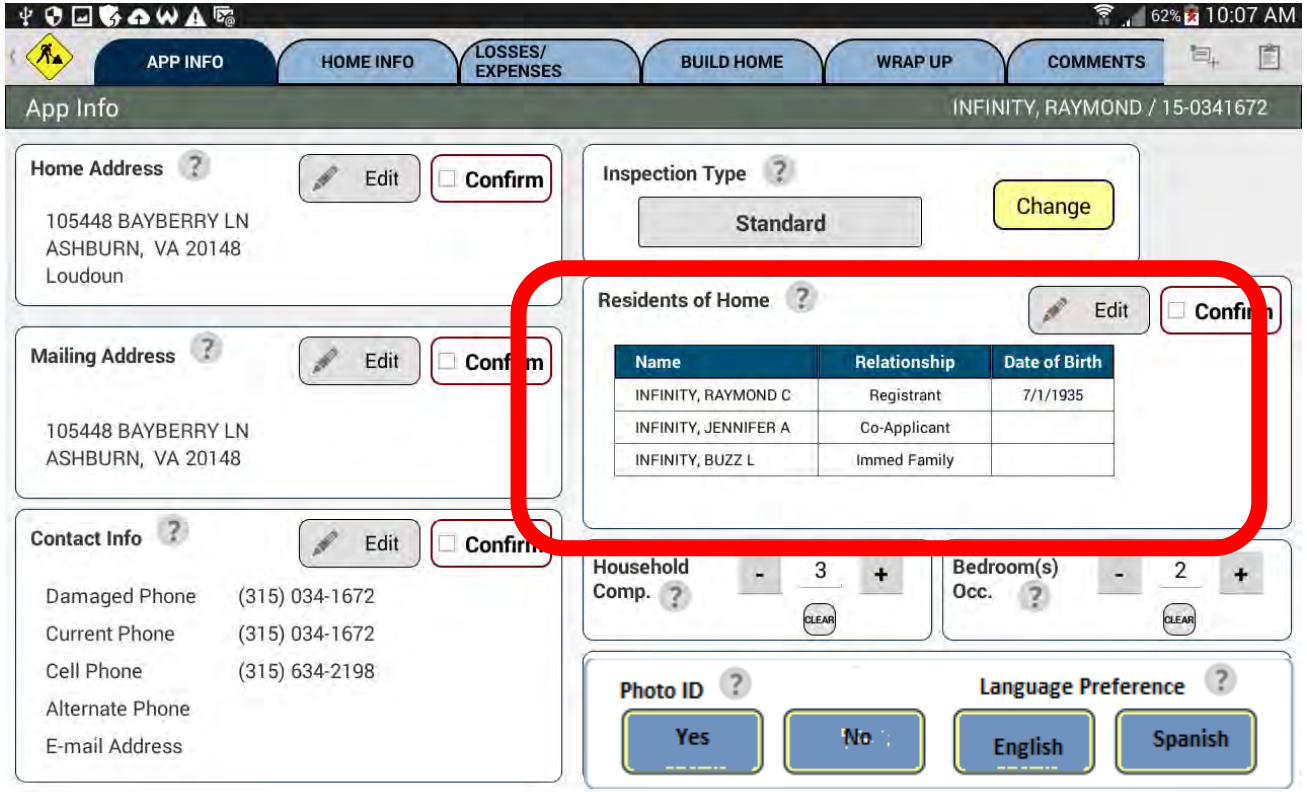


Residents of Home

View the applicant's Photo ID and verify the information is correct. Verify the list of residents of the home.

The easiest way to review the Residents of Home information is to tap the Edit button.

Inspectors will only make minor corrections to a registrant name. No major change is allowed for an applicants name. In this situation, withdraw the assessment. Inform the applicant to call the FEMA helpline to correct their registration information.



Residents of Home

Verify the information is correct:

Verify the names, the spelling, relationship status, and ages of all occupants who lived in the home or maintained residency of the home at the time of the event. Highlight a name to edit any that need a correction or to delete any that are not residents of the dwelling. Tap the Add button to add any that may be missing.

The list should include all dwelling occupants such as;

- Co-Applicant (if applicable)
- Immediate family members such as joint-custody children and students away at college expected to return during session breaks
- Friends/relatives that are a part of the household

As well as non-household members such as;

- Roommates who are renters in the dwelling which would be boarders
- Live-in landlords who own the dwelling

See the descriptions of the available relationship types below. Comment when a Registrant or Co-Applicant name change is made.

Relationship description:

Boarder – a rent-paying occupant usually residing in just one room, or a roommate

Co-Applicant- a spouse, significant other, or an adult-member who co-owns the dwelling, of which all are occupants

Friend/relative – distant family member(s) or friend(s) who is an occupant in the dwelling

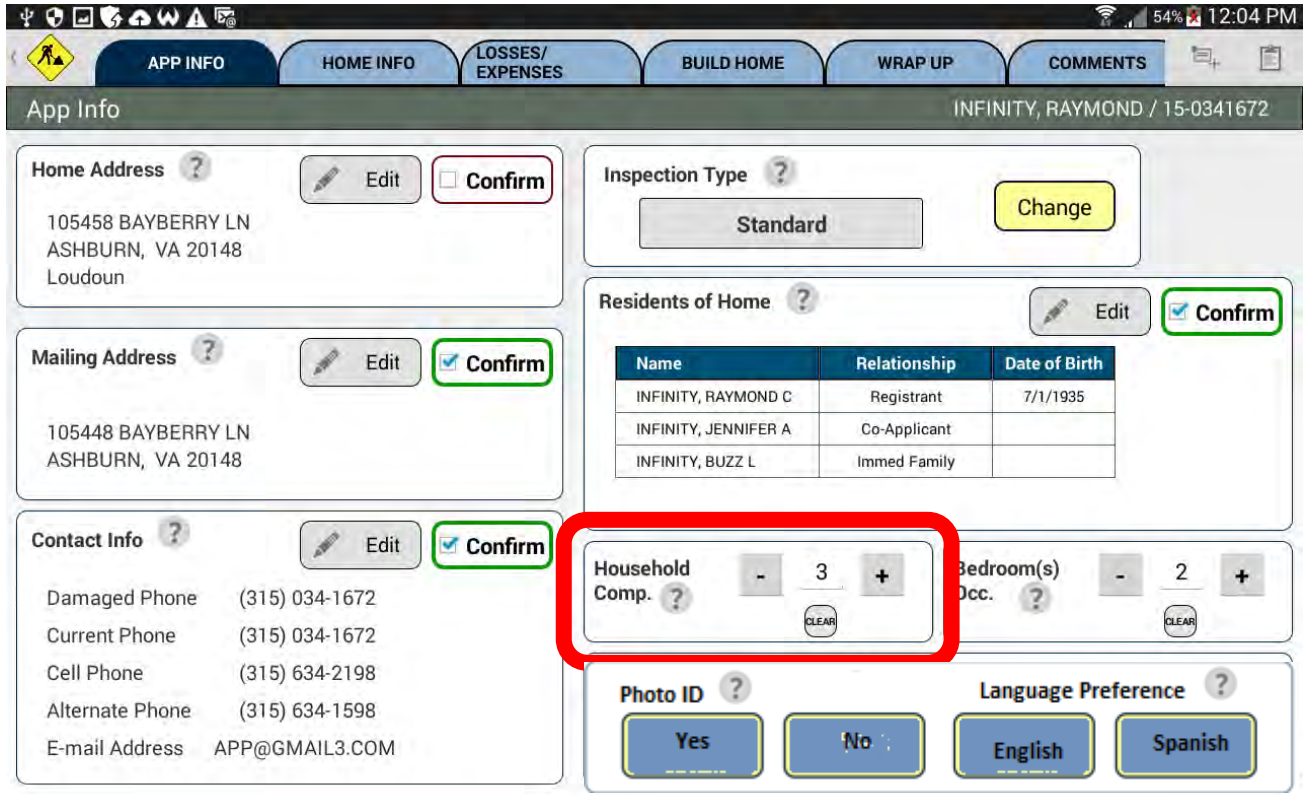
Immediate family – a member of the nuclear family occupying the dwelling (father, mother, or children/siblings)

Landlord – owner of the dwelling or lot and is an occupant in the dwelling

Household Comp

Record the number of household members who resided in the dwelling at the time of the event, including students away at college expected to return during session breaks, and joint-custody children.

Do not include non-household members such as boarders, renters or live-in landlords.



BEDROOMS OCCUPIED

Record the number of bedrooms occupied at the time of the event for the applicant and the members of the applicants household.

Do not count non-household members such as boarder, renter or Landlord occupied bedrooms.

This number will not necessarily agree with the number of bedrooms indicated on your rooms built in the inspection, but will not exceed household composition or bedrooms built.

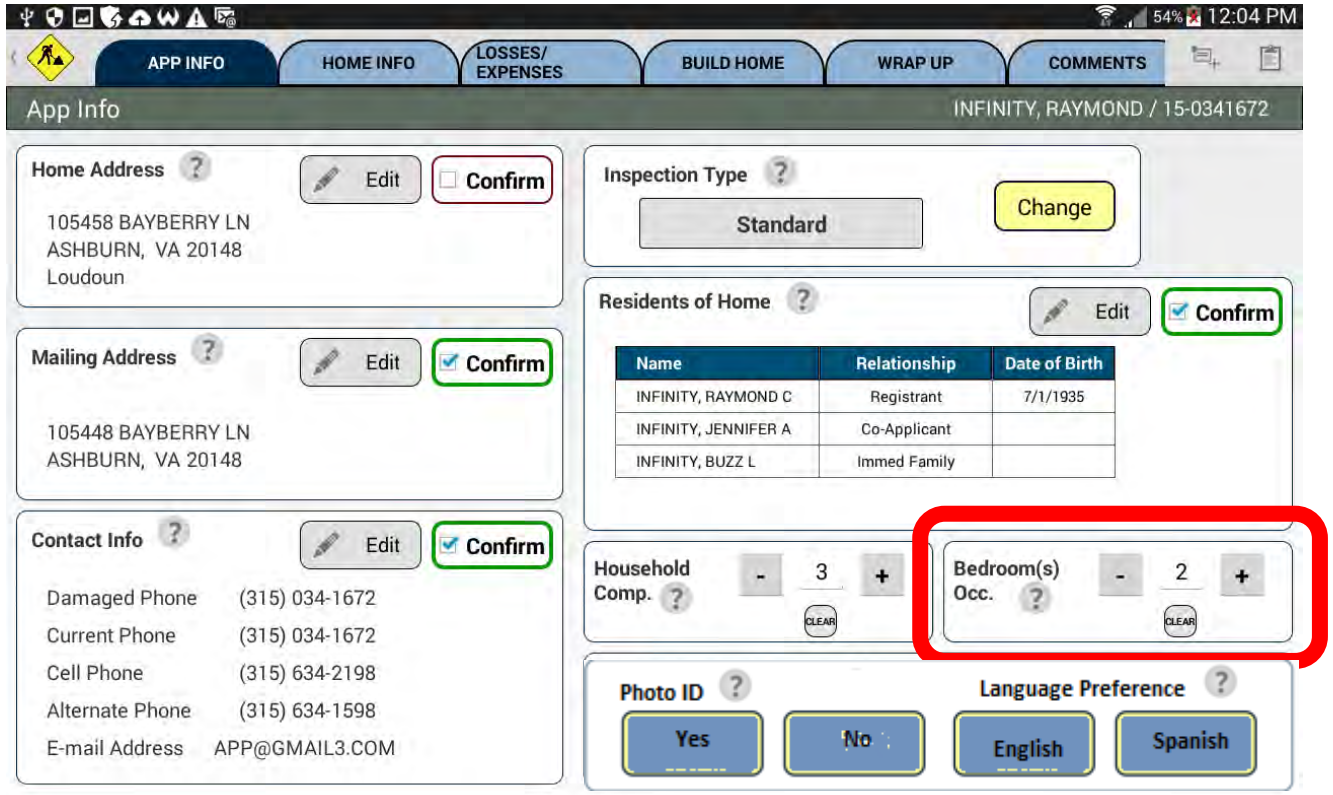


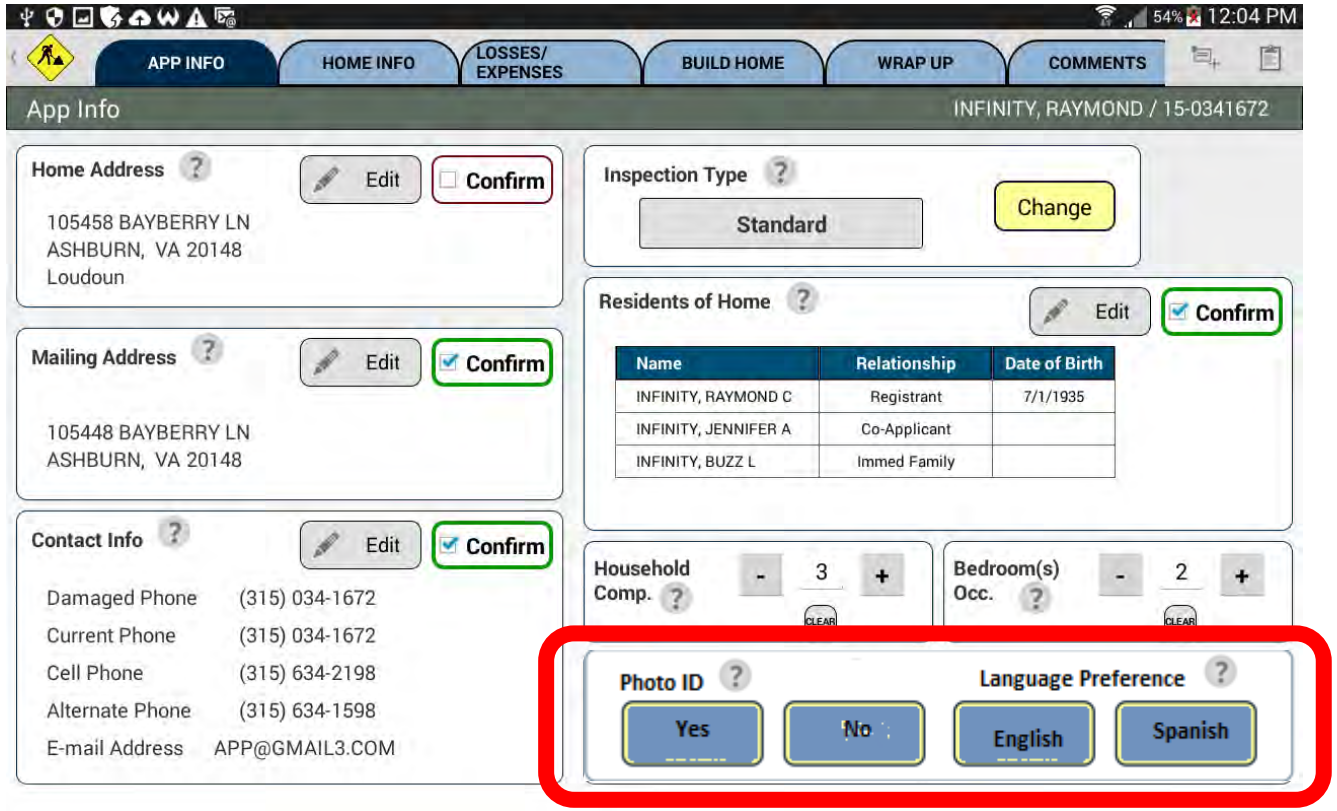
Photo ID/Language Preference

Photo ID

- When conducting an assessment it is imperative that the assessor positively identify the person to whom they are speaking. Some sort of government identification must be used; i.e. Drivers License, Passport etc.
- Once the assessor views the ID. The Photo ID will be marked “Yes”. If the applicant does not have any form of ID the “No” box will be marked and the inspection will be conducted.

Language Preference

- The assessor will ask the applicant what language they prefer.
- English or Spanish will be marked accordingly.



Skills Check

- When changing the damage address what must the assessor do?
- Is it possible to change the Registrant's name?
- What forms of ID are permissible?

Home Info tab

Applicant's Relation to Home

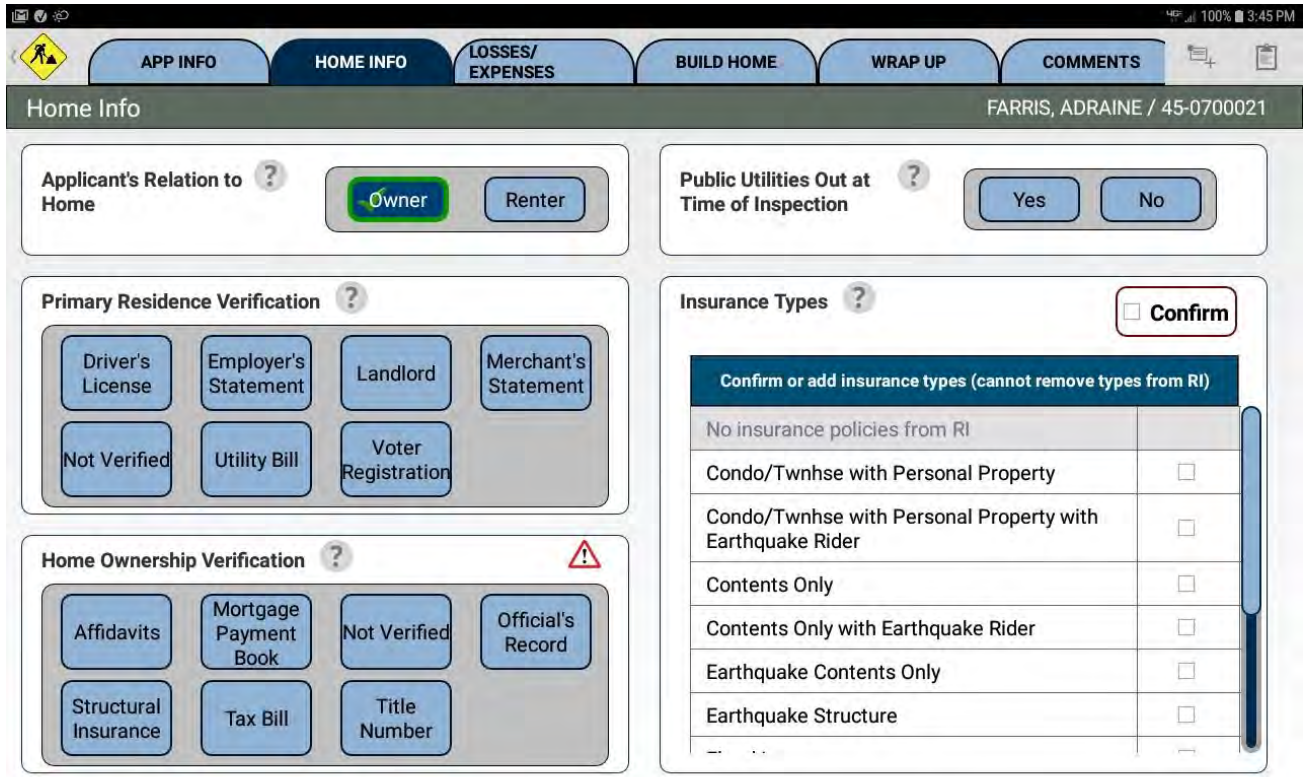
Ask if the dwelling is the applicants primary residence. If it is determined to be the primary residence, verify the relationship to the dwelling as an owner or a renter.

If the applicant states they are an owner, but registered as a renter, change to an owner and perform a complete assessment recording all structural damages.

Applicants with a "rent to own" agreement should be assessed as owners, perform a complete assessment recording all structural damages with Home Ownership as "Not Verified". Comment when the applicant is in a rent-to-own agreement.

Change from owner to renter only if the applicant states they are a renter.

A comment is required when changing the Applicant's Relation to Home.

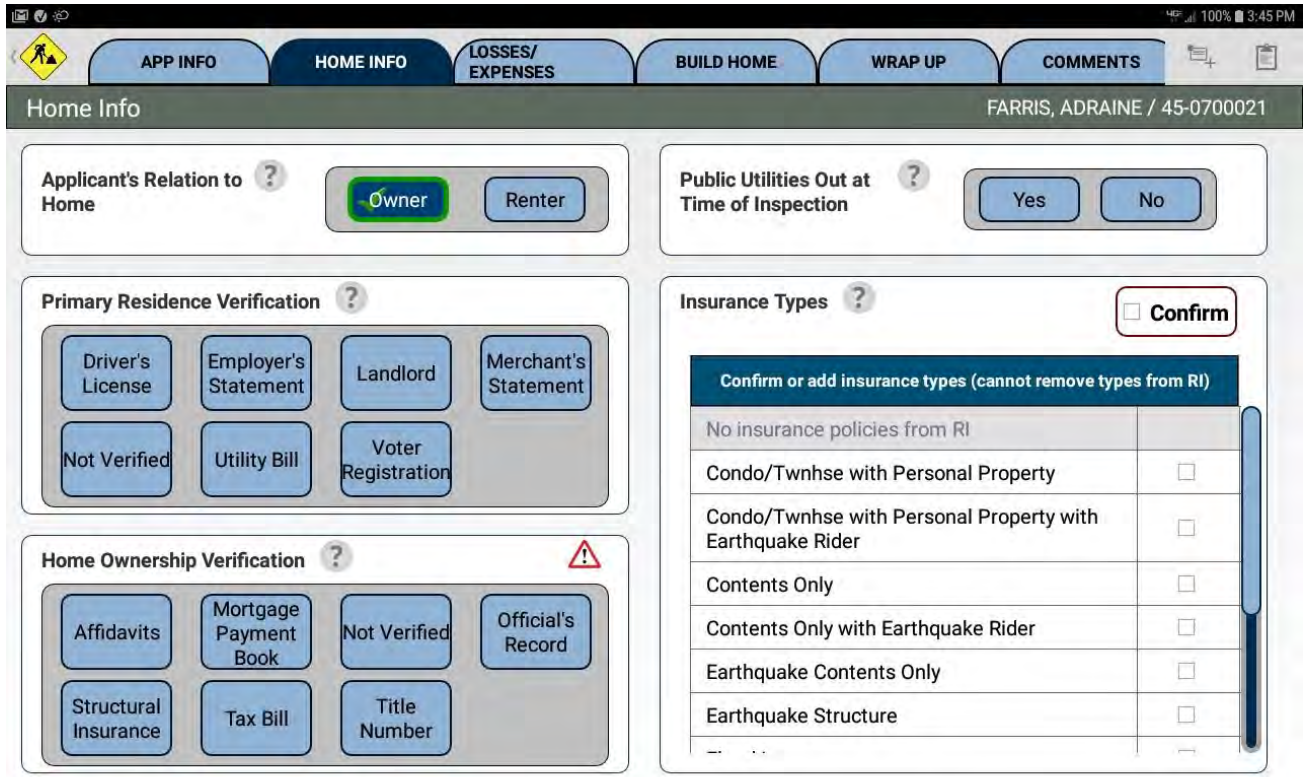


Home Info tab

For the majority of CONUS located dwellings, FEMA will have verified occupancy and when applicable ownership prior to the assessment being issued. When not confirmed by FEMA, a red triangle will be visible. When present, assessors are required to verify through documentation dated prior to the incident period confirming the applicant lived in and/or owned the home at the time of the disaster.

Occupancy Verification

Acceptable documents include a driver's license, rental agreement, voter registration card, utility bill, merchant's statement, or employer's statement. If not verified the comment should be: Applicant can not provide any proof of occupancy. If applicant is a renter you must provide the landlord's name and phone number.



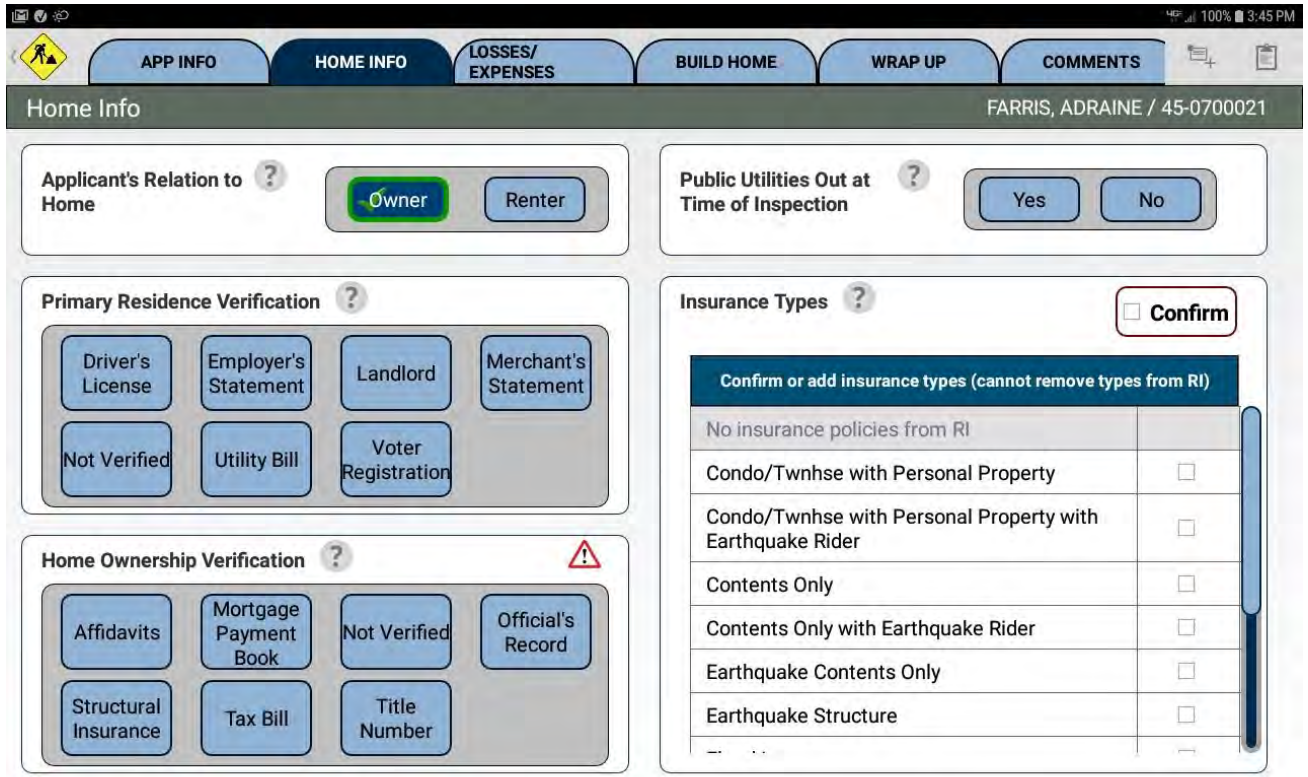
Home Info tab

Ownership Verification

Acceptable documents include structural insurance, a tax bill, official's record, title number, mortgage payment books, or affidavits. Documents must pre-date the incident.

If the applicant claims they are the owner and all means to verify ownership have been exhausted, the assessor will select "not verified" for ownership and perform a complete assessment. A comment is required on all attempts to verify ownership.

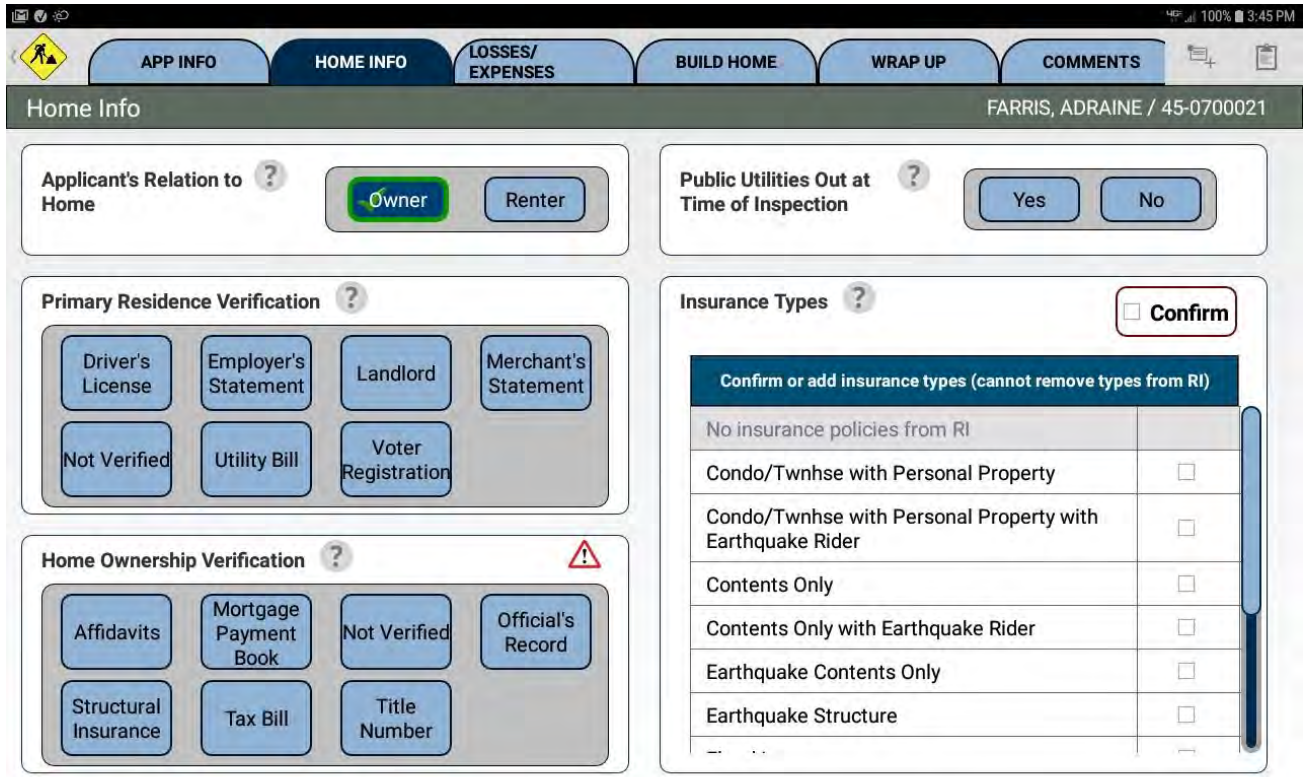
The comment should be: Applicant can not provide any proof of ownership. The tax office website and/or the tax office representative's name and phone number must be listed.



Home Info tab

Public Utilities Out at Time of Inspection

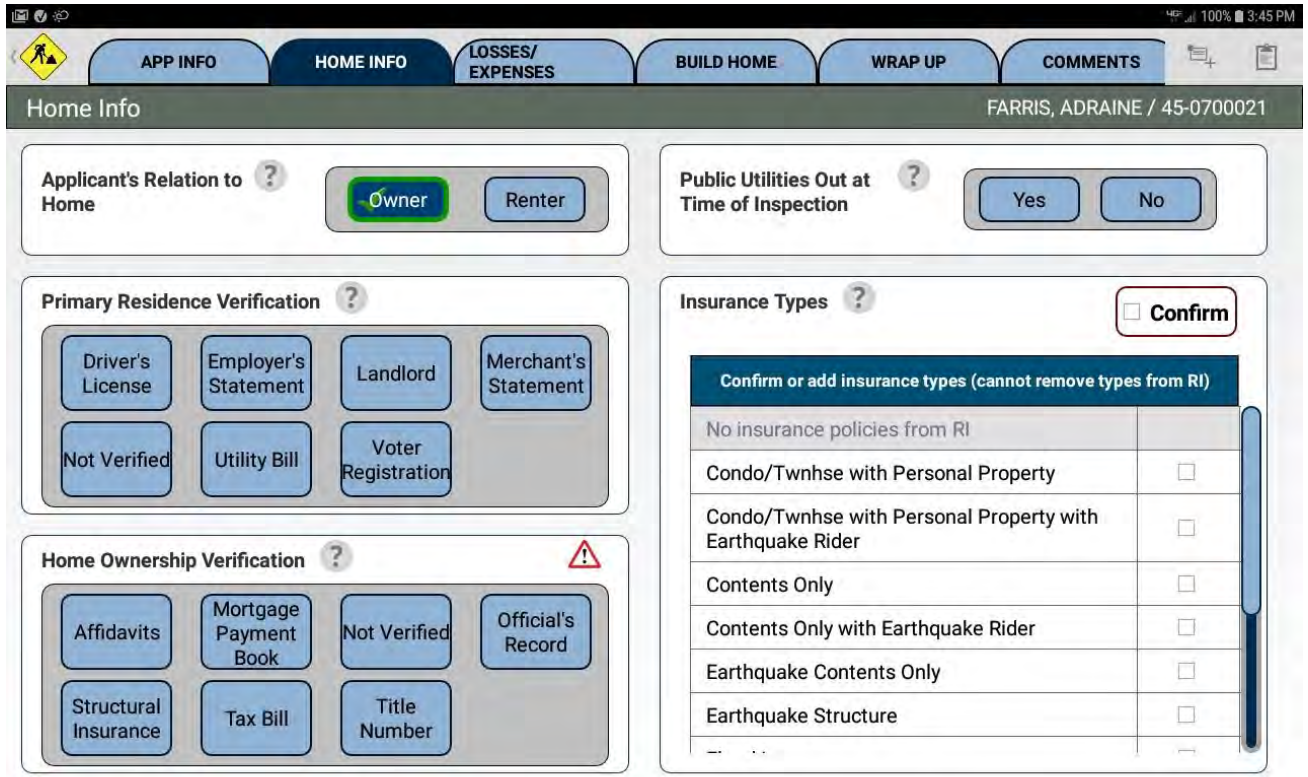
The assessor is required to verify and record the status of essential **public** utility service. Public utilities include electricity, gas, water, and sewer provided by municipalities, subdivisions, or mobile home parks. This determination reflects the status of utilities ***at the time of inspection*.** If essential utilities were out but have been restored prior to the assessment, the correct designation is “No”. This status is not used for utility systems owned by the applicant such as a well or septic system. If the only concern is the public utility outage, Habitability Repairs Required will be “No”



Home Info tab

Insurance Types

Ask the applicant if they have any insurance for their structure (if owner) and/or contents. Verify any insurance types listed from Registration Intake (RI). If the applicant claims not to have a listed insurance, inform them to call FEMA's Helpline to correct (1-800-621-3362). When the residence is a mobile home and Homeowner's Insurance is listed, add Mobile Home Insurance. Add all additional insurance types and riders indicated by the applicant. A rider is defined as a provision of an insurance policy that is purchased separately from the basic policy and that provides additional benefits at additional cost to the insured. An example would be a homeowner's policy containing a sewer backup (SBU) rider, which would cover damages resulting from SBU. If an applicant claims to have fire only insurance policy, select the Homeowner's Insurance type if it is not already listed.



Skills Check

- What constitutes as a Merchant Statement?
- What is the comment needed for occupancy if there is NO red triangle.
- What is the Habitability call for Public Utilities Out with no other damage to the dwelling.

Losses and Expenses- Medical, Dental and Funeral

Medical: If the applicant reports a disaster-related medical need, select “Yes” to indicate a need. Medical needs can be a new medical condition or injury caused by the disaster, the loss of prescriptions or medical equipment (artificial limbs, prescription eyeglasses, etc.) damaged, destroyed, or lost as a result of the disaster.

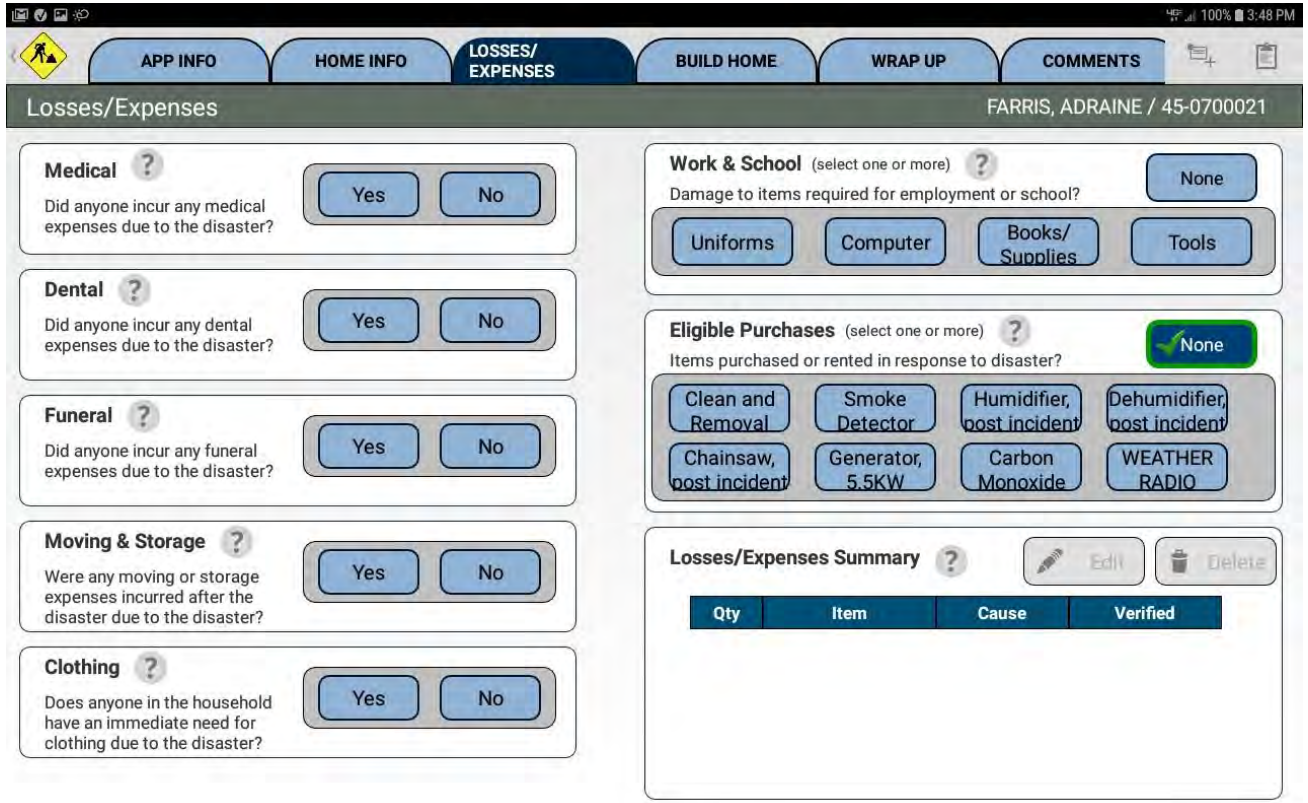
Tap applicants response Yes or No

Dental: If the applicant reports a disaster-related dental need, select “Yes” to indicate a need. Dental needs can be a new dental condition or injury caused by the disaster, or dentures that are lost, damaged, or destroyed as a result of the disaster.

Tap applicants response Yes or No.

Funeral: If the applicant reports a disaster-related funeral need, select “Yes” to indicate a need. Funeral needs can be any expenses related to a funeral or interment that the applicant is responsible for, which is a result of the disaster.

Tap applicants response Yes or No.

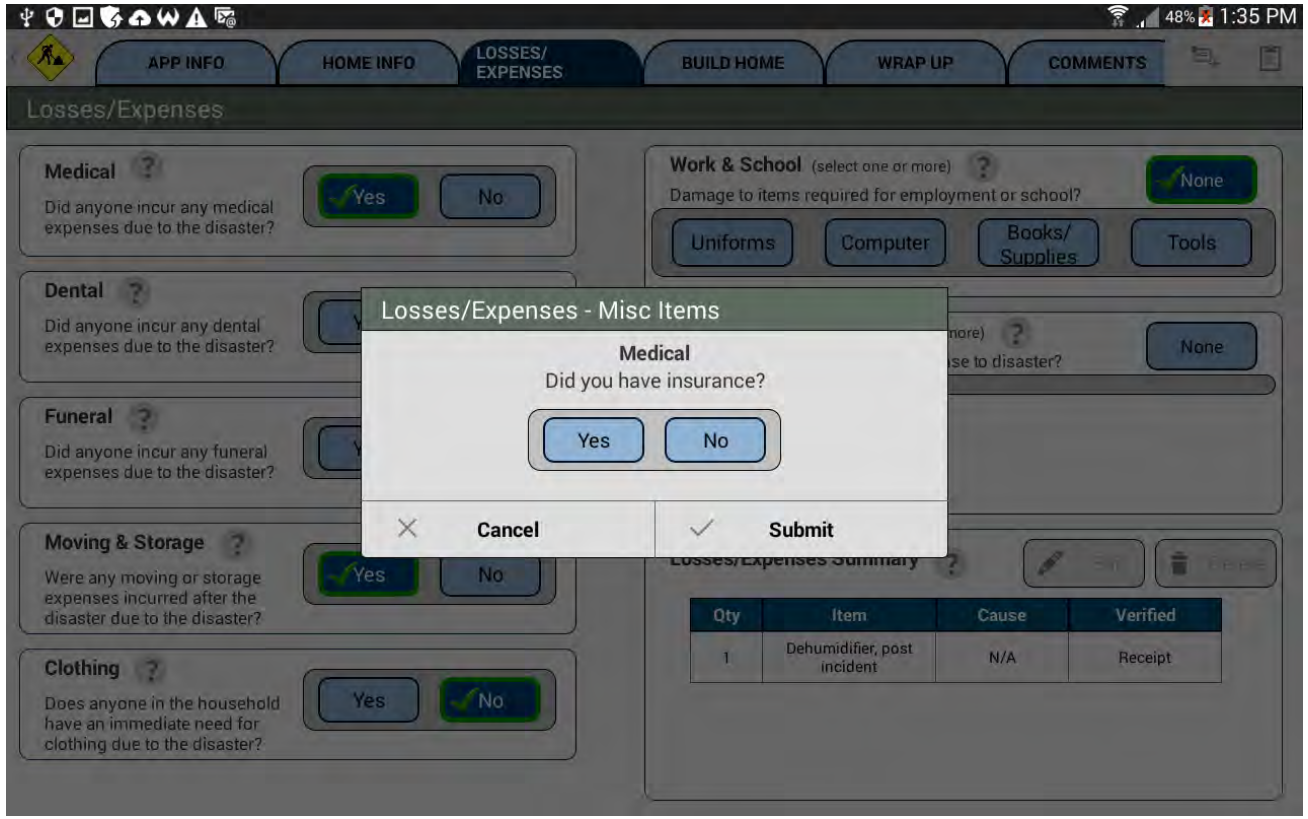


Medical, Dental and Funeral insurance verification pop-up

When yes is selected to any of the Medical, Dental or Funeral questions, a new question auto populates to ask the applicant if they have insurance for the selected need.

Note: For the Funeral Needs question, Life insurance is NOT considered to be Funeral insurance. The funeral need would have to be covered by a Burial Insurance policy to select Yes for the insurance question.

Tap the applicant response Yes or No and tap submit.

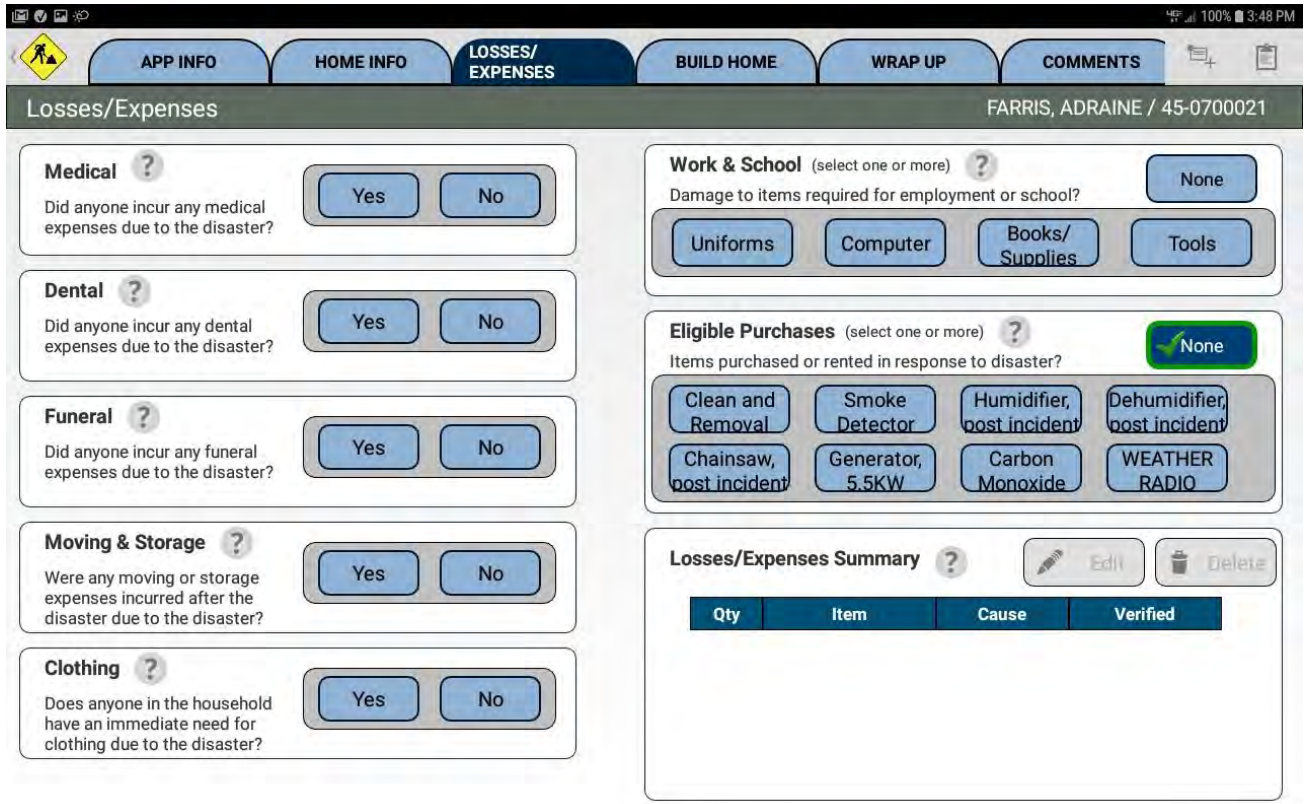


Losses and Expenses Moving & Storage

If the applicant reports a disaster-related moving and/or storage need, select “Yes” to indicate a need. Use the moving and storage button to record expenses to move/store personal property incurred after the disaster.

No auto generated insurance question will appear.

Tap applicants response Yes or No.

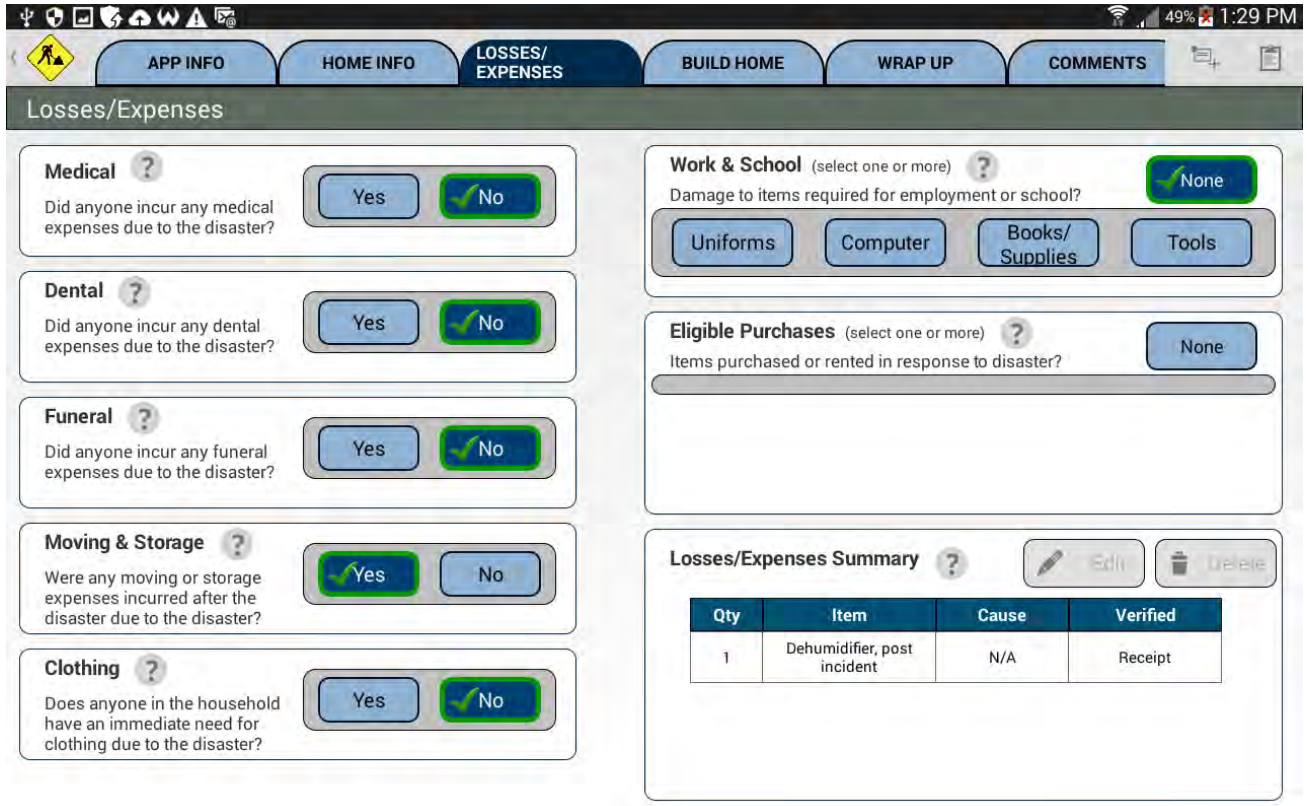


Losses and Expenses Clothing

Clothing is not to be recorded unless all the applicants clothing is destroyed, physically gone (e.g. blown away), or contaminated by chemicals, sewer backup, etc. It is expected that clothing that is soaked by wind driven rain, seepage, or flood waters will be cleaned by the applicant. If the applicant indicates a need, ask what percentage of clothing was damaged. If the applicant indicates 25%, 50% or 75% was damaged, the clothing loss would be No.

Limit of one (1) per household member that has a clothing need.

If there is a clothing loss, tap yes.



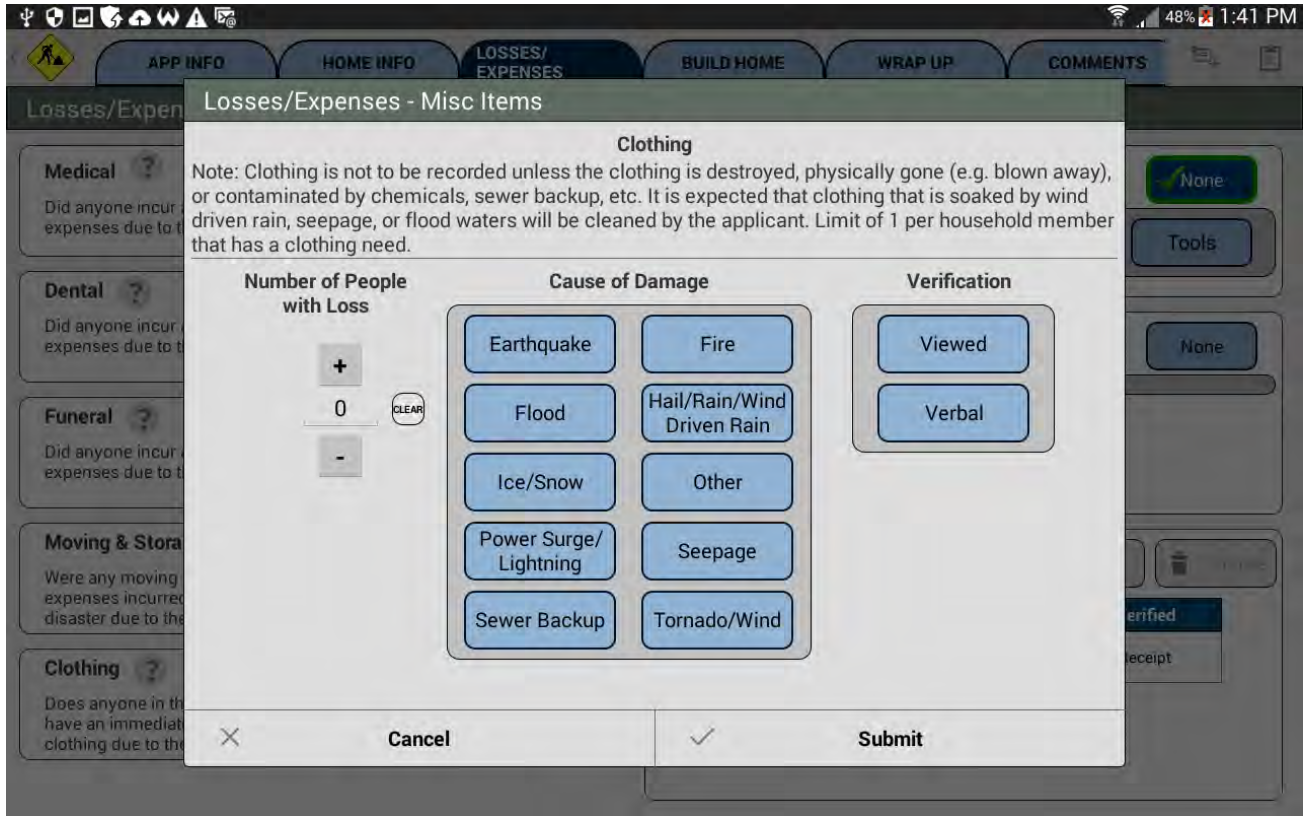
Losses and Expenses Clothing

If yes is selected, you must select the number of people with a clothing loss.

Select the cause of damage to the clothing.

Verification method to confirm loss.

Then tap submit.



Losses and Expenses Work & School

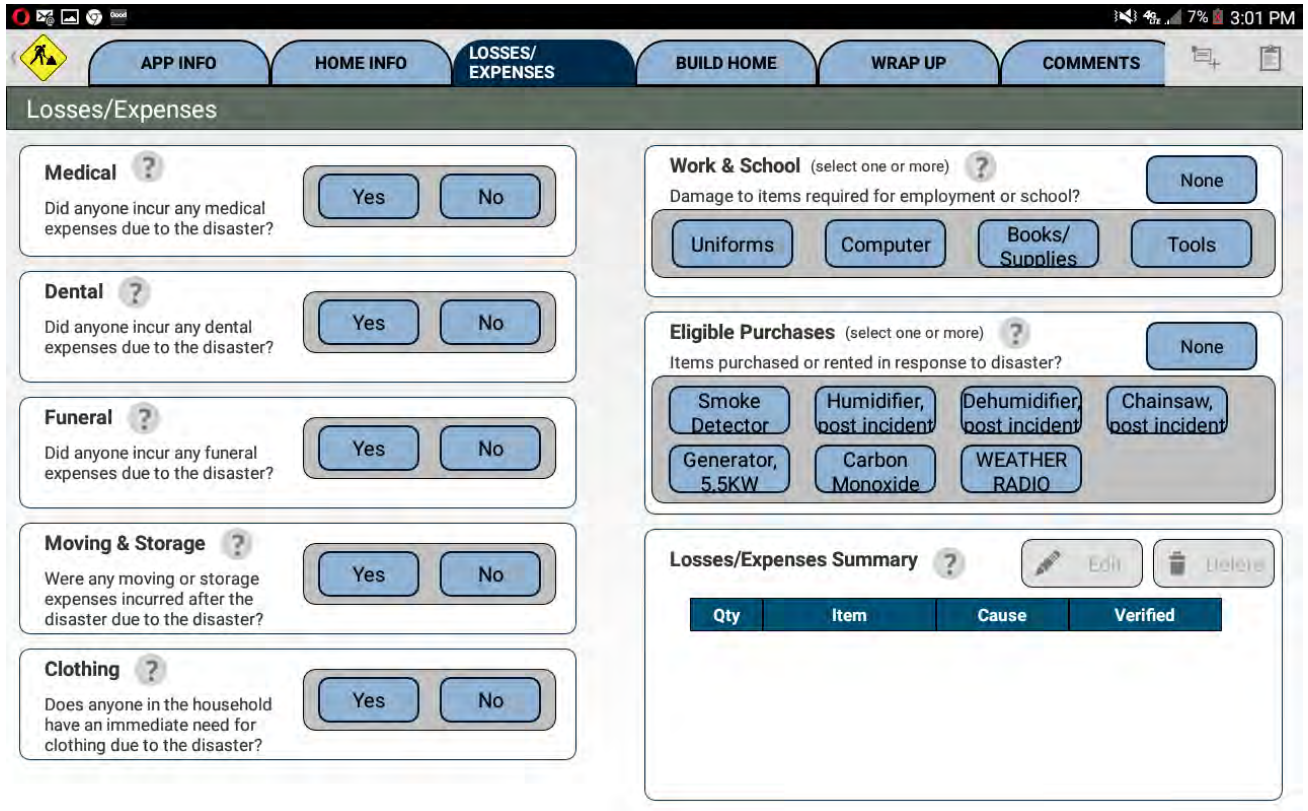
Record disaster-related damage to uniforms, computer(s), books/supplies, and tools required for employment or continued school enrolment, of which the applicant purchased and is financially responsible.

Uniforms that the applicant is financially responsible for, or previously purchased by the applicant are only to be recorded if they are lost or severely damaged as a result of the disaster and are required to maintain employment. Do not record more than one per individual who lost these items. One refers to a full set of uniforms.

A **computer** that the applicant is financially responsible for, or previously purchased by the applicant, are only to be recorded if they are lost or severely damaged as a result of the disaster. Do not record computers when the cause of damage is Power Surge or used for self-employment.

Books/Supplies that the applicant is financially responsible for, or previously purchased by the applicant, are only to be recorded if they are lost or severely damaged as a result of the disaster, and are required to stay enrolled in school. Do not record more than one per individual who lost these items. One refers to a full set of books. Books include textbooks for grade school, vocational school, college, and reference material. Supplies include notebooks, pens, paper, and miscellaneous small office supplies.

Tools that the applicant is financially responsible for, or tools previously purchased by the applicant, are only to be recorded if they are lost or inoperable as a result of the disaster and are required to maintain employment. Do not record tools used for self-employment. Do not record more than one per individual who lost these items.

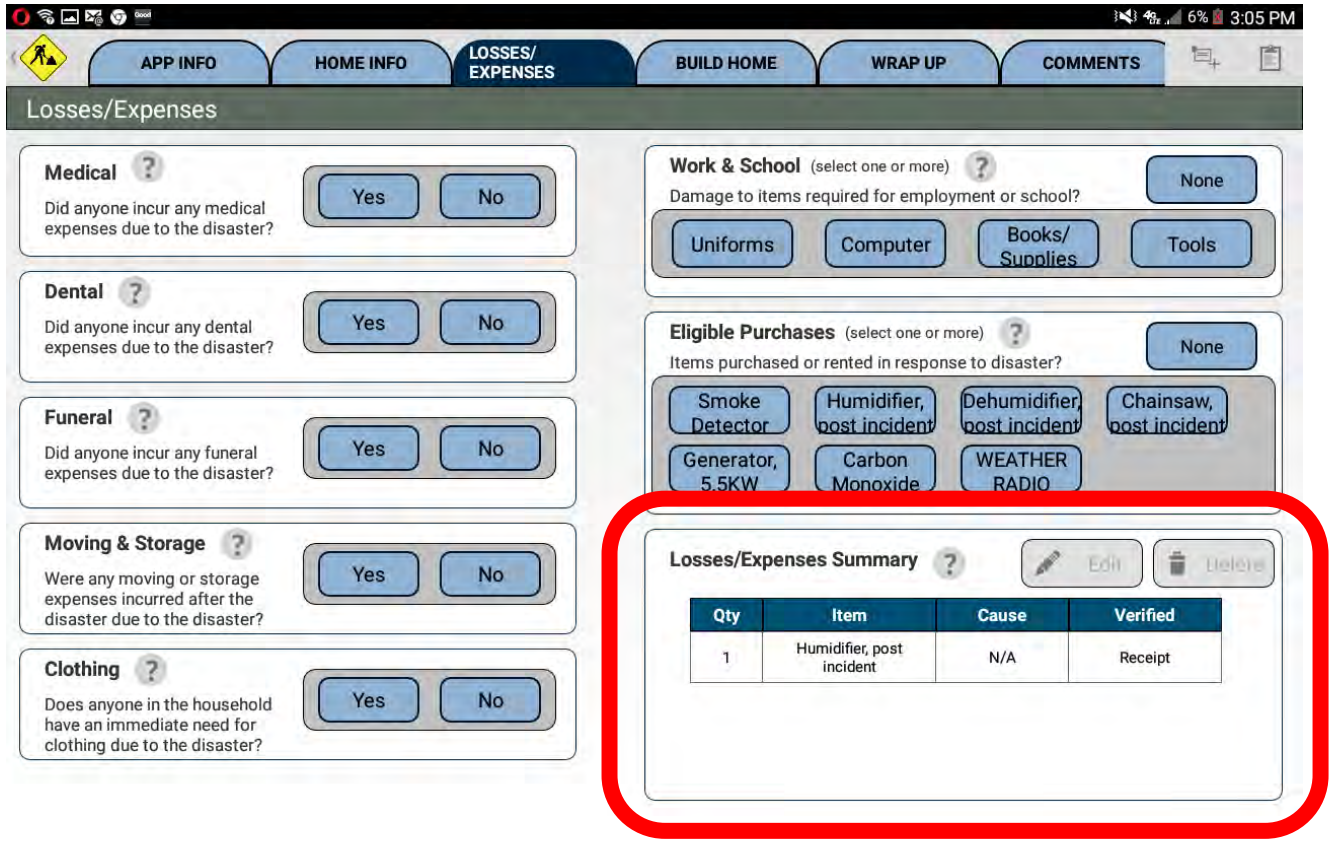


Eligible Purchases

Address eligible purchases made by the applicant in response to the disaster. Items will be disaster-specific, and had been purchased or rented within 30 days after the incident period start date. Review the Disaster Facts sheet for the incident start date. The Generator has different specific requirements in order to be recorded. Please refer to guidance for more details.

View the receipt and record the date of purchase. Write your inspector number on the receipt as a record of verification.

Select from list if available not all events have eligible purchases.



Eligible Purchases

When an item is tapped it will bring this screen up.

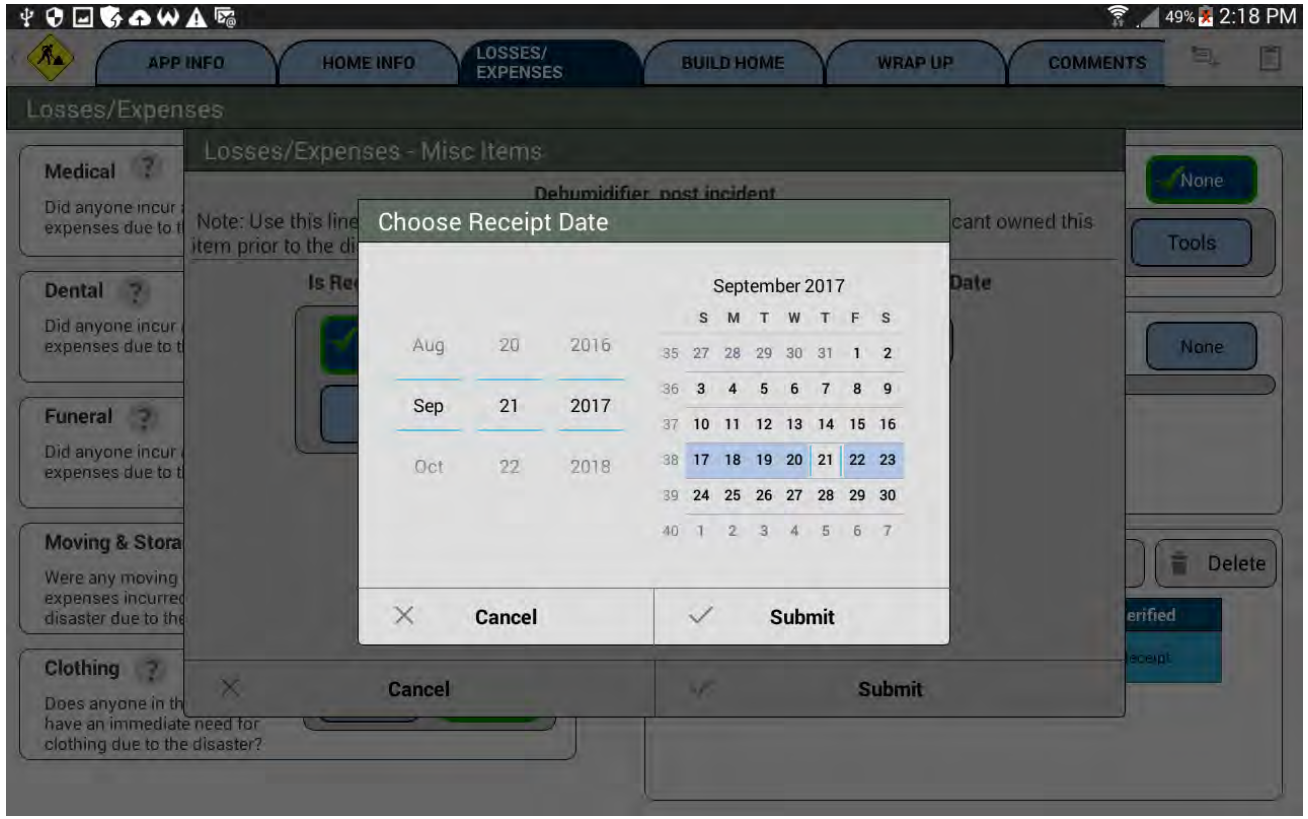
Is receipt available? Select Yes or No.

Select quantity purchased.

Tap calendar and enter date of receipt.

Eligible Purchases

Tap date on receipt and submit.

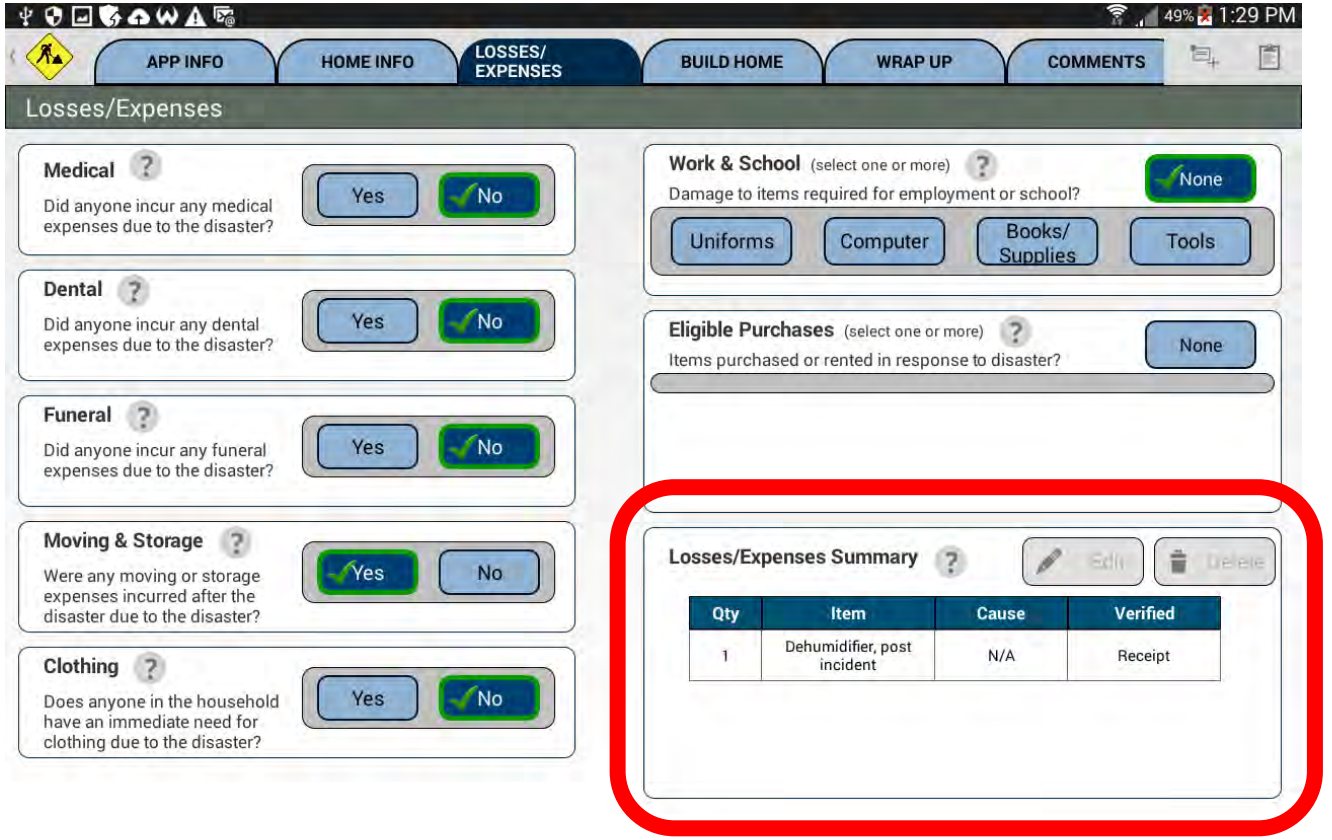


Eligible Purchases

If needed the information can be edited in the summary box.

Tap the item then tap edit or delete if recorded in error.

If a generator is recorded, comment on the type of medical device powered from the generator.



SKILLS CHECK

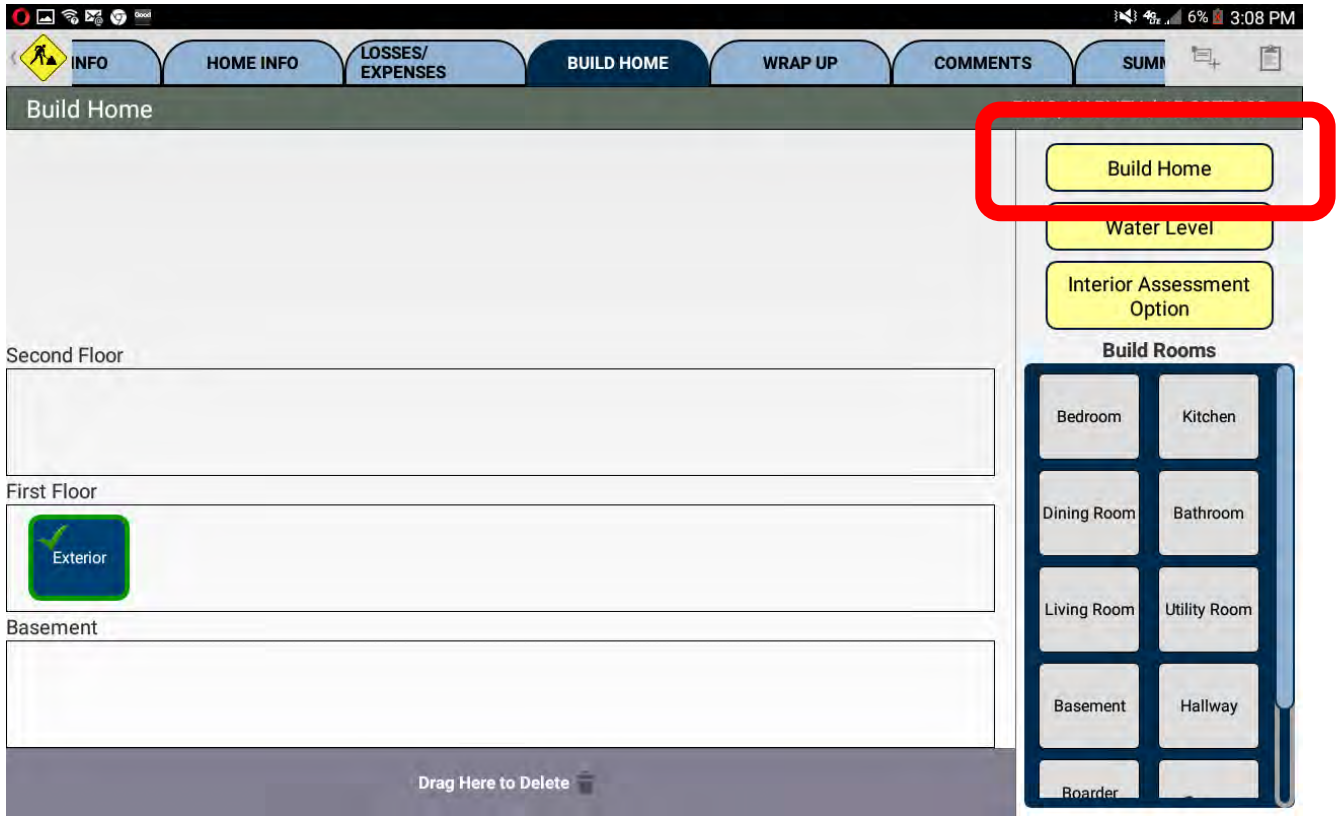
- What are the dates that must be considered when recording a generator in eligible purchases?
- If recording a chainsaw in eligible purchases; what two line items are not to be recorded?
- Is it necessary to ask the funeral question if the applicant is the only resident of the house?

Build home tab

Exterior room is built automatically.

Start by building the home.

Tap build home icon in yellow.



Build home

Select type of home by tapping icon:

House-Single/duplex –a building containing one household (single-family) or two (duplex) through separate entrances placed on a permanent foundation containing the majority of essential rooms

Mobile Home – a building prefabricated elsewhere and set on-site, customarily using an adjustable pier-type foundation.

Townhouse – attached single-family homes with parting walls and separate entrances making a single larger building on a horizontal plane.

Condo –Use to address a condominium or cooperative which is a form of ownership. The dwelling could be similar to a townhouse, but may be combined both horizontally or vertically to make the single structure. Condominium/Cooperative occupants are owners with a specific agreement to own shares of the structure having access rights to "common" areas of the building. Ownership documents will have condominium agreement text.

Apartment – is a self-contained housing unit that occupies only part of a building (apartment building).

Travel Trailer – typically, a travel trailer is a towed behind road vehicle containing a housing unit sleeping a minimal number of occupants. Units are smaller than mobile homes, while many retain their wheels. Recreational Vehicles, when not used for transportation will be recorded as a Travel Trailer.

Assisted Living Facility – A structure used to care for elderly, disabled, or individuals with other functional needs containing on-site supervision and health care.

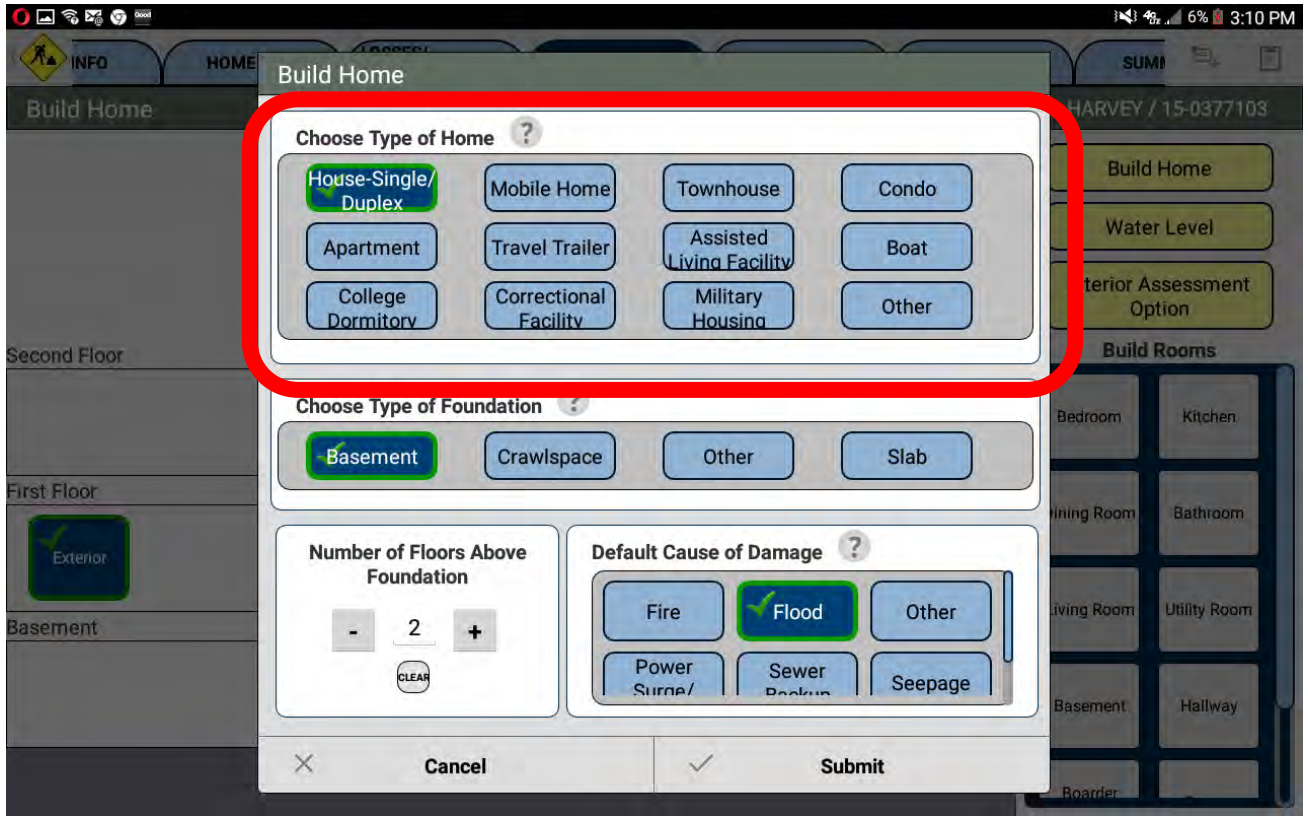
Boat – a watercraft of any size designed to float on water.

College Dormitory – a residence hall containing sleeping quarters for a large number of occupants typically found in boarding schools and universities.

Correctional Facility – a structure typically used for a prison, jail or half-way house.

Military Housing – a housing entitlement granted to U.S. Military members and their dependents.

Other – a dwellings not meeting one of the above conditions, such as tents, lean-tos, sheds, yurts, cargo containers, earthen homes (Berm houses), when occupied – vehicles, and etc. A comment is required when selecting this type.



Build home

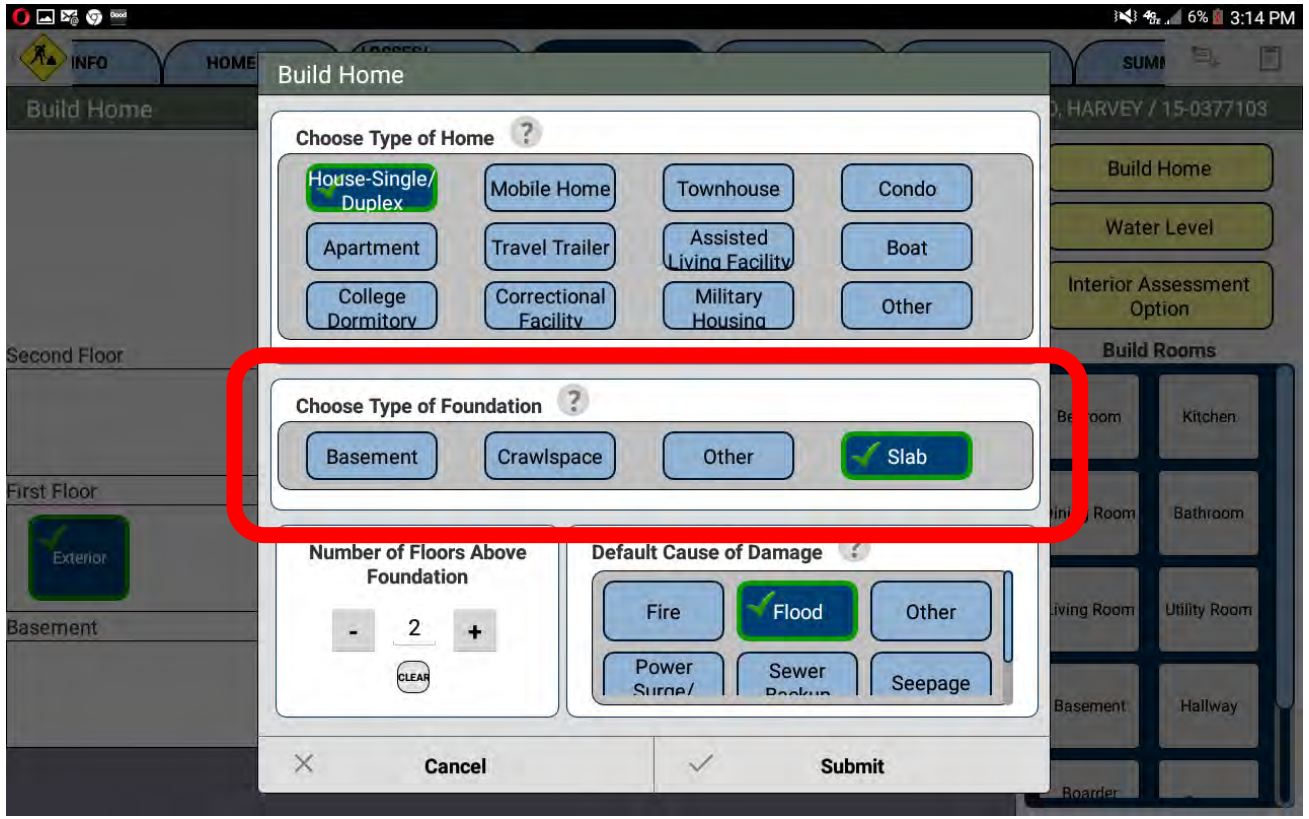
Choose Type of Foundation:

Basement – an enclosed area where any portion of the exterior wall or concrete floor is below grade, except for split-level or split-foyer homes.

Crawlspace –the area or space between the lowest floor and earth or concrete pad with supports for the first floor. Area may contain ductwork, plumbing, insulation and other mechanical components.

Other – for earthen floors, boats, tents, cargo containers or “other” dwelling types.

Slab – concrete floor or pad supporting the first floor or dwelling.



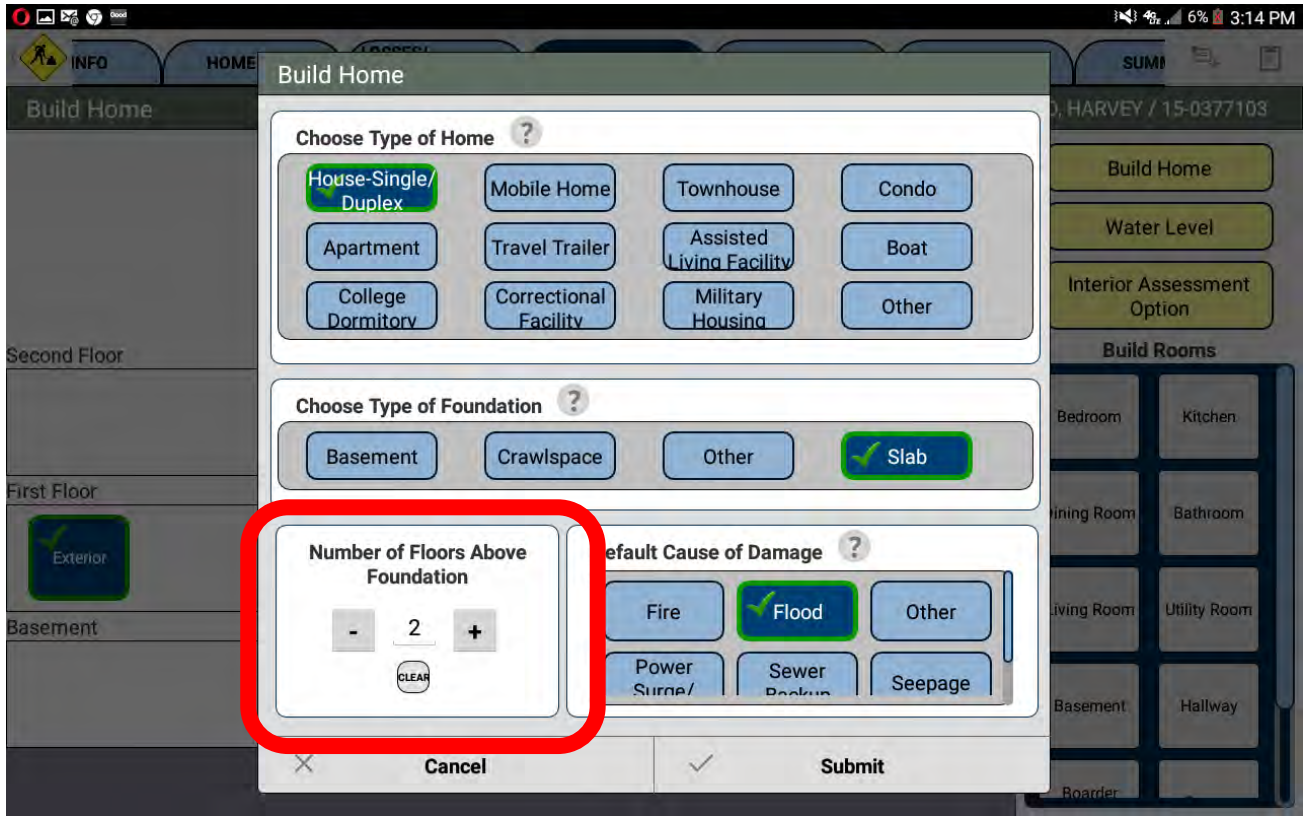
Build Home

Number of floors above the foundation:

Enter the number of floors above the foundation level.

This does not include the basement; if the home is a 2 story (floor) on a basement the correct entry is 2 floors above the foundation.

The basement is not counted as a floor but is included in the square footage of the dwelling.

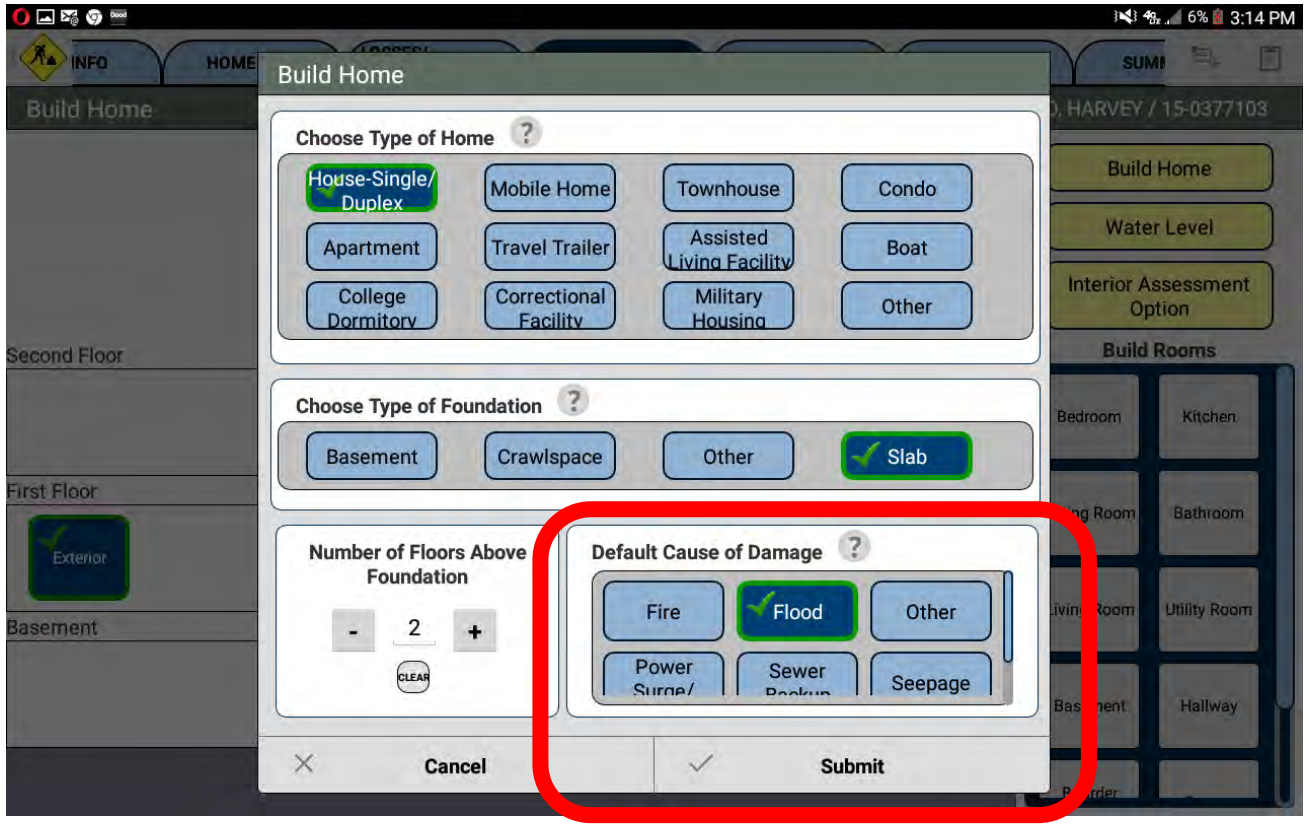


Build Home

Choose Hail/Rain/Wind Driven Rain when available otherwise select the cause of damage given per disaster specific guidance. The default COD will be used for all non-affected items.

Note: The default selection appears when the user first builds the home and will be the damage type for Not Affected furnishings and appliances. Editing the default damage type may be facilitated through the Build Home prompt.

Submit when done.



Build Home

Water level:

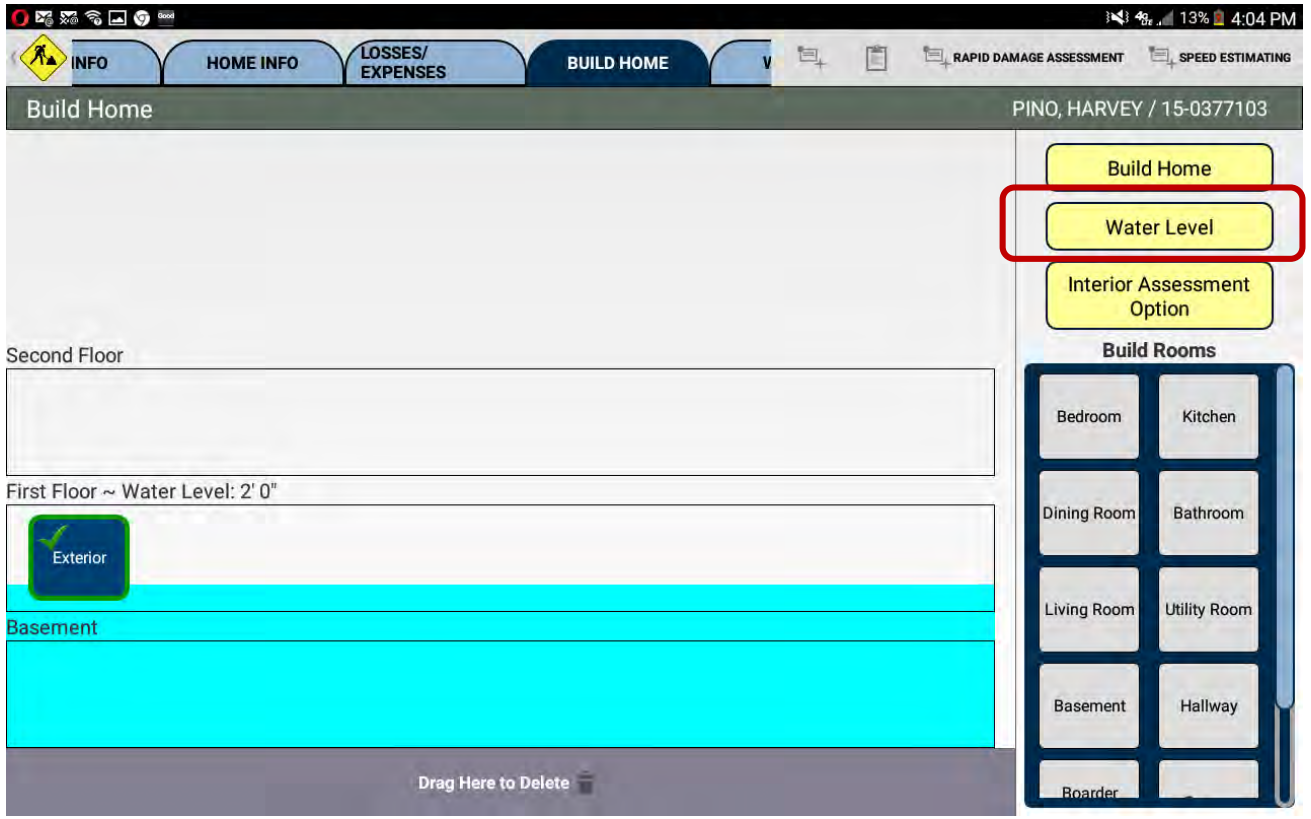
Tap on Water Level icon.

Select the highest location the water reached.

Attic, Other, Over Roof, Over Access Road, Basement, First Floor, Second Floor

Enter how high the water got in feet and inches on the selected level.

Then submit.

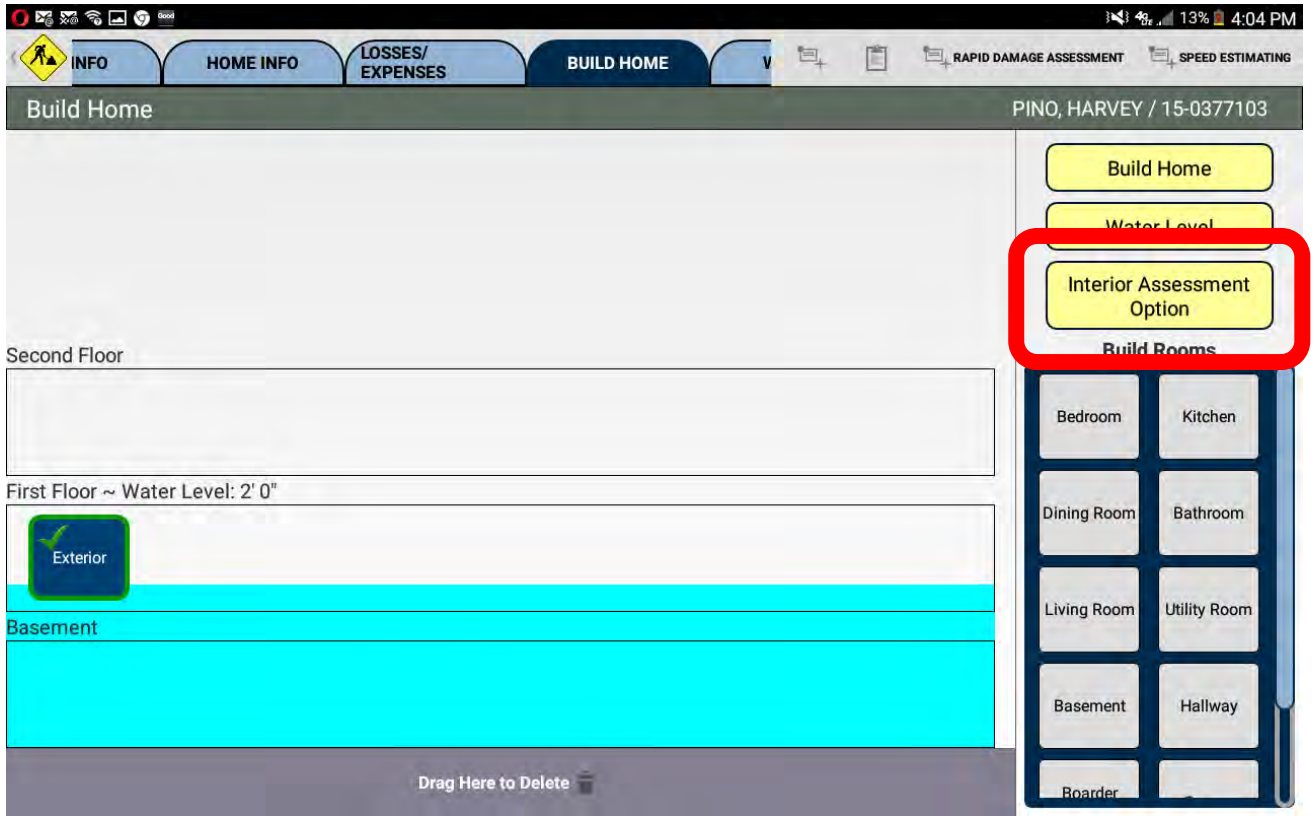


Build Home

Interior Assessment option:

As FEMA Assessors we will seldom use this feature.

To use this option answer the questions for furnishing, appliance, and interior structure damages. If all answers selected are No, proceed without building all rooms in the dwelling. When the **No Furnishing Damage Room** populates on a floor which the applicant does not reside, drag the room to the appropriate floor. Exterior only damages, such as road and bridge (egress) or electrical service entrances can be recorded in the Exterior room.



Room Furnishings

Essential Rooms – Record all rooms as they are furnished. When recording rooms furnished as bathrooms, bedrooms, kitchens and living rooms, select the appropriate level of damaged for the essential room furnishings! For example, if an unoccupied bedroom is furnished as a bedroom and all furnishings need to be replaced, record it as a Bedroom Replace.

The following are considered Essential Room Furnishings:

- **Bathrooms** - Furnishings include: towel set, personal hygiene items, shower rod, shower curtain, tub mat and mini blind.
- **Bedrooms** - Furnishings include: bed frame and mattress set (queen bed), pillow, blanket, bedspread, sheet set, dresser or chest, nightstand, lamp, mirror and mini blind set. The bedroom furnishings includes an allowance for a **queen twin bed for two occupants.** If there were more than two occupants of a damaged bedroom, add an additional twin bed line item for each additional occupant with the appropriate level of damage. Example: If there are three children in a bedroom and all furnishings were destroyed, record bedroom **Replace All** and one twin bed **Replace.**
- **Kitchens** - Furnishings include: kitchen utensils, mixing bowl set, pots & pans, dishes, glassware, flatware, small appliances, dishtowels & potholders, fire extinguisher and cleaning supplies
- **Living Rooms** - Furnishings include: sofa or couch, chair, coffee table and floor lamp & table lamp

If a room is not furnished as one of the available room types, for example a room used as storage, the inspector will build an office room.

College dorm, Assisted Living Center, Military and Correctional Facility Personal Property: Individuals residing in these homes are typically not responsible for room furnishings or major appliances and should be recorded as “Landlord Owned”. Damages to clothing and small appliances (fans, radios, TVs, wheelchairs, microwaves and telephones) may be acceptable personal property items to be recorded with an appropriate level of damage.

Furnishing Damage levels

- **None Affected** – Select when room furnishings are not damaged or lightly soiled/dusted and can be cleaned by the applicant.
- **Clean or Fix by Pro** – Select when heavily soiled or contaminated requiring professional cleaning.
- **Some Beyond Repair** – Select when a portion of the essential furnishing items for a room are no longer functional and require replacement.
- **Replace All**- Select when an obvious replacement of all or most all of the essential furnishing items for a room is needed.
- **Landlord Owned** – Record when the room's furnishings are provided by the landlord.

If unable to determine the correct level of damage for an essential room, the inspector can tap the Itemized Furnishings Assessment button to assess the damage level for each of the essential items for the room. This will give the correct level of damage for the room.

Room Furnishings

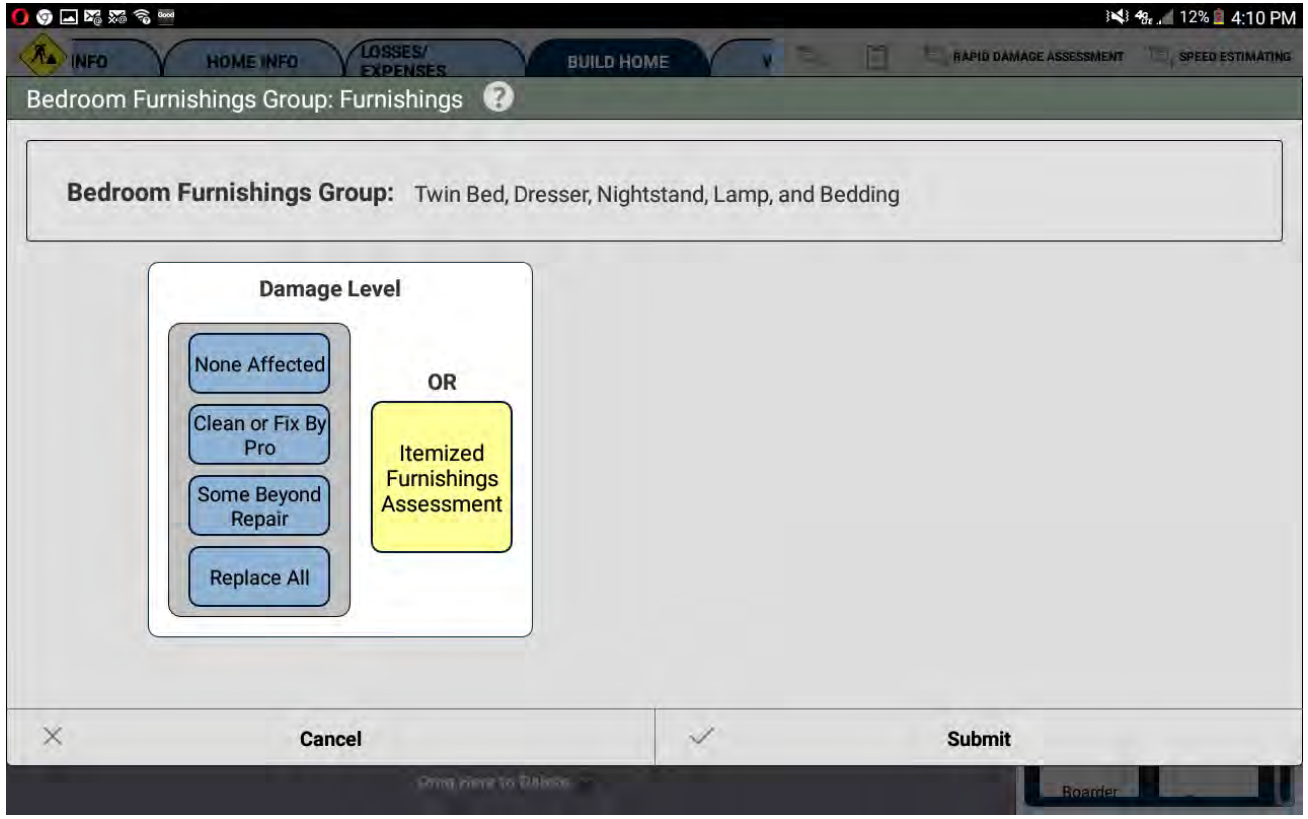
- Viewed means that the room furnishings were still at the dwelling and available to be seen.
- Verbal if the room furnishings are no longer there and there is sufficient evidence to suggest the furnishing items were damaged. For example, if the house had 3 feet of water in it, then evidence would support recording a damage level above None Affected.

Note: When the damage cannot be verified or supported, the room furnishings damage level should be recorded as None Affected.

Do not record stored furnishings, such as in a storage unit, on an initial inspection.

Build Home

When you drag an essential room to a floor level location, this pop up appears. In this example, the bedroom being built is on the 2nd floor and has no damages, so we can select None Affected and tap submit. The essential room will close and will return to the Build Home screen. Tap the room to open again and add the appliances and if for an owner, the structural line items.

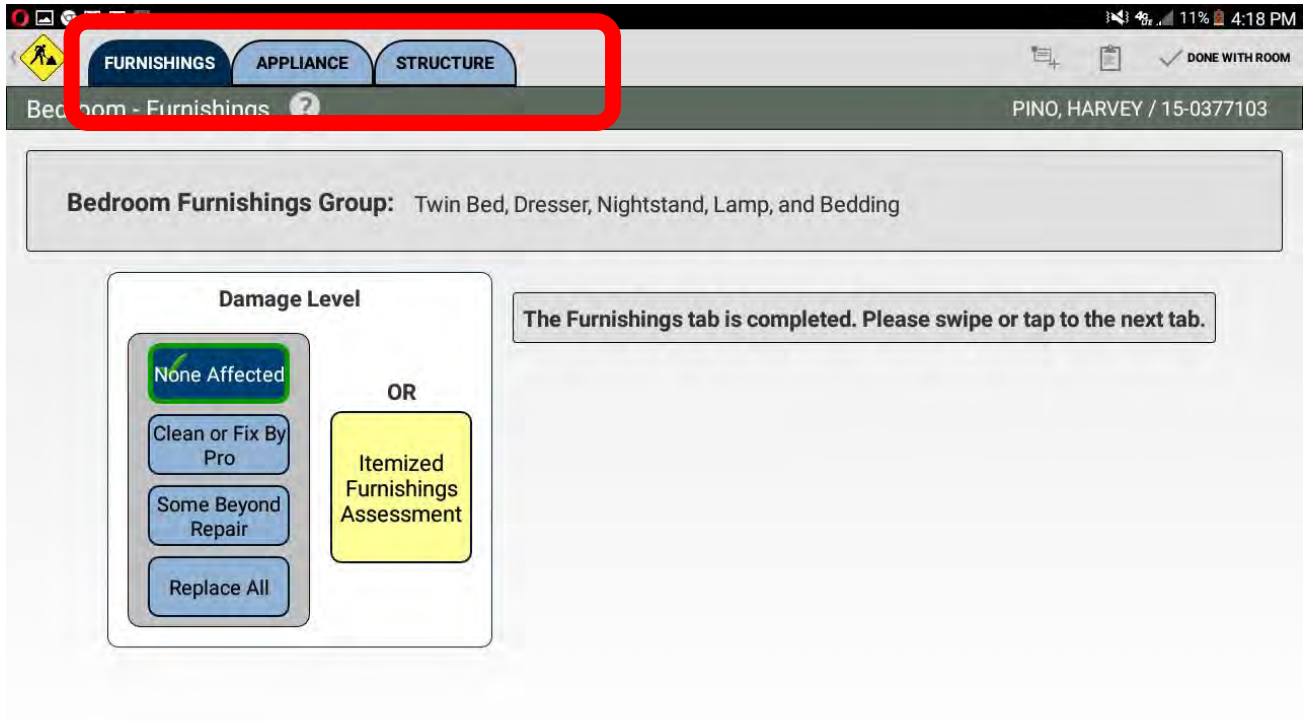


Build Home

Always try to inspect the dwelling in the same pattern. For example, always start on the upper floor in the back left corner. Regardless of preference always start at the same location in every house.

(NOTE the tabs across the top)

Next- tap Appliance tab.



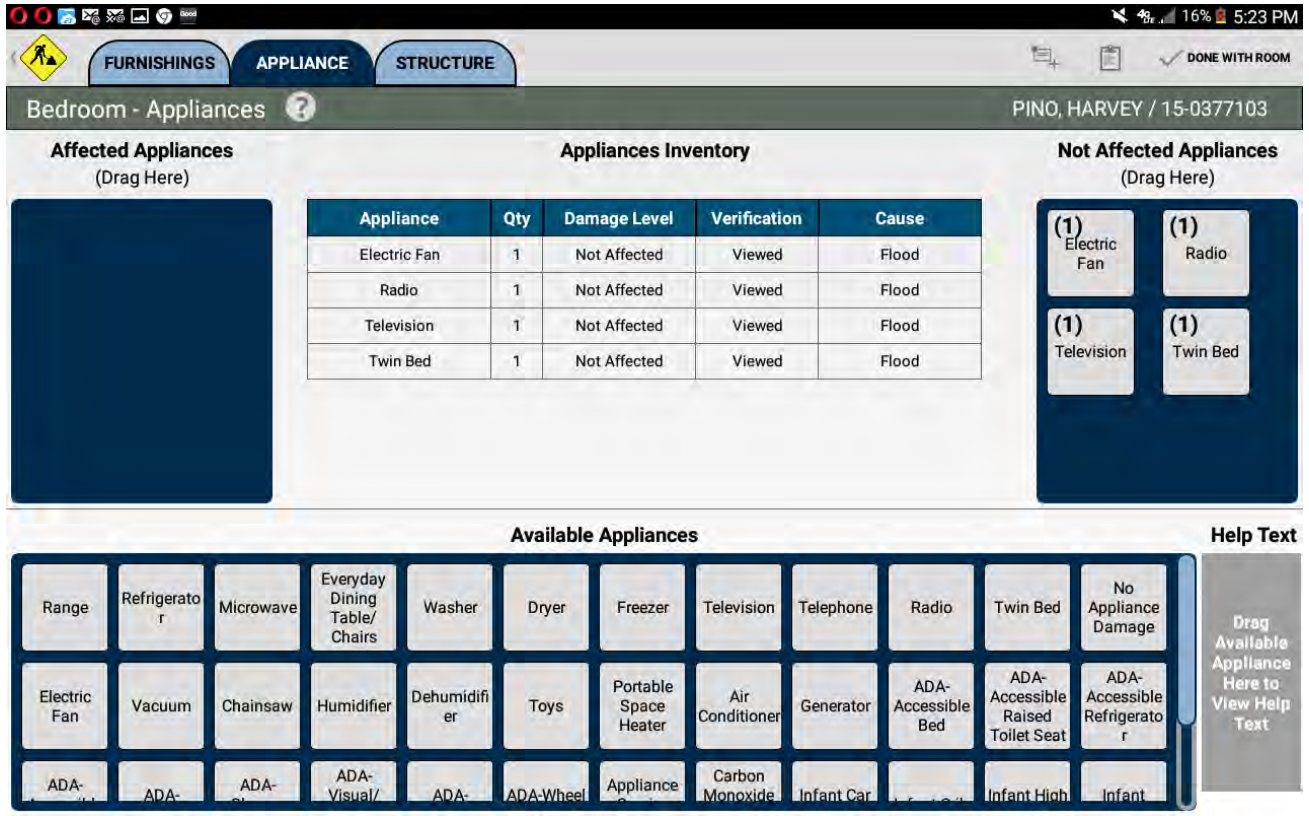
Build Home

Recording Appliances:

Since the bedroom had no damage in this example, all appliances are located in the right side which holds not affected items.

To add items drag and drop.

Note: To record Landlord owned appliances, drag the appliance to the Affected Appliances area and select Landlord Owned as the level of damage.



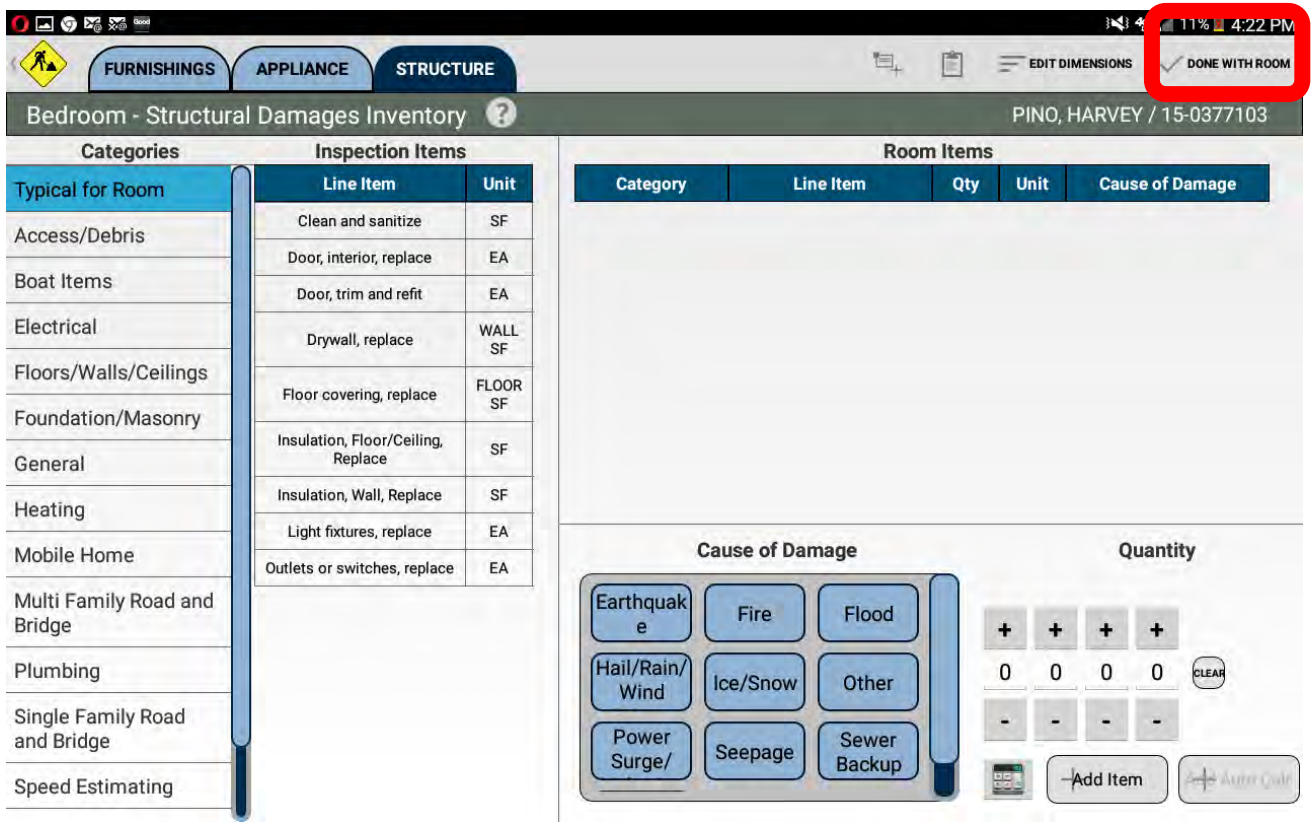
Build Home

Inspections for Owners will have a Structure tab.

In this case there were no damages on the second floor, so no Real Property has been recorded.

Always finish a room before leaving.

Then tap done with room.



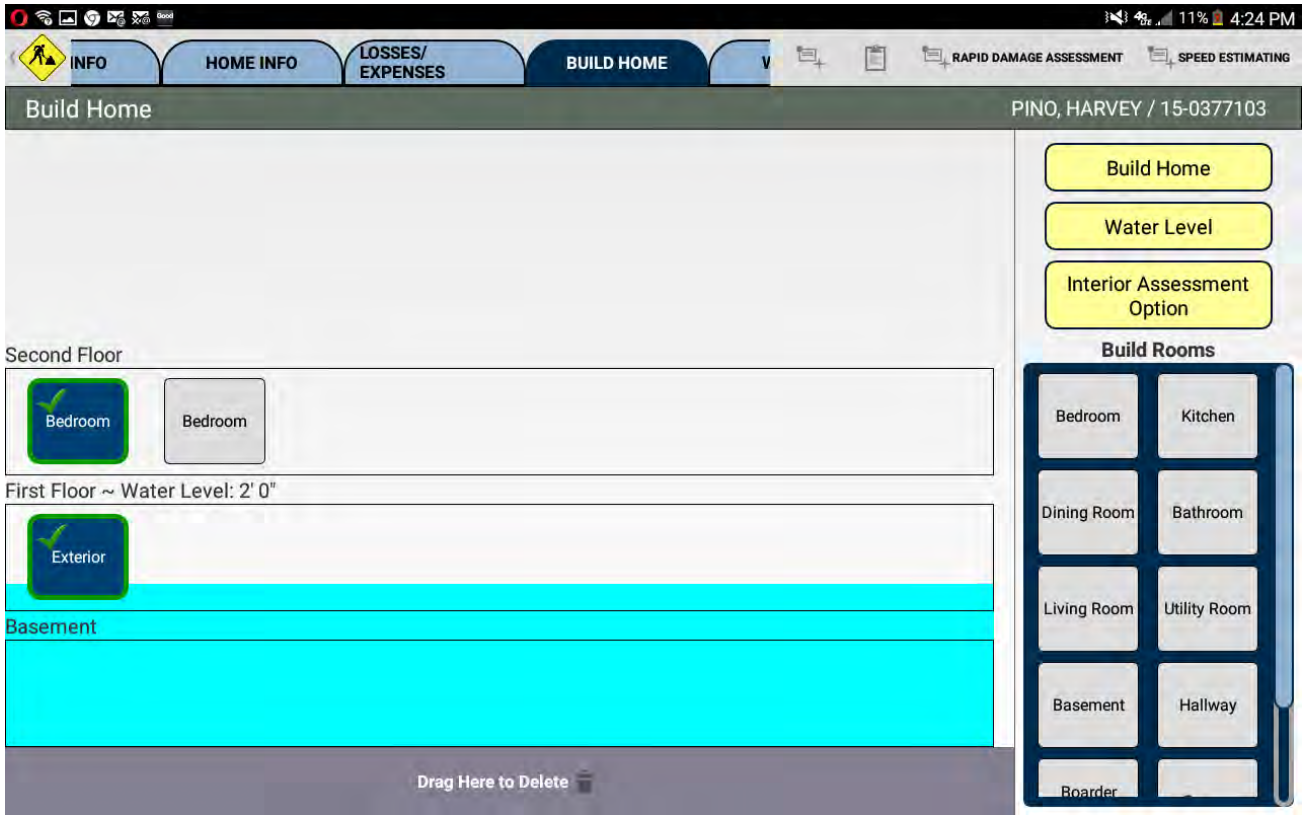
Build Home

Note the bedroom on the second floor. The bedroom has changed color and has a check mark. This indicates the room has been completed.

Enter the next room and continue with this process for the entire floor.

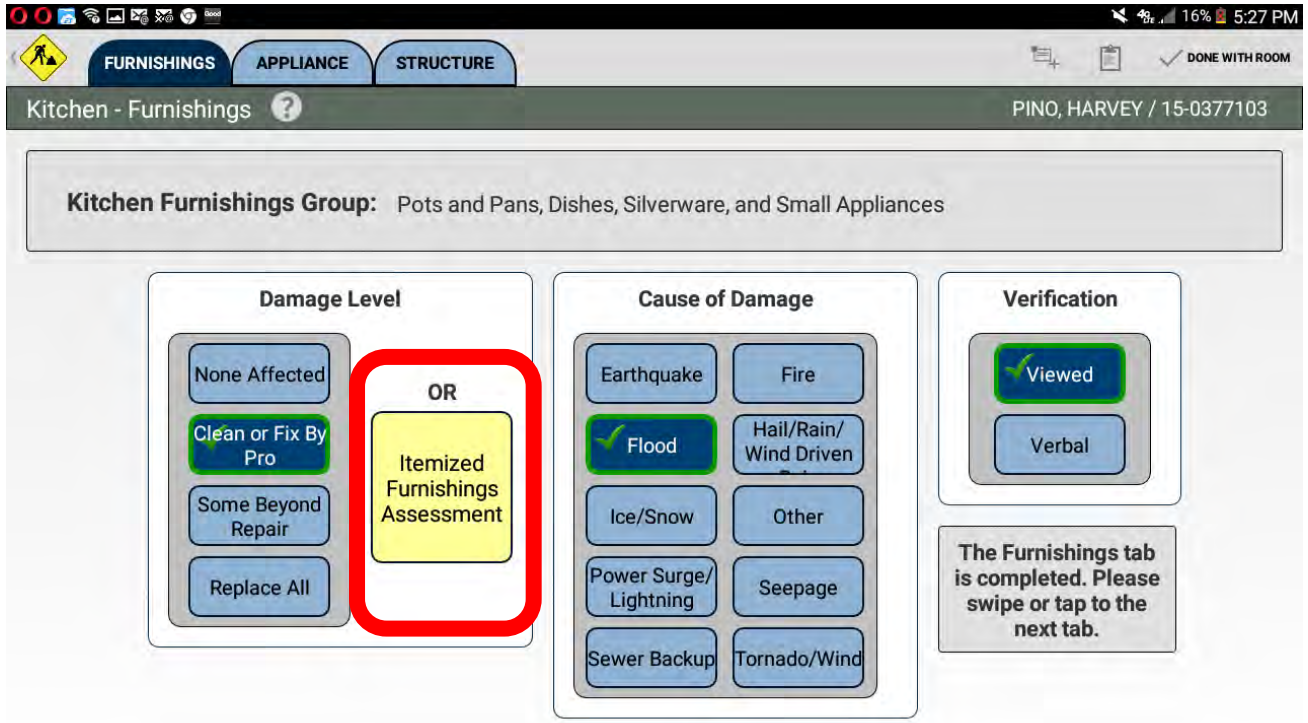
Next move down to the first floor and add rooms at the first floor- in this display the kitchen will be added.

Add the kitchen to the first floor.



Build Home

Assessing room furnishings in kitchen using Itemized Furnishings assessment.



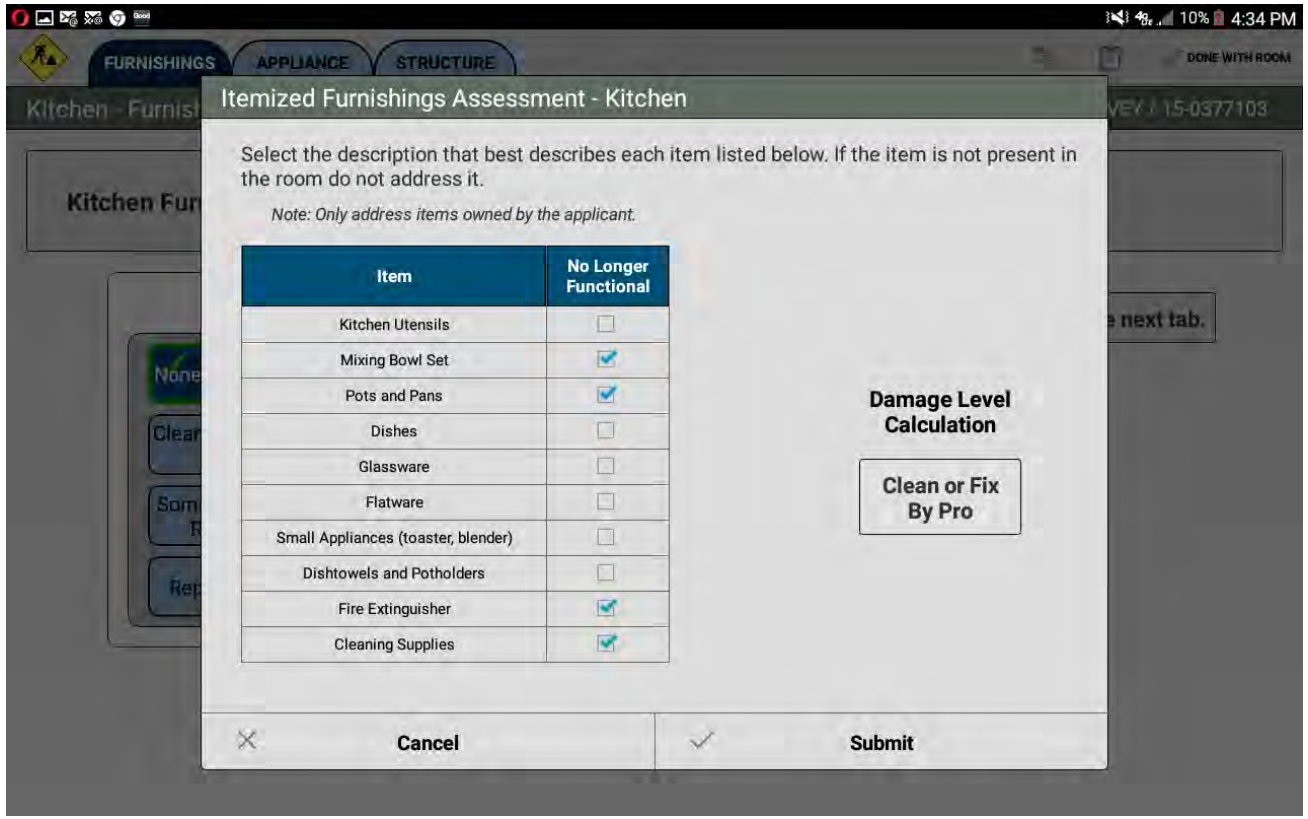
Kitchen Itemized Furnishing assessment

Select the checkbox for items that are no longer functional.

For this example some items were selected. Note the recommended level of damage Clean or Fix by a Pro.

Tap Submit. The itemized Furnishings Assessment tool will close and return to the Kitchen Furnishings screen with the Damage Level of Clean or Fix By Pro. Select the appropriate Cause of Damage and Verification of Viewed or Verbal.

Tap Submit and the essential Kitchen room will close and will return to the Build Home screen. Tap the room to open again and add the appliances and if for an owner, record any structural line items.



Recording Appliances

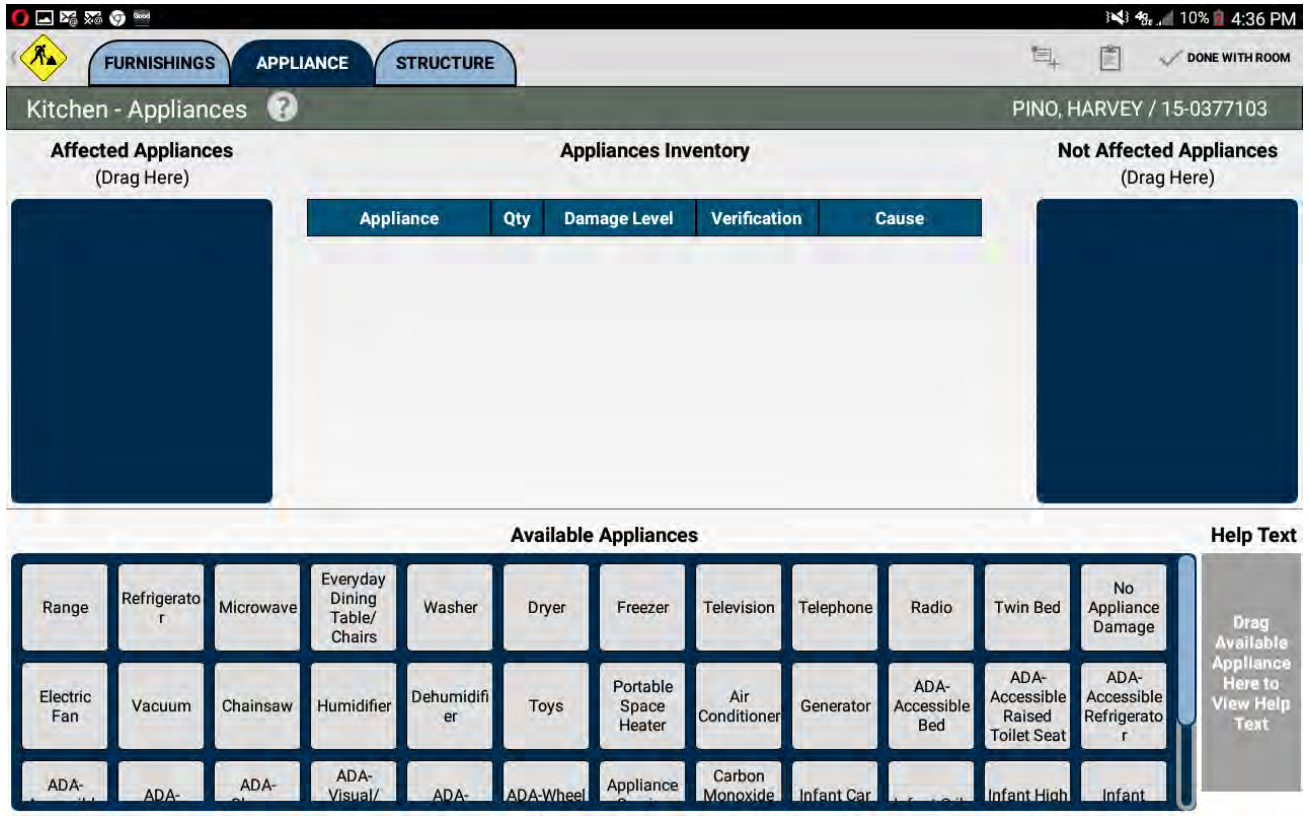
Tap appliance tab at the top.

Drag appliance items just like the bedroom.

If the item is not affected drag into the Not Affected Appliances box on the right.

If it was affected, drag into the Affected Appliances box on the left.

Note: To record Landlord owned appliances, drag the appliance into the Affected Appliances area and select Landlord Owned as the level of damage.

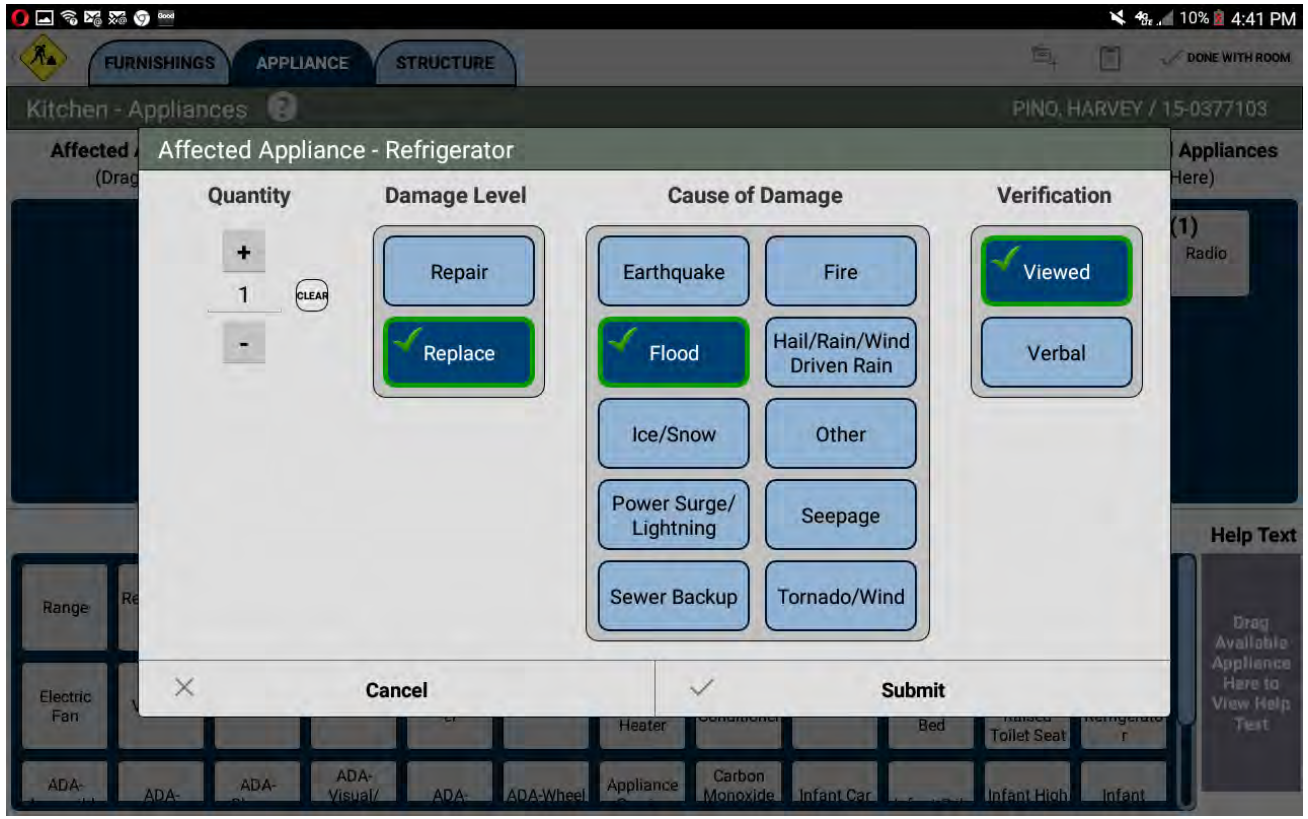


Recording Appliances

Addressing the affected refrigerator.

Select the Quantity, Damage Level, Cause of Damage and the Verification.

Tap Submit.



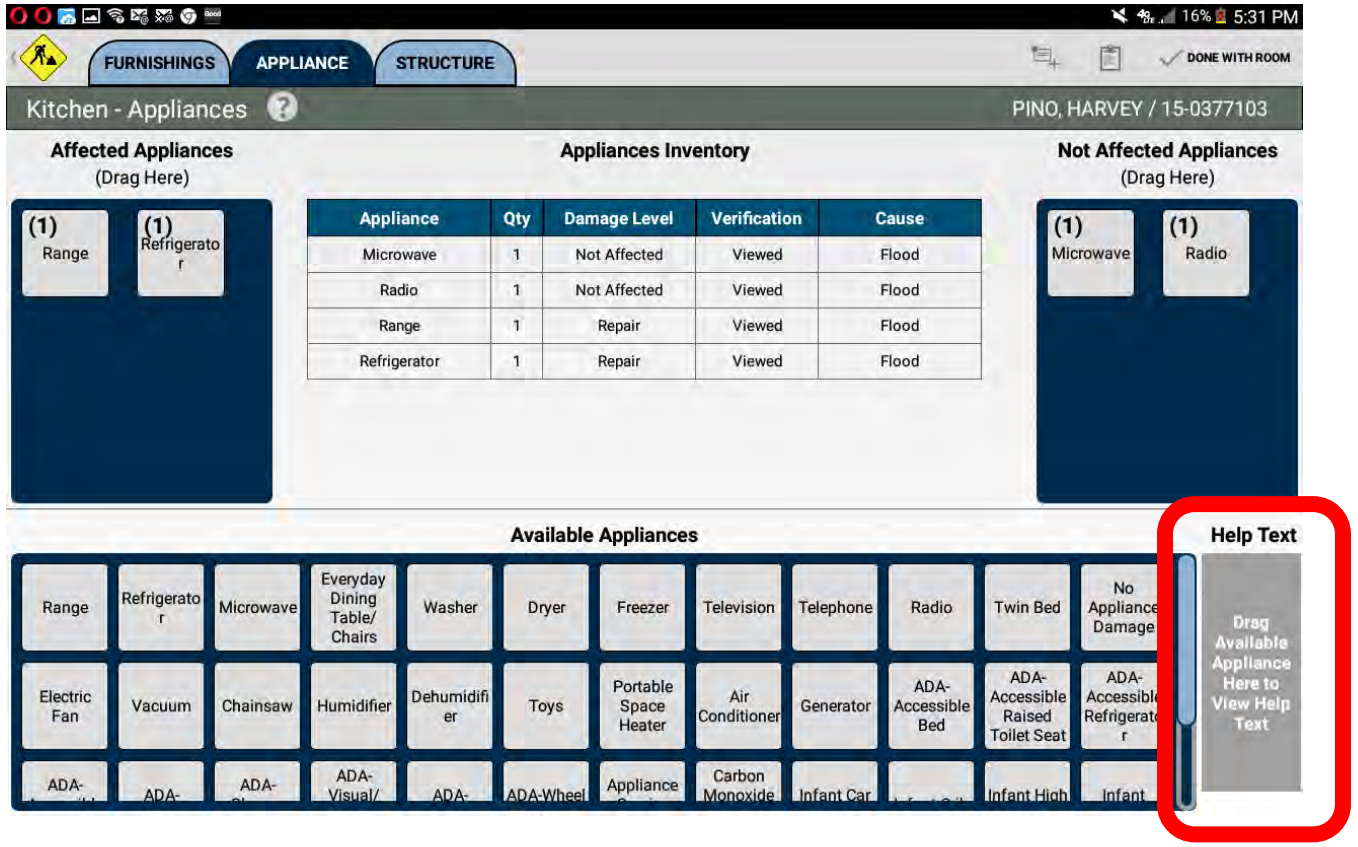
Appliances addressed in Kitchen

Affected Appliances are listed on the left side of the screen and Not Affected Appliances are listed on the right side of the screen.

A Help Text Box is located in the bottom right corner of the screen.

Drag item to box to display help info.

Not all items have a help text description.



Build Home Structure tab

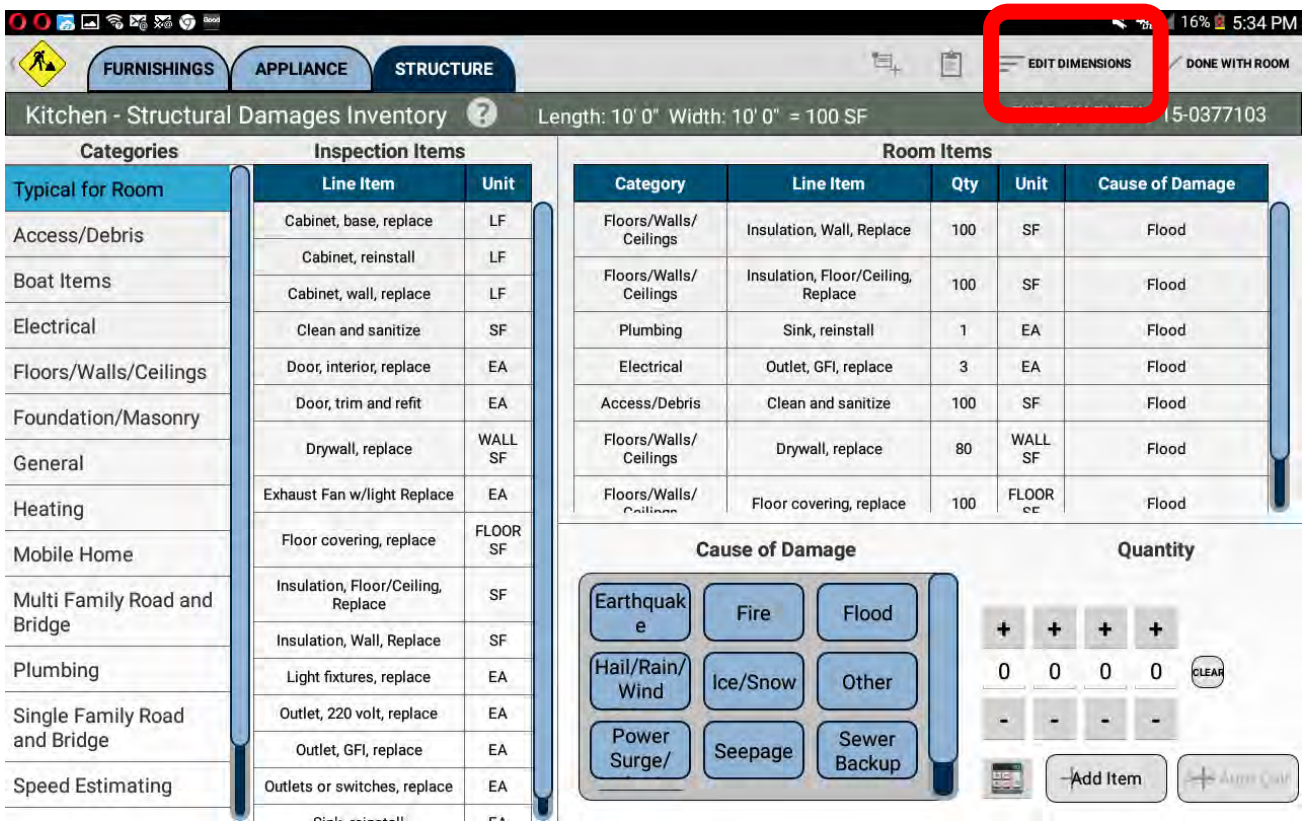
Note the default Category – Typical for Room (New Assessors are discouraged from using the Typical for Room Category)

This category contains items most commonly used for the selected room.

Items are measured several ways:

- Linear Feet
- Square Feet
- Cubic yards
- Each

Note: If there is a flood level, assessors can use the Edit Dimensions feature to enter the room dimensions which can be used for auto-calculating and recording line items (see next screen).

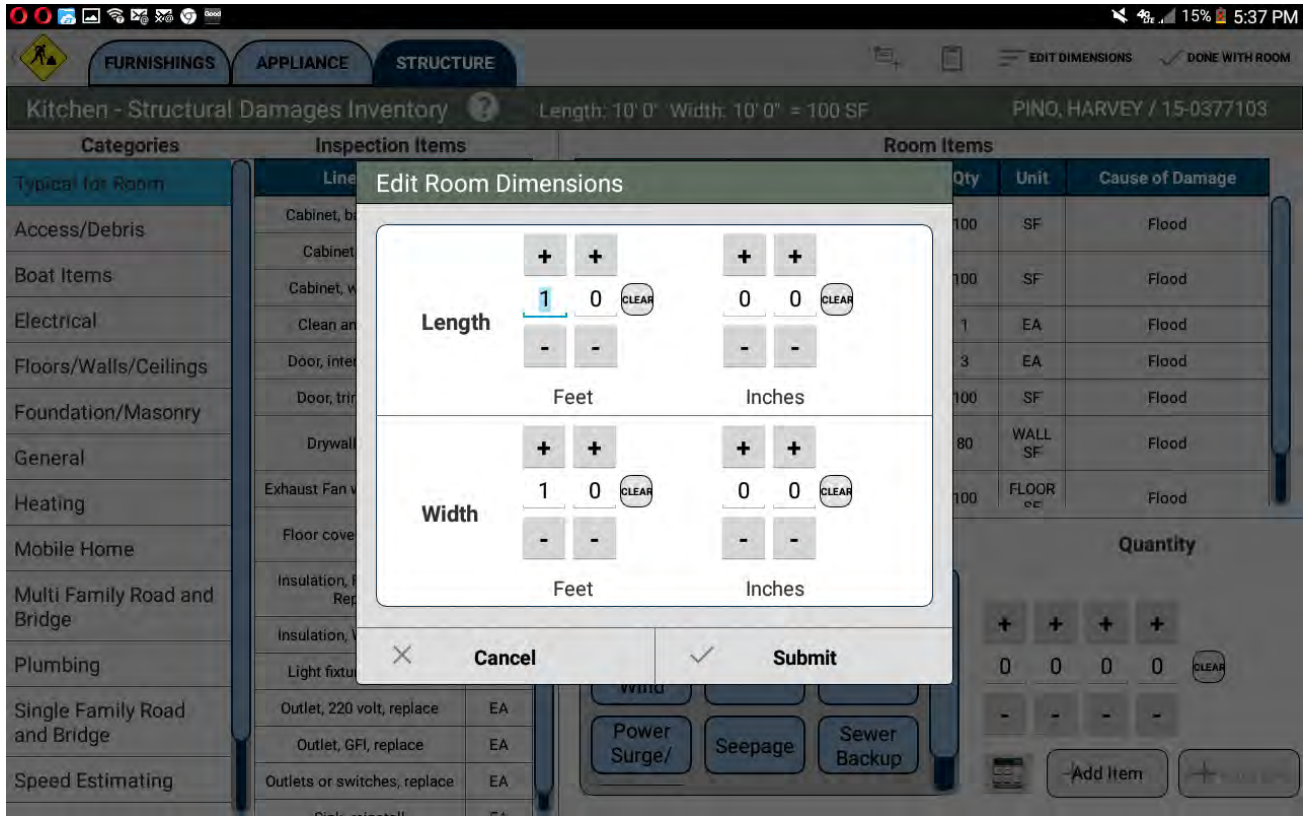


Build Home Structure tab

By tapping Edit Dimensions, it allows the assessor to enter the room dimensions.

Example used is 10 feet 00 inches by 10 feet 00 inches.

Tap submit.



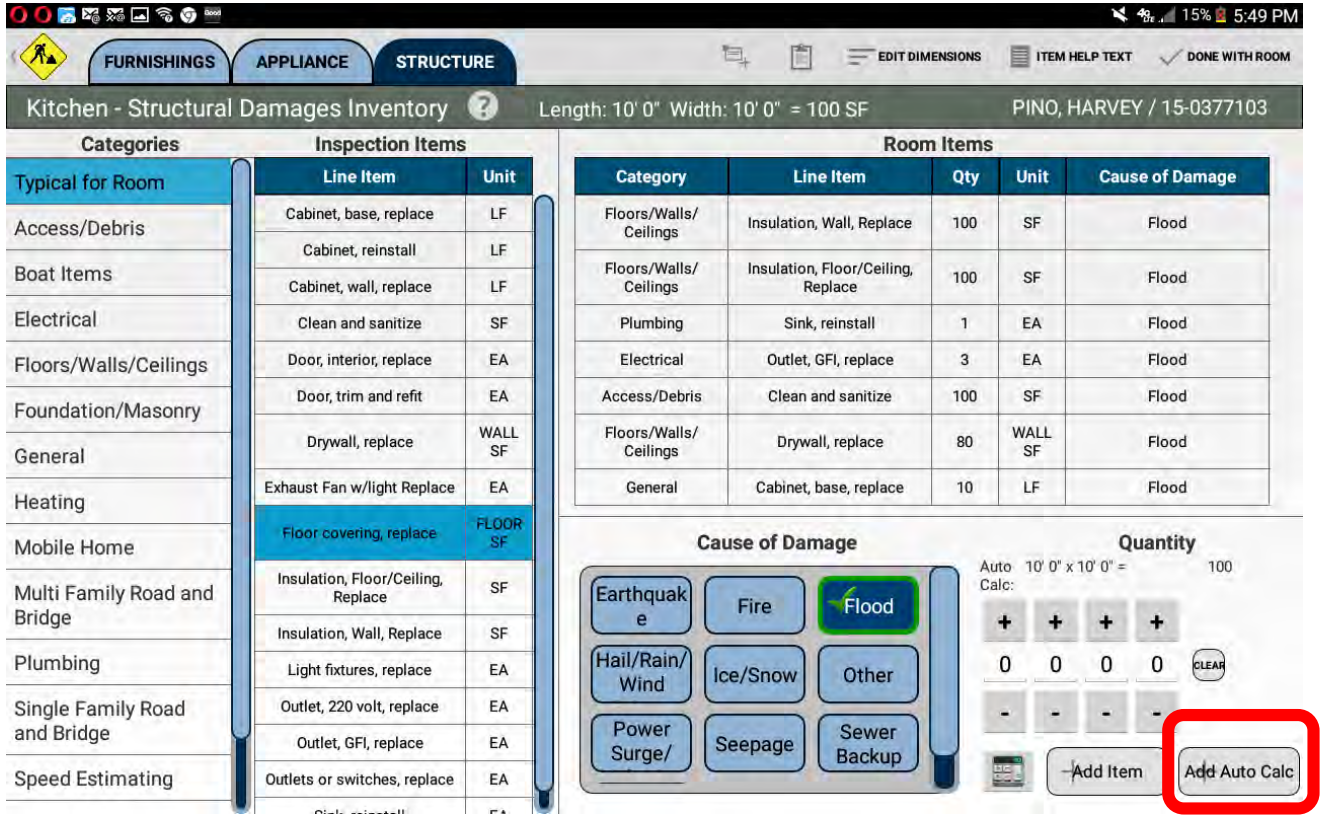
Adding Real Property line items

To add flooring, select the appropriate floor covering. In this case we will use Floor covering replace.

Per the item help text, floor covering is labor and materials to remove dispose of, and replace floor covering consisting of carpet, floor tiles, sheet vinyl laminate or linoleum flooring.

Factor Replace = 1X affected floor of home if carpet or combination of carpet and linoleum throughout.

Select floor covering, cause of damage “Flood” then tap add auto calc.



Adding Real Property line items

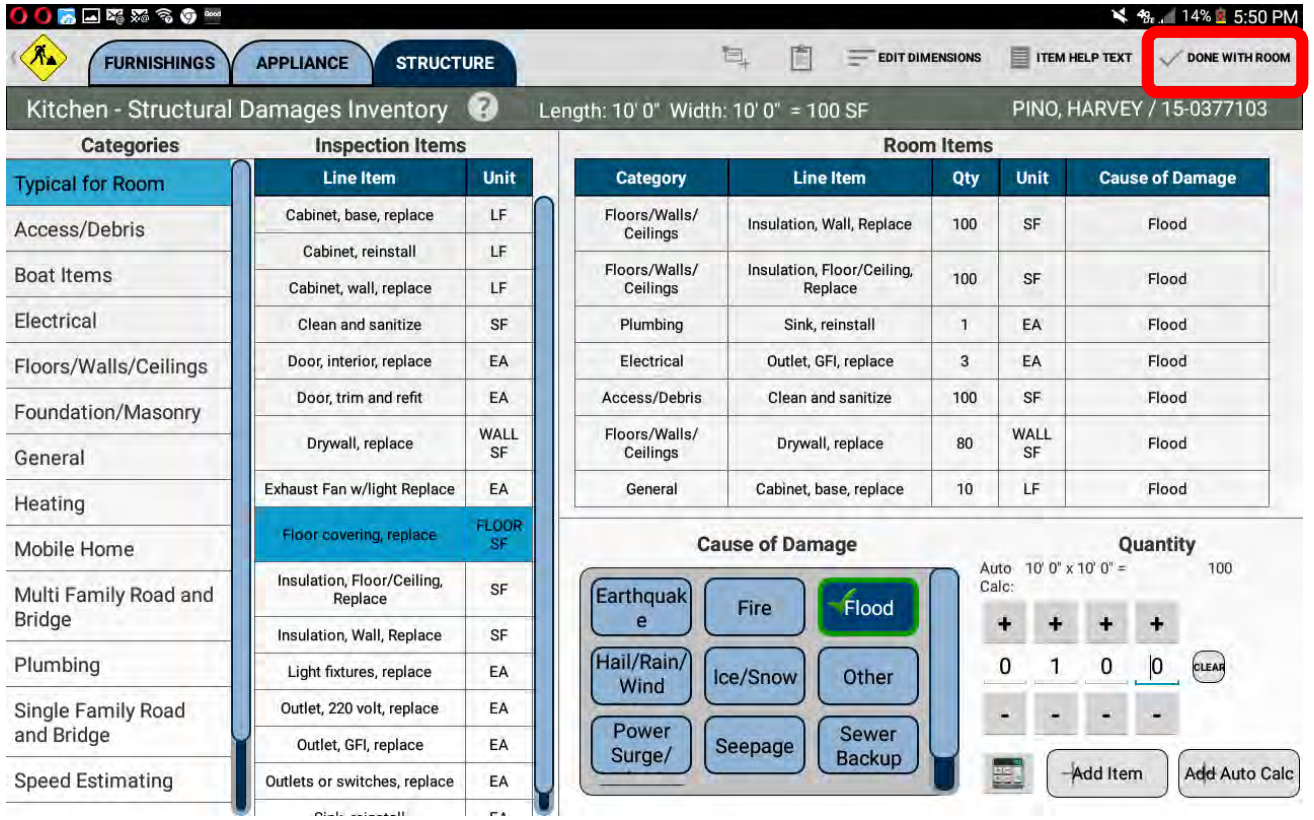
Note that the quantity box for the line item will display the correct amount of material.

Next tap Add Item to record the calculated quantity of Floor Covering Replace.

You are ready to enter the next item.

When you have finished addressing all of the RP damages for the room, tap Done With Room.

Note: Auto Calc cannot be used to calculate wall insulation.



Room added mistake

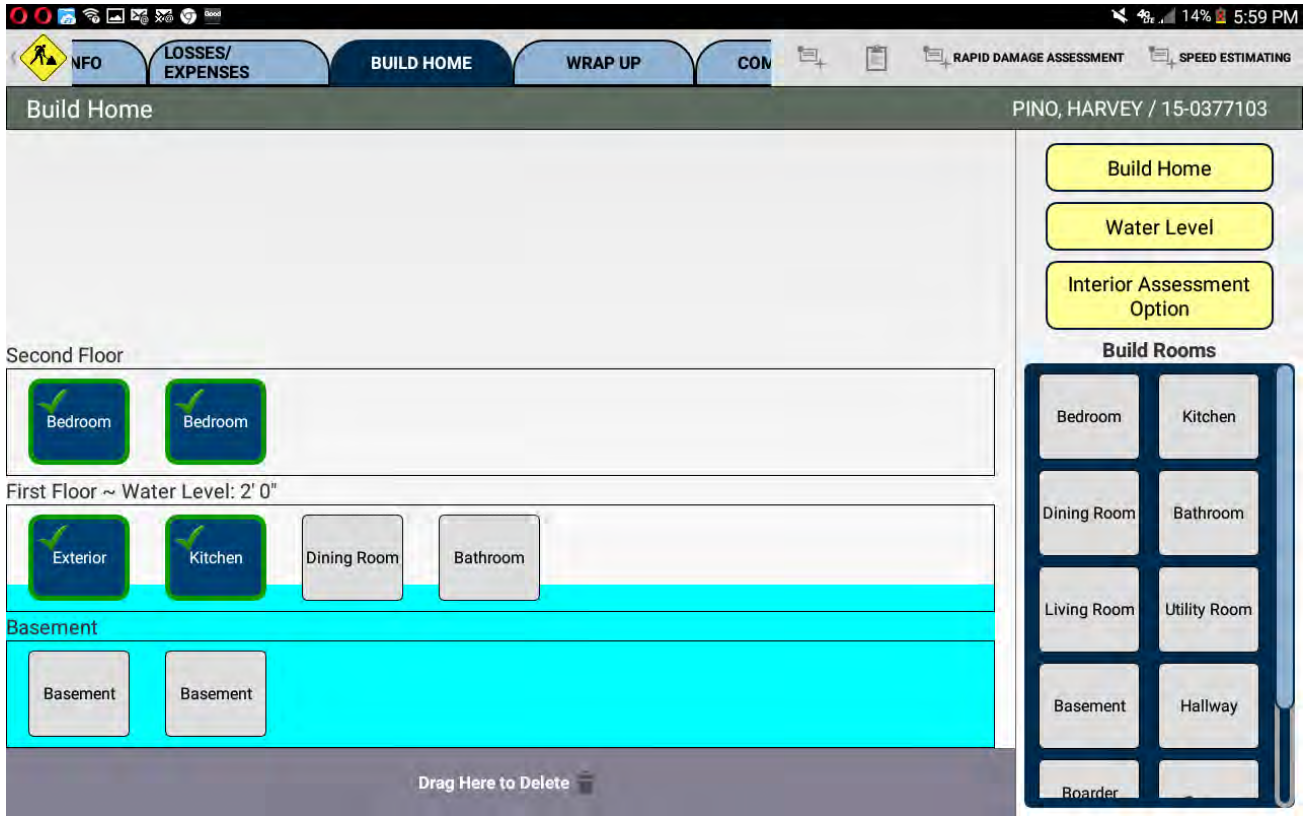
Build room by mistake:

Example- 2 basements were built

Tap and hold on room until it turns red

Then drag to bottom of screen “Drag Here to Delete”

The computer will ask if you really want to do this. Tap yes.



Wrap up tab

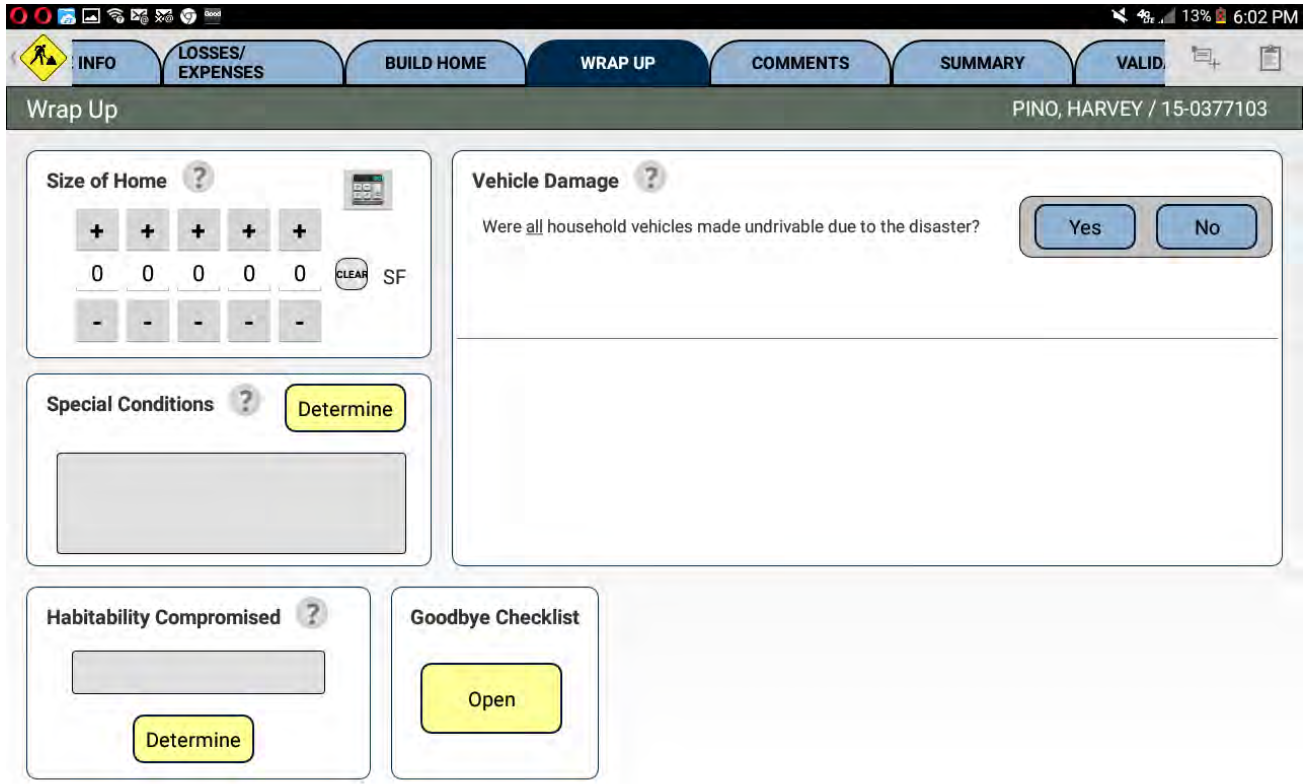
Size of Home:

Enter the total square footage of the home, including the basement, as the Size of Home.

Exclude the following areas: garages, porches, unoccupied outbuildings, crawlspaces and enclosed areas separated from the main living area by a locking exterior door (enclosed porches, Florida rooms, etc.).

If a renter occupies any portion of the owner's dwelling, the Size of Home in the owner's inspection will include the renter's occupied area.

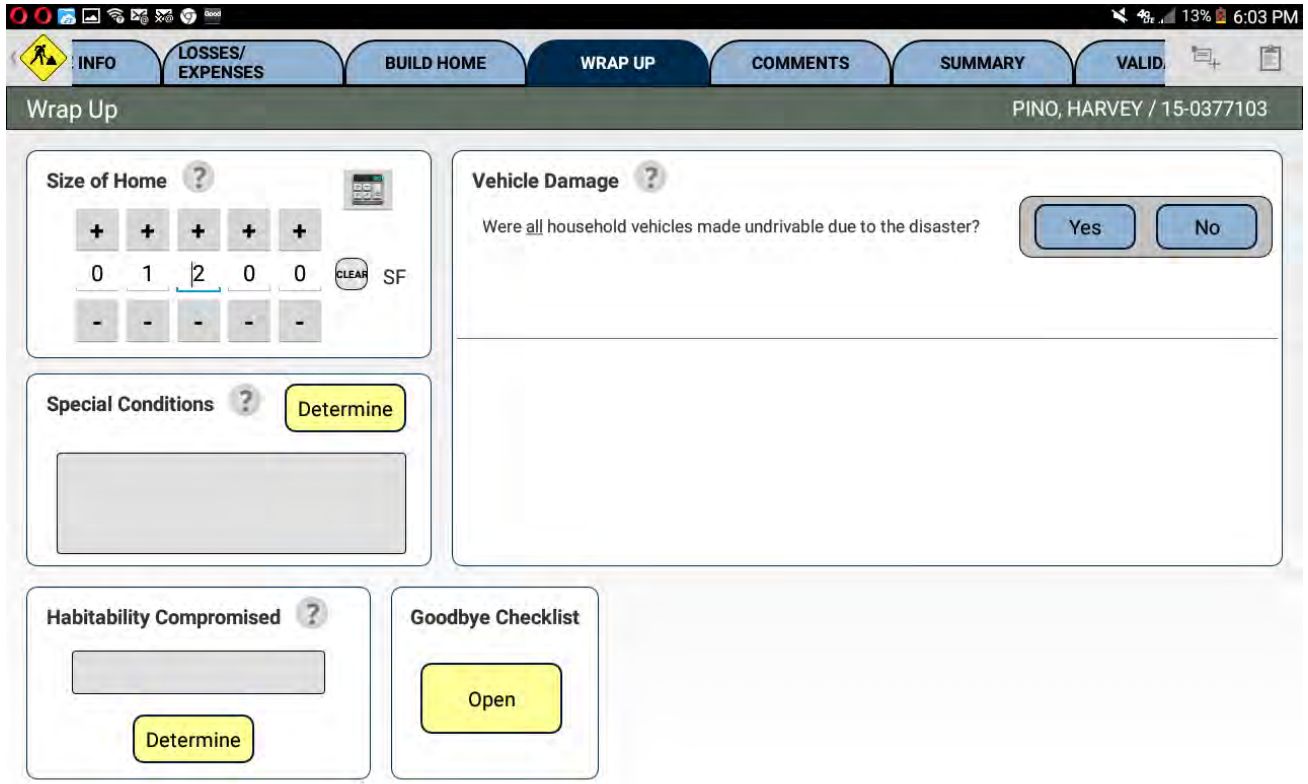
If the renter's occupied area is separate and totally self-contained, such as a basement apartment or attic apartment with separate entrance/exit, such areas will be considered apartments and not part of the square footage for the Size of Home.



Wrap Up screen

Special Conditions:

Tap yellow Icon- Determine.

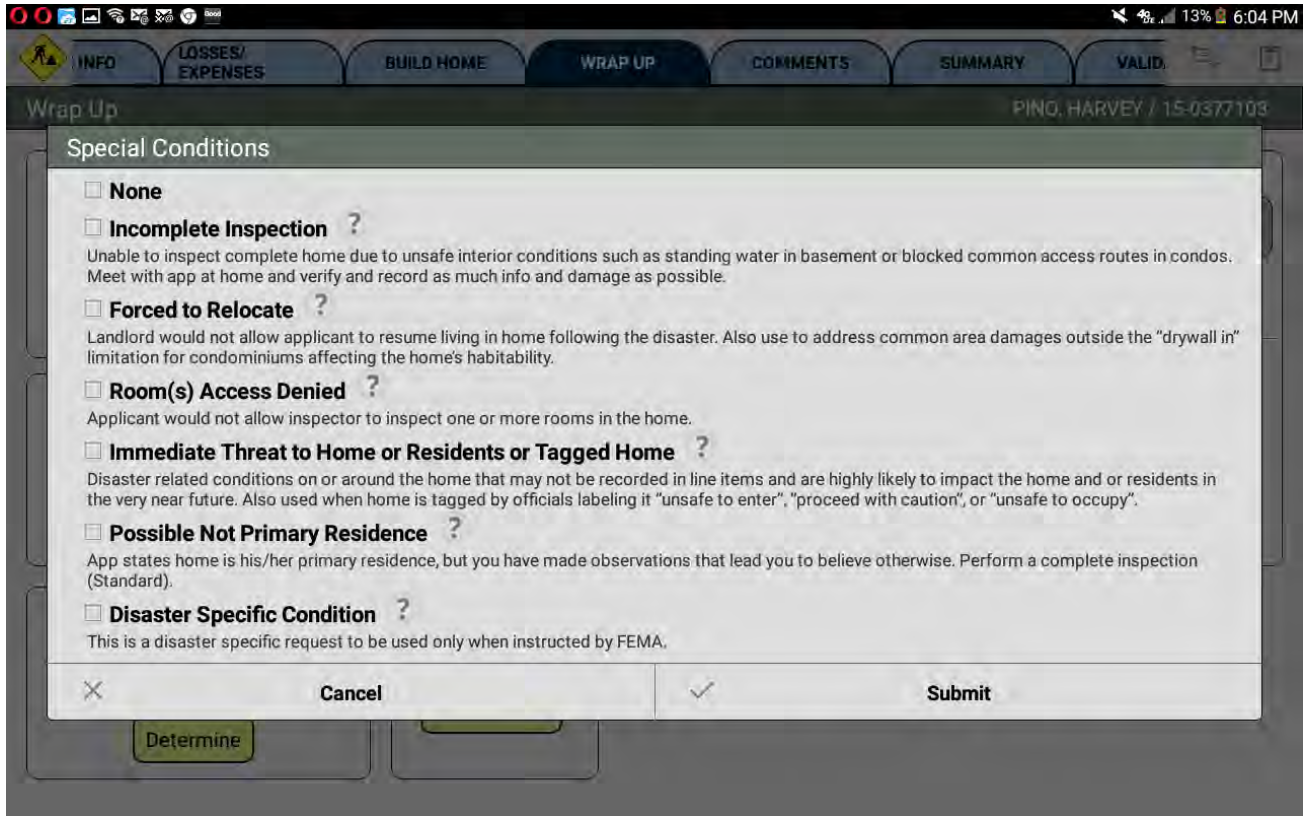


Wrap Up screen

Special Conditions:

Tap appropriate box and submit.

In this case we tapped None.



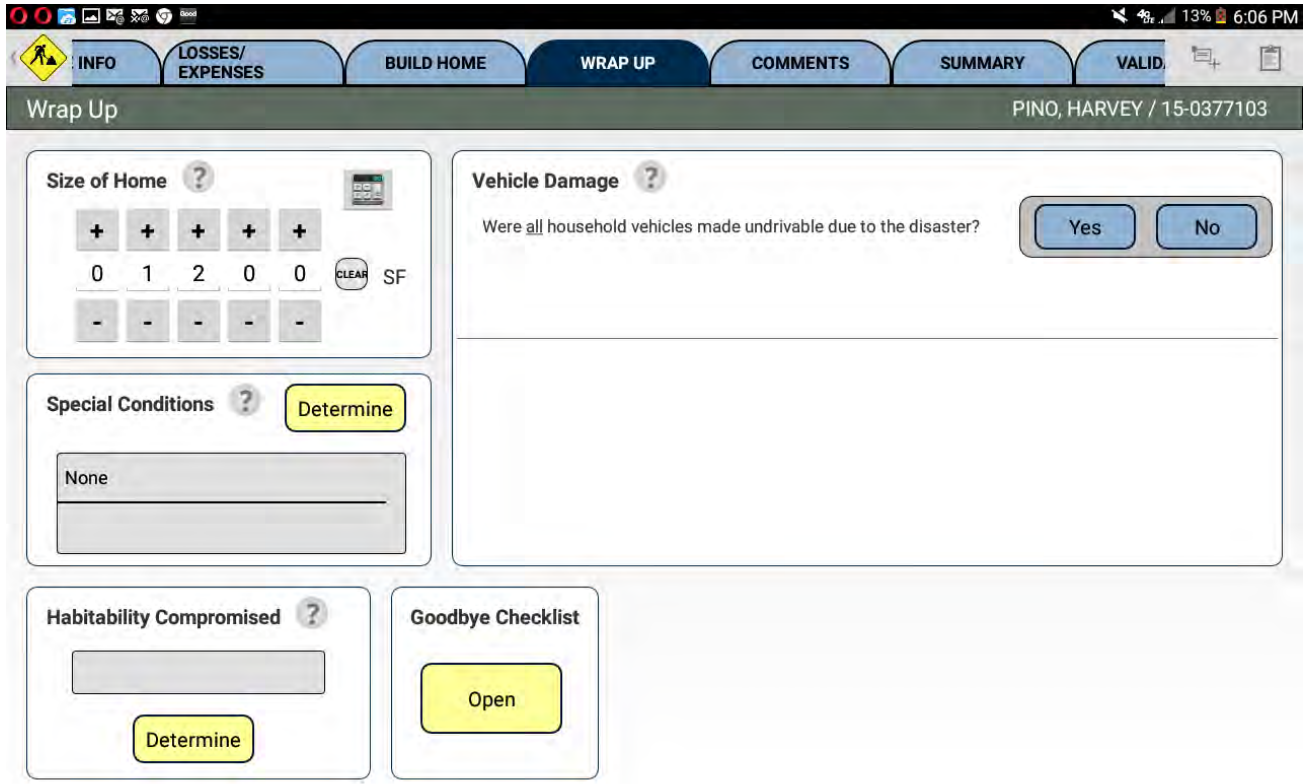
Wrap Up screen

Special Conditions auto filled the line after making selection.

Habitability Compromised:

Habitability will be based on the homes safety, sanitation, security, function and/or access.

Tap the yellow Determine button and the Habitability Compromised screen will open.



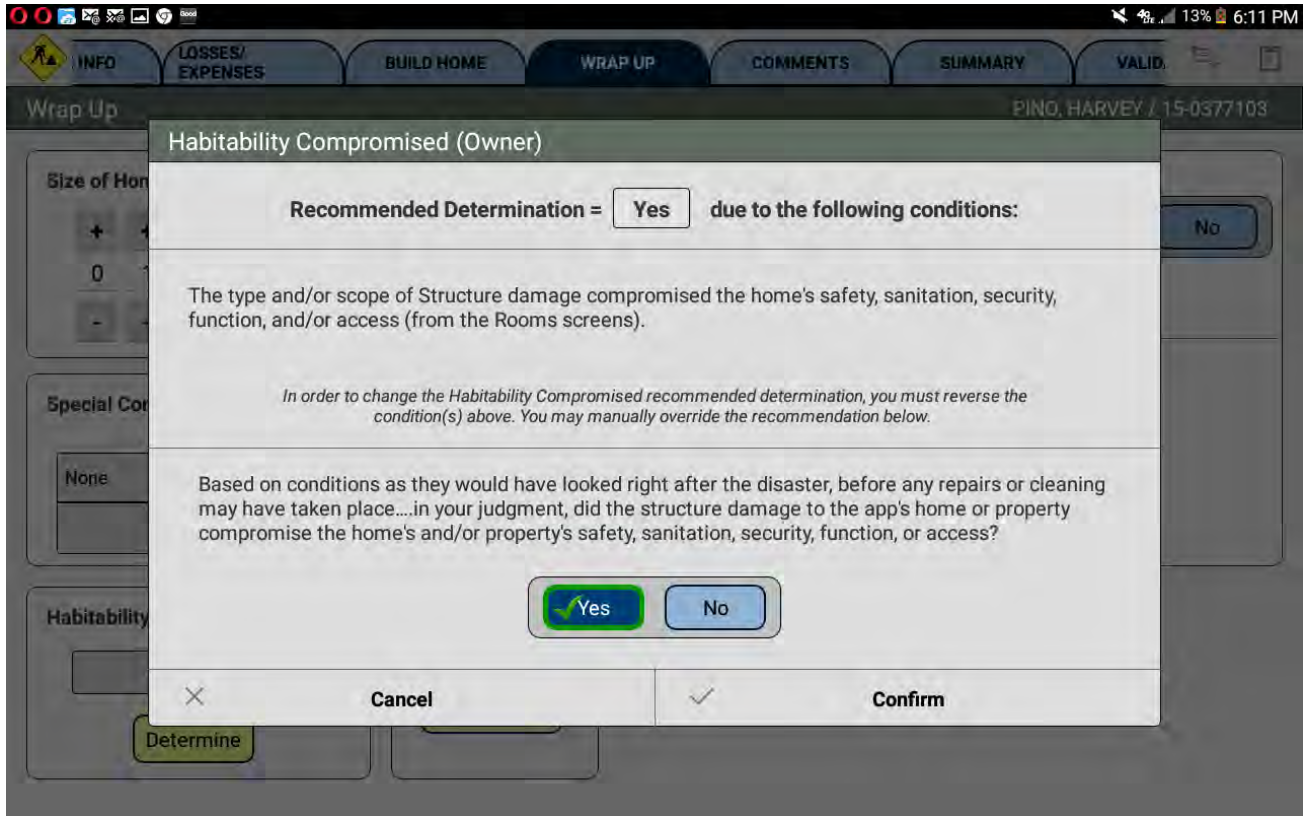
Wrap Up screen

Habitability Compromised:

For owners, the Recommended Determination will populate with 1 of two possible recommendations:

- Yes – The damages make the home unsafe and are beyond the applicants ability to repair.
- Unable to determine – Which means the assessor will make a judgement call of yes or no.
- It is highly discouraged changing a “Yes” to a “No”. It is only one time you may change the habitability call from yes to no (for access porches).

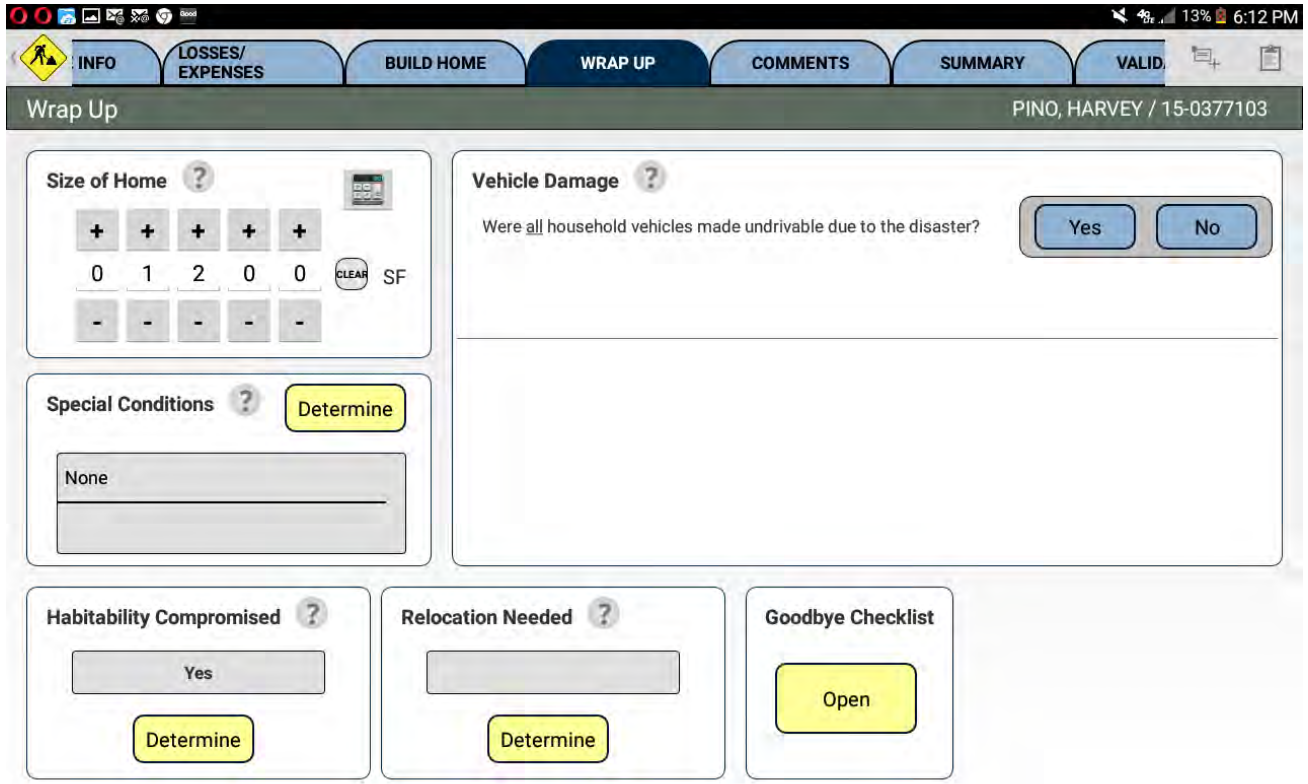
In this example, the Recommended Determination for the Habitability Compromised call is Yes. Tap Confirm to record this habitability call.



Wrap Up screen

Habitability Compromised has now filled with Yes.

The Relocation Needed question will populate when the Habitability Compromised is Yes or if the Utilities Out question is marked Yes. When present, tap the yellow Determine button.



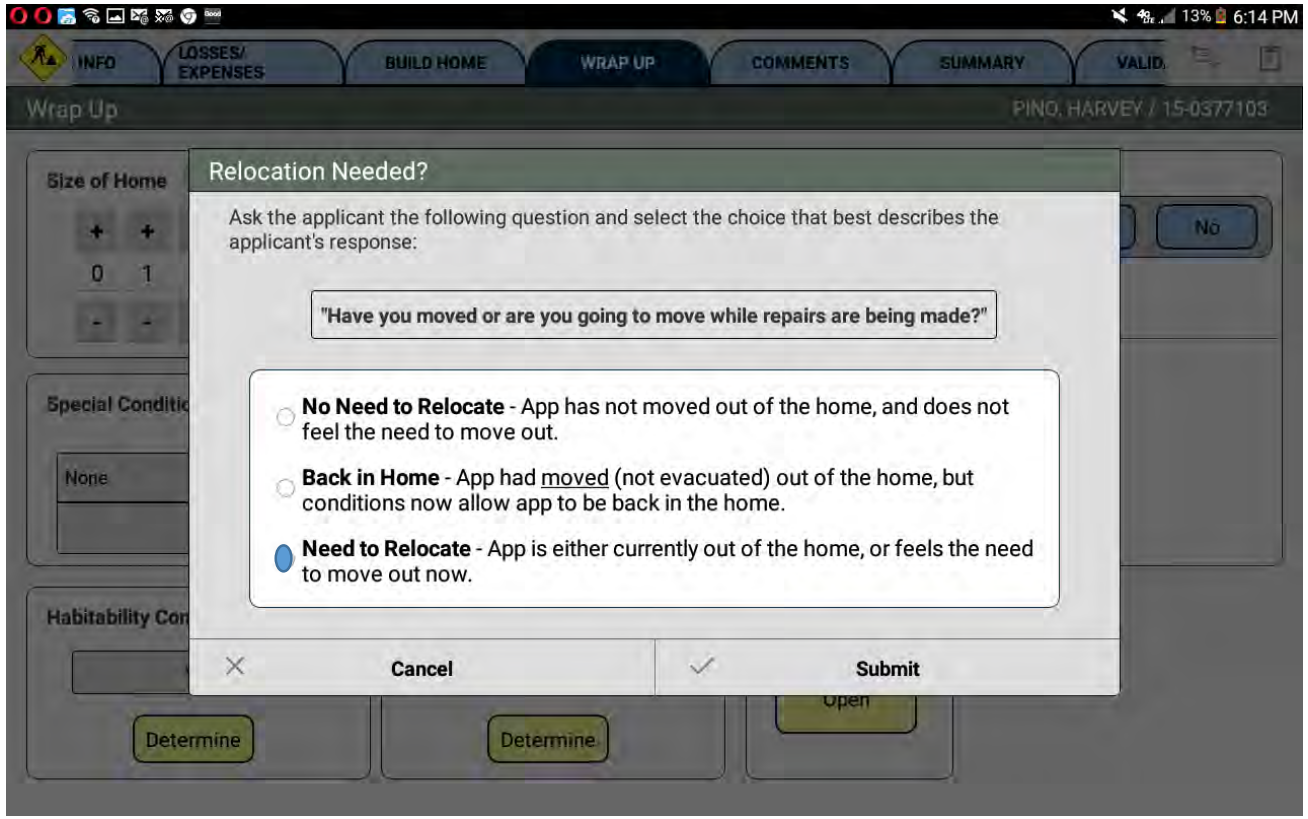
Wrap Up screen

Relocation Needed:

Ask the applicant the question as it is written:

“Have you moved or are you going to move while repairs are being made?”

Based on the applicants response tap the appropriate box and submit.



Wrap Up screen

Vehicle Damage:

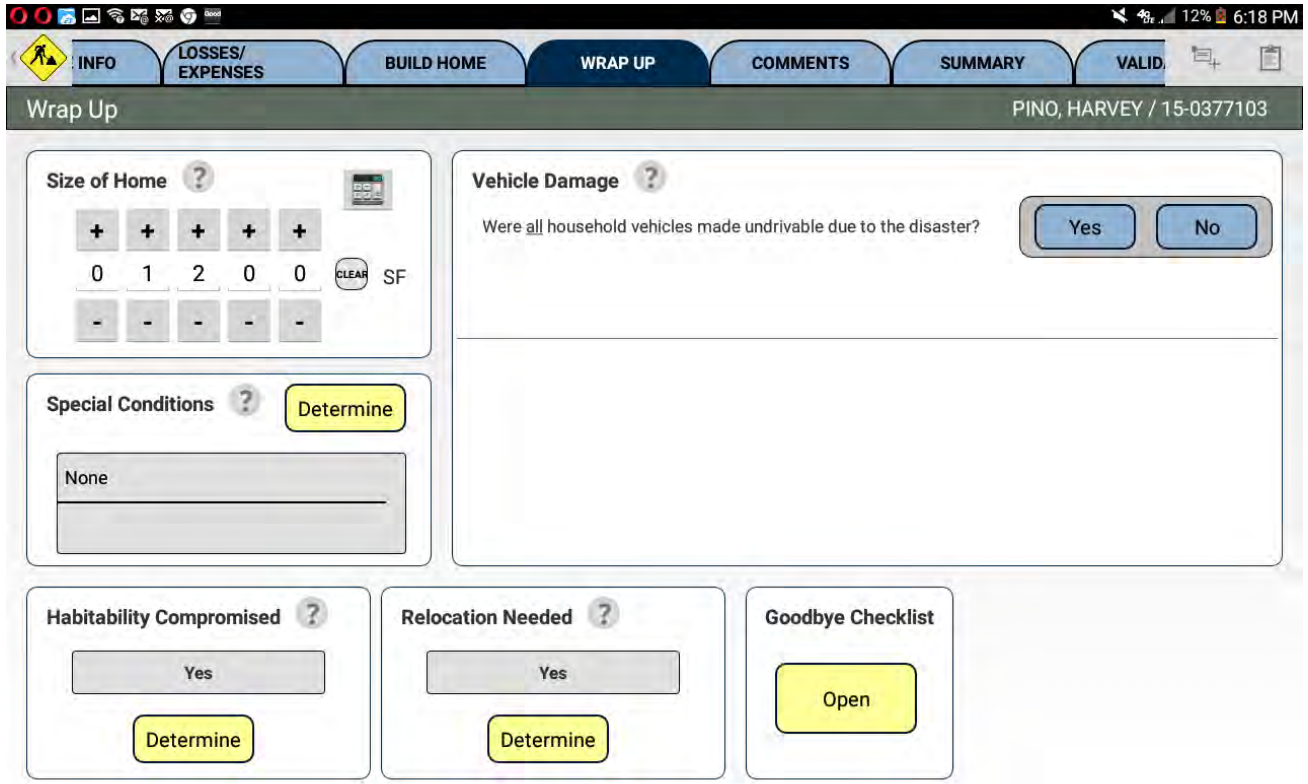
Ask the applicant the question as it is written:

“Were all household vehicles made un-drivable due to the disaster?”

If not all of the vehicles owned by the applicant were damaged select No. All of the vehicle questions are done.

If yes, tap Yes and ask the next question.

Vehicles not to Record: Do not address motorcycles, mopeds, bicycles, golf carts, 4 wheelers and all-terrain vehicles (ATV). If this type of vehicle is downloaded and is the primary mode of transportation, comment on the level of damage and flag the inspection for review. Do not record a need through the vehicle questions.



Wrap Up screen

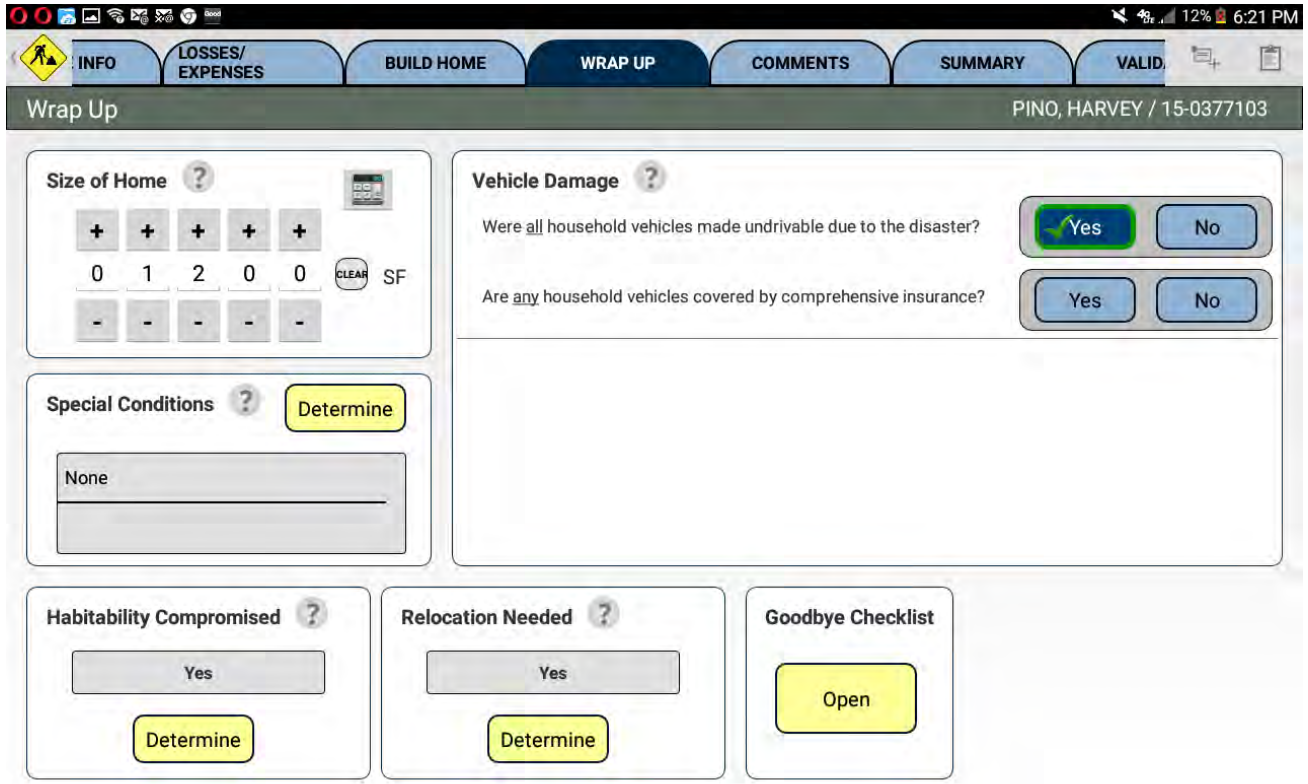
Vehicle Damage:

Ask the applicant the question as it is written:

“Are any of the household vehicles covered by comprehensive insurance?”

If the answer is yes, tap Yes and the vehicle questions are done.

If the answer is no, tap No then list vehicles see next screen.



Wrap Up screen

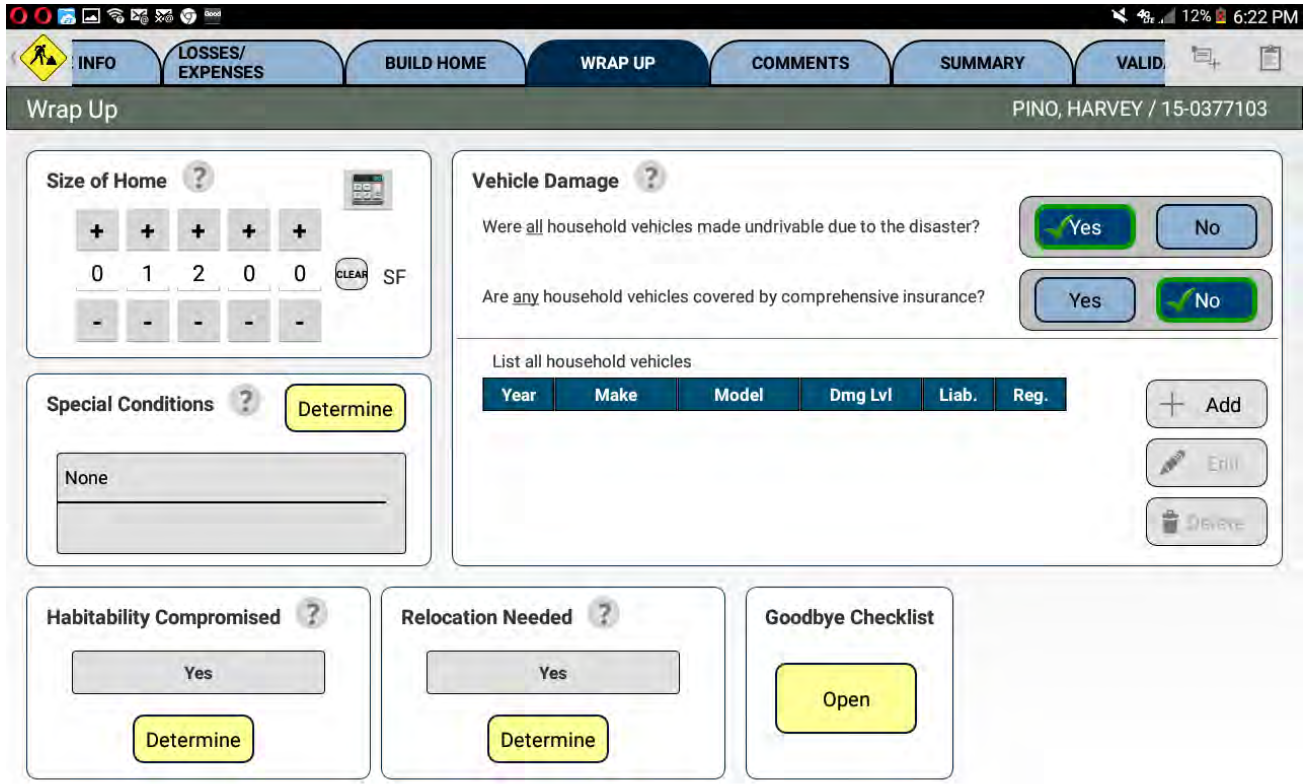
Vehicle Damage:

All household vehicles will need to be recorded.

Tap Add, to add vehicle information.

If vehicles were recorded at RI they will be listed. Select a listed vehicle and tap Edit.

If a listed vehicle does not belong to a member of the household, select the vehicle and tap Delete.



Wrap Up screen

Wrap Up – Vehicle Damage:

Record the following:

- Year
- Make
- Model
- Tap level of damage
  - **Not Available/Not Verified** - The damaged vehicle is not at the home, is in the shop, was swept down the river and is no longer present, or is otherwise not available for assessment of the damages. Use this option when unable to verify the applicant's claim of damages. There is a required comment on why the vehicle is unavailable / not verified and what level of damage the applicant is claiming.
  - **Repairable** - The vehicle sustained damage that affects operation. Examples: broken windshield or window glass, mirror, or headlight assembly, minor mechanical repairs to brakes. Cosmetic damages (minor dents, scratches, and similar low levels of damage) do not apply here as the vehicle would still be drivable
  - **Destroyed** - The vehicle has been totaled. Examples: flood waters over the engine, major body damage, crushed by a falling tree, completely burned.

Wrap Up screen

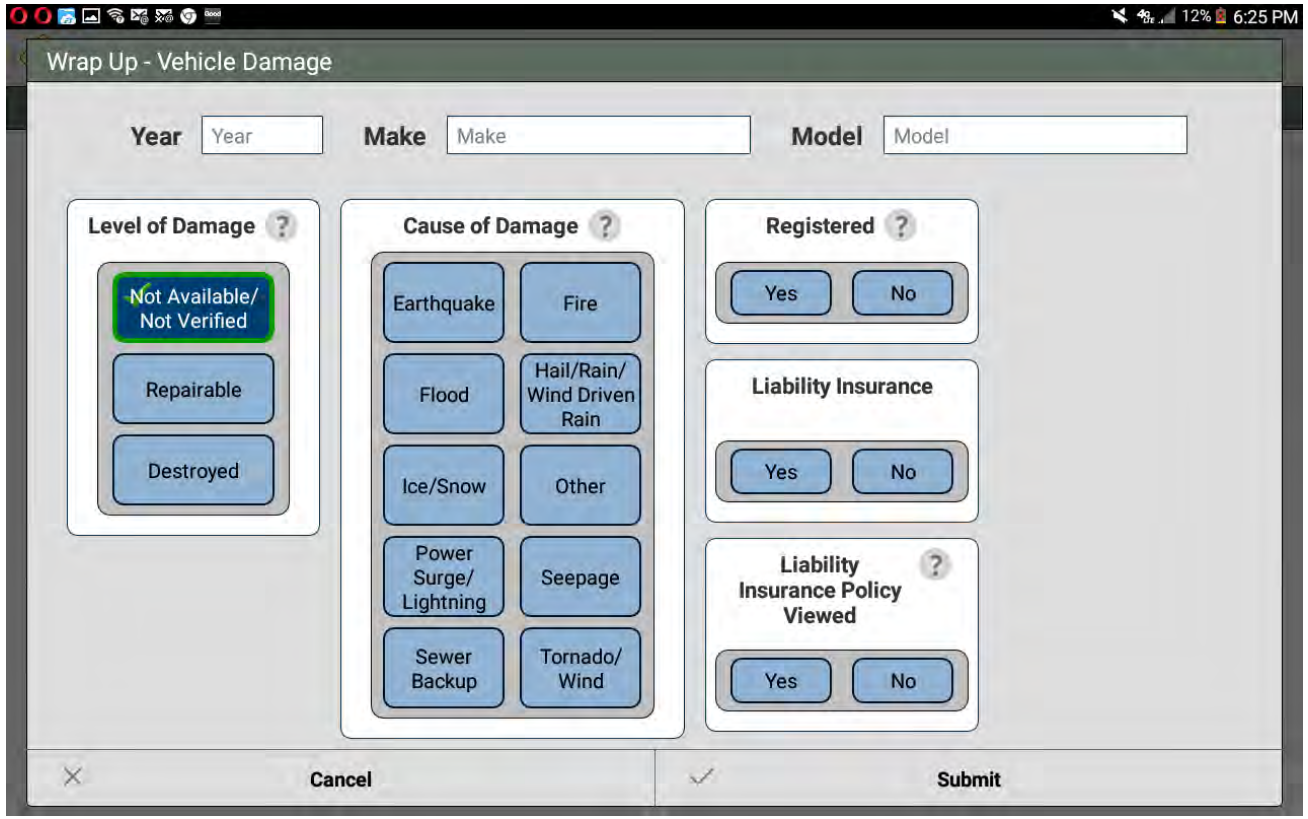
Wrap Up – Vehicle Damage:

Level of Damage – Not Available/Not Verified

Answer;

- Cause of Damage – Select COD
- Registered - Tap Yes if it is registered (current at time of disaster) and the registration has been viewed. Otherwise tap No.
- Liability insurance (Yes or No).
- Liability Insurance Policy viewed (Yes or No).

Then tap submit. The program will prompt a comment for Not Available/Not Verified.



Wrap Up screen

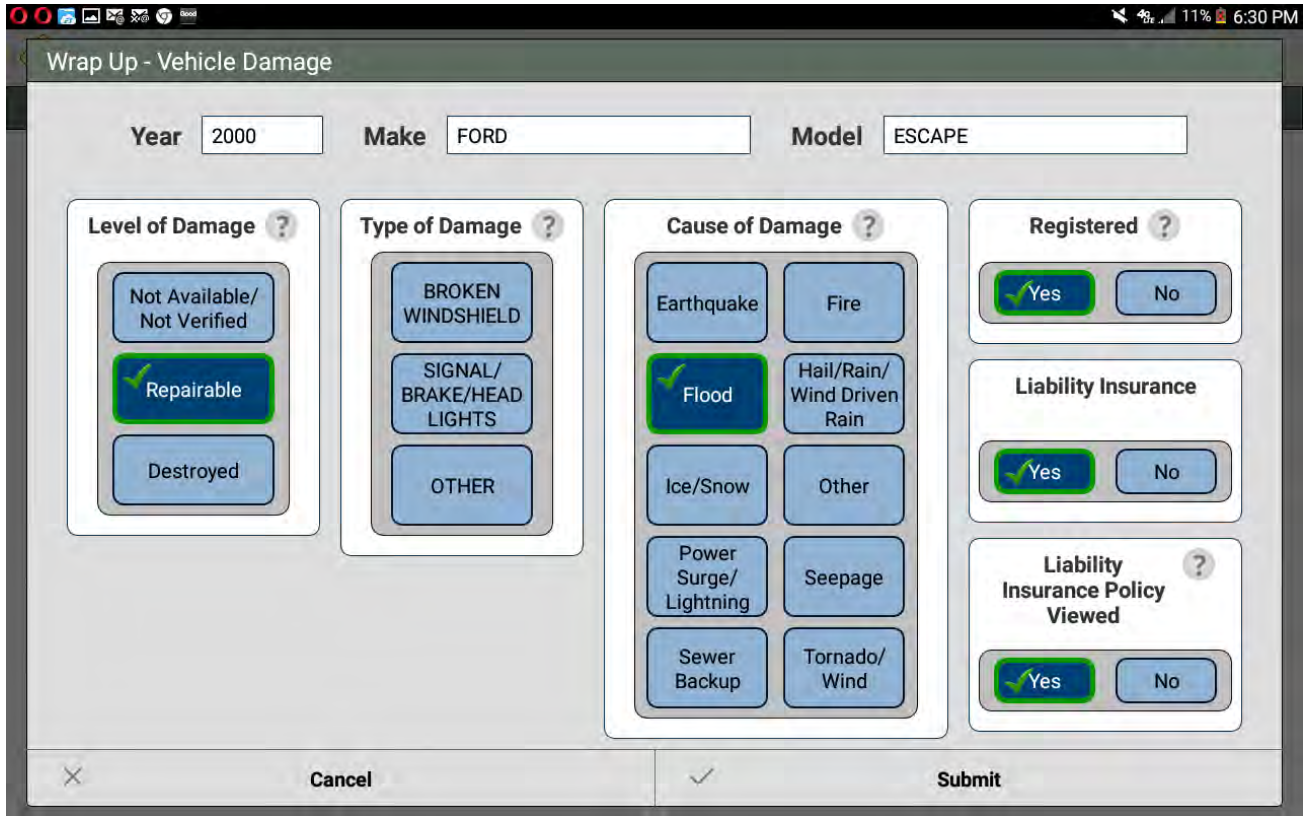
Wrap Up – Vehicle Damage:

Level of Damage – Repairable

Answer;

- Type of Damage – Select one of the choices. If Other is selected make a comment.
- Cause of Damage – Select COD
- Registered - Tap Yes if it is registered (current at time of disaster) and the registration has been viewed. Otherwise tap No.
- Liability insurance (Yes or No).
- Liability Insurance Policy viewed (Yes or No).

Then tap Submit.



Wrap Up screen

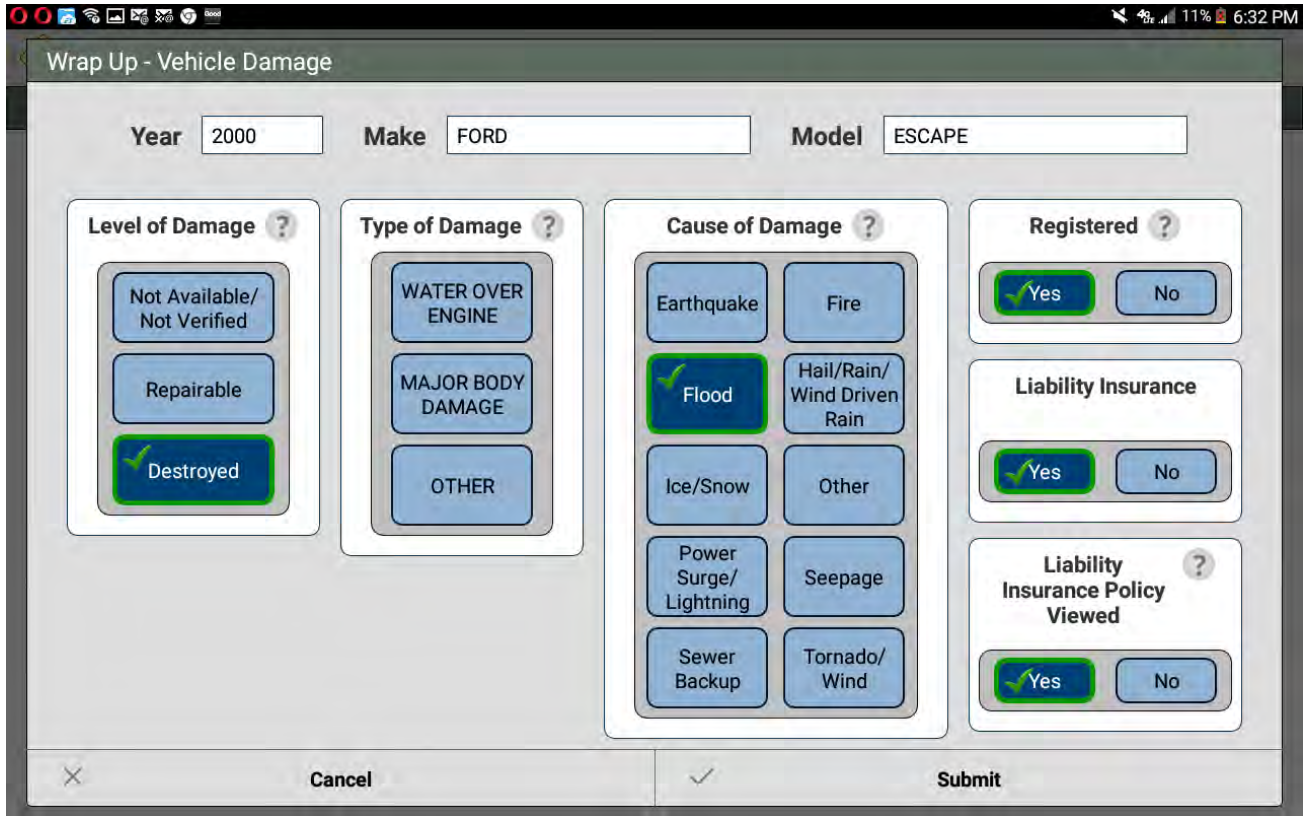
Wrap Up – Vehicle Damage:

Level of Damage – Destroyed

Answer;

- Type of Damage – Select one of the choices. If Other is selected make a comment.
- Cause of Damage – Select COD
- Registered - Tap Yes if it is registered (current at time of disaster) and the registration has been viewed. Otherwise tap No.
- Liability insurance (Yes or No).
- Liability Insurance Policy viewed (Yes or No).

Then tap Submit.



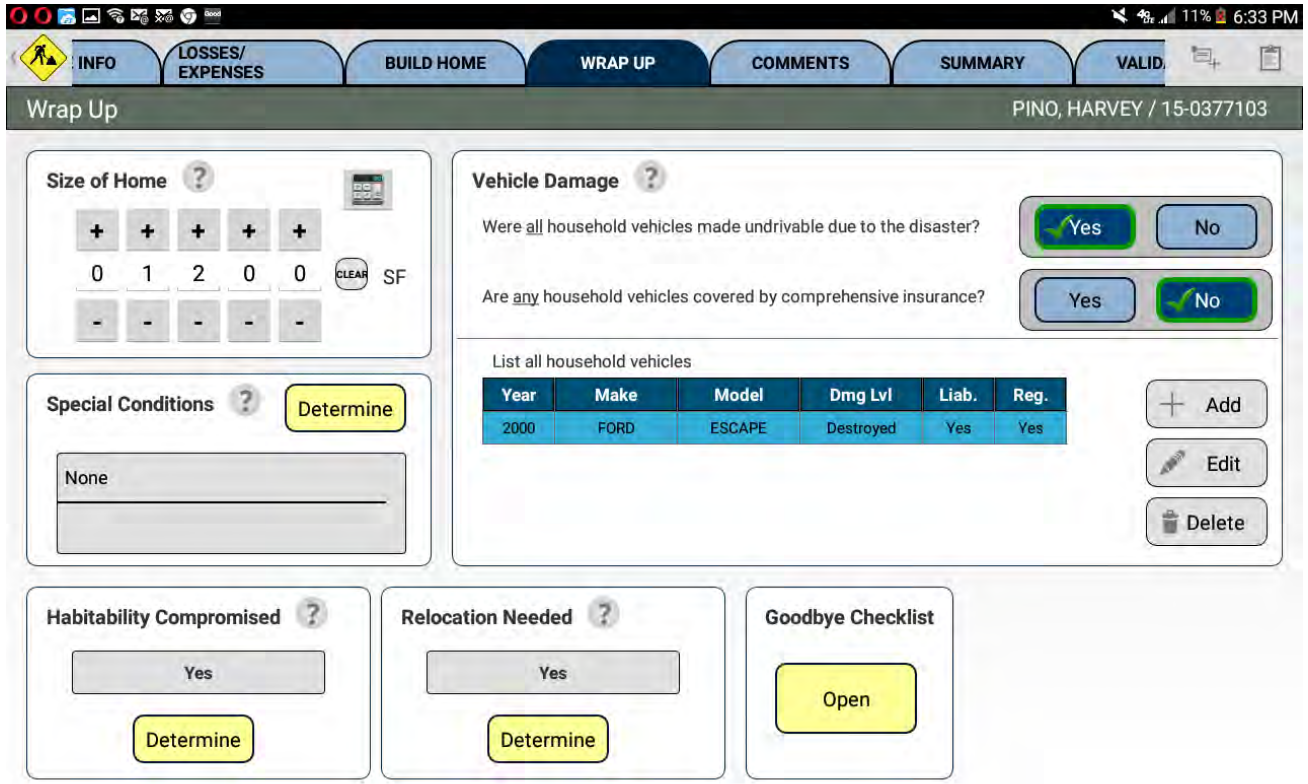
Wrap Up screen

Vehicle Damage:

Continue the same process for adding/editing all vehicles owned by the household.

When done entering the vehicles, continue to the Goodbye Checklist.

Tap the Goodbye Checklist button.

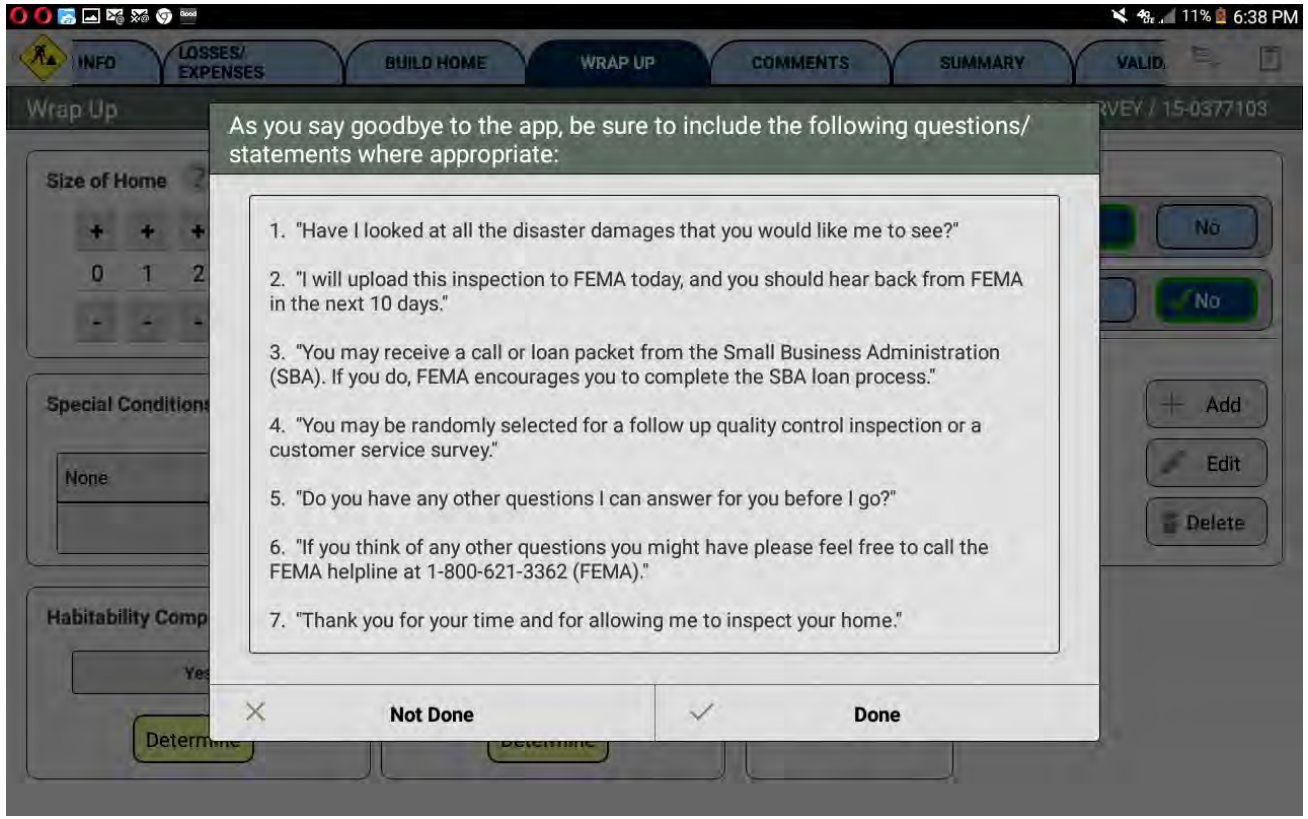


Wrap Up screen

Good bye Checklist

Go through the statements and address as appropriate for the applicant.

Tap done.



SKILLS CHECK

What are the four essential rooms?

What furnishings are included in a living room?

What areas of the dwelling are not included in the size of residence (SOR)?

When is it acceptable to change the habitability call from Yes to No?

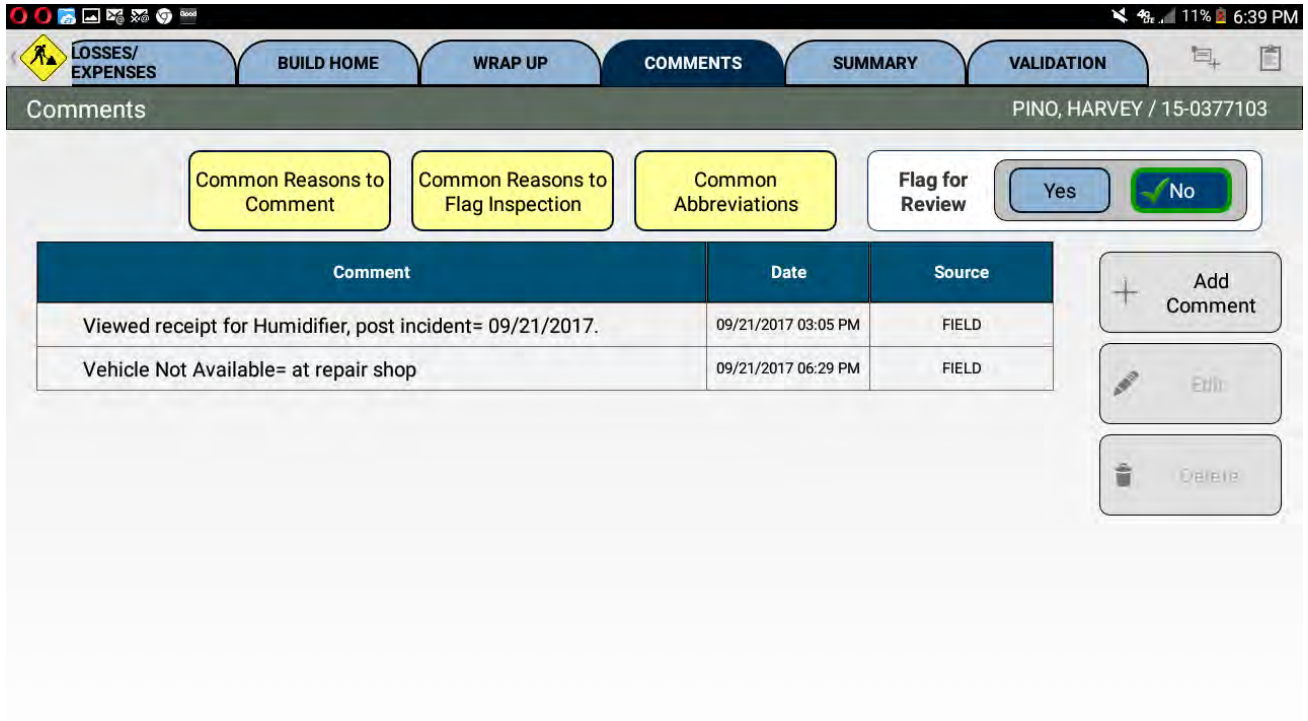
Comments Tab

Set the Flag for Review to Yes.

Add an inspector comment to clarify entries as needed and include your inspector number (Your F-number; i.e. F123). Make your comments all in one box. X code comments are to be left alone and never deleted.

It is best to keep your comments short and to point.

Records are available to the public. Be mindful that any comments recorded may be seen by persons outside of FEMA.



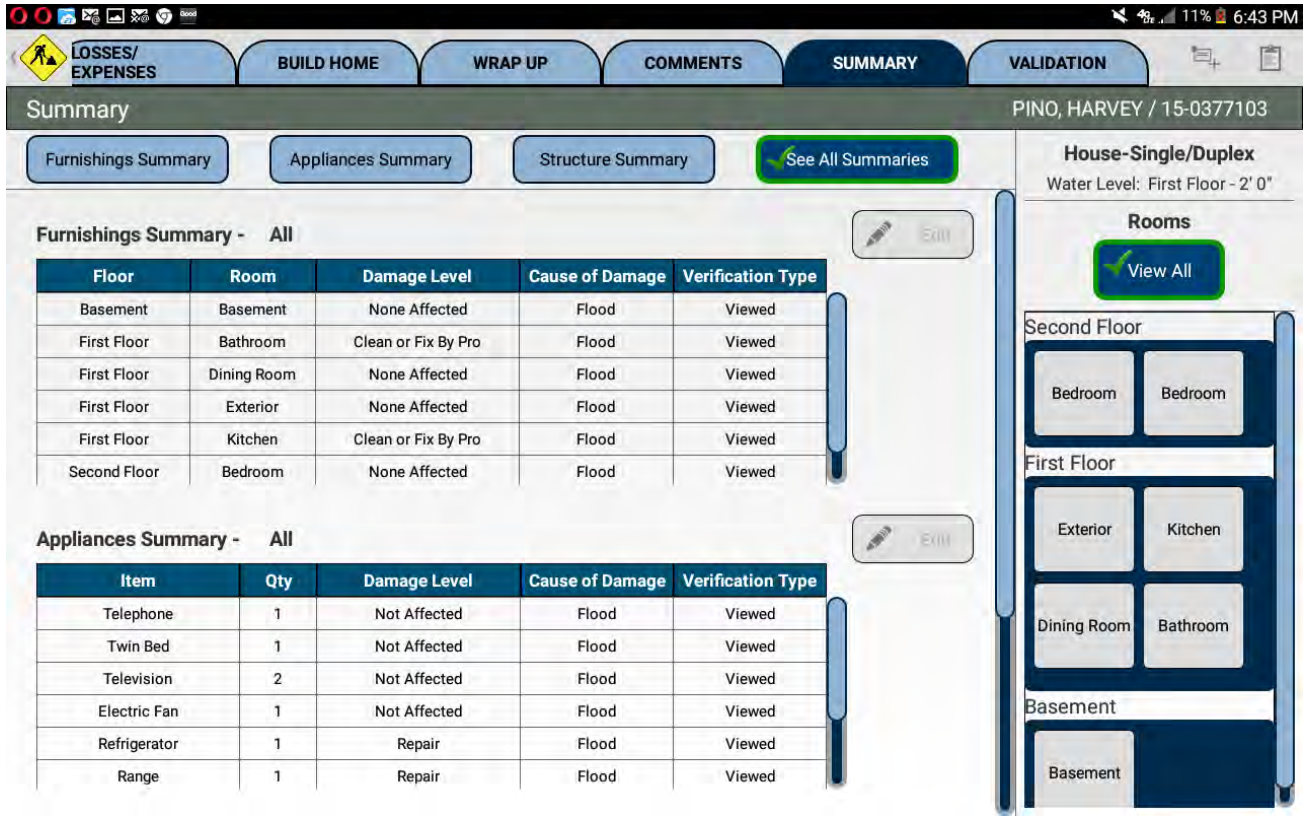
Summary Tab

This tab provides a detailed list of all line items recorded in the inspection.

Review each summary;

- Furnishings Summary
- Appliances Summary
- Structure Summary

Check to make sure items recorded and Cause of Damage makes sense. For example, a hurricane should not have items with a cause of damage Ice / snow. If this does happen tap the item to highlight and then tap edit.

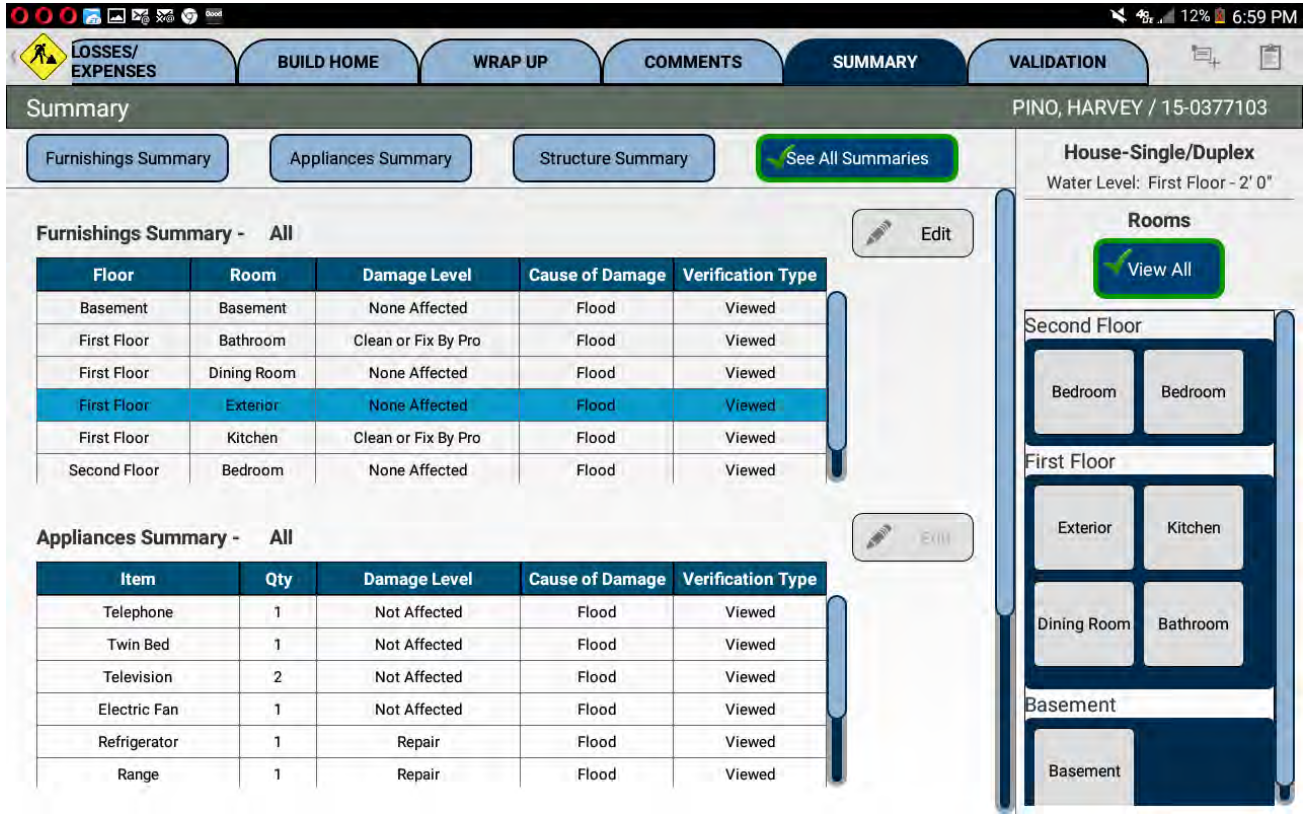


Summary Tab

Once the line is highlighted then the edit function becomes active.

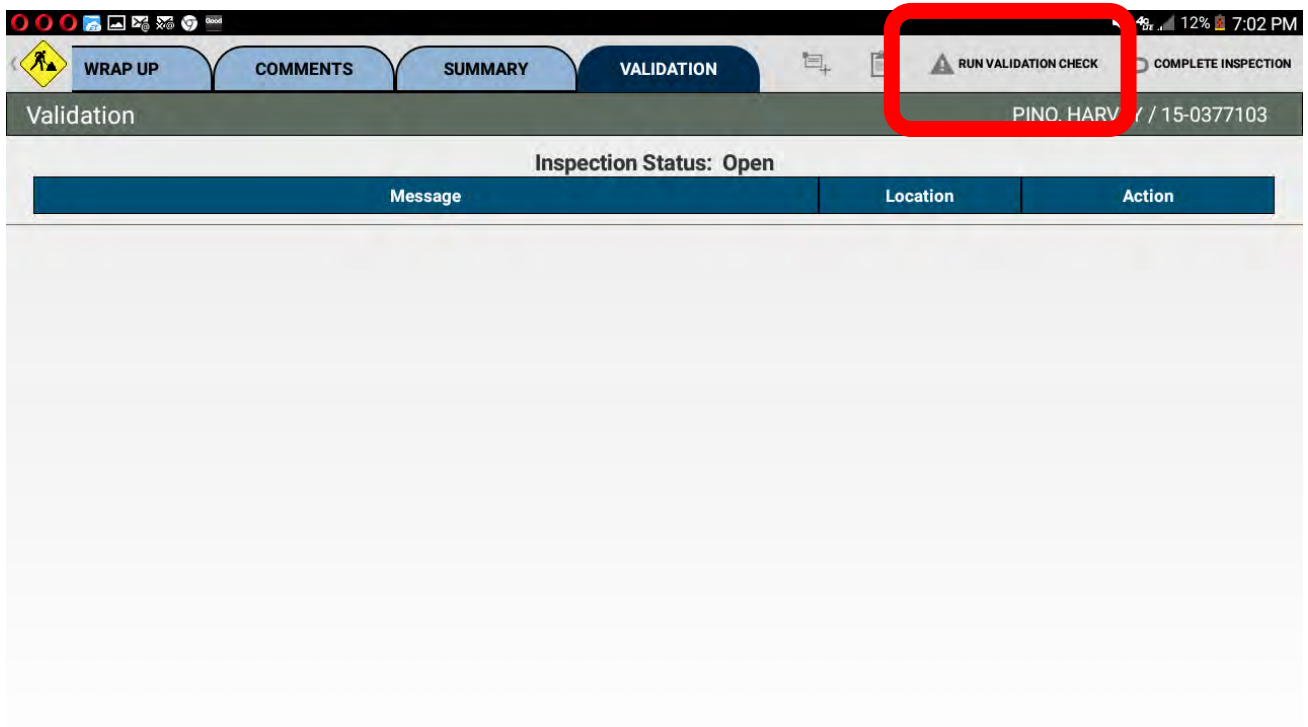
Tap edit and make changes as needed.

The summaries cover furnishings, appliances, and structure line items.



Validation Tab

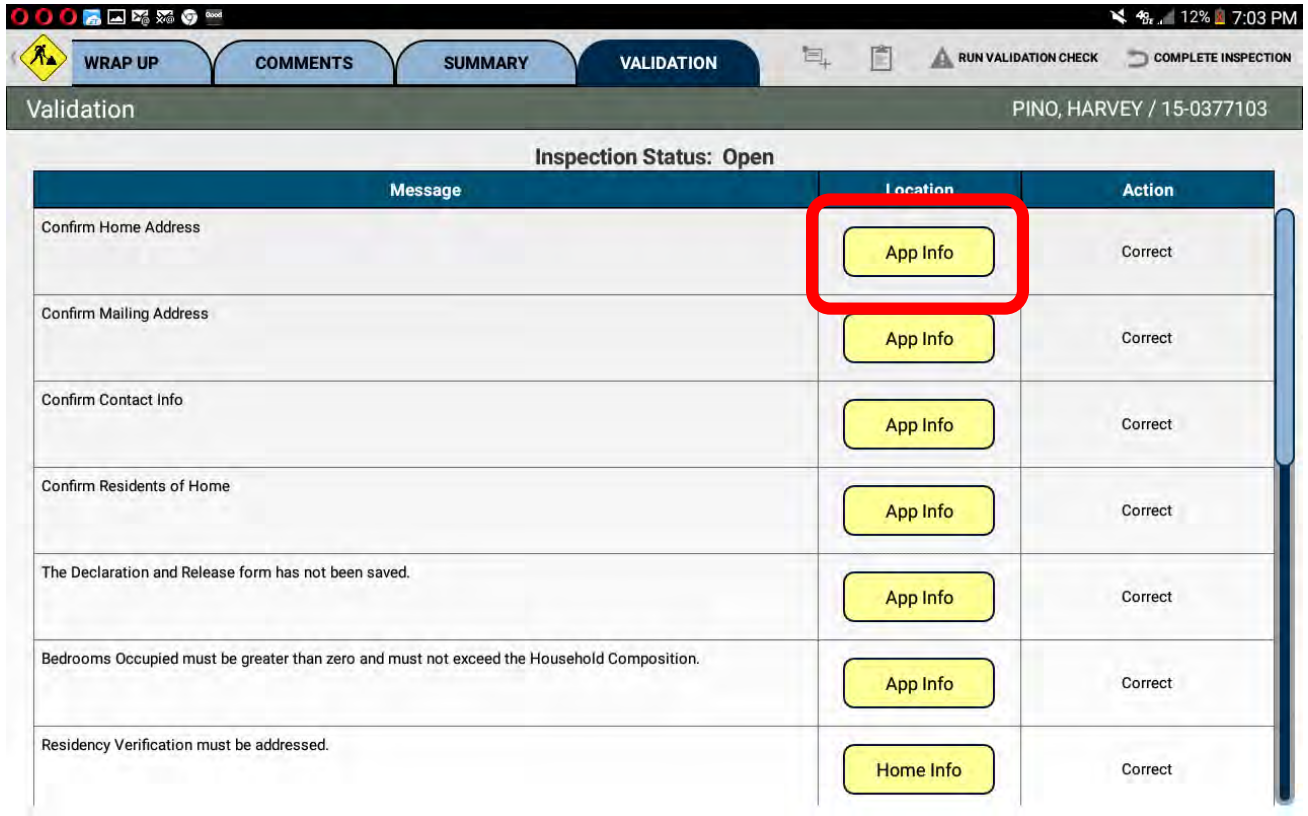
Tap Run Validation Check



Validation Check

If a validation edit check is found, it will populate on the screen. To correct an error you can navigate to the screen or tap the yellow Location button to jump to the tab.

Tap the App Info button. This automatically takes you back to the App Info tab in the inspection to address the item.

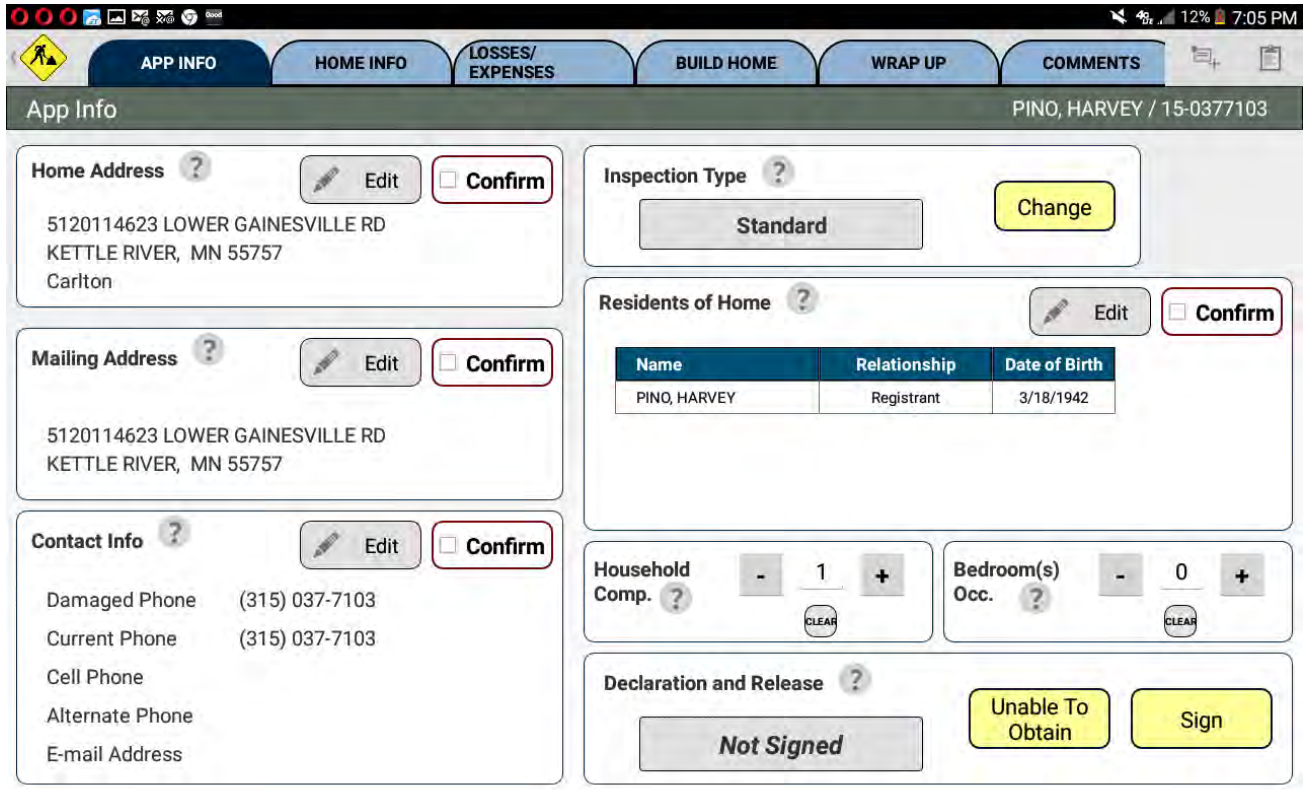


Validation Check

Note Items were not confirmed.

Confirm items.

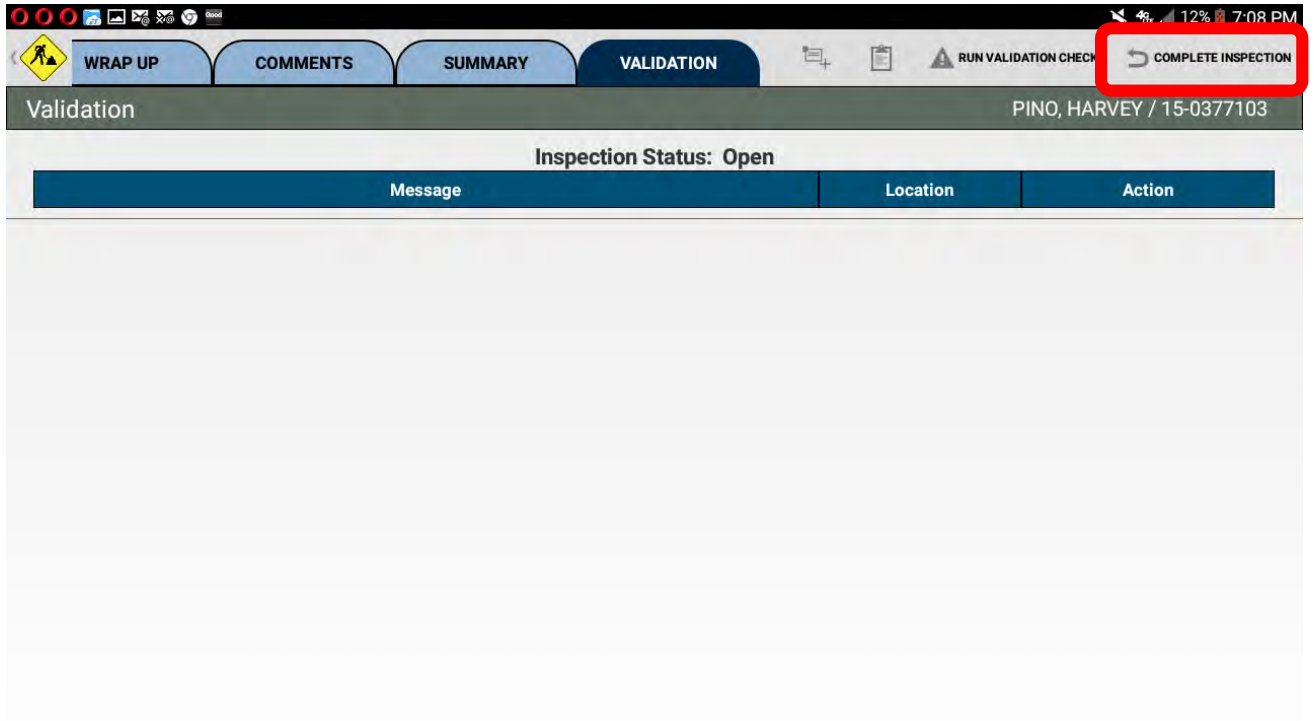
Return to the Validation tab and run the validation check again.



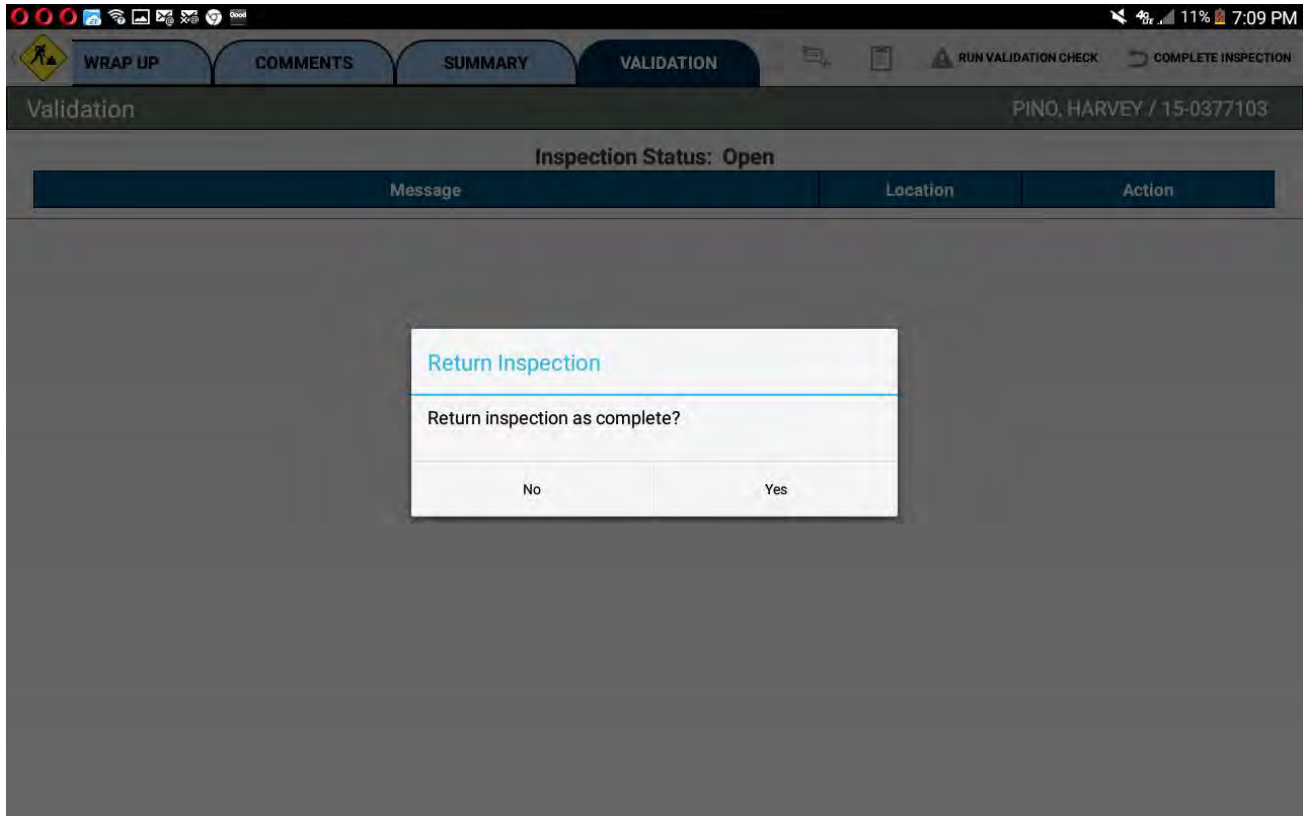
Validation screen

Continue to tap the Run Validation Check and correct any errors until there are no validation items that need to be addressed.

Then tap Complete Inspection to close the inspection and send it to the Outbox, ready for communication.

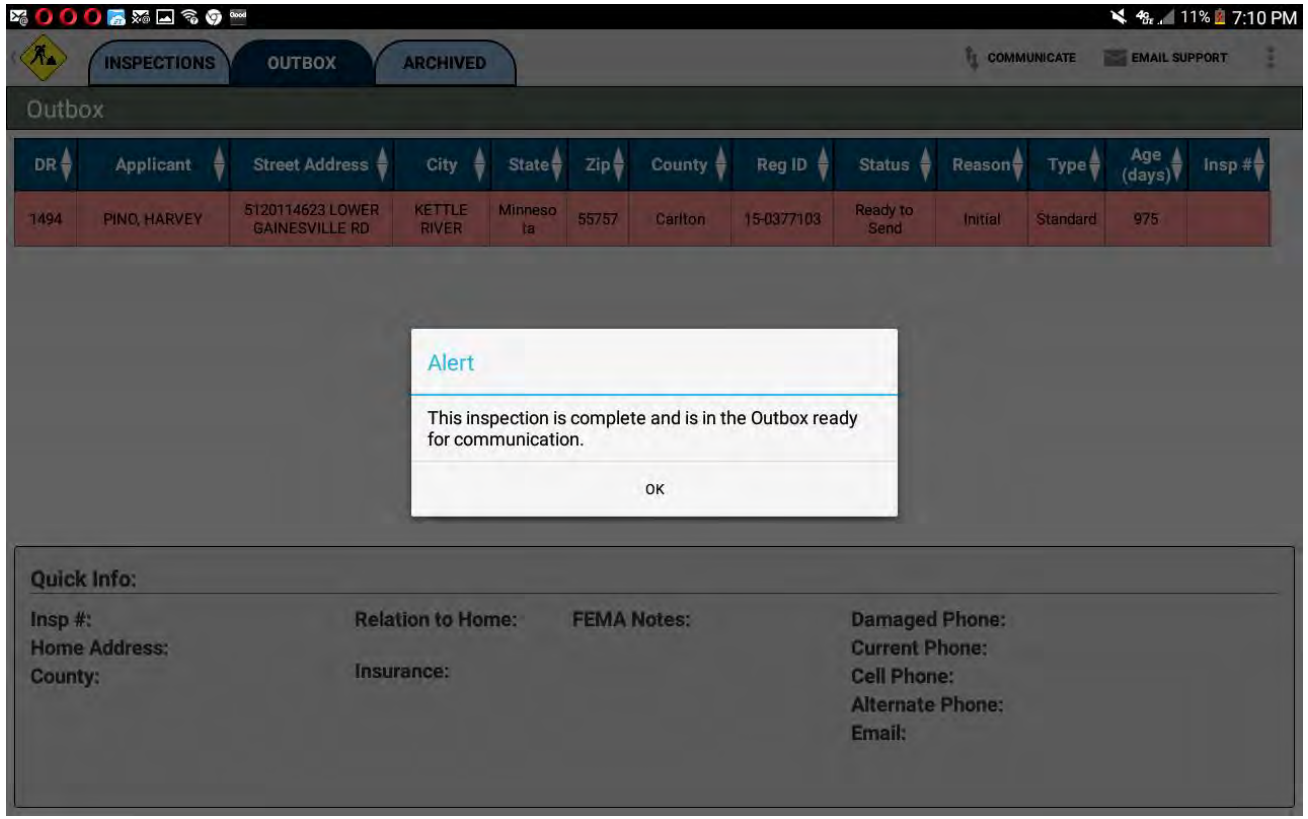


Complete Inspection



Complete Inspection

Click OK.

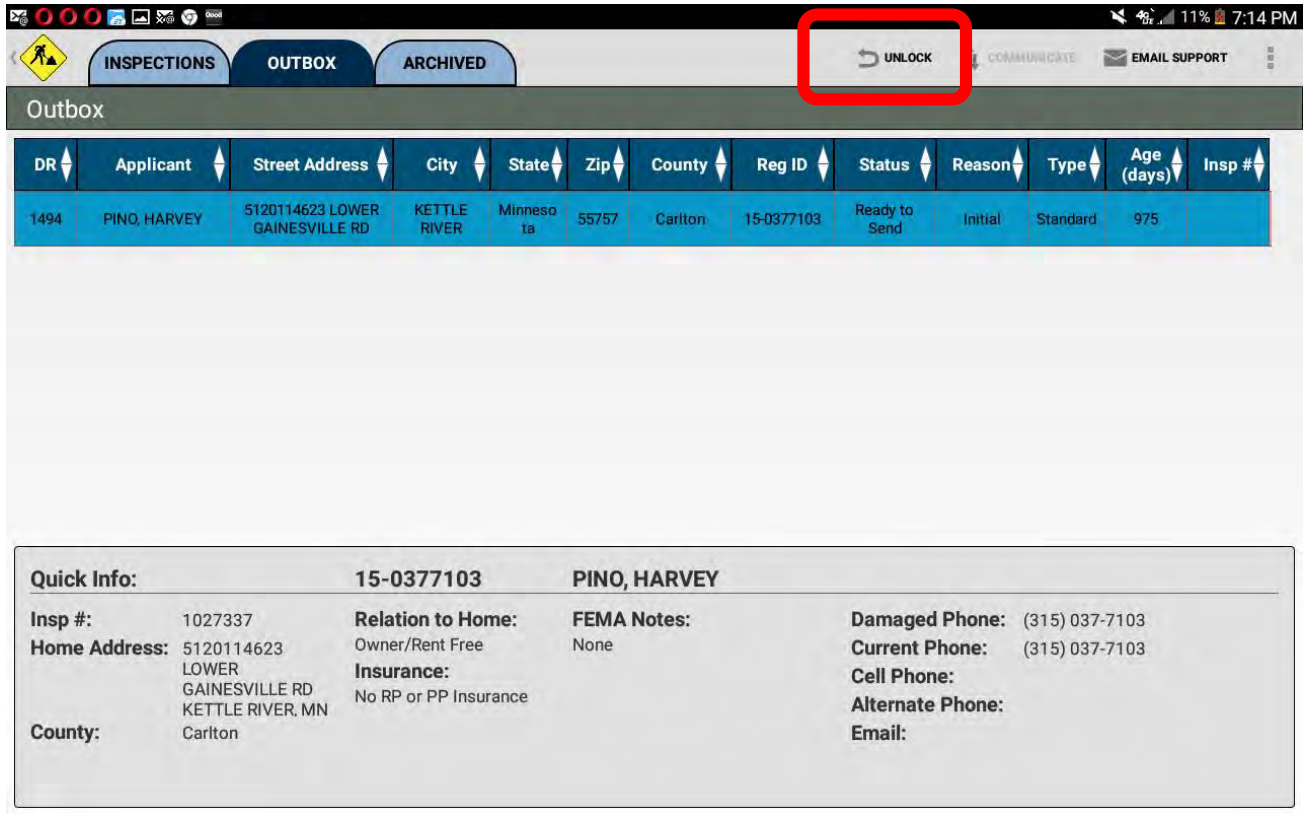


Outbox

Inspection is ready to upload.

If you realize that a change is needed tap on the inspection and then tap Unlock.

The inspection will go back to the Inspections tab. There it can be opened and edits can be made. It can be completed in the same manner by running the validation checks and making it complete which will send it back to the outbox.

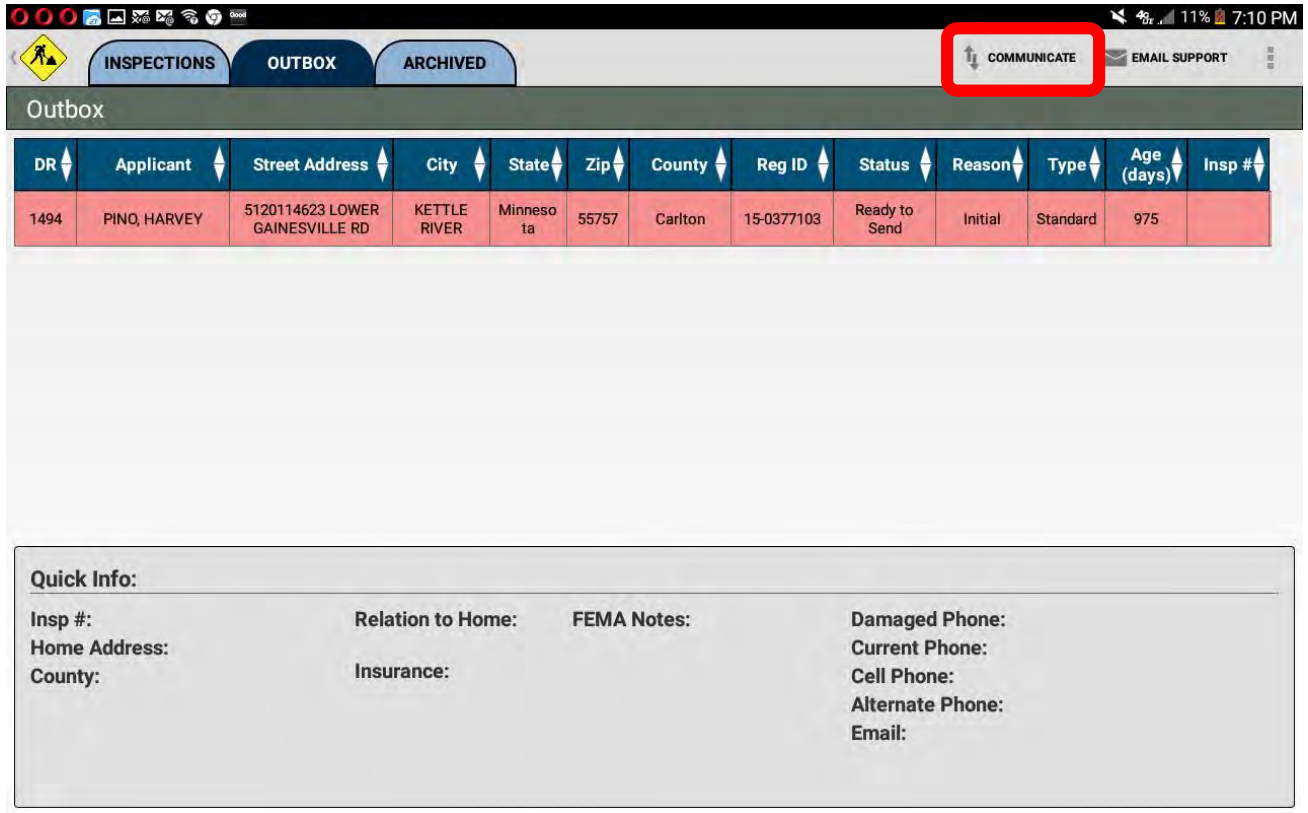


Outbox

To upload the inspections in the Outbox back to FEMA, tap Communicate.

You may need to be connected to the internet/Wi-Fi, or hotspot from phone.

When successfully communicated, you will receive a pop-up that shows the total inspections downloaded and total uploaded. The Outbox screen will be blank again.



Completes the Standard Inspection Slides

- Questions ?

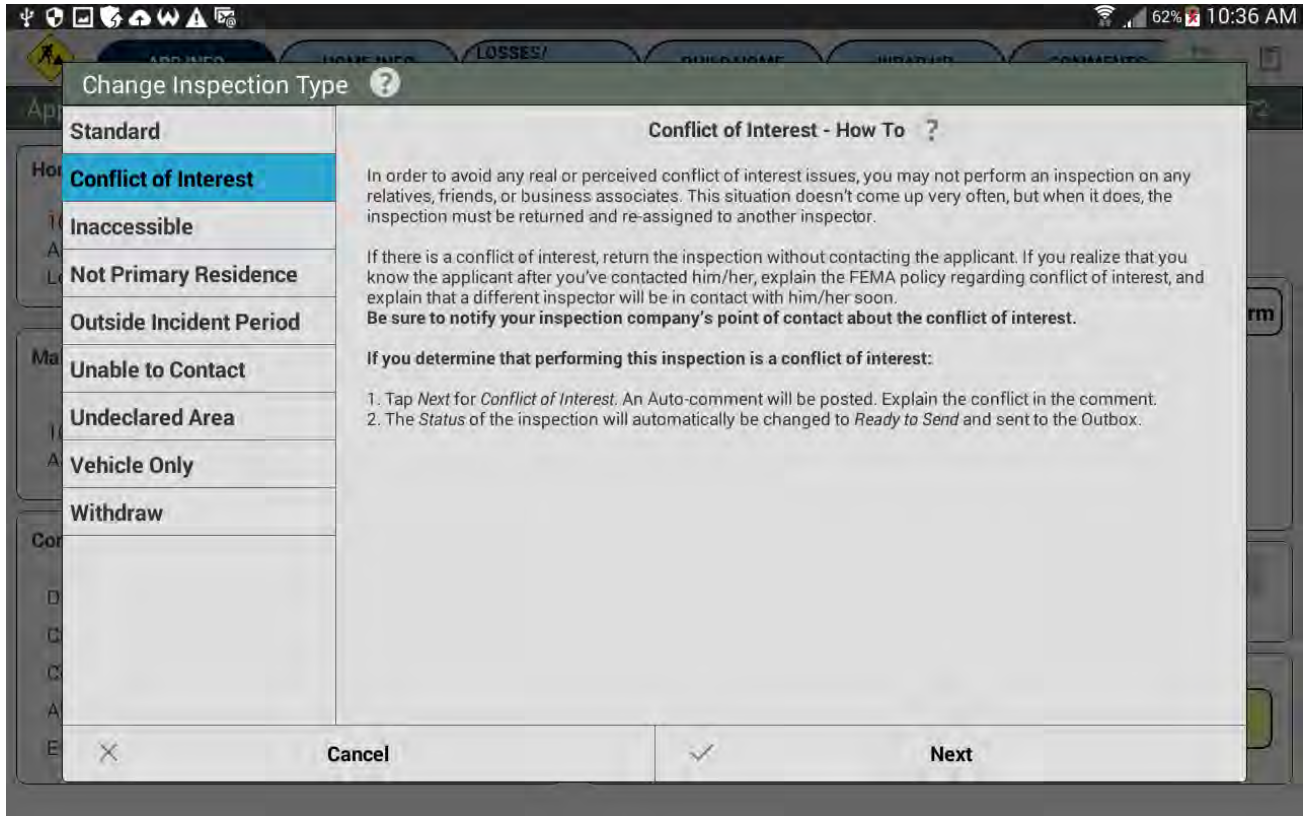
Other Types of Inspection

Conflict of Interest

In order to avoid any real or perceived conflict of interest issues, you may not perform an inspection on any relatives, friends, or business associates. This situation doesn't come up very often, but when it does, the inspection must be returned and re-assigned to another inspector.

If there is a conflict of interest, return the inspection without contacting the applicant. If you realize that you know the applicant after you've contacted him/her, explain the FEMA policy regarding conflict of interest, and explain that a different inspector will be in contact with him/her soon.

Requires a comment when Next is tapped.

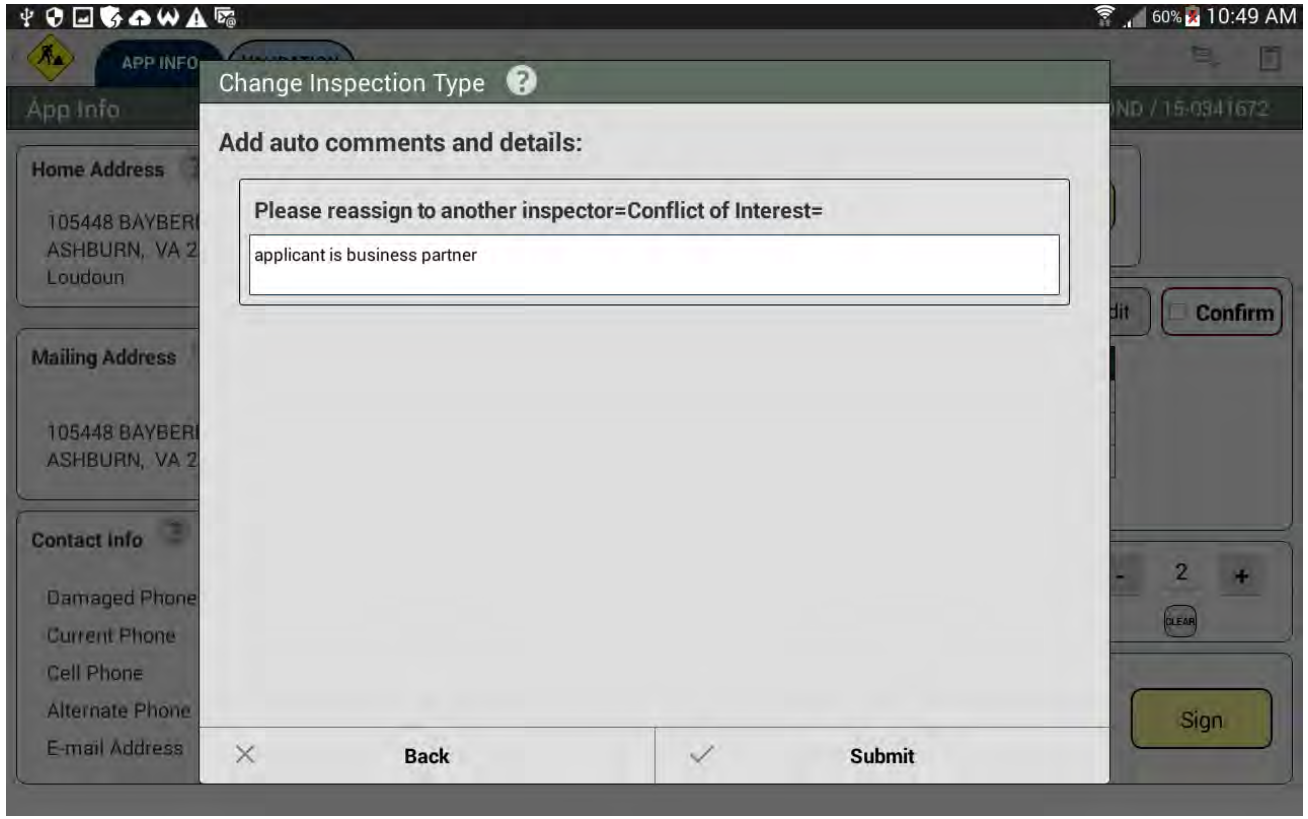


Conflict of interest

Comment about conflict of interest.

Once comment is entered tap submit.

Inspection automatically routes to the Outbox for upload to FEMA.



Inaccessible

An inaccessible home is one that cannot be accessed safely using traditional or alternate routes to confirm home, private road or bridge damages. Common causes of inaccessibility are standing water, damages, or closures of public roads and or bridges. Private road and bridge damages will be recorded to make the home accessible.

Instruction: Select the following scenario that best describes the situation.

1) The user can't get to the home due to damage to public road or bridge, public road or bridge closure, or standing water.

Schedule an appointment with the applicant at the obstruction (Ex: at the damaged road). Ask the applicant to bring documents to verify ownership (if owner) and residency.

Verify the Residents List and collect Household Comp and Bedrooms Occupied totals.

Record any Losses & Expense for Medical, Dental, or Funeral.

Ask the Relocation question.

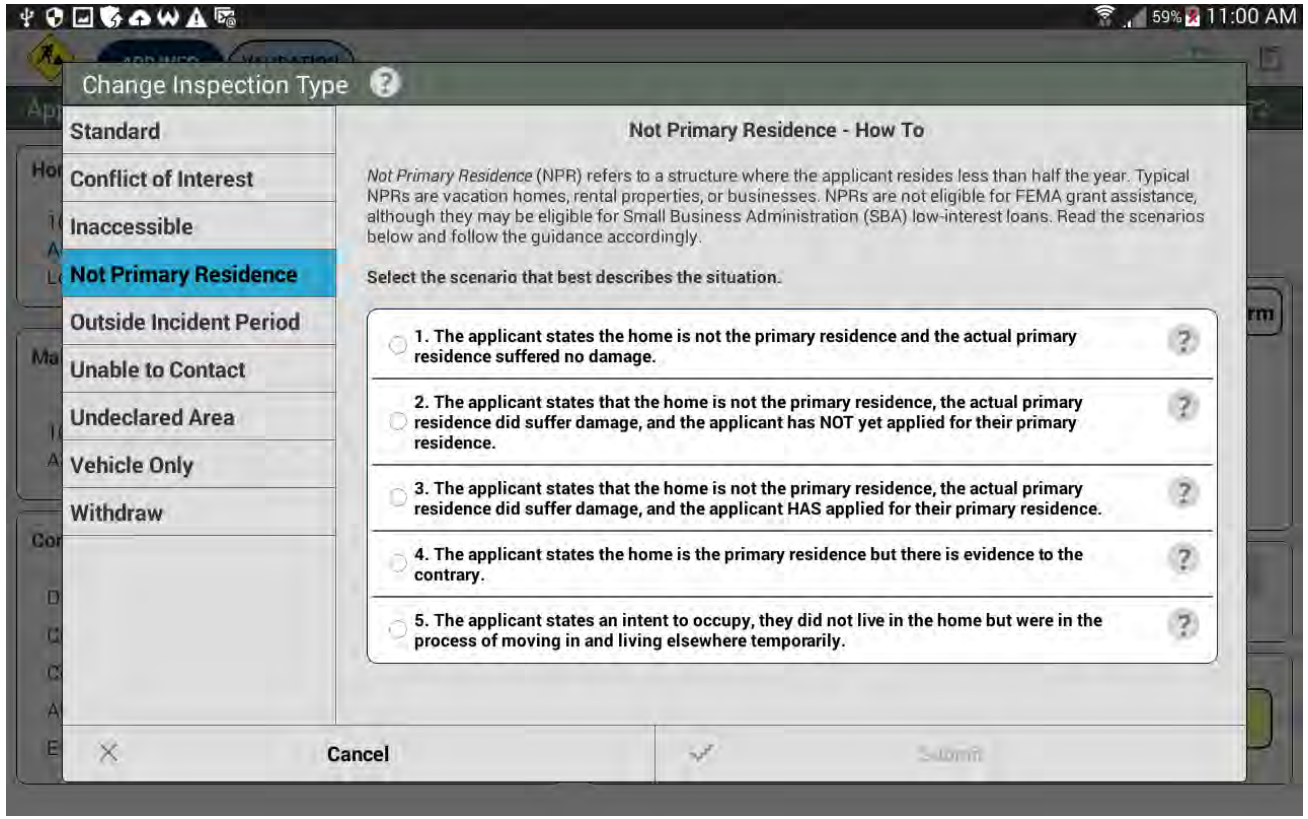
Take photo(s) of the obstruction

2) The user can't get to the home due to damages to a private road or bridge.

Note: Damage to private road and bridges is **not** an inaccessible inspection. Selecting this option will take you back to the Standard inspection type. Record road and bridge damages to make the home accessible.

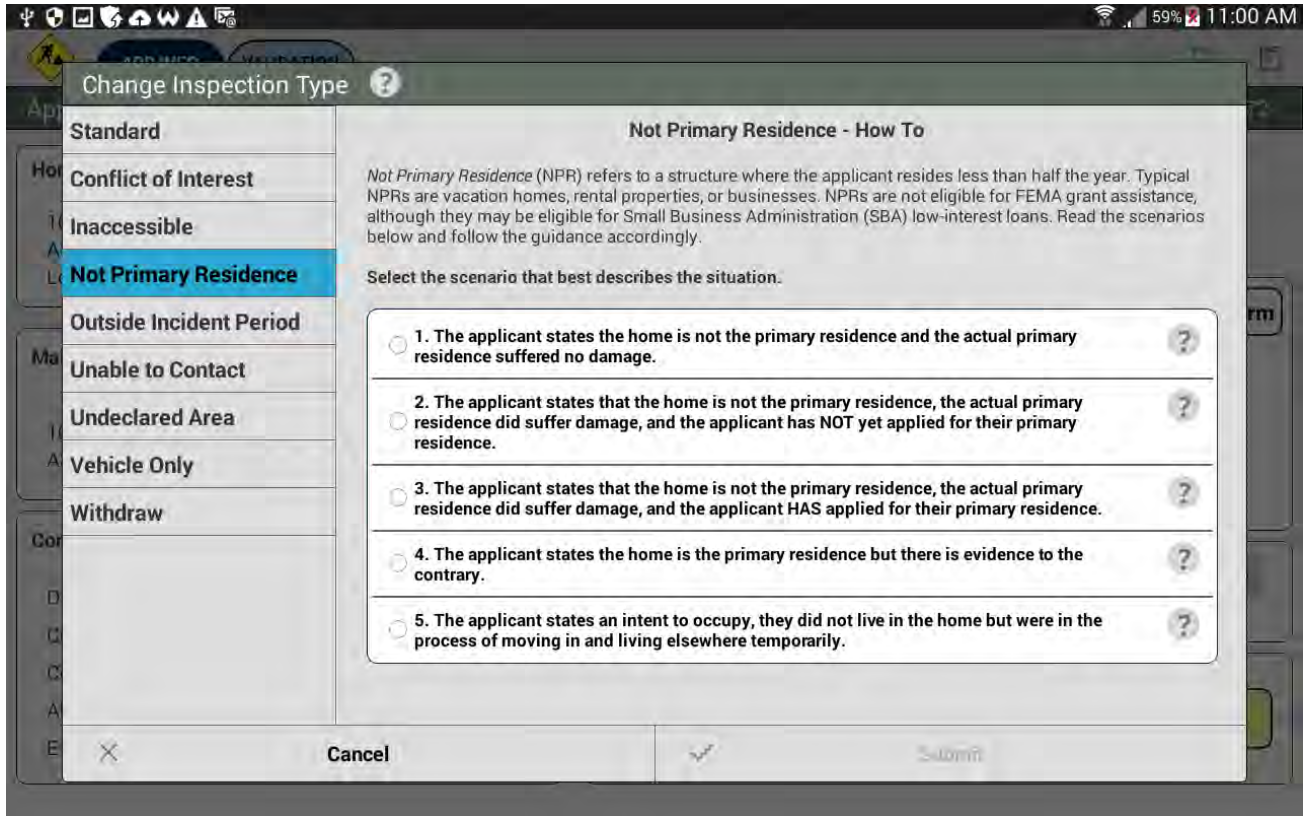
Not Primary Residence

Not Primary Residence (NPR) refers to a structure where the applicant resides less than half the year. Typical NPRs are vacation homes, rental properties, or businesses. NPRs are not eligible for FEMA grant assistance, although they may be eligible for Small Business Administration (SBA) low-interest loans.



Scenario 1 = The applicant states the home is not the primary residence and the actual primary residence suffered no damage

This is the most common type of NPR. If this is determined over the phone, you do not need to visit the home. Complete the fields displayed on the pad to include the Losses and Expenses tab, the Vehicle Damage and Good Bye Checklist on the Wrap Up screen.

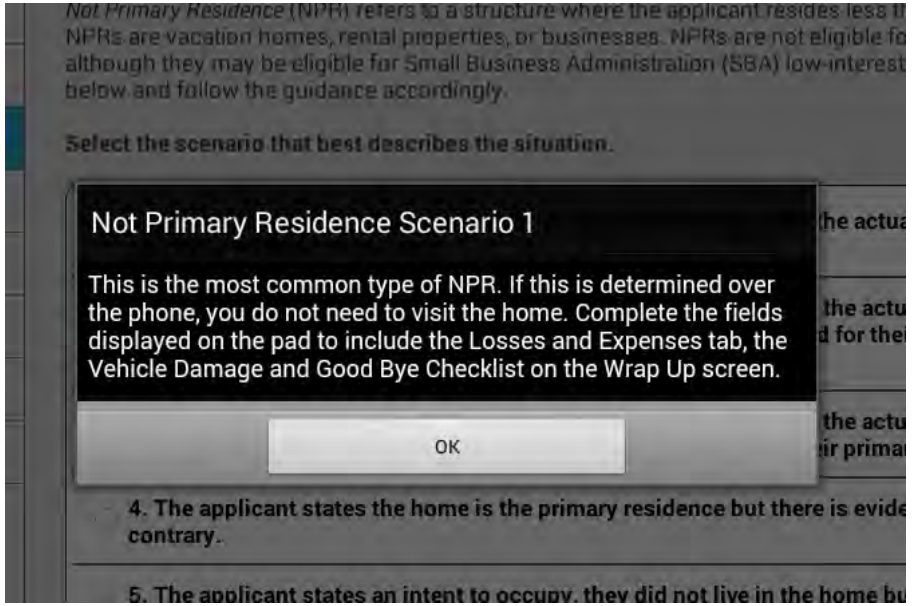


Scenario one

Tap Okay and address.

Complete the fields displayed on the pad to include the Losses and Expenses tab, the Vehicle Damage and Good Bye Checklist on the Wrap Up screen. A signature is not required.

Go through each tab and address the each section.



Completes the Other types of Inspection Slides

- Questions ?

Appliances/ PP

ADA (Americans with Disabilities Act) line items – The ADA line items are used to address personal property that is specific to applicants with disabilities. When addressing applicants household members never take for granted that no one had a disability. (ASK)

When addressing renters: Record landlord supplied appliances and furnishings as "Landlord Owned". If the applicant owns the same appliance supplied by the landlord and has access to the landlord supplied appliance, **do not record the applicant's appliance**.

When addressing toys: Must be 17 years of age or younger.

Rented Appliances: Do not record rented appliances.

When addressing infant items: Such as play pens, crib's, high chairs etc… the child must be part of the household comp and the need is justifiable such a infant resides in the dwelling. (Note) If there are infant items present but the child is not yet born, do not record infant items. Unless there is a present need within the household.

Testing Appliances and Power Surge: If there is physical evidence that an appliance has been damaged, such as inundation of the electrical components or major physical damage, you do not need to test it and should record the appropriate level of damage.

ADA Accessible Bed (3025)

- **Description:** The ADA requires beds that are usable by people with disabilities.
- **When to use:** When the ADA accessible bed was destroyed or made not functional needing repair.
- **When not to use:** If there is no essential need for a household member or is stored.
- **Common COD's:** Flood and Tornado/Wind.

ADA Accessible Raised Toilet Seat (3022)

- **Description:** Device that fits over a toilet with arm rests to assist persons having difficulty getting up and down.
- **When to use:** When device was destroyed or requires repair.
- **When not to use:** If there is no essential need for a household member, can be cleaned or is stored.
- **Common COD's:** Flood and Tornado/Wind.

FEMA

ADA Accessible Refrigerator (3024)

- **Description:** Refrigerator with lower profile for persons in wheel chairs.
- **When to Use:** When appliance was destroyed by disaster or requires repair.
- **When not to use:** When smaller refrigerator was a secondary convenience and not needed.
- **Common COD's:** Flood, Tornado/Wind and Power Surge.

FEMA

ADA Accessible Washer (3023)

- **Description:** The ADA front-load washer and dryer configuration allows loading and unloading from a wheelchair. Wide, front-opening doors and eye-level controls offer even greater accessibility.
- **When to Use:** When appliance is destroyed or damaged requiring repair.
- **When Not to Use:** If there is no longer an essential need for a household member or is stored.
- **Common COD's.** Flood, Tornado/Wind and Power Surge.

FEMA

ADA Computer (Fixed Cost) (3021)

- **Description:** For persons with disabilities, the keyboard, mouse, and monitor are of prime concern so adaptive hardware and software have been developed to provide alternatives.
- **When to Use:** When the ADA computer was destroyed by disaster.
- **When Not to Use:** When not damaged from the event or not the sole source of communicating.
- **Common COD's:** Flood, Tornado/Wind and Power Surge.

ADA Shower Chair (3029)

- **Description:** Typically a bench type device used to assist with bathing.
- **When to Use:** When device is destroyed.
- **When Not to Use:** If there is no essential ADA need for a household member, not damaged from the event and can be cleaned.
- **Common COD's:** Flood and Tornado/Wind.

ADA Visual / Vibrating Fire Signal (3031)

- **Description:** Device used for people with hearing loss to be alerted for smoke or fire.
- **When to Use:** When device is destroyed.
- **When Not to Use:** If there is no essential ADA need for a household member or not damaged from the event.
- **Common COD;s:** Flood, Tornado/Wind and Power Surge.

FEMA

ADA Walker (3027)

- **Description:** People with mobility, circulatory, respiratory, or neurological disabilities use many kinds of devices for mobility.
- **When to Use:** When the unit has been destroyed by the event.
- **When Not to Use:** When not damaged, can be cleaned and a household member has no need for a walker.
- **Common COD's:** Flood and Tornado/Wind.

FEMA

ADA Wheel Chair (3028)

- **Description:** Wheel chair that may or may not be motorized for people who cannot or have difficulty walking and are in need.
- **When to Use:** When device is destroyed.
- **When Not to Use:** If there is no essential ADA need for a household member or not damaged from the event.
- **Common COD's:** Flood and Tornado/Wind.

FEMA

Air Conditioner (3060)

- **Description:** Typically a window unit but may also be a floor model.
- **When to Use:** When unit has been destroyed or damaged but, repairable.
- **When not to Use:** When unit was in storage and not damaged from the event.
- **Common COD's:** Flood, Power Surge and Tornado/Wind.

Air Purifier (Disaster Specific) (3160)

- **Description:** Device typically with HEPA filter designed to circulate and cleanse air of odors, allergens and germs.
- **When to Use:** When device is destroyed.
- **When Not to Use:** When not damaged from the event or unit was stored.
- **Common COD's:** Flood, Tornado/Wind and Power Surge.

Appliance Service Call (3005)

- **Description:** This line item can be used when an appliance cannot be tested but there is evidence indicating there MAY BE damage as a result of the disaster.
- **When to Use:** When the extent of the damage is unknown. Level of damage should be repair, with a limit of one.
- **When Not to Use:** When evidence of the damage is obvious from the event.
- **Common COD's:** All.

Bicycle & Helmet - Essential (Fixed Cost) (Disaster Specific) (3250)

- **Description:** Everyday common bicycle and helmet.
- **When to Use:** When bicycle is only vehicle used for transportation damage by the event requiring repair or replacement. **(Disaster Specific Only)**
- **When Not to Use:** When bicycle is only used for sport and other recreation means.
- **Common COD's:** Flood and Tornado/Wind.

FEMA

Carbon Monoxide (CO) Detector (3580)

- **Description:** Device to detect and warn of excessive carbon monoxide levels.
- **When to Use:** Any damage to this device should call for a replacement.
- **When not to Use:** When not damaged from the event or not owned prior to the disaster.
- **Common COD's:** Flood, HWDR, Tornado/Wind.

Chainsaw (3230)

- **Description:** Chainsaw needed to clear trees, branches and debris from falling trees.
- **When to use:** If purchased, rented or leased after first day of event to gain access or remove hazards from the dwelling.
- **When not to use:** If the applicant owned a chainsaw prior to the first day of the incident period and the chainsaw was damaged by the disaster event address the chainsaw under personal property.
- **Common COD's:** Flood and Tornado/Wind.

FEMA

Child Car Seat (3120)

- **Description:** Device used to restrain young children to help prevent injury during an car accident.
- **When to Use:** Any damage to this device should call for a replace.
- **When not to Use:** When not damaged from the event or not owned prior to the disaster and Child is not a household member.
- **Common COD's:** Flood and Tornado/Wind.

FEMA

Clothing (3990)

- **Description:** Clothing use on a day to day basis.
- **When to Use:** When all clothing has been exposed to hazardous waste or blown, washed away or destroyed.
- **When not to use:** When clothing can simply be washed or only part of wardrobe is damaged or clothing is stored.
- **Common COD's:** Flood and Tornado/Wind.

FEMA

Crib (3180)

- **Description:** Infant bed designed with side panels to keep child from falling out of bed.
- **When to Use:** When crib has be damaged, destroyed or exposed to hazardous waste.
- **When not to Use:** When crib is in storage, no longer needed, not affected from the event or child is not a household member.
- **Common COD's:** Flood, HWDR and Tornado/Wind.

Dehumidifier (3040)

- **Description:** Device used to remove excessive moisture from the air.
- **When to Use:** When device is damaged (repairable) or destroyed.
- **When not to Use:** When device is in storage or not owned prior to disaster.
- **Common COD's:** Flood and Tornado/Wind.

FEMA

Dryer (3030)

- **Description:** Is used to dry household clothing after cloths were washed to prevent mold and mildew to clothing.
- **When to Use**: When device is damaged (repairable) or destroyed i.e. water above motors or heating unit or controls.
- **When Not to Use:** When not damaged from event or works at time of inspection.
- **Common COD's.** Flood, Tornado/Wind and Power Surge.

Electric Fan (3070)

- **Description:** Portable electric fan.
- **When to Use:** When device is damaged (repairable) or destroyed i.e. water above motors or controls.
- **When Not to Use:** When applicant did not own fan prior to event.
- **Common COD's:** Flood and Tornado/Wind.

FEMA

Everyday Dining Table/Chairs (3700)

- **Description:** Table and chairs commonly used for dining.
- **When to Use:** When table and chairs damaged (repairable) , destroyed or exposed to hazardous waste.
- **When Not to Use:** When table and chairs can simply be cleaned.
- **Common COD's:** Flood and Tornado/Wind.

Freezer (3050)

- **Description:** Freezers are used to preserved food for longer periods of time.
- **When to Use:** When freezer damaged (repairable) , destroyed or exposed to hazardous waste.
- **When Not to Use:** When freezer can simply be cleaned and applicant did not own one prior to the event. Unit was a rental.
- **Common COD's:** Flood and Tornado/Wind

FEMA

Firewood - a cord (Disaster Specific) (3601)

- **Description:** Is wood used for heating of the dwelling.
- **When to Use:** When disaster specific and a need is obvious – no longer at the dwelling from the event.
- **When Not to Use:** Not disaster specific and no loss occurred.
- **Common COD's:** Flood and Tornado/Wind.

Generator (3200)

- **Description:** Generator used to provide emergency electricity for the operation of medical devices .
- **When to Use:** When device was damaged or destroyed by current disaster.
- **When Not to Use:** When generator is selected as an eligible purchase.
- **Common COD's:** Flood and Tornado/Wind

Heating Fuel for furnace (Disaster Specific) (3611)

- **Description:** Typically coal, oil or propane delivery to provide emergency fuel to heat home.
- **When to Use:** When authorized by current disaster or disaster specific.
- **When Not to Use:** When not disaster specific and no loss occurred.
- **Common COD's:** Flood and Tornado/Wind.

High Chair (3240)

- **Description:** Raised chair with tray for child to set while eating.
- **When to Use:** When chair damaged (repairable) , destroyed or exposed to hazardous waste.
- **When Not to Use:** When chair can simply be cleaned.
- **Common COD's:** Flood and Tornado/Wind.

Humidifier (3150)

- **Description:** Device designed to put moisture in air when conditions are too dry.
- **When to use:** When unit is damaged , destroyed or exposed to hazardous waste.
- **When not to use:** If device was stored not being used, not owned prior to the event or otherwise not damaged.
- **Common COD's:** Flood and Tornado/Wind.

FEMA

Marine VHF Base Station (Disaster Specific) (3440)

- **Description:** VHF base stations provide expanded radio communications coverage while on the water.
- **When to Use:** Disaster specific. Use to replace when unit is damaged or destroyed.
- **When Not to Use:** When not authorized by disaster or not damaged.
- **Common COD's:** Flood and Tornado/Wind.

FEMA

Marine VHF Hand Held Radio (Disaster Specific) (3450)

- **Description:** Hand held often two way typically receives all NOAA weather channels as well as all USA, Canadian and international marine channels.
- **When to Use:** Disaster specific. Use to replace when unit has been destroyed or lost as a result a disaster.
- **When not to use:** When not disaster specific or not damaged.
- **Common COD's:** Flood and Tornado/Wind.

FEMA

Microwave Oven (3170)

- **Description:** Used to heat food and beverages.
- **When to Use:** When unit is damaged and needs repair or replacement due to the disaster.
- **When Not to Use:** When unit simply needs cleaning and not damage from the event.
- **Common COD's:** Flood, Fire, Power Surge and Tornado/Wind.

FEMA

Motorcycle Helmet (Disaster Specific) (3220)

- **Description:** Is used to help prevent head injury's from an accident while driving.
- **When to Use:** If disaster specific. Use when sole transportation is a motorcycle and damage or loss needs replacement.
- **When Not to Use:** When motorcycle is an alternate or secondary source of transportation.
- **Common COD's:** Flood and Tornado/Wind.

FEMA

Playpen (3300)

- **Description:** Is used for child safety while playing
- **When to Use:** When playpen owned prior to disaster and damaged or exposed to hazardous material always replace.
- **When Not to Use:** When playpen was not owned prior to disaster, or no essential need – no child part of household comp.
- **Common COD's:** Flood and Tornado/Wind.

Portable Space Heater (3190)

- **Description:** Portable space heater. May be powered by electricity and or oil. Secondary heat source.
- **When to Use:** Repair or replace when owned prior to the event and has been damaged or destroyed by disaster.
- **When Not to Use:** Space heater purchased after disaster or stored.
- **Common COD's:** Flood and Tornado/Wind.

FEMA

Radio (3130)

- **Description:** Used as a form of entertainment as well as communications alert for weather and other emergency broad cast.
- **When to Use:** When evidence suggests radio has been damaged by disaster. Generally a replace.
- **When Not to Use:** When radio was not owned prior to event, stored and not damaged.
- **Common COD's:** Flood, Power Surge and Tornado/Wind.

FEMA

Range (3000)

- **Description:** Used for cooking and heating food
- **When to Use:** When evidence suggests device damaged or exposed to hazardous waste and needs either repair or replacement.
- **When Not to Use:** When device is in storage or not owned prior to disaster and renter has use of Land Lord owned range. Rented
- **Common COD's:** Flood, Power Surge and Tornado/Wind.

FEMA

Refrigerator (3010)

- **Description:** Is used to keep foods and beverages cool to prevent spoilage to certain foods before their expiration date.
- **When to Use:** When evidence suggests repair or replacement needed.
- **When Not to Use:** When refrigerator only needs cleaning, was stored or renter uses land lord owned refrigerator. Do not record damage to refrigerators contaminated by rotten food due to a power outage. Unit was rented.
- **Common COD's:** Flood, Power Surge and Tornado/Wind.

FEMA

Rice Cooker (Disaster Specific) (3280)

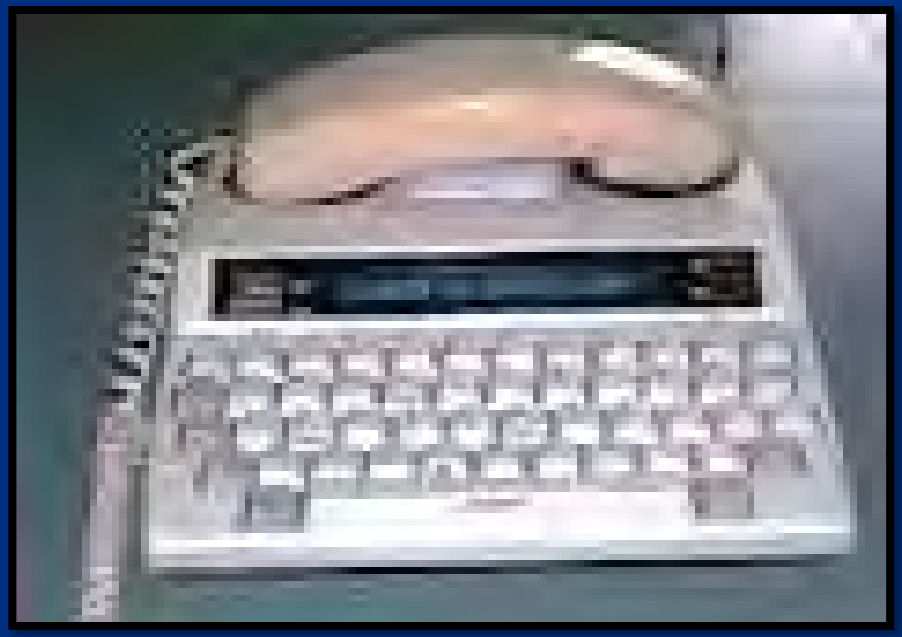
- **Description:** Device designed especially for cooking rice.
- **When to Use:** When evidence suggests rice cooker damaged or exposed to hazardous waste and disaster specific.
- **When Not to Use:** Rice cooker not owned prior to event and not a disaster specific item.
- **Common COD's:** Flood, Power Surge and Tornado/Wind.

Stroller (3290)

- **Description:** Strollers are used for child safety transportation while parents or adult care giver is present.
- **When to Use:** When evidence suggests stroller was damaged or exposed to hazardous waste. When child is part of household comp.
- **When Not to Use:** Stroller not owned prior to disaster, child not part of household comp requiring need for stroller.
- **Common COD's:** Flood and Tornado/Wind.

FEMA

TDD/TYY Phone (3109) Telephone (3110)



- **Description:** Telephone for people with a hearing disability.
- **When to Use:** When evidence suggests device was damaged or exposed to hazardous waste, always replace
- **When Not to Use:** Device not owned prior to disaster or no need for household members who live in the dwelling.
- **Common COD's:** Flood, Power Surge and Tornado/Wind.

Telephone 3110 (3110)

- **Description:** Telephone either land line or cell phone is only or primary household phone.
- **When to Use:** When evidence suggests device damaged or exposed to hazardous waste, always replace .
- **When Not to Use:** If applicant has no phone and is not damaged from the event.
- **Common COD's:** Flood, Power Surge and Tornado/Wind.

FEMA

Television (3090)

- **Description:** Televisions are used a s a form of entertainment as well as news reports and alert communications for extreme weather conditions and part of the emergency broad cast system.
- **When to Use:** When evidence suggests device damaged or exposed to hazardous waste and needs repair or replacement.
- **When Not to Use:** Was not owned prior to the disaster. Unit was rented.
- **Common COD's:** Flood, Power Surge and Tornado/Wind.

FEMA

Tent (Disaster Specific) (3410)

- **Description:** Tent is used to help protect the occupants from weather conditions as well un-welcome bugs and rodents.
- **When to Use:** When tent is primary residence and damage needs repair or replacement. Must be disaster specific.
- **When Not to Use:** When tent is only used for camping or recreation and not disaster specific.
- **Common COD's:** Flood and Tornado/Wind.

FEMA

Toys (Fixed Cost) (3680)

- **Description:** Children's toys.
- **When to Use:** When all children's toys lost or exposed to hazardous waste due to disaster and when child is under the age of 17.
- **When not to Use:** When only some toys damaged. If child is not part of household comp.
- **Common COD's:** Flood and Tornado/Wind.

Tractor/Snow Blower (Disaster Specific) (3470)

- **Description:** Lawn tractor with blade or snow blower for residential use.
- **When to Use:** When device is damaged and needs repair or replacement due to disaster. Must be disaster specific.
- **When not to Use:** When not disaster specific or damage occurred outside of the incident period.
- **Common COD's:** Flood and Tornado/Wind.

Twin Bed (3310)

- **Description:** Bed designed for sleeping.
- **When to Use:** When bed damaged or exposed to hazardous waste and a second person occupies the same bed room.
- **When Not to Use:** If not damaged from the event or does not fall under the line item description when to address.
- **Common COD's:** Flood and Tornado/Wind.

Vacuum (3080)

- **Description:** Used to clean various floor covering as well as other household items with attachments supplied with the vacuum.
- **When to Use:** When device is damaged and needs repair or replacement due to disaster.
- **When not to Use:** When not damaged.
- **Common COD's:** Flood and Tornado/Wind.

Washer (3020)

- **Description:** Is utilized to wash household clothing.
- **When to Use:** When device is damaged and in need of repair or replacement due to disaster.
- **When not to Use:** When washer only needs cleaning or for renters land lord supply's washer and rented.
- **Common COD's:** Flood and Tornado/Wind.

FEMA

Weather Radio (3425)

- **Description:** Is a **NOAA** all hazards and weather alert Residential radio designed specifically for broadcasting weather conditions.
- **When to Use:** When device is damaged and in need of replacement or repair due to disaster.
- **When not to Use:** When damage occurred outside the incident period or not damaged from the event.
- **Common COD's:** Flood and Tornado/Wind.

FEMA

Wet/Dry Vac (Disaster Specific) (3691)

- **Description:** Shop Vac used to remove water and debris from flooding.
- **When to Use:** When damaged, destroyed or purchased within 30 days of disaster to clean up disaster related water or debris. Must be disaster specific.
- **When not to use:** When purchased outside of allowable time frame and not disaster specific.
- **Common COD's:** Flood and Tornado/Wind.

FEMA

Basic Construction Course

FEMA

Basic Construction Course

Introduction

The Basic Construction Course is intended for field assessors with various levels of construction experience; and how general construction is addressed during an assessment.

Section 1: Foundations

Foundations support and disburse the weight of the dwelling and anchor it to the ground. For the most part assessors will address damages using the Foundation/Masonry category in the line items.

- Footer - Base of a foundation wall.
- Continuous (Spread Footing) - Uninterrupted supporting base for the foundation wall.
- Individual (Pad) - Small concrete square or circle used to support a single foundation member (pier, Lally column)

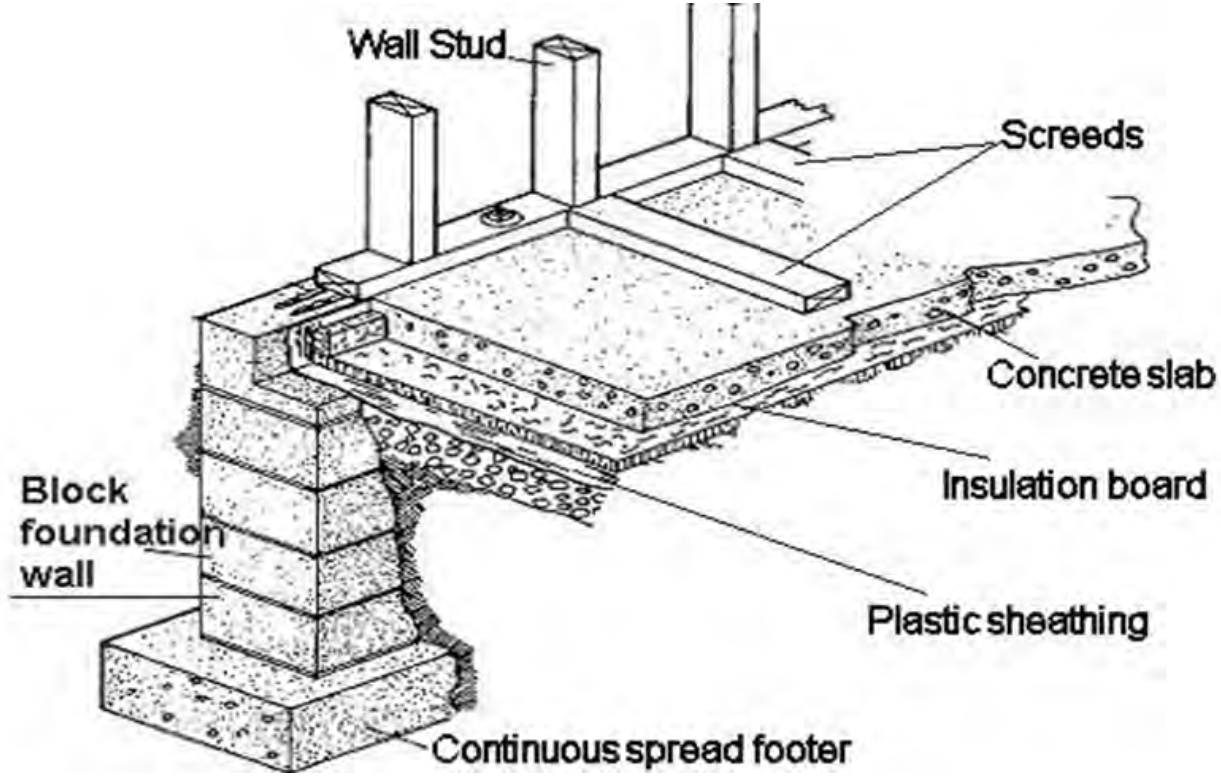
Foundation Wall

- Assessors will see different types of foundation walls. The most common are:
- Poured foundation – This type of wall is a continuous wall that is poured concrete. It is seen in newer homes.
- Block foundation – Cinder block (concrete block) walls are another common type of foundation wall.
- Stone/Brick Exterior Foundation Wall – Is usually seen in older homes and is not as common as poured or block foundations. There is quite a big cost difference to remove and replace this type of foundation.
- Wood foundation wall – Is a pressure treated wall usually covered with pressure treated sheathing and is recorded as exterior wall.

Example of Foundation System

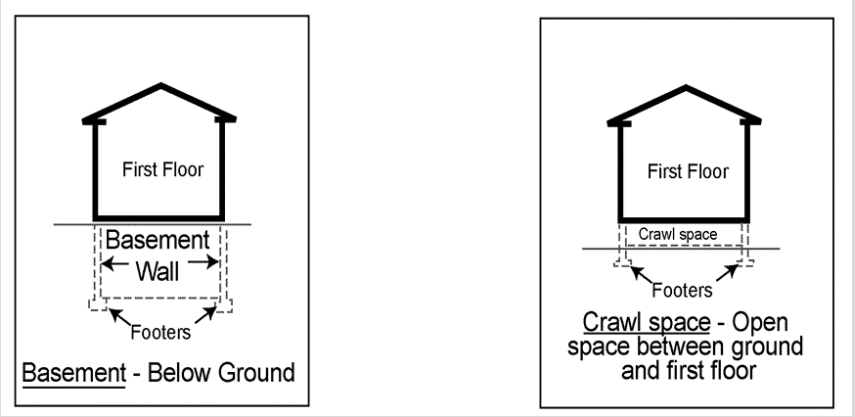
The components that may be addressed in this diagram are as follows:

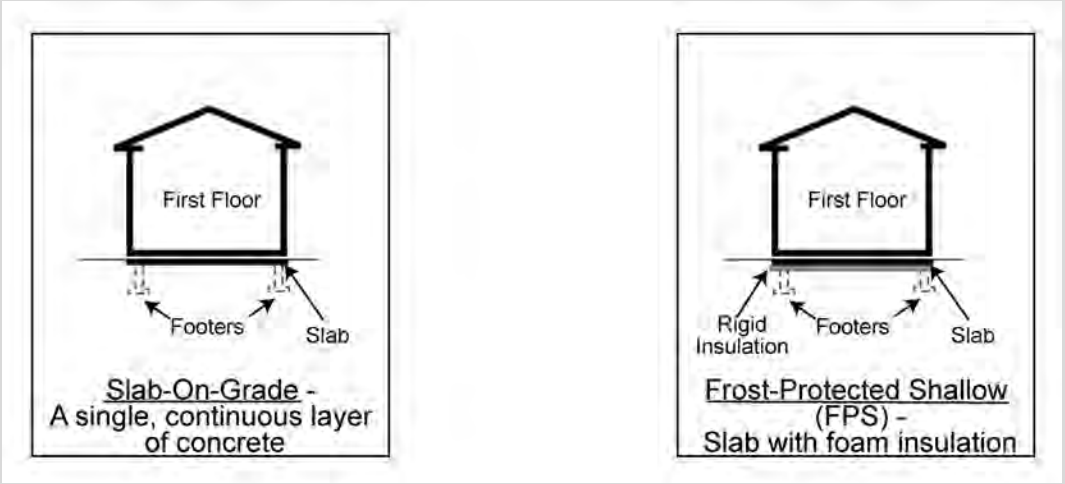
- Footer
- Foundation wall
- Gravel (washout fill)
- Slab (insulation board and plastic sheathing is covered in the pricing for the slab replace)
- Wall Studs (exterior wall)
- Note: the “screeds” will not be addressed. This will be covered later in the training.



Types of Foundations

- The drawings on the right demonstrate that whether it is a basement, crawlspace, or slab there are still similar components such as the footers. Footers may be compromised and may need to be addressed.

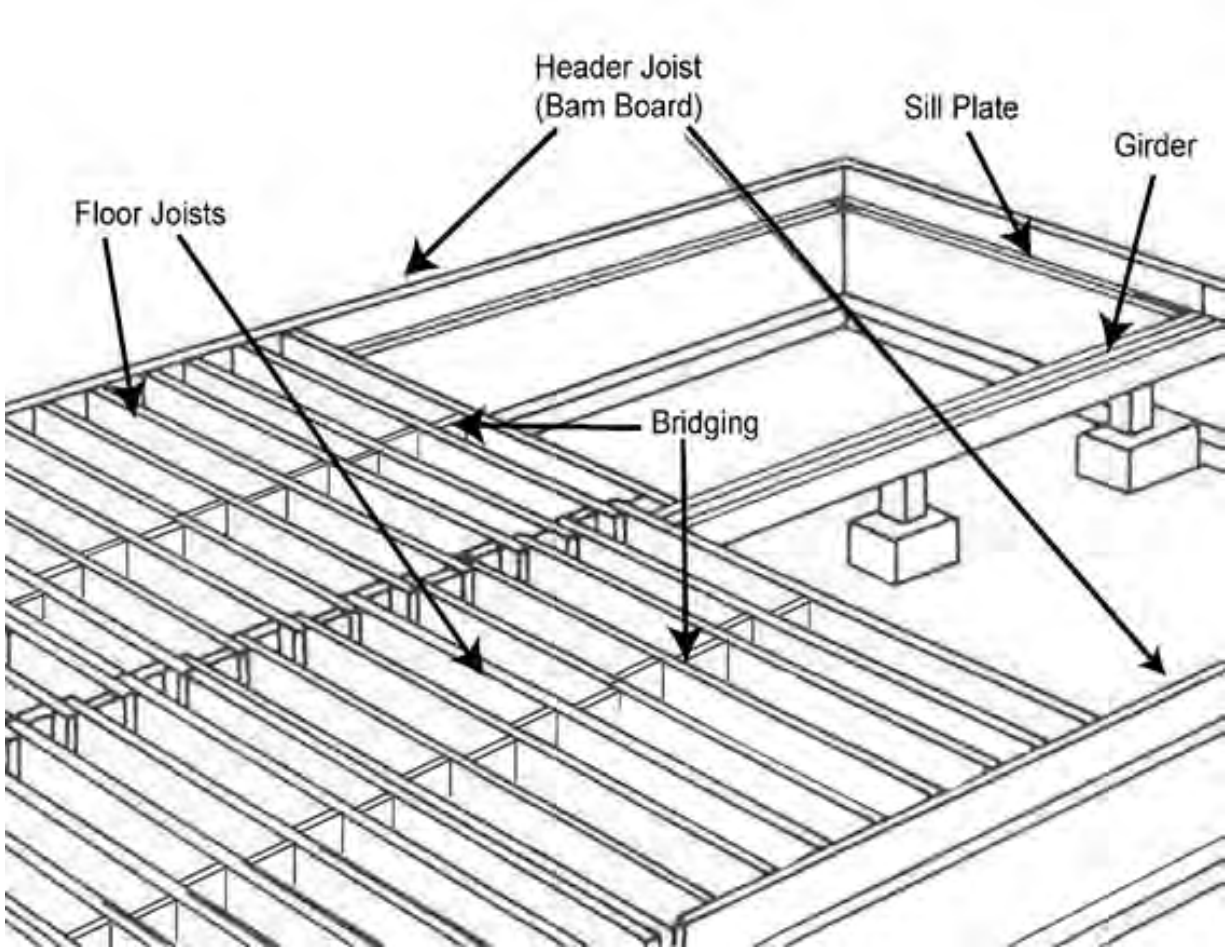




SECTION 2: FRAMING

Framing forms the skeleton of a dwelling. Proper fastening of frame members and covering materials provide rigidity and strength.

Section 2 – Floor Systems



Floor Framing Components

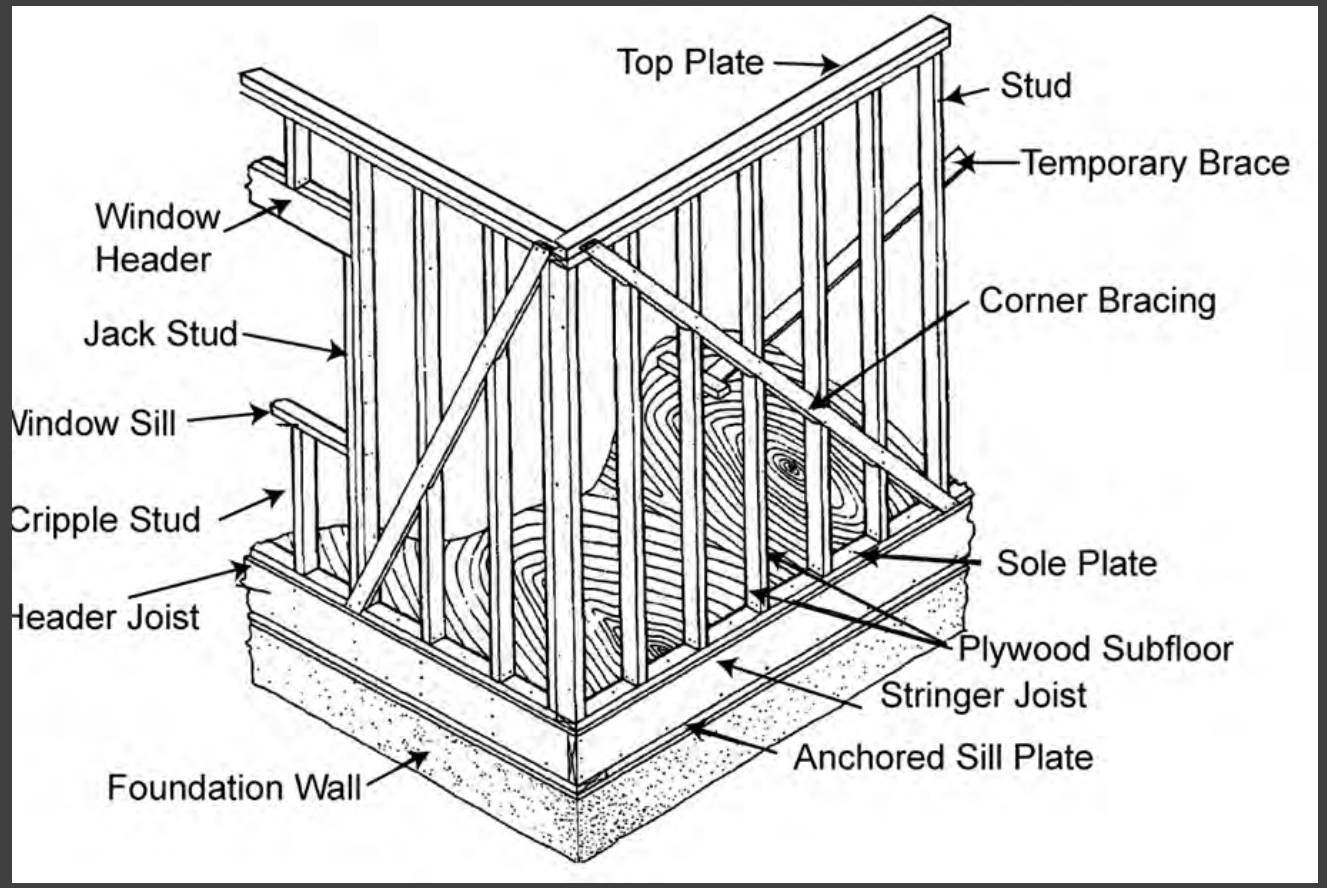
Out of all the components listed in the slide to the left; there are only a few that we as assessors may address.

•Floor Joists - Support boards running parallel across the width of the structure.

•Subflooring – (Not pictured) Placed over the floor joists to support the finished floor or floor covering.

The girder if dimensional lumber would be considered floor joists. If it is a steel I-beam it would be two or so lump sums to put back in place and Jack & Shore would need to be added to hold the floor system while reinstalling the I-beam.

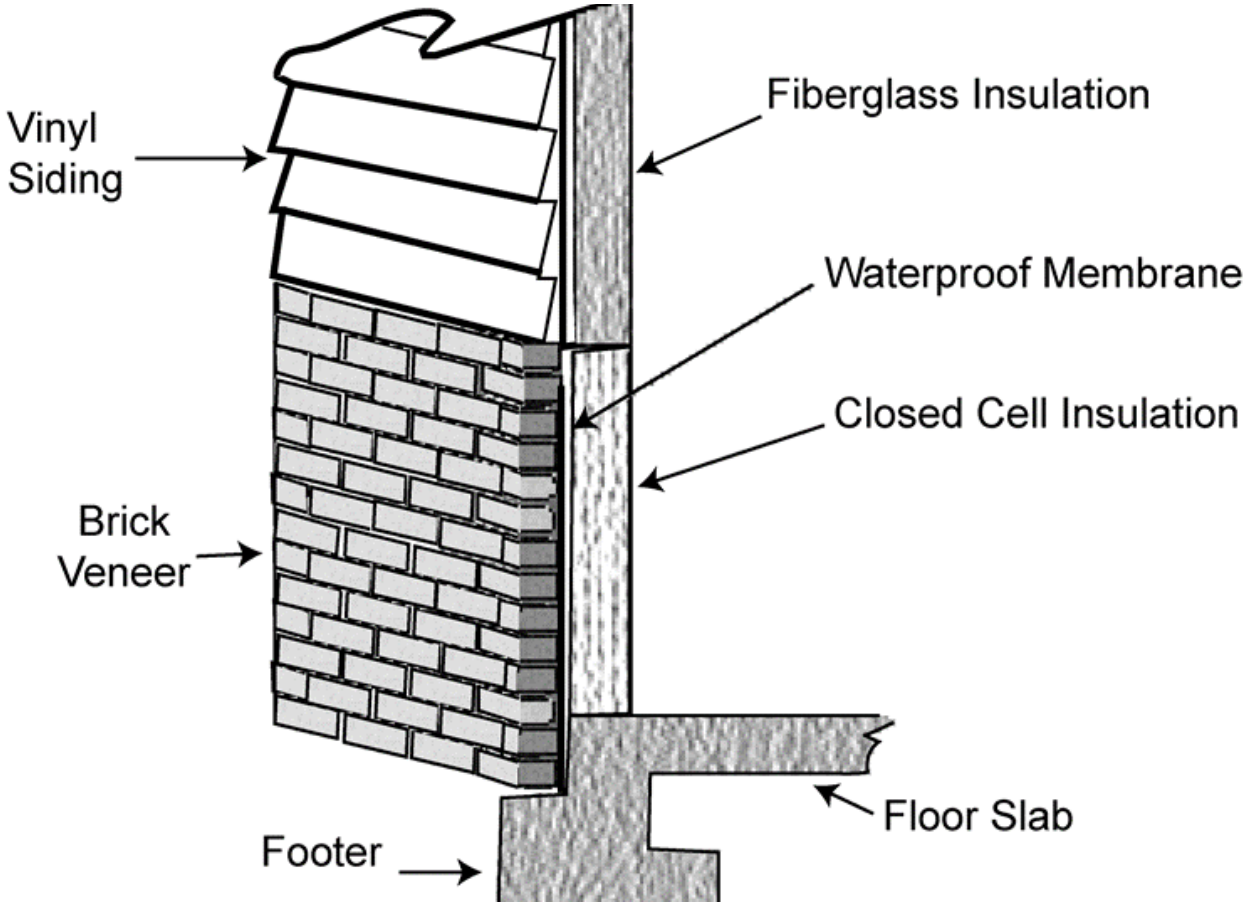
Wall Framing Components



- There are several components that make up exterior walls such as window and door openings.
- However, FEMA simplifies all of these components into the exterior wall line item which encompasses all of these components to include sheathing and is measured by the square foot.

Exterior Wall Covering

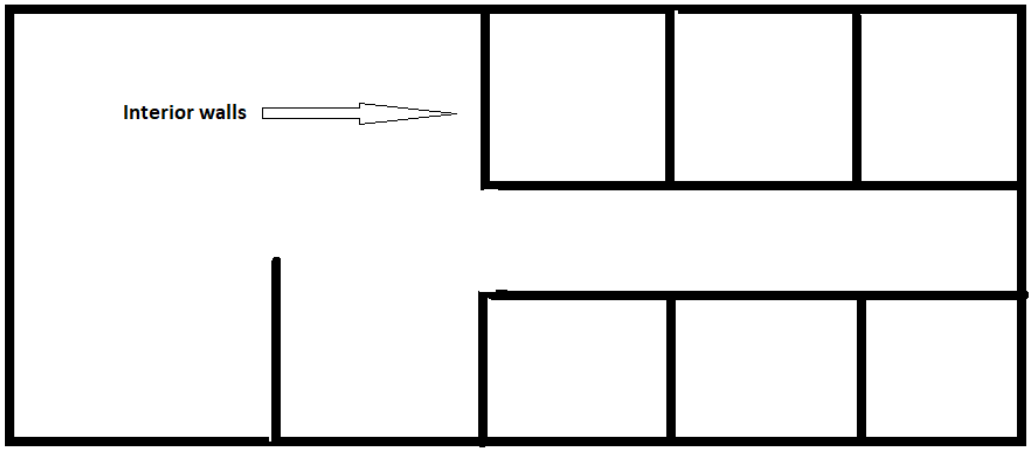
- Exterior wall covering helps waterproof and seal the residence. The exterior wall may include a layer of brick/stone veneer, metal or vinyl siding.
- It is the utmost importance to recognize whether it is brick/stone veneer as opposed to brick/stone wall. It is quite a price difference.



Insulation Types In Floors/Walls/Ceilings

- Fiberglass Rolls – Spun fiberglass is available in several thickness and widths, lengths up to 25 feet in length.
- Fiberglass Batts – Same material as fiberglass rolls, but cut to fit in wall stud cavities.
- Blown In – Usually cellulose (shredded and treated newspaper) insulation that is blown into the wall and ceilings.
- Rigid Foam – made of a fibrous material or plastic foams, it is pressed or extruded into large, plywood-sized sheets.
- FEMA covers wall, and floors ceiling insulation. The only one out of the above types of insulation that is not covered by the insulation line items is the rigid foam and another that is not listed is the spray foam (yellow in color).

Interior Walls



- Interior walls contain the same components as exterior such as door openings.
- Once again FEMA has simplified this down to interior wall replace which encompasses all of these components into one line item.
- Drywall, outlets, and wiring is not included in the interior wall line item.

Interior Wall Finish

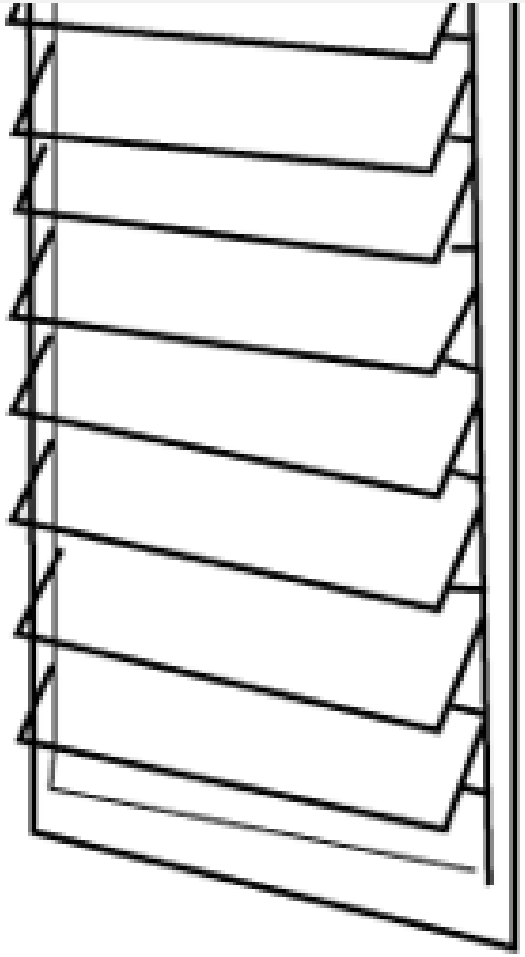
- Drywall, or gypsum board – is made from ground gypsum covered with a heavy paper. The most common sizes are 4’x8’ and 4’x12’.
- Cement Board – Water resistant wall covering with nylon mesh backing or coated with nylon mesh backing or coated hardboard.
- Plaster – Made of sand, lime, and water and applied to a base (lath).
- Paneling – May be made of solid woods but is usually a manufactured wood product painted or covered to create a finished wall surface.
- FEMA recognizes cement board, plaster and paneling as drywall and will be addressed by the square foot.

Floor Covering

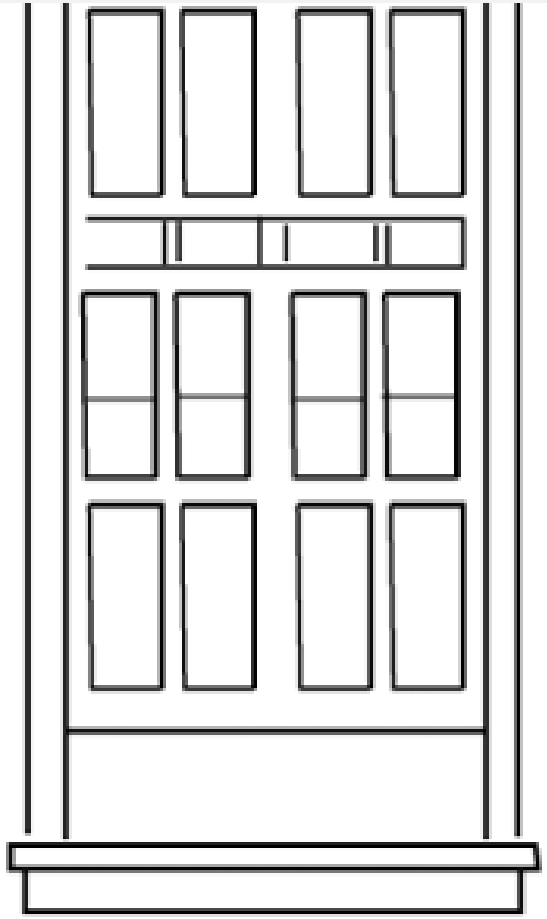
- Hardwood – 3/4 inch tongue and groove. It can range in width from 3 inches to 6 inches.
- Engineered Hardwood – flooring with some sort of composite material with a hardwood laminate attached.
- Vinyl tiles – solid vinyl squares usually in 1 foot squares.
- Linoleum – Continuous sheet similar to vinyl.

SECTION 3: WINDOWS AND DOORS

Windows are generally classified by the way they open and close: fixed, sliding or swinging. Window frames are made from wood, steel, aluminum, vinyl or vinyl clad wood.



Jalousie
(Miami Louver)



Double Hung - Both sashes move
Single Hung - Only lower

Examples of windows

- The louver part of the Jalousie window will be addressed as window glass regardless if the louver is made of metal, glass, or wood. The window louver replace line item is to replace the window in it's entirety.
- The double hung window can be addressed in two ways. Window glass replace, and window replace. Window replace line item is to be used when the sashes or frame has been broken.
- Glazing is the method of securing the glass into the sash usually seen in older wood windows in older houses.

DOORS

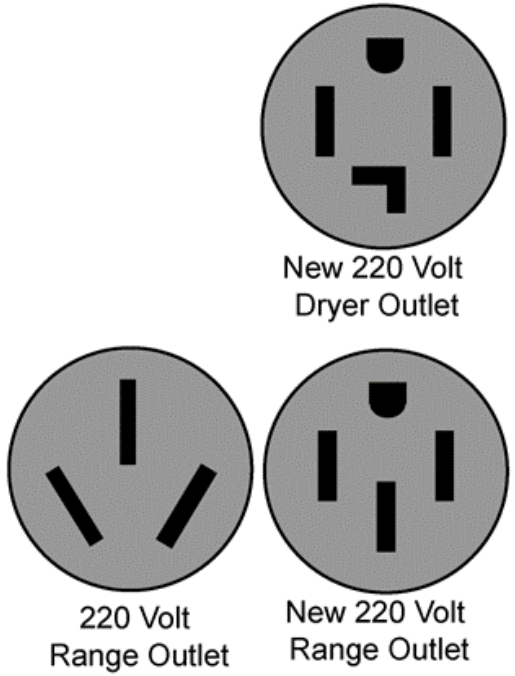
Exterior doors make the residence safe and secure by blocking out inclement weather and temperature extremes as well as providing security to the dwelling.

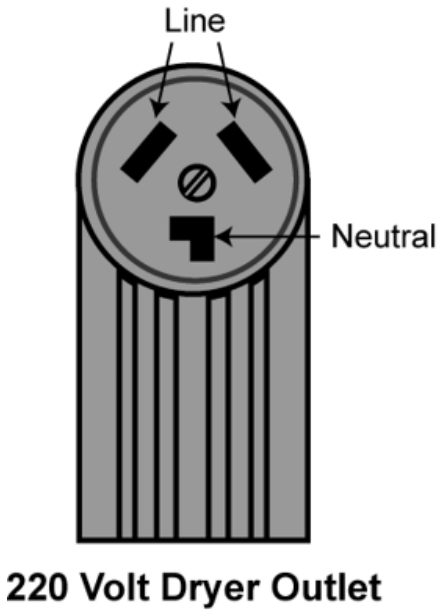
FEMA addresses exterior doors in a few ways.

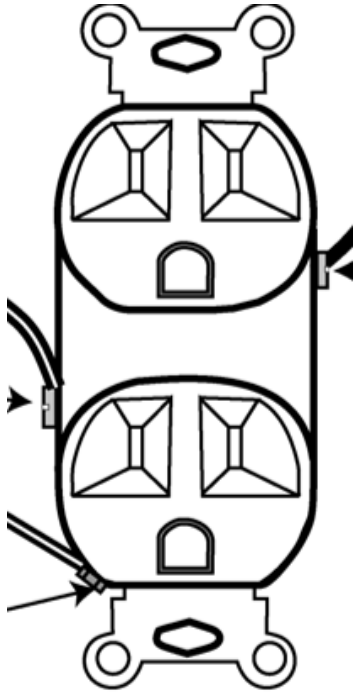
- Door trim and refit – The cost of labor to adjust the frame/jam and fit back into its' opening
- Exterior door replace – To replace the entire exterior door
- Sliding glass door replace - Use to replace a 6' sliding door. Use when frame and/or glass damage presents a security or safety hazard. Sliding door glass is generally not replaceable, the whole unit requires replacement. (This is also used for an exterior French door).
- Screen/storm doors are also addressed in line items.

SECTION 4: ELECTRICAL

Any damage to the electrical system will also need to be addressed. The following slides will cover outlets and wiring, and service entrances, main panel boxes and breakers.







OUTLETS

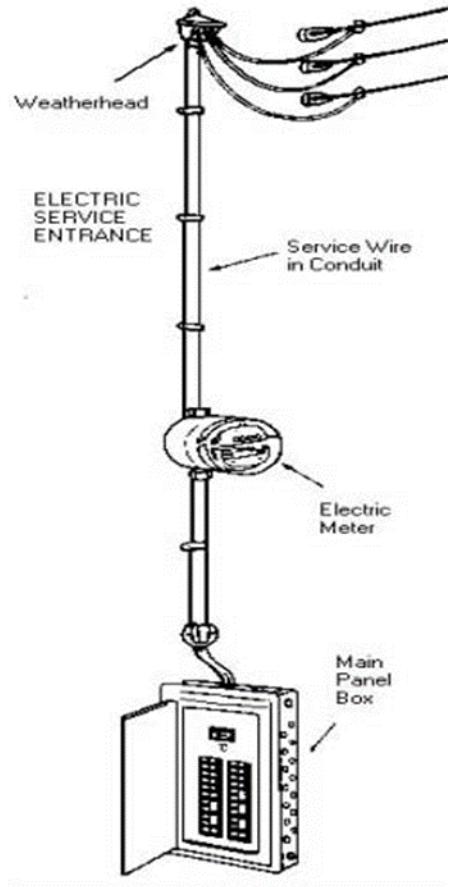
- Common outlets you will see in a residence is the 110 volt outlet, 220 volt outlets for ranges, and dryers. You may also see 220 volt outlets near windows for window air conditioners. Ground fault Interrupter outlets may be found near sinks, and out side the residence.

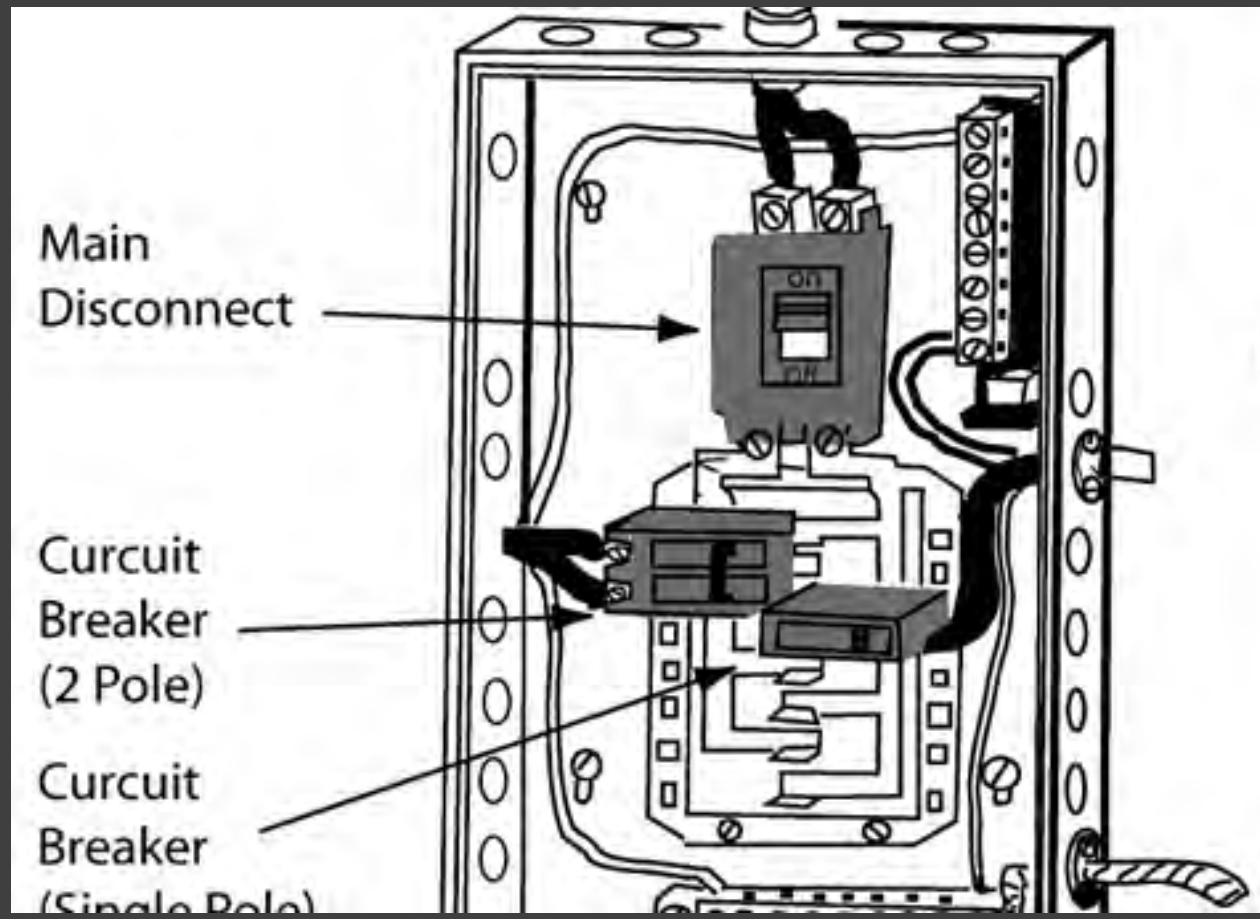
Service Entrance

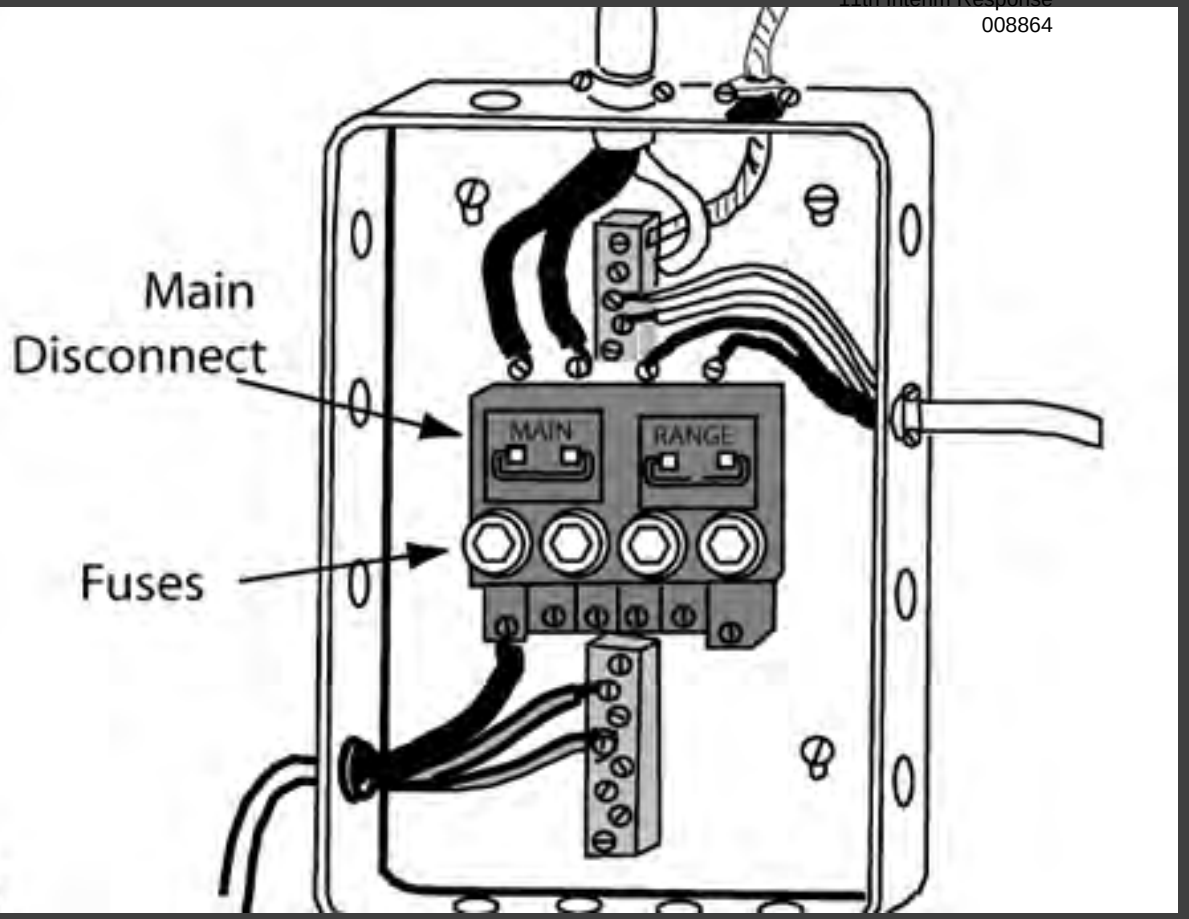
The service entrance contains the following components (starting from the top)

- Weather head
- Mast
- Meter box
- Service wire

The drawing on the right depicts the main panel box, but FEMA's Service Entrance line item covers the above mentioned components.

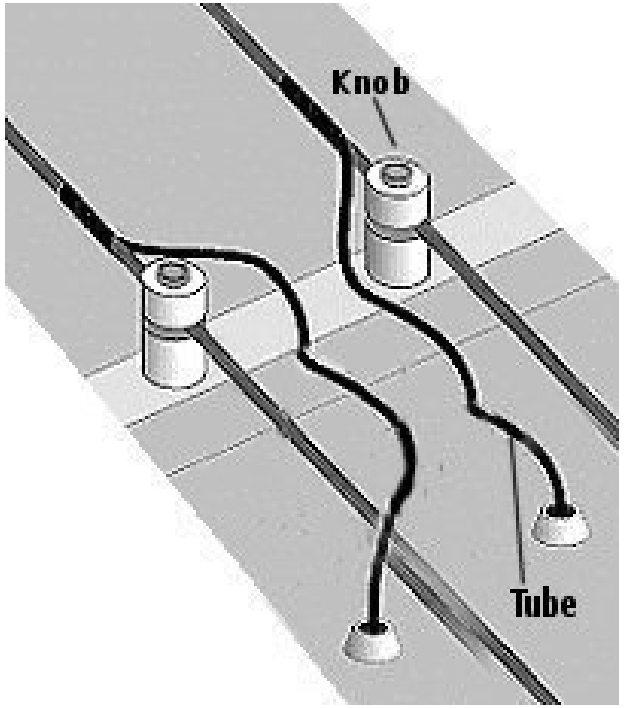


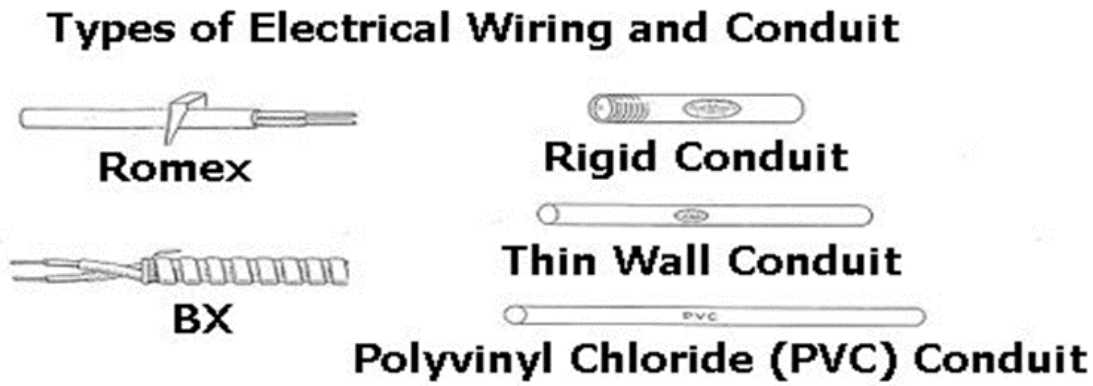




Main Panel

- The main panel contains the main breaker (between 100 amp and 200 amp) and circuit breakers. Commonly circuit breakers are single pole or double pole breakers. Breakers regulate the amount of amperage the circuits throughout the residence takes on. Too much amperage is drawn the breaker SHOULD trip.





WIRING

- Knob and Tub wiring – commonly used in homes before the 1930's. Copper wires covered in rubber or fabric wrap were routed by being clamped to insulating porcelain knobs.
- Romex – Introduced in the early 1960's and widely used today. Romex contains a positive, neutral, and ground wire.
- BX Cable – Contains insulated wiring encased in flexible metal or plastic tubing also known as conduit.

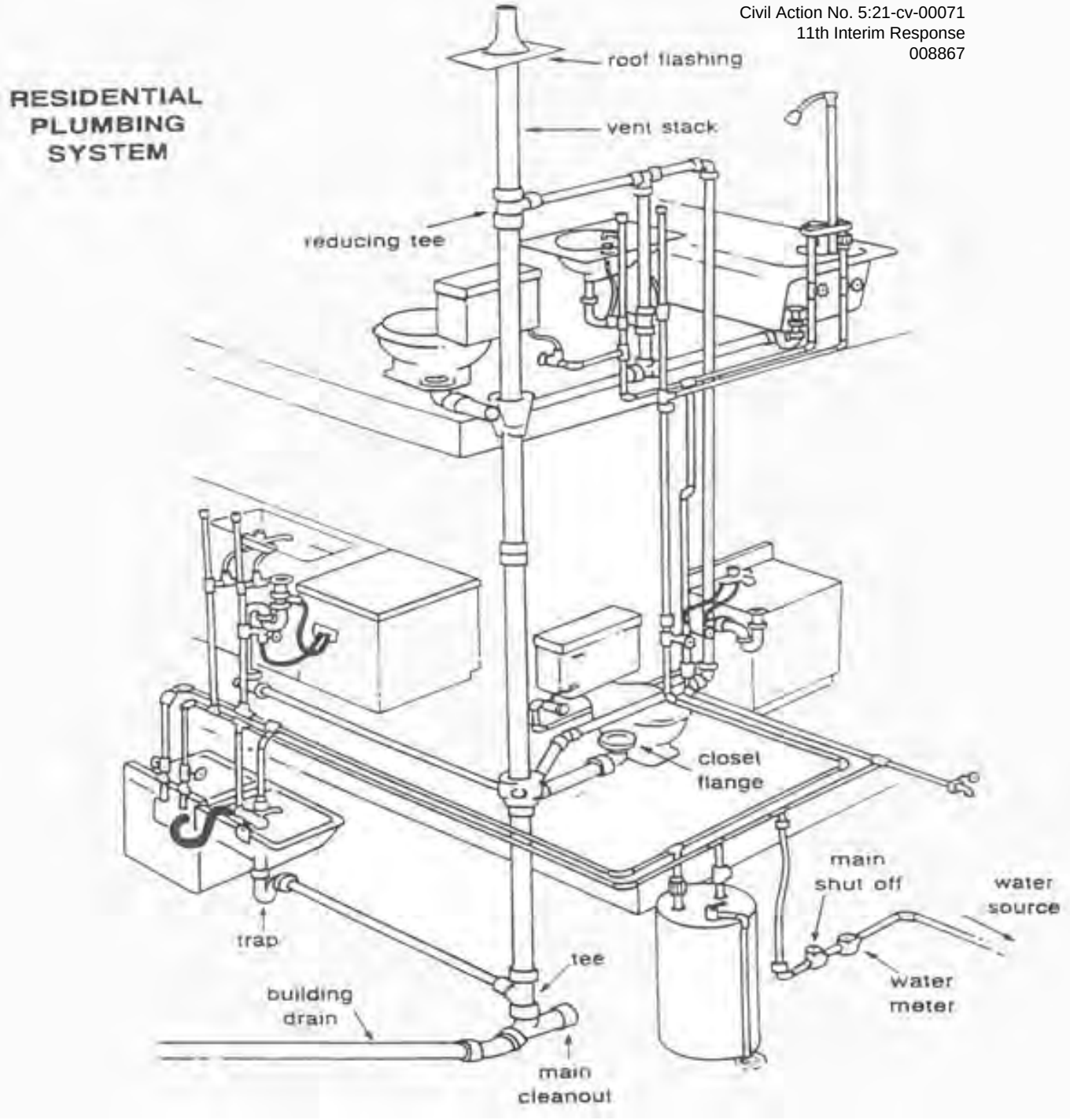
SECTION 5: PLUMBING

Residential plumbing consists of two separate systems: water supply and disposal.

Plumbing is categorized as either rough plumbing (completed before the walls are closed) or finish plumbing. Finish plumbing includes the installation of plumbing fixtures such as sinks, toilets, tubs, and faucets.

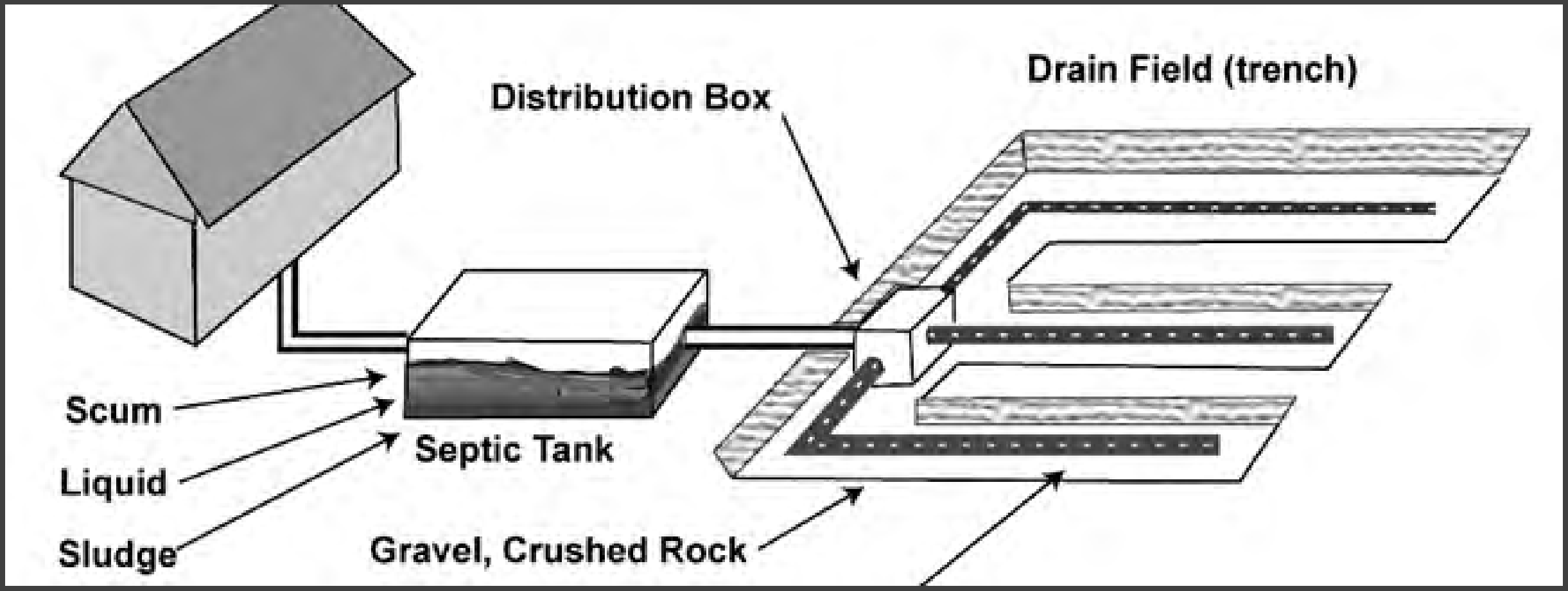
Residential Plumbing System

FEMA will address any damages to essential plumbing components.



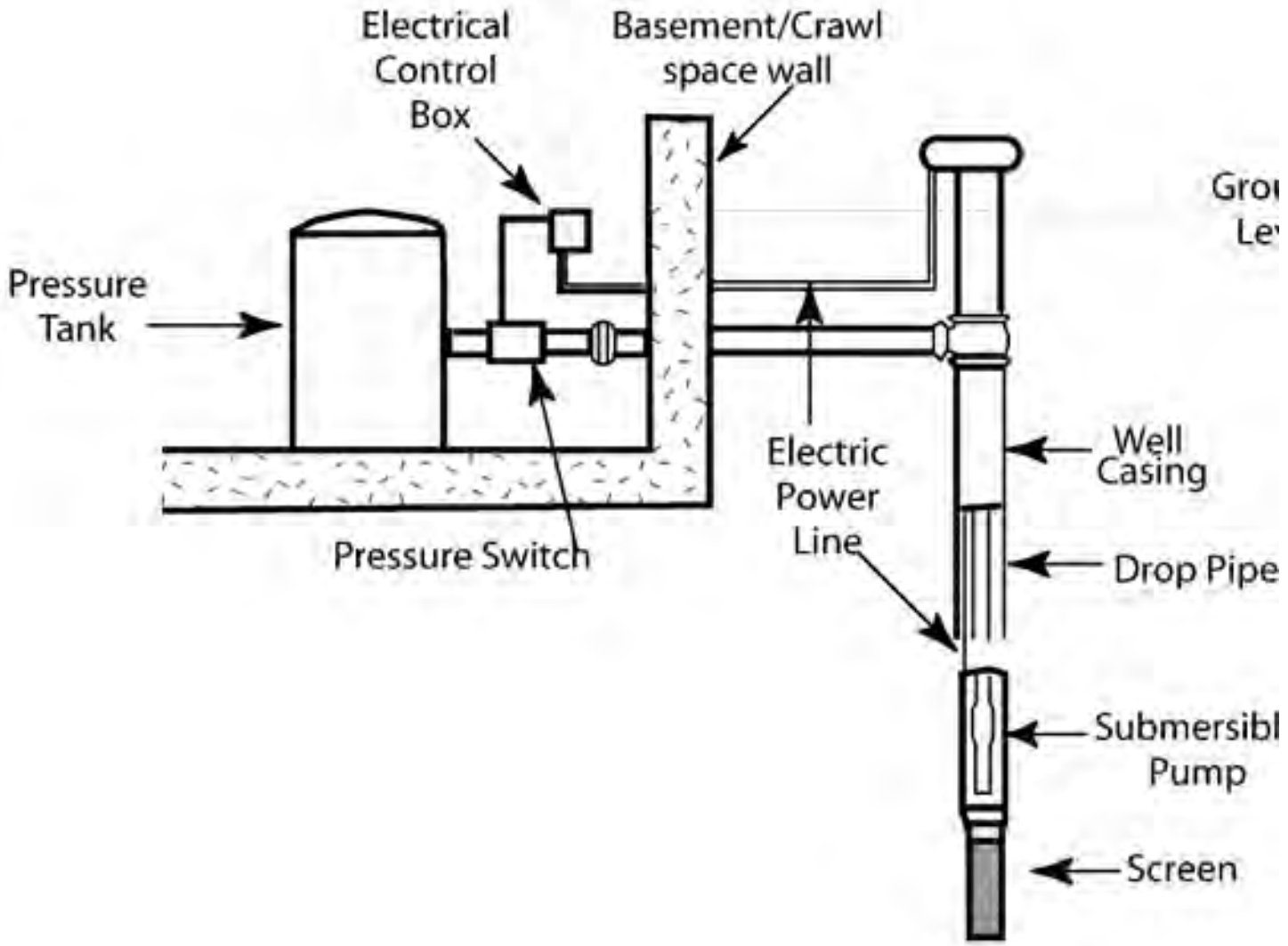
WATER DISPOSAL

- Toilet –Removes waste from the house by sending it into the septic or sewer system and prevents sewer gases from entering the house.
- Septic Tanks – Used when municipal sewage systems are unavailable. A septic system usually consists of a vented septic drain line leading from the house to a septic tank, into a distribution box and finally into a drain field.



WELLS

- Wells are used when public water supplies are not available. Components of a well system are:
- Submersible pump/surface pump – Used to pump water from the water table underground to the house.
- Pressure Tank – Located inside the house, and resembling a small water heater, the tank holds water from the pump at a constant pressure ready for use.
- Pressure Switch – Attached to either the surface pump or the pressure tank to regulate pressure inside the tank.

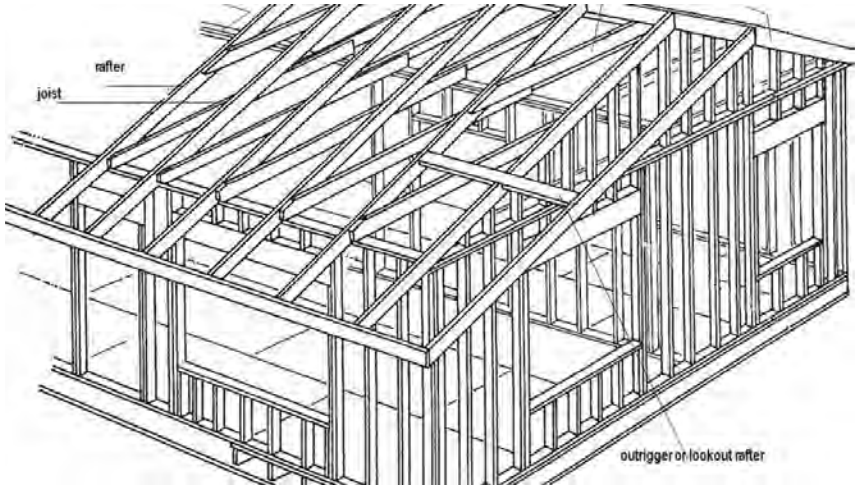


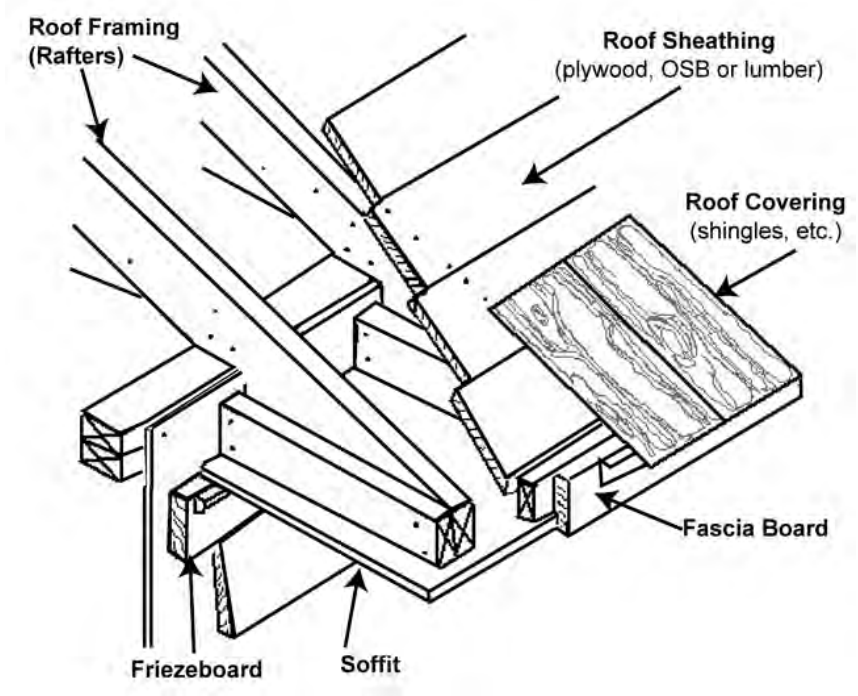
SECTION 6: HVAC SYSTEMS

- Heating, ventilation and Air Conditioning systems cool or heat air and provide home ventilation.
- Majority of homes in North America contain some sort of HVAC or furnace system.
- An exception to this may be in the deep south, Caribbean and Hawaiian Islands.

SECTION 7: ROOFING

Most modern house roof systems are comprised of roof trusses. When replacing a roof system FEMA pricing covers conventional lumber. Ceiling joists not included in the roof framing line item and need to be added as a separate line item.



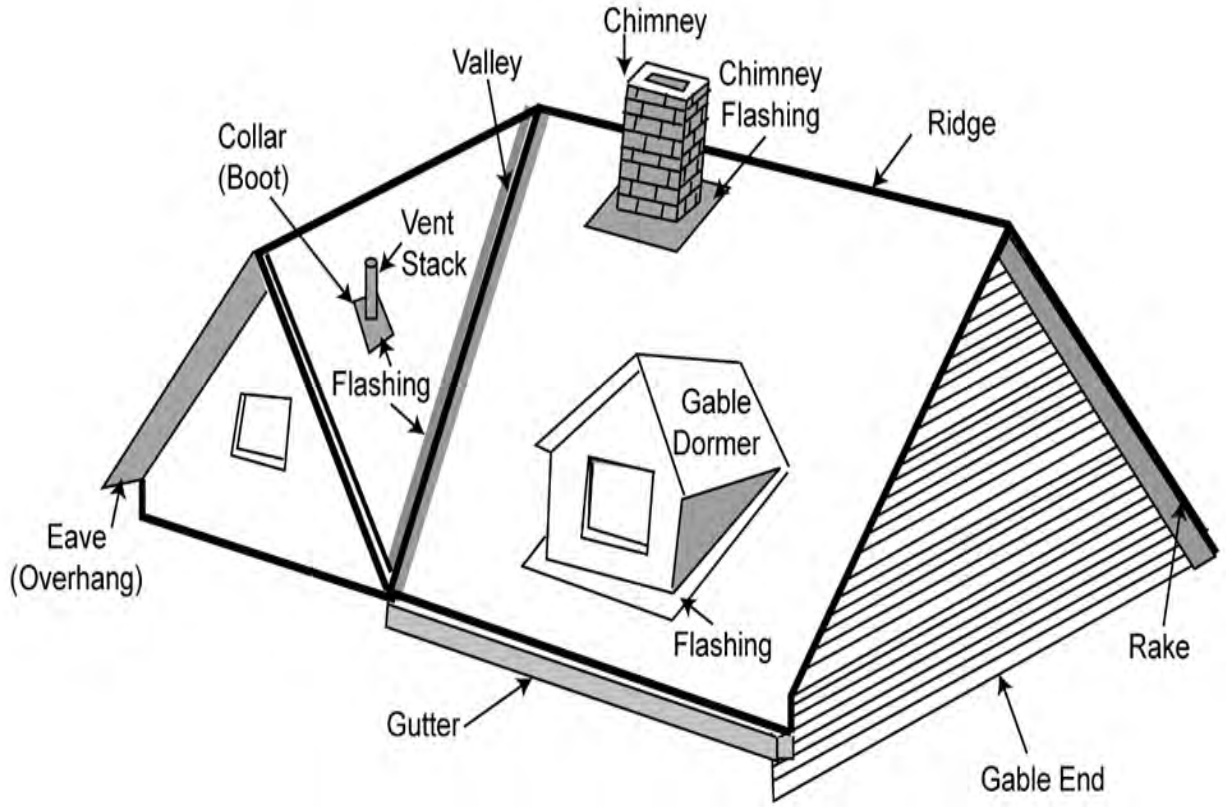


Roof Components

- The Roofing system for a house has four significant sub-systems:
- framing,
- sheathing,
- covering
- Fascia and soffit

Exterior Roof Components

- Components associated with roofing that FEMA covers:
- Flashing
- Ridge vent
- Gutters
- Soffit
- Fascia



Roof Covering

- Roof covering provides protection from precipitation, and temperature extremes.
- There are many types of roof covering, however FEMA looks at just a few.
  - Roof covering – tar paper (felt) and shingles; either three tab or architectural
  - Roof metal – 5V Standing seam, or corrugated metal.
  - Concrete roof – Seen mainly in the islands
  - Roof tile - terracotta, slate or similar type roofing materials.

QUESTIONS????

Federal Emergency Management Agency
Housing Inspection Services

Appeal Assessments Work Instruction

The appeal assessment type will be based on the type of initial assessment completed, either a traditional line item assessment or a remote assessment (damage level).

Goal: Complete a full review of the initial assessment and case history.

Objective: Review is to determine whether an appeal assessment may be completed by a clear, decisive habitability call and were all items addressed on the initial inspection. If it wasn't, the assessor should add or remove personal property, increase or decrease the damage level, and re-evaluate the habitability call.

Work Instructions:

1. Open ***Web*** NEMIS on your desktop.
2. Go to ***Assistance Client***
3. Drop down 1= Disaster, select the disaster you will be working in.
4. Drop down 2= Process, always be sure to select ****APPLICANT INQUIRY****
5. Select **Search**, which will bring up a new search for registrant window.
6. Add Registration Number in Registration ID field. Select Search
7. Select the registration and hit ***OK*** at the bottom of the screen.
8. Review the ***REGISTRANT INFO*** tab.
9. Open the **Events *History*** tab, verify why an appeal assessment was issued.
10. Look over all comments/contacts.
11. Open the **Communication Tab** to search **Correspondence Received.** Good documents to review may be labeled as Appeal Letters, Contractors Estimate, Insurance Documents, etc. To view these documents:
    a. Start with the most current
    b. Select the document
    c. Hit **View full image**
    d. Select open in the pop-up box
12. Go to the ***Assistance Tab, Housing Assistance.*** Look at the Home Repair category to review previous determinations.
13. Go to the ***PP/*Other Assistance** Tab to review previous determinations of PP/ ONA granted.
14. Select the **Inspection History Tab** then go to the **REAL PROPERTY** tab to review separated line items addressed or level of damage in the Initial assessment (be sure you are looking at the latest sequence).
15. Select the **Inspection History Tab** then go to the **PERSONAL PROPERTY** tab to review separated room furnishings and appliances addressed in the initial assessment (be sure you are looking at the latest sequence).
16. Select the ***INSPECTION HISTORY tab*** and choose Events/Comments to review the previous Assessors Comments.

17. Select the **EVENTS HISORY tab** to view all the events and comments.

Steps for Desktop review of an Appeal Remote Assessment (Levels of Damage):

1. During review check the registration status on the applicant info screen to see if the GIS_DEST stamp is there prior to completing the Remote Assessment/Traditional Inspection. If the GIS_DEST isn't there, then verify if there are 2 or more major structural components compromised.
2. Review any related Disaster Specific addendums.
3. Keep in mind NCD, cost vs. repair, feasibility, and additional items used to bring homes up to an area building code, are factors to look out for and not to include.
4. Gather information from the documentation in NEMIS and/or any calls with contractor.
5. Conduct a call to the applicant for a complete Remote Appeal Assessment, pay special attention to any appeal items listed in ACE comments.
6. Use the remote inspection job aid tool to match up this information with the appropriate damage level, service call changes, and habitability determination.
7. Select "Yes" for remote inspection button on app info screen.
8. Add a comment in ACE stating Complete Remote Appeal assessment with special attention to what was addressed to the items listed in the appeal request
9. Service calls are permitted in these appeals at assessors' discretion.
10. Utilize Video whenever there is an opportunity to view damage to assist in inspection determination.
    a. When successful at utilizing video add applicable VV line item.

Steps for Desktop review of an Appeal Inspection (Traditional Line Item):

1. During review check the registration status on the applicant info screen to see if the GIS_DEST stamp is there prior to completing the Remote Assessment/Traditional Inspection. If the GIS_DEST isn't there, then verify if there are 2 or more structural components compromised.
2. Review any related Disaster Specific addendums.
3. Keep in mind NCD, cost vs. repair, feasibility, and additional items used to bring homes up to an area building code, are factors to look out for and not to include.
4. Gather information from the documentation in NEMIS and/or any calls with contractor.
5. Conduct a call to the applicant for a complete Remote Appeal Assessment, pay special attention to any appeal items listed in ACE comments.
6. After careful consideration of review of documents, courtesy calls to contractors at assessor's discretion, determine if the damage and habitability call was correctly addressed on the initial inspection. If it wasn't, the assessor should add or remove personal property, add any applicable line items, and re-evaluate the habitability call.
7. Select "Yes" for remote inspection button on app info screen.
8. Add any comment in ACE stating Complete Remote Appeal assessment with special attention to what was addressed to the items listed in the appeal request.
9. Utilize Video whenever there is an opportunity to view damage to assist in inspection determination.
    a. When successful at utilizing video add applicable VV line item.
10. Change Photo ID verification to "NO" in Ace.

a. If initial Assessment has an OWN/OCC verification selected as anything besides FEMA verified leave it alone and comment OWN/OCC verification = “Offsite Appeal Assessment Completed”
b. If the initial Assessment has OWN/OCC not verified comment “OWN/OCC Not Verified = OFFSITE Assessment Completed”
c. If OWN/OCC has been verified by FEMA follow normal guidance on the comment.

FEMA Assessors Damage Assessment Work Instruction

1. Initial Remote Assessment

Assessors must attempt to maintain a quiet work area free of background noise.

1. Contact Applicant; conduct assessment at time of contact or schedule a date and time.
    a. Document the date and time of the attempts when contacting applicant. Attempt to contact via call, text, email over a 3-day period, during different days, at different times
    b. If unable to contact applicant, return the assessment as Unable to Contact on the 4th day.
2. Encourage applicant to use the Video option by outlining the benefits of video streaming. Be sure to relate the technical parameters, inform them they will need to be on site with good cellular signal and a well charged device battery for the video assessment. Examples of benefits of video streaming are as follows.
    a. It is easier to display damages instead of describing damages
    b. It expedites the application process by minimizing the need for follow up assessments
    c. It ensures the assessor accurately identifies all damaged items in the home
3. Assessor should conduct the assessment and video validation all in the same appointment. If an applicant is unable to conduct the video portion of the assessment at the time of contact, the assessment will need to be rescheduled to accommodate video.
4. Follow Instructions for Video Streaming Work instruction and VV Video Codes if a video is conducted. If an applicant is not a candidate for video streaming, assessor must insert an X code into Disaster Specific - Special Conditions. Do not insert a VV code ***AND*** X code
    a. Video Streaming Work Instruction (Ctrl + Click to follow blue link)
    b. VV Code Guidance (Ctrl + Click to follow blue link)
    c. X Code Guidance (Ctrl + Click to follow blue link)
5. Follow current Remote Housing Inspection Job Aid, Disaster Specific Information, and Ace 4 User Guide.

6. Begin the remote assessment by verifying App info screen, Home info screen, losses, and expenses screen, and ask the vehicle damage question. Change Photo ID verification to “NO” in Ace. No IDs can be verified remotely. Make sure Remote is selected as YES on App info screen.
7. Complete the Build Home Screen.
8. Verify all disaster caused interior and exterior RP damages, as well as interior furnishings and appliances damages on a room by room basis, by asking any off script clarifying questions as you deem necessary from your experience and from the information the applicant provides.
9. Utilizing the current Remote Assessment Job Aid determine and record the appropriate RP damage level based on the applicant’s statements of relevant disaster caused damages. For an Owner, record damages in the exterior room. For a renter, record the applicable Minor, Moderate or Major damage selection on the wrap up screen in Habitability compromised box.
    a. For Owners, record service calls as warranted in the Exterior of Home
10. Record all affected and not affected Appliances, in all rooms of the home.
11. Record all affected and not affected Furnishings in all essential rooms.
12. Review the assessment summary screen in ACE for possible errors, example; incorrect COD recorded. Then validate and communicate the assessment as soon as possible.

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b. Disaster Specific Page (Ctrl + Click to follow blue link)
c. Ace 4 User Guide (Ctrl + Click to follow blue link)

2. Appeal Remote Assessment

1. Prior to performing the assessment, check the registration status on the applicant info screen to verify if the GIS_DEST stamp is present. If no GIS_DEST stamp, then verify the dwelling meets the FEMA definition of Destroyed.
2. Review any related Disaster Specific addendums
3. Be cautious of repairs that do not align with the disaster caused damages. Do not record damaged items not caused by the disaster, feasibility concerns, or additional items used to bring homes up to an area building code
4. Gather information from the documentation in Web NEMIS or any calls with contractor. Web NEMIS directions can be found in the end of this document or by clicking here Web NEMIS Directions (Ctrl + Click to follow blue link)
5. Contact Applicant; conduct assessment at time of contact or schedule a date and time. Pay special attention to any appeal items listed in ACE comments and gathered from prior research
    a. Document the date and time of the attempts when contacting applicant. Attempt to contact via call, text, email over a 3-day period, during different days, at different times
    b. If unable to contact applicant, return the assessment as Unable to Contact on the 4th day.
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    c. X Code Guidance (Ctrl + Click to follow blue link)

9. Follow current Remote Housing Inspection Job Aid, Disaster Specific Information, and Ace 4 User Guide.
10. Change Photo ID verification to "NO" in Ace. No IDs can be verified remotely. Make sure Remote is selected as YES on App info screen
11. Ownership and Occupancy
    a. If initial assessment has an OWN/OCC verification selected as anything other than FEMA verified leave it alone and comment OWN/OCC verification = "Offsite ~~Appeal~~ Assessment Completed"
    b. If the initial assessment has OWN/OCC not verified comment OWN/OCC Not Verified = "Per FEMA Instruction"
    c. If OWN/OCC has been verified by FEMA comment "OWN/OCC verification obtained by FEMA".
12. Damage levels can be increased, decreased, or removed
    a. For Owners: confirm, add, or remove service calls as warranted in the Exterior of Home
13. If there are any EV, IV, or VV codes that are no longer relevant, remove them from the appeal assessment.
14. Add a comment in ACE stating "Complete Remote Appeal assessment with special attention to:" and describe what was addressed in the appeal request
15. Review the assessment summary screen in ACE for possible errors, example; incorrect COD recorded. Then validate and communicate the assessment as soon as possible.

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3. Initial Onsite Assessment

Current COVID 19 Safety protocols are required for all Onsite Assessments.

All onsite assessments required a site visit

A Valid Photo ID from the applicant will be required on all Onsite Assessments.

1. Contact Applicant, explain to the applicant that you need to schedule an appointment to meet them at their home to perform a Damage Assessment with an exterior validation. Explain we are required to view a valid government issued photo ID at the scheduled appointment, while following current COVID 19 safety requirements. State that you will not be entering their home. If the applicant cannot meet at the DD to provide the ID, the assessor will attempt to meet at a neutral location within 30 minutes of the applicants DD address. Do not meet in hotel rooms, but hotel parking lots are acceptable.
    a. If the applicant will not meet the assessor to provide valid photo ID in a timely manner (per current ACE Users Guide), the assessment will be withdrawn using the scenario “cannot meet in a timely manner” and comment on the issue.
    b. Document the date and time of the attempts when contacting applicant. Attempt to contact via call, text, email over a 3-day period, during different days, at different times. It is required to Post the house at least 1 time during these attempts.
        i. Posting DD. while posting the dwelling the assessor will knock on the door and step back 6-10ft with a mask on. If applicant or resident answers the door the assessor will identify themselves and explain the assessment process. Assessor should attempt to complete the assessment or make an appointment if the app is not available or does not want to complete at that time.
        ii. When posting the DD, and the resident with the same name states they did not apply for FEMA assistance (Possible Identity Theft). Withdraw the assessment and select scenario “App Changed mind” and comment “App did not apply”.
    c. If unable to contact applicant, return the assessment as Unable to Contact on the 4th day.
2. Video streaming Is *optional* for onsite assessments. However, benefits are as follows.
    a. It is easier to display damages instead of describing damages
    b. It expedites the application process by minimizing the need for follow up assessments
    c. It ensures the assessor accurately identifies all damaged items in the home
    d. Follow Video Streaming Work Instruction and VV Code Guidance (Ctrl + Click to follow blue link

Completing the Onsite Damage Assessment

1) Show the applicant your FEMA PIV badge (example-through vehicle window or DD window). Remember to not allow photos taken of your badge per DHS policy.
2) Verify valid government photo ID. If the applicant arrives at the scheduled appointment without a valid photo ID, the assessor will require the applicant to provide the last 4 digits of their FEMA registration number. Complete the assessment and Change Photo ID verification to "NO". Comment on the issue.
3) Follow current Remote Housing Inspection Job Aid, Disaster Specific Information, and Ace 4 User Guide.
4) Begin the assessment by verifying App info screen, Home info screen, losses and expenses screen, and any vehicle damages.
5) Build the home with the applicant from the exterior.
6) *For <u>owner</u> onsite damage assessments with COD wind, a damage level 5 in the job aid will be authorized for use, only if damages meet the current COD wind damage level 5 matrix provided for the disaster. Destroyed can also be used if it meets ACE guide definitions of destroyed.*
7) If approved by the applicant, do a complete onsite validation of exterior damages of the home. If the applicant does not approve access to the exterior of their home and property, complete the validation of all exterior damages from a public road.
8) Take photos with your FEMA issued phone. Photos should include a full view of the DD, and any exterior items that affect habitability, including service calls.
9) Utilizing the current Remote Assessment Job Aid determine and record the appropriate RP damage level based on the observed disaster caused damages. <u>For an Owner</u>, record damages in the exterior room. <u>For a renter</u>, record the applicable Minor, Moderate or Major damage selection on the wrap up screen in Habitability compromised box.
    a. For Owners, record service calls as warranted in the Exterior of Home
10) Record "EV1" in the exterior. This indicates an exterior site visit was completed.
    a. For owner assessments in ACE record the RP line item "EV1" in exterior
    b. For renter assessments in ACE record a not affected "EV1" appliance in the exterior.
11) In ACE comments enter a required statement describing the damages that support the RP or PP damages recorded in the assessment. The comments should give good general details. Example *"EV1 = Tree fell on left side of house over bedroom causing…"*
12) Review the "Wrap Up" screen in ACE.
13) Review the assessment summary screen in ACE for possible errors, example; incorrect COD recorded. Then validate and communicate the assessment as soon as possible.

4. Reinspects – Standard

Standard Reinspect – Valid ID must be viewed or commented on reason why not viewed

1) Follow same guidance for Onsite assessment through step 8.
2) Utilizing the current Remote Assessment Job Aid confirm or change any damage level based on the observed disaster caused damages. Make sure personal property and furnishing damages are supported by the observed exterior damage. Exterior damage levels can be increased, decreased, or removed. For an Owner, record damages in the exterior room. For a renter, record the applicable Minor, Moderate or Major damage selection on the wrap up screen in Habitability compromised box.
    a. For Owners: confirm, add, or remove service calls as warranted in the Exterior of Home
3) If there are any EV, IV, or VV codes that are no longer relevant, remove them from the Reinspect assessment.
4) Record "EV1" in the exterior. This indicates an exterior site visit was completed.
    a. For owner assessments in ACE record the RP line item "EV1" in exterior
    b. For renter assessments in ACE record a not affected "EV1" appliance in the exterior.
5) In ACE comments enter a required statement describing the damages that support the RP or PP damages recorded in the assessment. The comments should give good general details. Example *"EV1 = Tree fell on left side of house over bedroom causing…"*
6) Review the assessment summary screen in ACE for possible errors, example; incorrect COD recorded. Then validate and communicate the assessment as soon as possible.

5. Reinspects – Red Flag

Red Flag Reinspect - Valid ID must be viewed or commented on reason why not viewed

Red Flags are identified by a comment in the inspection from the HOST. The comment will read:

"Confirm applicant ID and degree of damage".

Follow same guidance for Onsite assessment through step 8.

Scenario 1: When you are unable to contact the applicant or the app is unwilling to meet, the home appears vacant and/or neighbors state it has been vacant.

a. Remove damage level, personal property and furnishings from the assessment.
b. If there are any EV, IV, or VV codes that are no longer relevant, remove them from the Reinspect assessment.
c. Record "EV1" in the exterior. This indicates an exterior site visit was completed.
d. Mark the Possible NPR Special Condition and make a clear comment on the situation. Example: Spoke with neighbor who stated the home was vacant prior to incident. Do not record neighbors name in assessment
e. Return as complete.

Scenario 2: When you are unable to contact the applicant, there are no indications the home was vacant, and disaster caused damages exist, perform a complete assessment of damages.

a. Exterior damage levels can be increased, decreased, or removed
b. If there are any EV, IV, or VV codes that are no longer relevant, remove them from the Reinspect assessment.
c. Record "EV1" in the exterior. This indicates an exterior site visit was completed.
d. Do not make changes to personal property or furnishings unless they are excessive based on exterior damages present.
e. In Special Conditions select Disaster Specific and comment "X5" and add the dates and times of contact attempts and posting.
f. Return as complete.

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6. Video Streaming Work Instruction

1. Follow the current version of the Job Aid, reading the prescribed (Read This First) statements.
2. Follow the current version of the Job Aid Guidance, filling out the App Info, Home Info, and Losses/Expenses screens on the Tablet.
3. Complete the Build Home Screen.
4. Ask the Applicant if they are ready to proceed to the video portion of the assessment.
5. Read the Safety and Disclaimer Statement:
    a. Video is encouraged to help expedite disaster assistance needs and video helps establish an accurate view of disaster caused damages. As a reminder, video is not mandatory to receive disaster assistance.
    b. This video live stream will not be recorded nor will pictures be taken of your damage during this video live stream. We ask that you do not video record or take pictures during this time. Any information obtained during this video live stream is intended to only view damage to your residence cause by the disaster.
    c. Inform the Applicant that they should not put themselves in harm's way or take any personal safety risk in order to show video to the assessor, that they should not access any unsafe area of the dwelling, or any unsafe area surrounding the dwelling.
    d. Remind the applicant that you cannot view documents or PII on video, that the video should only show disaster caused damages to property.
6. Prior to starting video explain to the applicant, you will need to view ~~review~~ the entire property. You will start on the interior moving room to room and then to the exterior of the home (or vice versa). Remind the applicant to focus their camera on all disaster caused damages through this process.
7. Request that the applicant take a tour around the exterior of the home focusing on the disaster caused RP damages. Select the Damage Level from the Remote Assessment Job Aid that best describes the viewed damage from the speed estimating tab. <u>For an Owner</u>, record damages in the exterior room. <u>For a renter</u>, record the applicable Minor, Moderate or Major damage selection on the wrap up screen in Habitability compromised box.
    a. For Owners, review and record service calls as warranted in the Exterior of Home
8. Ask the applicant to move to the interior of the home and request that the App scan the first room to show the Assessor all appliances/furnishings, pausing on any damaged appliances/furnishings. (Follow up with questions to clarify damage levels, etc. as necessary)
9. Repeat this process for all rooms in the home.
10. Remember for damage verification, to select "viewed" for damages viewed using video and "verbal" for damages that were not viewed.

11. Insert VV Code (Ctrl + Click to follow blue link)
12. Ask the Applicant the Vehicle Damage question and follow the current Remote Job Aid guidance for addressing vehicle damage. No vehicle documents will be viewed via video.
13. Ask the Applicant if there are any other damages that have not been discussed or viewed
14. Record all required data fields on the Wrap Up screen.
15. Read the prescribed statements (Read This Last) from the Job Aid.
16. Complete the assessment and run validation check, correcting/overriding any validation errors.
17. Review the assessment in the summary.
18. Communicate the completed Assessment to the Host as soon as possible.

7. WEB NEMIS Instructions

1. Open Web NEMIS on your desktop. Web Nemis (Ctrl + Click to follow blue link)
2. In the Disaster dropdown, select the correct disaster for the appeal
3. In the Process dropdown, select applicant inquiry
4. Subque will remain blank
5. Select Search to bring up a new search for registrant window.
6. Add Registration Number in Registration ID field, then Select Search
7. Select the registration and select OK at the bottom of the screen
8. Review the Registrant info tab
9. Open the Events History tab, verify the purpose of the appeal assessment
10. Look over all comments and contacts.
11. Open the Communication Tab to search Correspondence Received. Suggested documents to review may be labeled as Appeal Letters, Contractors Estimate, Insurance Documents, etc. To view these documents:
    a. Start with the most current document
    b. Under “View Document” column select blue text
    c. Select View full image at top
    d. Select Open near bottom of computer screen
12. Go to the Assistance Tab, Housing Assistance. View the Home Repair category to review previous determinations.
13. Go to the PP/Other Assistance Tab to review previous determinations of PP/ ONA granted.
14. Select the Inspection History Tab then go to the REAL PROPERTY tab to review separated line items addressed or level of damage in the Initial assessment. Be sure to view the latest sequence number.
15. Select the Inspection History Tab then go to the PERSONAL PROPERTY tab to review separated room furnishings and appliances addressed in the initial assessment. Be sure to view the latest sequence number.
16. Select the Inspection History tab and choose Events/Comments to review the previous Assessors Comments.
17. Select the EVENTS HISORY tab to view all the events and comments.
18. Perform Appeal assessment

X Code Guidance Page

Initial Remote and Remote Appeal use only

Do not use this document if the assessor is deployed for Onsite Initial, Onsite Reinspect, or Onsite Red Flag Reinspect. ***No X codes are required for Onsite Initial, Onsite Reinspect or Onsite Red Flag Reinspect***

X Codes are entered in the Disaster Specific Conditions – Special Conditions of the Wrap Up screen in the Automated Construction Estimator (ACE) software. An X code **must** be used if the assessor did not use a video assisted assessment during a remote initial or remote appeal assessment. X codes are used to describe the reason a video was not conducted.

When entering an X code, it is important that only the letter X, followed by the correct Number is entered. Do not type out the definition of the X code.

Example

- Assessor has determined applicant does not have the technology to do a video stream but would be interested if they did.
- Assessor identifies the correct X code as X1 = Interested but no internet or technology
- Assessor *only* enters X1 into comment box in Special Conditions

X Codes

X1 = Interested but no internet or technology
X2 = Not interested even though they have technology
X3 = Not interested and does not have technology
X4 = Unable to return to damaged home

VV Code Guidance Page

Departmental goals are to use the video streaming service as often as possible. This is known as Video Validation, or VV. Video streaming can increase operation efficiency by reducing the need for a physical assessment, while providing the assessor a clear understanding of the damages. When an assessor uses a video assisted assessment, it must be indicated in their report.

It is important to note, there are no instances where an X code and VV code are used together.

Also, remember to select "VIEWED" if damaging an item and it has been viewed.

VV Codes	*For Owners*	*For Renters*
Initial Assessment Standard Reinspect Red Flag Reinspect	1. Build Home Screen 2. Select Exterior 3. Structure Tab 4. Speed Estimating 5. VV Initial 6. Select Disaster COD 7. Add Quantity of 1 8. Add Item	1. Build Home Screen 2. Select Exterior 3. Appliance Tab 4. VV Initial 5. Not Affected
	Record all in Exterior	

VV Codes	*For Owners*	*For Renters*
Appeal Assessment	1. Build Home Screen 2. Select Exterior 3. Structure Tab 4. Speed Estimating 5. VV Appeal 6. Select Disaster COD 7. Add Quantity of 1 8. Add Item	1. Build Home Screen 2. Select Exterior 3. Appliance Tab 4. VV Appeal 5. Not Affected
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    b. It expedites the application process by minimizing the need for follow up assessments
    c. It ensures the assessor accurately identifies all damaged items in the home
3. Assessor should conduct the assessment and video validation all in the same appointment. If an applicant is unable to conduct the video portion of the assessment at the time of contact, the assessment will need to be rescheduled to accommodate video.
4. Follow Instructions for Video Streaming Work instruction and VV Video Codes if a video is conducted. If an applicant is not a candidate for video streaming, assessor must insert an X code into Disaster Specific - Special Conditions. Do not insert a VV code *AND* X code
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    a. If the applicant will not or cannot meet the assessor to provide valid photo ID in a timely manner (per current ACE Users Guide), the assessment will be withdrawn using the scenario "cannot meet in a timely manner" and comment on the issue.
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    c. It ensures the assessor accurately identifies all damaged items in the home
    d. Follow Video Streaming Work Instruction and VV Code Guidance (Ctrl + Click to follow blue link

Completing the Onsite Damage Assessment

1) Meet and show the applicant your FEMA PIV badge (example-through vehicle window or DD window). Remember to not allow photos taken of your badge per DHS policy.
2) Verify valid government photo ID. If the applicant arrives at the scheduled appointment without a valid photo ID, the assessor will require the applicant to provide the last 4 digits of their FEMA registration number. Complete the assessment and Change Photo ID verification to "NO". Comment on the issue.
3) Follow current Remote Housing Inspection Job Aid Scripts, privacy act statements, current On-Site Damage Level Assessment Instruction, Disaster Specific Information, and Ace 4 User Guide.
4) Begin the assessment by verifying App info screen, Home info screen, losses and expenses screen, and any vehicle damages.
5) Build the home with the applicant from the exterior.
6) Do a complete onsite validation of exterior damages of the home.
7) Take photos with FEMA issued phone. Photos should include a full view of the DD, and any exterior disaster caused damages that affect habitability, including service calls.
8) Utilizing the current "On-Site Damage Level Assessment" instruction/Matrix located in HIS SharePoint-Shared Documents, determine, and record the appropriate RP damage level based on the observed disaster caused damages. For an Owner, record damages in the exterior room. For a renter, record the applicable Minor, Moderate, Major damage or Destroyed selection on the wrap up screen in Habitability compromised box.
    a. For Owners, record service calls as warranted in the Exterior of Home
9) Record "EV1" in the exterior. This indicates an exterior site visit was completed.
    b. For owner assessments in ACE record the RP line item "EV1" in exterior
    c. For renter assessments in ACE record a not affected "EV1" appliance in the exterior.
10) In ACE comments enter a required statement describing the damages that support the RP or PP damages recorded in the assessment. The comments should give good general details. Example *"EV1 = Tree fell on left side of house over bedroom causing…"*
11) Review the "Wrap Up" screen in ACE.
12) Review the assessment summary screen in ACE for possible errors, example; incorrect COD recorded. Then validate and communicate the assessment as soon as possible.

4. Reinspects – Standard

Standard Reinspect – Valid ID must be viewed or commented on reason why not viewed

1) Follow same guidance for Onsite assessment through step 8.
2) Utilizing the current Remote Assessment Job Aid confirm or change any damage level based on the observed disaster caused damages. Make sure personal property and furnishing damages are supported by the observed exterior damage. Exterior damage levels can be increased, decreased, or removed. For an Owner, record damages in the exterior room. For a renter, record the applicable Minor, Moderate or Major damage selection on the wrap up screen in Habitability compromised box.
    a. For Owners: confirm, add, or remove service calls as warranted in the Exterior of Home
3) If there are any EV, IV, or VV codes that are no longer relevant, remove them from the Reinspect assessment.
4) Record "EV1" in the exterior. This indicates an exterior site visit was completed.
    a. For owner assessments in ACE record the RP line item "EV1" in exterior
    b. For renter assessments in ACE record a not affected "EV1" appliance in the exterior.
5) In ACE comments enter a required statement describing the damages that support the RP or PP damages recorded in the assessment. The comments should give good general details. Example *"EV1 = Tree fell on left side of house over bedroom causing…"*
6) Review the assessment summary screen in ACE for possible errors, example; incorrect COD recorded. Then validate and communicate the assessment as soon as possible.

5. Reinspects – Red Flag

Red Flag Reinspect - Valid ID must be viewed or commented on reason why not viewed

Red Flags are identified by a comment in the inspection from the HOST. The comment will read:

"Confirm applicant ID and degree of damage".

Follow same guidance for Onsite assessment through step 8.

Scenario 1: When you are unable to contact the applicant or the app is unwilling to meet, the home appears vacant and/or neighbors state it has been vacant.

a. Remove damage level, personal property and furnishings from the assessment.
b. If there are any EV, IV, or VV codes that are no longer relevant, remove them from the Reinspect assessment.
c. Record "EV1" in the exterior. This indicates an exterior site visit was completed.
d. Mark the Possible NPR Special Condition and make a clear comment on the situation. Example: Spoke with neighbor who stated the home was vacant prior to incident. Do not record neighbors name in assessment
e. Return as complete.

Scenario 2: When you are unable to contact the applicant, there are no indications the home was vacant, and disaster caused damages exist, perform a complete assessment of damages.

a. Exterior damage levels can be increased, decreased, or removed
b. If there are any EV, IV, or VV codes that are no longer relevant, remove them from the Reinspect assessment.
c. Record "EV1" in the exterior. This indicates an exterior site visit was completed.
d. Do not make changes to personal property or furnishings unless they are excessive based on exterior damages present.
e. In Special Conditions select Disaster Specific and comment "X5" and add the dates and times of contact attempts and posting.
f. Return as complete.

Reference Material. Follow these external links to navigate where these documents are stored on a shared drive.

a. Current Job Aid webpage (Ctrl + Click to follow blue link)
b. Disaster Specific Page (Ctrl + Click to follow blue link)
c. Ace 4 User Guide (Ctrl + Click to follow blue link)
d. On-Site Damage Level Assessment Instruction (Ctrl + Click to follow blue link)

6. Video Streaming Work Instruction

1. Follow the current version of the Job Aid, reading the prescribed (Read This First) statements.
2. Follow the current version of the Job Aid Guidance, filling out the App Info, Home Info, and Losses/Expenses screens on the Tablet.
3. Complete the Build Home Screen.
4. Ask the Applicant if they are ready to proceed to the video portion of the assessment.
5. Read the Safety and Disclaimer Statement:
    a. Video is encouraged to help expedite disaster assistance needs and video helps establish an accurate view of disaster caused damages. As a reminder, video is not mandatory to receive disaster assistance.
    b. This video live stream will not be recorded nor will pictures be taken of your damage during this video live stream. We ask that you do not video record or take pictures during this time. Any information obtained during this video live stream is intended to only view damage to your residence cause by the disaster.
    c. Inform the Applicant that they should not put themselves in harm's way or take any personal safety risk in order to show video to the assessor, that they should not access any unsafe area of the dwelling, or any unsafe area surrounding the dwelling.
    d. Remind the applicant that you cannot view documents or PII on video, that the video should only show disaster caused damages to property.
6. Prior to starting video explain to the applicant, you will need to view ~~review~~ the entire property. You will start on the interior moving room to room and then to the exterior of the home (or vice versa). Remind the applicant to focus their camera on all disaster caused damages through this process.
7. Request that the applicant take a tour around the exterior of the home focusing on the disaster caused RP damages. Select the Damage Level from the Remote Assessment Job Aid that best describes the viewed damage from the speed estimating tab. <u>For an Owner</u>, record damages in the exterior room. <u>For a renter</u>, record the applicable Minor, Moderate or Major damage selection on the wrap up screen in Habitability compromised box.
    a. For Owners, review and record service calls as warranted in the Exterior of Home
8. Ask the applicant to move to the interior of the home and request that the App scan the first room to show the Assessor all appliances/furnishings, pausing on any damaged appliances/furnishings. (Follow up with questions to clarify damage levels, etc. as necessary)
9. Repeat this process for all rooms in the home.
10. Remember for damage verification, to select "viewed" for damages viewed using video and "verbal" for damages that were not viewed.

11. Insert VV Code (Ctrl + Click to follow blue link)
12. Ask the Applicant the Vehicle Damage question and follow the current Remote Job Aid guidance for addressing vehicle damage. No vehicle documents will be viewed via video.
13. Ask the Applicant if there are any other damages that have not been discussed or viewed
14. Record all required data fields on the Wrap Up screen.
15. Read the prescribed statements (Read This Last) from the Job Aid.
16. Complete the assessment and run validation check, correcting/overriding any validation errors.
17. Review the assessment in the summary.
18. Communicate the completed Assessment to the Host as soon as possible.

7. WEB NEMIS Instructions

1. Open Web NEMIS on your desktop. Web Nemis (Ctrl + Click to follow blue link)
2. In the Disaster dropdown, select the correct disaster for the appeal
3. In the Process dropdown, select applicant inquiry
4. Sub-que will remain blank
5. Select Search to bring up a new search for registrant window.
6. Add Registration Number in Registration ID field, then Select Search
7. Select the registration and select OK at the bottom of the screen
8. Review the Registrant info tab
9. Open the Events History tab, verify the purpose of the appeal assessment
10. Look over all comments and contacts.
11. Open the Communication Tab to search Correspondence Received. Suggested documents to review may be labeled as Appeal Letters, Contractors Estimate, Insurance Documents, etc. To view these documents:
    a. Start with the most current document
    b. Under “View Document” column select blue text
    c. Select View full image at top
    d. Select Open near bottom of computer screen
12. Go to the Assistance Tab, Housing Assistance. View the Home Repair category to review previous determinations.
13. Go to the PP/Other Assistance Tab to review previous determinations of PP/ ONA granted.
14. Select the Inspection History Tab then go to the REAL PROPERTY tab to review separated line items addressed or level of damage in the Initial assessment. Be sure to view the latest sequence number.
15. Select the Inspection History Tab then go to the PERSONAL PROPERTY tab to review separated room furnishings and appliances addressed in the initial assessment. Be sure to view the latest sequence number.
16. Select the Inspection History tab and choose Events/Comments to review the previous Assessors Comments.
17. Select the EVENTS HISORY tab to view all the events and comments.
18. Perform Appeal assessment

X Code Guidance Page

Initial Remote and Remote Appeal use only

Do not use this document if the assessor is deployed for Onsite Initial, Onsite Reinspect, or Onsite Red Flag Reinspect. ***No X codes are required for Onsite Initial, Onsite Reinspect or Onsite Red Flag Reinspect***

X Codes are entered in the Disaster Specific Conditions – Special Conditions of the Wrap Up screen in the Automated Construction Estimator (ACE) software. An X code **must** be used if the assessor did not use a video assisted assessment during a remote initial or remote appeal assessment. X codes are used to describe the reason a video was not conducted.

When entering an X code, it is important that only the letter X, followed by the correct Number is entered. Do not type out the definition of the X code.

Example

- Assessor has determined applicant does not have the technology to do a video stream but would be interested if they did.
- Assessor identifies the correct X code as X1 = Interested but no internet or technology
- Assessor *only* enters X1 into comment box in Special Conditions

X Codes

X1 = Interested but no internet or technology
X2 = Not interested even though they have technology
X3 = Not interested and does not have technology
X4 = Unable to return to damaged home

VV Code Guidance Page

Departmental goals are to use the video streaming service as often as possible. This is known as Video Validation, or VV. Video streaming can increase operation efficiency by reducing the need for a physical assessment, while providing the assessor a clear understanding of the damages. When an assessor uses a video assisted assessment, it must be indicated in their report.

It is important to note, there are no instances where an X code and VV code are used together.

Also, remember to select "VIEWED" if damaging an item and it has been viewed.

VV Codes	*For Owners*	*For Renters*
Initial Assessment **Standard Reinspect** **Red Flag Reinspect**	1. Build Home Screen 2. Select Exterior 3. Structure Tab 4. Speed Estimating 5. VV Initial 6. Select Disaster COD 7. Add Quantity of 1 8. Add Item	1. Build Home Screen 2. Select Exterior 3. Appliance Tab 4. VV Initial 5. Not Affected
	Record all in Exterior	
VV Codes	*For Owners*	*For Renters*
Appeal Assessment	1. Build Home Screen 2. Select Exterior 3. Structure Tab 4. Speed Estimating 5. VV Appeal 6. Select Disaster COD 7. Add Quantity of 1 8. Add Item	1. Build Home Screen 2. Select Exterior 3. Appliance Tab 4. VV Appeal 5. Not Affected
	Record all in Exterior	

FEMA Assessors Damage Assessment Work Instruction

1. Initial Remote Assessment

Assessors must attempt to maintain a quiet work area free of background noise.

1. Contact Applicant; conduct assessment at time of contact or schedule a date and time.
    a. Document the date and time of the attempts when contacting applicant. Attempt to contact via call, text, email over a 3-day period, during different days, at different times
    b. If unable to contact applicant, return the assessment as Unable to Contact on the 4th day.
2. Encourage applicant to use the Video option by outlining the benefits of video streaming. Be sure to relate the technical parameters, inform them they will need to be on site with good cellular signal and a well charged device battery for the video assessment. Examples of benefits of video streaming are as follows.
    a. It is easier to display damages instead of describing damages
    b. It expedites the application process by minimizing the need for follow up assessments
    c. It ensures the assessor accurately identifies all damaged items in the home
3. Assessor should conduct the assessment and video validation all in the same appointment. If an applicant is unable to conduct the video portion of the assessment at the time of contact, the assessment will need to be rescheduled to accommodate video.
4. Follow Instructions for Video Streaming Work instruction and VV Video Codes if a video is conducted. If an applicant is not a candidate for video streaming, assessor must insert an X code into Disaster Specific - Special Conditions. Do not insert a VV code ***AND*** X code
    a. Video Streaming Work Instruction (Ctrl + Click to follow blue link)
    b. VV Code Guidance (Ctrl + Click to follow blue link)
    c. X Code Guidance (Ctrl + Click to follow blue link)

5. Follow current Remote Housing Inspection Job Aid, Disaster Specific Information, and Ace 4 User Guide.

6. Begin the remote assessment by verifying App info screen, Home info screen, losses, and expenses screen, and ask the vehicle damage question. Change Photo ID verification to "NO" in Ace. No IDs can be verified remotely. Make sure Remote is selected as YES on App info screen.
7. Complete the Build Home Screen.
8. Verify all disaster caused interior and exterior RP damages, as well as interior furnishings and appliances damages on a room by room basis, by asking any off script clarifying questions as you deem necessary from your experience and from the information the applicant provides.
9. Utilizing the current Remote Assessment Job Aid determine and record the appropriate RP damage level based on the applicant's statements of relevant disaster caused damages. For an Owner, record damages in the exterior room. For a renter, record the applicable Minor, Moderate or Major damage selection on the wrap up screen in Habitability compromised box.
    a. For Owners, record service calls as warranted in the Exterior of Home
10. Record all affected and not affected Appliances, in all rooms of the home.
11. Record all affected and not affected Furnishings in all essential rooms.
12. Review the assessment summary screen in ACE for possible errors, example; incorrect COD recorded. Then validate and communicate the assessment as soon as possible.

Reference Material. Follow these external links to navigate where these documents are stored on a shared drive.

a. Current Job Aid webpage (Ctrl + Click to follow blue link)
b. Disaster Specific Page (Ctrl + Click to follow blue link)
c. Ace 4 User Guide (Ctrl + Click to follow blue link)

2. Appeal Remote Assessment

1. Prior to performing the assessment, check the registration status on the applicant info screen to verify if the GIS_DEST stamp is present. If no GIS_DEST stamp, then verify the dwelling meets the FEMA definition of Destroyed.
2. Review any related Disaster Specific addendums
3. Be cautious of repairs that do not align with the disaster caused damages. Do not record damaged items not caused by the disaster, feasibility concerns, or additional items used to bring homes up to an area building code
4. Gather information from the documentation in Web NEMIS or any calls with contractor. Web NEMIS directions can be found in the end of this document or by clicking here Web NEMIS Directions (Ctrl + Click to follow blue link)
5. Contact Applicant; conduct assessment at time of contact or schedule a date and time. Pay special attention to any appeal items listed in ACE comments and gathered from prior research
    a. Document the date and time of the attempts when contacting applicant. Attempt to contact via call, text, email over a 3-day period, during different days, at different times
    b. If unable to contact applicant, return the assessment as Unable to Contact on the 4th day.
6. Encourage applicant to use the Video option by outlining the benefits of video streaming. Be sure to relate the technical parameters, inform them they will need to be on site with good cellular signal and a well charged device battery for the video assessment. Examples of benefits of video streaming are as follows.
    a. It is easier to display damages instead of describing damages
    b. It expedites the application process by minimizing the need for follow up assessments
    c. It ensures the assessor accurately identifies all damaged items in the home
7. Assessor should conduct the assessment and video validation all in the same appointment. If an applicant is unable to conduct the video portion of the assessment at the time of contact, the assessment will need to be rescheduled to accommodate video.
8. Follow Instructions for Video Streaming Work instruction and VV Video Codes if a video is conducted. If an applicant is not a candidate for video streaming, assessor must insert an X code into Disaster Specific – Special Conditions. Do not insert a VV code *AND* X code
    a. Video Code Streaming Work Instruction (Ctrl + Click to follow blue link)
    b. VV Guidance (Ctrl + Click to follow blue link)
    c. X Code Guidance (Ctrl + Click to follow blue link)

9. Follow current Remote Housing Inspection Job Aid, Disaster Specific Information, and Ace 4 User Guide.
10. Change Photo ID verification to “NO” in Ace. No IDs can be verified remotely. Make sure Remote is selected as YES on App info screen
11. Ownership and Occupancy
    a. If initial assessment has an OWN/OCC verification selected as anything other than FEMA verified leave it alone and comment OWN/OCC verification = “Offsite Assessment Completed”
    b. If the initial assessment has OWN/OCC not verified comment OWN/OCC Not Verified = “Per FEMA Instruction”
    c. If OWN/OCC has been verified by FEMA comment “OWN/OCC verification obtained by FEMA”.
12. Damage levels can be increased, decreased, or removed
    a. For Owners: confirm, add, or remove service calls as warranted in the Exterior of Home
13. If there are any EV, IV, or VV codes that are no longer relevant, remove them from the appeal assessment.
14. Add a comment in ACE stating “Complete Remote Appeal assessment with special attention to:” and describe what was addressed in the appeal request
15. Review the assessment summary screen in ACE for possible errors, example; incorrect COD recorded. Then validate and communicate the assessment as soon as possible.

Reference Material. Follow these external links to navigate where these documents are stored on a shared drive.

a. Current Job Aid webpage (Ctrl + Click to follow blue link)
b. Disaster Specific Page (Ctrl + Click to follow blue link)
c. Ace 4 User Guide (Ctrl + Click to follow blue link)

3. Initial Onsite Assessment

Current COVID 19 Safety protocols are required for all Onsite Assessments.

All onsite assessments required a site visit

A Valid Photo ID from the applicant will be required on all Onsite Assessments.

1. Contact Applicant, explain to the applicant that you need to schedule an appointment to meet them at their home to perform a Damage Assessment with an exterior validation. Explain we are required to view a valid government issued photo ID at the scheduled appointment, while following current COVID 19 safety requirements. State that you will not be entering their home.
    a. If the applicant will not or cannot meet the assessor to provide valid photo ID in a timely manner (per current ACE Users Guide), the assessment will be withdrawn using the scenario “cannot meet in a timely manner” and comment on the issue.
    b. Document the date and time of the attempts when contacting applicant. Attempt to contact via call, text, email over a 3-day period, during different days, at different times. It is required to Post the house at least 1 time during these attempts.
        i. Posting DD. while posting the dwelling the assessor will knock on the door and step back 6-10ft with a mask on. If applicant or resident answers the door the assessor will identify themselves and explain the assessment process. Assessor should attempt to complete the assessment or make an appointment if the app is not available or does not want to complete at that time.
        ii. When posting the DD, and the resident with the same name states they did not apply for FEMA assistance (Possible Identity Theft). Withdraw the assessment and select scenario “App Changed mind” and comment “App did not apply”.
    c. If unable to contact applicant, return the assessment as Unable to Contact on the 4th day.
2. Video streaming is *optional* for onsite assessments. However, benefits are as follows.
    a. It is easier to display damages instead of describing damages
    b. It expedites the application process by minimizing the need for follow up assessments
    c. It ensures the assessor accurately identifies all damaged items in the home
    d. Follow Video Streaming Work Instruction and VV Code Guidance (Ctrl + Click to follow blue link

Completing the Onsite Damage Assessment

1) Meet and show the applicant your FEMA PIV badge (example-through vehicle window or DD window). Remember to not allow photos taken of your badge per DHS policy.
2) Verify valid government photo ID. If the applicant arrives at the scheduled appointment without a valid photo ID, the assessor will require the applicant to provide the last 4 digits of their FEMA registration number. Complete the assessment and Change Photo ID verification to "NO". Comment on the issue.
3) Follow current Remote Housing Inspection Job Aid Scripts, current On-Site Damage Level Assessment Instruction, Disaster Specific Information, and Ace 4 User Guide.
4) Begin the assessment by verifying App info screen, Home info screen, losses and expenses screen, and any vehicle damages.
5) Build the home with the applicant from the exterior.
6) Do a complete onsite validation of exterior damages of the home.
7) Take photos with FEMA issued phone. Photos should include a full view of the DD, and any exterior disaster caused damages that affect habitability, including service calls.
8) Utilizing the current "On-Site Damage Level Assessment" instruction/Matrix located in HIS SharePoint-Shared Documents, determine, and record the appropriate RP damage level based on the observed disaster caused damages. For an Owner, record damages in the exterior room. For a renter, record the applicable Minor, Moderate, Major damage or Destroyed selection on the wrap up screen in Habitability compromised box.
    a. For Owners, record service calls as warranted in the Exterior of Home
9) Record "EV1" in the exterior. This indicates an exterior site visit was completed.
    b. For owner assessments in ACE record the RP line item "EV1" in exterior
    c. For renter assessments in ACE record a not affected "EV1" appliance in the exterior.
10) Review the "Wrap Up" screen in ACE.
11) Review the assessment summary screen in ACE for possible errors, example; incorrect COD recorded. Then validate and communicate the assessment as soon as possible.

4. Reinspects – Standard

Standard Reinspect – Valid ID must be viewed or commented on reason why not viewed

1) Follow same guidance for Onsite assessment through step 8.
2) Utilizing the current Remote Assessment Job Aid confirm or change any damage level based on the observed disaster caused damages. Make sure personal property and furnishing damages are supported by the observed exterior damage. Exterior damage levels can be increased, decreased, or removed. For an Owner, record damages in the exterior room. For a renter, record the applicable Minor, Moderate or Major damage selection on the wrap up screen in Habitability compromised box.
    a. For Owners: confirm, add, or remove service calls as warranted in the Exterior of Home
3) If there are any EV, IV, or VV codes that are no longer relevant, remove them from the Reinspect assessment.
4) Record “EV1” in the exterior. This indicates an exterior site visit was completed.
    a. For owner assessments in ACE record the RP line item “EV1” in exterior
    b. For renter assessments in ACE record a not affected “EV1” appliance in the exterior.
5) Review the assessment summary screen in ACE for possible errors, example; incorrect COD recorded. Then validate and communicate the assessment as soon as possible.

5. Reinspects – Red Flag

Red Flag Reinspect - Valid ID must be viewed or commented on reason why not viewed

Red Flags are identified by a comment in the inspection from the HOST. The comment will read:

"Confirm applicant ID and degree of damage".

Follow same guidance for Onsite assessment through step 8.

Scenario 1: When you are unable to contact the applicant or the app is unwilling to meet, the home appears vacant and/or neighbors state it has been vacant.

a. Remove damage level, personal property and furnishings from the assessment.
b. If there are any EV, IV, or VV codes that are no longer relevant, remove them from the Reinspect assessment.
c. Record "EV1" in the exterior. This indicates an exterior site visit was completed.
d. Mark the Possible NPR Special Condition and make a clear comment on the situation. Example: Spoke with neighbor who stated the home was vacant prior to incident. Do not record neighbors name in assessment
e. Return as complete.

Scenario 2: When you are unable to contact the applicant, there are no indications the home was vacant, and disaster caused damages exist, perform a complete assessment of damages.

a. Exterior damage levels can be increased, decreased, or removed
b. If there are any EV, IV, or VV codes that are no longer relevant, remove them from the Reinspect assessment.
c. Record "EV1" in the exterior. This indicates an exterior site visit was completed.
d. Do not make changes to personal property or furnishings unless they are excessive based on exterior damages present.
e. In Special Conditions select Disaster Specific and comment "X5" and add the dates and times of contact attempts and posting.
f. Return as complete.

Reference Material. Follow these external links to navigate where these documents are stored on a shared drive.

a. Current Job Aid webpage (Ctrl + Click to follow blue link)
b. Disaster Specific Page (Ctrl + Click to follow blue link)
c. Ace 4 User Guide (Ctrl + Click to follow blue link)
d. On-Site Damage Level Assessment Instruction (Ctrl + Click to follow blue link)

6. Video Streaming Work Instruction

1. Follow the current version of the Job Aid, reading the prescribed (Read This First) statements.
2. Follow the current version of the Job Aid Guidance, filling out the App Info, Home Info, and Losses/Expenses screens on the Tablet.
3. Complete the Build Home Screen.
4. Ask the Applicant if they are ready to proceed to the video portion of the assessment.
5. Read the Safety and Disclaimer Statement:
    a. Video is encouraged to help expedite disaster assistance needs and video helps establish an accurate view of disaster caused damages. As a reminder, video is not mandatory to receive disaster assistance.
    b. This video live stream will not be recorded nor will pictures be taken of your damage during this video live stream. We ask that you do not video record or take pictures during this time. Any information obtained during this video live stream is intended to only view damage to your residence cause by the disaster.
    c. Inform the Applicant that they should not put themselves in harm's way or take any personal safety risk in order to show video to the assessor, that they should not access any unsafe area of the dwelling, or any unsafe area surrounding the dwelling.
    d. Remind the applicant that you cannot view documents or PII on video, that the video should only show disaster caused damages to property.
6. Prior to starting video explain to the applicant, you will need to view the entire property. You will start on the interior moving room to room and then to the exterior of the home (or vice versa). Remind the applicant to focus their camera on all disaster caused damages through this process.
7. Request that the applicant take a tour around the exterior of the home focusing on the disaster caused RP damages. Select the Damage Level from the Remote Assessment Job Aid that best describes the viewed damage from the speed estimating tab. <u>For an Owner</u>, record damages in the exterior room. <u>For a renter</u>, record the applicable Minor, Moderate or Major damage selection on the wrap up screen in Habitability compromised box.
    a. For Owners, review and record service calls as warranted in the Exterior of Home
8. Ask the applicant to move to the interior of the home and request that the App scan the first room to show the Assessor all appliances/furnishings, pausing on any damaged appliances/furnishings. (Follow up with questions to clarify damage levels, etc. as necessary)
9. Repeat this process for all rooms in the home.
10. Remember for damage verification, to select "viewed" for damages viewed using video and "verbal" for damages that were not viewed.

11. Insert VV Code (Ctrl + Click to follow blue link)
12. Ask the Applicant the Vehicle Damage question and follow the current Remote Job Aid guidance for addressing vehicle damage. No vehicle documents will be viewed via video.
13. Ask the Applicant if there are any other damages that have not been discussed or viewed
14. Record all required data fields on the Wrap Up screen.
15. Read the prescribed statements (Read This Last) from the Job Aid.
16. Complete the assessment and run validation check, correcting/overriding any validation errors.
17. Review the assessment in the summary.
18. Communicate the completed Assessment to the Host as soon as possible.

7. WEB NEMIS Instructions

1. Open Web NEMIS on your desktop. Web Nemis (Ctrl + Click to follow blue link)
2. In the Disaster dropdown, select the correct disaster for the appeal
3. In the Process dropdown, select applicant inquiry
4. Sub-que will remain blank
5. Select Search to bring up a new search for registrant window.
6. Add Registration Number in Registration ID field, then Select Search
7. Select the registration and select OK at the bottom of the screen
8. Review the Registrant info tab
9. Open the Events History tab, verify the purpose of the appeal assessment
10. Look over all comments and contacts.
11. Open the Communication Tab to search Correspondence Received. Suggested documents to review may be labeled as Appeal Letters, Contractors Estimate, Insurance Documents, etc. To view these documents:
    a. Start with the most current document
    b. Under “View Document” column select blue text
    c. Select View full image at top
    d. Select Open near bottom of computer screen
12. Go to the Assistance Tab, Housing Assistance. View the Home Repair category to review previous determinations.
13. Go to the PP/Other Assistance Tab to review previous determinations of PP/ ONA granted.
14. Select the Inspection History Tab then go to the REAL PROPERTY tab to review separated line items addressed or level of damage in the Initial assessment. Be sure to view the latest sequence number.
15. Select the Inspection History Tab then go to the PERSONAL PROPERTY tab to review separated room furnishings and appliances addressed in the initial assessment. Be sure to view the latest sequence number.
16. Select the Inspection History tab and choose Events/Comments to review the previous Assessors Comments.
17. Select the EVENTS HISORY tab to view all the events and comments.
18. Perform Appeal assessment

X Code Guidance Page

Initial Remote and Remote Appeal use only

Do not use this document if the assessor is deployed for Onsite Initial, Onsite Reinspect, or Onsite Red Flag Reinspect.

No X codes are required for Onsite Initial, Onsite Reinspect or Onsite Red Flag Reinspect

X Codes are entered in the Disaster Specific Conditions – Special Conditions of the Wrap Up screen in the Automated Construction Estimator (ACE) software. An X code **must** be used if the assessor did not use a video assisted assessment during a remote initial or remote appeal assessment. X codes are used to describe the reason a video was not conducted.

When entering an X code, it is important that only the letter X, followed by the correct Number is entered. Do not type out the definition of the X code.

Example

- Assessor has determined applicant does not have the technology to do a video stream but would be interested if they did.
- Assessor identifies the correct X code as X1 = Interested but no internet or technology
- Assessor *only* enters X1 into comment box in Special Conditions

X Codes

X1 = Interested but no internet or technology
X2 = Not interested even though they have technology
X3 = Not interested and does not have technology
X4 = Unable to return to damaged home

VV Code Guidance Page

Departmental goals are to use the video streaming service as often as possible. This is known as Video Validation, or VV. Video streaming can increase operation efficiency by reducing the need for a physical assessment, while providing the assessor a clear understanding of the damages. When an assessor uses a video assisted assessment, it must be indicated in their report.

It is important to note, there are no instances where an X code and VV code are used together.

Also, remember to select "VIEWED" if damaging an item and it has been viewed.

VV Codes	*For Owners*	*For Renters*
Initial Assessment **Standard Reinspect** **Red Flag Reinspect**	1. Build Home Screen 2. Select Exterior 3. Structure Tab 4. Speed Estimating 5. VV Initial 6. Select Disaster COD 7. Add Quantity of 1 8. Add Item	1. Build Home Screen 2. Select Exterior 3. Appliance Tab 4. VV Initial 5. Not Affected
	Record all in Exterior	
VV Codes	*For Owners*	*For Renters*
Appeal Assessment	1. Build Home Screen 2. Select Exterior 3. Structure Tab 4. Speed Estimating 5. VV Appeal 6. Select Disaster COD 7. Add Quantity of 1 8. Add Item	1. Build Home Screen 2. Select Exterior 3. Appliance Tab 4. VV Appeal 5. Not Affected
	Record all in Exterior	

Housing Inspection Services

FEMA Basic Construction Course

(Please note-sections outlined in **RED** are not reviewed during classroom training)

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Introduction

This Basic Residential Construction (*BRC) Workbook* is a ready reference about construction concepts and applications. It is intended for field inspectors with various levels of experience. The Workbook serves as preparation for the *Disaster Damage Home Inspection Course*, offers new facts about building, and provides you with a reference source.

Skill Checks and *Exercises* are located throughout the Workbook. They are designed to confirm each user's understanding of the construction concepts needed to conduct field inspections. *Flash Points* are included in each unit to share interesting construction facts.

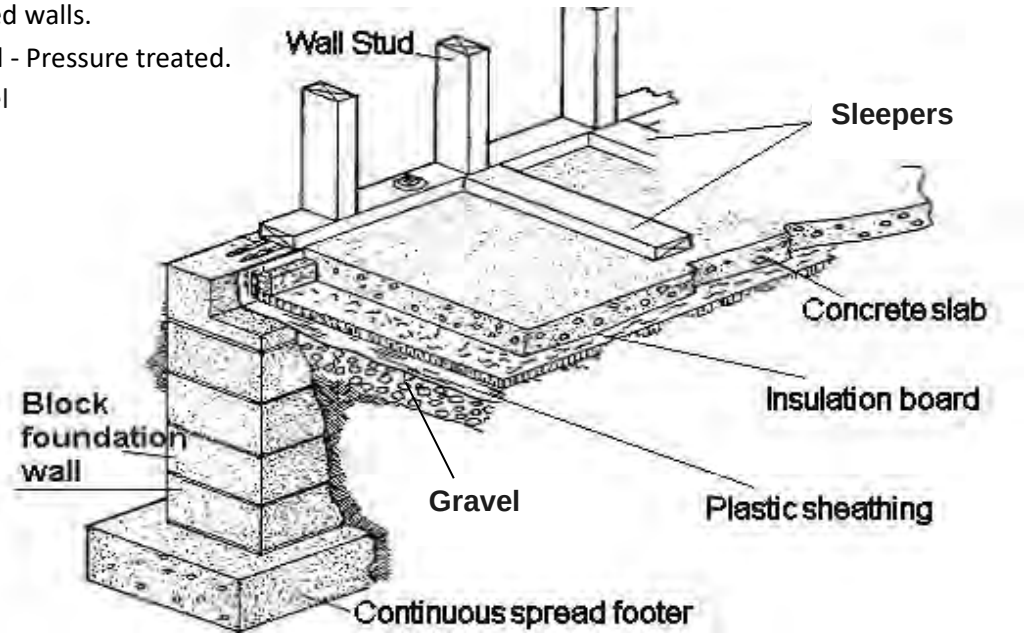
Section 1-Foundations

Foundations support and disburse the weight of the dwelling and anchor it to the ground.

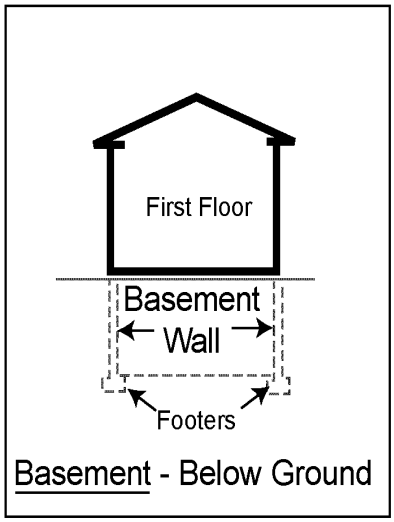
- Footer - Base of a foundation wall.
- Continuous (Spread Footing) - Uninterrupted supporting base for the foundation wall.
- Individual (Pad) - Small concrete square or circle used to support a single foundation member (pier, lally column).

Foundation Wall

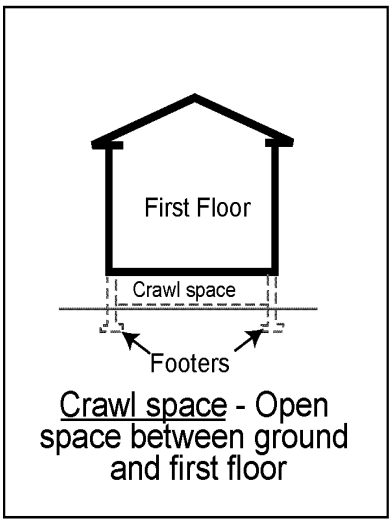
- Poured - Solid concrete wall.
- Block - Individually cast or formed.
- Stone - Inexpensive materials but higher labor cost and less stability/durability than block or poured walls.
- Wood - Pressure treated.
- Gravel



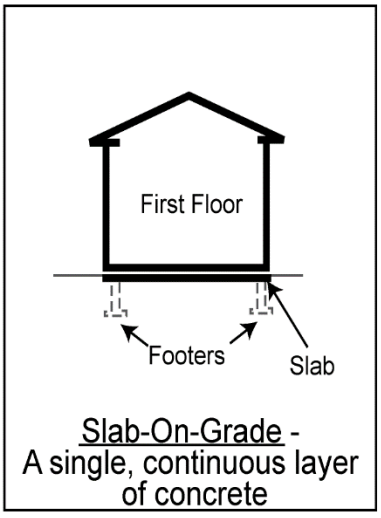
Types of Foundations



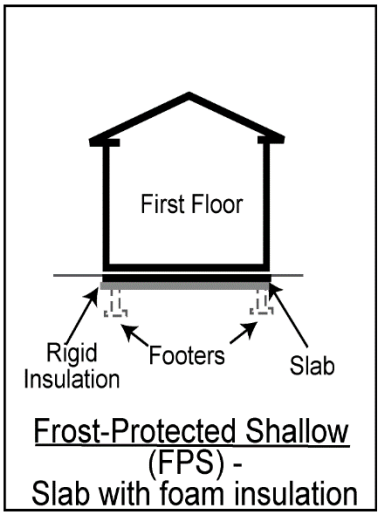
Provides additional level of living or storage space.



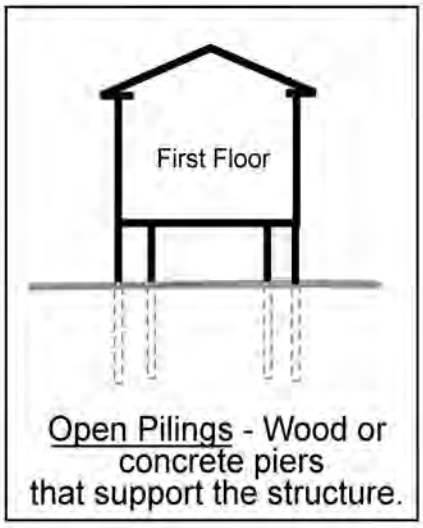
Lower cost option than basement, provides access to utilities and HVAC.



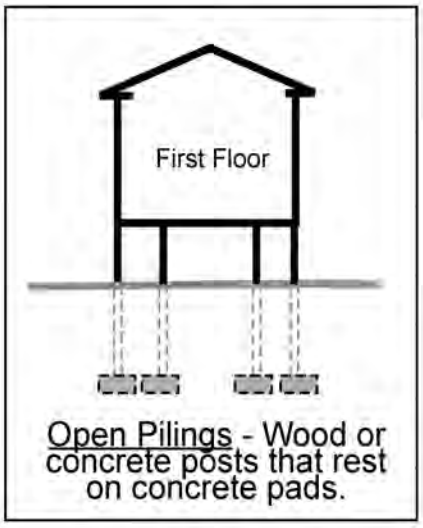
Low-cost option, favored in sandy or high moisture soil areas.



High-density insulating foam and drainage techniques are used around the slab to raise the footer above the frost line to prevent heave.

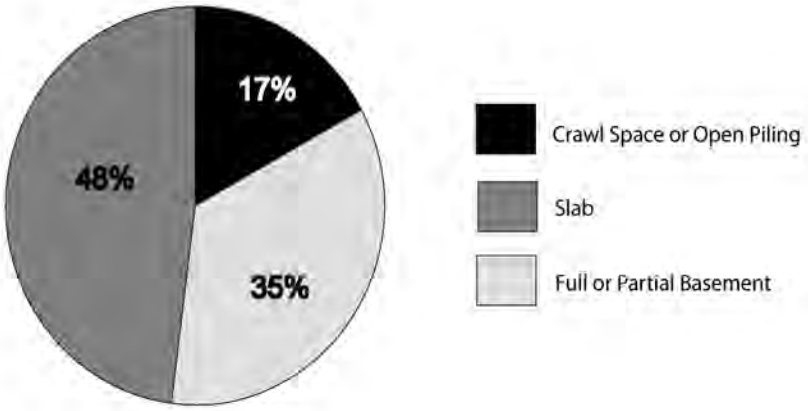


Pilings are driven down to rest on solid substrata. Used in areas with high water table or very poor-quality soil.



Concrete pads provide solid piling support in either very wet or extremely sandy soil.

Foundation types of new U.S. single family homes



Flash Point: Footings are usually dug below the frost line to prevent upheaval of the foundation caused by freezing and thawing.

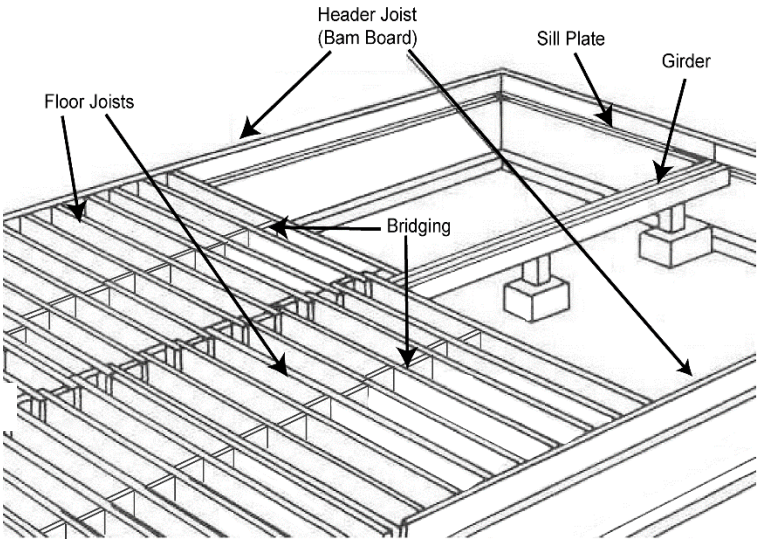
Skill Check #1

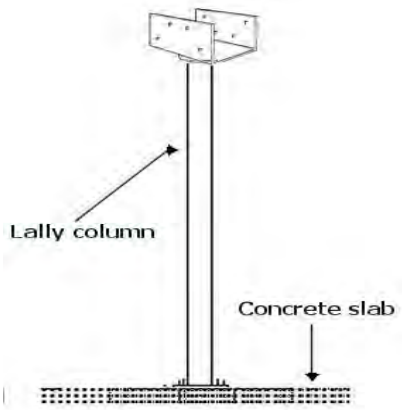
Fill in the blanks to complete the following questions.

1. The base of a foundation wall is called the _____.
2. Small concrete square or circle used to support a single foundation member is called a _____.
3. The most common type of foundation in new US homes is _____.
4. A single, continuous layer of concrete is called a _____ foundation.
5. A three-foot high enclosed space between the ground and the first floor of a house is called the _____.

Section 2-Framing

Framing forms the skeleton of a dwelling. Proper fastening of frame members and covering materials provide rigidity and strength.

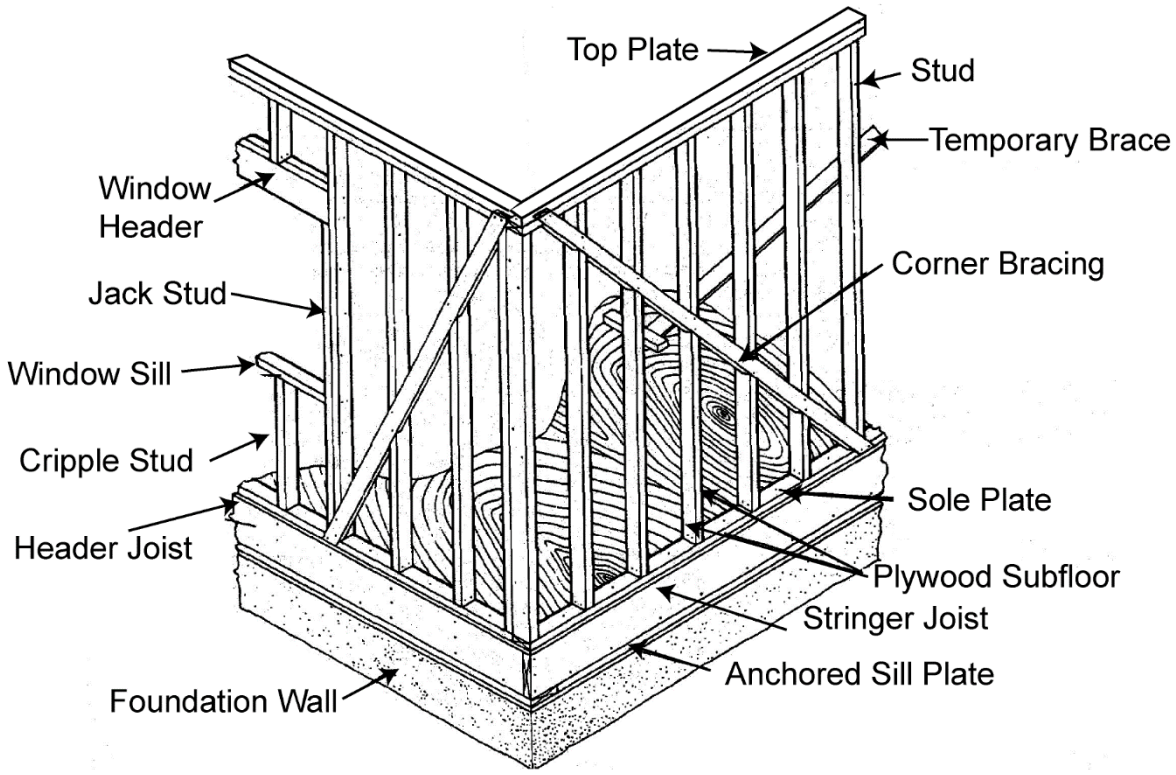




Floor Framing Components

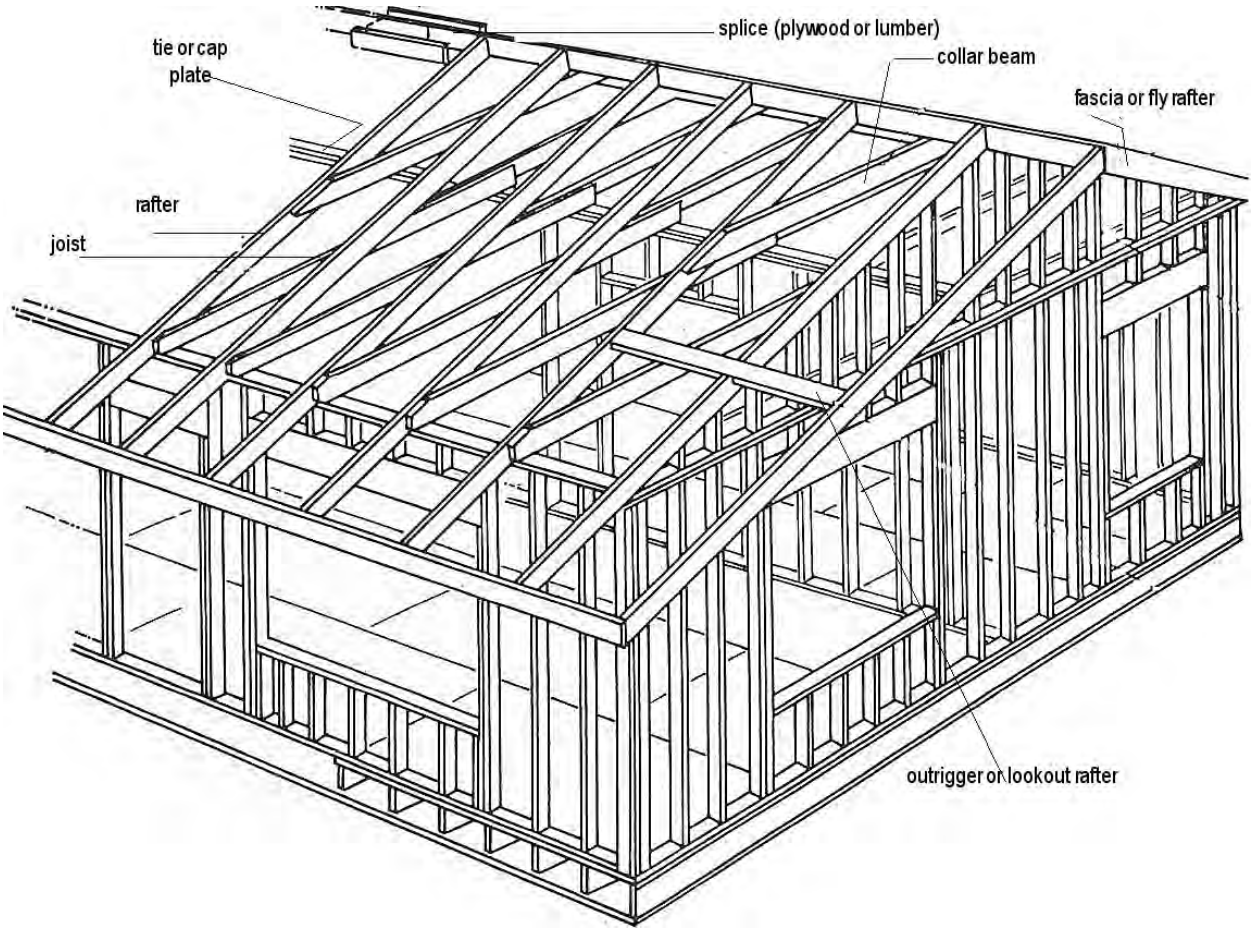
- Sill Plate - Horizontal board that anchors the frame to the foundation.
- Floor Joists - Support boards running parallel across the width of the structure.
- Lally Column - Vertical post used to support a girder or beam beneath the floor joists.
- Subflooring - Placed over the floor joists to support the finished floor or floor covering.
- Bridging - Bracing used to prevent bowing in floor joists.
- Girder - Large horizontal beam used to support floor joists when the span between the foundation walls is greater than the length of the joists.

Wall Framing Components



- Sole Plate - Horizontal base for wall studs.
- Top Plate - Top board of the framed wall. Supports the ceiling joists and roof rafters.
- Studs - A wall's vertical boards that provide strength and serve as the nailing surfaces for exterior sheathing or interior wallboard.

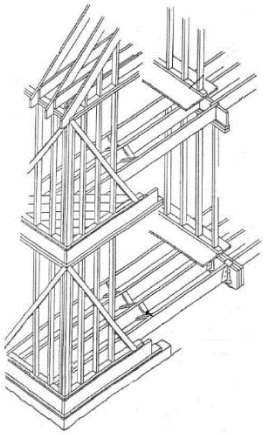
- Header - Board installed above roughed-in window and door openings to provide additional weight-bearing support.
- Cripple wall - Usually consists of half-length studs are used when a full 8-ft. wall is not needed, e.g. sloping lot or window.



Flash Point: While wood is predominately the building material of choice for framing, steel framing is gaining popularity in new home construction.

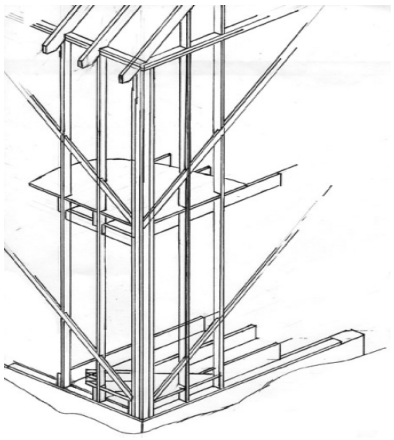
Wall Framing Types

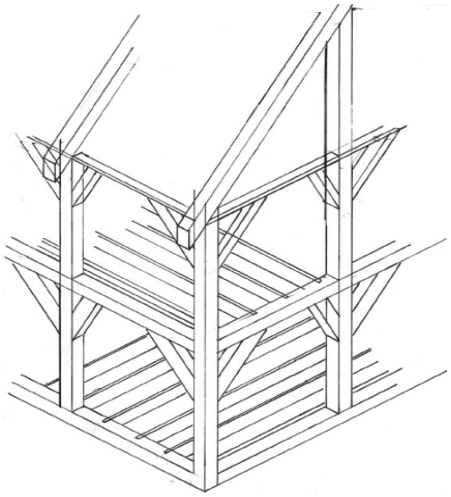
- Balloon - Dominate in mid-1800 to 1940s construction. Features long, lightweight 12 to 18 ft. wall studs.
- Platform - Floors are constructed as independent units and wall studs are normally 8 ft. long.
- Metal - Same components as wood framing but made of metal.
- Post & Beam - Uses tongue and groove decking, diagonal wall bracing and heavyweight components for extreme strength.



Platform Framing

Balloon Framing

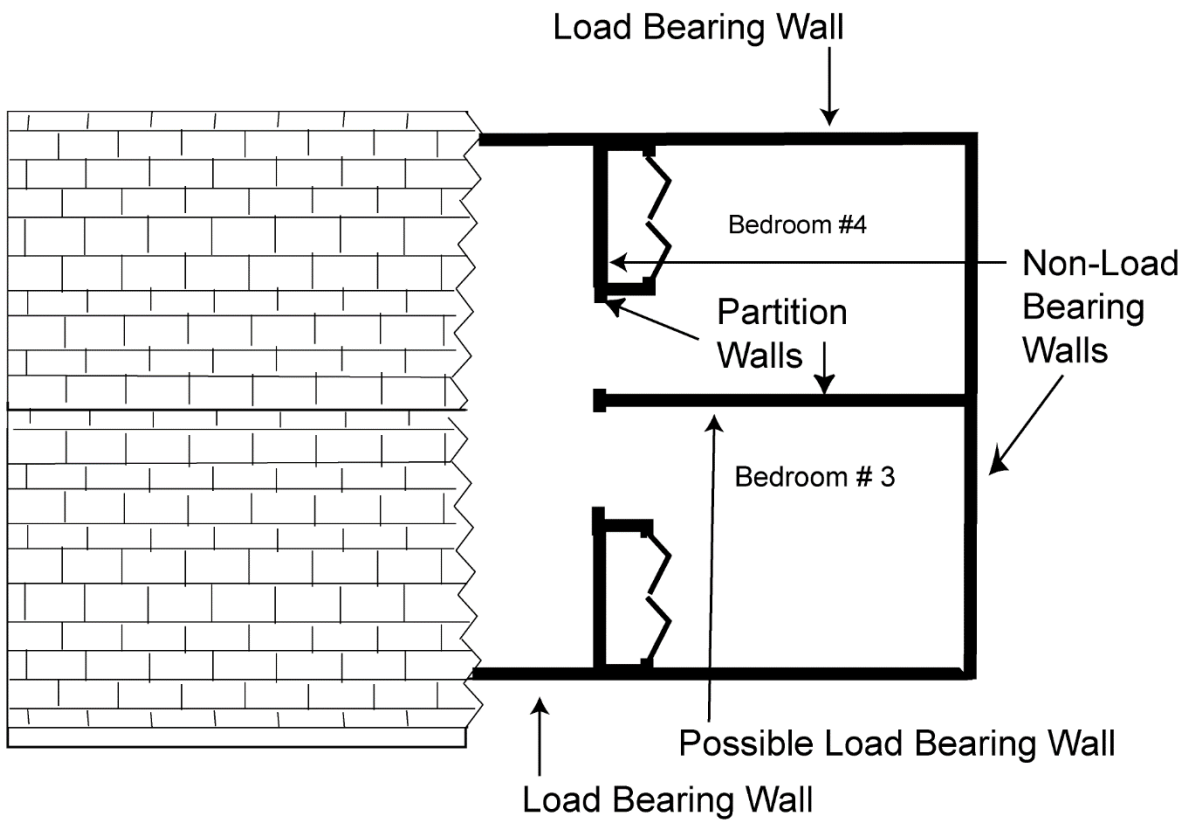




Post and Beam

Wall Types

- Bearing - Provides weight-bearing support to ceiling joists and is structurally essential. Bearing walls usually run perpendicular to the ceiling and floor joists.
- Non-Bearing - Supports nothing other than the wall itself.
- Partition - Used to divide interior space - may be either bearing or non-bearing.



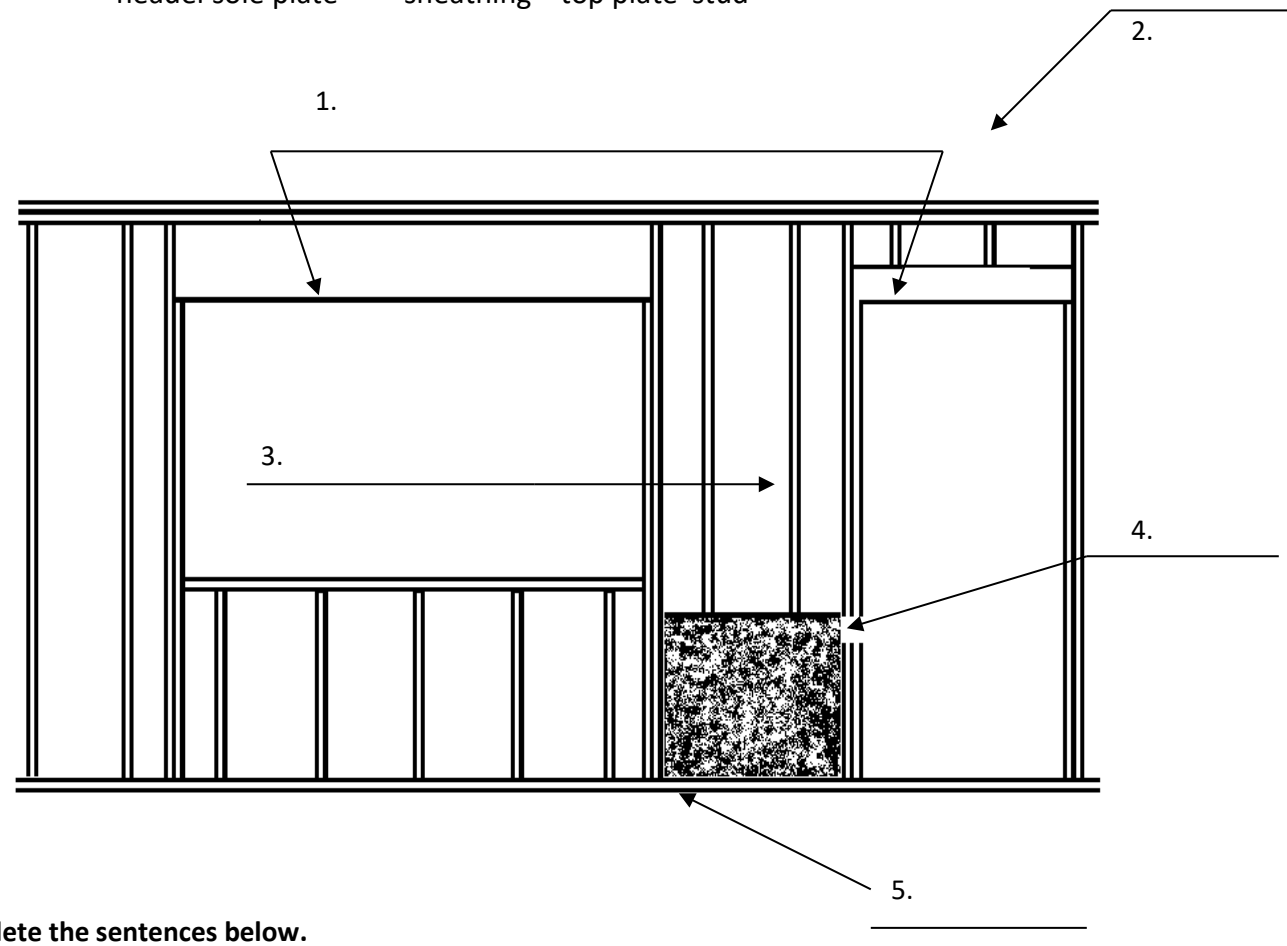
Flash Point: Laminated Veneer Lumber (LVL) and other wood composites have become popular because of their strength and lower cost. LVL beams are frequently used as joists and ridge boards in roof construction.

Skill Check #2

Wall Components

Enter the appropriate name on the lines provided in the diagram below.

header sole plate sheathing top plate stud



Complete the sentences below.

1. The horizontal board that anchors the frame to the foundation is called the _____.
2. _____is placed over the floor joists to support the floor covering.

Section 3 – Roofing

Roof Styles

There are three primary roof shapes. Gable, hip and flat.

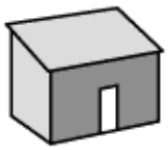
- Hip - Walls slope at both ends and sides.
- Gable - Consists of two roof slopes that meet at the top (ridge) and form gables (triangular walls) on either end.
- Flat - Supported directly by the ceiling joists. There may be a slight pitch for drainage.
- In addition, there are several less common roof shapes.
- Gambrel - Modified gable roof with two slopes on each side.
- Mansard - A roof with two slopes on all four sides. The bottom four sides slope steeply, and the triangular top slopes meet at a single point.
- Saltbox - Structure with two stories in front and a single story in the back. Roof has long rearward slope.
- Flat with parapet – A low wall rises above the perimeter of the roof deck on a flat roof
- Shed – The entire structure is covered with a single continuously sloping roof.

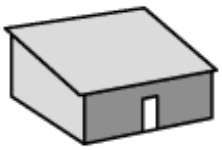
Flash Point: In the year 2000, US Homeowners spent an estimated $2.5 billion on roof repair and replacement.

Roof Styles

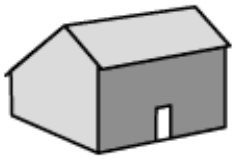
Side Gabel

Front Gabled

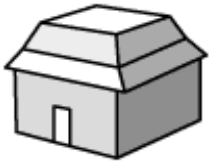




Flat

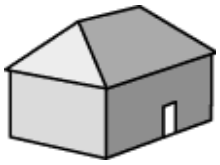


Saltbox

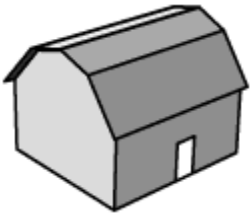


Mansard

Shed



Hipped

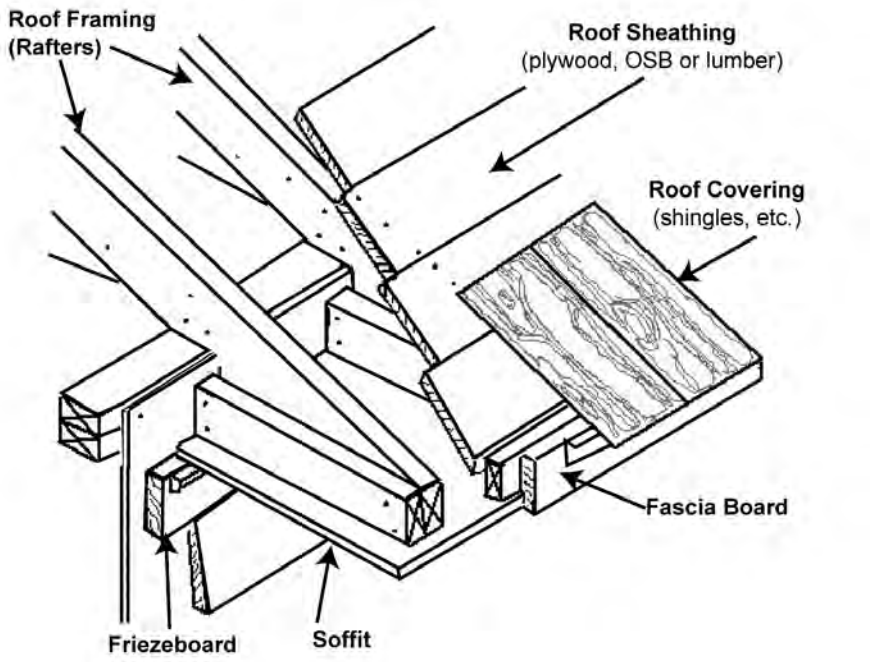


Gambrel

Flash Point: In Northern areas that experience heavy snow, homeowners can install “snow birds” on their roofs to prevent ice or snow from sliding off and damaging the guttering.

Roof Components

The roofing system for a house has four significant sub-systems: framing, sheathing, covering and trim (fascia and soffit).



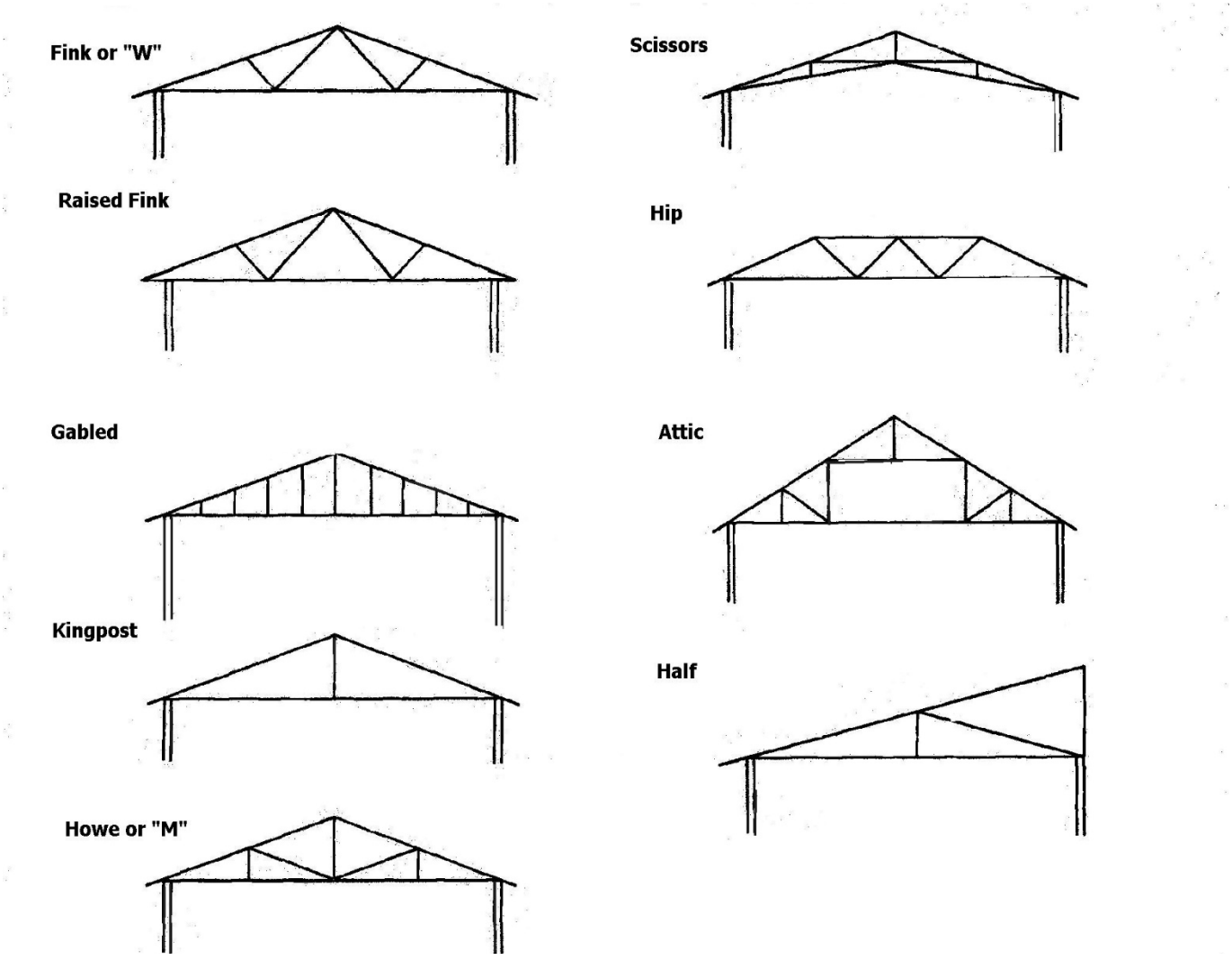
Roof Framing

Roof framing encloses the top of the building and provides support for the roof sheathing and covering. Roof framing may be stick built on site, prefabricated trusses or a combination.

- Ridge Board - Horizontal centerline of roof where the upper ends of the rafters meet.
- Rafter - Like a wall stud, the structural framing piece of a roof.
- Collar Beams - Used to reinforce gables or roof rafters.
- Roof Truss - Factory-made assemblies that when installed form a complete, roof support framework. Very strong and inexpensive but limits design options.

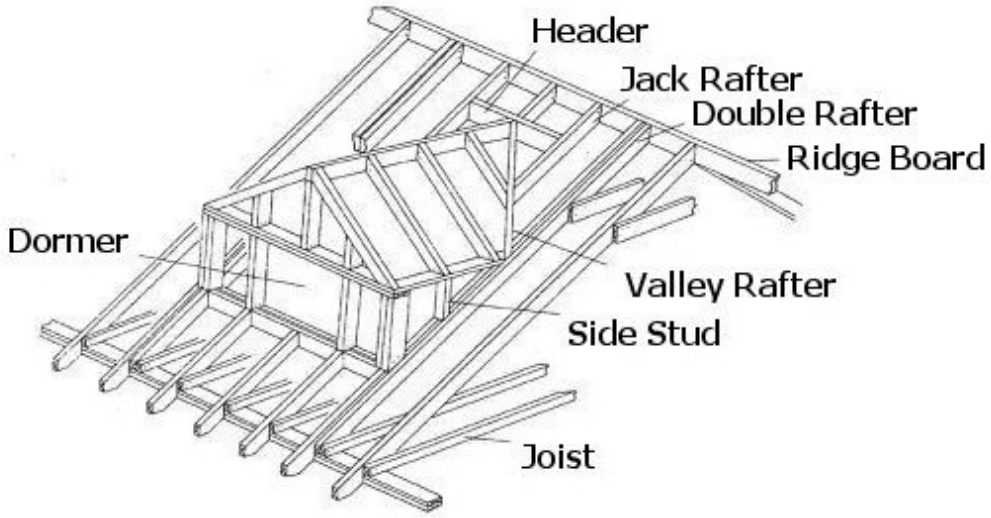
- ***Flash Point:*** Roof slope is determined by vertical rise over horizontal run, expressed in inches, the second number always being equal to 1 foot (12 inches). For example, if a roof rises at a rate of 6 inches per foot (horizontal), it is a 6/12-slope roof.

Truss Types



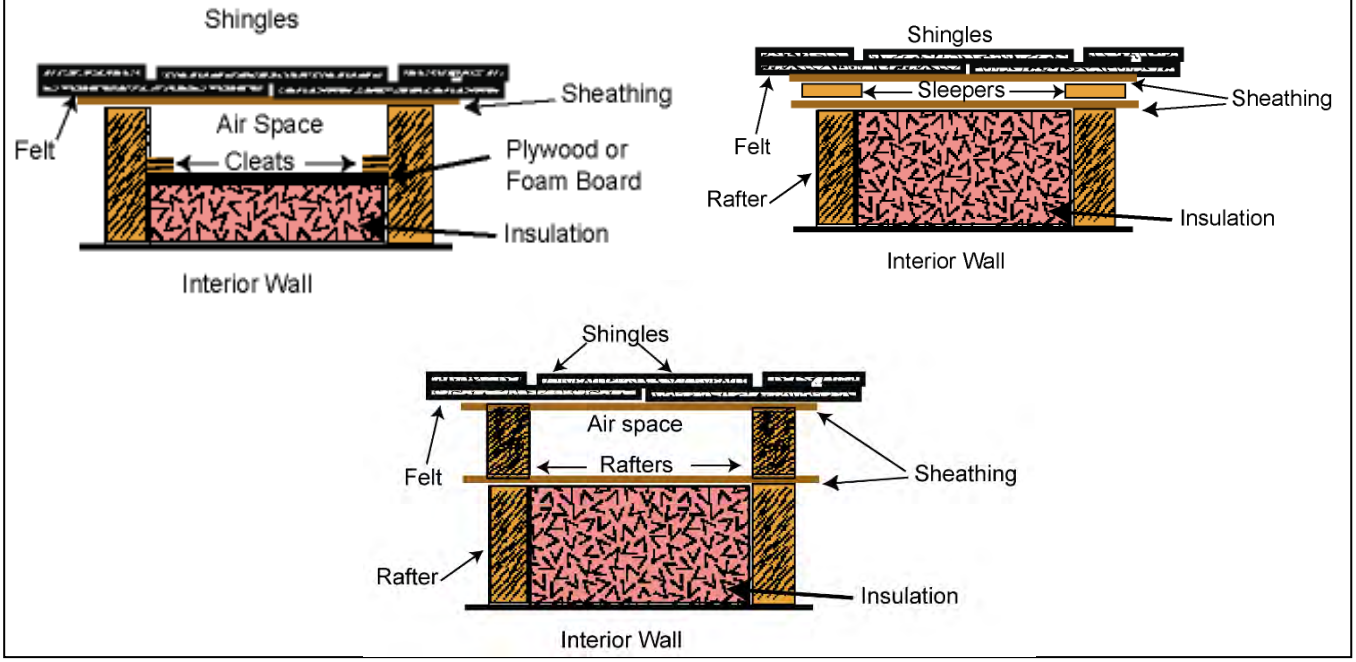
Flash Point: Flat roofs are commonly covered with tar and gravel or rolled composition roofing. Often over time the seams open and/or the tar hardens and cracks. This condition is called "alligatoring." This happens to most tar and gravel roofs at the end of their life span, typically 10 to 12 years.

Stick-Built Roof Framing Components



Cold Roof or Double-layered

The **cold roof**, or vented roof systems, are found in areas that experience heavy snowfall. Used primarily in homes built with rafters, these systems allow a constant flow of cold air between the insulation and the roof sheathing. This prevents “ice damming”- ice forming on the overhangs that creates a dam allowing water to back up and penetrate the roof.



Roof Sheathing

Roof sheathing can be compared to wall sheathing and subflooring. It covers the rafters, provides rigidity and strength to the roof framing and serves as a nailing base for the roof covering. Metal sheathing may be found in commercial and industrial structures, but wood--particularly plywood--is by far the most common roof sheathing for residential construction.

Roof Covering

Roof covering provides protection from precipitation, wind and extremes of temperature. Many materials are used.

- Underlayment - Installed beneath asphalt, slate, shingles and tile; it provides additional weather protection.
  - Mechanically fastened – Rolls of material--traditionally felt paper, but increasingly synthetic materials--are nailed to the roof sheathing.
  - Self-adhering – "Peel and Stick" adhesives on the underside of the underlayment provide a strong, continuous and waterproof bond.
- Metal roofing (copper, steel, tin, aluminum or alloys) - Durable, available in multiple shapes and styles, but expensive.
- Tile (ceramic) - Common in Southwest, long lasting, fire resistant but expensive.

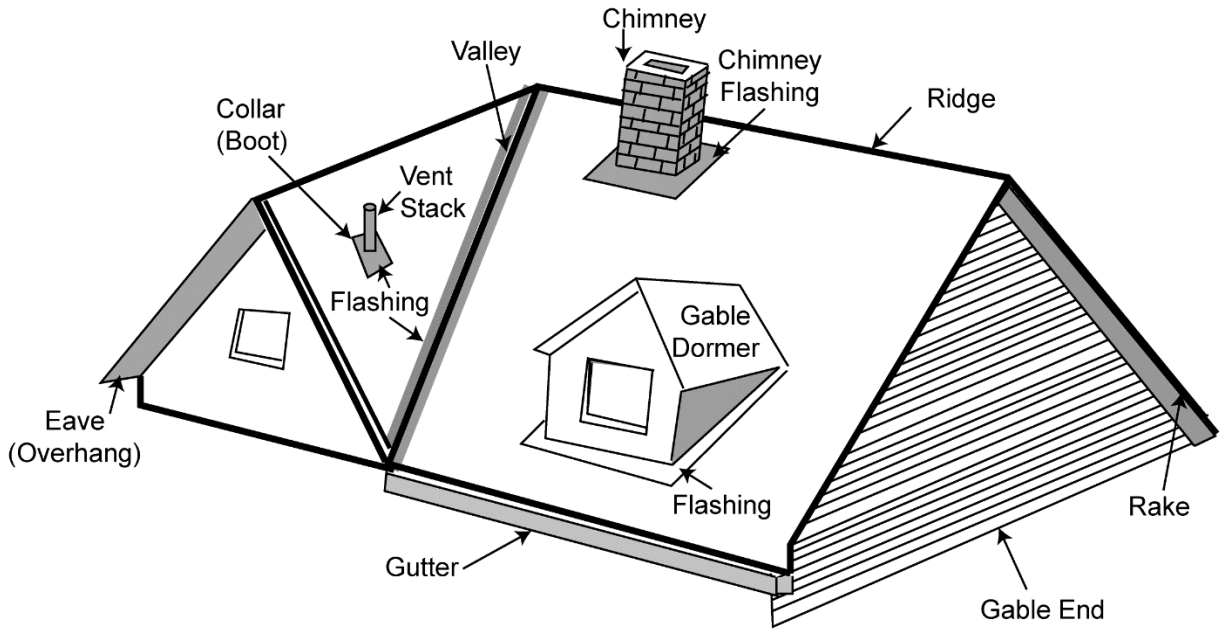
- Asphalt Shingles - Most common roof covering.
- Wood - Shakes are hand-split and thicker than factory-cut wood shingles.
- Single Ply Roofing - A rubber roof membrane applied with adhesives or fasteners and sealed at the laps of the material. Laps are sealed with hot air welders or lap adhesive.

Flash Point: Wood shakes and shingles are durable (especially when treated with a preservative every 3-5 years). Shakes are more expensive: they're thicker, handmade and can last up to 50 years.

Exterior Roof Trim

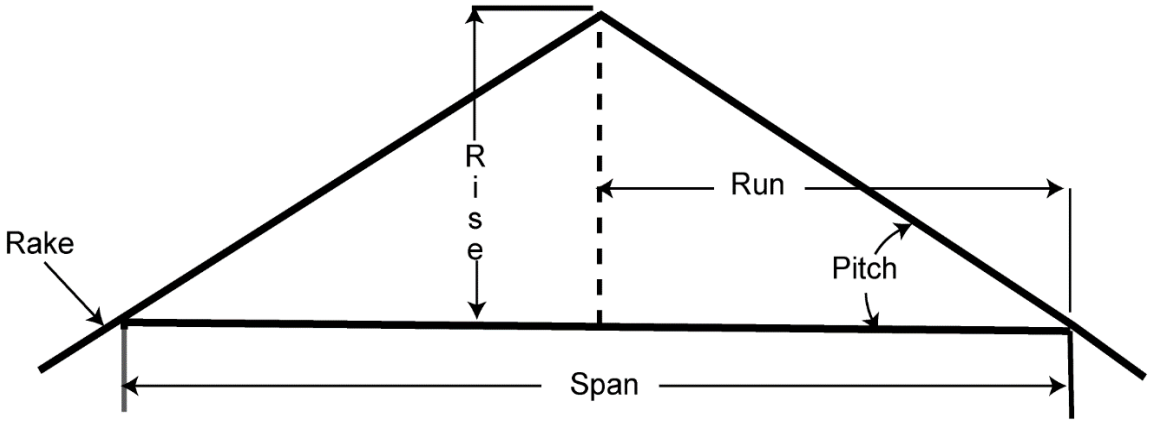
There are several unique components to roofs.

- Flashing - Metal covering applied around chimneys, valleys, and wall/roof intersections. Prevents water seepage.
- Fascia - Vertical covering below the eaves that shields the exposed ends of the rafters.
- Soffit - Panels installed to enclose the underside of the eave.
- Gable - The triangular wall section at the end of a pitched roof.
- Dormer - A window construction protruding from a roof.
- Vents – Pipes or ducts that allow the flow of air and gases to the outside
- Downspouts - Pipes, usually of metal, for carrying rainwater down from the roof's horizontal gutters.
- Gutters - Shallow channels or conduits of metal or wood set on the fascia of a house to catch and carry off rainwater from the roof.



Roof Framing Terms

- Span - Distance between two opposite walls that support the roof.
- Run - One half the span distance.
- Unit of Run - One unit of run is equal to 1 foot.
- Unit of Rise - Number of inches a roof rises for every foot of run.
- Pitch - Slope of the roof, expressed as a ratio between the rise and span of the roof. Common roof pitches are 3:12, 6:12 and 4:12.
- Rake - Inclined edge of a gable roof from the eave to the ridge.



Flash Point: Asphalt shingle roofs cap about 80% of American houses. They may be applied directly over older asphalt shingles, roll roofing or roofing felt on solid sheathing.

Skill Check #3

Match the appropriate term with the definition provided by writing the number for the term into the blank beside each definition.

1. Rafter _____ Factory-made assembly that forms a complete roof support framework.
2. Truss _____ Covers rafters, provides rigidity and strength.
3. Roof Sheathing _____ Like a wall stud, the structural framing piece of a roof.
4. Gable _____ Modified gable roof with slopes on each side
5. Gambrel _____ Triangular wall section at the end of a pitched roof.

Circle the correct answer(s) from the choices provided at the end of each statement.

1. These allow the flow of air and gases to the outside of a roof.

   downspouts guttering vents flashing

2. These are panels installed to enclose the underside of an eave.

   dormer gable soffit fascia

3. This roof has walls that slope at both ends and sides.

   saltbox mansard hip gable

4. This roof consists of two roof slopes that meet at the top and form triangular walls at either end.

   mansard gable hip saltbox

5. These are installed on roofs in the Northern areas of the US to prevent ice and snow from falling off a roof and damaging gutters.

   downspouts ogees ridge boards snow birds

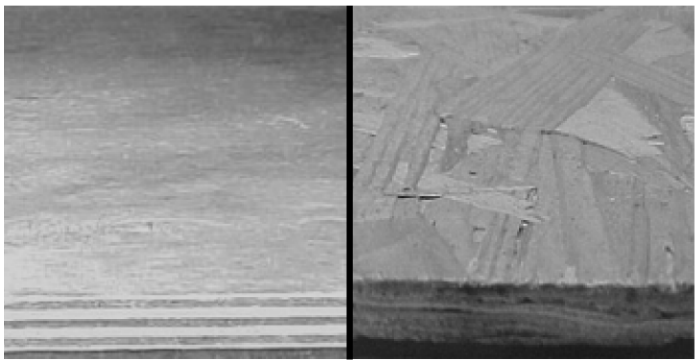
Section 4 – Exterior Covering

Exterior Walls

Sheathing

Sheathing is the first layer of the outside wall. It strengthens and braces the wall framing and provides a flat base for siding. The most common forms of sheathing include:

- Oriented Strand Board (OSB) - Wood product composed of strand type flakes aligned for strength.
- Plywood - Panels created by gluing thin layers of wood to form a solid, durable surface.
- Fiberboard - Panels of bonded (resins) wood particles coated with asphalt.
- Gypsum Sheathing - A fire retardant sheathing with a waterproof exterior side and waxed gypsum core.
- Lumber – Usually 1” X 6” tongue and groove.



Plywood **Oriented Strand Board (OSB)**

Flash Point: The type of material used on the surface is a factor in determining the type of sheathing necessary. Older houses may have one-inch dimensional lumber for sheathing. In the 1940s and 1950s, plywood became the material of choice. Plywood should not be used as sheathing for wood shakes, as it may not allow them to breathe and could shorten their life.

House wrap

After the wall sheathing is installed, a “house wrap” or moisture barrier normally follows. Commonly known by the brand name Tyvek™, a house wrap is a made-made non-woven synthetic fiber made from very fine, high-density polyethylene fibers.

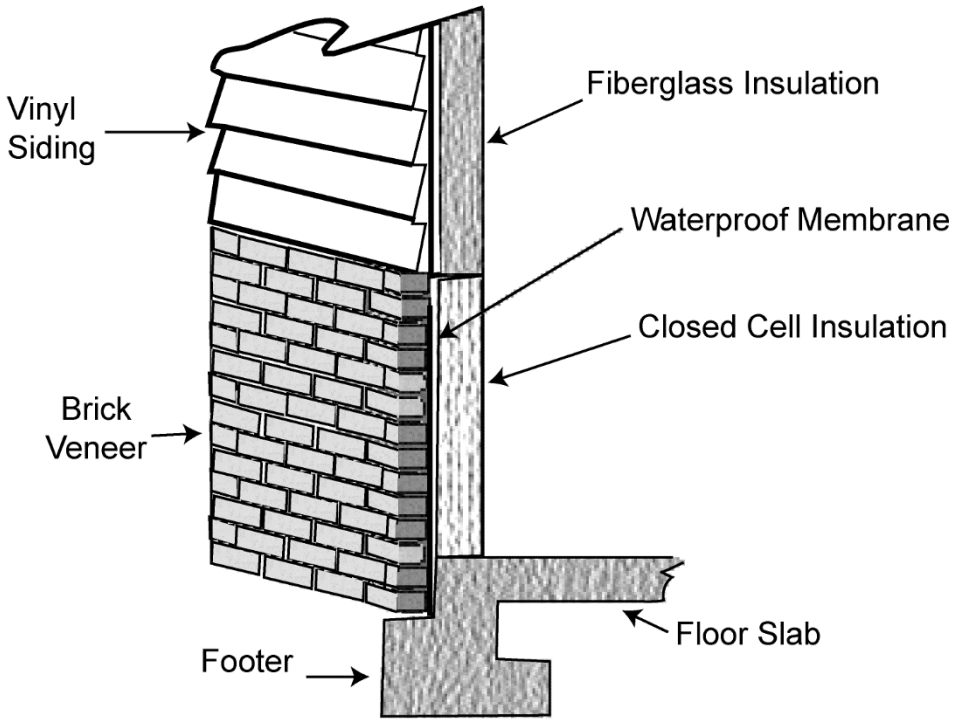
Properly installed under the exterior wall covering, a house wrap:

- Blocks air infiltration, reducing drafts and air leaks.
- Adds another layer of water protection to the walls.
- Allow the wall and insulation to breathe, reducing water vapors that may build up inside the wall cavities.

Exterior Wall Covering

Exterior walls help waterproof and seal the structure. The outside wall can include a layer of brick, metal, vinyl veneer, concrete blocks or wood and can be backed by a waterproof membrane. Brick veneers are often applied over the sheathing of an exterior framed wall. It may be necessary to extend the existing foundation footing to support a brick veneer. When building exterior walls below anticipated flooding levels in a flood prone area, normal batt insulation is frequently replaced with a washable closed-cell foam insulation.

Flash Point: Exterior Insulation and Finish System (EIFS) is a term that refers to a "cladding system" produced by a number of manufacturers. The system is layered with plywood, insulation board, reinforcement mesh and usually at least two coats of synthetic stucco.



Exterior Siding

The exterior siding of a dwelling serves as the primary barrier to the outdoor elements. Geographic considerations and weather extremes often influence the type of exterior covering selected.

There are three basic categories of exterior siding:

- Masonry - Walls constructed of brick, stone or concrete block.
- Masonry Veneer - Framed walls with an exterior layer of brick, stone or stucco.
- Siding - Framed walls covered with wood, vinyl or aluminum

Flash Point: A "wythe" is used to describe the thickness of a brick wall. A wall that is two bricks thick (approximately eight inches) is a two-wythe wall.

Skill Check #4

Using the information in section IV, exterior covering, complete the following sentences.

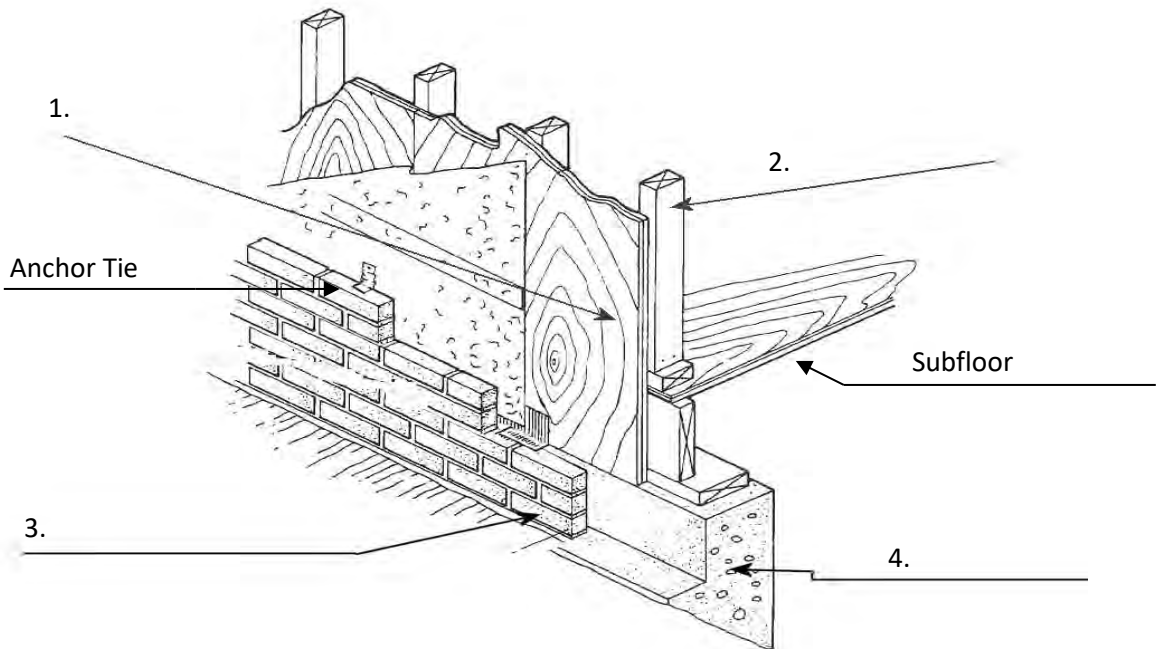
1. One way to protect a house from shallow flooding is to add a _____ _____ to the exterior walls and seal all openings, including doors, to prevent the entry of water.

2. When constructing exterior walls below flood level, standard _____ is replaced with washable closed-cell foam insulation, and any wood blocking added inside the cavity wall is made of exterior grade lumber.

3. _____ is the first layer of the outside wall.

4. Framed walls with an exterior layer of brick, stone or stucco are called _____.

Print the appropriate term on the line with the corresponding arrow.



waterproof veneer batt insulation sheathing

masonry veneer stud footing

Section 5 - Finishing

Overlayment

Many floors require some type of overlayment to provide a flat, stable surface.

- Overlayment - Plywood, wood composition boards, masonry panels, felt-like material or poured floor.

Floor Finishing

Floor finishing refers to the final surface applied to the floor. A wide variety of materials may be used.

Hardwood Floor Types

Hardwood is sold according to:

- Material
  - Solid hardwoods – quality is further specified by lumber grades.
  - Engineered Hardwoods – a “hardwood plywood” laminate.

- Size
  - Strip – About 3 inches wide or less.
  - Plank - Wider than 3 inches.
  - Parquet - Several strips are pre-assembled to form a square pattern.

- Finish
  - Unfinished – bare, sanded wood.
  - Finished – usually with a baked-on epoxy or polyurethane finish.

- Installation methods
  - Nailing – Floor is attached to a wood sub-floor with flooring nails.
  - Stapled— Attached to the sub-floor with a pneumatic stapler.
  - Glued — Engineered floors are applied to the sub-floor with adhesive.
  - Floating — Tongue and groove floor planks are glued together. The floor rests on a layer of felt or foam between the floor and sub-floor rather than being fastened directly to the sub-floor.

Hardwood flooring being installed

Resilient Floors

- Vinyl Sheet - Placed on a felt backing.
- Vinyl Tiles - Solid vinyl--the most durable of the resilient floors.
- Linoleum - Continuous sheet similar to vinyl.

Other Flooring

Asphalt Tile – Applied over concrete.

Linoleum - Originally made by oxidizing linseed oil; polyvinyl composition today.

Ceramic Tile - Hard, clay-based tile that is heat and moisture resistant.

Interior Wall and Ceiling Coverings

After the “rough” installation of wiring, plumbing, and ductwork, the interior walls and ceilings can be insulated. Insulation is almost always found in exterior walls; some homebuilders will install insulation around the master bedroom and bathrooms as a sound dampening measure.

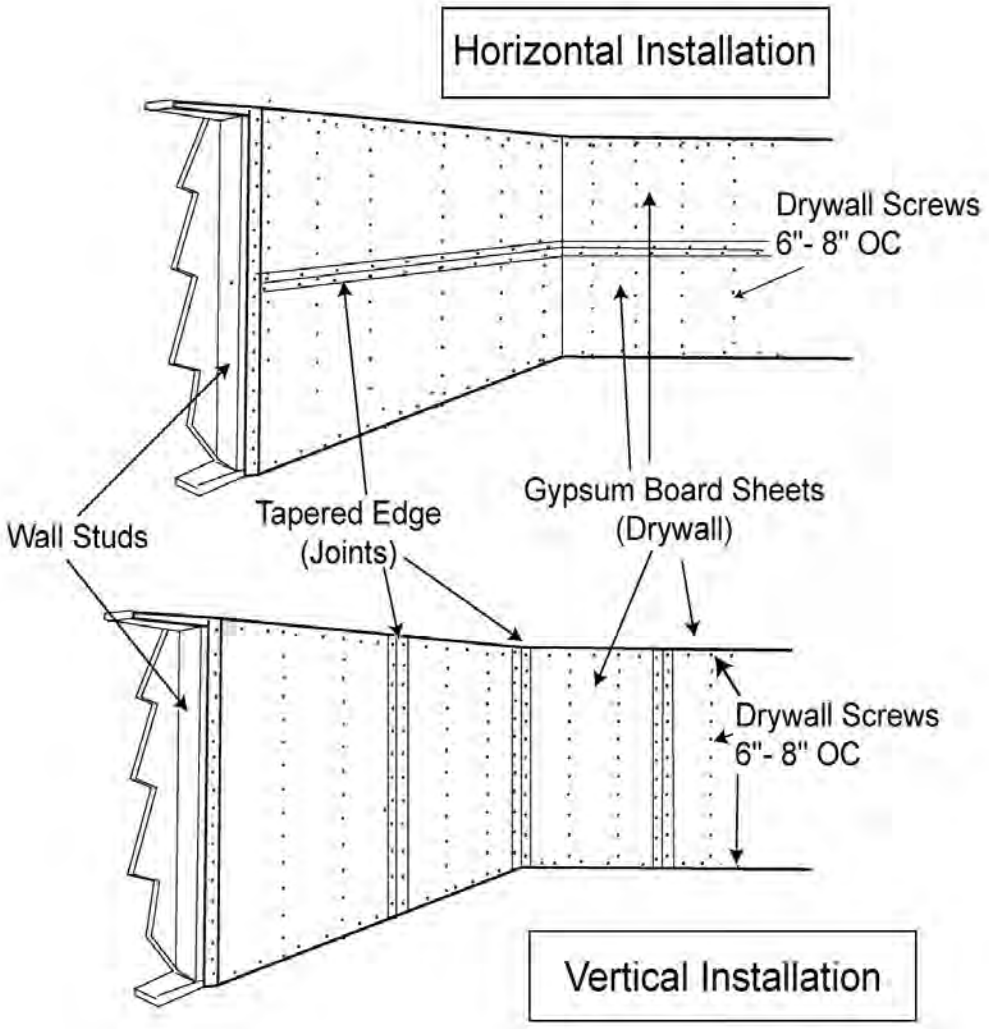
Common forms of insulation

- Fiberglass rolls – Spun fiberglass is available in several thickness and widths, lengths up to 25 feet.
- Fiberglass Batts – Same material as fiberglass rolls but cut to fit in wall stud cavities.
- Blown In – Usually Cellulose (shredded and treated newspaper) insulation that is blown into wall and ceiling cavities.
- Rigid Foam - made of a fibrous material or plastic foams, it is pressed or extruded into large, plywood-sized sheets.

Interior wall finish

- Sheetrock (Drywall, wallboard or gypsum board) – is made from ground gypsum covered with a heavy paper. The most common sizes are 4'x8' and 4’x12’. Most commonly covered with paint or wallpaper.
- Cement Board - Water resistant wall covering with nylon mesh backing or coated hardboard usually covered with tiles. Its water resistance makes it ideal for areas around tubs and showers. Its stability makes it ideal for use as a base for tile walls and floors.
- Plaster - Plaster is made of sand, lime, and water and applied to a base (lath). Its popularity suffers from relatively high labor cost and a limited supply of experienced plasters.
- Paneling – May be made of solid woods but is usually a manufactured wood product painted or covered to create a finished wall surface.

Horizontal installation reduces the amount of ladder or stilt work required for finishing drywall.



Skill Check #5

Indicate the correct answer by circling either TRUE or FALSE for each of the following statements.

1. TRUE FALSE Overlayment is used as an insulator for exterior walls.
2. TRUE FALSE Floor finishing refers to the final surface applied to the floor.
3. TRUE FALSE Parquet flooring is wider and longer than 'strips' of hardwood flooring.
4. TRUE FALSE Vinyl sheeting, vinyl tiles and linoleum are NOT considered resilient flooring.
5. TRUE FALSE When installing dry wall, screws should be spaced 6-10 inches apart.

Select from the terms provided to complete the following sentences.

batts studs overlayment gypsum board horizontally vertically stucco

1. Installing drywall _____ requires less labor.

2. Plywood, wood composition boards, masonry panels, or a felt-like material applied over a subfloor is called _____.

3. Drywall is attached to _____.

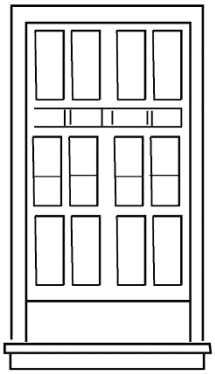
4. Fiberglass insulation cut to fit in stud cavities is called _____.

5. Another name for drywall is _____.

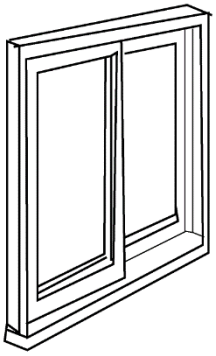
Section 6 – Windows and Doors

Windows

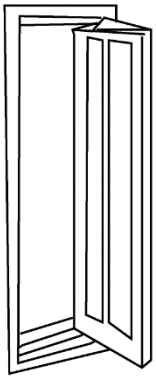
Windows provide natural light and ventilation. They are generally classified by the way they open and close: **fixed**, **sliding** or **swinging**. Window frames are made from wood, steel, aluminum, vinyl or vinyl-clad wood.



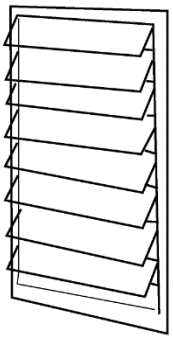
Double Hung - Both sashes move
Single Hung - Only lower sash moves



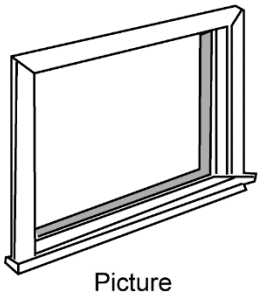
Sliding



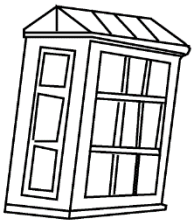
Casement



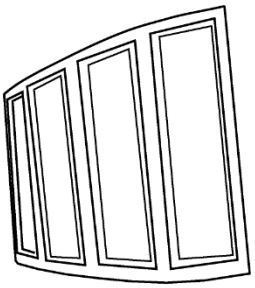
Jalousie
(Miami Louver)



Picture



Bay

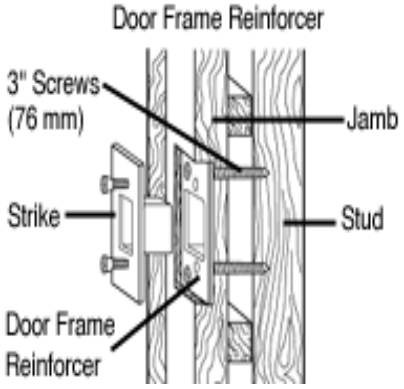


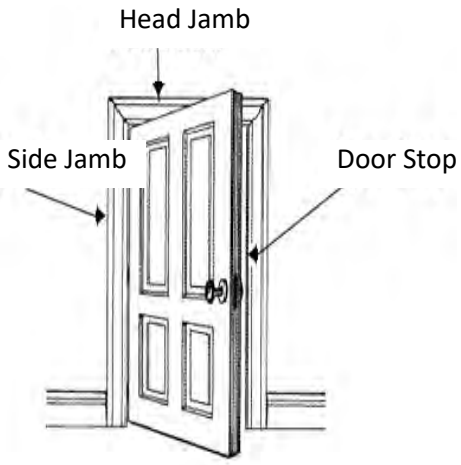
Bow

Flash Point: "Glazing" can mean either a coating on glass or the method of securing window glass panes.

Doors

Doors are secured to a frame that consists of a **head jamb**, **side jambs** and **stops**.



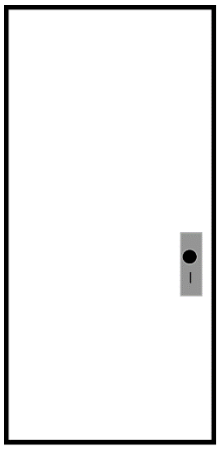


- **Exterior doors** are available in four basic types: flush, paneled, paneled with glass panes (lights) and sliding glass doors.
- **Garage doors** are usually sized for either single or double car widths. Exterior materials include steel, wood and synthetics. In addition to size and material, options include windows, insulation, electric openers and exterior finishes.
- **Interior doors** are also available in a variety of styles: hollow-core, pocket, double acting, bi-fold and French.

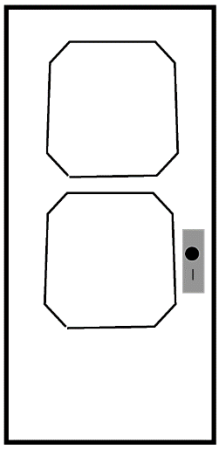
Flash Point: Many manufacturers are reducing the use of wood in doors and frames to lower costs and minimize water damage. Synthetic composite materials are replacing wood around door glass, lower doorjambs, bottom rails and sub-sills.

Types of Doors

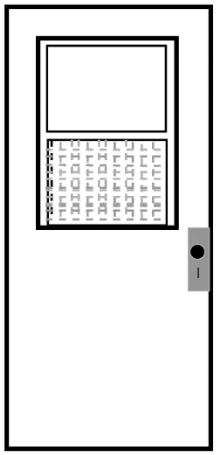
Doors are made in a variety of styles. Below are some of the more frequently used exterior door styles.



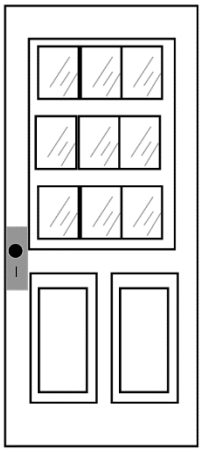
Flush



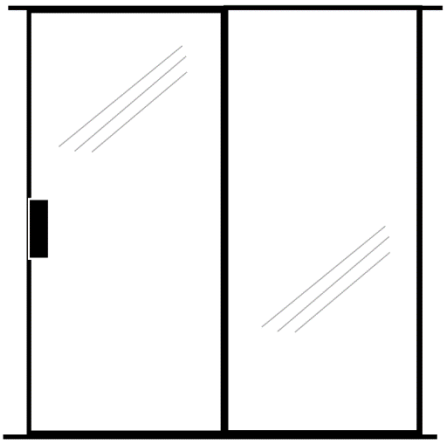
Two Panel



2-Light Panel



9-Light panel



Sliding

SKILL CHECK #6

Supply the correct answers for Questions 1, 2 and 3.

1. Windows are generally classified according to: _____.

2. The three primary types of windows are:

_____.

_____.

_____.

3. The four basic types of exterior doors are:

_____.

_____.

_____.

_____.

True or False

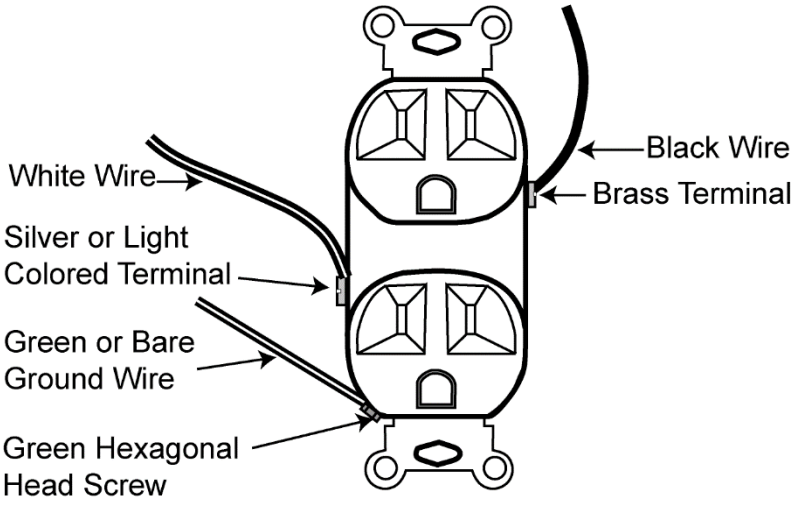
Glazing can mean either a coating on glass or a method of securing window glass panes. **True** **False**

Manufacturers are reducing the use of wood in doors and frames to prevent water damage. **True** **False**

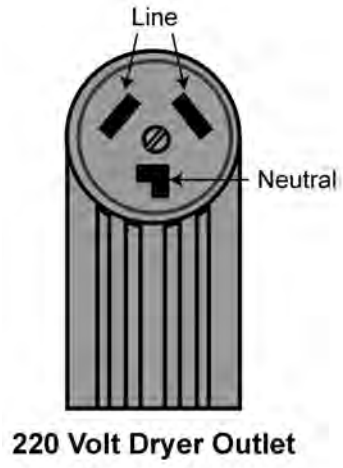
Section 7: Electricity

Standard Electrical Configuration

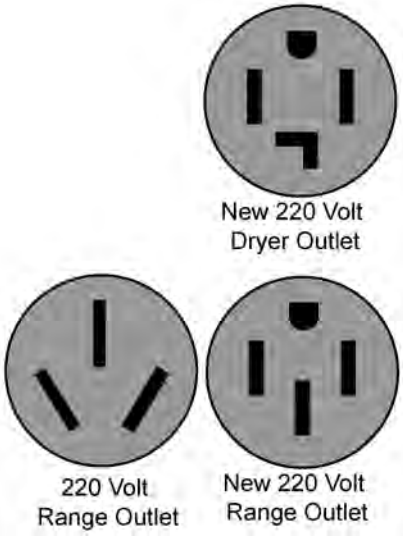
The basic electrical configuration consists of a “hot” wire, usually wrapped in black or red covering, that carries electricity from the source to an electrical connection. The return wire is called “neutral” and is normally white. A third wire that serves as a “ground” is usually a bare copper wire or coated green.



Flash Point: Home heating needs are responsible for the largest portion of residential energy use in the U.S.



220 Volt Dryer Outlet

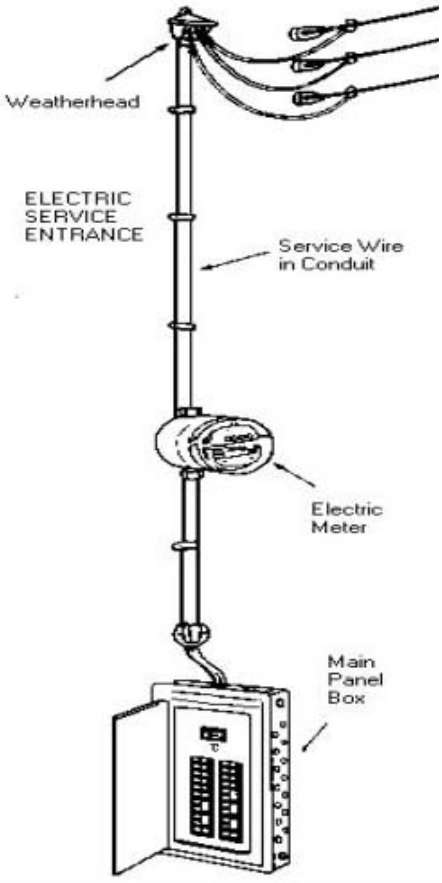


Electric Basics

- Voltage - Electrical force that causes current to flow. Most house outlets are 120-volt circuits. Electric stoves and clothes dryers require twice as much power or 220-volt circuits.
- Circuit - Path or loop electricity travels.
- Wattage - Unit of electrical measure (Kilowatt- electrical unit of 1000 watts).
- Amperage (Amp) - Measure of the strength of electrical current.
- Alternating Current (AC) - Electrical current that reverses direction at regular intervals. AC is the standard for U.S. electrical service.
- Direct Current (DC) - Electric current that flows in only one direction. DC is the standard for Europe and other parts of the world.

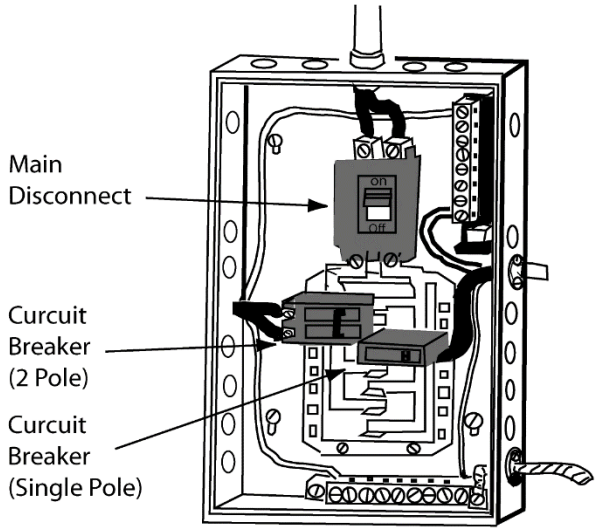
Service Entrance

Electricity may enter the home either above ground through the **service entrance** or through wires buried underground service in a **conduit** or pipe.

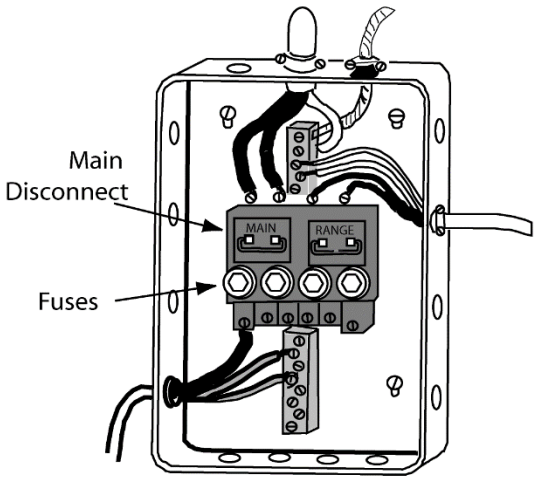


- Main Panel Box - The "service" panel where electricity enters the home and is transferred to wiring systems called branch circuits.
- Mast or Service Entrance - Above ground entrance for electrical power and wiring to the home.
- Underground Service - Underground conduit for electrical power and wiring to enter the home.
- Answer – Electrocution, primarily due to Meter - Utility company-owned device that measures electric power usage. FEMA uses electrical meters for identification of disaster dwellings.
- Service Sub-Panel - Extension of electrical service access within the home beyond the main service panel. Aids in distribution of electrical wiring. The sub-panel box often resembles a circuit breaker panel box, but it usually contains fewer breakers.
- Circuit Breaker Panel - Service panel containing circuit breakers or switches to shut off electricity either manually or automatically when exposed to too much power. Generally, these are rated for the type of wire and electrical load of the circuits; most are 15 and 20 amp.
- Single-Pole Breaker – One slot. Used for up to 120-amp circuits.
- Double-Pole (2 pole) Breaker – Two slot. Used for up to 240-amp circuits.

Circuit Breaker Panel



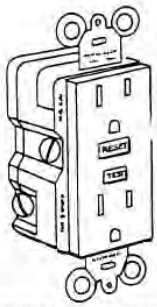
Fuse Box



Flash Point: In 1999 Hurricane Bertha slammed into the Carolinas and rampaged up the eastern seaboard causing over $100 million in damage. What was the leading cause of death?

Answer - Electrocution, primarily due to homeowners forgetting to ground their generators.

- Fuse Panel - Like a circuit breaker panel, contains fuses designed to prevent electrical overload. Individual fuses contain a filament that melts or "blows" when overloaded.
- GFI – Supplies power, as any receptacle does, but also monitors the amount of incoming and outgoing current. Whenever the entering current does not equal the exiting current, indicating current leakage, the GFI instantly opens the current.

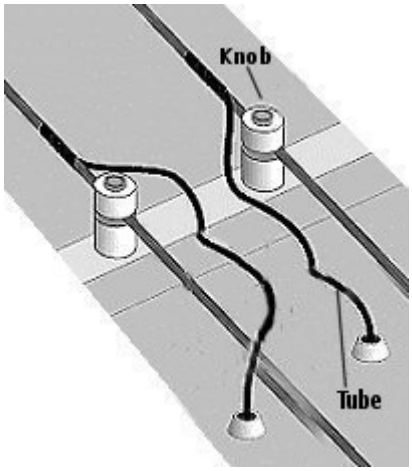


GROUND FAULT INTERRUPT
DUPLEX RECEPTACLE

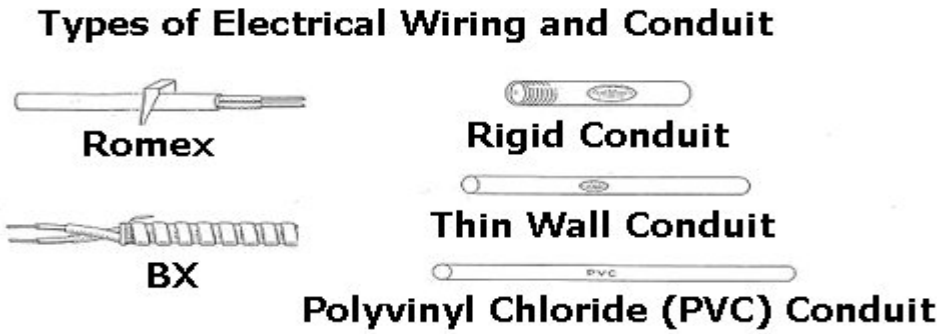
Wiring

There are three primary types of wiring found in home construction.

- Knob and Tube Wiring - Commonly used in homes before the 1930s. Copper wires covered in rubber or fabric wrap were routed by being clamped to insulating porcelain knobs.

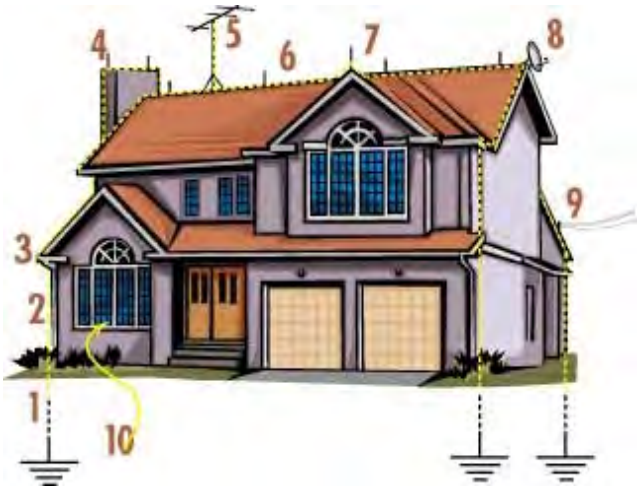


- Romex - Introduced in the early 1960s and widely used today. Romex contains a hot, neutral and ground wire. The hot and the neutral wires are individually wrapped with a plastic insulator. The ground wire is wrapped in paper and all three are encased in a plastic wrap.
- BX Cable – Contains insulated wiring encased in flexible metal or plastic tubing, also called conduit.



Grounding

Grounding limits excess voltage due to lightning, power surges or unintentional contact with other lines. Grounding is also intended to stabilize voltages.



Lightning Protection Key

1. Minimum of two ground rods (electrodes) at least 10 feet deep.
2. Down conductor connects the overhead ground wire to earth electrode subsystem.
3. Connected gutters or other grounded metals as required.
4. Air terminal (lightning rods) located within two feet of outside corners of the chimney.
5. Antenna mast connected to roof conductor.
6. Air terminals (lightning rods) spaced 20 feet apart along ridges and within two feet of ridge ends.
7. Dormers protected.
8. Roof projections such as weather vanes or satellite dishes should be connected to lightning protection system.
9. Surge protection devices installed at main electrical panel or meter.
10. Surge protection devices installed at electronics in house.

***Flash Point**:* During the Napoleonic Wars, more than 220 British tall ships were damaged--not by the French, but by lightning. The solution was to install lightning rods. But since that device had been invented by a "rebel colonist" named Benjamin Franklin, his Majesty's Navy steadfastly refused. It took until the 1830s before the Admiralty finally saw the light.

Skill Check #7

Complete the following questions using the words provided

in the list at the bottom of the page. (Two of the words provided will NOT be used.)

1. The return or neutral wire in an electrical configuration is normally the _____ wire.
2. _____ is the measure of electrical potential.
3. The measure of strength of an electrical current is called_____.
4. The _____ shuts off electricity when it comes into contact with water.
5. A standard electrical configuration consists of three wire functions. They are _____, _____ and _____.
6. The two primary types of electrical current are _____ and _____.
7. _____ wiring was popular in the early 1900s and featured copper wire wrapped in rubber or fabric and clamped to insulators.

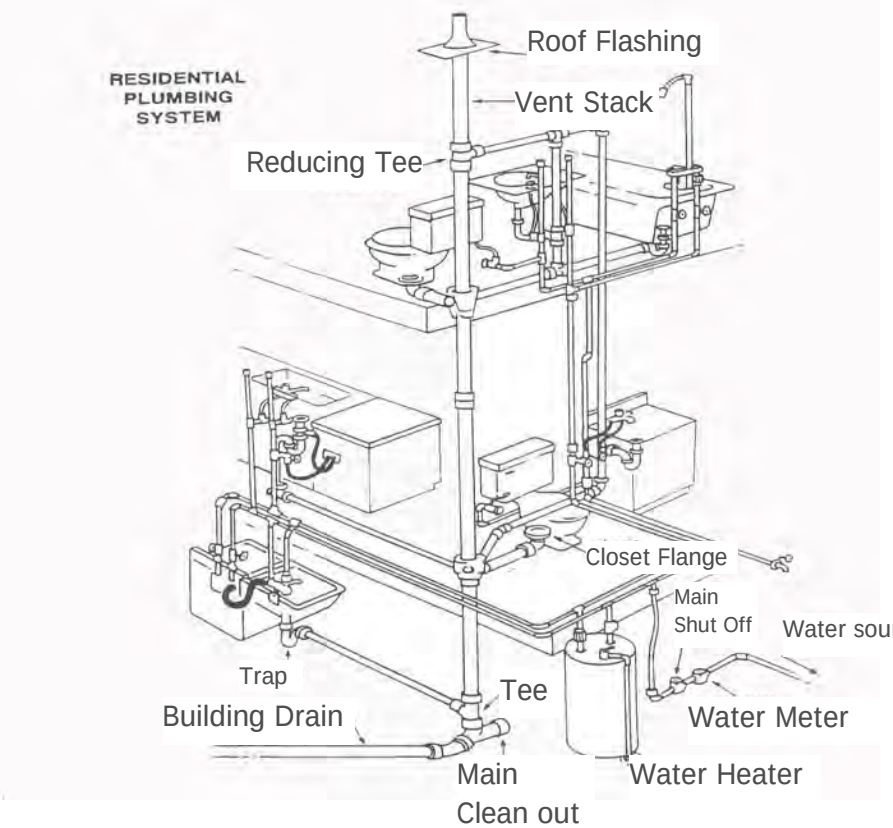
8. _____ limits excessive voltage due to lightning.
9. _____ is responsible for the largest portion of home energy use in the U.S.

GFI	Grounding	Heating	Wattage	Hot
Neutral	Knob and Tube	Voltage	Meter	Gray
Direct	Amperage	Alternating	Ground	White
Romex	Air conditioning	Single Pole	Double pole	BX

Section 8 - Plumbing

Residential plumbing consists of two separate systems: **water supply** and **disposal**.

Plumbing is categorized as either **rough plumbing** (completed before the walls are closed) or **finish plumbing**. Finish plumbing includes the installation of plumbing fixtures, e.g., faucets, toilet, tub and their connection to the piping system.

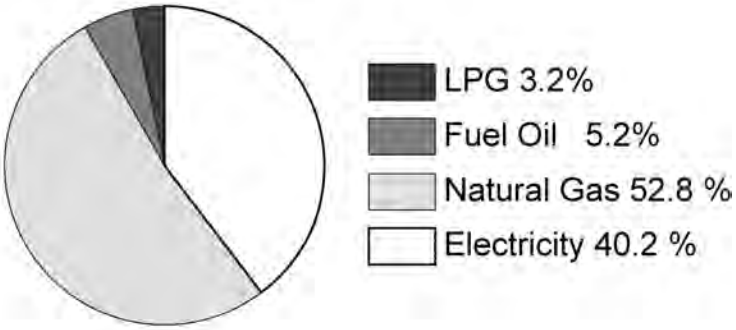


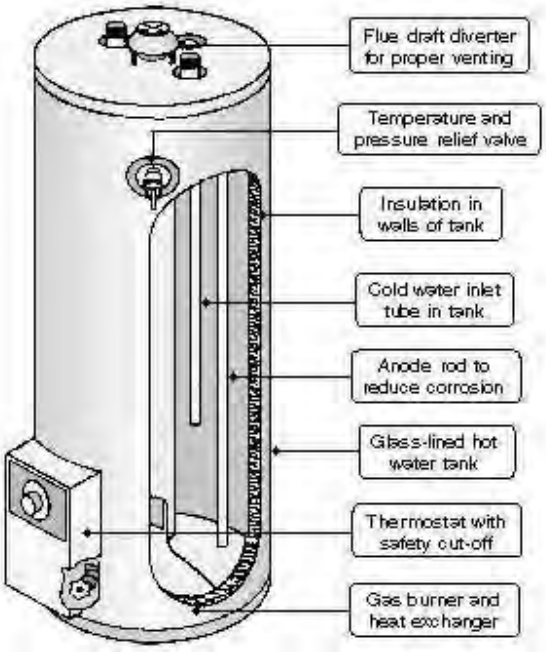
Flash Point: The Musée des Egouts de Paris is not the name of a French dessert. The Museum of the Sewers of Paris features several models, an audio-visual show, exhibition room and a collection of objects found in the system. Boat rides are no longer available to tourists.

Hot water

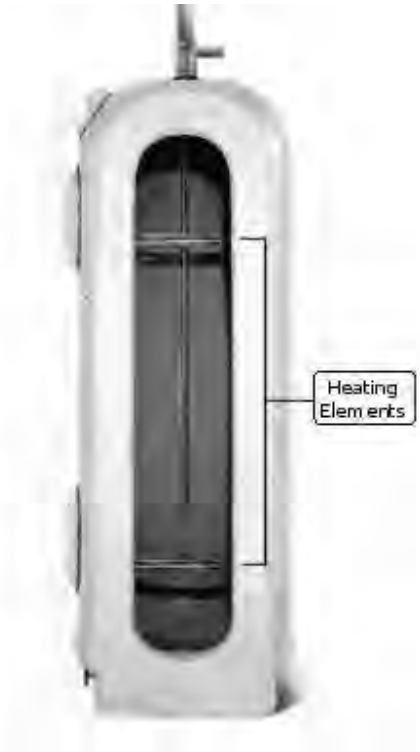
Water Heater - Hot water is released from the top of the tank. As the hot water is depleted, the tank fills with cold water that is then warmed by the **heating element**. Conventional water heaters are normally powered by electricity, natural gas, oil or propane.

Energy Sources for U.S. domestic hot water heaters





Electric Water Heater

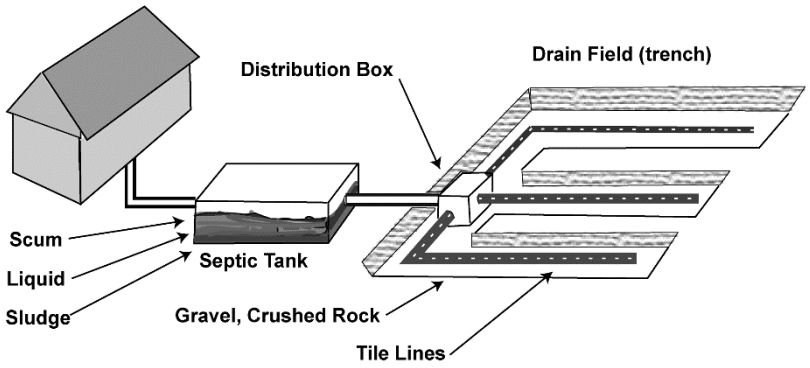


Gas Water Heater

Flash Point: In 2001 almost 10 million U.S. homeowners reported significant water leaks inside their homes.

Water Disposal

- Toilet - Removes waste from the house by sending it into the septic or sewer system and prevents sewer gases from entering the house.
- Septic Tanks - Used when municipal sewage systems are unavailable. A septic system usually consists of a vented septic drain line leading from the house to a septic tank, into a distribution box and finally into a drain field.

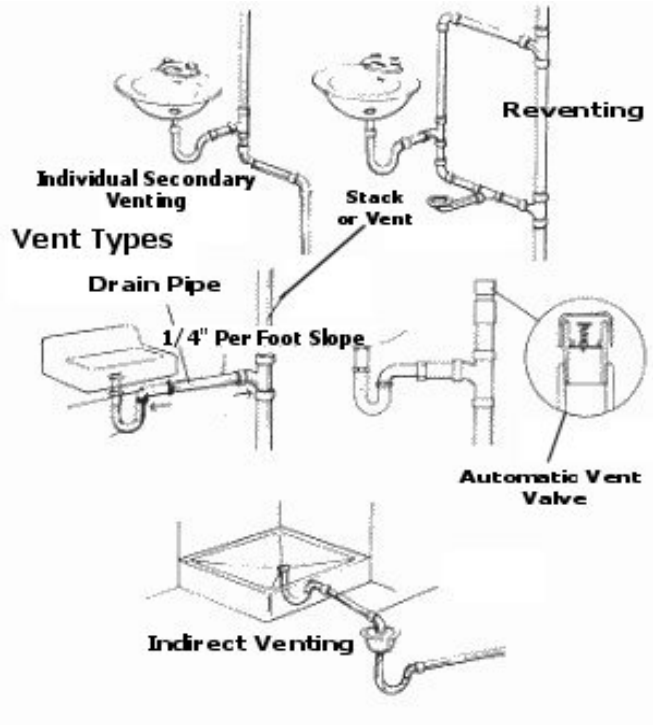


Piping

Pipes provide delivery of either water or heating fuels into and throughout the home and venting and exit of waste and fumes.

- Copper - Widely used for water delivery.
- Polyvinyl Chloride (PVC) – Cream, white or blue-gray in color. Used for cold water and Drain Waste Vent (DWV) lines.
- Chlorinated Polyvinyl Chloride (CPVC) - Gray or white, a type of PVC pipe approved for cold and hot water use not to exceed 140 degrees Fahrenheit.
- Acrylonitrile Butadiene Styrene (ABS) - Used in many localities for drain-waste-vent lines. Normally black in color.
- Polyethylene (PE) – Typically black in color and used for water/sewage utility service. A flexible hose often used to access well water sources.
- Galvanized Steel - Rarely used in modern construction. Frequently used in older homes for hot and cold water.

- Black Steel - Used for heating and gas piping. Appropriately and commonly called “black pipe” for its color.
- Flex - Flexible pipe used for natural and propane gas.
- Reventing – Pipe installed specifically to vent a fixture trap. Connects with the vent system above the fixture.
- Automatic Vent – A check valve that allows water or air to flow only one way.
- Indirect – Venting for a floor drain waste pipe.
- Terra cotta Waste line – Some older homes used these fired clay pipes to carry waste to drain fields.

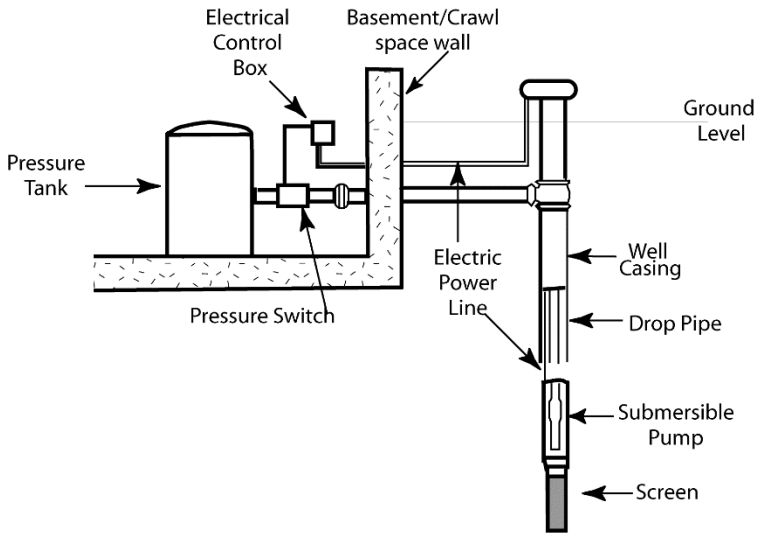


Flash Point: The first modern flushing toilet was designed by Sir John Harrington in 1589. Only he and Queen Elizabeth I owned models. Harrington was ridiculed for what was considered an “absurd device.” In 1778, Joseph Bramah, a London cabinet-maker, patented his hinged valve water closet, which continued to sell until 1890. Then the plumber, Thomas Crapper, designed a new version. His design perfected the cistern, which discharged a large amount of water at high speed to clear the bowl.

Wells

When public water supplies are not available or desired, homes receive their water supplies from wells.

- **Submersible pump** - Attached to a flexible water line and lowered dozens to hundreds of feet down the well shaft, the pump pushes water up to the house as needed.
- **Surface pump** - When wells are extremely shallow, a surface pump, usually located in a small pump house, may be sufficient to meet water needs.



- **Pressure tank –** Located inside the house**,** and resembling a small water heater, the tank holds water from the pump at a constant pressure ready for use.
- The **Pressure switch** and **Electrical control** box monitor the water in the pressure tank, engaging the pump as needed.

Skill Check #8

Complete the following questions by filling in the blanks.

1. Solid waste from a home is broken down by bacterial action in a _____. The effluent then flows into a _____ to be directed into tile lines where the liquid waste drains into the ground.

2. Residential plumbing consists of two separate systems: water _____ and _____.

3. The two types of underground piping systems are _____ and _____

4. The most common energy source for U.S. residential hot water heaters is _____

6. "Black Pipe" is normally used to deliver _____ for heating into homes.

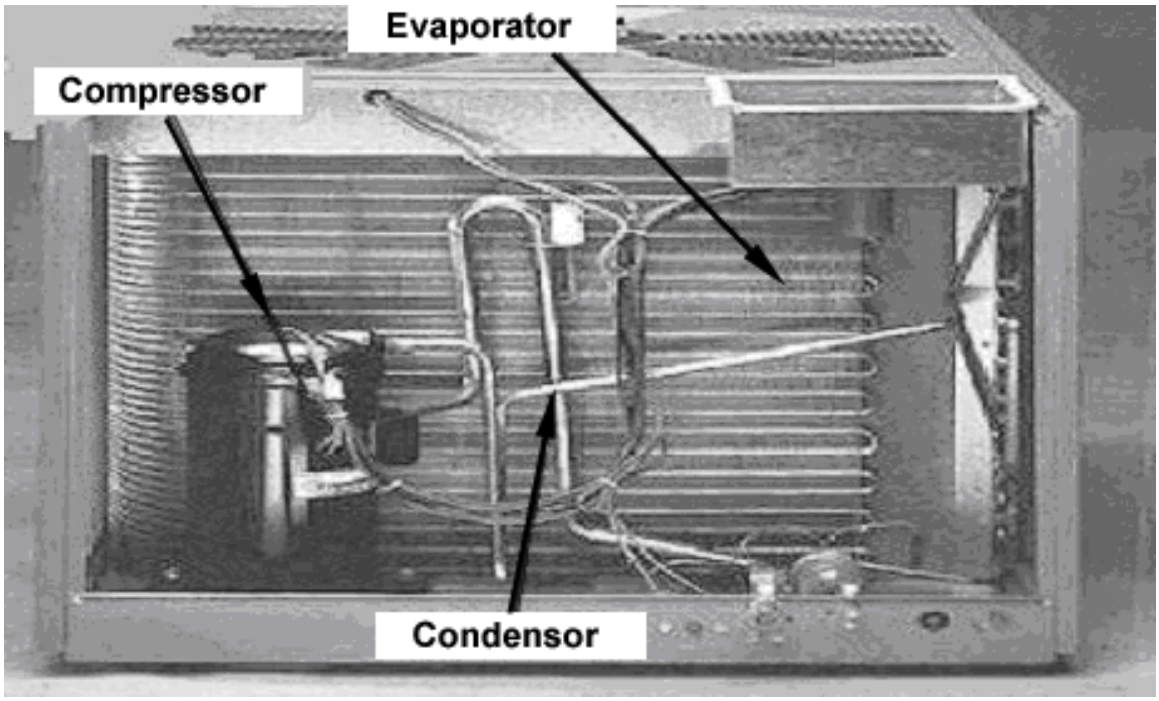
Section 9 - HVAC

Heating, Ventilation and Air Conditioning (HVAC) systems cool or heat air and provide home ventilation.

Air Conditioning

Air Conditioners (AC) operate on the same principle as a refrigerator.

AC systems cool the home with an indoor coil called an **evaporator**. This is the part of the system that gets cold. It cools by evaporating the refrigerant from liquid to vapor.



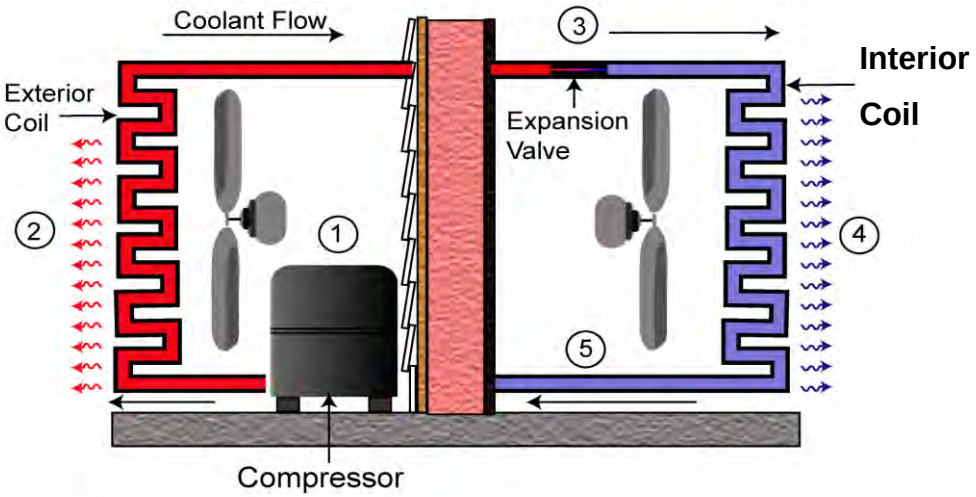
The **condenser** is the part of the system that changes the refrigerant from a vapor to a liquid and releases the collected heat outside. A pump, called a **compressor**, forces the refrigerant through the tubing between the evaporator and the condenser.

Flash Point: Some of the original research into air conditioning was an attempt to remove "foul humors and odors" that were once believed to cause malaria along the Gulf Coast.

Air Conditioner Types

- Room/Window Units - Designed to cool individual rooms. Most room air conditioners can be plugged into standard 110-115 volt household current.
- Central Air - Designed for total home cooling. Air circulated through the same ductwork as the furnace. Most of the equipment, except the condenser and compressor, is located inside the dwelling.
- Heat Pump (Split System) - Heat pumps are an energy efficient way to cool a home in the summer and heat it in the winter. The heat pump is a reversible system that moves either hot or cold air into the dwelling depending upon the season of the year. It is most efficient with external temperatures above freezing (32-70 degrees F).

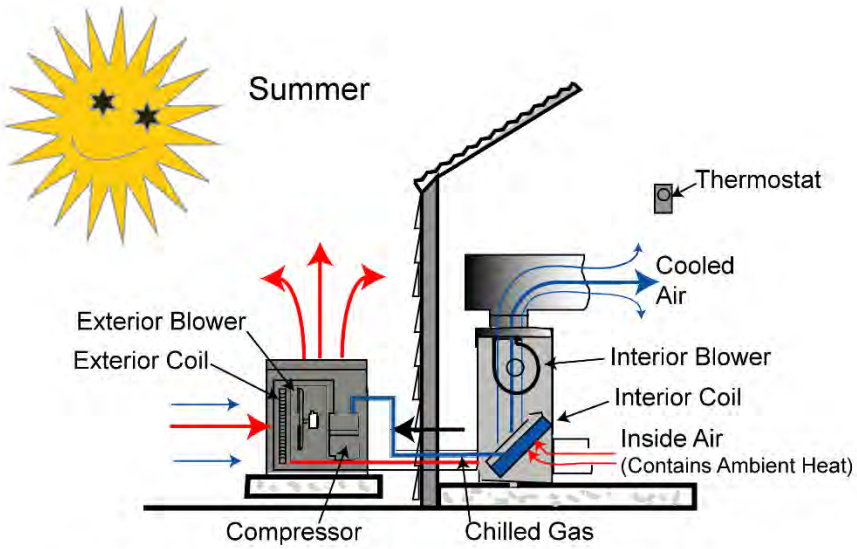
Central Air Conditioning Setup



1. Compressor pressurizes coolant, concentrating heat.
2. Fan blows over heated coil, sending heat into the outside air.
3. Expansion valve reduces pressure, chilling the coolant.
4. Fan blows over chilled coil, sending cold air into house.
5. Coolant returned to compressor, cycle resumes.

Seasonal Heat Pump Operation

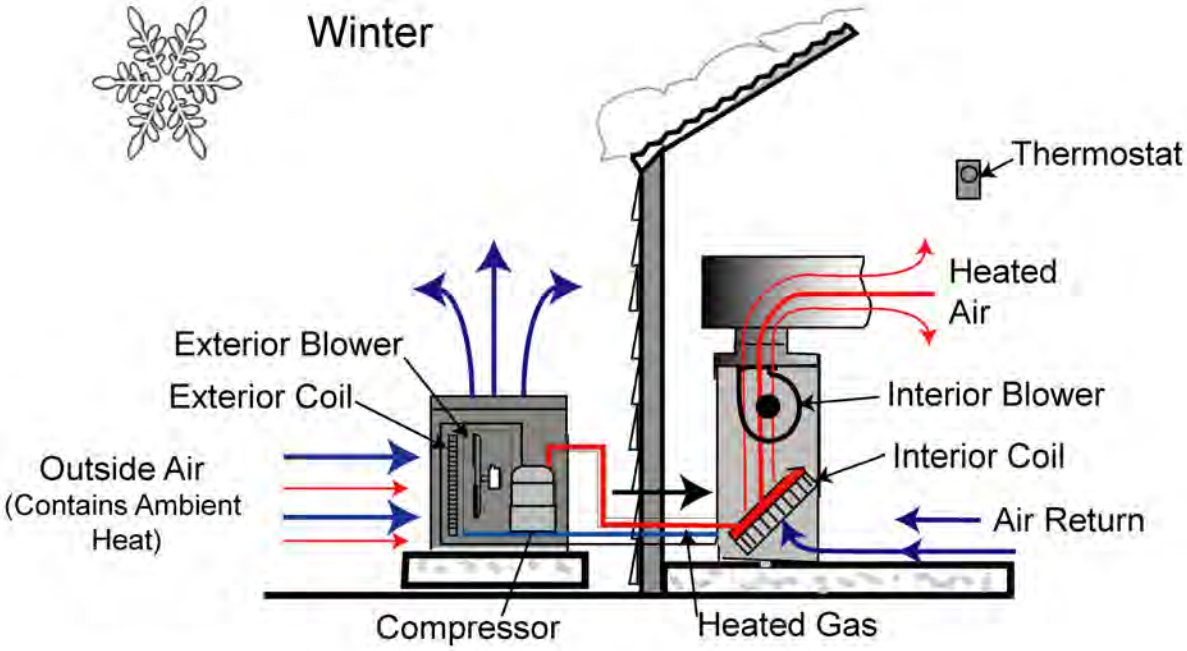
Summer



In the summer, a heat pump functions much like an air conditioner. Chilled coolant is pumped to a radiator-like coil inside the home. Air blown over and through the coil cools the home. The coolant then returns to the compressor to be chilled again.

Seasonal Heat Pump Operation

Winter



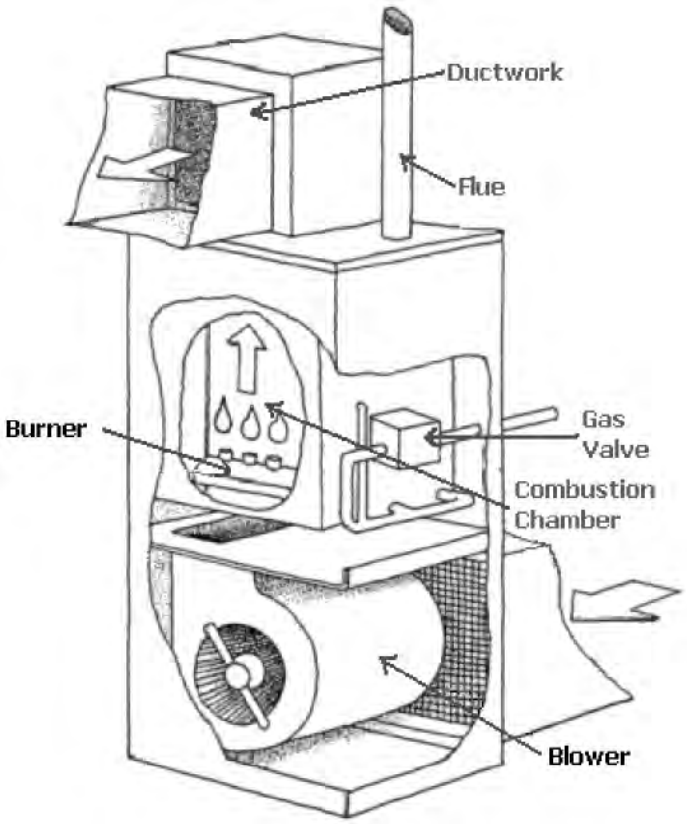
In the winter, a heat pump continues to function much like an air conditioner, but the flow of coolant is reversed. The interior coil chills the coolant by blowing air from the inside of the house over and through it. The coolant then returns to the compressor. The process is somewhat like turning around a window air conditioning unit for the winter heating season.

Heating Fuels

There are three main home heating fuels: **gas**, **electricity** and **fuel oil**. Gas can be either piped or bottled. Electricity powers baseboard heating units, floor and ceiling radiant heat, heat pumps and furnaces. Fuel oil furnaces became popular in the 1950s and are still widely used today.

Heating System Types

- Forced Air – The most common heating system built in the last 30 years. The air is heated by a furnace and circulated by a blower. A duct system distributes the heated air and returns the cool air back to the furnace.



- Gravity - Common in homes built over 50 years ago. Uses a large furnace relying on natural forces – gravity and the pressure differential between hot and cold air – to maintain airflow in the home.

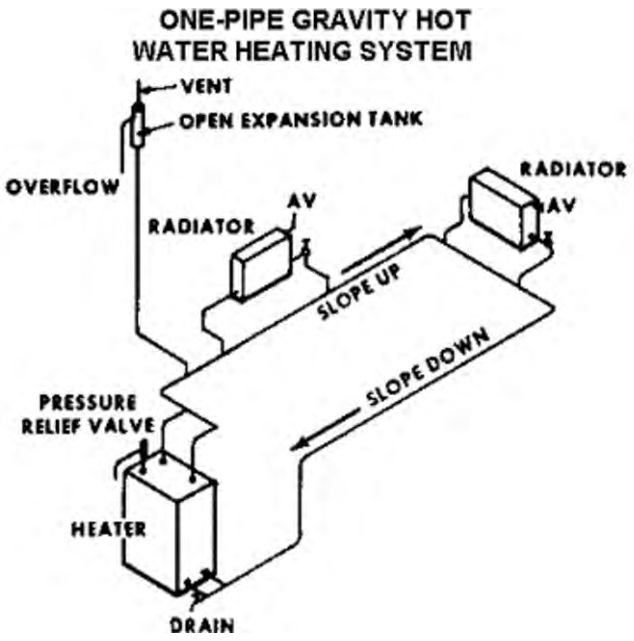
- Hot Water Gravity - Heated water rises through pipes that are connected to radiators throughout the house. The water flows from the radiators back to the boiler via return pipes.

***Flash Point*:** Mohenjo-Daro, a town of 40,000, supplied water to its bathrooms and lavatories in 2,500 BC. This part of the Indus River Valley is now desert.

- Forced Hot Water - Uses one or more pumps to circulate hot water through the system to radiate heat.

- Series Loop - Involves pumping hot water from one radiator to the next and back to the boiler.

- One-Pipe - Like the series loop, water is pumped from the boiler to the radiators. The piping, controlled by shutoff valves, carries water to and from the radiators allowing for control of water at each radiator.



- Two-Pipe - A gravity system has separate supply and return pipes that branches to each radiator through a pump, rather than by gravity flow. Hot and cold water never mix.

- Electric Zone - Individual thermostats control heating in specific areas of the house. Baseboard heaters, wall mounted radiant heat, fan assisted heat and ceiling radiant heat are all types of zone heating.

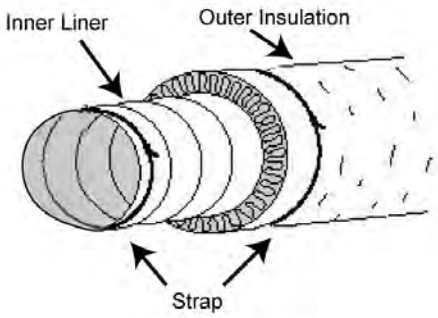
HVAC Ductwork

Ductwork has two functions for HVAC systems:

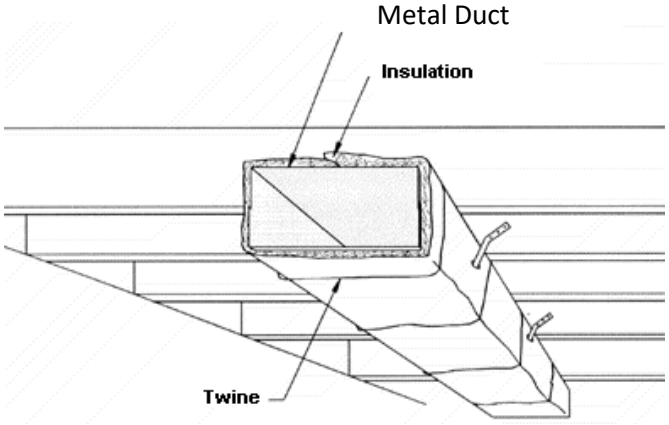
- Provides a conduit for warm and cold air throughout the house.
- Carries air back to the HVAC unit to heat or cool again.

Ductwork can be routed using either a rigid metal system or a flexible coil or "flex-duct" that may contain an interior wrap made of insulating material with an outer reflecting aluminum wrap.

Flex Duct



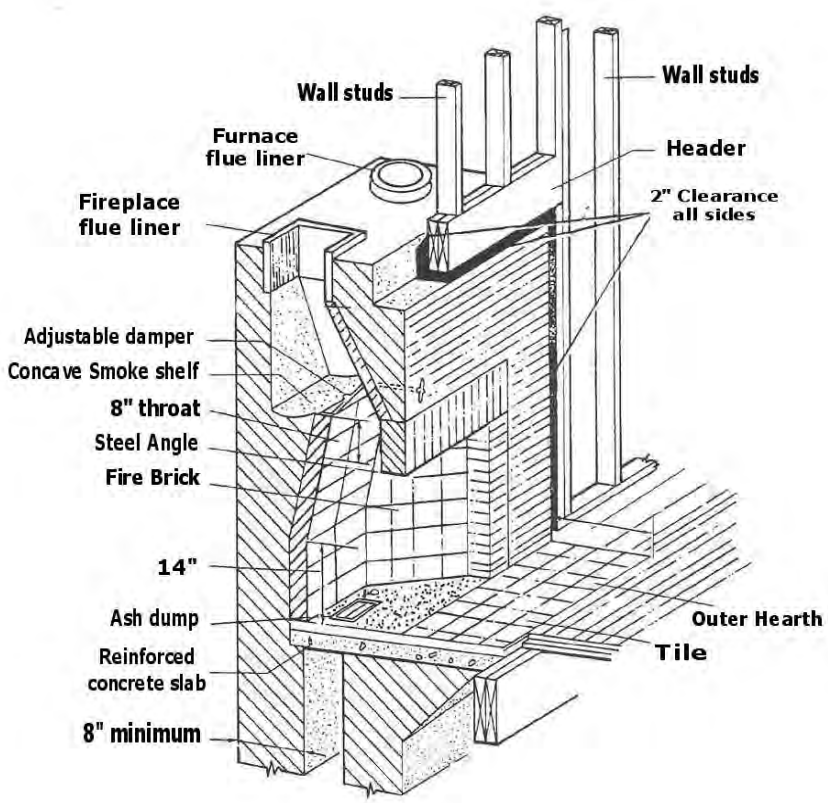
Metal Duct



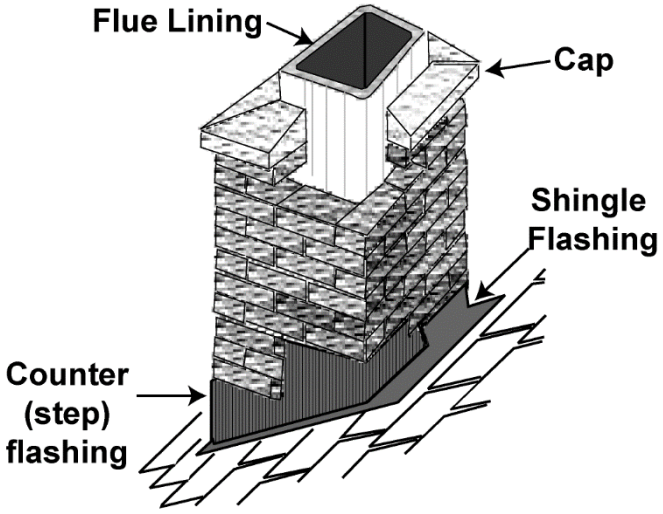
Chimneys

- Chimneys remove smoke and waste gases from fireplaces, fuel burning equipment, stoves and furnaces. Usually chimneys are constructed of brick or other masonry materials.
- Flue Liner - Interior casing within a chimney to protect it from extremes of heat and temperature.
- Cap Wash - Masonry (mortar) that surrounds the top of a chimney's flue liner.
- Chimney Cap - Protective top of a chimney's protruding flue liner.
- Metal Chimney System - While most chimneys constructed prior to the 1980s were made from brick, a growing number of homes are using metal chimneys in conjunction with wood or gas stoves and fireplace.

Flash Point: There are approximately 35 million homes in the U.S. with working fireplaces. Almost 2 million of these rely upon wood as their primary heat source.



Chimney Exterior



Flash Point: Some historians credit the invention of the chimney, which allowed individual bedrooms to replace communal sleeping areas, with creating the social concept of "privacy."

Skill Check #9

Complete the following questions using the words provided at the bottom of the page. Not all the words will be used.

1. The _____ is the part of the air conditioning system that changes the refrigerant from vapor to a liquid and releases the collected heat outside.
2. _____ rapidly lose efficiency below 32 degrees F or over 70 degrees F.
3. _____ provides a conduit for warm and cool air throughout a dwelling.
4. This type of heating system is common in houses built over 50 years ago.
5. Masonry (mortar) that surrounds the top of a chimney's flue liner is called the _____ _____.

heating element	cap wash	supply	gas	flashing
heat pump systems	anode	oil	cap	chimney
condenser	gravity	ductwork		

Section 10 - Multi-Family Housing

The number of multi-family housing units has more than doubled since the 1970s. Escalating building and land costs especially in and around metropolitan areas, are driving the trend. A variety of building types are available. High-rise apartment buildings, condominiums, boarding houses, large older home conversions and group homes can accommodate many individuals or households within the same structure.

Types of Multi-Family Dwellings

- Town House (Row House) – Town houses are adjacent single-family units lined up in a row of three or more. Often each unit will have a backyard and a garage. Each unit is individually owned.
- Duplex (Semi-detached) – Duplexes are two-unit dwellings that share a common wall. Each unit typically has its own entrance(s).
- Condominiums – "Condos" resemble apartments in design and amenities, but condos are owned, while apartments are rented.
- Apartments – These are rental properties that structurally share walls and ceilings/floors. Maintenance and repair costs, to both common amenities and individual apartments, are typically the responsibility of the apartment complex owner.
- Cooperatives – Most common in urban areas, cooperatives may be loosely thought of as an apartment complex, with each tenant being a shareholder in the corporation that owns the complex. These cooperatives will be addressed as Condos.

From the exterior it often difficult to tell the difference between an apartment, condominium and a cooperative

The floor plan and exterior details of the two sides of a duplex dwelling often mirror each other.

To create a firewall and help reduce noise, the wall between individual townhouses is usually constructed of masonry.

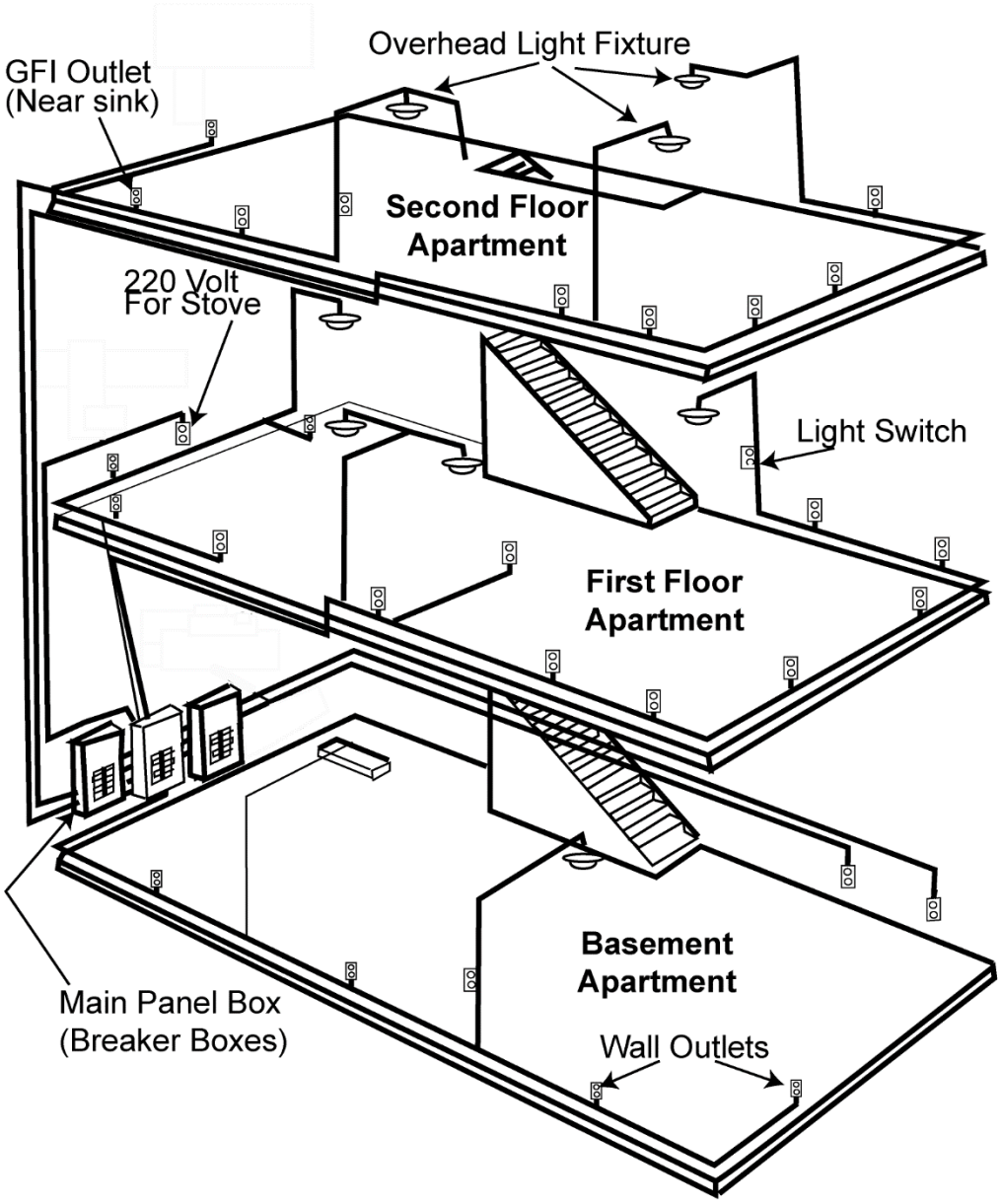
The houses shown have repeating architectural features and a common roof.

Extensive use of reinforced concrete and low-profile designs are common in island multi-family dwelling construction.

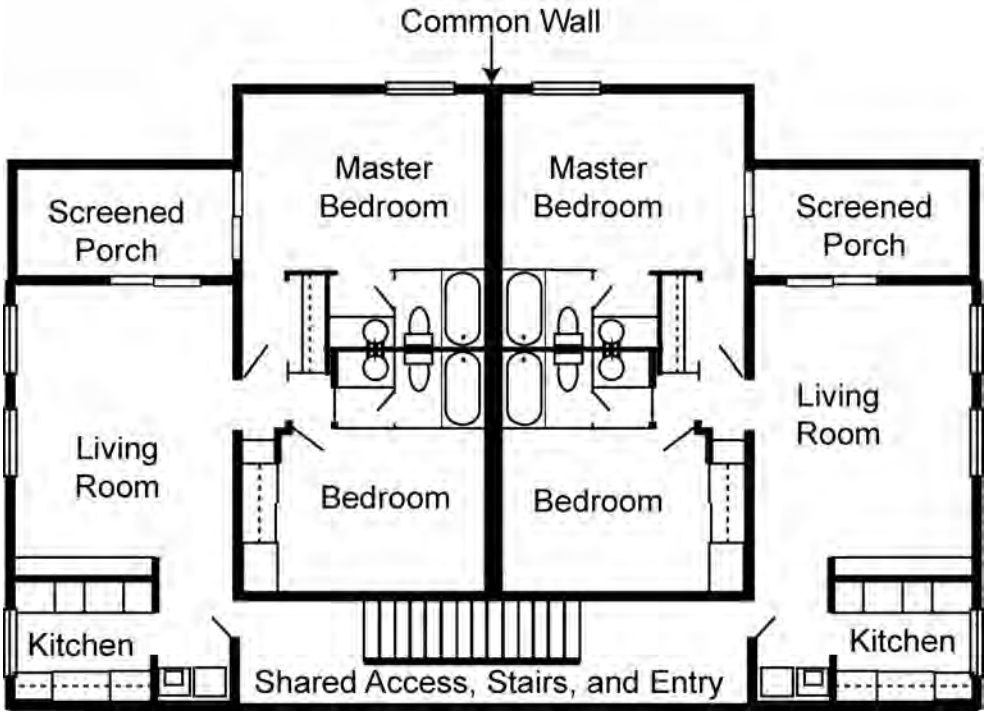
Electrical and gas meters for multi-family homes are frequently “banked” or “ganged” together.

Disaster damage can spread rapidly to many units within a multi-family structure. Damage to one resident’s floor can affect the ceiling of the person living below. Damaged common areas such as entrances and exits can inconvenience many residents at the same time.

Shared Structural Components in A Multi-Family Dwelling



Electrical panel boxes and electric meters in apartments are often “banked” in a central location.



Duplex or apartment complex residences often share access to stairs, entryways and common walls.

Flash Point: For condominiums, homeowners are usually responsible for repairs "from the sheetrock in" on their units, while, typically, the owner's association is required to make repairs to the exterior.

Skill Check #10

Select the appropriate answer(s) to complete the questions.

1. Multi-family dwellings often share:
    a. Common walls
    b. "Banked" gas meters
    c. Access
    d. Ganged electric meters
    e. All the above
    f. None of the above

Place an "X" next to the person or group that would pay to repair the following.

2. Leaky faucet in a condominium.
____ Owner ____ Renter ____ Cooperative Corporation
____ Condo Owners association

3. Flood debris removal from a cooperative
____ Owner ____ Renter ____ Cooperative Corporation ____ Condo Owners association

4. Replacing damaged stairs in an entrance to the apartment complex.
____ Owner ____ Renter ____ Cooperative Corporation ____ Condo Owners association

5. Septic backup in the basement of a town house.
____ Owner ____ Renter ____ Cooperative Corporation ____ Condo Owners association

Section 11 - Manufactured Housing

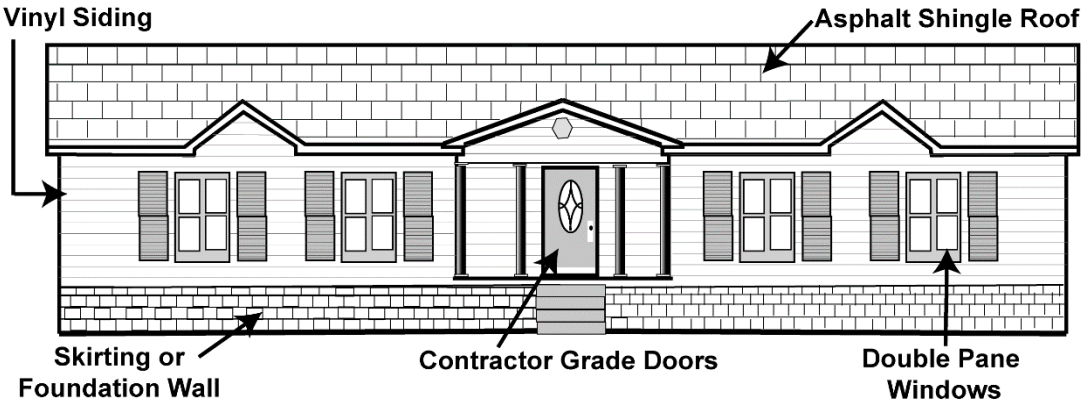
Factory-built housing refers to homes built in full or in part in factories and transported and installed at the site. **Manufactured Housing** is the formal term designating that a home has been built entirely within a manufacturing plant. Manufactured Housing is the only type of housing regulated by a Federal building code.

The Manufactured Home Construction and Safety Standards (commonly known as the Housing and Urban Development [HUD] Code) went into effect in 1976 and govern the way manufactured homes are built. In 1980 Congress adopted the term "manufactured home."

The term **mobile home** is properly used for manufactured homes produced before June 15, 1976. Prior to the late 1970s, mobile homes could usually be easily identified by their lightweight frame structures, overall rectangular shape, galvanized roofs and metal exterior siding.

Today, the growing use of contractor grade construction components like vinyl siding and composition roof shingles makes determining exactly what constitutes a basic manufactured house more difficult.

Modular Housing is fabricated in sections within the manufacturing plant and then assembled at the purchaser's building site. Modular and manufactured housing units can be sited on permanent foundations.

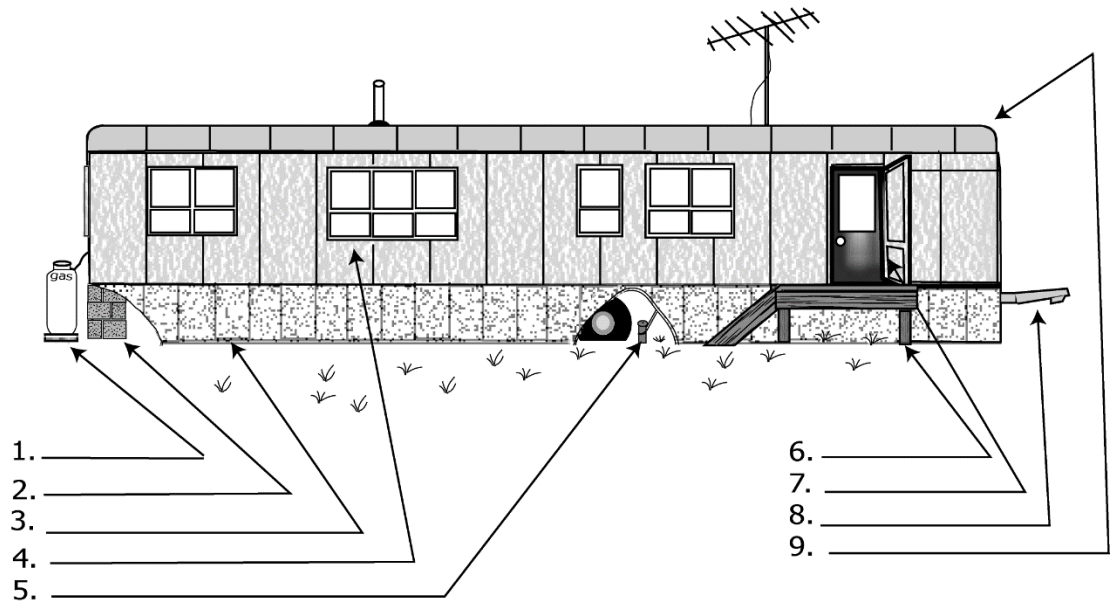


Both manufactured homes and modular home components are built within a factory. However, a manufactured home differs from a modular home in that it has a steel frame or undercarriage and its purchaser receives a title.

Flash Point: A disaster resistant pier system—stout members rigidly connecting the mobile home's chassis to a slab, grade beam, or array of pads—is one of the newest disaster resistant systems being used in manufactured home construction.

Skill Check #11

Mobile Home Components Identification



In the illustration above identify either the specific Mobile Home or generic home components and the corresponding Line Items that must be noted during an inspection. (Item #8 relates to a Line Item action.)

1. Propane tank
2. Concrete block pier
3. Skirting
4. Siding
5. Anchor tie
6. Access porch
7. Door and storm door
8. Tongue
9. Roof (metal or asphalt)

Section 12 - Calculating and Measuring Damage

The inspector will make disaster damage calculations in:

One dimension - Length or linear measurement

Two dimensions - Length and width

Three dimensions - Length, width and height (depth)

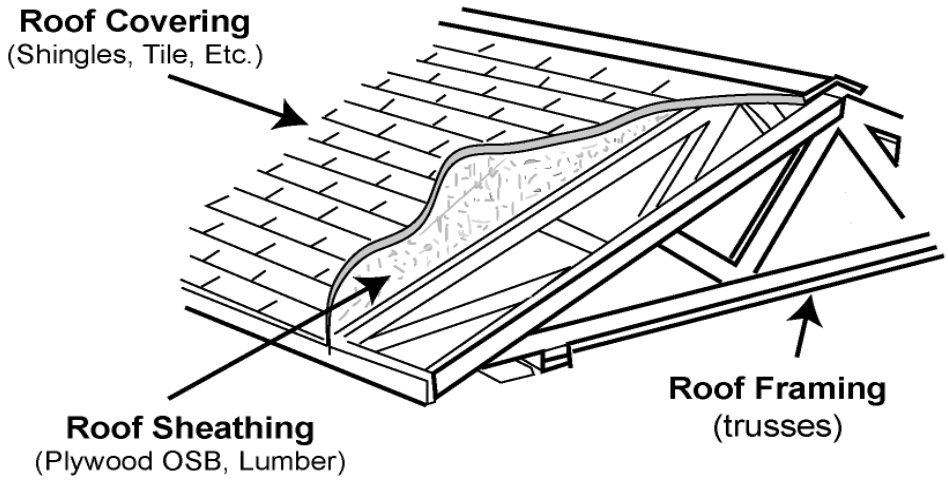
FEMA also uses the measurement designation “each” to indicate one or a single replacement quantity.

Roofs

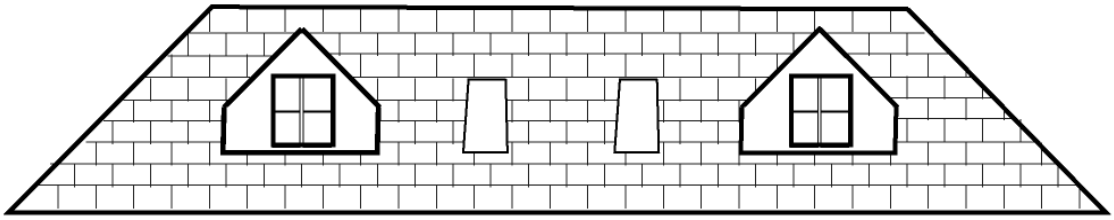
FEMA inspectors calculate the area of damaged roofs from the ground. To obtain an accurate measurement, the inspector will view a complex roof design in its primary shapes, calculate the area of each part and add the areas together to obtain the total.

Components such as **fascia** (the horizontal cover over the exposed rafter ends below the eave), **soffit** (the finished underside of the eave or rake) and **roof vents** need to be included.

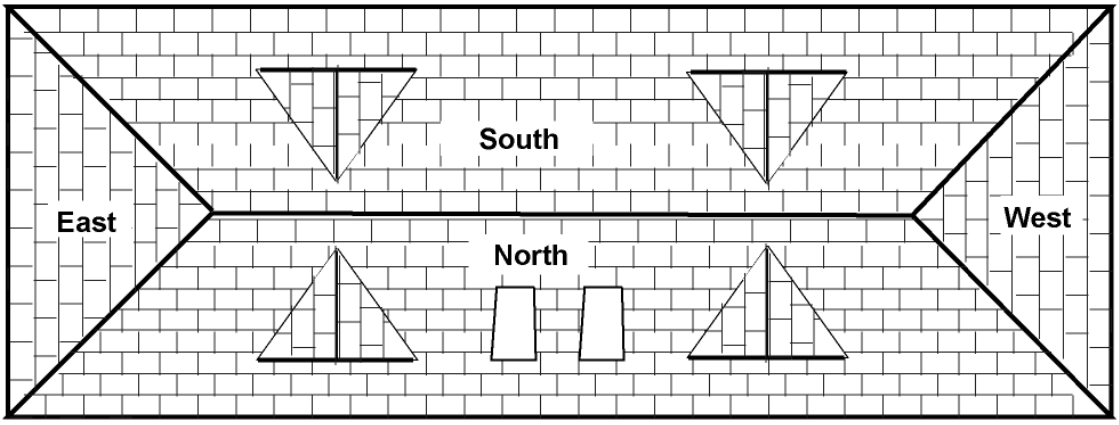
FEMA inspectors operate under the “Rule of Three” concept regarding the measurement of roofs. Inspectors will record one of the following: (1) **Roof Covering,** (2) **Roof Sheathing and Up** or (3) **Roof Framing and Up**.



A roof sketch can be a useful when calculating damage. Make a diagram of the roof as it would look if it had been completely flattened. This method reduces even the most complicated roof design to its most basic components: rectangles, trapezoids, parallelograms and triangles.

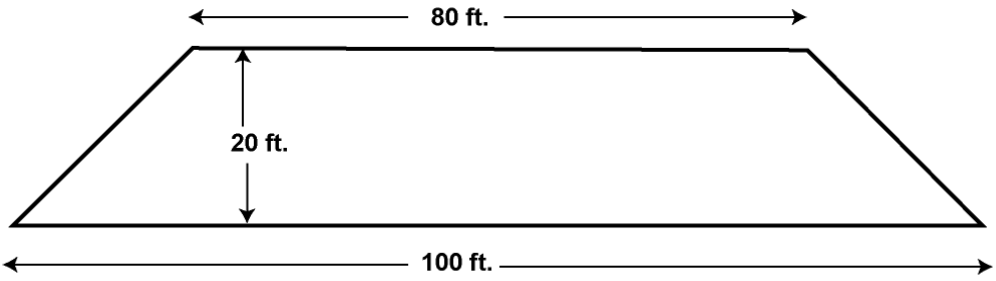


For example, the Roof shown above would be rough sketched like this.



Each roof component can then be identified, and its area calculated.

Area of the North and South Roof- TRAPEZOID



$$\text{Area of North Wall} = \frac{\text{Ridge Length + Eave Length}}{2} \times \text{Maximum Rafter Length}$$

$$= \frac{80+100}{2} \times 20$$

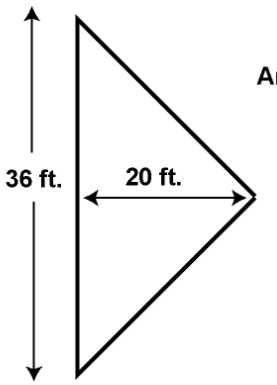
$$= \frac{180}{2} \times 20$$

$$= 90 \times 20$$

$$= 1800 \text{ sq. ft.}$$

Note - North and South roof sections are the same size

Area of the East and West Roof- TRIANGLE



$$\text{Area of East Wall} = \frac{\text{Eave Length}}{2} \times \text{Maximum Rafter Length}$$

$$= \frac{36}{2} \times 20$$

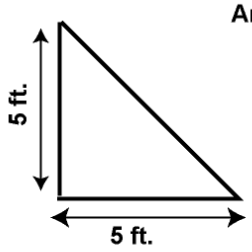
$$= 18 \times 20$$

$$= 360 \text{ Sq. Ft.}$$

Note - North and South roof sections are the same size

Area of the Dormers - TRIANGLE

Compute each Dormer as two triangles



Area of 1/2 Dormer = $\frac{\text{Eave Length}}{2}$ X Maximum Rafter Length

= $\frac{5}{2}$ X 5

= 2.5 X 5

= 12.5 Sq. Ft. per side

Note - North and South roof sections are the same size

Each Dormer = 2 X 12.5 = 25 sq. ft.
All Four Domers = 4 X 25 = 100 sq. ft.

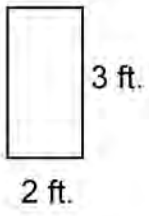
Total Area of Roof

North and South Roofs = 1800 + 1800	3,600 sq. ft.
East and West Roofs = 360 + 360	720 sq. ft.
Dormers	100 sq. ft.
Subtotal	4,420 sq. ft.

Subtract for skylight and area under dormers

Skylight

Area of the Skylights- Rectangle



Area of Skylight = Length X Width
= 2 X 3
= 6 Sq. ft

4 skylights, 6 sq. ft. each	24 sq. ft.

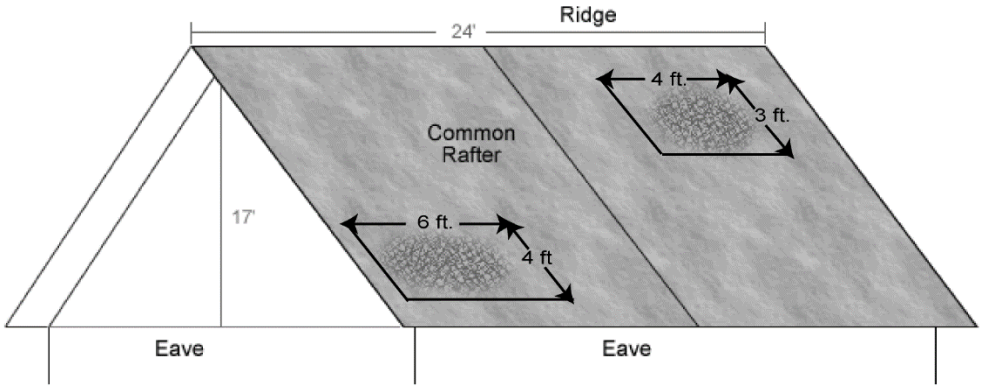
Under Dormers

(rectangles = Length X Width)

	6 X 4 = 24 sq. ft. each	
	4 dormers X 24 sq. ft.	96 sq. ft.
Subtotal		120 sq. ft.
Total Roof area		4,330 sq. ft.

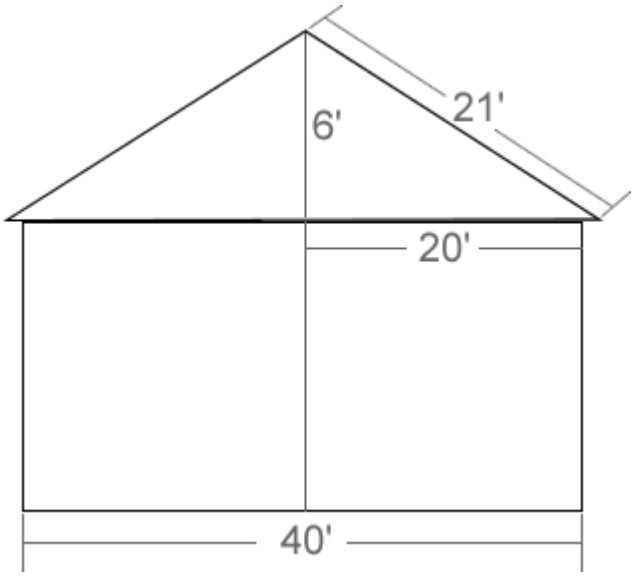
Exercise: Practical Field Calculations

Please complete the four exercises below.

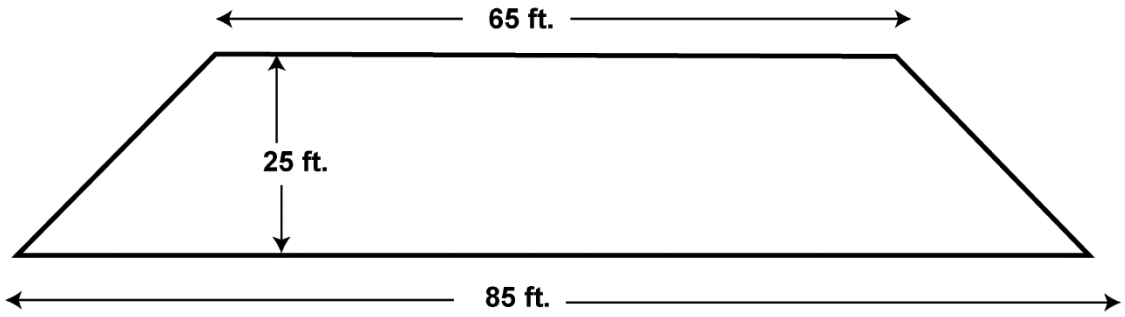


1. The shingles in two areas of this roof need to be replaced. The damage was limited — only the shingles were affected. Calculate the total area affected, show the unit of measure and RP line item recorded.

2. The gutters on both sides of the above house are also damaged. Calculate the damage, show the unit of measure.



3. The new inspector easily determined the damaged exterior siding on this home until he tried to calculate the area immediately under the eaves of the roof. Do the necessary calculation to accurately determine this remaining amount and show the correct unit of measure.



4. A severe hurricane has destroyed the entire roof of this home. From what remains the inspector determines that the ridge beam is 65 feet in length and the eave length is 85 feet. The distance between the two is 25 feet. Be precise. Calculate the amount of roof covering that will be needed to repair the roof completely and show the appropriate unit of measure.

Section 13- Types and Measurement Scales for Disasters

Disaster damage can be divided into two categories: **structural** (building) and **non-structural** (fallen trees, etc.). The degree of disaster damage depends on many factors: disaster type, structural type and the building's age and location.

Earthquake

Earthquakes generate chaotic, irregular, horizontal and vertical forces in a structure. The ground's sudden motion pushes and pulls upon a building's foundation causing it to expand, compress, bend and sway.

Because earthquake movements are transmitted from the ground through the foundation and then into the structure, a weak or poorly located foundation may fail even before the shaking reaches the rest of the building. When this occurs, the damage is usually severe.

Seismologists use a magnitude scale to express the energy released by earthquakes. On the following page is a list of typical earthquake effects in various magnitude ranges from the Richter Scale.

The Richter Scale
For Earthquake Severity

Magnitude	Earthquake effect
0.0 - 3.5	Generally not felt but recorded.
3.5 - 5.4	Often felt, but rarely causes damage.
5.5 - 6.0	At most, slight damage to well-designed buildings. Can cause major damage to poorly constructed buildings over small regions.
6.1 – 6.9	Can be destructive in areas up to about 60 miles across.
7.0 – 7.1	Major earthquake. Can cause serious damage over large areas.
8.0+	Extreme earthquake. Can cause serious damage in areas hundreds of miles across.

Although each earthquake has a unique magnitude, its effects will vary greatly according to distance from the epicenter (surface area directly above the center of the quake), ground conditions, construction standards and other factors.

Tornado

A tornado is a violently rotating column of air extending from a thunderstorm to the ground. The most violent tornadoes are capable of tremendous destruction with wind speeds of 250 mph or more. Damage paths can be in excess of one mile wide and 50 miles long. The **Fujita Scale** is used to measure tornado intensity.

The Fujita Scale is based on ***wind speed*** and how it correlates to damage, not the appearance of the funnel. Personnel from the National Weather Service office that issued the warning for a particular storm survey the site to determine the official Fujita or "F-Scale" rating.

Tornadoes occasionally accompany tropical storms and hurricanes that move over land. Although occurring throughout the United States, tornadoes happen most frequently in the Midwest during the spring and summer months.

Flash Point: Tornado intensity is based on rotational speed, amount of debris generated and width. This official estimate is made ***after*** the tornado has passed.

F-Scale Number	Tornado Intensity Phrase	Wind Speed (MPH)	Type of Damage Done
F0	Gale	**40-72**	**Some damage to chimneys; breaks branches off trees; pushes over shallow-rooted trees; damages signboards.**
F1	**Moderate**	**73-112**	**The lower limit is the beginning of hurricane wind speed; peels surface off roofs; mobile homes pushed off foundations or overturned; moving autos pushed off the roads; attached garages may be destroyed.**
F2	**Significant**	**113-157**	**Considerable damage. Roofs torn off frame houses; mobile homes demolished; boxcars pushed over; large trees snapped or uprooted; light object missiles generated.**
F3	**Severe**	**158-206**	**Roof and some walls torn off well-constructed houses; trains overturned; most trees in forest uprooted**
F4	**Devastating**	**207-260**	**Well-constructed houses leveled; structures with weak foundations blown off some distance; cars thrown and large missiles generated.**
F5	**Incredible**	**261-318**	**Strong frame houses lifted off foundations and carried considerable distances to disintegrate; automobile sized missiles fly through the air in excess of 100 yards; trees debarked; steel re-enforced concrete structures badly damaged.**

F6	**Inconceivable**	**319-379**	**Very unlikely. Damage may not be directly identified as F6. The only evidence might be ground swirl patterns. However, heavy missiles (cars or refrigerators) would do serious secondary damage.**

The Fujita Scale

Hurricane

Hurricane is a term used to refer to a tropical cyclone found in the northern hemisphere that circulates around a low-pressure system in a counter clockwise motion. In the southern hemisphere these systems rotate clockwise and are referred to as typhoons. Hurricanes generally form in the tropics and are accompanied by thunderstorms. The “storm surge” that accompanies a hurricane causes a rapid rise in the level of ocean/sea water as a storm approaches the shoreline.

Examples of Hurricane Strengths

Category	Sustained Winds (MPH)	Description	Examples
1	74-95	Minimal	Florence (1988) LA | Charley (1988) NC
2	96-110	Moderate	Kate 1985 FL | Bob 1991 NY
3	111-130	Extensive	Alicia 1983 TX
4	131-155	Extreme	Andrew 1992 FL | Hugo 1989 NC
5	>155	Catastrophic	Camille 1969 MS | Labor Day Hurricane 1935 FL Keys

The **Saffir-Simpson Hurricane Scale** is a 1-5 rating based on the hurricane's intensity. This is used to give an estimate of the potential property damage and flooding expected along the coast from a hurricane landfall. Wind speed is the determining factor in the scale

The scale was formulated in 1969 by Herbert Saffir, a consulting engineer, and Dr. Bob Simpson, director of the National Hurricane Center. The World Meteorological Organization was preparing a report on structural damage to dwellings due to windstorms, and Dr. Simpson added information about storm surge heights that accompany hurricanes in each category.

One	**74-95 mph**	**No real damage to building structures. Damage primarily to unanchored mobile homes, shrubbery, and trees. Also, some coastal road flooding and minor pier damage.**
Two	**96-110 mph**	**Some roofing material, door, and window damage to buildings. Considerable damage to vegetation, mobile homes, and piers. Coastal and low-lying escape routes flood 2-4 hours before arrival of center. Small craft in unprotected anchorages break moorings.**
Three	**111-130 mph**	**Some structural damage to small residences and utility buildings, and minor amounts of curtainwall failures. Mobile homes are destroyed. Flooding near the coast destroys smaller structures with larger structures damaged by floating debris. Terrain lower than 5 feet above sea level may be flooded inland 8 miles or more.**
Four	**131-155 mph**	**More extensive curtainwall failures with some complete roof structure failure on small residences. Major erosion of beach. Major damage to lower floors of structures near the shore. Terrain lower than 10 feet above sea level may be flooded requiring massive evacuation of residential areas inland as far as 6 miles.**
Five	**Greater than 155 mph**	**Complete roof failure on many residences and industrial buildings. Some complete building failures with small utility buildings blown over or away. Major damage to lower floors of all structures located less than 15 feet above sea level and within 500 yards of the shoreline. Massive evacuation of residential areas on low ground within 5 to 10 miles of the shoreline may be required.**

The Saffir-Simpson Hurricane Scale

Floods

Floods cause the majority of Federal disaster declarations. Flooding claims more lives and creates more property damage in the United States than any other natural disaster.

- Flooding is the most common of all environmental hazards.
- Effects may be immediate or long term

Obviously, flooding causes direct damage to building materials and weakens structures over time. Mud, silt and other contaminants in the water create health hazards as well. Dampness contributes to the growth of mold, mildew and fungi.

Types of Floods

- **Flash Flood -** Localized floods of great volume and usually short duration.
- **Arroyo -** Normally dry gully or small creek bed in an arid or desert region. Storms quickly swell creeks into surging rivers. In the Southwest long bridge spans frequently cross extremely narrow streams to prevent road washout.
- **Coastal -** Produced by heavy rains that accompany hurricanes or tropical storms or by ocean water storm surge. Also created by tsunamis, large tidal waves formed by earthquakes or volcanoes.
- **River -** Frequently caused by seasonal changes (snow melt, spring rain). Water levels rise, and the river overflows its banks covering the surrounding land and beyond.
- **Urban -** Paving and development in metropolitan areas prevents the ground from absorbing rainfall. Rainwater becomes runoff flooding roads, parking lots and businesses.

Skill Check # 13

Using information from the section on earthquakes, tornados and hurricanes, complete the following:

1. _____ generate chaotic, irregular, horizontal and vertical forces in a structure.

2. A weak, or poorly located _____ may fail, even before the shaking from an earthquake reaches the rest of the building.

3. Earthquake severity is most commonly measured using the _____ Scale.

4. The most violent tornadoes can generate wind speeds of up to _____ miles per hour.

5. Although they occur throughout the United States, tornadoes most frequently occur in the _____.

6. Tornado intensity is based on rotational speed, amount of debris generated, and _____.

7. The Fujita Scale is the standard used to measure _____.

8. Hurricanes generally form in the _____ and are accompanied by thunderstorms.

9. The Saffir-Simpson Scale is based on a hurricane's present _____.

10. In the Northern Hemisphere, a hurricane has a _____ circulation of winds near the earth's surface.

11. A _____ flood describes localized floods of great volume and short duration.

12. The cause of the majority of Federal disaster declarations is the result of _____.

Write the number for the corresponding definition in the space next to the appropriate term.

1. Earthquake	_____	may be divided into two categories
2. Disaster Damage	_____	creates motion that pushes and pulls
3. Magnitude Scale	_____	measures earthquake severity
4. Richter Scale	_____	measures amount of energy released by earthquakes
5. Fujita Scale	_____	based on wind speed

Individuals and Households Program (IHP)

Foundation Line Item Review

Foundation damage is often hidden from view and may be detected by closely examining the exterior and interior foundation for horizontal shifting of structural members. A floor may appear "mushy" or not level as a result of the earthquake. This indicates a correction should be made. Every effort must be made to identify and recommend a repair line item to restore the foundation to its pre-disaster condition.

FEMA

Concrete Foundation, Wall, Replace

- When the masonry foundation wall has incurred significant damage and needs to be replaced, use the line item Concrete Foundation Wall Replace to address the square footage of the affected foundation wall. Include the appropriate amount of Jack and Shore to support the structure while repairs are being made.

Concrete Foundation, Wall, Replace

Description:
Use to remove and replace block or poured concrete foundation walls. Does not include Jack & Shore, the cost for the footing, or for each utility connection. Also used for above-grade concrete or block exterior walls.

Common COD: Earthquake, Flood, Tornado/Wind

Next slide picture examples

Concrete Foundation Wall, Replace

- 1st photo on left, what are some of the visual assessments indicating, when assessing what RP line item to use?
- 2nd photo on right, assuming this is an essential utility room. Assessment questions: Name the other visual RP line items per guidelines would be used, and what categories would we find them in? (open floor for discussion)

Pier/Column, Replace

- **Description:**
- Use to remove and replace damaged brick or masonry columns; or pile driven timbers to support elevated structures. This item does not include jack and shore and is not to be used on mobile homes. NOT For damaged wooden post supporting the floor system, You would, use line item “Wood Post Replace”.

- **Common COD:** Earthquake, Flood, Tornado/Wind

Pier/Column, Replace

- 1st Photo on left: Visual assessment: How do we measure the RP line item of quantity for replacing the pier or piers?

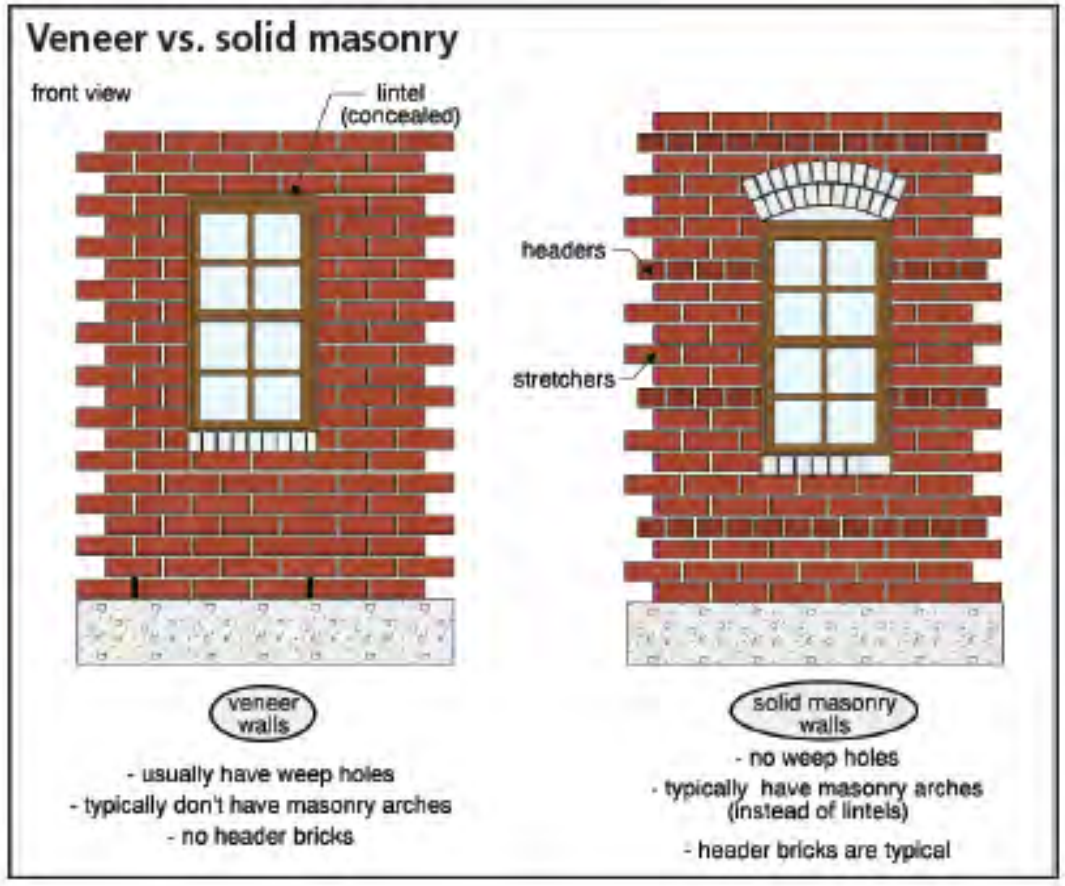
Concrete, Pressure Grout

- **Description:**
- Labor and material to repair concrete/masonry structural cracks not exceeding ½” with high pressure grout.
- Concrete, Pressure Grout should be used for cracks between ¼” and ½”. The line items Tuck Point and Concrete, Pressure Grout do not require the structure to be jacked up in order to correct the condition.

- **Common COD:** Earthquake, Flood

Tuck Point

- **Description:**
- Use to seal minor cracks in masonry not affecting the structural integrity of the dwelling, and does not exceed 1/4“
- Use the appropriate amount of Tuck Point for masonry cracks less than ¼” not affecting the dwelling’s structural integrity.
- **Common COD:** Earthquake



- **Description :**
- Use to remove and replace new brick or stone veneer on the exterior of a home.
- **Common COD:** Earthquake, Tornado/Wind

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Concrete Slab, Replace

- **Description:**
- Use to remove and replace a damaged section of the slab when cracked beyond repair, seriously out of level from uplifting, or when undermined. This item does not include jack and shore.
- **Common COD:** Earthquake, Flood

Slab foundation cracks are common and may be corrected when the structural fracture does not exceed ½” through the appropriate amount of Concrete Pressure Grout. Concrete slab fractures exceeds ½” will be addressed through the appropriate amount of Concrete Slab Replace. When a concrete slab has settled and can be releveled without replacement, use the Jack and Relevel line item for the affected area.

Jack & Re-level

- **Description:**
- Use to jack and re-level house. Use if the house is out of level requiring shimming, resetting of piers or other adjustments to the foundation. Do not use this line item for mobile homes.
- **Common COD:** Earthquake, Flood

Jack & Shore

- **Description:**
- Use to jack house and install cribbing to temporarily support house so foundation work can be accomplished. Use this item when major repairs are required such as replacement of collapsed foundation walls, footings, knee walls or replacement of piers. Do not use this line item for mobile homes.
- **Common COD:** Earthquake, Flood

Jack & Shore Con't

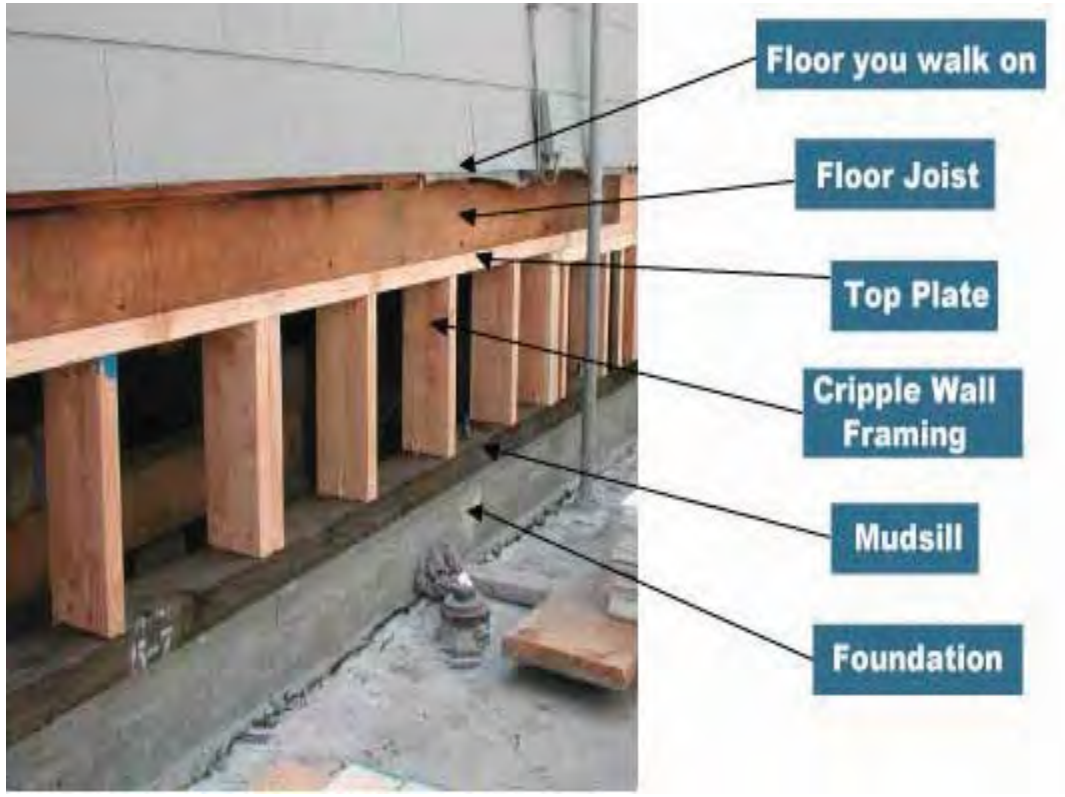
- NOTE: Do not use in conjunction with Jack House, Reset on Foundation or Jack and Re-level for the same affected area
- If the damages are from corner to corner do not add the additional 8 foot length
- (Calculate by adding 8 feet to the length of the affected area and multiplying by 4- foot width for total square footage of area to be supported.

Jack & Shore Question

- Example:
- A section of foundation wall measuring 20 feet long by 7 feet high needs to be replaced You will Jack & Shore an area of____feet, by __Wide.

- What is the square feet to Jack & Shore

Foundation, Knee wall replace

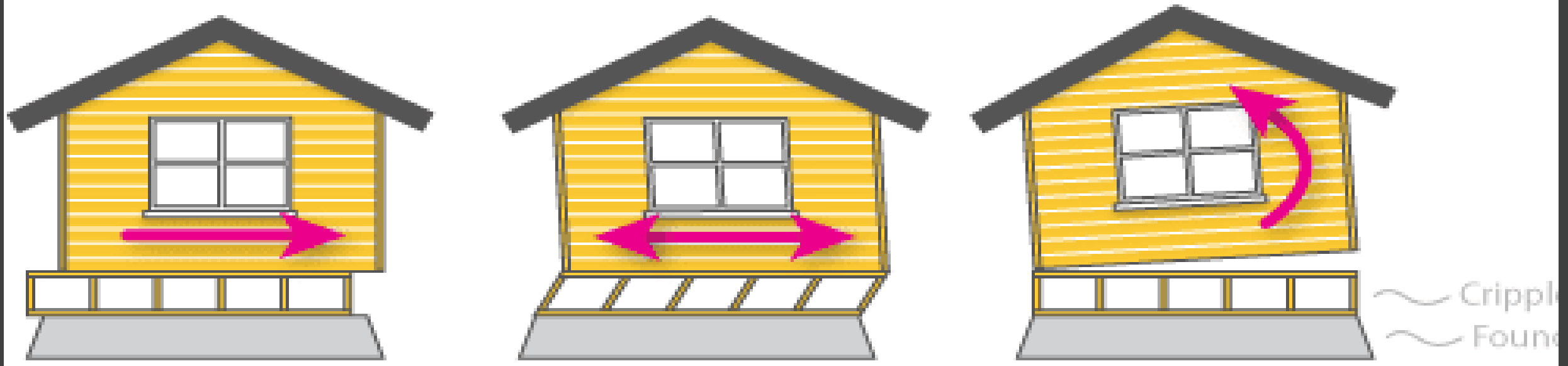


- **Description:**
- Labor and material to replace a load bearing framed wall between the foundation and the floor joists, sometimes referred to as a cripple wall. This line item does not include Jack & Shore.
- **Common COD:** Earthquake, Flood

Foundation Knee Wall

Jack House, Reset on Foundation

- **Description:** Use to raise the dwelling, supporting the structure while repairs are made to the foundation and resetting the dwelling on the existing or repaired foundation. Use this line item when the house has moved laterally off the foundation.



Lally Column, Replace

- **Description:** Use to remove and replace a damaged Lally column. A Lally column is a vertically installed steel pipe used to support the main beam of the dwelling frequently found in a basement. Do not use for post and beam construction commonly found within crawlspaces. Use Support Column Wood Replace.

- **Common COD:** Earthquake, Flood, Tornado/Wind

Masonry Access Step, Replace

- **Description:**
- Use to remove and replace a single existing masonry or concrete step. For example; a damaged concrete stoop with 4 damaged steps will require the recording of 4 units.
- **Common COD:** Earthquake, Flood

Chimney Cap, Replace

- **Description:**
- Use to remove and/or replace one chimney cap or screen per flue. Chimney caps and screens may be constructed of masonry or metal preventing rain from entering the shaft or protecting the environment from ashes.

- **Common COD:** Tornado/Wind

Chimney, Clean & Inspect

- **Description:**
- To inspect a chimney that does not display extensive cracks or loose bricks, for structural damages. If the chimney is found to be structurally safe, the chimney will be cleaned.

- **Common COD:** Earthquake, Tornado/Wind

Chimney, Remove

- **Description:**
- Use only to remove a damaged chimney or one that has separated from the dwelling causing a safety hazard.

- **Common COD:** Earthquake, Tornado/Wind

Chimney, Replace

- **Description:**
- Use to install a new chimney. This does not include removal of damaged chimney.

- **Common COD:** Earthquake, Tornado/Wind

Heat Source, Repair, Replace

HEAT SOURCE REPAIR, HEAT SOURCE REPLACE

- FEMA HIS Assessors will encounter many different types of Heating and Cooling systems, powered by various fuel sources
- An understanding of the types of systems, the fuel source types and the method of operation, is critical to proper recording of Disaster related damages
- This module will outline many of the types of systems that are commonly encountered in the field
- The type of system, the Cause of Damage (COD), and the High Water Mark (HWM) if applicable, are all necessary elements in properly recording damage

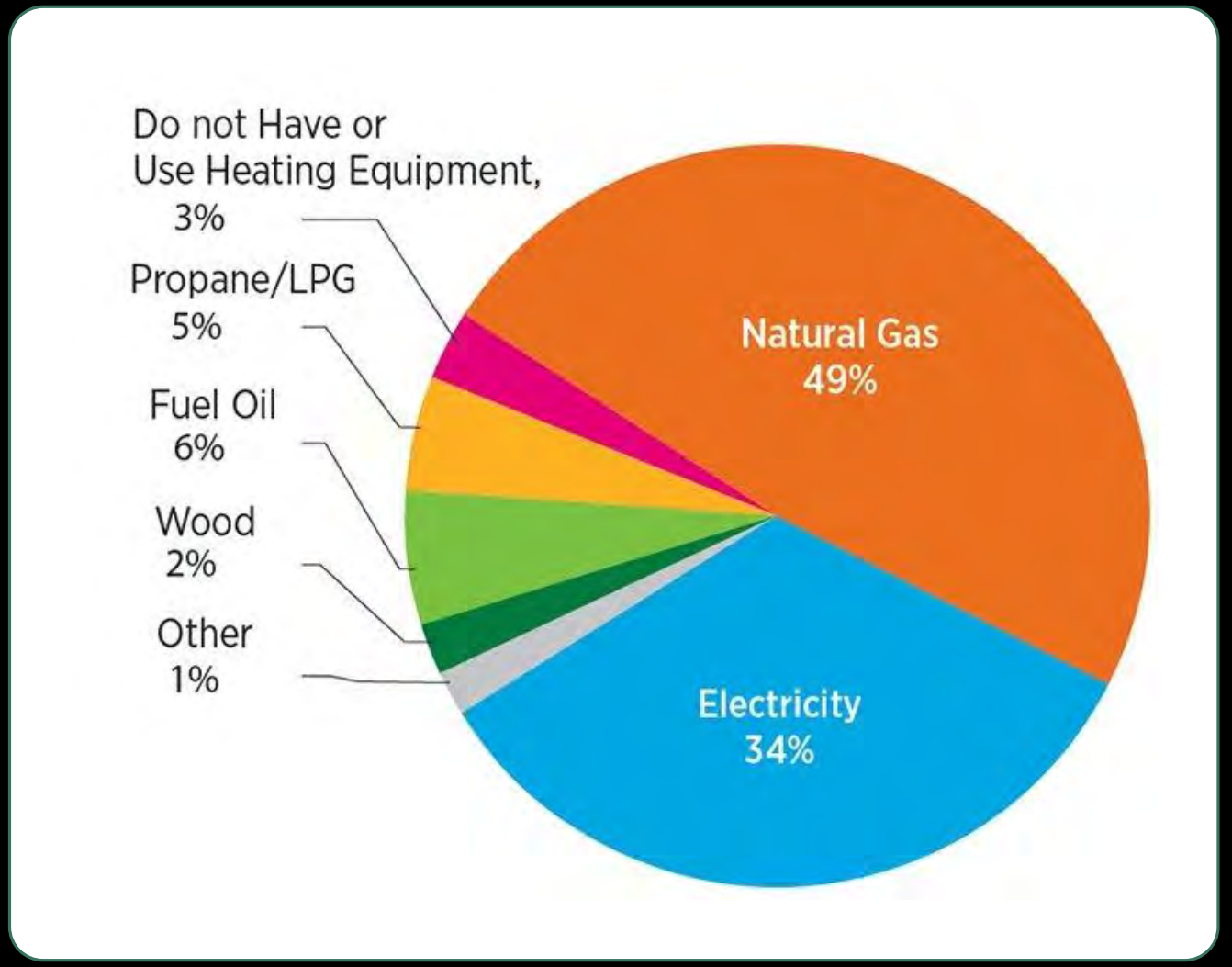
GOALS AND OBJECTIVES

Completing this module should allow an HIS assessor to accomplish the following:

- Assessors should be able to identify **Heating** and **Cooling** systems by **System Type** and **Fuel Source**
- Assessors should be able to identify how different **Cause(s) of Damage (COD)** affect various types of Heating and Cooling systems
- Assessors should be able choose the proper line items to record the **Disaster Caused Damages** observed in the field

HEATING FUELS

- Assessors will encounter many different fuel sources for heating and cooling equipment.
- Natural Gas currently fuels nearly half of all heating systems in the US.
- Electrical heating systems make up another 1/3 of the total.
- Propane, Fuel Oil, Wood and Other (solar, water, wind) round out the total.
- 3 Percent of homes in the US have no heating system at all



RECORD ALL DAMAGED HEAT SOURCES REGARDLESS OF SOLE OR PRIMARY SOURCE Ace 4.09

- FEMA assessors are to record all heat sources that were fully functional and in use at the time of the disaster.
- Damage to non functional, derelict heating systems or elements can be addressed with debris remove when to presence of the unit is detrimental to a safe, sanitary and functional dwelling.

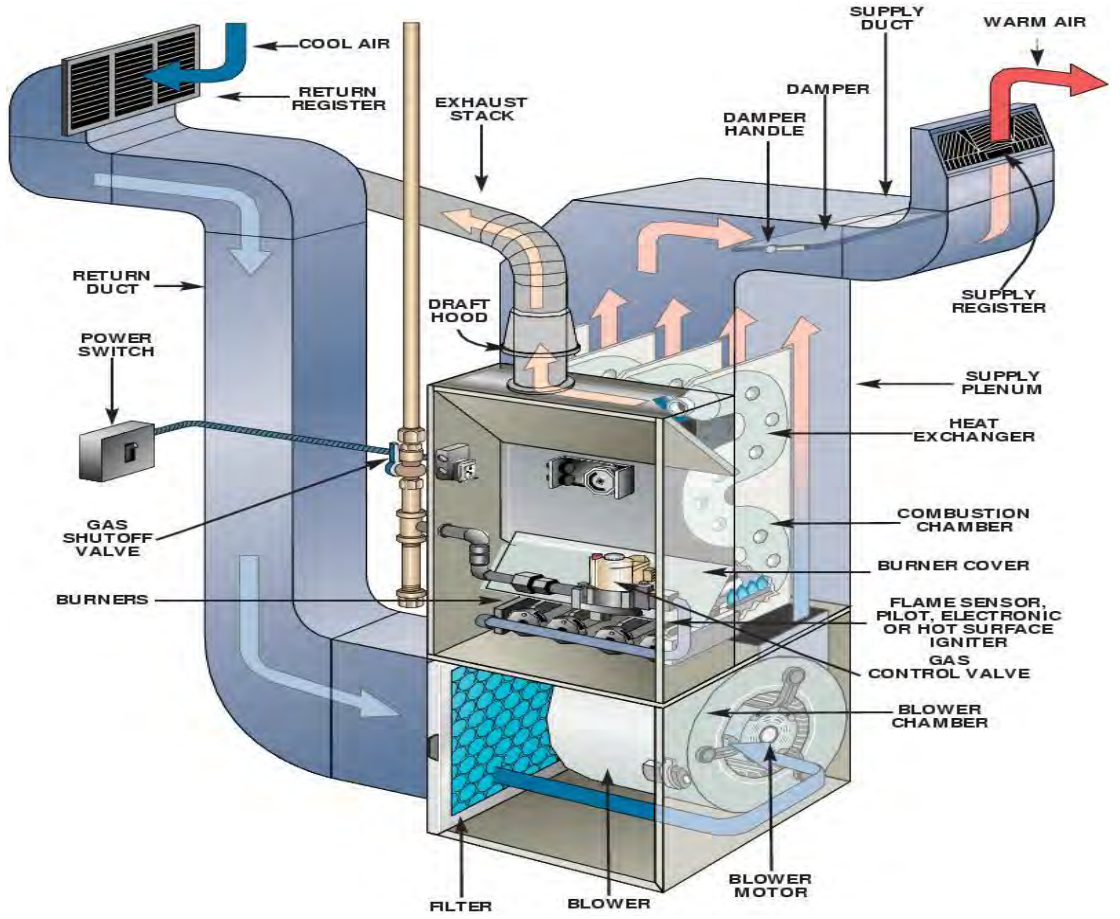
GAS FURNACES

HOW A GAS FURNACE WORKS

Basic steps:

- When the temperature in the house drops below the thermostat setting for heat, the thermostat sends two signals: one to the furnace to begin a heating cycle; and another to the blower motor to activate the HVAC fan.

- The furnace's heating elements receive the signal and activate. In a gas furnace, the burner produces flame. The flame and the heated exhaust gases warm the heat exchanger, that transfers the heat to the circulating air.

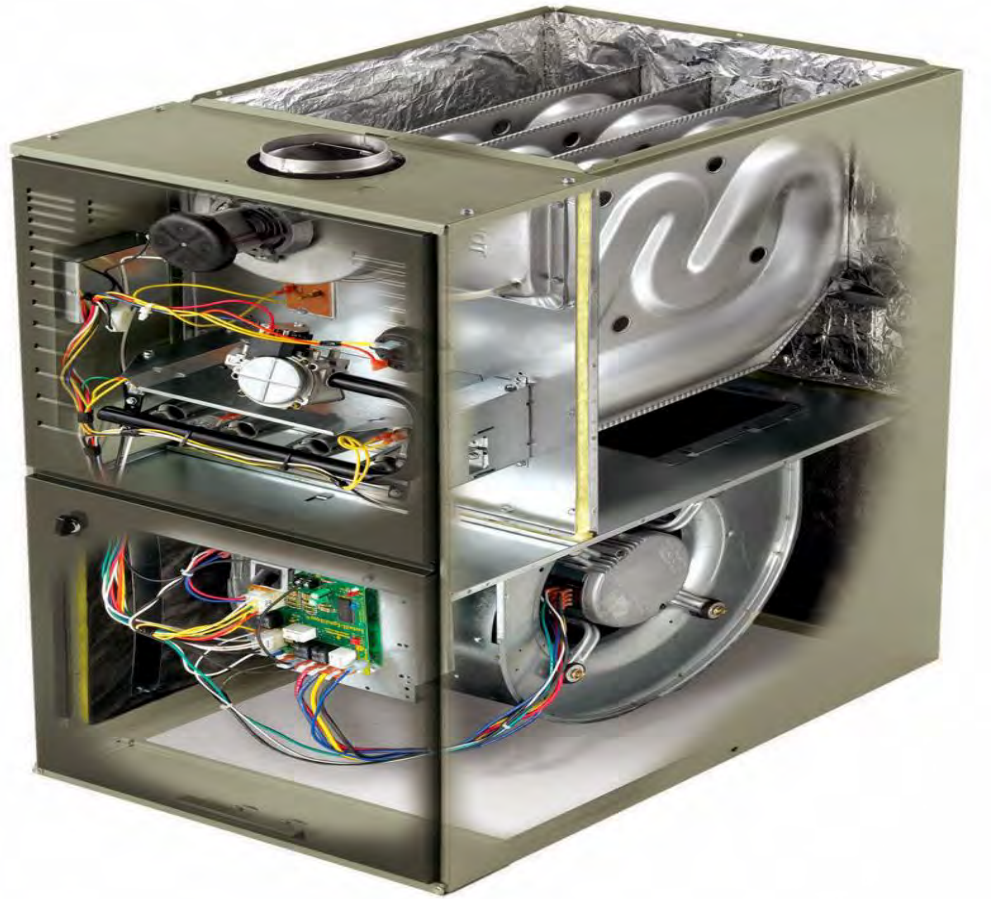


FURNACE CUTAWAY - GAS

- FURNACE CLEAN AND TEST: When flood water has entered the unit, but does not affect electric component

- FURNACE CLEAN and REPAIR: Partial inundation, with fresh water, of the unit affecting electric components (including the control board)

- FURNACE REPLACE: Complete inundation of the unit and electric components with fresh water, partial or complete inundation with salt water, or unit completely destroyed by disaster



GAS PACK UNIT – HOW IT WORKS

- In a gas pack, the gas furnace and the condensing unit are housed together in a single package. Here's an overview of how gas pack A/C works.
- The condensing unit contains the condensing coil, the compressor, the fan, and other parts that assist the operation. The gas furnace contains the blower and the evaporator coil. The gas pack is located outside of the home and is attached to ductwork that extends through the perimeter wall of the house (or through the skirting). One duct supplies the house with conditioned air (heated or cooled) and a second duct brings unconditioned air back to the system.

GAS PACK CUTAWAY

- FURNACE CLEAN AND TEST: When water has entered the unit, but does not affect electric component

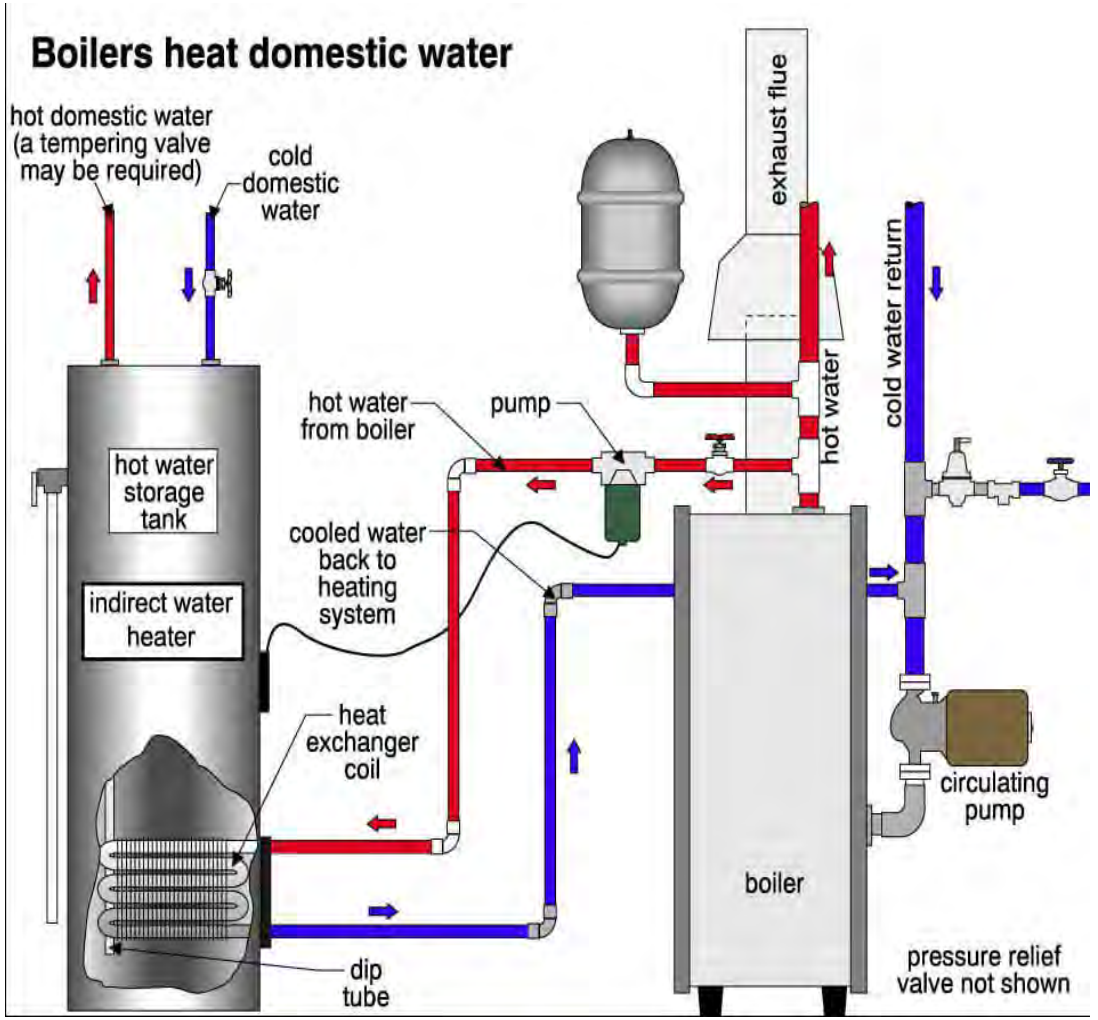
- FURNACE CLEAN and REPAIR: Partial inundation, with fresh water, of the unit affecting electric components (including the control board)

- FURNACE REPLACE: Complete inundation of the unit and electric components with fresh water, partial or complete inundation with salt water, or unit completely destroyed by disaster

BOILERS HEAT STEAM & HOT WATER

- In steam heating systems, a boiler furnace heats water by means of a gas or oil-fired burner and generates steam. The steam travels through pipes to radiators or convectors, which give off heat and warms the room.

- As the steam cools, it condenses back into water, and returns to the boiler to be heated again. Hot water heating systems operate on the same principle, using hot water with a circulation pump, instead of steam to heat the radiators. (The illustration shows a hot water system)



BOILER DOMESTIC HOT WATER SYSTEM

This image is of a High Efficiency Gas boiler that also supplies heat for the domestic hot water, stored in the tank to the left.

- **Furnace Clean and Test** = HWM is less than 6” with no inundation of electrical components. (Electrical components are generally located 6-12” from bottom.) (Water Heater Repair or Not Affected)

- **Furnace Repair** = HWM is greater than 6” but less than complete inundation. Fresh water inundates Electrical components and/or ignition systems (Water Heater Repair)

- **Furnace Replace** = HWM completely over the top of the furnace. (Water Heater Replace)

RADIATOR UNIT – HOW IT WORKS

Steam **radiators work** by boiling water to create steam. That steam then travels up a set of pipes into the **radiator**, which **heats** up the room. As the steam travels through the **unit**, **it** slowly cools down and turns into condensation. Damage caused by **Freezing Water**

- If a house is left unheated, accumulated water can freeze inside the radiator. The expansion causes cracks to develop, compromising the integrity. Of the radiator.
- REPAIR: Unlikely to “repair”, cracking necessitates replacement.
- REPLACE: Use lump sums for replacement, and to reinstall if necessary.

HOT WATER CONVECTOR

Typical Configuration

Convectors come in many sizes

CONVECTOR COVERS

Covers may mimic radiators…

… or mimic baseboard heaters

ELECTRIC HEATING AND COOLING

Central Air Conditioning, Heat Pumps, and Radiant Baseboard Heaters

HOW THE CENTRAL AIR CONDITIONER WORKS

- Central air conditioners (CAC) use two coils to cool your home. The cooling compressor is located outside the home. The fan unit used to blow the cool air throughout the home is located inside. The cooled, forced air is distributed throughout the home through a duct system. (A portable or window air conditioner houses both components within one unit.)
- The CAC coil that is outside of your home is the condensing coil. It contains the compressor, condensing coil, a fan, controls, and two refrigerant lines that run into the home to the evaporator coil.
- The refrigerant is pumped through the evaporator coil, inside the dwelling, which absorbs the heat from the air. The refrigerant then flows back outside to the condenser coil, where the heat that is absorbed is released.

CENTRAL AIR CONDITIONER CUTAWAY

- **Central air conditioning** (or **CAC**) is a system in which air is cooled at a **central** location and distributed to and from rooms by one or more fans and ductwork.

- A central air conditioner **cools with an outdoor compressor and condenser coil** connected to an indoor furnace fitted with an **evaporator coil**. Refrigerant circulates through copper tubing (line set) that runs between the evaporator and the condenser.

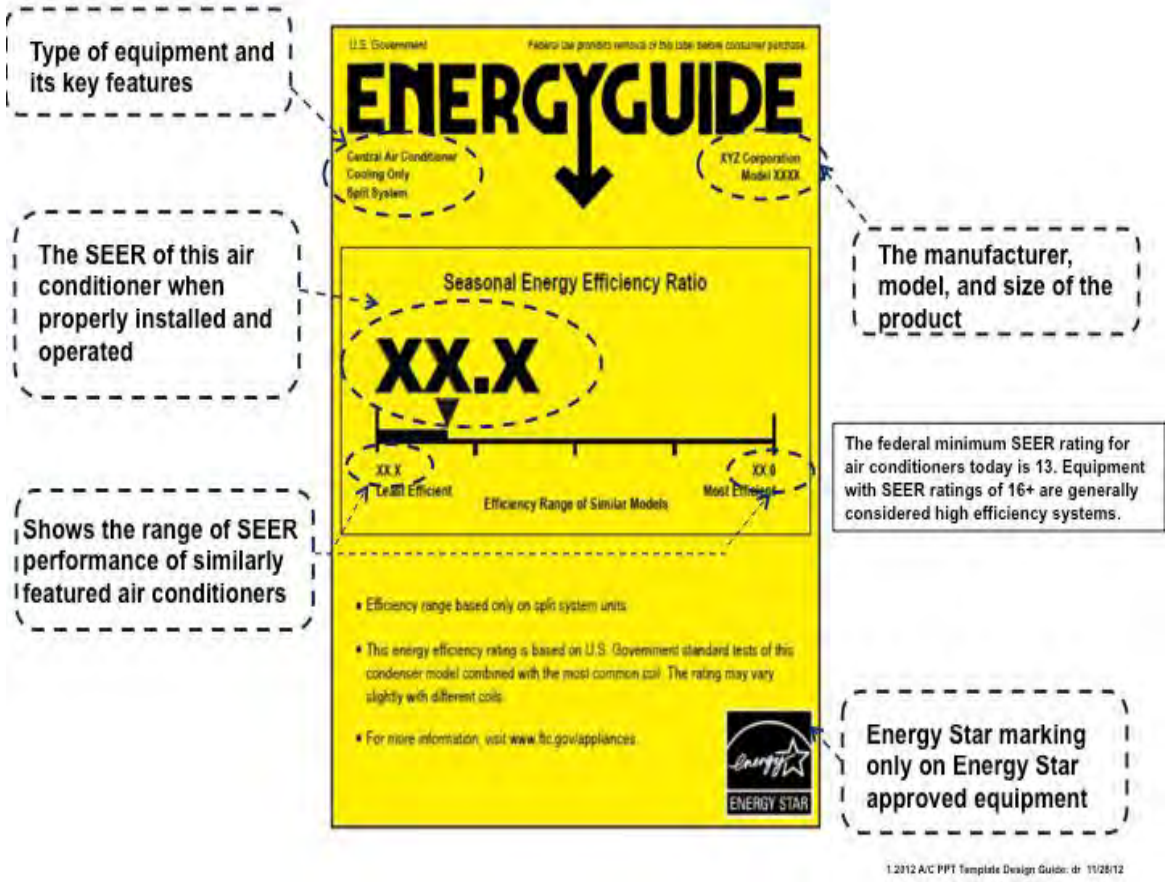
- **CAC Repair**= COD Tornado Wind projectiles and other debris can damage the condenser fan grille or other components. COD Flood with HWM over the electrical components or unit displaced off the pad.

- **CAC Replace** = **COD Flood with complete inundation by salt water. COD Tornado Wind or Flood with severe damage (i.e. unit crushed by a tree).**

Note: Complete inundation with fresh water, without any other physical damage, will be recorded as CAC Repair.

CHECKING THE ENERGY GUIDE ON THE UNIT

- Checking the energy guide on the unit will show you what type of unit the applicant has
- This is a consumer sticker and may or may not be present on a unit in a damaged dwelling



DISCONNECT BOX

- A Service Disconnect contains the controls for the main energy supply to the air conditioner or heat pump, like a pull block, breaker, and/or fuses. It also protects the wires of the air conditioner from weather and other outdoor elements.

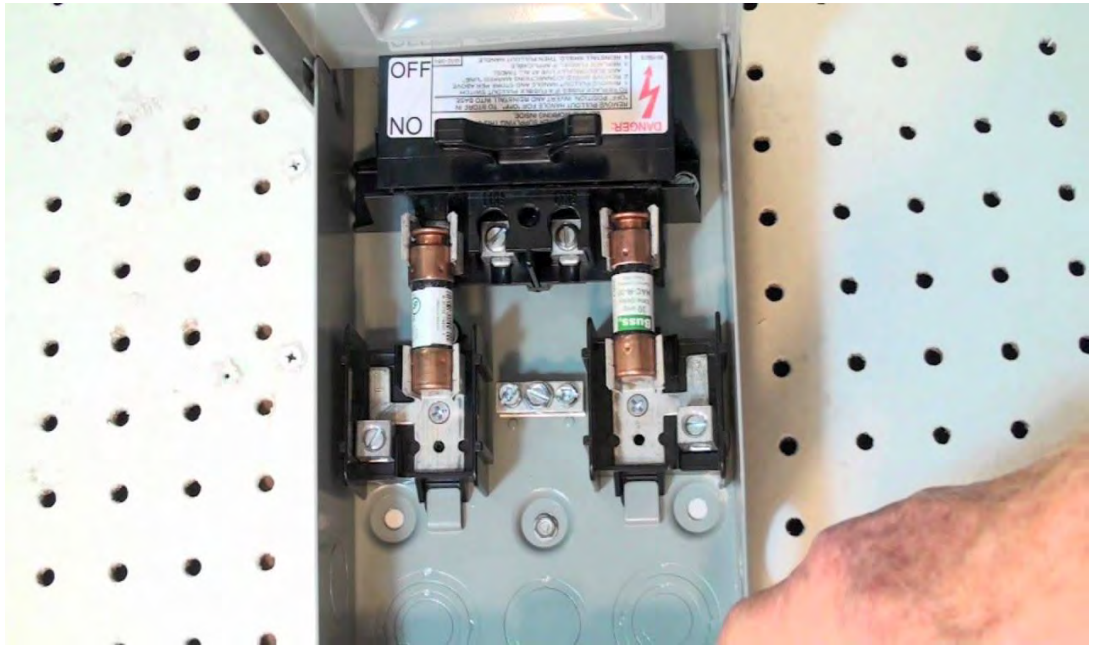
- Disconnect boxes are typically located on exterior walls next to A/C condensers or heat pumps.

- Repair = Use Lump Sum = flying debris and/or reconnect to wall (Note: Use only if the damage is to the disconnect box only. Flood repair to be included in repair of CAC

- Disconnect Box Replace = When physically damaged beyond repair (ie; due to flying debris, an electrical surge, or submerged in salt water)

TYPICAL SERVICE DISCONNECTS

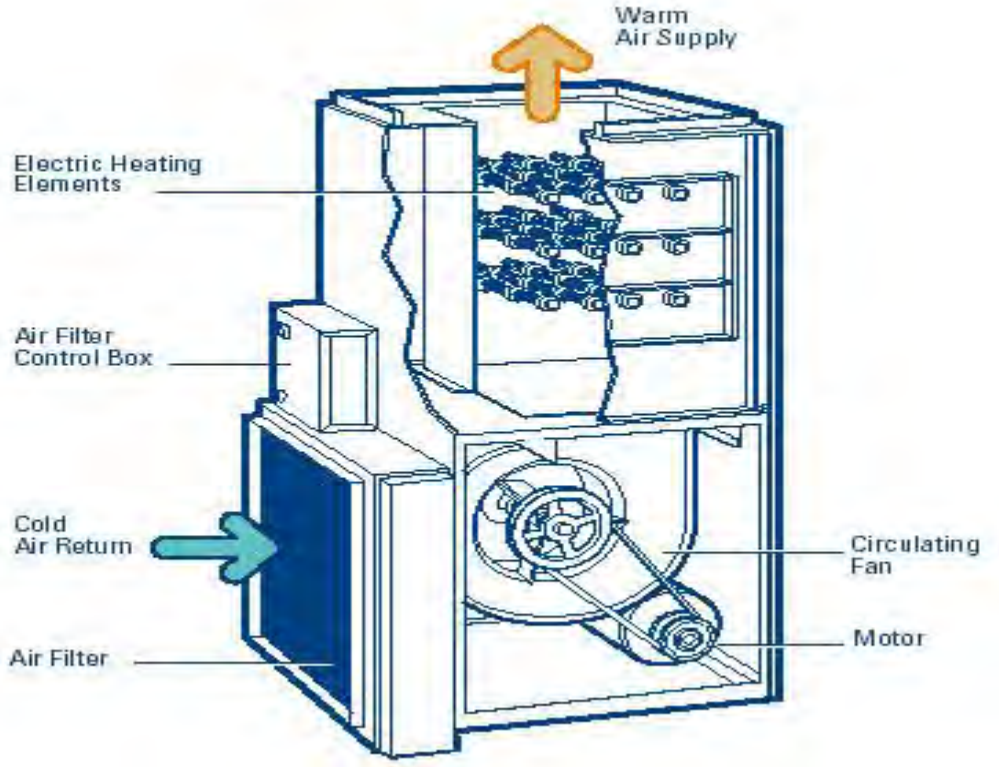
Pull Block with Fuses



Breaker Disconnect

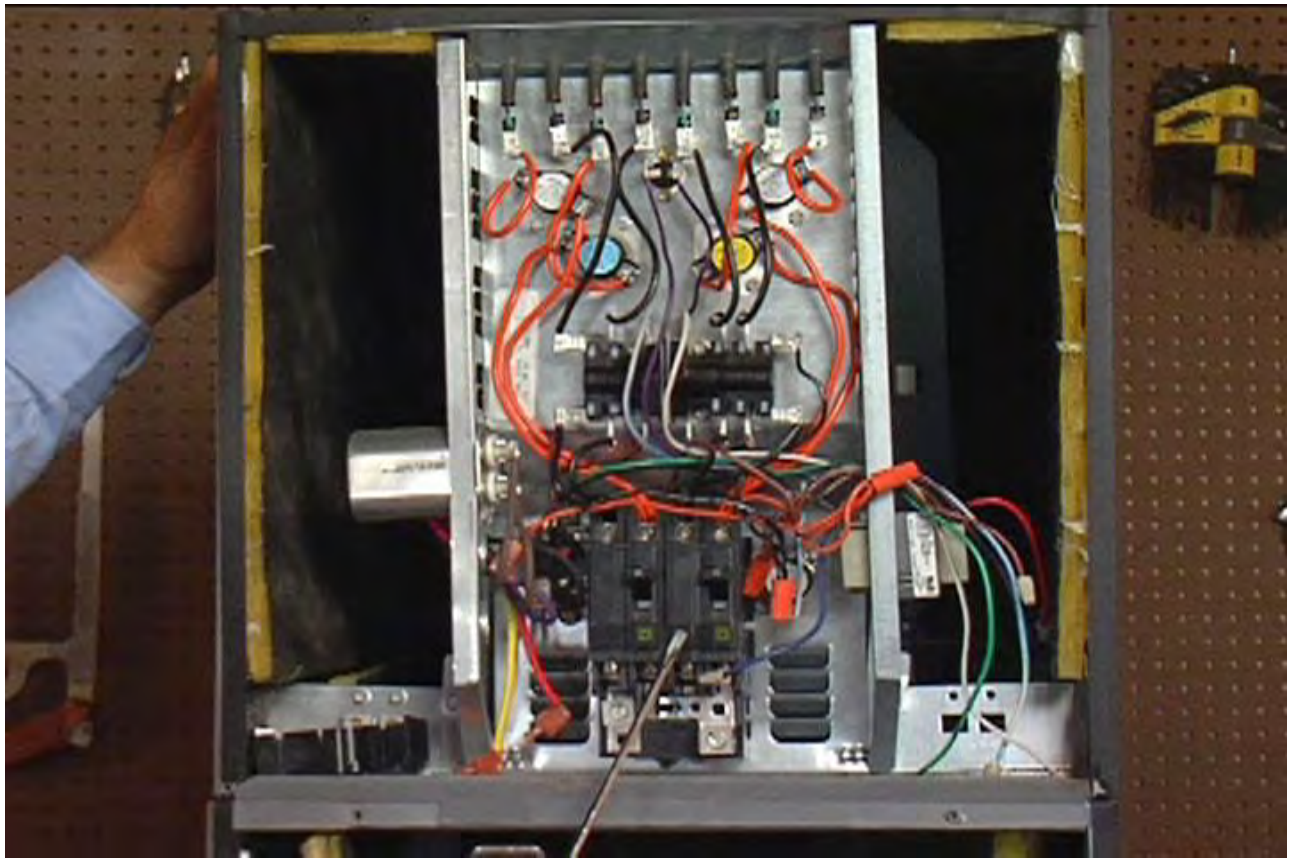
HOW AN ELECTRIC FURANCE WORKS

The electric furnace works by **using electricity to heat elements inside the furnace structure**. A fan then draws cold air from intakes and forces it past the heating elements, which heat the air and sends it into the home.



FURNACE CUTAWAY – ELECTRIC

- FURNACE CLEAN AND TEST: When water has entered the unit, but does not affect electric component
- FURNACE CLEAN and REPAIR: Partial (Low HWM) inundation of the unit affecting electric components
- FURNACE REPLACE: Complete inundation of the unit and electric components or unit completely destroyed by disaster
- DON'T FORGET TO CLEAN AND SANITIZE DUCTWORK (Ductwork, Clean and Sanitize) WHEN INUNDATION HAS OCCURED!



HEAT PUMP PACKING UNIT

A Heat Pump Package Unit will not have a connection to gas line.

FURNACE CLEAN AND TEST: When water has entered the unit, but does not affect electric component

FURNACE CLEAN and REPAIR: Partial inundation of the unit, with fresh water, affecting electric components (including the control board)

FURNACE REPLACE: Complete inundation of the unit and electric components by fresh water, partial inundation with salt water, or unit completely destroyed by disaster

All of the components for this Heat Pump are housed in this single unit.

HOW CAN YOU TELL IF YOU HAVE A HEAT PUMP?

- Geothermal (ground source) heat pumps are usually installed in a basement or garage and can look like other home heating apparatuses. These units are generally labeled.
- Check the yellow Energy Guide label. These should indicate whether or not the unit is a heat pump.
- Check your thermostat for an “emergency heat” setting.

HEAT PUMP LABEL ON UNIT – SEER RATING

U.S. Government

Federal law prohibits removal of this label before consumer purchase.

ENERGYGUIDE

Heat Pump
Cooling and Heating
Split System

THERMOCORP INC.
Model T321S-H218-C

Cooling
Efficiency Rating (SEER)*
21.00

14.0 Least Efficient — 30.5 Most Efficient

Range of Similar Models
* Seasonal Energy Efficiency Ratio

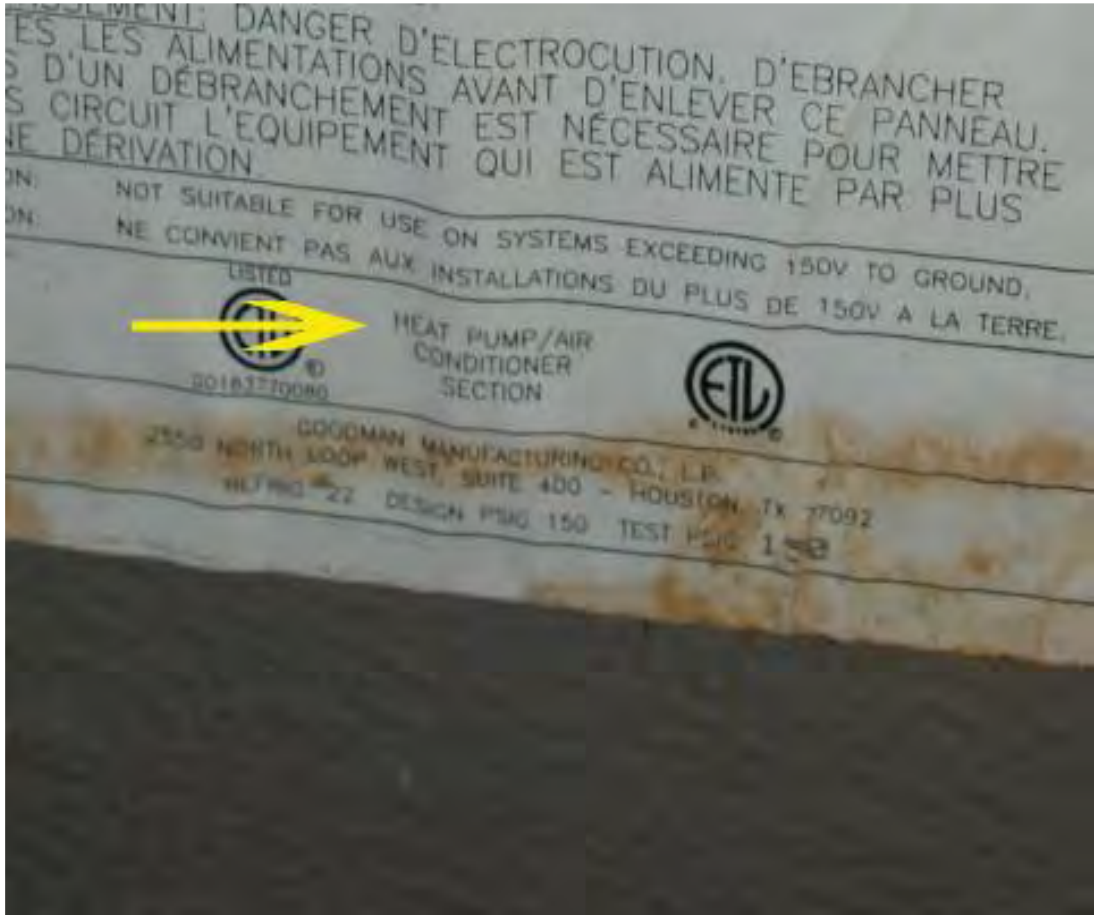
This system's effciency ratings depend on the coil your contractor installs with this unit. The heating efficiency rating varies slightly in different geographic regions. Ask your contractor for details.

Heating
Efficiency Rating (HSPF)*
10.00

8.2 Least Efficient — 13.5 Most Efficient

Range of Similar Models
* Heating Seasonal Performance Factor

For energy cost info, visit
productinfo.energy.gov



HVAC REVERSING VALVE

A reversing valve is a component in a heat pump that changes direction of refrigerant flow – by reversing the flow of refrigerant , the heat pump refrigeration cycle is changed from cooking to heating or vice versa.

HEAT PUMP CUTAWAY

- **Furnace Clean and Repair** = COD Tornado Wind projectiles and other debris can damage the condenser fan grille or other components. COD Flood with HWM over the electrical components or displaced off the pad.

- **Furnace Replace** = COD Flood with complete inundation by salt water. COD Tornado Wind or Flood with severe damage (ie; unit crushed by a tree, unit stripped away and tumbled).

Note: Complete inundation with fresh water, without any other physical damage, will be recorded as Furnace Clean and Repair.

HEAT PUMP SPECIFIC GUIDANCE

Ace 4.09

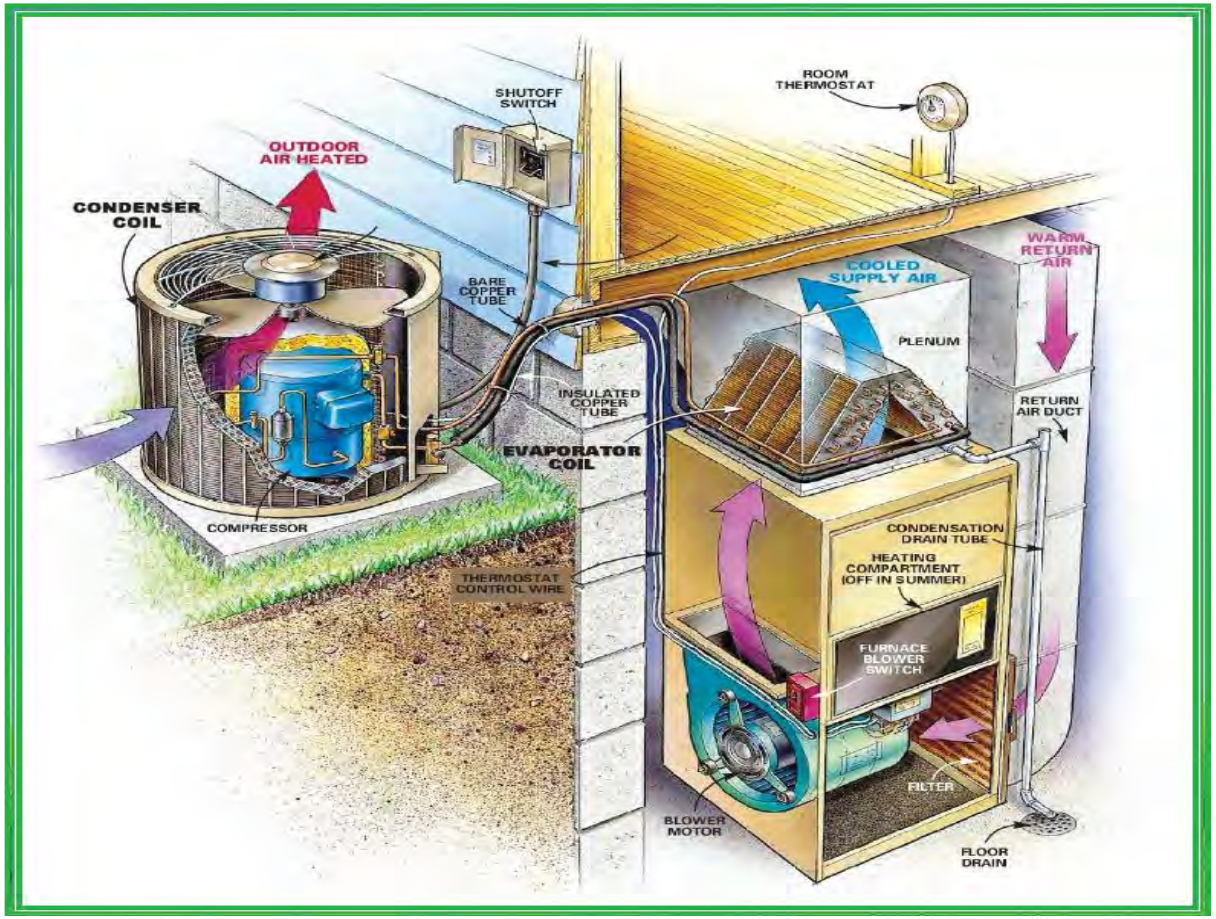
“Damaged exterior or interior components of a heat pump will be addressed as a single unit – regardless if both components are damaged.”

HEAT PUMP SERVICE PORT

The service ports are used by HVAC technicians to take diagnostic and operation pressure readings on the system, and to introduce or remove refrigerants.

HVAC SYSTEM

- Imagine different HWM scenarios in the dwelling to the right.
- How would you record RP for a 7” HWM in the basement?
- For a 4 foot HWM in the basement?
- For a 2” HWM on the first floor?



OIL FURNACE – HOW IT WORKS

- An oil furnace system stores fuel in an oil **storage tank**. Oil is pumped to the furnace, through a filter, where a burner turns the oil into a mist, mixes the oil mist with air, and **creates an arc to light a flame**.

- The flame heats an air exchanger in a forced air furnace where a fan pushes the hot air through a duct system. This image shows a hydronic heating system where the flame heats a water jacket and the hot water is pumped to radiators or convectors that then heat the home.

OIL FURNACE

- FURNACE CLEAN and TEST: Minimal HWM affecting electrical components.

- FURNACE CLEAN and REPAIR: Partial inundation of the unit with fresh water affecting electric and mechanical components, but not fully submerged.

- FURNACE REPLACE: Complete inundation of the unit and electric components with fresh water, partial inundation with salt water or unit completely destroyed by disaster

MINI SPLIT UNIT – HOW IT WORKS

- M**ini splits** have an indoor **unit** and an outside **unit**. The indoor air handlers are located room by room, with no central unit or ductwork.

- CAC REPAIR: Use when repairing or **replacing** the interior air handler or when repairing the exterior condenser unit for COD Flood or Tornado Wind.

- CAC REPLACE: Use when replacing the exterior condenser for COD Flood or Tornado Wind.

Comment when recording more than 2 components of a mini-split unit.

PORTABLE AC UNIT

- Traditional air conditioners vent hot air outside of the room to provide cooling, whereas portable air conditioners use an **exhaust hose attached to an exterior window**.

- The exhaust hose creates negative pressure in the room, drawing warm air from surrounding rooms into the unit. The unit then cools the warm air and releases it directly into the room.

- Portable AC units are recorded as **personal property** with the appropriate level of damage

WINDOW AC

- Portable AC units (Active and installed) are recorded as personal property with the appropriate level of damage
- “Do Not Record any stored A/C units per HQ directive.”

SINGLE REGISTER – GRAVITY FLOOR FURNACE

- A Single Register Furnace has no duct and no fan. Usually centrally located in the floor, a gravity heating system allows warmed air to rise into the home.

- Cold air sinks back to the furnace. You may find a gravity heating system in an older home, located either in a basement or crawlspace. Units are generally fired by gas or oil.

SINGLE REGISTER FLOOR FURNACE

- Repair: If minor water or mechanical damage has occurred to the unit, address it with the **Furnace Clean and Test**
- Replace: When the unit has been completely inundated, address the unit with the line item **Single Register Floor Furnace Replace**

OLD GRAVITY FURNACE ALSO KNOWN AS AN "OCTOPUS FURNANCE"

- What would you do if you saw this?
- (Not a single register Floor furnace, but still a gravity furnace.)

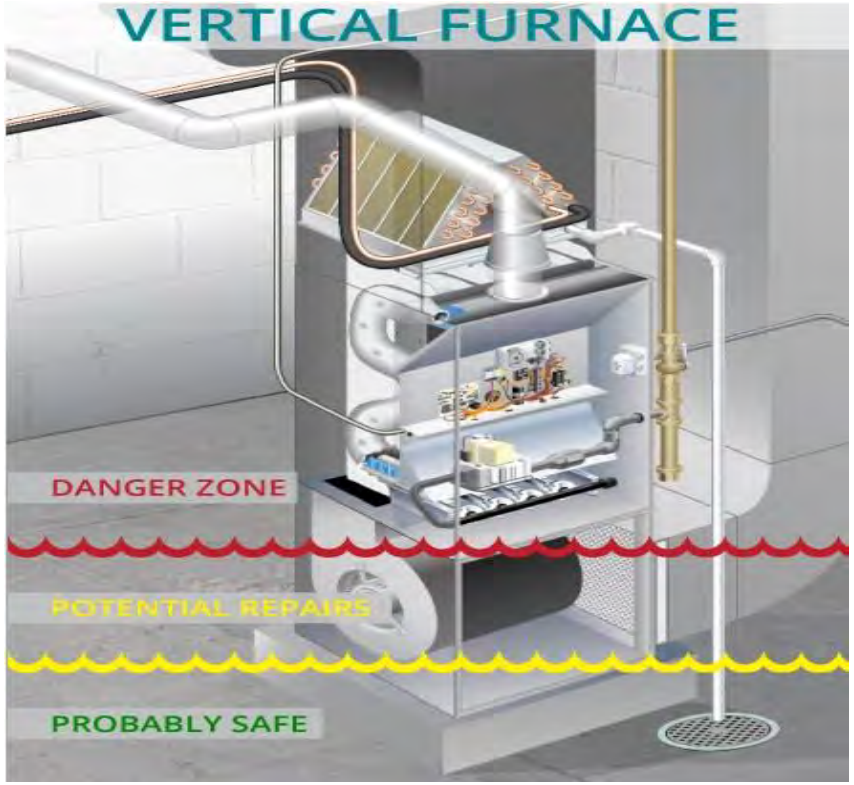
UPRIGHT WALL FURNACE

A **wall furnace** is a heating system that is installed within the walls of a home, typically between the studs of the **wall** itself and a room's drywall or plaster. It is not uncommon for a **wall furnace** to project at least a few inches into the room that **it** services. Some units are even surface mounted on the wall.

WALL HEATER CLEAN AND TEST: Use when the extent of the damage cannot be determined, or for minimal HWM affecting electrical components.

W**ALL HEATER GAS REPLACE:** Use this line item to remove and replace a destroyed or completely inundated gas wall heater.

VERTICAL FURNACE



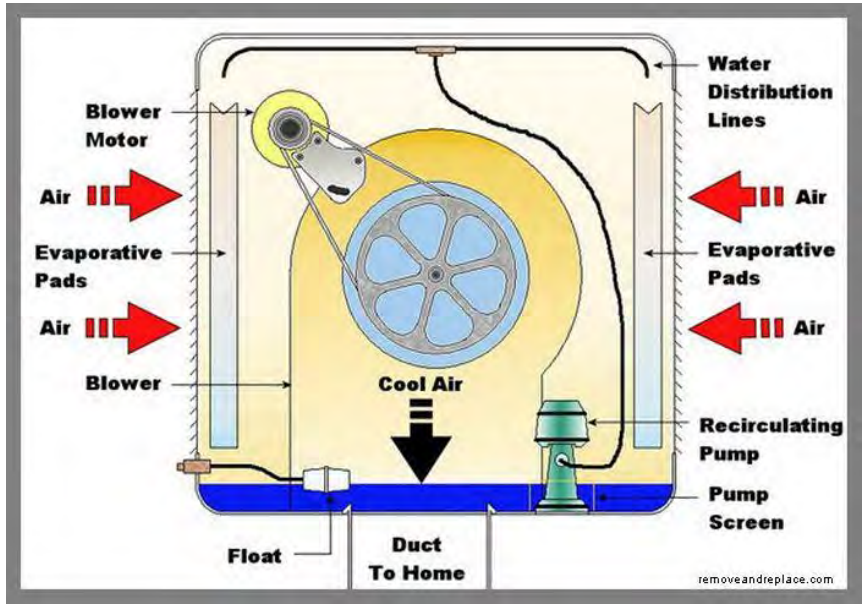
SWAMP COOLER

A SWAMP COOLER USES MOISTURE TO COOL AIR. ALSO KNOWN AS AN “EVAPORATIVE AIR CONDITIONER” WORKS BY TAKING WARM OUTSIDE AIR THROUGH WET EVAPORATIVE COOLER PADS, EFFECTIVELY COOLING THE AIR. THE COLD AIR IS THEN BLOWN INTO A HOME BY A BLOWER MOTOR THROUGH A VENT – WIDELY USED IN ARID, DESERT REGIONS OR ISLANDS

Swamp Cooler Repair vs Replace

- Swamp cooler repairs are relatively inexpensive and should be addressed as a Single **Lump Sum**
- Swamp Coolers are typically roof mounted, making full inundation of the unit unlikely. However, when a unit is inundated, it should be replaced as it houses an electric motor, wire connections and duct work that will need to be replaced).

When damages constitute the replacement of a Swamp Cooler it is to be addressed using the **CAC Repair** line item per the ACE4.09 UG. (Pg. 35) A comment is not required but would be advisable.



Heater, Portable Replace

Description: Use to replace a portable space heater in the Real Property category, only when the sole heating system is a portable space heater. If the portable space heater is not the sole source of heat record this item as a Personal Property line item.

Due to the low cost of this item, there is Repair option.

WALL HEATER, ELECTRIC

Permanently installed electric wall heaters are often used for auxiliary heat, but are sometimes the sole source of heat for at least part of a Damaged Dwelling (DD)..

Wall Heater, Clean and Test = Use to record minor repairable damage or Partial inundation with fresh water COD flood

Wall Heater, Electric, Replace = Record this line item if the heater was partially inundated with salt water, completely submerged in fresh water, or damaged/destroyed beyond repair by the disaster.

DUCTWORK, CLEAN AND SANTATIZE

- Use to clean flooded metal ductwork.
- Use to clean rigid metal ductwork only.
- If ductwork is insulated “Flex-duct” it must be replaced if inundated.

DUCTWORK, REPLACE

Use to remove and replace insulated flexible ductwork. Use this item when rigid metal duct has been destroyed or “Flex-duct” has been inundated

FEMA HIS Line Item Descriptions - September 2020

Item ID	Category	Description	Help Text	UOM	DR Specific
2050	Room	Bedroom	Use to record standard bedroom consisting of a bed, dressers, nightstand, lamp and alarm clock. When there are more than 2 individuals occupying a bedroom and existing beds are damaged, add a “twin bed” line item under Appliances.	EACH	No
2101	Room	No furnishings Damage	The No Furnishings line item cannot be used in combination with any other room except for the Exterior. The inspector must either build all the rooms or use the Furnishings line items. This line item will be used on Initial inspections only.	EACH	No
2150	Room	Kitchen	Use to record kitchen furnishings including pots and pans, dishes, silverware, small appliances etc.	EACH	No
2200	Room	Dining Room		EACH	No
2250	Room	Bathroom	Use to include both personal hygiene items and linens. All of these items should be replaced if they have been inundated by flood waters.	EACH	No
2300	Room	Living Room	Used to record any room furnished with standard living room furnishings (i.e. couch, love seat, coffee table, end tables, lamps etc.) will be recorded as a living room, with the appropriate cause and level of damage. This is regardless of whether the applicant refers to it as a “family room” etc. It’s entirely acceptable to have multiple living rooms in the dwelling, if there are multiple rooms furnished as living rooms.	EACH	No
2400	Room	Utility Room		EACH	No
2450	Room	Exterior		EACH	No
2500	Room	Basement		EACH	No
2550	Room	Hallway		EACH	No
2600	Room	Boarder Occupied		EACH	No

Item ID	Category	Description	Help Text	UOM	DR Specific
2650	Room	Garage		EACH	No
2700	Room	Office		EACH	No
3000	Personal Property	Range		EACH	No
3005	Personal Property	Appliance Service Call	Use when an appliance cannot be tested but there is evidence indicating there MAY BE damage as a result of the disaster. The level of damage should be “repair”. Limit of one per inspection.	EACH	No
3010	Personal Property	Refrigerator		EACH	No
3020	Personal Property	Washer		EACH	No
3021	Personal Property	ADA Computer	Use when the computer is the sole means of communicating and will be recorded when requiring repairs or replacement. Flag all inspections when selecting this line item.	EACH	No
3022	Personal Property	ADA Accessible Raised Toilet Seat	Use for a portable, molded elevated toilet seat designed for use by individuals with mobility issues. The unit fits over the toilet bowl, installs without tools, and features a clamp-on locking mechanism that tightens by hand. Record this item when the unit has been damaged and requires repair or replacement.	EACH	No
3023	Personal Property	ADA Accessible Washer	Use for front loading washer, for use by wheelchair users or individuals with comparable mobility disabilities. Record this item when the unit has been damaged, and requires repair or replacement.	EACH	No
3024	Personal Property	ADA Accessible Refrigerator	Use for side by side refrigerator. This unit provides both refrigerator and freezer storage at similar levels, enabling wheelchair users or individuals with comparable mobility disabilities to locate and remove items more easily. Record this item when the unit has been damaged and requires repair or replacement.	EACH	No
3025	Personal Property	ADA Accessible Bed	Use for a basic, non-electrical, manually cranked hospital bed w/ mattress. Record this item when the unit has been damaged and requires repair or replacement.	EACH	No

Item ID	Category	Description	Help Text	UOM	DR Specific
3027	Personal Property	ADA Walker	Use for foldable walker without wheels.	EACH	No
3028	Personal Property	ADA Wheel Chair	Use for self-transporting folding wheelchair with swing-away detachable elevating leg rests.	EACH	No
3029	Personal Property	ADA Shower Chair	Use for plastic shower chair with or without backrest; height adjustable.	EACH	No
3030	Personal Property	Dryer		EACH	No
3031	Personal Property	ADA Visual / Vibrating Fire Signal	Use for strobe and vibration smoke detector with alarm, wall or ceiling mount.	EACH	No
3040	Personal Property	Dehumidifier	Use to indicate damage to a dehumidifier owned prior to the disaster.	EACH	No
3050	Personal Property	Freezer		EACH	No
3060	Personal Property	Air Conditioner		EACH	No
3063	Personal Property	No Appliance Damage	Use only when there are no other appliances listed in line items.	EACH	No
3070	Personal Property	Electric Fan		EACH	No
3080	Personal Property	Vacuum		EACH	No
3090	Personal Property	Television		EACH	No
3109	Personal Property	TTY/TDY Telephone		EACH	NO
3110	Personal Property	Telephone	Use this line item to record hardline telephones. Also record this line item to address a cell phone if it is the applicant's only telephone.	EACH	No
3120	Personal Property	Child Car Seat	Use for an automobile safety seat for a young child or baby. The quantity for this item will be based on the number of pre-disaster household members who need or are required to use this item.	EACH	No
3130	Personal Property	Radio		EACH	No
3150	Personal Property	Humidifier	Use to indicate damage to a humidifier owned prior to the disaster.	EACH	No
3160	Personal Property	Air Purifier		EACH	Yes

Item ID	Category	Description	Help Text	UOM	DR Specific
3170	Personal Property	Microwave Oven		EACH	No
3180	Personal Property	Crib	Use to record a bed with high sides for a young child or baby. The quantity for this item will be based on the number of pre-disaster household members who need or are required to use this item.	EACH	No
3190	Personal Property	Portable Space Heater	Use to indicate damage to a portable space heater that was a backup source of heat, and owned prior to the disaster. If the applicant's primary heat source prior to the disaster was the portable space heaters, use the real property line item under Heating.	EACH	No
3200	Personal Property	Generator	*Based on a 5.5KW portable generator.* Use this line item to indicate damage to a generator owned by the applicant prior to the disaster.	EACH	No
3601	Personal Property	Firewood - a Cord	Use to record firewood used to fuel the dwelling's primary heat source; destroyed, lost or contaminated; replacing previously owned firewood.	EACH	No
3220	Personal Property	Motorcycle Helmet		EACH	Yes
3230	Personal Property	Chainsaw	Use to indicate damage to a chainsaw owned by the applicant prior to the disaster.	EACH	No
3240	Personal Property	High Chair	Use to record a specifically designed chair for a young child or baby to sit in while eating. The quantity for this item will be based on the number of pre-disaster household members who need or are required to use this item.	EACH	No
3250	Personal Property	Bicycle & Helmet - Essential		EACH	Yes
3280	Personal Property	Rice Cooker		EACH	Yes

Item ID	Category	Description	Help Text	UOM	DR Specific
3290	Personal Property	Stroller	Use to record a collapsible carriage either upright or reclined in design for a young child or baby. The quantity for this item will be based on the number of pre-disaster household members who need or are required to use this item.	EACH	No
3300	Personal Property	Playpen	Use to record a portable structure that forms a small enclosure for a young child or baby to play safely in. The quantity for this item will be based on the number of pre-disaster household members who need or are required to use this item.	EACH	No
3310	Personal Property	Twin Bed	Use to record a bed for a single occupant. When there are more than 2 individuals occupying a bedroom and existing beds are damaged, add the twin bed line item with the appropriate level of damage.	EACH	No
3410	Personal Property	Tent	Use only when the tent was the applicant's primary residence prior to the disaster. Record the type of dwelling as Other.	EACH	Yes
3425	Personal Property	Weather Radio	NOAA All Hazards and Weather Alert Radio owned prior to the disaster.	EACH	No
3440	Personal Property	Marine VHF Base Station		EACH	Yes
3450	Personal Property	Marine VHF Hand Held Radio		EACH	Yes
3470	Personal Property	Tractor/Snow Blower		EACH	Yes
3501	Personal Property	Coal/Pellets - a ton	Use to record coal/pellets used to fuel the dwelling's primary heat source; destroyed, lost or contaminated; replacing previously owned coal or pellets.	EACH	No
3580	Personal Property	Carbon Monoxide (CO) Detector	Use to indicate damage to a Carbon Monoxide (CO) Detector owned prior to the disaster	EACH	No

Item ID	Category	Description	Help Text	UOM	DR Specific
3605	Personal Property	Heating Fuel - a gallon	Use to record heating fuel used to fuel the dwelling's primary heat source; destroyed, lost or contaminated; replacing previously owned oil, propane, or kerosene.	EACH	No
3608	Miscellaneous Purchases/Eligible Purchases	Smoke Detector	Use this line item to indicate a smoke alarm purchased post disaster.	EACH	No
3614	Miscellaneous Purchases/Eligible Purchases	Humidifier	Use this item to indicate a humidifier purchased post disaster. If the applicant owned a humidifier prior to the disaster, record it under the Appliance list.	EACH	No
3615	Miscellaneous Purchases/Eligible Purchases	Dehumidifier	Use this line item to record a dehumidifier purchased post disaster. If the applicant owned a dehumidifier prior to the disaster, record it under the Appliance list.	EACH	No
3616	Miscellaneous Purchases/Eligible Purchases	Chainsaw	Use this line item to record a chainsaw purchased post disaster for the purpose of clearing debris. If the applicant owned a chainsaw prior to the disaster, record it under the Appliance list. Do not use this line item in conjunction with debris remove for downed trees or tree remove.	EACH	No
3618	Miscellaneous Purchases/Eligible Purchases	Air Purifier		EACH	Yes
3619	Miscellaneous Purchases/Eligible Purchases	Kerosene Space Heater – Post Incident	Use to record a 10K BTU radiant indoor kerosene heater.	EACH	Yes
3620	Personal Property	Subsistence Gear		EACH	Yes
3640	Essential Tools	Computer - Essential	Use this line item when the applicant is required to provide a computer by either their employer or school as a condition of employment or school enrollment. This is not to be used for an applicant who is self-employed.	EACH	No

Item ID	Category	Description	Help Text	UOM	DR Specific
3650	Essential Tools	Occupational Tools	Use this line item when the applicant is required to provide occupational tools by their employer as a condition of employment. This is not to be used for an applicant who is self-employed.	EACH	No
3660	Essential Tools	Schoolbooks/Supplies	Use this line item to record damages to schoolbooks and supplies, when the applicant is responsible for replacement of the books. This line item refers to a full set. Do not record more than one per individual.	EACH	No
3670	Essential Tools	Uniforms	Use this line item to address damaged uniforms (to include specialized/protective clothing) required for school or for work when the applicant is responsible for replacement of the uniforms. This line item refers to a full set. Do not record more than one per individual.	EACH	No
3680	Personal Property	Toys	Use one toy line item per child 17 years of age or younger incurring a loss and has no other replacement set.	EACH	No
3690	Miscellaneous Purchases/Eligible Purchases	Wet/Dry Vac		EACH	Yes
3691	Personal Property	Wet/Dry Vac		EACH	Yes
3700	Personal Property	Everyday Dining Table/Chairs	Use to record all sets of dining room table and chairs, regardless of location in the dwelling.	EACH	No
3990	Personal Property	Clothing		EACH	No
4201	*Mitigation*	*Main Panel, Elevate*	*Labor and materials to elevate a main electrical panel 18" vertically. Does not include replacement of the main panel, only labor and materials used to elevate the panel.*	*EACH*	*No*
4202	*Mitigation*	*Main Panel, Relocate*	*Labor and materials to relocate a main electrical panel one floor up in the home. Does not include replacement of the main panel, only labor and materials used to relocate the panel.*	*EACH*	*No*

Item ID	Category	Description	Help Text	UOM	DR Specific
4207	Electrical	Disconnect Box Replace	Use to remove and replace an electrical disconnect and any breakers contained within the box. Disconnect boxes are typically located on exterior walls next to the A/C condensers, heat pumps or whirlpools used to disconnect the power to the single appliance. Replace when physically damaged due to debris or an electrical surge.	EACH	No
4401	*Mitigation*	*Furnace, Elevate*	*Labor and materials to elevate a furnace 18" vertically. Does not include repairing or replacing the furnace, only labor and materials used to elevate the furnace.*	*EACH*	*No*
4501	*Mitigation*	*Water Heater, Elevate*	*Labor and materials to elevate a water heater 18", including any modifications to the water lines or electric supply. Does not include repairing or replacing the water heater, only labor and materials used to elevate the water heater.*	*EACH*	*No*
5100	Utility	Service Call –	Use when the extent of damage is unknown and a	EACH	No
5139	Utility	Sewage Ejector Pump, Replace	Use to replace sewerage ejector pump, electrical wiring and disconnect box used to move household sewerage effluent from an area of plumbing that sits below the rest of the sewer/septic system. Includes residential grinders connected to the sanitary sewage system.	EACH	No
5140	Utility	Sewer Line, Auger	Labor for auguring a 50' sewer line. Used most commonly in flood disasters when a draining problem is obviously being caused by an obstruction, such as mud or debris in the sewer lines. Record 1 each for every 50 feet linear of auger.	EACH	No

Item ID	Category	Description	Help Text	UOM	DR Specific
5141	Utility	Sewer Line, Replace	Use to excavate, replace and backfill a damaged or destroyed sewer line. Generally caused by washouts in flood disasters and uprooted trees in windstorms. Earthquakes frequently rupture sewer lines and the damage is less conspicuous and may be difficult to detect. The obvious signs are sewage percolating above ground, lateral displacement in sidewalks or driveways when accompanied by sluggish drainage of sinks or toilets. If actual linear ft. cannot be determined, give a service call for a plumbing contractor to give an estimate.	LINEAR_FEET	No
5142	Utility	Septic Tank, Replace	Use to replace a septic tank when damaged beyond repair or washed away. Includes the cost to pump out the tank. Note: The Inspector is to be certain that the tank is essential. It is common to find septic tanks that have been replaced by sewage systems and are no longer connected to the residence. If the Inspector encounters this situation use the Washout Fill line item.	EACH	No
5143	Utility	Septic Tank Lid, Replace	Use for installing a new lid to access the septic tank. Lids are normally at grade and made of concrete, metal, or plastic used to service the septic tank. Use this item even if the tank is not essential.	EACH	No
5144	Utility	Septic Tank, Pump-Out	Use when there is sluggish drainage from the sinks, toilets and the possibility exists that the tank may have been contaminated with silt or mud. Includes all related costs to have septic system pumped by a professional.	EACH	No
5145	Utility	Septic Drain Field, Replace	Use to replace a drain field. Includes: excavation, preparation of site, required gravel, perforated pipe, backfill and labor. Drain fields will be replaced if destroyed or damaged.	EACH	No

Item ID	Category	Description	Help Text	UOM	DR Specific
5146	Utility	Well, Replace	Use to drill new water well. Includes drilling and placement of casing. Use only if the well has collapsed or dried up. Record the pre-disaster depth of the well. The well pump and associated accessories will be assessed separately if needed.	LINEAR_FEET	No
5147	Utility	Well Surface Pump, Repair	Use when only minor repairs to the surface pump are needed.	EACH	No
5148	Utility	Well Surface Pump, Replace	Use to replace a potable water surface well pump when the pump is damaged beyond repair.	EACH	No
5149	Utility	Well Submersible Pump, Replace	Use to remove and replace the well pump, electrical, and water lines to the dwelling. The Inspector is to be cautioned in making a call to replace submersible pumps until he/she is certain that the damage to the pump is disaster-related. Note: It is very uncommon for submersible pumps to be damaged by outside causes. This call will not be made unless it is obvious that the well was heavily silted or the pump ran continuously due to the well having gone dry.	EACH	No
5150	Utility	Well Pump Electric Line, Replace	Use to trench, install underground wiring and materials necessary to restore power to the pump.	LINEAR_FEET	No
5151	Utility	Well (500+ gal) Storage Tank, Replace	Use for a 500+ gallon storage tank commonly used for wells that do not produce adequate water on a constant basis. Includes the storage tank, all labor and materials necessary to restore service. **Not to be confused with "Well Pressure Tank Replace"**. Tank will be replaced if damaged beyond repair, destroyed or missing as a result of the disaster and is essential to the residence.	EACH	No

Item ID	Category	Description	Help Text	UOM	DR Specific
5152	Utility	Well Pressure Tank, Replace	Use to remove and replace a well pressure tank Labor and materials necessary to restore Pressure tank service. Well pressure tanks will be replaced when the original pressure tank is missing, destroyed or damaged. The Well Pressure Tank is normally 30 – 50 gallons and the size and shape of a water heater.	EACH	No
5153	Utility	Well Pump House, Replace	Use to remove and replace a building that protects the well pump, motor and controls. The pump house must be missing, destroyed or damaged beyond repair.	EACH	No
5154	Utility	Cistern Lid, Replace	Use to replace a cistern lid. Use only when original lid has been destroyed.	EACH	No
5155	Utility	Sump Pump, Replace	Use to replace an existing damaged or destroyed sump pump. This does not include restoration of electrical service to the pump, or repairs to the sump crock.	EACH	No
5156	Utility	Cistern, Replace	Use to replace a 1000 gallon water catchment tank holding potable water.	EACH	No
5158	Utility	Cistern, Reseal	Use to reseal a cistern. This does not include decontamination of the water supply.	EACH	No
5159	Utility	Water Supply, Decontaminate	Use to clean and sanitize potable water plumbing systems using chlorine bleach. Typically used when well has been inundated by flood/storm surge or has become cloudy following an earthquake.	EACH	No
5160	Utility	Outhouse, Replace	Use to construct an outside toilet. Use only when the outside toilet is the sole toilet for the residence. In remote areas it is common to have the toilet separate from the main residence.	EACH	No
5161	Utility	Outside Shower, Replace	Use to construct an outside shower. Use only when the outside shower is the sole bathing facility for the residence. In remote areas it is common to have the shower separate from the main residence.	EACH	No

Item ID	Category	Description	Help Text	UOM	DR Specific
5163	Utility	Well Pressure Switch	Use to remove and replace a single well pressure switch. This unit is located next to the well pressure tank and should be replaced when physically damaged due to debris, an electrical surge or inundated with water.	EACH	No
5198	Utility	Lump Sum - Utilities	Use lump sum when there is an eligible repair and no matching line item. A comment is always required.	EACH	No
5300	Windows/Doors	Service Call – Windows/Doors	Use when the extent of damage is unknown and a professional will be needed to prepare an estimate.	EACH	No
5340	Windows/Doors	Door, Trim & Refit	Labor only for both interior and exterior doors requiring adjustment. If re-leveling a home, the doors will usually self-correct.	EACH	No
5341	Windows/Doors	Door, Interior, Replace	Use to replace a single hollow core door. Hollow core doors will usually be replaced when exposed to water.	EACH	No
5342	Windows/Doors	Door, Exterior, Replace	Use to replace an exterior door on the dwelling.	EACH	No
5343	Windows/Doors	Door, Storm, Replace	Use to replace a storm door.	EACH	No
5344	Windows/Doors	Door, Sliding Glass, Replace	Use to replace a 6' sliding door. Use when frame and/or glass damage presents a security or safety hazard. Sliding door glass is generally not replaceable, the whole unit requires replacement. (This is also used for an exterior French door).	EACH	No
5345	Windows/Doors	Window Glass, Replace	Use to remove and replace damaged or destroyed window or door glass.	SQUARE_FEET	No
5346	Windows/Doors	Window, Replace	Use to remove and replace an average double pane 3' x 5' window. The sash or frame must be damaged before using this item, otherwise use glass replace.	EACH	No
5347	Windows/Doors	Window Re-Seal/Re-Glaze	Use to re-glaze an existing window or to re-caulk along the window frame. Use when window glazing has broken away from the glass or the application of caulking will provide a weather-tight seal.	LINEAR_FEET	No

Item ID	Category	Description	Help Text	UOM	DR Specific
5348	Windows/Doors	Window, Louver, Replace	Use to remove and replace a single, metal jalousie window. A jalousie window consists of parallel glass, acrylic, metal or wooden louvers set in a frame. The louvers are locked together on a track, so that they may be tilted open and shut in unison to control airflow through the window.	EACH	No
5349	Windows/Doors	Screens, Replace	Use to replace as damaged window screen	SQUARE_FEET	No
5350	Windows/Doors	Skylight, Replace	Use to remove and replace a skylight.	EACH	No
5398	Windows/Doors	Lump Sum – Windows/Doors	Use lump sum when there is an eligible repair and no matching line item. A comment is always required.	EACH	No
5530	Speed Estimating	Renter - Moderate Damage	Use to indicate the home has incurred less than 4 feet of flood water and/or; heating/cooling system requires a technician to repair and/or; windows or doors require repair to be safe and secure and/or; roof cover or siding damage preventing safe and sanitary occupancy and/or; a professional is required to clean the occupied areas of the home and/or; reconnection of utilities is necessary for occupancy and/or; road or bridge repairs are required to gain access.	EACH	No
5532	Speed Estimating	Renter - Major Damage	Use to indicate the home has incurred 4 feet or more of flood water and/or; majority of the foundation walls or piers are collapsed or significantly separated from the floor frame and/or; majority of the roof or wall components are structurally damaged and/or; the only access bridge has collapsed.	EACH	No
5533	Speed Estimating	Renter – Destroyed	Use to indicate all phases of construction are structurally compromised (foundation, floor, wall and roof).	EACH	No

Item ID	Category	Description	Help Text	UOM	DR Specific
5542	Speed Estimating	Electrical, Complete	Use to install a 200 amp residential electrical service (wiring and fixtures are included in wall, roof and floor systems) with the following components: Weather head; service entrance cable; meter socket; entrance switch; ground rod; ground cable; EMT; 200 amp main panel box, 24 circuit; (1) 200 amp main circuit breaker; (1) 50 amp double pole circuit breaker, (1) 30 amp double pole circuit breaker, (2) 20 amp double pole circuit breakers, (12) single pole breakers.	SQUARE_FEET	No
5546	Speed Estimating	Tarp Referral	Use this line item when the dwelling has sustained roof damage and installing a temporary tarp would prevent further damage to the interior.	EACH	Yes
5547	Speed Estimating	Heating, Complete	Use to replace a gas fired forced air heating system including furnace, ductwork, registers, controls and hookups with the following components: (Area to 1600 SF) Gas Furnace, AGA certified, direct drive with gas piping and class B vent rough-in; Galvanized steel ducting with insulation (app. 500 LB); 200’ 6” insulated flexible ducting; (16) 12” X 6” registers; Cold air return; Thermostat and wiring.	SQUARE_FEET	No
5550	Speed Estimating	FEMA Mobile Home Travel Trailer	Use this line item to indicate that the applicant is currently residing in a FEMA housing unit (mobile home or travel trailer).	EACH	Yes
5600	Floors/Walls/Ceilings	Service Call – F/W/C	Use if the extent of damage is unknown and a professional will be needed to prepare an estimate.	EACH	No
5640	Floors/Walls/Ceilings	Floor Covering, Replace	Use to remove and replace floor covering consisting of carpet, floor tiles, sheet vinyl, laminate or linoleum flooring. Speed Estimating Factor: Replace = 1.0 x affected floor of home if carpet or combination of carpet and linoleum throughout.	FLOOR_SF	No

Item ID	Category	Description	Help Text	UOM	DR Specific
5642	Floors/Walls/Ceilings	Floor, Sand and Refinish	Use to sand, fill and refinish a hardwood floor. Use when superficial warping and buckling has occurred to hardwood floors.	FLOOR_SF	No
5643	Floors/Walls/Ceilings	Floor, Hardwood, Replace	Use to remove and replace hardwood strip flooring when used as the sole floor covering and damaged beyond refinishing. Do not use for laminate flooring. Note: Do not replace hardwood flooring when covered with carpet or another floor cover. Speed Estimating Factor: Replace = 1.0 x affected floor of home if hardwood throughout.	FLOOR_SF	No
5644	Floors/Walls/Ceilings	Floor, Sub, Replace	Use to remove and replace damaged sub flooring with ¾" tongue and groove oriented strand board. Replace when sub-floor is severely warped and/or de-laminating. Speed Estimating Factor: Replace = 1.0 x affected floor of home if all subfloor needs replacement.	FLOOR_SF	No
5645	Floors/Walls/Ceilings	Floor Joist, Replace	Use to remove and replace damaged floor joists. Floor Covering and Sub Floor will be addressed separately. This line item is based on the square footage of floor area, not on the linear footage of joists damaged.	FLOOR_SF	No
5646	Floors/Walls/Ceilings	Insulation, Wall, Replace	Use to remove and replace new wall insulation. Use when insulation has been inundated by floodwaters or otherwise damaged. Use in conjunction with Drywall replace on exterior walls where necessary. Insulation will be replaced in 2 foot intervals, estimated by rounding up from the high water mark to nearest 2' increment. Speed Estimating Factor: Multiply the following high water level factors x square footage of the affected floor area: 1'-11"- 0.25 factor; 3'-11"- 0.50 factor; 5'-11"- 0.75 factor; 6' or greater by 1 factor. If insulation exits in the Interior walls it should also be replaced.	FLOOR_SF	No
5648	Floors/Walls/Ceilings	Drywall, Finish	Use to apply joint compound, sand, and paint affected area. Use to patch minor cracks in drywall or plaster.	WALL_SF	No

Item ID	Category	Description	Help Text	UOM	DR Specific
5649	Floors/Walls/Ceilings	Drywall, Replace	Use to remove and replace half-inch drywall and generic baseboard and trim for windows and doors. Includes tape, finish and paint. Use also for all other types of wall materials such as plaster, interior stucco, paneling and ceiling tiles. Drywall will be replaced in 2 foot intervals, estimated by rounding up from the high water mark to nearest 2' increment. Speed Estimating Factors: Multiply the following high water level factors x square footage of the affected floor area: 1'-11" - 0.8 factor; 3'-11" - 1.6 factor; 5'-11" - 2.4 factor; 7'-11" - 3.2 factor; 10' - 4.0 factor. Add amounts for affected ceiling areas.	WALL_SF	No
5650	Floors/Walls/Ceilings	Tile, Wall, Replace	Use to remove and install new tile. This includes only ceramic tiles, use the drywall line item for wallboard behind the tiles.	WALL_SF	No
5651	Floors/Walls/Ceilings	Wall, Interior, Replace	Use to remove and replace interior framing and rough door openings. Use only when wall has been destroyed or damaged beyond repair.	WALL_SF	No
5652	Floors/Walls/Ceilings	Wall, Exterior, Replace	Use to remove and replace framing and sheathing, including rough window and door openings and temporarily supporting the roof or upper floor system during construction of the exterior wall. Does not include exterior siding, insulation, or interior finishes. Use only when the wall has been destroyed or damaged beyond repair.	WALL_SF	No
5654	Floors/Walls/Ceilings	Stucco, Repair/Replace	Use to remove and repair or replace damaged stucco.	WALL_SF	No
5655	Floors/Walls/Ceilings	Siding, Replace	Use to remove and/or replace exterior siding such as vinyl, Masonite, wood etc.	SQUARE_FEET	No
5656	Floors/Walls/Ceilings	Ceiling Joist, Replace	Use to remove and replace ceiling joists. Note: This line item is based on the square footage of ceiling area, not on the linear footage of joists damaged.	SQUARE_FEET	No

Item ID	Category	Description	Help Text	UOM	DR Specific
5657	Floors/Walls/Ceilings	Wood Post Replace	Use to remove and/or replace a single wooden post. Commonly used to support roof and floor structures located on porches, basements and crawlspaces.	EACH	No
5662	Floors/Walls/Ceilings	Insulation, Floor/Ceiling, Replace	Use to remove and replace new ceiling or floor insulation. Use when insulation has been inundated by floodwaters or otherwise damaged. Use in conjunction with Drywall replace on ceilings where necessary. Speed Estimating Factor: Replacement: Ceiling or Floor = 1.0 x SF of affected floor of home.	SQUARE_FEET	No
5664	Electrical	Smoke Detector, Replace	Use to replace a smoke detector; includes materials only.	EACH	No
5665	Floors/Walls/Ceilings	Carpet, Clean and Re-stretch	Use to clean, re-stretch carpet, and replace pad.	SQUARE_FEET	No
5698	Floors/Walls/Ceilings	Lump Sum – F/W/C	Use lump sum when there is an eligible repair and no matching line item. A comment is always required.	EACH	No
5700	Access/Debris	Service Call – Access/Debris	Use when the extent of damage is unknown and a professional will be needed to prepare an estimate.	EACH	No
5740	Access/Debris	Washout, Fill	Replacement is necessary when washout undermines the foundation or septic system. Not used for road fill. Includes the machine time to place the material. Washout, fill is included with the Septic Tank Replace line item.	CUBIC_YARD	No
5741	Access/Debris	Debris, Remove	Use to address disaster deposited debris such as mud, trees that have fallen, and damages presenting hazards to the dwelling. Debris removal will be limited to the minimum required to remove health & safety hazards, protect against additional damage to the dwelling or provide access and egress to the dwelling. Do not record this line item in conjunction with Miscellaneous Chainsaw.	CUBIC_YARD	No

Item ID	Category	Description	Help Text	UOM	DR Specific
5742	Access/Debris	Tree(s), Remove	Use when a tree presents a clear danger to either the dwelling or access to the dwelling. Use only when the tree is still standing and will need to be cut down by a professional. If the tree has already fallen, use the Debris Removal line item. The line item is based on a tree up to 18 inches in diameter. If the tree is significantly larger, the quantity of this line item can be increased.	EACH	No
5743	Access/Debris	Retaining Wall, Replace	Use to address pre-existing retaining walls that are damaged and present a safety hazard or the construction of a new retaining wall that will remove imminent danger to the dwelling or access. Includes backfill and machine time behind the wall. It does not include any machine time or fill needed to rebuild the slope to enable installation of the wall if needed.	SQUARE_FEET	No
5744	Access/Debris	Fence, Replace	Use only if the applicant can prove a serious need for the fence, such as child safety. Do not record swimming pool fences.	LINEAR_FEET	No
5745	Access/Debris	Fence, Repair	Use only if the applicant can prove a serious need for the fence, such as child safety. Do not record swimming pool fences.	LINEAR_FEET	No
5747	Access/Debris	Pump-Out	Use when the applicant has standing water in the basement or removed standing water from the dwelling by renting a pump, purchasing a pump and or hiring a professional service.	EACH	No
5749	Access/Debris	Clean and Sanitize	Use to record surface areas of the home that have been affected by floodwater, sewer backup, mudflow, chemical or biological contamination, or when there is heavy disaster related soot or ash. Calculate the affected floor area and in cases of extensive contamination, include the affected wall area. Clean and sanitize can be used in crawlspaces if there is visible contamination.	SQUARE_FEET	No

Item ID	Category	Description	Help Text	UOM	DR Specific
5798	Access/Debris	Lump Sum – Access/Debris	Use lump sum when there is an eligible repair and no matching line item. A comment is always required.	EACH	No
6200	Electrical	Service Call – Electrical	Use when the extent of damage is unknown and a professional will be needed to prepare an estimate.	EACH	No
6240	Electrical	Outlets or Switches, Replace	Used to replace an electrical outlet or switch. Electrical outlets or switches that have either been physically damaged or inundated will always be replaced. Speed Estimating Factors: when water level constitutes Replace Outlets = 3.5 per 100 SF of affected floor of home, Switches = 1.5 per 100 SF of affected floor of home OR Outlets & Switches combined = 5.0 per 100 SF of affected floor of home. Note: Inspector can add additional outlets for kitchens and bathrooms (i.e. 220 Volt & GFI).	EACH	No
6241	Electrical	Outlet, 220 Volt, Replace	Use to replace a damaged outlet and cleaning the box, if enclosed. Electrical outlets that have either been physically damaged or inundated will always be replaced.	EACH	No
6242	Electrical	Outlet, GFI, Replace	Use to replace a GFI outlet, cleaning the box and installing a new GFI outlet with a protective cover. Electrical outlets and switches that have been physically damaged or inundated will always be replaced. Ground Fault Interrupter outlets can be identified by a “Press to Test” button. Usually located in a bathroom, kitchen or laundry room next to a sink.	EACH	No
6245	Electrical	Aux Panel, Replace	Use for replacing a damaged auxiliary panel, also includes all internal circuit breakers or fuses within the panel. Applied when the panel is damaged to the extent that repair is not feasible. Fresh water inundation of an auxiliary panel constitutes damages that can be repaired. When an auxiliary panel can be repaired, address the damage with the line item “Main Panel, Clean & Repair”.	EACH	No

Item ID	Category	Description	Help Text	UOM	DR Specific
6246	Electrical	Main Panel, Clean & Repair	Use to clean the main or sub electrical panel boxes and making repairs to the box itself. The inspector will need to add main and other circuit breakers, using the appropriate line items. Only use if the panel needs general cleaning or minor repairs.	EACH	No
6247	Electrical	Main Breakers, 200 Amp, Replace	Use to replace a 200 amp main breaker. This item refers only to the main circuit breaker and does not include the panel box or any other circuit breakers or fuses. The 200-amperage designation is generally embossed on the reset switch. Use when the Main Breaker is damaged or has been inundated by water.	EACH	No
6248	Electrical	Main Breakers, 100 Amp, Replace	Use to replace a 100 amp main breaker. This item refers only to the main circuit breaker and does not include the panel box or any other circuit breakers or fuses. The 100-amperage designation is generally embossed on the reset switch. Use when Main Breaker is damaged or has been inundated by water.	EACH	No
6249	Electrical	Cir Breaker, 1 Pole, Replace	Use when panel box breakers have been submerged or otherwise damaged. Includes labor plus installation. For each pair of damaged tandem breakers (two thin breakers in a single-pole slot - not 2-pole breakers) record one 1-pole breaker.	EACH	No
6250	Electrical	Cir Breaker, 2 Pole, Replace	Use when panel box breakers have been submerged or otherwise damaged. Includes labor plus installation.	EACH	No
6251	Electrical	Cir Breaker, GFI, Replace	Use when breakers have been submerged or otherwise damaged. Use to address a GFI Breaker in a panel box and not for a GFI Outlet located in a wall receptacle. Includes labor plus installation.	EACH	No
6252	Electrical	Fuses, Replace	Fuses are found in either main or auxiliary panel boxes and will be replaced whenever inundated or otherwise damaged.	EACH	No

Item ID	Category	Description	Help Text	UOM	DR Specific
6253	Electrical	Light Fixtures, Replace	Use to install a standard light fixture. Light fixtures that have been inundated or damaged as a result of the disaster will always be replaced.	EACH	No
6254	Electrical	Exhaust Fan w/ Light Replace	Use to replace a combination exhaust-light fan fixture in bathroom or kitchen. This item is not for replacing a damaged Ceiling Fan. If a Ceiling Fan is damaged, use the Light Fixture Replace line item.	EACH	No
6255	Electrical	Wiring, Replace	Inspectors will record wiring replace only when the wiring is physically damaged or inundated. Very old BX type wiring (wire enclosed in a flexible metal sheathing) may be subject to damage by submersion. Standard Romex (plastic sheathed)wiring generally does not need to be replaced due to submersion in fresh water.	LINEAR_FEET	No
6256	Electrical	Service Entrance, Replace	Use when the complete service entrance has been damaged beyond repair or destroyed. This line item will cover the labor and materials to replace a service entrance, meter base, weather head, mast and service wire.	EACH	No
6257	Electrical	Mast, Replace	Use to replace the mast, weather head, support cables, other related hardware.	EACH	No
6258	Electrical	Meter Base, Replace	Use to replace a meter base. The meter base is a metal junction box and is part of the electrical service entrance. Use only when the meter base is physically distorted or damaged.	EACH	No
6259	Electrical	Power Pole, Reset	Use to reinstall an existing power pole. Use only when the power pole is the property of the owner of the residence and has fallen or must be reset to make other essential repairs. Resetting will include reconnecting the service to the residence.	EACH	No

Item ID	Category	Description	Help Text	UOM	DR Specific
6260	Electrical	Power Pole, Replace	Use to replace and install a new power pole. Use when the power pole is the property of the owner of the residence. Replacement will only be called for when the power pole is missing or no longer usable. If the power pole also served as the mount for the service entrance see other appropriate line items to reinstall service entrance	EACH	No
6261	Electrical	Main Panel, 200 Amp, Replace	Use to replace the box, the 200 amp main circuit breaker, and the bus bars for installing additional breakers, and for removing the damaged box. It does not include the individual circuit breakers, only the main breaker. Use when panel is damaged to the extent repair is not feasible.	EACH	No
6262	Electrical	Main Panel, 100 Amp, Replace	Use to replace the box, the 100 amp main circuit breaker, and the bus bars for installing additional breakers, and for removing the damaged box. It does not include the individual circuit breakers, only the main breaker. Use when panel is damaged to the extent repair is not feasible.	EACH	No
6264	Electrical	Generator, Sole Source, Replace	*Based on a 10 KW fixed site generator.* Use only when the generator is the sole source of electricity.	EACH	No
6298	Electrical	Lump Sum - Electrical	Use lump sum when there is an eligible repair and no matching line item. A comment is always required.	EACH	No
6300	General	Service Call – General	Use when the extent of damage is unknown and a professional will be needed to prepare an estimate.	EACH	No
6339	General	Ridge Vent	Use to remove and replace a linear foot of ridge vent.	LINEAR_FEET	No
6340	General	Cabinet, Reinstall	Use for labor only to remove and reinstall existing cabinets to allow other work to be completed.	LINEAR_FEET	No
6341	General	Cabinet, Base, Replace	Use to remove and install new base cabinet with countertop. Cabinets that are warped significantly and decomposing will be replaced.	LINEAR_FEET	No
6342	General	Cabinet, Vanity, Replace	Use to remove and install new vanity cabinet. Cabinets warped significantly and decomposing will be replaced.	LINEAR_FEET	No

Item ID	Category	Description	Help Text	UOM	DR Specific
6343	General	Cabinet, Wall, Replace	Use to remove and install new wall cabinet(s). Cabinets that are warped significantly and decomposing will be replaced.	LINEAR_FEET	No
6344	General	Roof, Covering Only, Replace	Use to remove and replace roof covering. Use for all roof coverings except roof tiles and metal roofing. *Meets wind rating of up to 116 MPH.*	SQUARE_FEET	No
6345	General	Roof, Sheathing & Up, Replace	Use to remove and replace with new sheathing and covering. *Meets wind rating of up to 116 MPH.*	SQUARE_FEET	No
6346	General	Roof, Framing & Up, Replace	Use to remove and replace new framing, sheathing, and all coverings. *Meets wind rating of up to 116 MPH.*	SQUARE_FEET	No
6347	General	Roof, Metal, Re-nail & Seal	Use to re-nail and seal metal roof such as 5V, standing seam or corrugated roofing which has been loosened usually by severe wind. Use this line item for mobile home reflective roof coating.	SQUARE_FEET	No
6348	General	Roof, Metal, Replace	Use to remove and replace existing 5V, standing seam or corrugated metal roof covering.	SQUARE_FEET	No
6349	General	Roof, Tile, Reset	Use to reset undamaged, loose Terracotta, slate or similar type roofing tiles.	SQUARE_FEET	No
6350	General	Roof, Tile, Replace	Use to remove and replace terracotta, slate or similar type roofing materials.	SQUARE_FEET	No
6351	General	Roof, Concrete, Reseal	Use to seal leaks in concrete roofs due to minor cracks caused by disaster related settling, earthquake, etc.	SQUARE_FEET	No
6352	General	Roof Vent, Replace	Use to remove and replace an aluminum dome roof vent.	EACH	No
6353	General	Flashing, Replace	Use to remove and replace damaged flashing most commonly found around, but not limited to, chimneys and roofing valleys.	LINEAR_FEET	No
6354	General	Soffit & Fascia, Replace	Use to remove and replace soffit and/or fascia.	LINEAR_FEET	No
6355	General	Rain Gutters, Replace	Use to remove and replace rain gutters.	LINEAR_FEET	No

Item ID	Category	Description	Help Text	UOM	DR Specific
6356	General	Down Spouts, Replace	Use to remove and replace damaged down spouts.	LINEAR_FEET	No
6358	General	Stairs, Treads, Replace	Use to remove and replace damaged stair treads.	EACH	No
6359	General	Stairs, Handrail, Replace	Use to remove and replace an entire handrail consisting of turned post/balusters, handrail, and pickets. Record one lump sum to address a damaged secondary handrail attached to the wall or existing restraint system.	LINEAR_FEET	No
6360	General	Access Porch, Replace	Use to remove and replace a porch/deck, steps and railing.	EACH	No
6363	General	ADA Grab Bars, Replace	Use to replace ADA grab bars. If the item only needs repaired, use a lump sum and comment as needed. Record only one unit of measure for each pair of damaged grab bars.	EACH	No
6364	General	ADA Ramp, Replace	Use to replace a wood ADA ramp, handrails, and level landing at both ends of ramp with non-slip surface. If item only requires repairs use a lump sum with comment as needed.	EACH	No
6365	General	Stair Stringer	Use to remove and replace a linear foot of stair stringer.	LINEAR_FEET	No
6391	General	Residence, Rebuild	If the dwelling is destroyed record this line item in real property as a 1 each item (Maximum of 1) Personal property and exterior RP items outside of the footprint will still need to be addressed.	EACH	No
6398	General	Lump Sum - General	Use lump sum when there is an eligible repair and no matching line item. A comment is always required.	EACH	No
6400	Heating	Service Call – Heating	Use when the extent of damage is unknown and a professional will be needed to prepare an estimate.	EACH	No
6430	Heating	Flue/Stove Pipe, Replace	Use to install new double wall gas flue, wood stove flue or wood stove pipe.	LINEAR_FEET	No

Item ID	Category	Description	Help Text	UOM	DR Specific
6440	Heating	Furnace, Clean & Test	If extent of damage cannot be determined from minor water and /or mechanical damage, use this item to have a professional HVAC tradesman clean and test a potentially damaged furnace. Use for a forced air furnace, boiler, packaged units or either component of a heat pump (combined a/c & heat) located on exterior. Damaged exterior or interior components of a heat pump will be addressed as a single unit – regardless if both components are damaged.	EACH	No
6441	Heating	Furnace, Replace	Use to remove and replace a furnace when the inspection clearly shows the unit has been destroyed by disaster. Use the replace line item for a forced air furnace, boiler, packaged units or either component of a heat pump (combined a/c & heat) located on exterior. Damaged exterior or interior components of a heat pump will be addressed as a single unit – regardless if both components are damaged.	EACH	No
6442	Heating	Oil Tank, Replace	Use to remove and replace tank. Use only when the oil tank has been damaged beyond repair or missing.	EACH	No
6443	Heating	Heater, Baseboard, Electric, Replace	Use to remove and replace electric baseboard heater.	LINEAR_FEET	No
6444	Heating	Wall Heater, Clean & Test	Use when the extent of damage cannot be determined. Use this item to have a professional make a service call specifically to clean and test heating the unit. Wall Heater refers to a permanently installed unit.	EACH	No
6445	Heating	Wall Heater, Gas, Replace	Use to remove and replace a destroyed gas wall heater.	EACH	No

Item ID	Category	Description	Help Text	UOM	DR Specific
6446	Heating	Heater, Portable, Replace	Use to replace a portable space heater in the Real Property category, only when the sole heating system is a portable space heater. If the portable space heater is not the sole source of heat use the Personal Property line item.	EACH	No
6447	Heating	Wood Stove, Replace	Use to remove and replace wood stove.	EACH	No
6448	Heating	Wall Heater, Electric, Replace	Use to remove and replace an electric wall heater.	EACH	No
6450	Heating	Oil Tank, Reset	Use to level, stabilize and reconnect a fuel tank.	EACH	No
6451	Heating	Oil Tank, Stop, Replace	Use to replace a damaged oil tank backfire preventer.	EACH	No
6452	Heating	Gas Line, Interior, Replace	Use to remove and replace broken interior gas line. Buried gas line is a separate line item.	LINEAR_FEET	No
6453	Heating	Ductwork, Clean & Sanitize	Use to clean flooded metal ductwork. Use to clean rigid metal ductwork only. If ductwork is insulated “Flex-duct” it must be replaced if inundated.	LINEAR_FEET	No
6454	Heating	Ductwork, Replace	Use to remove and replace insulated ductwork. Use this item when rigid metal duct has been destroyed or “Flex-duct” has been inundated.	LINEAR_FEET	No
6456	Heating	Propane Tank, Replace	Use to replace a 500 LB or larger propane tank. Use only when the tank is the property of the applicant, and not a leased tank. Use two lump sums (LS) when replacing 50 to 100 LB tanks.	EACH	No
6457	Heating	Propane Regulators, Replace	Use to remove and replace a pressure regulator. Use only when the tank is the property of the applicant, and not a leased tank.	EACH	No
6458	Heating	Thermostat, Replace	Use to remove and replace a wall thermostat.	EACH	No
6460	Heating	Buried Gas Line, Replace	Use to replace buried gas line. Includes excavation and backfill.	LINEAR_FEET	No

Item ID	Category	Description	Help Text	UOM	DR Specific
6461	Heating	Furnace, Clean & Repair	Use to clean and repair a furnace back to working order usually when the controls have been under water. Use for a forced air furnace, boiler, packaged units or either component of a heat pump (combined a/c & heat) located on exterior. Damaged exterior or interior components of a heat pump will be addressed as a single unit – regardless if both components are damaged.	EACH	No
6464	Heating	Single Register Floor Furnace Repl.	Use to remove and replace a single register floor furnace. Includes reconnection to existing fuel lines.	EACH	No
6465	Heating	Central Air Conditioner, Repair	Use to repair the outdoor central air conditioner unit. May be used to address damages to an interior "A/C air handler" (a stand-alone A/C unit with fan, but without a heating component). Do not use this line item for an outside Heat Pump component.	EACH	No
6466	Heating	Central Air Conditioner, Replace	Use to remove and replace the outdoor central air conditioning unit. Do not use this line item for an outside Heat Pump component.	EACH	No
6467	Heating	Propane Tank, Reset	Use to reset and reconnect a fallen or disconnected LP tank larger than 100 LB capacities.	EACH	No
6470	Heating	Fireplace, Gas Heat Circulating	Use to remove and replace a gas-fired heat circulating fireplace. Units are commonly found in living areas surrounded with ornamental mantels and hearths used to heat single or multiple rooms.	EACH	No
6498	Heating	Lump Sum - Heating	Use lump sum when there is an eligible repair and no matching line item. A comment is always required.	EACH	No
6500	Plumbing	Service Call – Plumbing	Use when the extent of damage is unknown and a professional will be needed to prepare an estimate.	EACH	No
6540	Plumbing	Drain Lines, Rout & Flush	Use to address lines that are slow in draining and no breaks are evident.	EACH	No
6541	Plumbing	Toilet & Tank, Replace	Use to remove and replace toilet and tank.	EACH	No

Item ID	Category	Description	Help Text	UOM	DR Specific
6542	Plumbing	Toilet & Tank, Reinstall	Use to remove and reinstall a toilet to enable replacement of damaged wall or floor.	EACH	No
6543	Plumbing	Sink, Bathroom, Replace	Use to remove and install new sink. Does not include faucets	EACH	No
6545	Plumbing	Sink, Kitchen, Replace	Use to remove and replace sink. Does not include faucets	EACH	No
6546	Plumbing	Sink, Reinstall	Use to remove and reinstall a sink to enable repairs to walls, floors, or cabinets.	EACH	No
6547	Plumbing	Faucets, Replace	Use to remove and replace a faucet.	EACH	No
6548	Plumbing	Tub or Shower, Reinstall	Use to remove and reinstall the bathtub or shower to enable repairs to walls and floors.	EACH	No
6549	Plumbing	Shower Enclosure, Replace	Use to remove and replace a shower stall. Does not include faucets.	EACH	No
6550	Plumbing	Tub Replace	Use to remove and replace bathtub. Does not include faucets.	EACH	No
6551	Plumbing	Shower/Tub Door, Replace	Use to remove and replace a shower/tub sliding door.	EACH	No
6552	Plumbing	Water Line, Replace	Use to remove and replace interior water lines. May be used in crawlspace areas.	LINEAR_FEET	No
6553	Plumbing	Water Line, Buried, Replace	Use to replace buried water line. Includes all excavation and backfill. If actual linear ft. cannot be determined, give a service call for a plumbing contractor to give an estimate.	LINEAR_FEET	No
6554	Plumbing	Drain Line, Replace	Use to remove and replace interior drain line.	LINEAR_FEET	No
6555	Plumbing	Water Heater, Repair	Use to inspect, test for leaks and repair water heater.	EACH	No
6556	Plumbing	Water Heater, Replace	Use to remove and replace a water heater.	EACH	No

Item ID	Category	Description	Help Text	UOM	DR Specific
6557	Plumbing	Fixture, Remove and Cap Drain	Use to record non-essential plumbing fixtures needing removed and capped. Record one per fixture unit (example: record 3 units in a non-essential basement bathroom containing a toilet, sink and tub).	EACH	No
6598	Plumbing	Lump Sum - Plumbing	Use lump sum when there is an eligible repair and no matching line item. A comment is always required.	EACH	No
6600	Boat Items	Service Call – Boat	Use when the extent of damage is unknown and a professional will be needed to prepare an estimate.	EACH	No
6640	Boat Items	Boat Door, Replace	Use to replace a below-deck door.	EACH	No
6641	Boat Items	Cabinet, Replace	Use to replace a linear foot of cabinet on a boat. Boat cabinets typically require custom fitting to the hull curvature.	LINEAR_FEET	No
6642	Boat Items	Cabinet, Remove & Reinstall	Use to remove and reinstall a linear foot of cabinet, which allows other work to be completed.	LINEAR_FEET	No
6643	Boat Items	Porthole, Replace	Use to replace a single damaged porthole.	EACH	No
6644	Boat Items	Anchor, Replace	Materials to replace an anchor, including anchor chain and line. Do not use in conjunction with mooring equipment replacement.	EACH	No
6645	Boat Items	Fender, Replace	Use to replace a single compressed rubber fender and hanger. Fenders are used when the vessel is moored at the dock; to prevent to the hull being damaged by contact with the dock.	EACH	No
6646	Boat Items	Hatches, Replace	Use to remove and replace a boat deck hatch. Includes trim ring and deck flange replacement. This is generally a watertight hatch.	EACH	No
6647	Boat Items	Hull, Repair	Cost per square foot for replacement of damaged hull. This line item can be used for repairs above or below the water line. It does not include dry-docking or repainting cost, which are separate line items.	SQUARE_FEET	No

Item ID	Category	Description	Help Text	UOM	DR Specific
6648	Boat Items	Keel, Repair	Use to replace and finish the damaged keel, includes dry-docking costs. The keel is the main structural member of the boat, running from bow to stern.	LINEAR_FEET	No
6649	Boat Items	Deck, Repair	Use to replace damaged boat decking.	SQUARE_FEET	No
6650	Boat Items	Mooring	Use to replace equipment for mooring including mooring buoys, sand screws, chain, and line. This line item is used when the boat was moored in a harbor and not at a dock, and it should not be used in conjunction with anchor replacement.	EACH	No
6651	Boat Items	Cleats	Use to replace a single cleat. A cleat is a metal bracket used to secure ropes.	EACH	No
6652	Boat Items	Railing	Use to remove and replace a 7/8" safety handrail.	LINEAR_FEET	No
6653	Boat Items	Stanchion	Use to replace a single boat stanchion. A stanchion is the post that supports the lifeline or rail. Replacement of the lifeline is a separate line item.	EACH	No
6654	Boat Items	Gate Stanchion	Use to replace a single gate stanchion including hinges, latches, etc. A stanchion is the post that supports the lifeline or rail.	EACH	No
6655	Boat Items	Docking Rope	Use to replace docking ropes per linear foot.	LINEAR_FEET	No
6656	Boat Items	Life Line	Use to replace a 5/8" lifeline.	LINEAR_FEET	No
6657	Boat Items	Toe Rail	Use to remove and replace damaged sections of a toe rail. The toe rail runs along the perimeter of the deck, and is frequently used to anchor the stanchions.	LINEAR_FEET	No
6658	Boat Items	Hull, Paint	Use to repaint a boat hull, below the waterline with anti-fouling paint. This frequently is required if the boat has rubbed against another boat's hull, the dock etc. Includes dry-docking costs for the time needed – if this line item is used, do not add dry-dock time for other repairs. Also includes removal of old paint, and minor patching and filling. Note: This line item is calculated per foot of hull length rather than square footage.	LINEAR_FEET	No

Item ID	Category	Description	Help Text	UOM	DR Specific
6659	Boat Items	Dry Dock	Use to put boat in dry-dock and rental expense to dry-dock a boat for one month. This line item is required when the ship must be pulled out of the water to make repairs below the waterline. Includes launching the boat following repairs.	LINEAR_FEET	No
6660	Boat Items	Life Preserver	Use to replace a 24" ring type life preserver with 50' of line.	EACH	No
6661	Boat Items	Water Tank, Repair	Use to repair and reseal a fresh water storage tank.	EACH	No
6662	Boat Items	Water Tank, Replace	Use to remove and replace a fresh water storage tank. Includes all fittings.	EACH	No
6663	Boat Items	Bilge Pump, Replace	Use to remove and replace a damaged bilge pump with float switch and alarm.	EACH	No
6664	Boat Items	Toilet, Replace	Use to remove and replace a boat toilet.	EACH	No
6665	Boat Items	Water Pump, Replace	Use to remove and replace a boats fresh-water circulating pump. Includes all fittings.	EACH	No
6666	Boat Items	Inverter, Replace	Use to replace an inverter when battery power is the sole source of electricity.	EACH	No
6667	Boat Items	Wind Generator, Replace	Use to replace a wind generator and trickle re-charger. Includes mounting hardware and charge controller.	EACH	No
6668	Boat Items	Batteries, Replace	Use to replace a general-purpose 12-volt marine battery.	EACH	No
6669	Boat Items	Solar Panel, Replace	Use to replace a solar panel and trickle re-charger. Includes mounting hardware and charge controller.	EACH	No
6670	Boat Items	Generator, Repair	Use to repair a marine generator. Minor repairs only.	EACH	No
6671	Boat Items	Generator, Boat, Replace	Use to replace a gas-fired marine generator.	EACH	No
6672	Boat Items	Raise / Recover Boat	Use to raise a sunken 30' single hull boat from a depth of up to 50' and towed to shore an average distance of 1/2 mile, then drydocked. Do not include the "dry dock" line item with this selection.	EACH	No

Item ID	Category	Description	Help Text	UOM	DR Specific
6698	Boat Items	Lump Sum - Boat	A lump sum is used when there is an eligible repair and no matching line item. A comment is always required.	EACH	No
6700	Single Family Road and Bridge	SF Service Call	Use when the extent of damage is unknown and a professional will be needed to prepare an estimate.	EACH	No
6740	Single Family Road and Bridge	SF Footbridge, Replace	Use to replace an entire footbridge. This is based on the linear footage of the footbridge and includes all supports, decking and handrails. Use if a pre-existing footbridge has been damaged and it is required, in addition to the drivable portion of the access.	LINEAR_FEET	No
6741	Single Family Road and Bridge	SF Beam, Steel, Replace	Use to replace an individual steel I-beam per linear ft. Use to address a maximum of 2 beams per bridge.	LINEAR_FEET	No
6742	Single Family Road and Bridge	SF Decking, Replace	Use to remove and replace damaged sections of bridge decking. This is based on a 10 ft. maximum width.	SQUARE_FEET	No
6743	Single Family Road and Bridge	SF Abutment - on Shore	Use to replace an abutment on the stream bank.	SQUARE_FEET	No
6744	Single Family Road and Bridge	SF Abutment - in Water	Use to replace an abutment in a streambed. Includes all costs to build a cofferdam while work is being done, as well as materials, forms, etc.	SQUARE_FEET	No
6745	Single Family Road and Bridge	SF Wing wall, Replace	Use to replace a protective wing wall.	SQUARE_FEET	No
6746	Single Family Road and Bridge	SF Culvert 12-30", Replace	Use to replace a small diameter culvert. Includes machine time and backfill.	LINEAR_FEET	No
6747	Single Family Road and Bridge	SF Culvert 36"+, Replace	Use to replace a large diameter culvert. Includes machine time and backfill.	LINEAR_FEET	No
6748	Single Family Road and Bridge	SF Beam, Timber, Replace	Use to replace an individual horizontal wooden beam per linear ft. Use to address a maximum of 2 beams per bridge.	LINEAR_FEET	No
6749	Single Family Road and Bridge	SF Machine Time	Use to provide a backhoe, grader or bulldozer and is based on 4-hours of machine time per half mile of affected road. Use to address a 4 hour minimum for up to the first half mile (2640 feet) of affected road and 1 hour for every additional 660 feet of affected road.	HOUR	No

Item ID	Category	Description	Help Text	UOM	DR Specific
6750	Single Family Road and Bridge	SF Low-Water Bridge, Replace	Use to replace a low water bridge. Although only the approaches are usually damaged, the low water bridge is sometimes undermined and requires replacement. This type of bridge is typically found in shallow streams, and consists of a solid mass of concrete placed over small diameter culverts, with the road surface usually no more than a foot or so above the water. The approach will be addressed separately. This line item is for the bridge only (concrete and culverts). This is based on a 10 ft. maximum width.	LINEAR_FEET	No
6751	Single Family Road and Bridge	SF Road Fill	Use for materials to fill a washed out road with compactable fill, to a drivable condition. Add machine time separately. Not meant to restore access to original condition.	CUBIC_YARD	No
6798	Single Family Road and Bridge	SF Lump Sum	Use lump when there is an eligible repair and no matching line item. A comment is always required.	EACH	No
6800	Foundation/Masonry	Service Call – Found/Masonry	Use if the extent of damage is unknown and a professional will be needed to prepare an estimate.	EACH	No
6840	Foundation/Masonry	Jack & Re-level	Use to jack and re-level house. Use if the house is out of level requiring shimming, resetting of piers, mud-jacking or other adjustments to the foundation. Note: Do not use in conjunction with Jack House, Reset on Foundation or Jack and Shore for the same affected area. Also, do not use this line item for mobile homes; use the block and reset or re-level line items found in the mobile home category	SQUARE_FEET	No

Item ID	Category	Description	Help Text	UOM	DR Specific
6841	Foundation/Masonry	Jack & Shore	Use to jack house and install cribbing to temporarily support house so foundation work can be accomplished. Use this item when major repairs are required such as replacement of collapsed foundation walls, footings, knee walls or replacement of piers. This item does not include the cost for reconnecting each utility. Use a lump sum in the appropriate category when utility connections are needed. Note: Do not use in conjunction with Jack House, Reset on Foundation or Jack and Relevel for the same affected area. Also, do not use this line item for mobile homes; use the block and reset or re-level line items found in the mobile home category. (Calculate by adding 8 feet to the length of the affected area and multiplying by 4-foot width for total square footage of area to be supported. For instance, if a section of foundation wall measuring 20 feet long by 7 feet high needs to be replaced, you will jack and shore an area 28 feet long by 4 feet wide or 112 square feet. Use this formula for mid-span wall damages; if the damages are from corner to corner do not add the additional 8 foot length).	SQUARE_FEET	No
6843	Foundation/Masonry	Pier/Column, Replace	Use to remove and replace damaged brick or masonry columns; or pile driven timbers to support elevated structures. This item does not include jack and shore and is not to be used on mobile homes. For damaged wooden post supporting the floor system, use line item “Wood Post Replace”.	EACH	No

Item ID	Category	Description	Help Text	UOM	DR Specific
6844	Foundation/Masonry	Jack House, Reset on Foundation	Use to raise the dwelling, supporting the structure while repairs are made to the foundation and resetting the dwelling on the existing or repaired foundation. Use this line item when the house has moved laterally off the foundation. Note: Do not use in conjunction with Jack and Relevel or Jack and Shore for the same affected areas.	SQUARE_FEET	No
6845	Foundation/Masonry	Foundation Knee Wall, Replace	Use to replace a load bearing framed wall between the foundation and the floor joists, sometimes referred to as a cripple-wall. This line item does not include jack and shore.	SQUARE_FEET	No
6846	Foundation/Masonry	Lally Column, Replace	Use to remove and replace a damaged Lally column. A Lally column is a vertically installed steel pipe used to support the main beam of the dwelling frequently found in a basement. Do not use for post and beam construction commonly found within crawlspaces (Use Wood Post Replace).	EACH	No
6847	Foundation/Masonry	Concrete Slab, Replace	Use to remove and replace a damaged section of the slab when cracked beyond repair, seriously out of level from uplifting, or when undermined. This item does not include jack and shore.	SQUARE_FEET	No
6848	Foundation/Masonry	Foundation, Footing, Replace	Use to remove and replace foundation footings. This line item does not include jack and shore.	LINEAR_FEET	No
6850	Foundation/Masonry	Concrete Foundation, Wall, Replace	Use to remove and replace block or poured concrete foundation walls. Does not include jack and shore, the cost for the footing, or for each utility reconnection. Also used for above-grade concrete or block exterior walls. Do not use for mobile home skirting.	SQUARE_FEET	No
6852	Foundation/Masonry	Masonry Veneer, Replace	Use to remove and replace new brick or stone veneer on the exterior of a home.	SQUARE_FEET	No
6853	Foundation/Masonry	Chimney, Remove	Use ONLY to remove a damaged chimney or one that has separated from the dwelling causing a safety hazard.	LINEAR_FEET	No

Item ID	Category	Description	Help Text	UOM	DR Specific
6854	Foundation/Masonry	Masonry Fireplace, Remove	Use to remove a damaged fireplace.	EACH	No
6855	Foundation/Masonry	Chimney, Replace	Use to install a new chimney. This does not include removal of damaged chimney.	LINEAR_FEET	No
6856	Foundation/Masonry	Masonry Fireplace, Replace	Use to install a new fireplace. This does not include removal of fireplace.	EACH	No
6857	Foundation/Masonry	Chimney Cap, Replace	Use to remove and/or replace one chimney cap or screen per flue. Chimney caps and screens may be constructed of masonry or metal preventing rain from entering the shaft or protecting the environment from ashes.	EACH	No
6858	Foundation/Masonry	Firebrick, Replace	Use to remove and replace firebricks in fireplace.	SQUARE_FEET	No
6859	Foundation/Masonry	Tuck Point	Use to seal minor cracks in masonry not affecting the structural integrity of the dwelling, and does not exceed 1/4".	LINEAR_FEET	No
6860	Foundation/Masonry	Concrete, Pressure Grout	Use to repair concrete / masonry structural cracks not exceeding 1/2" with high pressure grout.	LINEAR_FEET	No
6861	Foundation/Masonry	Masonry Access Step, Replace	Use to remove and replace a single existing masonry or concrete step. For example; a damaged concrete stoop with 4 damaged steps will require the recording of 4 units.	EACH	No
6862	Foundation/Masonry	Chimney Clean & Inspect	Used to provide professional cleaning and inspection of a chimney. If chimney does not show extensive cracks or loose bricks, a safety inspection will be performed. If structurally safe, the chimney will be cleaned.	EACH	No
6865	Foundation/Masonry	Stone/Brick Exterior Wall Foundation Replace	Use to remove and replace a true stone or solid brick masonry foundation or exterior wall (not a veneer). Does not include jack and shore, the cost for the footing, or for each utility reconnection. Do not use this line item for a block or poured concrete walls (refer to Concrete Foundation Walls).	SQUARE_FEET	No

Item ID	Category	Description	Help Text	UOM	DR Specific
6898	Foundation/Masonry	Lump Sum – Found/Masonry	Use lump sum when there is an eligible repair and no matching line item. A comment is required.	EACH	No
6900	Mobile Home	Service Call – Mobile Home	Use when the extent of damage is unknown and a professional will be needed to prepare an estimate.	EACH	No
6920	Mobile Home	TT Permanent Foundation	This item is indicative of a travel trailer without wheels and is affixed to the foundation	EACH	No
6921	Mobile Home	TT Non-Permanent Foundation	This item is indicative of a travel trailer with wheels and is not affixed to the foundation.	EACH	No
6940	Mobile Home	Anchors, MH Replace	Use to remove and replace one existing anchor.	EACH	No
6941	Mobile Home	Bottom Board/Ins., Replace	Use to remove and replace mobile home bottom insulation. A “Bottom board” is the composite material that covers and protects the floor insulation.	SQUARE_FEET	No
6943	Mobile Home	Double Wide, Block & Reset	Use to block and reset a doublewide mobile home that has been completely removed from supports. Use to both replace the support material and reset the entire mobile home. MH’s removed from their foundation may require the reconnection of utilities, when necessary record one (1) Lump Sum for each affected service.	EACH	No
6944	Mobile Home	Double Wide, Re-level	Use to re-level a doublewide mobile home on existing, blocks or piers. This item includes the replacement of some damaged blocks and piers.	EACH	No
6948	Mobile Home	Single Wide, Block & Reset	Use to block and reset a singlewide mobile home that has been completely removed from supports by the disaster. Use to both replace the support material and reset the mobile home. MH’s removed from their foundation may require the reconnection of utilities, when necessary record one (1) Lump Sum for each affected service.	EACH	No
6949	Mobile Home	Single Wide, Re-level	Use to re-level a singlewide mobile home on existing, blocks or piers. This item includes the replacement of some damaged blocks and piers.	EACH	No

Item ID	Category	Description	Help Text	UOM	DR Specific
6950	Mobile Home	Skirting, Replace	Use to remove and replace all types of skirting. Skirting around the base of a mobile home protects the utility connections and insulation. Only the damaged portion will be replaced.	SQUARE_FEET	No
6980	Mobile Home	Mobile Home, Replace	Use to record a destroyed mobile home. If the mobile home is destroyed record this line item as a 1 each item, in real property (Maximum of 1). Personal property will still need to be addressed.	EACH	No
6981	Mobile Home	Travel Trailer, Replace	If the travel trailer is destroyed record this line item as a 1 each item, in real property (Maximum of 1). Personal property will still need to be addressed.	EACH	No
6982	Mobile Home	FEMA Housing Unit – On Site	Use when selecting "Yes" to the "Will Relocate" question, assess the feasibility to place a Mobile Home on the same lot as the dwelling. Use when egress, placement and available utilities will allow a travel trailer on site.	EACH	Yes
6984	Mobile Home	FEMA Housing Unit – Off Site	When selecting "Yes" to the "Will Relocate" question, assess the feasibility to place a Mobile Home on the same lot as the dwelling. Use when egress, placement or available utilities will NOT allow a travel trailer on site; or the applicant rents the home/property.	EACH	Yes
6998	Mobile Home	Lump Sum – Mobile Home	Use lump sum when there is an eligible repair and no matching line item. A comment is always required.	EACH	No
7005	Miscellaneous Purchases/Eligible Purchases	Generator	*Based on a 5.5 KW portable generator.* Use this line item to record generators purchased or rented as a result of a public utility outage, used to power medically required equipment and within the specified eligibility time frame. The eligible purchase dates are from the Governor's Declaration of a State of Emergency (see cover page of Inspection Guidelines) up to the end of the incident period or the date the power was restored to the dwelling, whichever occurs first.	EACH	No

Item ID	Category	Description	Help Text	UOM	DR Specific
7007	Miscellaneous Purchases/Eligible Purchases	Carbon Monoxide (CO) Detector	Use this line item to record a carbon monoxide detector purchased post disaster. If the applicant owned a carbon monoxide detector prior to the disaster, record it under the Appliance list.	EACH	No
7011	Miscellaneous Purchases/Eligible Purchases	Weather Radio		EACH	No
7100	Multi Family Road and Bridge	MF Service Call	Use when the extent of damage is unknown and a professional will be needed to prepare an estimate.	EACH	No
7101	Multi Family Road and Bridge	MF Footbridge, Replace	Use to replace an entire footbridge. This is based on the linear footage of the footbridge and includes all supports, decking and handrails. Use if a pre-existing footbridge has been damaged and it is required, in addition to the drivable portion of the access.	LINEAR_FEET	No
7102	Multi Family Road and Bridge	MF Beam, Steel, Replace	Use to replace an individual steel I-beam per linear ft. Use to address a maximum of 2 beams per bridge.	LINEAR_FEET	No
7103	Multi Family Road and Bridge	MF Decking, Replace	Use to remove and replace damaged sections of bridge decking. This is based on a 10 ft. maximum width.	SQUARE_FEET	No
7104	Multi Family Road and Bridge	MF Abutment - on Shore	Use to replace an abutment on the stream bank.	SQUARE_FEET	No
7105	Multi Family Road and Bridge	MF Abutment - in Water	Use to replace an abutment in a streambed. Includes all costs to build a cofferdam while work is being done, as well as materials, forms, etc.	SQUARE_FEET	No
7106	Multi Family Road and Bridge	MF Wing wall, Replace	Use to replace a protective wing wall.	SQUARE_FEET	No
7107	Multi Family Road and Bridge	MF Culvert 12-30", Replace	Use to provide machine time and backfill to replace a small diameter culvert.	LINEAR_FEET	No
7108	Multi Family Road and Bridge	MF Culvert 36"+, Replace	Use to provide machine time and backfill to replace a large diameter culvert.	LINEAR_FEET	No
7109	Multi Family Road and Bridge	MF Beam, Timber, Replace	Use to replace an individual horizontal wooden beam per linear foot. Use to address a maximum of 2 beams per bridge.	LINEAR_FEET	No

Item ID	Category	Description	Help Text	UOM	DR Specific
7110	Multi Family Road and Bridge	MF Machine Time	Use for cost per hour of heavy equipment and operator. This line item includes a backhoe, grader or bulldozer and is based on 4-hours of machine time per half mile of affected road. Use to address a 4 hour minimum for up to the first half mile (2,640 feet) of affected road and 1 hour for every additional 660 feet of affected road.	HOUR	No
7111	Multi Family Road and Bridge	MF Low-Water Bridge, Replace	Use to replace a low water bridge. Although only the approaches are usually damaged, the low water bridge is sometimes undermined and requires replacement. This type of bridge is typically found in shallow streams, and consists of a solid mass of concrete placed over small diameter culverts, with the road surface usually no more than a foot or so above the water. The approach will be addressed separately. This line item is for the bridge only (concrete and culverts). This is based on a 10 ft. maximum width.	LINEAR_FEET	No
7112	Multi Family Road and Bridge	MF Road Fill	Use to provide materials only to fill a washed out road with compactable fill, to a drivable condition. Note: machine time will need to be added separately. Not meant to restore access to original condition.	CUBIC_YARD	No
7114	Multi Family Road and Bridge	MF Lump Sum	Use lump sum when there is an eligible repair and no matching line item. A comment is always required.	EACH	No
7200	Multi Family Road and Bridge	MF Debris, Remove	Use to address disaster deposited debris such as mud and fallen trees that are blocking the roadway. MF Debris Removal will be limited to the minimum required to remove the hazard impeding access to the dwelling.	CUBIC_YARD	No
9001	RDA	RDA Bottom Board /Insulation, Replace	Use to remove and replace mobile home bottom insulation. A “Bottom board” is the composite material that covers and protects the floor insulation.	SQUARE_FEET	No
9002	RDA	RDA Cabinet, Reinstall	Use for labor charge for removing and reinstalling existing cabinets to allow other work to be completed.	LINEAR_FEET	No

Item ID	Category	Description	Help Text	UOM	DR Specific
9003	RDA	RDA Clean & Sanitize	Use for surface areas of the home that have been affected by floodwater, sewer backup, mudflow, chemical or biological contamination, or when there is heavy disaster related soot or ash. Calculate the affected floor area and in cases of extensive contamination, include the affected wall area. Clean and sanitize can be used in crawlspaces if there is visible contamination.	SQUARE_FEET	No
9004	RDA	RDA Debris, Remove	Use to address disaster deposited debris such as mud, trees that have fallen, and damages presenting hazards to the dwelling. Debris removal will be limited to the minimum required to remove health & safety hazards, protect against additional damage to the dwelling or provide access and egress to the dwelling. Do not record this line item in conjunction with Miscellaneous Chainsaw.	CUBIC_YARD	No
9005	RDA	RDA Drywall, Replace	Use to remove and replace half-inch drywall and generic baseboard and trim for windows and doors. Includes tape, finish and paint. Use also for all other types of wall materials such as plaster, interior stucco, paneling and ceiling tiles.	SQUARE_FEET	No
9006	RDA	RDA Ductwork, Clean & Sanitize	Use to clean flooded ductwork.	LINEAR_FEET	No
9007	RDA	RDA Door, Exterior, Replace	Use to replace an exterior door.	EACH	No
9008	RDA	RDA Floor Covering, Replace	Use to remove and replace floor covering consisting of carpet, floor tiles, sheet vinyl, laminate or linoleum flooring.	SQUARE_FEET	No

Item ID	Category	Description	Help Text	UOM	DR Specific
9009	RDA	RDA Insulation, Floor/Ceiling, Replace	Use to remove and replace new ceiling or floor insulation. Use when insulation has been inundated by floodwaters or otherwise damaged. Use in conjunction with Drywall replace on ceilings where necessary.	SQUARE_FEET	No
9010	RDA	RDA Insulation, Wall, Replace	Use to remove and replace new wall insulation. Use when insulation has been inundated by floodwaters or otherwise damaged. Use in conjunction with Drywall replace on exterior walls where necessary.	SQUARE_FEET	No
9011	RDA	RDA Door, Interior, Replace	Use to replace a single hollow core door. Hollow core doors will usually be replaced when exposed to water.	EACH	No
9012	RDA	RDA Light Fixtures, Replace	Use to remove and replace a standard light fixture. Light fixtures that have been inundated or damaged as a result of the disaster will always be replaced.	EACH	No
9013	RDA	RDA Outlets or Switches, Replace	Use to remove and replace electrical outlets or switches that have either been physically damaged or inundated.	EACH	No
9014	RDA	RDA Sink, Reinstall	Use to remove and reinstall a sink to enable repairs to walls, floors, or cabinets.	EACH	No
9015	RDA	RDA Toilet & Tank, Reinstall	Use to remove and reinstall a toilet to enable replacement of damaged wall or floor.	EACH	No
9031	RDA	RDA Main Panel, Clean & Repair	Use this line item for flood damaged main or sub electrical panel boxes.	EACH	No
9033	RDA	RDA Furnace, Clean & Repair	Clean and repair a furnace back to working order usually when the controls have been under water. Use for a forced air furnace, boiler, packaged units, or either component of a heat pump (combined a/c & heat) located on exterior. Damaged exterior or interior components of a heat pump will be addressed as a single unit – regardless if both components are damaged.	EACH	No

Item ID	Category	Description	Help Text	UOM	DR Specific
9034	RDA	RDA Furnace, Replace	Use to remove and replace a furnace when the inspection clearly shows the unit has been destroyed by disaster. Use the replace line item for a forced air furnace, boiler, packaged units, or either component of a heat pump (combined a/c & heat) located on exterior. Damaged exterior or interior components of a heat pump will be addressed as a single unit – regardless if both components are damaged.	EACH	No
9035	RDA	RDA Central Air Conditioning, Replace	Use to remove and replace the outdoor central air conditioning unit.	EACH	No
9036	RDA	RDA Heater, Baseboard, Replace	Use to remove and replace electric baseboard heater.	LINEAR_FEET	No
9037	RDA	RDA Water Heater, Repair	Use to inspect, test for leaks and repair water heater.	EACH	No
9038	RDA	RDA Water Heater, Replace	Use to remove and replace a water heater.	EACH	No
9039	RDA	RDA Cabinet, Replace	Use to remove and install new base cabinet with countertop.	LINEAR_FEET	No
9040	RDA	RDA Central Air Conditioning, Repair	Use to repair the outdoor central air conditioner unit.	EACH	No
9050	RDA	RDA No Mechanical Damage	Select this item when there are no mechanical damages.	EACH	No
9201	Speed Estimating	Hse/Twn_Wind_Dmg_1	Follow the Remote Assessment Job Aid.	EACH	Yes
9202	Speed Estimating	Hse/Twn_Wind_Dmg_2	Follow the Remote Assessment Job Aid.	EACH	Yes

Item ID	Category	Description	Help Text	UOM	DR Specific
9203	Speed Estimating	Hse/Twn_Wind_Dmg_3	Follow the Remote Assessment Job Aid.	EACH	Yes
9204	Speed Estimating	Hse/Twn_Wind_Dmg_4	Follow the Remote Assessment Job Aid.	EACH	Yes
9205	Speed Estimating	Hse/Twn_Wind_Dmg_5	Follow the Remote Assessment Job Aid.	EACH	Yes
9206	Speed Estimating	Con/Apt_Wind_Dmg_1	Follow the Remote Assessment Job Aid.	EACH	Yes
9207	Speed Estimating	Con/Apt_Wind_Dmg_2	Follow the Remote Assessment Job Aid.	EACH	Yes
9208	Speed Estimating	Con/Apt_Wind_Dmg_3	Follow the Remote Assessment Job Aid.	EACH	Yes
9209	Speed Estimating	Con/Apt_Wind_Dmg_4	Follow the Remote Assessment Job Aid.	EACH	Yes
9210	Speed Estimating	Con/Apt_Wind_Dmg_5	Follow the Remote Assessment Job Aid.	EACH	Yes
9211	Speed Estimating	MH_Wind_Dmg_1	Follow the Remote Assessment Job Aid.	EACH	Yes
9212	Speed Estimating	MH_Wind_Dmg_2	Follow the Remote Assessment Job Aid.	EACH	Yes
9213	Speed Estimating	MH_Wind_Dmg_3	Follow the Remote Assessment Job Aid.	EACH	Yes
9214	Speed Estimating	MH_Wind_Dmg_4	Follow the Remote Assessment Job Aid.	EACH	Yes
9215	Speed Estimating	MH_Wind_Dmg_5	Follow the Remote Assessment Job Aid.	EACH	Yes
9216	Speed Estimating	TT_Wind_Dmg_1	Follow the Remote Assessment Job Aid.	EACH	Yes
9217	Speed Estimating	TT_Wind_Dmg_2	Follow the Remote Assessment Job Aid.	EACH	Yes
9218	Speed Estimating	TT_Wind_Dmg_3	Follow the Remote Assessment Job Aid.	EACH	Yes

Item ID	Category	Description	Help Text	UOM	DR Specific
9219	Speed Estimating	TT_Wind_Dmg_4	Follow the Remote Assessment Job Aid.	EACH	Yes
9220	Speed Estimating	TT_Wind_Dmg_5	Follow the Remote Assessment Job Aid.	EACH	Yes
9221	Speed Estimating	Boat_Sunk	Follow the Remote Assessment Job Aid.	EACH	Yes
9222	Speed Estimating	Boat_Repair	Follow the Remote Assessment Job Aid.	EACH	Yes
9223	Speed Estimating	Boat_Replace	Follow the Remote Assessment Job Aid.	EACH	Yes
9225	Speed Estimating	Unf_Bsmt_Flood_Dmg_1	Follow the Remote Assessment Job Aid.	EACH	Yes
9226	Speed Estimating	Unf_Bsmt_Flood_Dmg_2	Follow the Remote Assessment Job Aid.	EACH	Yes
9227	Speed Estimating	Unf_Bsmt_Flood_Dmg_3	Follow the Remote Assessment Job Aid.	EACH	Yes
9228	Speed Estimating	Unf_Bsmt_Flood_Dmg_4	Follow the Remote Assessment Job Aid.	EACH	Yes
9229	Speed Estimating	Unf_Bsmt_Flood_Dmg_5	Follow the Remote Assessment Job Aid.	EACH	Yes
9230	Speed Estimating	Fin_Bsmt_Flood_Dmg_1	Follow the Remote Assessment Job Aid.	EACH	Yes
9231	Speed Estimating	Fin_Bsmt_Flood_Dmg_2	Follow the Remote Assessment Job Aid.	EACH	Yes
9232	Speed Estimating	Fin_Bsmt_Flood_Dmg_3	Follow the Remote Assessment Job Aid.	EACH	Yes
9233	Speed Estimating	Fin_Bsmt_Flood_Dmg_4	Follow the Remote Assessment Job Aid.	EACH	Yes
9234	Speed Estimating	Fin_Bsmt_Flood_Dmg_5	Follow the Remote Assessment Job Aid.	EACH	Yes
9235	Speed Estimating	Hse/Twn_Flood_Dmg_1	Follow the Remote Assessment Job Aid.	EACH	Yes
9236	Speed Estimating	Hse/Twn_Flood_Dmg_2	Follow the Remote Assessment Job Aid.	EACH	Yes

Item ID	Category	Description	Help Text	UOM	DR Specific
9237	Speed Estimating	Hse/Twn_Flood_Dmg_3	Follow the Remote Assessment Job Aid.	EACH	Yes
9238	Speed Estimating	Hse/Twn_Flood_Dmg_4	Follow the Remote Assessment Job Aid.	EACH	Yes
9239	Speed Estimating	Hse/Twn_Flood_Dmg_5	Follow the Remote Assessment Job Aid.	EACH	Yes
9240	Speed Estimating	Con/Apt_Flood_Dmg_1	Follow the Remote Assessment Job Aid.	EACH	Yes
9241	Speed Estimating	Con/Apt_Flood_Dmg_2	Follow the Remote Assessment Job Aid.	EACH	Yes
9242	Speed Estimating	Con/Apt_Flood_Dmg_3	Follow the Remote Assessment Job Aid.	EACH	Yes
9243	Speed Estimating	Con/Apt_Flood_Dmg_4	Follow the Remote Assessment Job Aid.	EACH	Yes
9244	Speed Estimating	Con/Apt_Flood_Dmg_5	Follow the Remote Assessment Job Aid.	EACH	Yes
9245	Speed Estimating	MH_Flood_Dmg_1	Follow the Remote Assessment Job Aid.	EACH	Yes
9246	Speed Estimating	MH_Flood_Dmg_2	Follow the Remote Assessment Job Aid.	EACH	Yes
9247	Speed Estimating	MH_Flood_Dmg_3	Follow the Remote Assessment Job Aid.	EACH	Yes
9248	Speed Estimating	MH_Flood_Dmg_4	Follow the Remote Assessment Job Aid.	EACH	Yes
9249	Speed Estimating	MH_Flood_Dmg_5	Follow the Remote Assessment Job Aid.	EACH	Yes
9250	Speed Estimating	TT_Flood_Dmg_1	Follow the Remote Assessment Job Aid.	EACH	Yes
9251	Speed Estimating	TT_Flood_Dmg_2	Follow the Remote Assessment Job Aid.	EACH	Yes
9252	Speed Estimating	TT_Flood_Dmg_3	Follow the Remote Assessment Job Aid.	EACH	Yes

Item ID	Category	Description	Help Text	UOM	DR Specific
9253	Speed Estimating	TT_Flood_Dmg_4	Follow the Remote Assessment Job Aid.	EACH	Yes
9254	Speed Estimating	TT_Flood_Dmg_5	Follow the Remote Assessment Job Aid.	EACH	Yes
9260	Speed Estimating	Hse/Twn_EQ_Dmg_1	Follow the Remote Assessment Job Aid.	EACH	Yes
9261	Speed Estimating	Hse/Twn_EQ_Dmg_2	Follow the Remote Assessment Job Aid.	EACH	Yes
9262	Speed Estimating	Hse/Twn_EQ_Dmg_3	Follow the Remote Assessment Job Aid.	EACH	Yes
9263	Speed Estimating	Hse/Twn_EQ_Dmg_4	Follow the Remote Assessment Job Aid.	EACH	Yes
9264	Speed Estimating	Hse/Twn_EQ_Dmg_5	Follow the Remote Assessment Job Aid.	EACH	Yes
9265	Speed Estimating	Con/Apt_EQ_Dmg_1	Follow the Remote Assessment Job Aid.	EACH	Yes
9266	Speed Estimating	Con/Apt_EQ_Dmg_2	Follow the Remote Assessment Job Aid.	EACH	Yes
9267	Speed Estimating	Con/Apt_EQ_Dmg_3	Follow the Remote Assessment Job Aid.	EACH	Yes
9268	Speed Estimating	Con/Apt_EQ_Dmg_4	Follow the Remote Assessment Job Aid.	EACH	Yes
9269	Speed Estimating	Con/Apt_EQ_Dmg_5	Follow the Remote Assessment Job Aid.	EACH	Yes
9270	Speed Estimating	MH_EQ_Dmg_1	Follow the Remote Assessment Job Aid.	EACH	Yes
9271	Speed Estimating	MH_EQ_Dmg_2	Follow the Remote Assessment Job Aid.	EACH	Yes
9272	Speed Estimating	MH_EQ_Dmg_3	Follow the Remote Assessment Job Aid.	EACH	Yes
9273	Speed Estimating	MH_EQ_Dmg_4	Follow the Remote Assessment Job Aid.	EACH	Yes

Item ID	Category	Description	Help Text	UOM	DR Specific
9274	Speed Estimating	MH_EQ_Dmg_5	Follow the Remote Assessment Job Aid.	EACH	Yes
9275	Speed Estimating	TT_EQ_Dmg_1	Follow the Remote Assessment Job Aid.	EACH	Yes
9276	Speed Estimating	TT_EQ_Dmg_2	Follow the Remote Assessment Job Aid.	EACH	Yes
9277	Speed Estimating	TT_EQ_Dmg_3	Follow the Remote Assessment Job Aid.	EACH	Yes
9278	Speed Estimating	TT_EQ_Dmg_4	Follow the Remote Assessment Job Aid.	EACH	Yes
9279	Speed Estimating	TT_EQ_Dmg_5	Follow the Remote Assessment Job Aid.	EACH	Yes
9290	Speed Estimating	Ext. HVAC Service Call	Follow the Remote Assessment Job Aid.	EACH	Yes
9291	Speed Estimating	Well Service Call	Follow the Remote Assessment Job Aid.	EACH	Yes
9292	Speed Estimating	Septic System Service Call	Follow the Remote Assessment Job Aid.	EACH	Yes
9293	Speed Estimating	Retaining Wall Service Call	Follow the Remote Assessment Job Aid.	EACH	Yes
9294	Speed Estimating	ADA Ramp Repair	Follow the Remote Assessment Job Aid.	EACH	Yes
9300	Speed Estimating	EV-1	Disaster Specific Condition (No Dollar Amount)	EACH	Yes
9301	Speed Estimating	EV-2	Disaster Specific Condition (No Dollar Amount)	EACH	Yes
9302	Speed Estimating	EV-3	Disaster Specific Condition (No Dollar Amount)	EACH	Yes
9303	Speed Estimating	EV-4	Disaster Specific Condition (No Dollar Amount)	EACH	Yes
9304	Speed Estimating	VV-Initial	Disaster Specific Condition (No Dollar Amount)	EACH	Yes
9305	Speed Estimating	VV-Appeal	Disaster Specific Condition (No Dollar Amount)	EACH	Yes

Housing Inspection Services

Meeting the Applicant

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Overview

Inspection assignments for all disasters are initiated at the VANPSC. Applications from disaster victims that require inspections are sent to a Host computer. Contract inspectors receive their assignments from the Contractor Host and FEMA inspectors receive their assignments from the FEMA Host.

Inspectors in the field use their Samsung Tablet to download inspection assignments and to upload completed inspections back to the NPSC. Generally, the inspector will return completed inspections and pick up new inspection assignments daily while in the field.

Once the assignments have been received, the inspector will call the applicants to make appointments. This is usually done the evening before the inspector intends to do the inspections Appointments should be scheduled in a logical fashion to minimize travel time and maximize the number of inspections that can be done each day. The inspector should also be sure to get clear directions to the applicant's home. Streets and maps contained in the pad are not 100% accurate. The inspector should also remind the applicant to have certain documents available that the inspector would need to see: proof of ownership (for homeowners), proof of occupancy, and insurance papers.

Applicants will often have a number of questions for the inspector. While the inspector is not expected to be able to answer all of these questions, all inspectors should have a good working knowledge of FEMA's assistance programs and application processing procedures. The inspector should also be prepared to refer the applicant to other sources for assistance as needed. The best referral his to have the applicant to call the FEMA toll free help line.

The inspector is typically the only person connected with FEMA that the applicant will ever see face to face. It is extremely important that the inspector be patient, courteous and provides the best customer service possible. Empathy and common sense go a long way in leaving a positive impression with the applicant.

Receiving Inspection Assignments and Making Appointments

Q: How do I receive my inspection assignments?

A: Your inspection assignments are transmitted from the Virginia National Processing Service Center (VA-NPSC) to your tablet through the internet, using Wi-fi services. Often these assignments will already be "downloaded" into your tablet before you leave the NPSC. You will find them listed on your Inspection Schedule Screen when you turn on the Pen Tablet.

For more information on uploading and downloading inspections, as well as the contents of the various screens, reference the ACE 4 User Guide.

Q: What information will I have about the applicants whose inspections are assigned to me? Where does this information come from?

A: The applicant's name, address and one or more contact telephone numbers will be transferred into your tablet. All of this information was given to a Registration Intake representative over the phone or entered by the applicant in the on-line application process.

Q: How do I make appointments with applicants to do inspections?

A: If you are at the VA-NPSC and have just received inspection assignments, the inspector is required to call at least one of the applicants assigned and make an appointment before leaving on deployment. Important: You must have an appointment scheduled before you begin travel. Advise the applicant that you will be in their area on a given day and try to encourage the applicant to meet with you. It's always good policy to make your appointments at least one day in advance to give the applicant enough time to meet you for the inspection.

In some cases, in which you have not been able to contact the applicant, you may have to make appointments "on the fly." This will entail making periodic phone calls throughout the day or stopping by the residence and posting a "No Contact Letter".

Q: What should I tell the applicant while arranging the appointment?
A: Be sure to remind the applicant to have documents available that you will need to see prior to starting the inspection. These documents should include proof of ownership (a deed, title, mortgage payment book, or homeowner's insurance policy), proof of occupancy (a utility bill, driver's license, or voter registration card), and copies of any insurance policies covering the damaged dwelling. A good rule of thumb is to leave yourself a two-hour window when scheduling an appointment, instead of scheduling an exact time. This allows for the inevitable delays that you will encounter when doing inspections. Always call the applicant if you're running late.

Q: Does the applicant have to be present while I do the inspection?
A: Yes, the applicant or someone else over the age of 18 and living in the household must be present during the inspection.

Q: What if an applicant who lives alone cannot be present for the inspection because of an illness or disability? Can someone else, such as a relative or friend, stand in for the applicant?
A: Allowances for illness or disability have to be made in some cases, particularly if the applicant is hospitalized. However, the person designated to stand in for the applicant during an inspection must have power of attorney for the applicant. Ask all unmet need questions to the applicant.

Q: Is there any time of day that is preferable for doing inspections?
A: No. Try to find a time that is convenient for you and for the applicant. However, all inspections must be done during daylight hours.

Q: What are some good pointers for an inexperienced inspector making appointments with applicants?
A: Be patient, courteous, and tolerant of the needs of the applicant when scheduling appointments. Encourage the applicant to meet with you on your schedule, this will eliminate the need to continually work around the applicant's schedule. Don't force applicants to accept an appointment time that will create a hardship for them, such as missing work, etc. Remember, the applicant is the customer.

Also, when making appointments, use good maps to chart out a logical sequence of appointments each day that makes sense geographically. That way you save time and mileage and get more work done in a given day. While speed is not your primary objective in doing inspections, the quicker you get to an applicant, the quicker the applicant's disaster-assistance needs can be met.

In all cases, be sure to get clear and concise directions to the applicant's home.

Typical Applicant Questions and Suggested Responses

Q: I realize that applicants will ask me all kinds of questions. Are there any general guidelines as to how to handle some of the more typical applicant questions?
A: While no one can anticipate every question an applicant is likely to ask, there are certain Do's and Don'ts that an inspector should follow.

Some general **DO's** include:

- Always be courteous and sympathetic. Remember that the applicant has suffered a loss that may be quite traumatic;
- Answer the applicant's questions to the best of your ability if you can't answer a question, tell the applicant honestly that you don't know the answer, and then suggest the applicant to call the FEMA toll free number.
- Have the FEMA Helpline number available.
- Verify all information – address, spellings, telephone numbers, and insurance information – with the applicant to be sure it is accurate.

Some general **DON'TS** include:

- Never get into arguments with applicants. Even if you are certain that what the applicant is telling you is wrong, don't say so. Let your inspection tell the story.
- Never order an applicant to leave his or her home. FEMA inspectors do not have the authority to force applicants to leave their homes, nor do they have the authority to condemn buildings.

- Never accept offers of food or drink from an applicant. While these offers are usually innocent and well-intentioned, they can put you in a compromising position. Be aware of the hospitality expectations that applicants may offer in various parts of the country.
- Most importantly, NEVER CREATE FALSE EXPECTATIONS for the applicant. Do not advice the applicant of eligibility status or advise whether they will or will not receive any assistance. Remember, applicants who have suffered disaster losses often hear what they want to hear, not what you are telling them. That's human nature. Be brief and clear in your answers to applicants' questions. If applicants need additional information, tell them to call the FEMA Helpline.

Q: What are some of the more typical questions I will get from applicants? What's the best way to answer these questions?
The following are examples of typical applicant questions, along with suggested answers.

Applicant Question #1: Now that you've done the inspection, how long will it be before I hear from FEMA?
Inspector Answer: I can't tell you for sure, but under normal circumstances you will get a letter in the mail within the next week to ten days. If you don't hear from FEMA in that time period, I suggest you call the Helpline and ask about the status of your case.

Applicant Question #2: Do you think I will be eligible for assistance from FEMA?

Inspector Answer: I really cannot make that determination I'm only here to verify your damages. The decision will be made by FEMA and they will notify you by mail.

Applicant Question #3: I received these loan application papers in the mail from the Small Business Administration. Should I fill them out? I don't really want a loan.
Inspector Answer: Yes, you should fill out the application and return it to the SBA as soon as possible. If the SBA determines that you don't qualify for a loan, they will automatically refer you to the Other Needs Assistance (ONA) Program for possible grant assistance. If you do qualify for a loan, it's a good, low-interest program, but you're under no obligation to accept the loan.

Applicant Question #4: Can you tell me how much money I'm going to get from FEMA to fix my house?
Inspector Answer: I'm sorry, but I don't know. I'm here to verify your damages and send a report back to FEMA. They will determine if you're eligible for repair money and how much you are eligible for.

Applicant Question #5: Can you suggest the name of a good contractor in the area who can do my repair work?

Inspector Answer: I'm not permitted to recommend a specific company. Make sure you get someone reputable and dependable. I suggest you call your Better Business Bureau or your Chamber of Commerce and get a good reference.

Applicant Question #6: I appreciate what FEMA is doing for me, but I need some help right now. My kids don't have any clothes to wear, I can't get to work, and we don't have much food left. Where can I get some help while I'm waiting for FEMA to decide whether I'm eligible or not?

Inspector Answer: The American Red Cross can provide you with food, clothing, and other necessary items. (Note: If you don't have phone numbers for the Red Cross and/or other charities, i.e. religious etc., tell the applicants to call the FEMA Helpline. The ISC/FS at the JFO is also a source for a list of available charities and phone numbers if there is an immediate need. You can call the ISC and explain the immediate need for the applicant.

Applicant Question #7: I know it's going to take a while to get my money from FEMA. Can I go ahead and start making repairs, or do I have to wait for FEMA to decide whether or not I'm eligible for a repair grant?

Inspector Answer: You can go ahead and start making repairs. Just make sure and save any receipts in case FEMA needs to see them.

Applicant Question #8: I haven't notified my insurance company about these damages yet. Do you think I should do that, or just wait for FEMA to decide whether I'm eligible or not?

Inspector Answer: You need to contact your insurance company as soon as possible. FEMA is prohibited by law from paying any duplication of benefits to you for damages that your insurance policy covers. FEMA will not be able to determine whether or not you're eligible for assistance until they know if your insurance company is going to cover the damage.

No Contacts and Withdrawals

Q: What does a No Contact mean?
A: A No Contact occurs when the inspector, despite all reasonable efforts, cannot contact the applicant to schedule an inspection.

Q: What is the correct procedure for designating an applicant as a No Contact?
A: The inspector is expected to make every reasonable effort to contact applicants and complete the housing inspections. The inspector must make a minimum of three attempts to contact the applicant. Follow the directives as stated within the guidelines.
Each effort to contact the applicant must be documented in Comments. The "No Contact" letter and exterior photo requirement proves that the inspector visited the damaged dwelling. A "No Contact" letter is required to be posted at the residence before returning the inspection as a Withdrawn No Contact.

Q: What does FEMA do once a No Contact is returned?
A: The Contractor holds the No Contact inspection for 14 days to give the applicant time to contact the inspector and schedule an inspection. If the applicant has not responded within 14 days, the Contractor will return the No Contact inspection to FEMA. FEMA will subsequently mail letters to the applicants advising them to call FEMA so that a new inspection can be assigned. Once the applicant contacts FEMA, another request for an inspection is issued.

Q: What does the term Withdrawn or Withdrawal mean?
A: There are basically two kinds of withdrawn inspections. An inspection request that results in a No Contact, as described above, is returned as a Withdrawn No Contact (WNC).

A second type of Withdrawn or Withdrawal is referred to as a Voluntary Withdrawal (WVO). This occurs when an applicant decides not to proceed with his or her application for disaster assistance and tells the inspector he or she does not want an inspection. The inspector should make every effort to clearly explain the program to the applicant. If the applicant still refuses the inspection, the inspector should indicate in Comments that the “Applicant wishes to withdraw.” The inspector then marks a Job Status of Withdrawn in their tablet and returns the inspection to the NPSC. Be sure to call the HOST prior to returning the inspection.

NCD

Damages Not Caused By Disaster

Purpose

- HIS assessors are tasked with making a Habitability Repairs Required (HRR) judgement call when performing assessments on the Damaged Dwelling (DD) whether in the field, or performing Remote Assessments (RA)
- Assessors are responsible for recording disaster caused damages to the DD in order to judge whether the level of damage justifies an HHR Yes or HRR No
- In order to make that judgement, Assessors must be proficient in making determinations as to the time frame and Cause Of Damage(COD) that created the damages being viewed

Objectives
of this module

- Assessors should be able to describe common types and locations of NCD damages that will be encountered when performing assessments

- Assessors should be able to describe common COD's of NCD damages

DCD
Disaster Caused Damages

- FEMA Assessors are required to record disaster related Real Property (RP) damages to the subject dwelling
- Disaster caused RP damages are the result of sudden and immediate causes and must occur during the declared incident period for the disaster
- Disaster caused RP damages are recorded using Damage Levels when inspecting a property where the App is the owner
- Disaster caused RP damages are recorded using the Habitability Compromised check list when the App is a renter

Damages to the subject dwelling, caused by any cause/factor other than the disaster, are NCD

Some Common NCD Causes

- Aging and weathering of components
- Lack of proper maintenance
- Prior disaster damages that remain unrepaired
- Damages that occurred outside of the incident period

Incident Period

- All of the damages occurred outside of the incident period. How do address this assessment?

- The applicant states ALL damages occurred outside the incident period.
- **Note:** Explain to the applicant that you will send the inspection to FEMA with a note about the date(s) the damages occurred, and FEMA will evaluate the application for eligibility. The Status of the inspection will automatically be changed to Ready to Send and forwarded to the Outbox. This selection will automatically flag the inspection for review.

Recording NCD

- NCD damages should **NOT** be included in the Damage Level determination for Apps that are owners
- NCD damages should **NOT** be considered when using the Habitability Compromised check list for Apps that are renters
- NCD damages should generate a comment. The assessors comment indicates that the damage was present and observed ATOI (At Time of Inspection), but that the damage was not caused by the disaster

NCD Comment

- Comments let the HOST (Housing Operations Support Team), TM's(Task Monitors), and future Appeal Assessors know that the damage was the result of a non-disaster cause
- Comment does not specifically identify/address the underlying cause of the NCD condition
- If a component was missing prior to the disaster, it cannot be NCD. A comment should still be made addressing the missing component

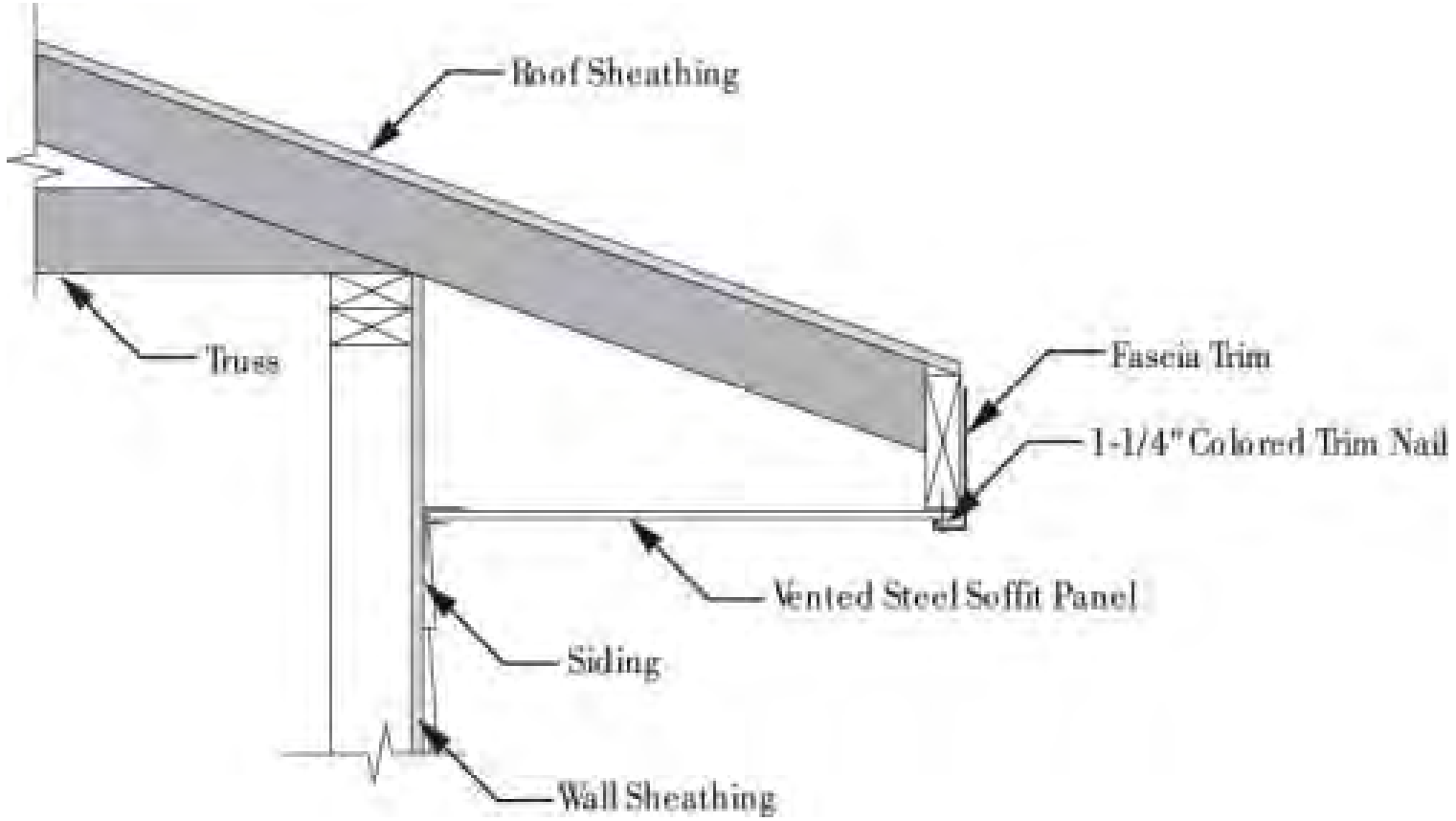
Art or Science

- Writing an effective comment is a mixture of art and science, requiring a balance between brevity and clarity
- Comments should clearly communicate the necessary/required information but without needlessly lengthening the report, and without the inclusion of unnecessary detail
- For example; If shingles were blown off the roof of the Damaged Dwelling by disaster caused COD Tornado Wind, but the windows siding and fascia were in a dilapidated state prior to the disaster, the comment, “WINDOWS, SIDING, FASCIA = NCD” should suffice. Record the shingle damage with the appropriate Damage Level.

Roof covering

This section will discuss different types of roof coverings, typical NCD damages, and typical disaster related damages for those roof coverings

Terminology

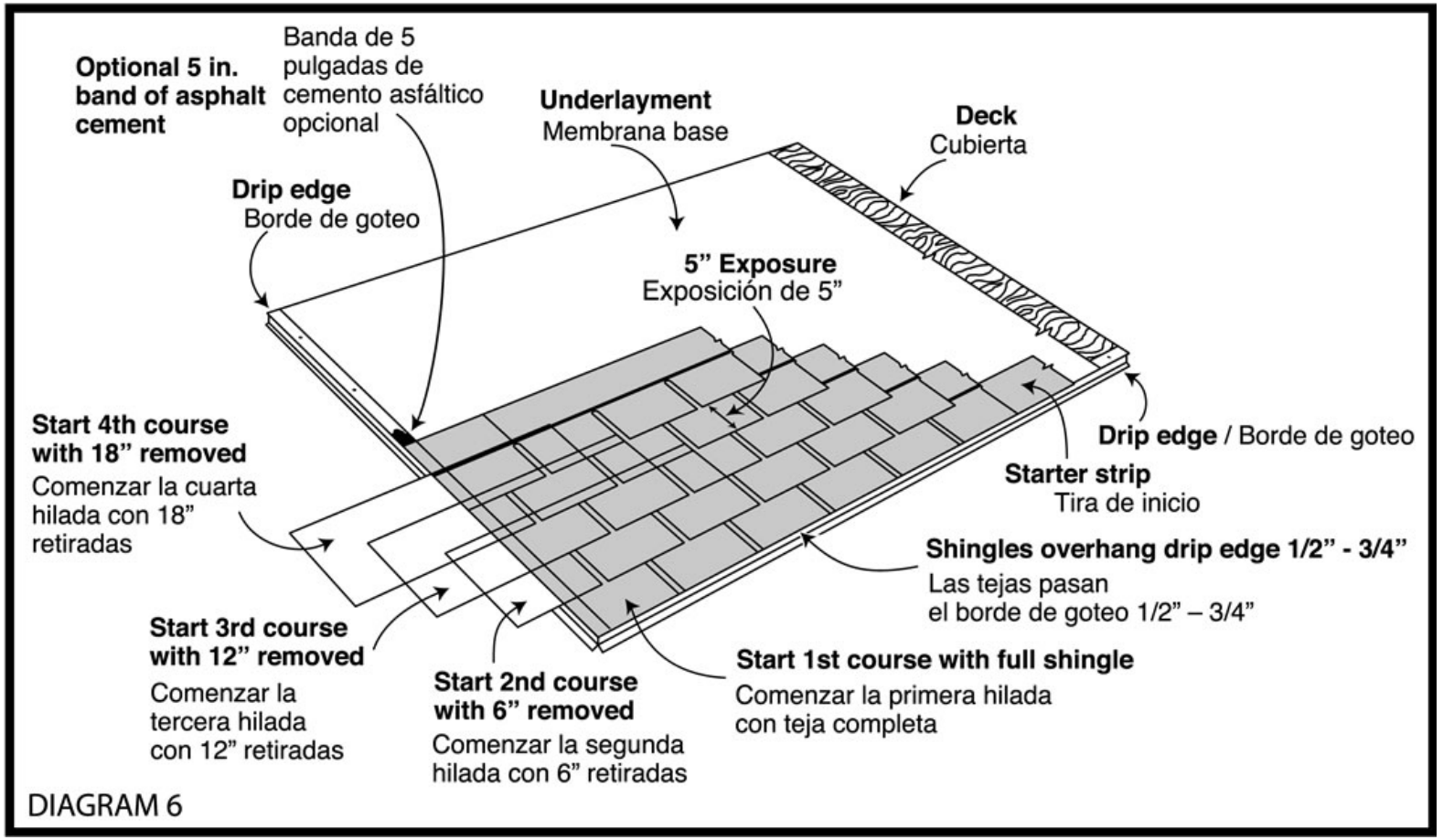


- Roof covering is usually applied over some type of structural **Sheathing**
- **Fascia** is installed to protect the ends of the structural roof members
- **Soffit** encloses the overhang below the eaves

3 Tab Fiberglass Shingles

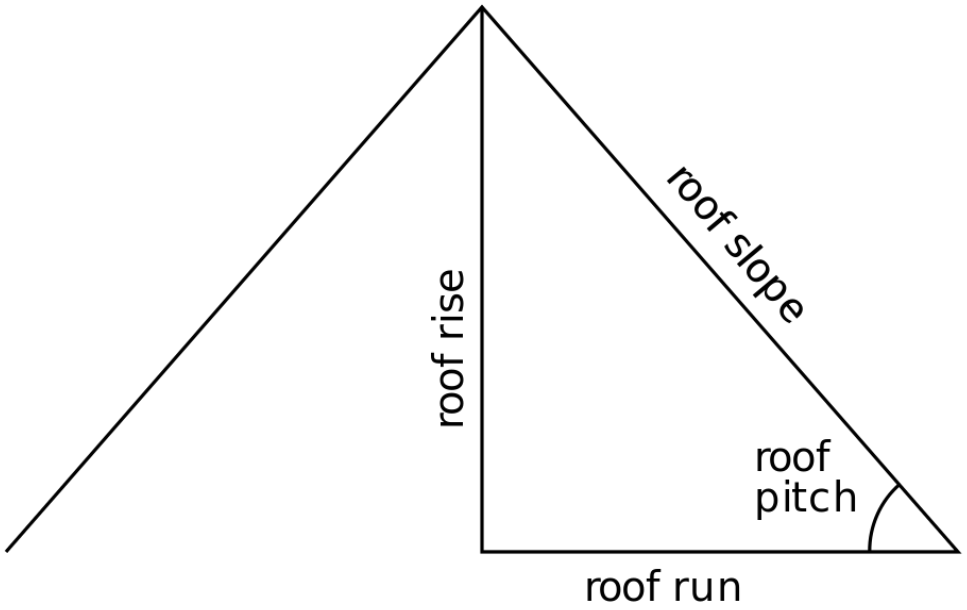
- Generally warranted by the manufacturer for 20-25 years
- Affordable cost option
- Installed from the bottom edge of the roof to top

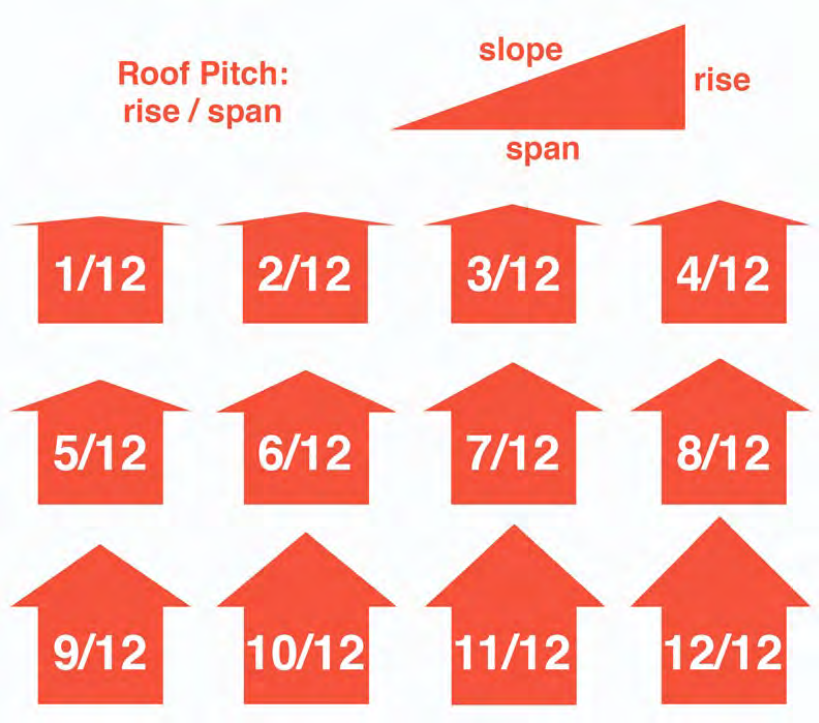
3 Tab Fiberglass Shingles



3 tab shingles are recommended for 3/12 pitch and higher

Steeper slope = more resistance to wind lift of the shingles





Surface aggregate loosens over time

Matrix becomes more brittle with age

Older shingles will curl at the edges, crack, and eventually swell in thickness

Wind can lift and tear shingle tabs, remove large sections (Reverse domino effect)

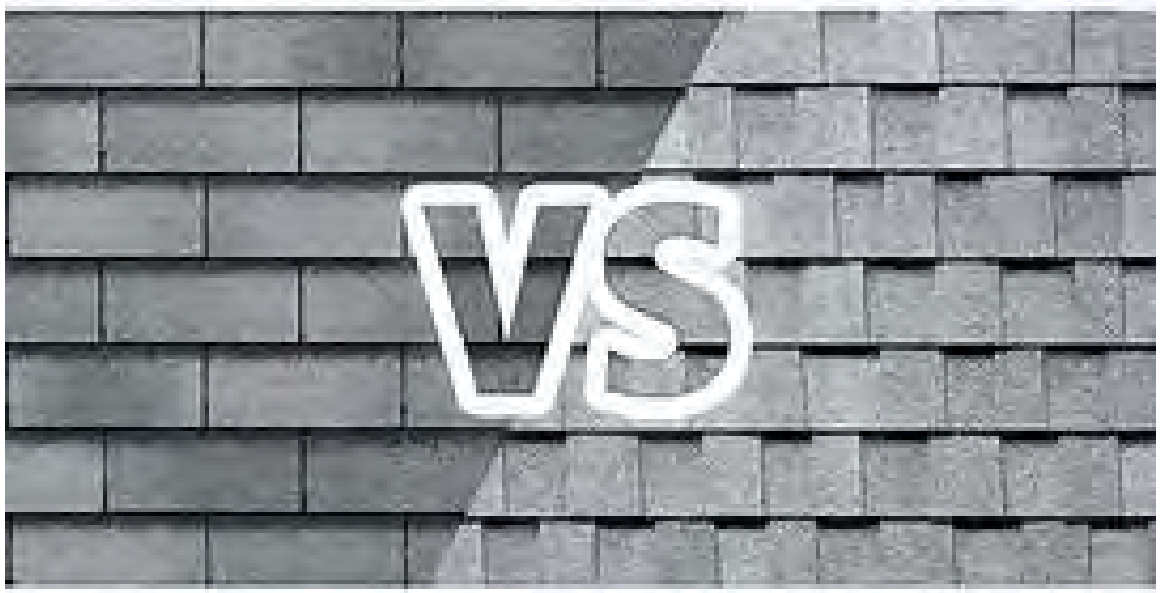
Hail can damage even relatively newly installed product

NCD damages may be worsened by the disaster. If so, that worsened condition should be recorded. New damages, directly caused by the disaster, will be recorded

Architectural Shingles

Architectural Shingles

- Generally warranted by the manufacturer for 25-45 years
- Heavier, thicker in cross section
- Installed from the bottom edge of the roof to top (Similar to 3 tab shingles
- Recommended for 3/12 pitch and higher



Architectural Shingles

Architectural shingles will age in much the same way as 3 tab shingles, it just takes longer for the deterioration to occur

Due to the heavier weight of the roof covering, Architectural shingles are more resistant to wind lift and hail damage than 3 tab shingles.

Metal Roof Coverings

Metal roof coverings come in essentially three forms, Standing Seam, Channel Drain, and Shingles

Metal Roof Coverings

- Lifted or completely removed metal roof covering will be factored into the Damage level determination for the DD

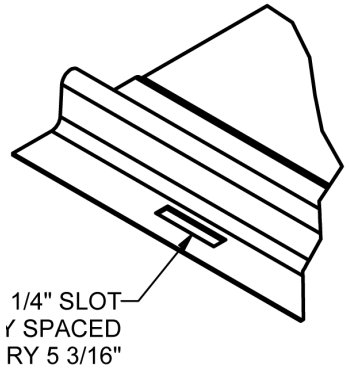
- If the underlying sheathing or framing has been affected by the disaster, that damage will be used in making the Damage level determination.

Metal Roofing

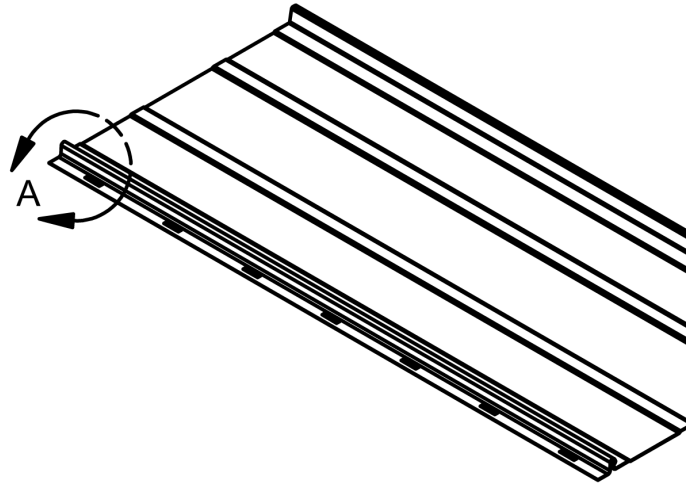
- All types of metal roofing are protected by either a coating or paint, the protective coating protects the underlying metal from corrosion
- Premium metal roof coverings can be a lifetime products with proper periodic maintenance
- Hail can dent but is not likely to penetrate most grades and gauges of sheet metal roof coverings.

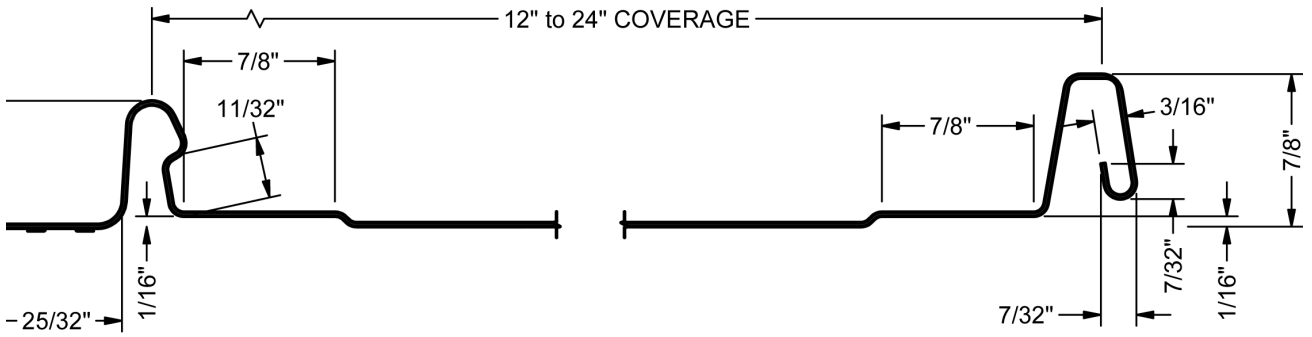
Standing seam

- All fasteners are installed under the roof surface so there are no penetrations through the metal
- Long edges of panels either interlock or are crimped together
- Can be installed on 1/12 pitch and higher (practically waterproof) (Channel drain roofing on 2/12 and higher pitch)
- Highly resistant to wind lift forces
- Traditionally crimped in place on site, Modern systems are factory prepared and snap lock together



DETAIL A





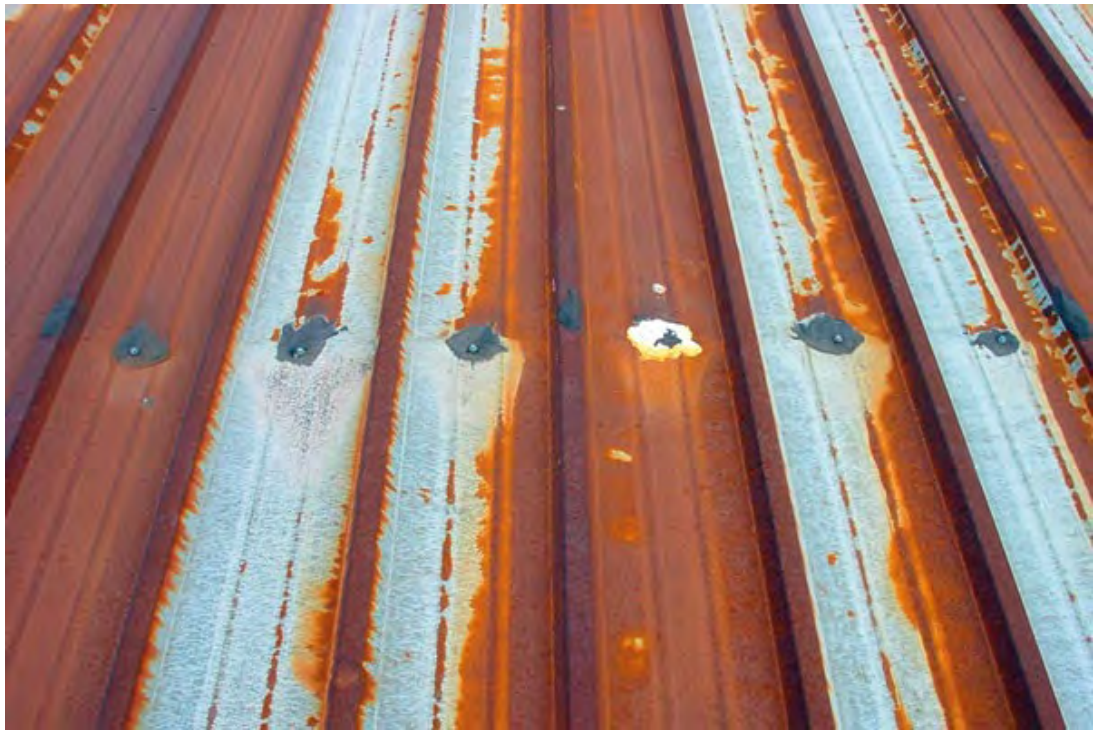
Channel Drain (5V and corrugated)

- Theses types of metal roof covering are delivered in precoated sheets
- The sheets are installed with the first ridge of the new sheet overlapping the last ridge of the previous sheet
- Fasteners (Nails or screws) are installed through the face of the metal roofing
- Fasteners are sealed either with an integral ring gasket, a malleable head covering, or sealants
- Periodic maintenance of coatings, fasteners, and sealants is necessary to maintain a watertight roof covering

Metal shingles

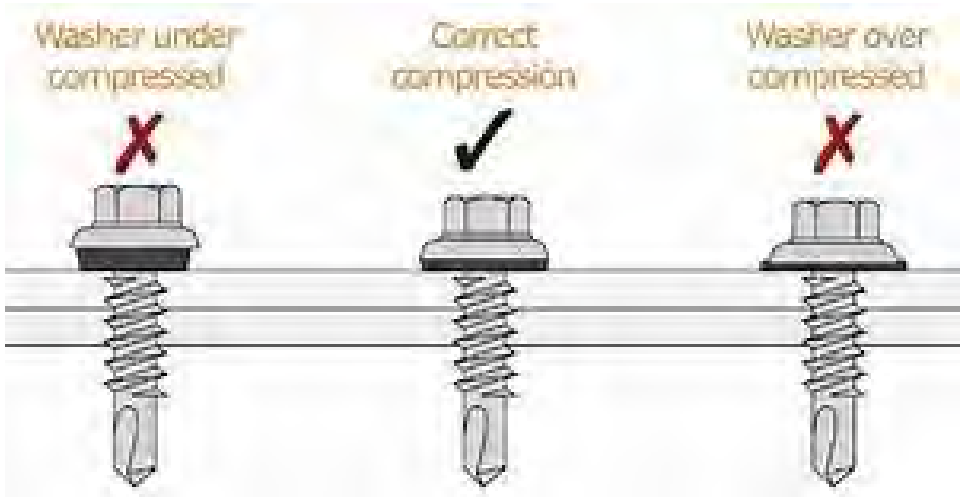
- Metal shingles come in many configurations and are experiencing a resurgence of popularity
- Metal shingles are mostly rated for 3/12 pitch and higher
- Metal shingles install in a similar manner to asphalt shingle, from the bottom up, and with each shingle course covering the fasteners on the course below
- Some systems inter-lock

Rust and corrosion = NCD



Hail damage, unless penetrating the roofing = NCD

Various Metal Roofing Fasteners

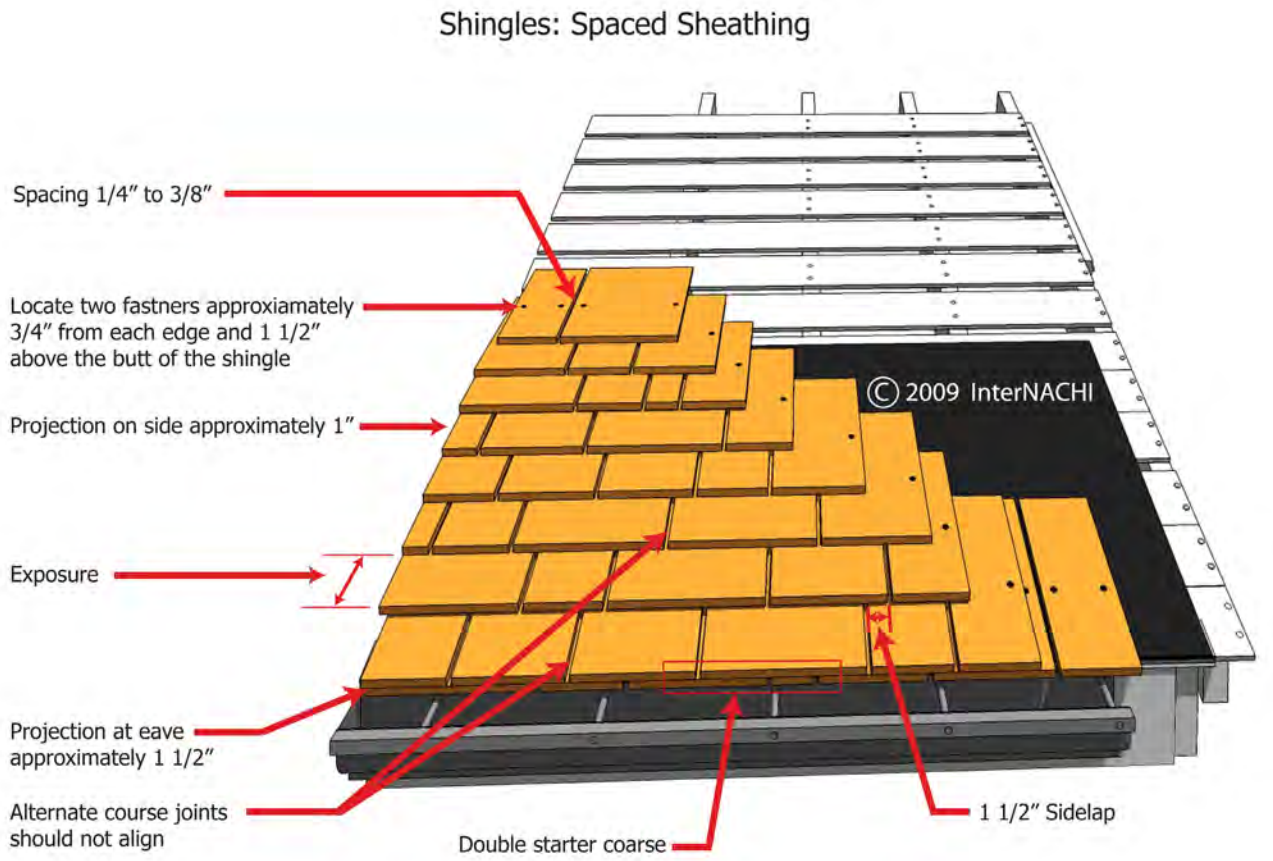


Deteriorated paint and/or sealants = NCD

Wooden Shakes

Wooden Shakes

- Life span of 25-30 years
- Recommended for 3/12 pitch and higher
- Longevity relies heavily on proper installation details and proper underlayment
- Disaster Caused Damages considered in determining damage levels



Aged Shakes

- Aging shakes can warp, cup and lift
- Aging = NCD, but aged shakes are much more brittle and much more likely to suffer damage, **worsened by disaster**

Hail Damage

- Wooden shakes, especially thin sawn shakes, are susceptible to hail damage
- Aged Wood Shake roofs become even more susceptible to damage as they become drier and more brittle over time.

Severe Hail Damage

Heavy hail can damage, or even destroy a relatively new and properly maintained wood shake roof

Wind Damage

Wind can damage or even remove wood shakes during the course of a disaster

Moss and Lichen

- Moss and lichen can propagate and grow on wood shake roof covering
- Accumulations of growth will greatly shorten the life of the roof covering and softened the shakes, making them more susceptible to disaster caused damages
- Only the damages, worsened by disaster are recorded, the vegetative degradation is NCD

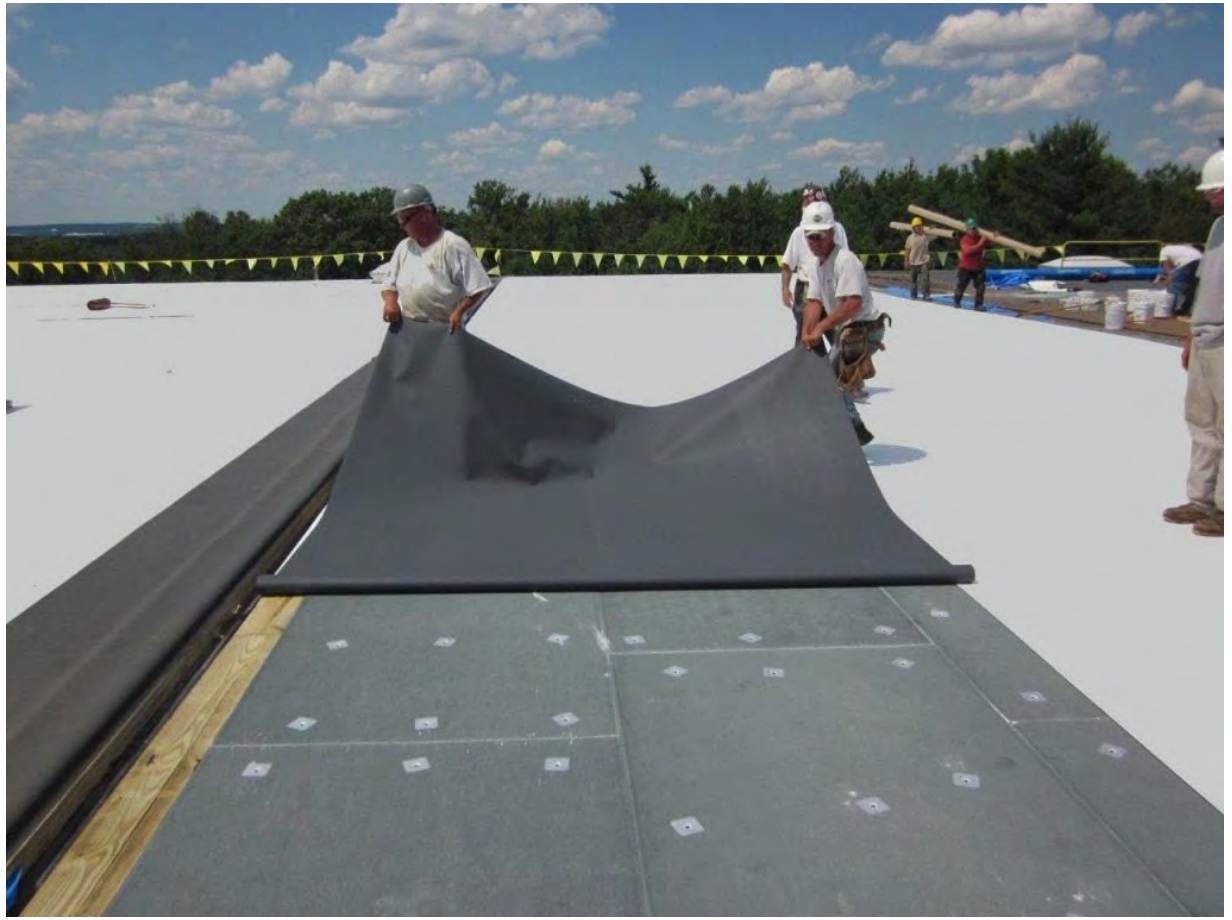
Question?

- How would you address a 3 tab shingle roof covering that was beyond its useful life and was water staining the ceiling prior to disaster, that was 20% removed by COD Tornado Wind during a hurricane DR?
- Verify whether the damage is affecting habitability, if so, record Damage Level 1, comment on damage and location.

Break Time

Let’s all be back here at the top of the hour

Membrane Roof Coverings



Membrane Roofing

Membrane roofing Types

- Butyl
- Thermoplastic
- Modified Bitumen (Asphalt Saturated Felt)
- Selvedge (Mineral Surfaced Roll Roofing)

Butyl (EPDM) (30-40 yrs)

- Often made from recycled materials
- Sealed seams
- Resilient, relatively hail resistant
- Highly resistant to wind lift
- Can be installed on a nearly flat roof

Thermoplastic (PVC, TPO) (30-45 yrs)

- Sealed seams
- Resilient, relatively hail resistant
- Highly resistant to wind lift
- Can be installed on a nearly flat roof

Modified Bitumen, Asphalt Saturated Felt (10-30 yrs)

- Torch down, heat used to melt the tar layer
- Peel and Stick, self-adhesive applied to the back of the roll
- Resilient, relatively hail resistant
- Highly resistant to wind lift
- Can be installed on a nearly flat roof

Selvedge, Mineral Surfaced Roll Roofing (7-12 yrs)

Similar to thin shingle material

May be surfaced fastened or sealed down

Tile Roofing (50 yrs)

Concrete, Fired Clay, or Synthetic

- Concrete and Clay tiles may be glazed or unglazed
- Highly resistant to wind lift due to extreme weight
- Highly resistant to hail damage
- Brittle, susceptible to breakage from contact trauma

Tile Roofing Damage

- Newer tile roofs are installed over sheathing
- Assessors my observe tile roofing installed solely on purlins
- The photos dramatically shows how wind can lift and remove even heavy concrete tiles when this installation method is used

Fired Tile Types

Clay tile

Glazed Tile

Synthetic tiles are more resilient and less brittle than clay and concrete

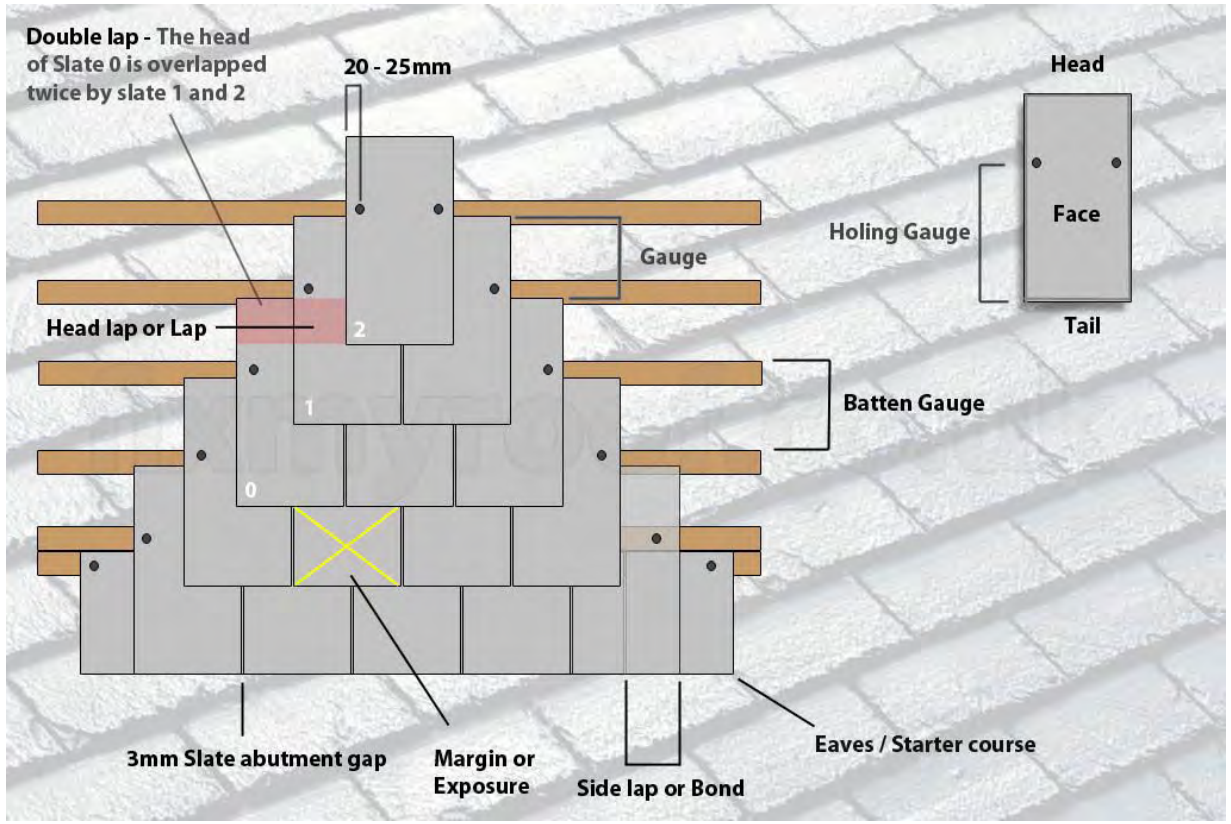
Synthetic Tiles

Aged Clay Tiles

Slate Roofing

Slate tiles are split or sawn from natural stone

Slate Roofing Details



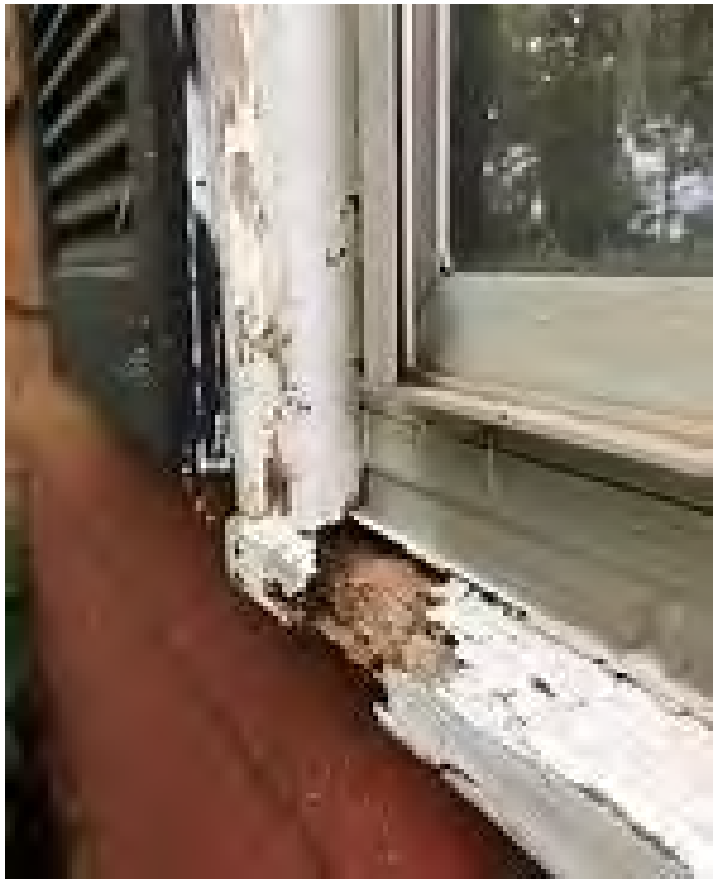
Vent Boots

Deteriorated vent boots are generally damaged by long term exposure to UV, and therefore are almost always NCD

Roof Coverings

- Roof coverings have various properties, and differing life expectancies
- Age, climate, prior disasters, and lack of proper maintenance can shorten the life expectancy of a roof covering and create NCD conditions
- Assessors should comment on NCD in the report, and record only roof covering damages caused by the forces of the disaster, or on conditions worsened by the forces of the disaster

Rot



Moisture and Fungal Deterioration

Rot is seldom, if ever, directly caused by the disaster. Disaster caused damage is sudden and immediate. Moisture and fungal deterioration happens over a longer time frame and is a slow and ongoing process. As such, Rot and other longer-term moisture driven deterioration is generally NCD.

Common locations of rot

- Subflooring
- Siding
- Composite Materials
- Exterior Trim
- Drywall and Paneling
- Windows and Doors

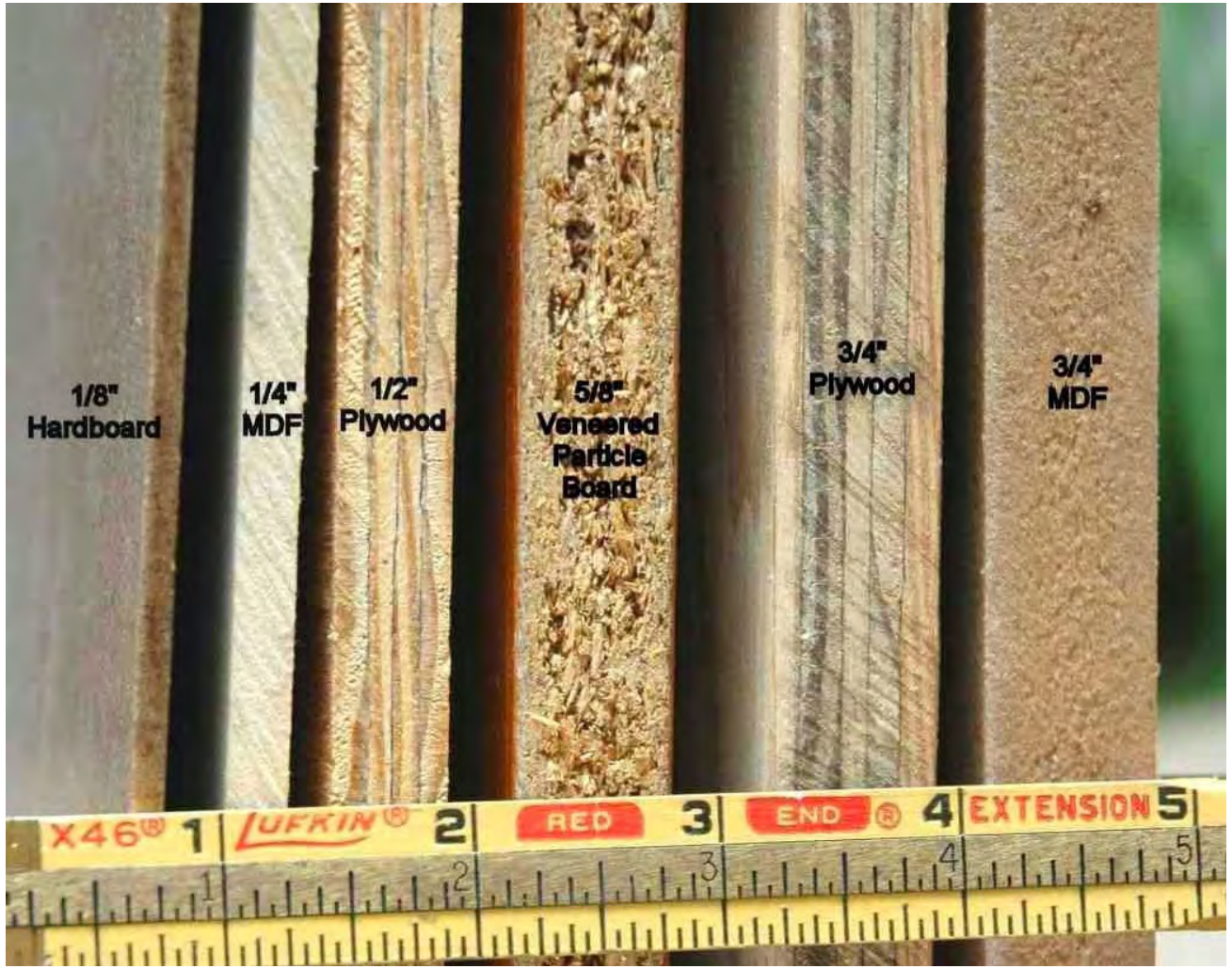
Subfloor

Subfloor Materials

- Sub-floor may be plywood, particle board, diagonal lumber, or even nonexistent in some older homes with solid wood floors
- Deterioration of subfloor is likely NCD, unless there was prolonged saturation by the disaster
- Prolonged ponding of water and/or elevated relative humidity, in a crawlspace or under the unit, can cause NCD deterioration

"Plywood"

- Plywood is thin veneers of wood, laminated together in layers to create a strong panel. Each layer is laid with the grain at 90 degrees to the last to increase strength
- Hardboard, particle board, and MDF are made up of ground up wood and glue
- Plywood is generally cable of retaining serviceable strength after complete saturation and drying
- Hardboard, particle board, and MDF are often adversely affected by flooding



OSB

Oriented Strand Board

- Oriented Strand Board (OSB) is made by raking, orienting, large chips of wood fiber in roughly the same direction prior to gluing together under pressure
- This process creates a lower cost panel than plywood, but with similar strength characteristics
- The ability of OSB to withstand prolonged wetting is between that of Plywood and that of particle board

Mobile Home Subfloor

Particle and MDF subfloor in Mobile homes is very susceptible to water damage

Particle Board

MDF (Medium Density Fiberboard)

Diagonal Lumber

Dimensional lumber was used for subfloor prior to the advent of plywood products

- Usually, the subfloor would be installed on the diagonal to minimize differential shrinkage between the subfloor and finish flooring
- Diagonal lumber subfloor will generally remain serviceable after drying
- Occasionally, diagonal lumber will warp due to flooding and may require sot repairs or replacement.

Location, Location, Location

Location can be key in determining the difference between disaster caused damages and NCD.

Subfloor, that is only deteriorated next to a door or window, is likely NCD.

Deteriorated subfloor under or near a sink, in front of or under the dishwasher, clothes washer, water heater, toilet or next to the tub/shower is likely NCD

These types of damages were caused by prolonged exposure to a longer-term moisture source, not the sudden onset of disaster caused water intrusion

Typical NCD Damage

Deterioration at the base of the toilet can be caused by a leaking wax seal, cracked porcelain, leaking plumbing, or even water running down the DWV piping from a vent boot failure at the roof above.

Lack of caulking, sealants and weather-strip at doors and windows can lead to long term water intrusion at those types of openings that may lead to subfloor deterioration as well.

Context

Assessors should use context to assist in making judgments between disaster caused damages and NCD.

Types of subfloor material affected, the location, proximity to a long-term contributing moisture condition, and the type of disaster are all factors that should be taken into account.

Siding

- Siding products come in many different types, configurations and materials
- Wood and wood composite siding materials are the most likely to show long term deterioration that would qualify as NCD rather than disaster caused damage
- Solid wood siding produced from dimensional lumber, wood composite siding products, and plywood panel siding products all react differently to long term moisture.

Solid Wood vs Composite

Solid Wood - Lack of proper paint and maintenance can lead to water intrusion and rot in the siding.

Composite – Moisture intrusion at butt joints and edges causes the material to swell and delaminate

Plywood – T-111

T-111 is a common type of plywood siding that imitates vertical board and batten siding.

- T-111 can be made from either veneer core plywood, or wood composite.
- The long vertical edges are milled to half lap over each other
- Horizontal joints are generally covered with a batten and sealants, or a Z-flashing
- Moisture intrusion at the half lap, batten trim, Z-flashing, or other penetrations are common locations for NCD damages

Common NCD Issues

Z-flashing is installed at the horizontal joint on this T-111 siding, but the plywood has bowed and buckled away from the framing

The T-111 siding was installed with insufficient clearance above the shingles. The siding has wicked moisture and is actively growing vegetation

Drywall and Paneling

With a consistent High-Water Mark and COD flood damages to drywall and paneling are consistent throughout, and likely caused by disaster.

When there is no HWM, long term wicking moisture can create damages that are localized, not consistent through out, and NCD

Location, Location, Location

- Location (and context), again, can be key in determining the difference between disaster caused damages and NCD
- Damages that affect only one part of a basement, are located only in the laundry room, are only adjacent to the tub/shower or toilet, or are only near the pressure tank or water heater, should be suspect as disaster caused damages
- These types of damages were likely caused by prolonged exposure to a longer-term moisture source, not the sudden onset of disaster caused water intrusion

Break Time

Let’s all be back here at the top of the hour

Windows

Deteriorated paint, sash and glazing are likely NCD.

Deteriorated brick molding, trim and sills very likely predate the disaster.

Window Glass Replace

Broken (or missing) window glass may also predate the disaster. When including broken window glass in determining the Damage Level, make sure that the COD is capable of generating the damage viewed. (ie; broken glass on a Flooding event, where the damaged glass is above the HWM and no high winds were reported, would be NCD)

Doors

- Deteriorated brick molding, trim and sills, very likely predate the disaster.
- Wicking moisture, creating deterioration at the base of jambs and trim, happens over a long period of time, and is not sudden and immediate damage resulting from disaster caused forces

Doors

Deteriorated cores on exterior doors happen over a period of time and are likely NCD.

Interior doors that have experienced COD flood can suffer disaster caused damages. Delaminating interior doors in chronically damp basements, where no COD flood has occurred are NCD.

Rot

- Moisture, molds and fungus can affect building materials over time
- Age, climate, prior disasters, and lack of proper maintenance can shorten the life expectancy of many building components and create NCD conditions
- Assessors should comment on NCD damages in the report, and record only damages caused by the forces of the disaster, or on conditions worsened by the forces of the disaster, with Damage Level line items

Damages From Prior Disaster

Assessors may encounter unrepaired damage from prior disasters that predate the current event. Only damages, from the current disaster, that occurred during the incident period, are taken into account when making the decision regarding whether Habitability Repairs are Required.

Prior disaster, of similar or different type, may have occurred to the damaged dwelling. The prior incident and damage may or may not have been included in a previous declared disaster.

Repeat flooding events and back-to-back hurricanes are the most common occurrence of this type of NCD damage.

Previous Flood

When more than one HWM is present, care should be taken to determine if both intrusion events occurred during the incident period.

The appropriate HWM must be recorded for the current incident, in order to properly record the RP and PP damages.

Prior Hail Damage

Prior hail damage can be judged by aging of the damage. Fresh damage on shingle will show glass fibers bright in the sunlight and freshly exposed asphalt where aggregate was displaced.

Verify that COD hail was part of the disaster prior to recording damages.

Prior Damage to Siding

Various types of incidents may have affected the subject property prior to the disaster.

The vinyl siding in this graphic has been exposed to an external heat source and would be commented as NCD for any COD other than Fire.

Foundations

- While it is certainly possible for a disaster to damage the foundation of a home, most damage to foundations, as a whole, are produced by slow movement, under sustained pressure, from forces such as tree roots, frozen subsurface moisture, and/or slope movement toward or away from the foundation.
- Visible damage to the foundation must have a causal link to the disaster. Ask yourself, “What force, generated by the disaster, is capable of generating the observed damage?”
- Flowing water may under cut or displace a foundation.
- Earthquake may crack or displace a foundation.

Damaged Foundation, NCD

A horizontal crack is generated by a lateral load along the foundation. Expanding frozen soil, or a slope above the dwelling slipping downhill can create these types of cracks

The crack, erosion, and rusted rebar below was created by a long-term condition of elevated moisture. The expansive corrosion of the steel rebar displaced the concrete, weakening the foundation

Other Foundation Damages

This block foundation exhibits both stair step cracks and a horizontal displacement crack. The foundation has bowed along both its height and its length

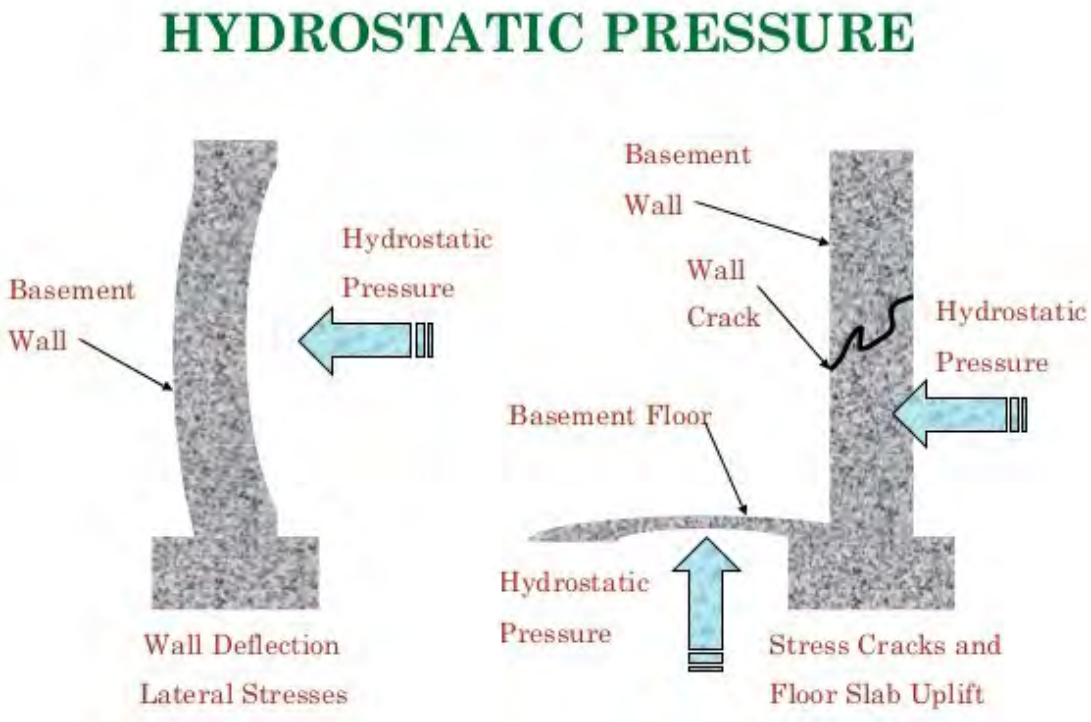
Settlement has occurred at the sidewalk, but not at the concrete stoop. Compaction or displacement of supporting soil has occurred under the sidewalk

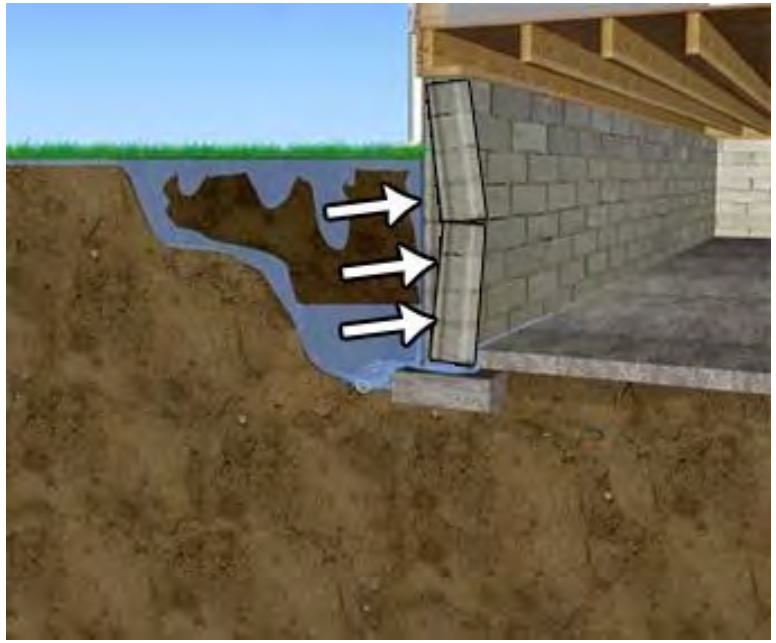
Judging the age of foundation cracks

Dust, dirt, and/or cobwebs in the crack, and long-term water staining from the crack, indicate age and NCD

Prior sealants applied indicate NCD. It is possible, however, for the current disaster to "worsen" the condition and break the previous seal

Hydrostatic Pressure is a very common cause of foundation damages for all types of foundations. However, if the conditions to create the hydrostatic pressure were not part of the disaster, any observed damages to the foundation will be NCD.





WDO – Wood Destroying Organisms

Termites = NCD

Termites are insects that consume cellulose, they essentially eat the structure of the house

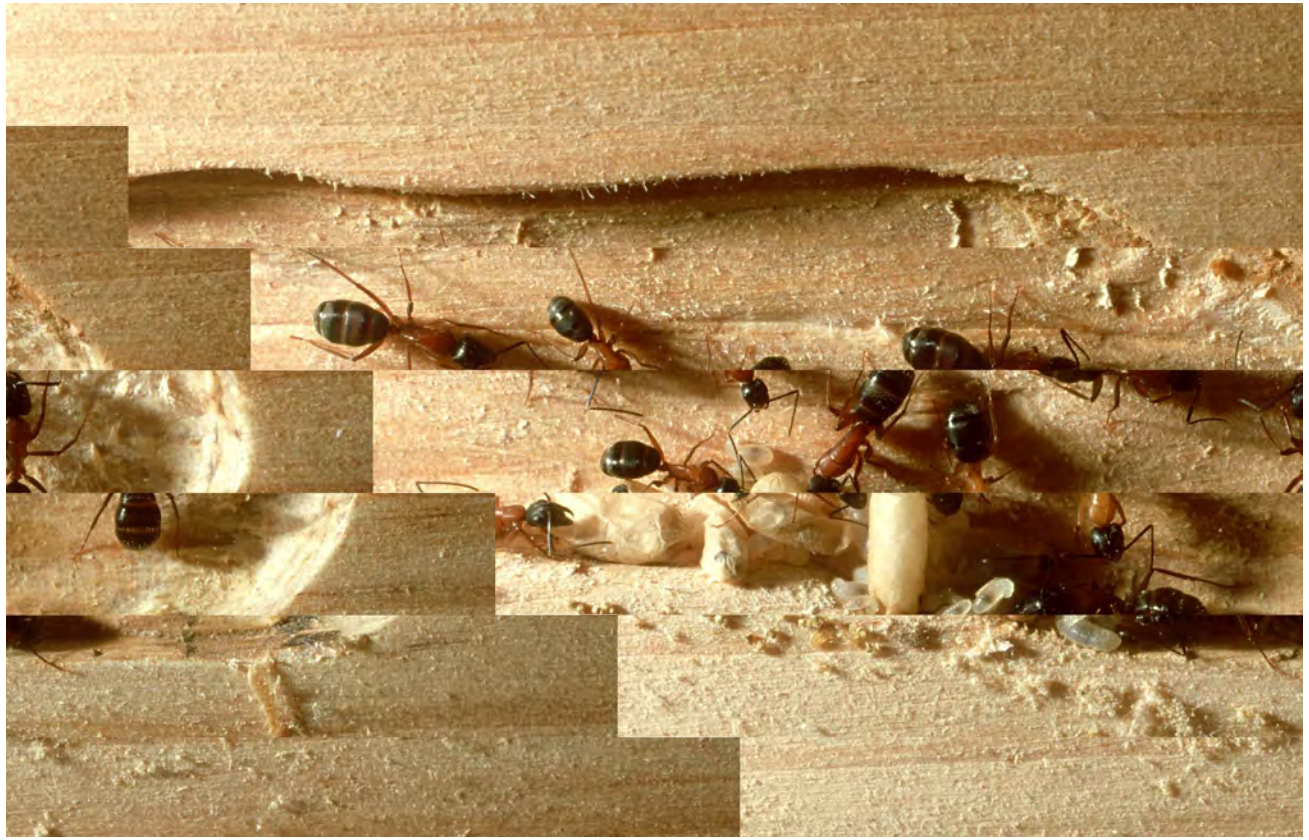
Termite damage happens slowly over time and is not caused by the sudden and immediate forces of a disaster

Powder Post Beetles = NCD

Powder post beetles are another insect pest that can damage a wooden structure over time.

Carpenter Ants = NCD

Carpenter Ants are so named because of the “sawdust” like frass that they generate. Contrary to their name, they do not build, but rather hollow out wooden members of the home for an area to build their nests.



Carpenter Bees = NCD

Carpenter Bees drill into and hollow out wooden members to nest and raise their larvae

Often the nest is discovered by a woodpecker, who then inflicts further damage to remove the grubs

Fungi

- Fungi consume cellulose and their presence may result from, or point to, disaster caused damages to the subject dwelling. But they may also indicate a pre-disaster moisture condition. Context will be important to determine if the underlying moisture condition is disaster caused or NCD.
- Mushrooms, or fungi, on the exterior likely indicate building materials are retaining moisture. This type of damage is very likely NCD.
- Fungi on internal surfaces are often observed in perpetually wet crawlspaces, and under or near plumbing leaks.

Fungi

This fungus is growing from the T-111 siding. Moisture trapped between the deck and siding is wicking up and producing the growth. This is NCD.

Fungi are visible on the TJI joists and subflooring. Unless this crawlspace experienced a disaster related flood event, any fungi related damage would be NCD.

Plumbing Leaks

NCD Plumbing Leaks

Dried, crusty mineral deposits on this CPVC pipe indicate a long term NCD leak

Rust and corrosion through the walls of the pipe are also NCD

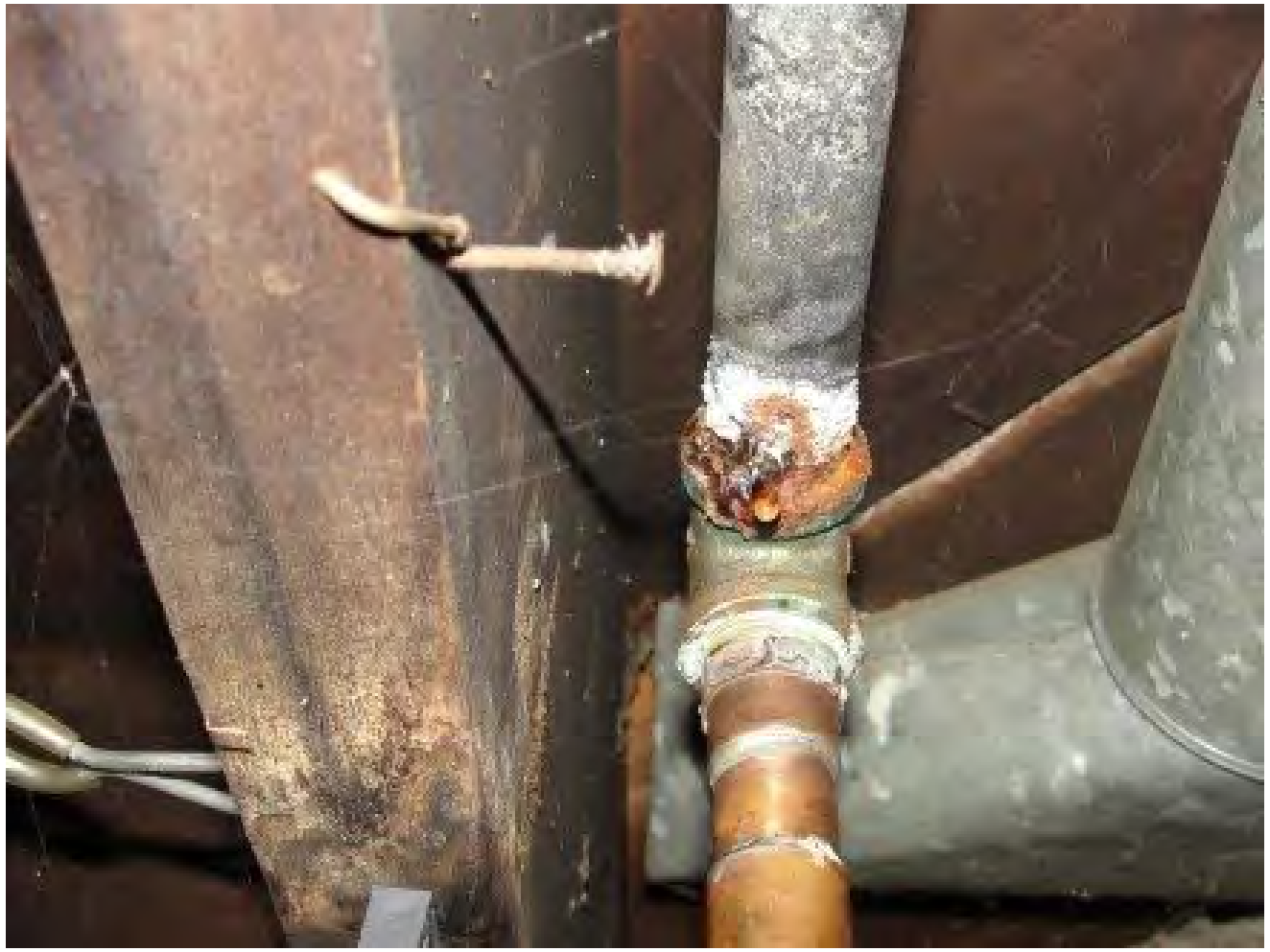
Water Heater = NCD

Corrosion, mineral build up, and water stains indicate a long-term leak. NCD

Rust stains indicate leakage from around the element. NCD

Leaking galvanized pipe

Any leak that is collocated with corrosion or mineral build up has been present for some time and was not caused by sudden and immediate forces of a disaster. Such plumbing leaks are NCD.



Aged Mechanicals

- Often, old and aged mechanical systems may be left in place when newer replacement systems are installed.
- An assessor must ask, “Was the unit operation/functional at the time of the disaster (ATOI)?”
- Nonfunctional or inoperative units with damage are NCD.
- For functional units, the COD must be cable of causing damage to the particular unit, and the observed/recorded damage must corelate with the type and time frame of the disaster

Old mechanicals

The furnace in the foreground has been replaced by the boiler in the background. The foreground furnace is a solid fuel unit and is not currently operational. The modern oil-fired boiler to the rear of the image is the currently functional heating plant. Any disaster caused damages to the current boiler would be recorded with appropriate service Call. Any damages to the foreground unit would be NCD.

Old Mechanicals

The furnace in this image is the current steam boiler, in active use. The unit was originally a solid fuel, coal fired boiler, but was converted to oil some time ago. Just because a unit is very old, doesn't necessarily mean that it is no longer in use. Any disaster related damages to this unit would be recorded using the appropriate line items.

Fire

(when not the primary COD)

Assessors may encounter evidence of prior fires on structures under assessment. Sometimes minor fire damage goes unrepaired, and sometimes, as in the photo to the right, surface smoke and char damage remains visible only in attics and crawlspaces.

If the fire is disaster related and not the primary COD, a cause and origin report must correlate the fire to the disaster.

If the cause of and damage from the fire was outside of the incident period, The damages are NCD.

Fire
(when not the primary COD)

Fire restoration companies often use white pigmented shellac, sprayed onto functional, smoke damaged, building materials, to seal in the odors from the fire. Assessors may see evidence of this, from prior fires, in structures being inspected for current disaster related damages.

Vandalism

Pre and post disaster vandalism, whether interior or exterior, is always NCD and does not factor into the Habitability Repairs Required determination

NCD = Not Caused by Disaster

- Many different types of building materials and components may be damaged by COD's not related to the disaster
- Assessors should indicate these NCD damages, with an appropriate comment, in their inspection report

Case Study

Photos

NO TRESPASSING

120
NCD

Housing Inspection Services

Rapid Damage Assessment (RDA) Training

Contents

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Completing the inspection 2
Build the Home 3
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RDA Questions and Concerns 6
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Overview

Assessing Damage to Homes Using RDA

Surveys conducted to assess damage to individual homes should be conducted quickly and focus on collecting the observable information necessary to assign a final damage level.

Damage not caused by the disaster should not be included when determining the level of damage, as it is not considered eligible for assistance through FEMA's Individual and Households Program. All determinations should be based on viewed damage and focus only on disaster related damage. For example, do not assume all units in an apartment building are damaged if a roof is missing over only a few units.

Your assessment will not include outbuildings (unless occupying essential utilities or mechanical items), fences, or unattached garages.

RDA Inspection Conditions

- Only record/validated flood specs listed from the RDA screens, and **do not edit quantities**.
- Only to be used for flooding damages (not for other waterborne damages such as SBU or seepage).
- User must select one item to exit each of the floor or Mechanical screens in RDA (TABS across the top).
- May be used on floors containing sunken rooms. Record the highest floors water level.
- May be used in boarder occupied dwellings where the affected area does not include the boarder's area.
- Record applicable Utility, Road & Bridge damages outside the dwelling's footprint within the Exterior Room.

****NOTE:** RDA line items recorded throughout the dwelling will appear on the first floor's exterior room. Damages recorded in the basement or floors above will also appear in this room and will be summed for a single quantity and displayed there; i.e. An inspector records the RDA line item clean and sanitize of 400 SF in the basement, and additional 400 SF on the first floor, the line item quantity for RDA Clean & Sanitize will appear as 800 SF in the exterior room on the first floor.

- Not to be used on Appeals
- FCORs returned using conventional inspections may not be changed to RDA
- For applicant convenience, FEMA Corrections (FCORs) on RDA inspections where the inspector must return to the dwelling, it is highly recommended that a conventional inspection be performed. Speed estimating may be performed in this instance.
- Speed Estimating may per performed on RDA appeal inspections.

Completing the inspection

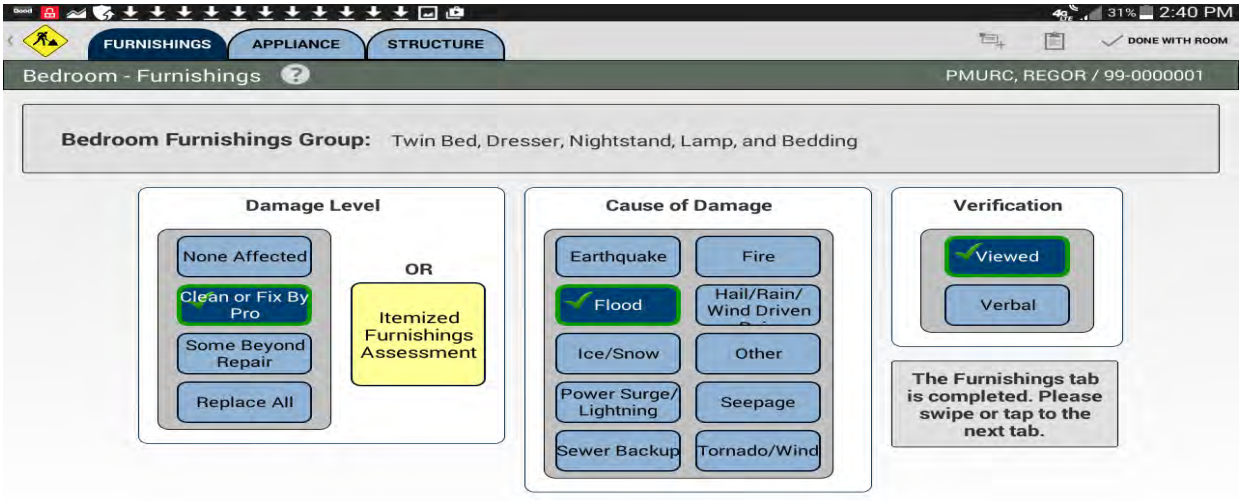
1. Open your ACE pad and open the inspection for the applicant that you have met at the damaged address.

2. Verify and confirm the information on the applicant information screen. Change and confirm the information as necessary.
3. Verify the Inspection type on the applicant information screen. Most inspection will be "standard" inspections; verify with the "?" if you have any questions.
4. Verify the Applicant's Relation to Home on the Home Info page of ACE and verify with the appropriate comment and/ or paperwork.
5. Confirm the insurance types on this page.
6. Confirm Public Utilities Out on this page also.
7. On the Losses/Expenses screen of ACE, ask the applicant the associated questions for Medical, Dental, Funeral, Moving and Storage and Clothing. Any questions can be answered by opening the HELP screen using the "?".
8. Verify any items that were lost for Work/School and check the appropriate box.
9. Verify any Eligible Purchases. If the applicant states they have purchased any of the listed items, a pop-up will require you to answer if they have a receipt available and enter the receipt date. Verify the date of purchase is within 30 days of the INCIDENT START DATE. If the purchase hasn't been made within this time frame, do not record the purchase.
10. Move to the Build Home Tab and you are ready to start building the damaged dwelling and adding property. Start with selecting the yellow BUILD HOME button on the right side of the screen.

Build the Home

1. You will select the type of home you are inspecting, along with the type of foundation and number of floors.
2. Next you will add the Water Level by selecting the 2nd yellow button.
3. The Interior Assessment Option **WILL NOT BE USED**. All rooms must be built and completed prior to utilizing RDA.

4. Add the type of rooms from the selections on the right by dragging them to their corresponding floors. You will add the rooms as they are FURNISHED, not with their intended use. Example: The applicant may tell you they have a 3-bedroom home, but when you walk through the house, you find one of the bedrooms is only being used for storage and does not have a bed. This would be recorded as an office room.
5. When the following rooms are added: **Kitchen, Living Room, Bathroom and Bedroom**; they will immediately populate the Furnishing tab. They can be assessed using the yellow Itemized Furnishing Assessment button and answering the questions.
6. While in each room record the appliances that are owned by the applicant and add to the room they were in at the time of the disaster. You will access the appliance from the APPLIANCE tab on the top of the page. You will record these items with the correct damage level of Not Affected, Some Beyond Repair, or Replace All. Some of these items may have been thrown away, and you may have to ask the applicant if they were owned. You may record the appropriate level of damage if there is justification the appliance was damaged or destroyed. Only exceptions will be for infant items and ADA items. There must be a need in the household.



7. After you have finished adding all the rooms in the home, you will measure the square footage of the total dwelling, to include all floors. Record this measurement in the WRAP UP screen. You will now take the measurement of the affected flooded area of the dwelling and follow the following instructions to perform an RDA inspection. This is for the FLOOD damage only, any other damages caused by other Causes of Damage (CODs) will be added in the rooms the damages are located as you perform a complete inspection on the home for the room furnishing assessments.

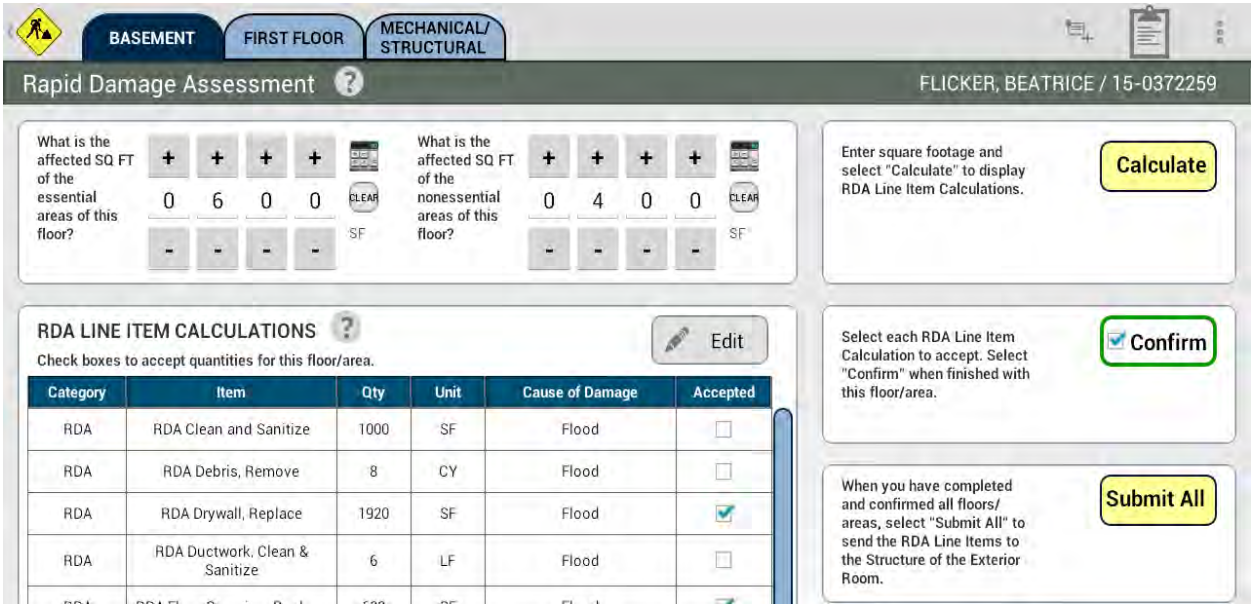
RAPID DAMAGE ASSESSMENT (RDA)

To initiate, users must confirm a uniform high-water level throughout the dwelling to **be 3" or greater**. Users will also exclude the following floor areas in the square footage of the dwelling: garages, porches, unoccupied outbuildings, crawlspaces and enclosed areas separated from the main living area by a locking exterior door (enclosed porches, Florida rooms, etc.).

Recording Damages

1. After selecting a **Water Level**, the **Rapid Damage Assessment** prompt will appear in the upper right corner of the pad. Select this option to record damages using RDA.

2. Tabs will appear to insert the area of each affected floor. Users will need to separate essential and non-essential areas of the basement. After entering the floor area, select “Calculate”.
3. A list of repairs will be generated requiring confirmation of the item. Do not edit the auto generated quantities of RP calculated by the RDA function in ACE4. Select the check box to include the line item. ****NOTE: Not all items will be used for every home. Only enter the items that have been affected from the flood.**
4. Select **Confirm** to retain the listed floor’s damages. Continue to use RDA to record subsequent water damages on subsequent floors. After addressing all floors, record damages in the Mechanical / Structural tab. You must select at least one mechanical line item to exit the RDA screen.
5. Once complete, select **Submit All.**



6. Open the next tab, WRAP UP, and measure the size of the residence and input into the size of residence field.
7. Move down to the SPECIAL CONDITIONS, select the yellow DETERMINE BOX and select any that apply. Again, any questions can be answered by selecting the “?”.
8. Open the HABITABILITY COMPROMISED box and determine the habitability. IF ACE RECOMMENDS YES, do not change the determination to NO. If ACE “Recommended Determination= Unable to Determine,” it is up to the inspector to determine the habitability using the question, is it Safe, Sanitary, and Secure.

9. If the Habitability determination is YES, the home is not livable, then there will be an additional box appear with RELOCATION. Ask the applicant this question EXACLTY like it appears; "Have you moved or are you going to move while repairs are being made?" And check the appropriate circle.
10. Vehicle Damage is the next step. Ask the question; "Were ALL household vehicles made undrivable due to the disaster?" If the answer is No, you are finished. If the answer is YES, there will be an additional question asking if any of the vehicles are covered with Comprehensive Insurance. If this question is Yes, you are finished. IF the answer is NO, you will have the box to fill all the vehicles for the household. Make sure that you are VIEWING the insurance information before you check the liability insurance viewed (must be policy, not wallet card). Complete the vehicle information along with Cause of Damage for the vehicle.
11. Open the GOODBYE CHECKLIST and ask the applicant all the questions. Close when finished.
12. Open the next tab-COMMENTS-and make any comments you feel will be required for someone to understand the inspection. DO NOT PUT OPINIONS in the comments. Any required comments that have populated during the inspection will already be listed here. MAKE SURE TO ADD YOUR INSPECTOR NUMBER BEFORE LEAVING THIS SCREEN
13. The next tab is the SUMMARY tab. You can verify all the information you have entered for FURNISHINGS, PERSONNAL PROPERTY and REAL PROPERTY that you have inputted. Verify all the Causes of Damage are correct, along with the quantities.
14. The last tab is your VALIDATION of the inspection. Open this tab and hit the RUN VALIDATION CHECK on the top of the page. If there are any errors in your inspection, a message will populate. You must clear or override any validation errors before the inspection can be returned. Once all the validations have been cleared,-the inspection will move into the OUTBOX, and can be communicated back to the HOST for review.
15. DO NOT READ OR SHOW THE APPLICANT YOUR DETERMINATION.

RDA Questions and Concerns

1. Can we get a clear and precise guidance on recording RP line items with COD= Flood in the exterior; such as Debris Remove, Access Porch Replace, Oil/ Propane Tank Reset/ Replace, Retaining Wall Replace, Wash-out Fill, Jack/ Relevel, power pole reset/ replace, and stair line items?

    1b. We understand the written guidance states "record applicable Utility, Road & Bridge damages outside the dwelling's footprint within the Exterior Room." Does that include any line items in the Utility Category? What about access/ debris category?

TM Response: At this time, inspectors are to record only flood damages noted in the RP list when performing RDA. Damages as a result of wind, EQ or another peril not associated to flood are to be recorded.

2. ACE4 user guide states "do not edit quantities", although some senior members believe floor covering may be able to be edited as they do in Speed Estimating. For example; a 1 Story home on a slab in south Texas that has roughly 85% ceramic tile flooring throughout with some laminate flooring in a bathroom or utility room. Would the TM shop prefer inspectors to record the amount generated in RDA, edit quantity, or use a comment describing most floor= concrete/ tile to address? How would you like us to train on this moving forward?

TM Response: No need to edit FC quantities for the given calculation reflects coverings that may not need to be replaced. Example, 1,000 SF of affected area will reflect 800 SF of FC.

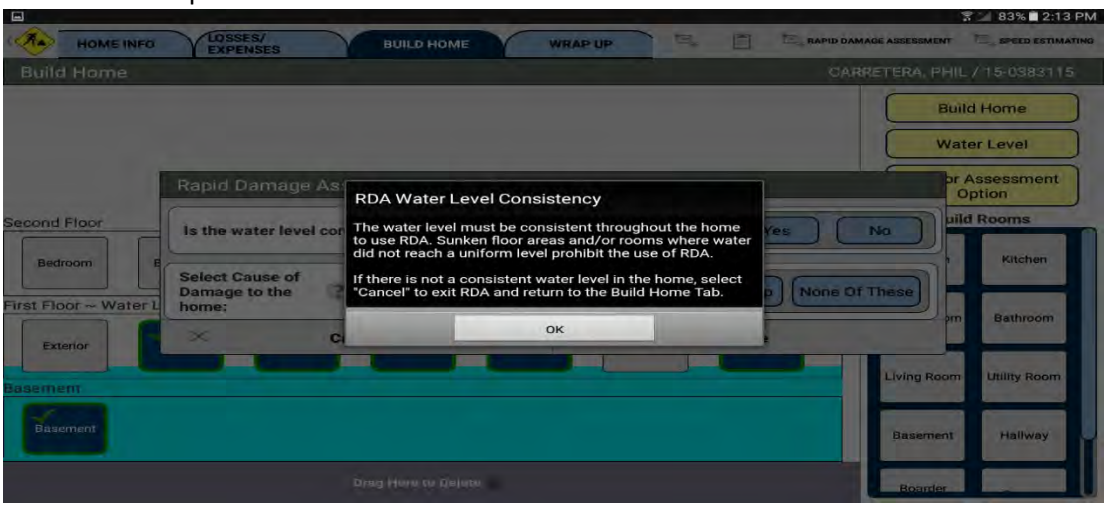
3. There have been a few discussions on the correct way to handle a boarder occupied or non-essential (business run from home) room while utilizing RDA. Again, guidance available states "May be used in boarder occupied dwellings where the affected area does not include the boarder's area". When we run across a situation presenting itself this way, are we to simply subtract the square footage of the boarder occupied room from the affected areas square footage for that floor inside RDA?

TM Response: Inspectors will need to separate border occupied areas from that of the flood damaged owner's property. When conjoined on the same floor, RDA may not be used.

3b. Or are we to only use RDA if the boarder occupied room is not in the affected area at all; example a 2-story home with HWM on the 1st floor and the boarder occupied bedroom is on the first floor, with in being in the affected area is the guidance stating we are not to utilize RDA?

TM response: see previous answer

4. Guidance tells us RDA "May be used on floors containing sunken rooms. Record the highest floors water level." Although when you select the "?" help on "Is the water level consistent throughout the home?" a message appears stating that the water level must be consistent throughout the home to use RDA. Sunken floor areas and/ or rooms where water did not reach a uniform level prohibit the use of RDA. **Screenshot attached**



Can we all get together and come up with a clear guidance for inspectors to follow when coming across sunken rooms?

TM response: inspectors may use RDA on floors containing a sunken room. The scope of such recorded damages will more than address the quantities in this area. We'll work to get the Help Screen text amended…any suggested text?

4.b Will it matter if the height that the room is sunken doesn't exceed the measurement of the cut of drywall from the higher floor?

TM response: Enter the HWM of the primary floor…not the sunken portion and let the software calculate the quantities.

4.c Should we think about using a drywall cut measurement instead of a HWM on the highest floor to determine if RDA will be acceptable in homes with a sunken room?

Example 1: A 1 story home with a 8" HWM on the highest part of the first floor, but has a sunken room with a 6" step down. That would be a 14" HWM in the sunken room and would not change how we would address the drywall/ insulation to a minimum 2' cut. RDA would be acceptable in this case.

TM response: Stick to the highest water level

Example 2: A 1 story home with a 19" HWM on the highest part of the first floor, but has a sunken room with a 8" step down. That would be a 27" HWM in the sunken room and would change how we would address the drywall/ insulation in that portion of the home. RDA would not be acceptable in this instance.

TM response: see previous responses…HWM wins.

RDA Line Items

Document reference-**Line Item Descriptions**

RDA	RDA Bottom Board /Insulation, Replace	Use to remove and replace mobile home bottom insulation. A "Bottom board" is the composite material that covers and protects the floor insulation.
RDA	RDA Cabinet, Reinstall	Use for labor charge for removing and reinstalling existing cabinets to allow other work to be completed.
RDA	RDA Clean & Sanitize	Use for surface areas of the home that have been affected by floodwater. Calculate the affected floor area.
RDA	RDA Debris, Remove	Use to address disaster deposited debris and/ or items requiring removal in non-essential areas of the home only (ex. Basement area deemed non-essential).
RDA	RDA Drywall, Replace	Use to remove and replace half-inch drywall and generic baseboard and trim for windows and doors. Includes tape, finish and paint. Use also for all other types of wall materials such as plaster, interior stucco, paneling and ceiling tiles.
RDA	RDA Ductwork, Clean & Sanitize	Use to clean flooded ductwork.
RDA	RDA Door, Exterior, Replace	Use to replace an exterior door.
RDA	RDA Floor Covering, Replace	Use to remove and replace floor covering consisting of carpet, floor tiles, sheet vinyl, laminate or linoleum flooring.

RDA	RDA Insulation, Floor/Ceiling, Replace	Use to remove and replace new ceiling or floor insulation. Use when insulation has been inundated by. Use in conjunction with Drywall replace on ceilings where necessary.
RDA	RDA Insulation, Wall, Replace	Use to remove and replace new wall insulation. Use when insulation has been inundated by floodwaters. Use in conjunction with Drywall replace on exterior walls where necessary.
RDA	RDA Door, Interior, Replace	Use to replace a single hollow core door. Hollow core doors will usually be replaced when exposed to water.
RDA	RDA Light Fixtures, Replace	Use to remove and replace a standard light fixture. Light fixtures that have been inundated will always be replaced.
RDA	RDA Outlets or Switches, Replace	Use to remove and replace electrical outlets or switches that have either been physically damaged or inundated.
RDA	RDA Sink, Reinstall	Use to remove and reinstall a sink to enable repairs to walls, floors, or cabinets.
RDA	RDA Toilet & Tank, Reinstall	Use to remove and reinstall a toilet to enable replacement of damaged wall or floor.
RDA	RDA Main Panel, Clean & Repair	Use this line item for flood damaged main or sub electrical panel boxes.
RDA	RDA Furnace, Clean & Repair	Clean and repair a furnace back to working order usually when the controls have been under water. Use for a forced air furnace, boiler, packaged units, or either component of a heat pump (combined a/c & heat) located on exterior. Damaged exterior or interior components of a heat pump will be addressed as a single unit – regardless if both components are damaged.
RDA	RDA Furnace, Replace	Use to remove and replace a furnace when the inspection clearly shows the unit has been destroyed by disaster. Use the replace line item for a forced air furnace, boiler, packaged units, or either component of a heat pump (combined a/c & heat) located on exterior. Damaged exterior or interior components of a heat pump will be addressed as a single unit – regardless if both components are damaged.
RDA	RDA Central Air Conditioning, Replace	Use to remove and replace the outdoor central air conditioning unit.
RDA	RDA Heater, Baseboard, Replace	Use to remove and replace electric baseboard heater.
RDA	RDA Water Heater, Repair	Use to inspect, test for leaks and repair water heater.

RDA	RDA Water Heater, Replace	Use to remove and replace a water heater.
RDA	RDA Cabinet, Replace	Use to remove and install new base cabinet with countertop.
RDA	RDA Central Air Conditioning, Repair	Use to repair the outdoor central air conditioner unit.
RDA	RDA No Mechanical Damage	Select this item when there are no mechanical damages.

Housing Inspection Services

RG05 Appointment Script

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IF NOT FEMA VERIFIED (Occupancy and/or ownership has red triangle): 2

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Appointment Script-Text or Email 3

Appointment Script-Phone Calls

*Hello, my name is (*your name*) and I'm an inspector with FEMA.*

*I'm calling for (*applicant name*)*

I received a request to do an inspection of your home and I'm calling to schedule a time to do the inspection with you.

1. Schedule Appointment Date and Time
2. And the address I have is ……
3. And you Own/Rent the home
4. When I come to do the inspection I'll need to view your Driver's License or photo ID.

IF NOT FEMA VERIFIED (Occupancy and/or ownership has red triangle):

I'll need to verify your occupancy and/or ownership. To do this I'll need to see your:

For Occupancy, one of the following:

- Utility Bill
- Merchant's statement
- Employer's statement
- Voter Registration
- Landlord

AND:

For Ownership, one of the following:

- Homeowners Insurance
- Property Tax Bill
- Mortgage Payment Book
- Title Number
- Official's Record

5. *What type of damages did you have*?

6. *I assume you have my number on your caller ID?-* OR- *My number is 540-123-4567. Please give me a call or text if your schedule changes and you're unable to keep the appointment, otherwise I'll see you (*Repeat day, date and time of appointment*) Thank you and have a good day!*

Appointment Script-Voicemail

If no answer leave a message:

*Hi, my name is (*your name*) and I'm an inspector with FEMA.*
I received a request to do an inspection of your home and I'm calling to schedule a time that we can meet (may leave a day & time you would like to schedule).
Please give me a call at 540-123-4567. Thank you.

A voicemail can be followed up with a text or email similar-to one of the samples below.

Appointment Script-Text or Email

Example 1:
*Hello, my name is (*your name*), I'm an inspector with FEMA. I received a request to do an inspection for your home due to you registering with FEMA. Please call me at your earliest convenience. Thanks 540-123-4567*

Inspector ID # F000

Example 2:
*Hello, my name is (*your name*), I'm an inspector with FEMA. I received a request to do an inspection for your home and I was trying to contact you to schedule a time we can meet. Please call me at your earliest convenience. Thanks 540-123-4567*

Housing Inspection Services

RG01

FEMA Programs

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Overview

Congress created the Federal Emergency Management Agency (FEMA) in 1979 to coordinate the response to national disasters or emergencies in all 50 states of the United States, it's territories, and tribal governments. The territories include Puerto Rico, the U.S. Virgin Islands, Guam, American Samoa, the Commonwealth of the Northern Mariana Islands, and the Federated States of Micronesia.

FEMA maintains 10 Regional offices to support field operations. Each Regions is responsible for a pre-determined list of states and territories.

Region	Regional office	States and Territories
I	Boston, MA	Connecticut, Maine, Massachusetts, Rhode Island, Vermont, New Hampshire
II	New York, NY	New Jersey, New York, Puerto Rico, U.S. Virgin Islands
III	Philadelphia, PA	Delaware, District of Columbia, Maryland, Pennsylvania, Virginia, West Virginia
IV	Atlanta, GA	Alabama, Florida, Georgia, Kentucky, Mississippi, North Carolina, South Carolina, Tennessee
V	Chicago, IL	Illinois, Indiana, Michigan, Minnesota, Ohio, Wisconsin
VI	Denton, TX	Arkansas, Louisiana, New Mexico, Oklahoma, Texas
VII	Kansas City, MO	Iowa, Kansas, Missouri, Nebraska
VIII	Denver, CO	Colorado, Montana, North Dakota, South Dakota, Utah, Wyoming
X	San Francisco, CA	Arizona, California, Hawaii, Nevada, American Samoa, Commonwealth of Northern Mariana Islands, Federated States of Micronesia, Guam
X	Bothell (Seattle), WA	Alaska, Idaho, Oregon, Washington

The majority of disasters handled by FEMA are natural disasters: floods, hurricanes, tornadoes, earthquakes, wildfires and severe winter storms. FEMA does not get involved unless the disaster results in a federal disaster declaration.

There are three basic assistance programs offered by FEMA to communities affected by disasters:

1. Public Assistance, sometimes called Infrastructure Support, provides assistance to local, state and tribal governments with funds to rebuild damaged public roads and bridges, schools, public buildings, municipal water treatment facilities, and wastewater treatment plants.
2. Individual Assistance provides financial and direct assistance to eligible individuals and households affected by a disaster who have uninsured or under insured necessary expenses and serious needs.
3. Hazard Mitigation provides grants to reduce or eliminate long term risk to people and property from natural disasters. Hazard Mitigation planning is a process used by State, tribal, and local governments to identify risks and vulnerabilities associated with natural disasters and develop mitigation strategies to reduce or eliminate long term risks. Examples are projects to elevate or relocate flood-prone homes, the construction of floodwalls, and the strengthening of buildings to improve earthquake resilience.

   FEMA field inspectors work for the Individual Assistance Division. Their job is to verify disaster-caused damage to applicant homes, including both real and personal property, so that FEMA can determine eligibility for disaster assistance.

Authority

The Robert T. Stafford Disaster Relief and Emergency Assistance Act, as amended (Stafford Act), Public Law 93-288, 42 U.S.C. § 5121 et. Seq., authorizes the President to provide federal assistance when the magnitude of an incident or threatened incident exceeds the affected state, local, territorial, and tribal government capabilities to respond to or recover from.

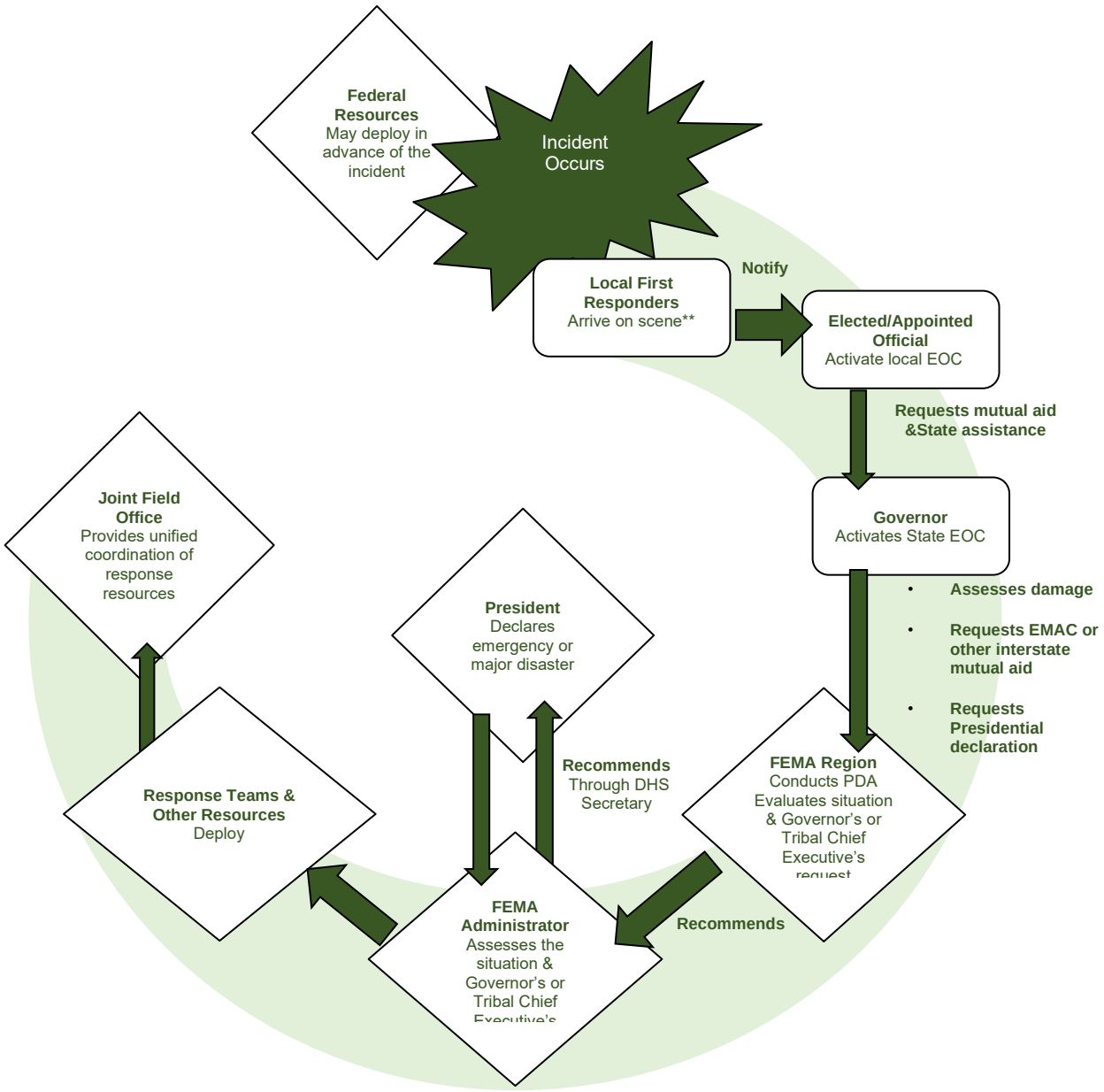
The Disaster Declaration Process

When an incident occurs, or is imminent, and is beyond local, state, territorial, or tribal government capabilities, the governor or tribal chief executive may request assistance from the President of the United States through their Regional FEMA office.

Normally after the request, personnel from the state, FEMA, and other agencies conduct a Preliminary Damage Assessment (PDA). The PDA helps give FEMA an idea of how many people were affected by the disaster, how much damage was done to real and personal property, how much damage occurred to public facilities, and how much damage occurred that was not

covered by insurance. Based on information gathered during the PDA, FEMA can then make a recommendation to the President.

The President makes the final determination, either approving or denying the state's request for assistance.



** Local First Responders are generally local governmental agencies and volunteer groups, including the American Red Cross (ARC).

If the President approves the state's request for assistance, the incident becomes a federally declared disaster and FEMA begins to coordinate disaster response and recovery efforts. The declaration establishes the:

- Designated areas
- Incident period
- Type of incident
- Types of assistance
- Federal cost share

If the President rejects the state's request for assistance, the governor or tribal chief executive can appeal the initial decision through FEMA.

Designated Areas

The declaration designates which counties, or tribal lands are eligible to receive federal assistance (Individual Assistance, Public Assistance, or Hazard Mitigation). FEMA may add additional areas after the initial designation as PDAs continue.

Incident Period

The declaration designates the incident period. The incident period is the span of time during which the federally-declared incident occurs. This period varies in length, depending on the incident.

Type of Incident

The declaration designates the type of incident e.g., hurricane, flood, or earthquake.

For Emergency Declarations, an incident is any instance the President determines warrants supplemental emergency assistance to the state, territorial, and tribal governments to save lives, protect property, public health, and safety, or to lessen or avert the threat of a catastrophe.

For Major Disaster Declarations, an incident is any natural catastrophe (including any hurricane, tornado, storm, high water, wind-driven water, tidal wave, tsunami, earthquake, volcanic eruption, landslide, mudslide, snowstorm, or drought), or, regardless of cause, any fire, flood, or explosion that causes damage of sufficient severity and magnitude in the President's

determination to warrant supplemental assistance to a state, territorial, and tribal government. Major Disaster Declarations may include a combination of incident types.

Types of Assistance

As mentioned previously, the declaration designates the authorized types of federal assistance- these are Public Assistance, Hazard Mitigation, and Individual Assistance.

Individual Assistance (IA) includes non-financial types of assistance, such as:

- Mass Care and Emergency Assistance (MC/EA)
- Crisis Counseling Assistance and Training Program (CCP)
- Disaster Unemployment Assistance (DUA)
- Disaster Legal Services (DLS)
- Disaster Case Management (DCM)
- Individuals and Households Program (IHP)

Federal Cost Share

Some of the types of assistance FEMA provides through the IA programs are subject to a cost share. FEMA provides 100% of federal Housing Assistance costs. Other Needs Assistance (ONA) is subject to a cost share between FEMA and the state, territorial, or tribal government.

Other Information

Disaster Identification

Each federal disaster declaration is given a number and a state abbreviation. For example, DR-4318-AZ designates a disaster declaration in Arizona; DR-4413-AK designates a disaster declaration in Alaska, etc. The numbers are assigned in ascending order, so the higher numbers designate more recent disasters.

Number of States in a Disaster Declaration

Although a major natural disaster, such as a hurricane or flood, will often cause damage in more than one state, each state or territory gets its own federal disaster declaration. An example is Hurricane Irma which resulted in separate Individual Assistance disaster declarations in the U.S. Virgin Islands (DR-4335-VI), Puerto Rico (DR-4336-PR), Florida (DR- 4337-FL), and Georgia (DR-4338-GA).

Individuals and Household Program (IHP) Overview

IHP provides financial assistance and direct services to eligible individuals and households who have uninsured or underinsured necessary expenses and serious needs. IHP is not a substitute for insurance and cannot compensate for all losses caused by a disaster. It is designed to make an applicant's home safe, sanitary, secure and functional, so it presents no disaster-caused hazards to the occupants. It is not designed to restore the home to its pre-disaster condition.

Period of IHP Assistance

IHP Assistance is limited to 18 months following the date of the disaster declaration. The period of assistance begins at the date of the presidential declaration and not the date on which the disaster is designated for IA. The President may, at the state's request, extend the period of assistance due to extraordinary circumstances

Amount of IHP Assistance

IHP assistance can be financial and direct. Financial assistance is money paid directly to eligible individuals and households. The amount of financial assistance that may be awarded is limited and counts towards the IHP maximum award for the disaster. Direct assistance is not payable to the applicant. Direct assistance includes services and resources such as Multi-Family Lease and Repair (MLR), Transportable Temporary Housing Units (TTHUs), Direct Lease, and Permanent Housing Construction (PHC). Direct Housing assistance is not counted toward the IHP maximum award.

The maximum amount of financial assistance provided under a single disaster is adjusted each fiscal year based on the Department of Labor Consumer Price Index. Eligible individuals or households receiving IHP Assistance may not necessarily be awarded the maximum amount of financial assistance for their disaster-caused losses or expenses. Each disaster retains the maximum amount of financial assistance for the fiscal year in which it was declared.

Although minimal damage may cause some inconvenience, it is expected that individuals or households will address those losses without federal assistance. Therefore, FEMA will only provide assistance when the total initial IHP award amount is $50 or more. There is no minimum amount for subsequent awards.

Types of IHP Assistance

Housing Assistance (HA) and Other Needs Assistance (ONA) are the two categories of IHP assistance.

Housing Assistance (HA)

FEMA administers Housing Assistance. Individuals and households may receive more than one type of HA, including a combination of financial assistance and direct assistance. FEMA determines the appropriate types of Housing Assistance for which an individual or household

may be eligible based on disaster-caused loss, access to life-sustaining services, cost-effectiveness, and other factors.

Types of Financial Housing Assistance includes:

- Lodging Expense Reimbursement (LER): Assistance to reimburse for hotels, motels, or other short-term lodging while an applicant is displaced from his or her primary residence. Available to owners and renters.
- Rental Assistance: Financial assistance to rent alternate housing accommodations while an applicant is displaced from his or her primary residence. Available to owners and renters.
- Repair: Financial assistance to repair an owner-occupied primary residence, utilities, and residential infrastructure, including privately-owned access routes (i.e., driveways, roads, or bridges) to a safe and sanitary living or functioning condition. Available to owners.
- Replacement: Financial assistance to help replace an owner-occupied primary residence when the residence is destroyed. Available to owners.

Types of Direct Housing Assistance includes:

- Multi-Family Lease and Repair (MLR): This program allows FEMA to enter into lease agreements with owners of multi-family rental property located in disaster areas and make repairs or improvements to provide temporary housing to disaster survivors.
- Transportable Temporary Housing Units (TTHUs): Manufactured homes provided by FEMA and made available to use as temporary housing. Available to owners and renters.
- Permanent or Semi-Permanent Housing Construction (PHC): Home repair and/or construction services provided in insular areas outside the continental United States (U.S.) and in other locations where no alternative housing resources are available; and where types of housing assistance FEMA normally provides, such as Rental Assistance or other forms of direct assistance, are unavailable, infeasible, or not cost-effective. Available to owners.

Other Needs Assistance (ONA)

ONA is generally administrated by FEMA unless the state, territory or tribal government selects a joint option. Individuals and households may receive financial assistance for other disaster-caused expenses and serious needs. The types of ONA are divided into two categories that are either dependent or non-dependent on the individual's or household's ability to secure a U.S. Small Business Administration (SBA) disaster loan. The SBA provides low-interest, long-term

disaster recovery loans to help individuals and households with personal property, transportation, and moving and storage expenses incurred due to a declared disaster.

Non-SBA-dependent types of ONA

May be awarded regardless of the individual's or household's SBA status. This is available to owners and renters and includes assistance for:

- Funeral expenses
- Medical expenses
- Dental expenses
- Childcare expenses
- Critical needs
- Clean and Removal Assistance
- Miscellaneous items such as chainsaws or dehumidifiers purchased or rented after the disaster.

Only individuals or households who do not qualify for a loan from the SBA may be eligible for assistance for the SBA-dependent category. Depending on the state's disaster set-up, SBA-dependent types of ONA may include assistance for:

- Personal Property including:
    - Clothing and bedding
    - Appliances (such as stove, refrigerator, washer, dryer, etc., telephone, television, radio, etc.)
    - Essential furniture (Beds, chairs, tables, etc.)
    - Essential tools (Required to employment or school)
- Transportation (Vehicle repair/replace)
- Moving and Storage

HA and ONA Summary Chart

This chart summarizes the HA and ONA available to disaster victims.

Individuals and Households Program			
Housing Assistance (HA)		**Other Needs Assistance (ONA)**	
Financial Assistance	Direct Assistance	Non-SBA Dependent Financial Assistance FEMA provides assistance for these items without regard to whether a disaster survivor may obtain an SBA loan.	SBA Dependent Financial Assistance The applicant must first apply to the SBA for a loan for these expenses or serious needs.
Temporary Housing Assistance • Lodging Expense Reimbursement • Rental Assistance • Continued Rental Assistance	Multi-Family Lease and Repair	Funeral Expenses	Personal Property
Repair Assistance	Manufactured Housing Units	Medical Expenses	Transportation – Vehicle Repair or Replace
Replacement Assistance	Permanent or Semi-Permanent Housing Construction	Dental Expenses	Moving & Storage
		Childcare Expenses	

	Miscellaneous Other Expenses purchased or rented after disaster	
Maximum amount of financial assistance adjusted every fiscal year.		

Individuals and Household Program (IHP) Eligibility

General IHP Eligibility

These general conditions must be met for an applicant to be eligible to receive IHP assistance:

- The applicant must be a U.S. citizen, non-citizen national, or qualified alien.
- FEMA must be able to verify the applicant's identity.
- Losses are uninsured or underinsured disaster-caused expenses or serious needs. Other forms of disaster assistance received cannot meet their disaster-caused needs.
- Losses are caused by a declared disaster. FEMA uses multiple methods to verify these losses, including onsite inspections, geospatial inspections and documentation.
- Occupancy, for all types of HA and some types of ONA.
- Ownership, for home repairs or replacement.

Delivering Individuals and Households Program (IHP) Assistance

Methods to Apply for FEMA IHP Assistance

FEMA offers disaster survivors multiple options to apply for IHP Assistance and to receive updates on their application.

The survivor may call FEMA's toll-free number to register for assistance, register using the internet via the FEMA web site, register at a shelter, with a FEMA field inspector, through a Mobile Registration Intake Center (MRIC), or with a Disaster Survivor Assistance (DSA) team member.

The toll-free registration number is 1-800-621-FEMA (3362). It is widely publicized in the media in the disaster area as soon as a federal declaration occurs.

Registration Period

The standard registration period is 60 days from the date the President declares an Individual Assistance disaster for the designated area. This initial registration period can be extended in certain circumstances.

After the end of the initial (or extended) registration period, FEMA will accept late registrations for an additional 60 days providing the applicant writes a letter detailing the extenuating circumstances that prevented them from applying in a timely manner.

Information Needed to Complete Application

FEMA requires the following information from applicants for disaster assistance to complete their application:

- Name and SSN of the primary applicant
- Name and SSN of secondary/co-applicant (encouraged but not required)
- Current mailing address
- The address where the damage occurred
- Names of all occupants of the pre-disaster household
- Current contact information
- Types of insurance held by the household
- Household pre-disaster annual gross income
- Losses caused by the disaster (if known)
- Banking information for direct deposit of financial assistance, if requested

Verifying Losses

Survivors who register with FEMA and indicate to have suffered disaster-caused damage to their uninsured home or privately-owned access roads or bridge are referred for inspections.

FEMA may use in-house inspectors or contractor inspectors to perform disaster housing inspections. The inspectors receive the limited information of the applications requiring inspection.

The inspectors download the inspection information to their tablet, they then make appointments with the applicants to perform onsite inspections of the damaged property.

The inspectors upload completed inspections to the host computers on a daily basis. The host operators review the completed inspections for accuracy and may communicate the inspection back to FEMA for final review.

When onsite inspections cannot be conducted safely and effectively, FEMA may use geospatial inspections to help verify loss and expedite some types of assistance until an onsite inspection becomes feasible. FEMA may also review and verify documentation such as medical bills or auto repair receipts for disaster-caused losses that cannot be verified through onsite or geospatial inspections.

When onsite inspections cannot be conducted safely and effectively, FEMA may use geospatial inspections to help verify loss and deliver some types of assistance until onsite inspections become feasible. FEMA may also review and verify documentation such as medical bills or auto repair receipts for disaster-caused losses that cannot be verified through onsite or geospatial inspections.

Field inspector duties and responsibilities will be covered in greater detail later in this course.

From Registration to Inspection to Assistance Payment

Applicant registers for Disaster Assistance

↓

Applicants needing Inspections routed by NEMIS to Inspection Contractor Host

↓

Contractor Host assigns Inspections to Field Inspectors

↓

Field Inspectors download Inspections to handheld computers and contact Applicants to make appointments

↓

Field Inspectors perform Inspections

↓

Field Inspectors upload completed Inspections back to Contractor Host

↓

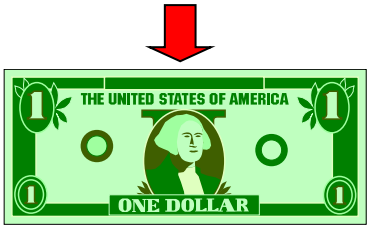
Contractor Host reviews completed Inspections and sends them to FEMA

↓

FEMA makes Eligibility Determination for Applicant

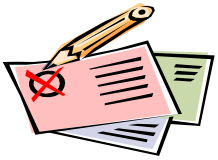
↓ ↓

Eligible



Check or EFT sent to Applicant

Not Eligible



Denial letter sent to Applicant

The applicant can appeal the initial decision. Benefits processing staff determines if an appeal inspection is necessary.

Other Agencies

U.S. Small Business Administration (SBA)

Individual and Business Loans

FEMA collaborates with the SBA in determining applicant eligibility for some types of ONA. The Small Business Act authorizes the SBA to provide low-interest disaster loans to applicants who have sustained damage in a disaster. An applicant must meet a minimum income test, which the SBA establishes, to be considered for a loan. FEMA refers the applicant's information to SBA if the applicant's income meets SBA minimum guidelines. FEMA and SBA coordinate to ensure that ONA and SBA disaster loans do not cause a duplication of benefits for the same type of assistance.

The SBA also has a loan program available to business owners who have suffered physical damage and/or economic injury (i.e., loss of income) to their businesses as a result of a federally declared disaster.

Disaster victims who apply for SBA loans must demonstrate the ability to repay a loan sufficient to cover their damages in the disaster. If the SBA is not satisfied that an applicant will be able to repay a loan large enough to cover his or her damage, the SBA will refer that applicant to ONA for possible grant assistance.

An applicant must fill out the SBA loan application online or at the DRC and be denied for the loan before that applicant will be referred to ONA.

SBA Referral

SBA referrals come through FEMA. When for the applicant register for FEMA assistance, one of the questions asked is their approximate household income and number of dependents. If the

applicant's household income/dependent ratio falls below the SBA income test threshold, the applicant will automatically be referred to ONA for possible assistance. If the household income/dependent ratio is above that threshold, the applicant will be referred to the SBA. Once referred to the SBA, the applicant must complete the loan application before being referred to ONA.

Inspections

At this time the SBA performs their own inspections.

SBA Offices

SBA Headquarters is located in Washington, D.C. Like FEMA and many other federal agencies, the SBA also maintains regional offices around the country. The SBA also maintains staff at the JFO and at Disaster Recovery Centers (DRCs) in a disaster area.

American Red Cross (ARC)

First Responder

The American Red Cross is the first responder when a federal disaster declaration occurs. The ARC operates under a congressional charter and is supported with public money. It sets up centers in accessible locations within the disaster area where disaster victims can obtain essential emergency items and services such as food, clothing, shelter, transportation, medicines, and medical care.

ARC Referral

Disaster victims with emergency needs are referred to the American Red Cross when they register for assistance with FEMA. At that time, they are given the toll-free telephone number for the American Red Cross center in their area and a brief explanation of the services the ARC provides.

The phone numbers and locations of the American Red Cross centers are publicized in the local media.

Other Volunteer Organizations

Many national, regional, and local volunteer organizations are typically involved in a disaster relief effort. The Salvation Army frequently participates in disaster relief efforts by providing food and clothing to disaster victims. Many national and local charitable and church organizations also play a large role in the disaster relief effort.

Other Disaster Referrals

Based on their age, emotional stability, and a range of other factors, disaster victims often have needs that can be met by other agencies. These include Crisis Counseling, Aging Services, Legal Services, and Disaster Unemployment Assistance.

Field Inspector Agency Contact Information

The numbers for these agencies are usually available at the JFO through the Inspection Services Coordinator (ISC). Most can be located in the phone book, by calling the local government office, or calling FEMA's toll-free Helpline (1-800-621-FEMA).

Crisis Counseling

Crisis Counseling is usually provided by the area Social Services department. It can be helpful for elderly and distraught applicants having difficulty coping with the disaster.

Aging Services

These agencies, located in many communities, are staffed by a combination of professional employees and volunteers. They provide meals on wheels for shut-ins and a variety of other services to the elderly. They are accustomed to dealing with senior citizens and the particular problems that they face.

Legal Services

Legal Services organizations can be found in most parts of the country. They consist of lawyers who volunteer their time to help people with low incomes obtain legal advice and legal representation. These organizations can be particularly helpful to renters who are having problems with their landlords after a disaster.

Disaster Unemployment Assistance

Disaster Unemployment Assistance (DUA) is a program run by the state Employment Office to provide monetary assistance to people who lose time at work or become unemployed because of a disaster. The program is jointly funded by the state and federal government.

Tax Assistance

Tax Assistance is provided by the applicant's state Department of Taxation and by the Internal Revenue Service. They can advise applicants whether or not they can deduct their disaster-caused losses from their state and federal income taxes.

State Insurance Commission

The State Insurance Commission can help disaster victims resolve disputes with their insurance companies.

U.S. Department of Agriculture

The U.S. Department of Agriculture, which has offices in most towns and cities, has grant and loan programs available to help commercial farmers who have suffered physical and/or economic losses in a federally declared disaster.

Fraud Hotline

FEMA also maintains a toll-free Fraud Hotline (1-800-323-8603) that applicants can call to report illegal activities such as price-gouging or fraudulent damage claims.

National Response Plan

The National Response Plan outlines the overall federal response to a disaster. A number of federal agencies offer what are called Emergency Support Functions during the disaster recovery period. Specific agencies act as the primary or lead agency for each of these functions. All of this activity is coordinated by FEMA.

Federal Emergency Support resources are grouped under 12 separate functions during a disaster Response and Recovery effort. The chart on the following pages illustrates what these 12 Emergency Support Functions (ESFs) are and which agencies play lead roles in fulfilling these functions.

National Response Plan		
Function	**Responsibility**	**Lead Agency**
ESF-1: Transportation	Provides civilian and military transportation support	Department of Transportation
ESF-2: Communications	Provides telecommunications support	National Communications System
ESF-3: Public Works And Engineering	Restores essential public services and facilities	Army Corps of Engineers and Department of Defense
ESF-4: Fire Fighting	Detects and suppresses wild land, rural, and urban fires	U.S. Forest Service and Department of Agriculture
ESF-5: Information And Planning	Collects, analyzes, and disseminates critical information to facilitate overall federal Response and Recovery operations	Federal Emergency Management Agency (FEMA)

ESF-6: Mass Care	Manages and coordinates food, shelter, and first aid for victims; provides bulk distribution of relief supplies; operates system to assist family reunification	American Red Cross
ESF-7: Resources Support	Provides equipment, materials, supplies, and personnel to federal agencies during Response and Recovery operations	General Services Administration
ESF-8: Health and Medical Services	Provides assistance for public health and medical care needs	Public Health Service and Department of Health and Human Services
ESF-9: Urban Search And Rescue	Locates and extricates disaster victims trapped in collapsed buildings; provides initial medical treatment for those victims	Federal Emergency Management Agency (FEMA)
ESF-10: Hazardous Materials	Supports federal response to actual or potential release of oil and other hazardous materials	Environmental Protection Agency (EPA)

ESF-11: Food	Identifies food needs and ensures that food gets to areas affected by the disaster	Food and Nutrition Service and Department of Agriculture
ESF-12: Energy	Restores power systems and fuel supplies in disaster areas	Department of Energy

Housing Inspection Services

RG03

Inspection Process

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Overview

The great majority of initial housing inspections are done by Contract Inspectors. However, FEMA inspectors – usually referred to as “in-house” inspectors –will often be the “contractor” on small disasters, taking the entire inspection workload. Immediately after a large-scale disaster, FEMA inspectors may be deployed at the very beginning (within days) until the contract inspectors are able to arrive. In-house inspectors can be assigned to do Quality Control inspections as a ride-along, appeal inspections, and initial inspections for disaster victims who do not register until late in a disaster.

FEMA inspectors also are often assigned to do priority inspections. These are inspections that must be done quickly, either because the applicant has a special need or because a Congressman has requested that an applicant receive special attention.

Experienced field inspectors develop their own styles and methods for doing inspections. The important thing is to do an accurate and complete inspection and obtain all the required information from the applicant. Developing a step-by-step pattern or routine helps the inspector to do this and minimizes the chances that something important will be forgotten.

Types of Inspections

Initial Inspections

Inspection Staff

Contract Inspectors assigned to a specific disaster usually do the initial inspections. When there is a large number of disaster registrations and outstanding inspections, FEMA can supplement the field inspector cadre with other trained FEMA agents and staff from other Federal Agencies. FEMA in-house inspectors will often do initial inspections for applicants who register late in the disaster or have an inspection assigned to them after the contract inspectors have been released from the disaster.

What to Bring

New field inspectors often do not know what to bring when deployed to a disaster site. A partial list of items a field inspector should bring include:

- Appropriate clothing for the area, season, and damage conditions (i.e. raincoat, waterproof boots, gloves, etc.)
- Flashlight for dark areas, basements, etc.
- Tape measure or electronic measuring devise
- Android tablet (issued)
- Notepad and pencils
- Paper inspection forms (in event of Tablet failure)
- FEMA ID badge
- FEMA phone number: 800-621-3362 (FEMA)
- A copy of the Inspection Guidelines for the disaster you are working
- ACE 4 User Guide and Frequently Provided Guidance (FPG)

See “Traveling to the Field” for more information.

Assignments

Inspections are assigned to individual inspectors and downloaded to the inspectors’ Tablets. In the case of an initial inspection, the inspector will receive basic information about the applicant that was recorded when the applicant registered for assistance and through an external contractor database. This includes, but is not limited to, the applicant’s name, email, phone

numbers, address of damaged residence and mailing address, ownership status, occupancy status, and insurance coverage.

The inspector must verify all of the personal information and make any necessary corrections. They must also verify that the applicant is either an owner or renter of the damaged home and was living in the damaged home at the time of the disaster. The inspector must also confirm that the damaged home was the applicant's primary residence. For more information, see the module "Verifying Information with Applicants".

The inspector should also check Comments for additional information and/or special instructions.

The real property and personal property screens will be blank on an initial inspection when it is downloaded to the inspector.

Initial Inspection Times

The time-span between applicant registration and inspection varies by disaster. Normally, it takes between one and seven days. In large disasters, this can be longer.

The time required to complete an inspection, varies based on the cause and amount of damage. However, an experienced inspector, on the average, can do a thorough initial inspection of a damaged home in 30 to 45 minutes.

There is no hard and fast requirement for how quickly an inspection must be completed and returned once it is sent to the Inspection Contractor. However, FEMA asks that the Contractor complete and return all inspections within five (5) days of the inspection issue date, with the exception of the 'No Contacts'. (FCORs have 72 hours after the field inspector receives the inspection assignment to return the inspection.)

Appeal Inspections

Applicants have the right to appeal their initial inspection. An applicant generally appeals for one of two reasons:

1) He or she was denied assistance following the first inspection, or

2) He or she received assistance, but believed the initial award was insufficient.

The Special Processing Unit (SPU) of the Program Management Section (PMS) working with the Task Monitor handle appeal requests. If an applicant's case appears to have merit, an appeal will be granted and a second inspection will be issued.

Both the Contract inspectors and FEMA in-house inspectors do appeal inspections.

Appeal Inspection Procedures

The procedure for an initial inspection and an appeal inspection is the same. The inspector doing an appeal inspection must still verify all applicant information and perform a complete inspection of the home. A full copy of the first inspection will be downloaded to the inspector's Tablet. This enables the inspector to work through the appeal inspection using the first inspection information in the Tablet, and make changes to any line items and add Comments as needed.

Remember, a complete inspection is required. It is not enough just to inspect for damage to the disputed items. Also, don't forget to make the required Comment on the items that were the basis for the applicant's appeal.

Appeal Inspection Times

An experienced inspector can do a thorough initial inspection of a damaged home in 30 to 45 minutes. Appeal inspections may take more or less time based upon the amount of damage and the reason for the appeal.

Priority Inspections

Priority inspections are inspections that FEMA wants done as soon as possible. Inspections are assigned a priority status for various reasons.

Some priority inspections are Congressional inspections – that is, inspections that have been requested by a Congressman or Senator representing the area where the disaster occurred. This occurs when an applicant calls his or her Congressman or Senator and requests FEMA assistance.

In rare cases, FEMA even does Presidential inspections – that is, inspections that have been requested by the President of the United States.

These inspections are given priority over normal inspections, and FEMA asks that they be completed and returned within 24 hours of the time they are initially assigned to the Inspection Contractor. FEMA in-house inspectors also perform priority inspections. Priority cases are estimated to comprise less than 5% of the inspections issued per disaster.

Media Inspections

A media inspection is an inspection where members of the media (usually reporters from local television stations, radio stations, or newspapers) accompany the inspector to the applicant's home and observe the inspection.

Media inspections are arranged through the Public Information Officer at the Joint Field Office (JFO). The Public Information Officer relays a request from the media to the Inspection Services Coordinator (ISC). The ISC usually checks with the Task Monitor and, after having obtained approval from the Contractor and the applicant, OK's the media inspection. The contractor is not required to perform media inspection.

Field inspectors participating in a media inspection **should not talk** directly with members of the media. The Public Information Officer should handle media questions.

A Step-By-Step Guide to Performing an Inspection

Every field inspector has his or her own style for performing an inspection. The chart on the following pages outlines a suggested sequence of events and a general idea of the steps involved. You may choose to do these steps in a different order.

For example, some inspectors prefer to do the exterior inspection first, before going inside the home. Others prefer to do the exterior inspection last because this allows them to take leave of the applicant and depart the premises more easily.

Also, many experienced inspectors will take a notebook into the home along with the Tablet and write down measurements and other damage information in the notebook as well as recording it electronically in the Tablet. If the Tablet fails or a software error occurs, they can reconstruct the inspection information later and re-enter it into the pad.

Complete an Inspection in 25 Steps

25 STEP INSPECTION PROCESS		
Step #	***Task to Perform***	***Additional Information***
1	Download your inspection assignments it ACE.	

25 STEP INSPECTION PROCESS		
Step #	***Task to Perform***	***Additional Information***
2	Call the applicants assigned to you and make appointments for inspections.	• Get clear and complete directions. • Schedule inspections in a logical order. • Tell the applicant what documents you will need to see. • Allow a two-hour window when scheduling to allow for delays.
3	When you arrive, introduce yourself to the applicant and show the applicant your FEMA ID.	• FEMA ID Badge is only to be worn on-duty.
4	Verify the Names, Damaged Home Address, Mailing Address, Telephone Numbers, and E-mail address are correct. (App Info Tab)	• Confirm spellings with emphasis on Names and Mailing Address. • Verify all telephone numbers with emphasis on Current phone. • Note any changes in Comments
5	Confirm the names of household members. (App Info Tab)	• Check spellings.
6	Verify the number of household members. (App Info Tab)	

25 STEP INSPECTION PROCESS		
Step #	***Task to Perform***	***Additional Information***
7	Record how many occupied bedrooms are in the home (App Info Tab)	• See the Inspection Guidelines for instructions.
8	Verify if the applicant is an Owner or a Renter. (Applicant's Relation to Home on Home Info Tab)	
9	Verify applicant's Occupancy /Primary Residence. (Document used to verify on Home Info Tab.)	
10	Record applicant's Home Ownership Verification. (Document used to verify on Home Info Tab.)	
11	Verify status of the Public/Essential utilities. (Home Info Tab)	
12	Verify the applicant's Insurance coverage. (Home Info Tab)	• Record any insurance types not downloaded.

25 STEP INSPECTION PROCESS		
Step #	***Task to Perform***	***Additional Information***
13	Verify if the applicant had any disaster-related expenses for: • Medical • Dental • Funeral • Moving & Storage • Work & Tools (Essential Tools) • Eligible Purchases (Miscellaneous /Other) (Losses/Expenses Tab)	• Yes response will prompt another question. • Generators are for medical only. • Eligible Purchases are those eligible items purchased or rented after the disaster.
14	Record how many applicant's (if any) need clothing. (Losses/Expenses Tab)	• See Inspection Guidelines for instructions.
15	Do a complete inspection of the interior of the home, going room by room and noting both real property and personal property damage.	• Always remember to address personal property damage (many inspectors forget this).

25 STEP INSPECTION PROCESS		
Step #	***Task to Perform***	***Additional Information***
16	Remember to comment on any items that are out of the ordinary or items requiring Comments in the Inspection Guidelines.	• Lump Sums should be explained in Comments. • Double Damage issues should be addressed in Comments. • If Essential Utilities are out, comment on which utility is out. • If the applicant shows you repair receipts or estimates, note these in Comments.
17	In a flood disaster, note the location and water level (Ex: Basement- 2 ft. 3 in.) in the appropriate field in the Tablet.	• If you can't find a water level in the home, look for debris on trees or fences outside. • You MUST find a HWM or view photos to substantiate damages.
18	Do a complete inspection of the exterior of the home. Take pictures of any damages that will affect the habitability of the dwelling.	• Record the size of the residence in square feet. • Note damage to any personal property as required by the Inspection Guidelines.
19	Record any disaster-related damage to the applicant's automobiles.	• See Inspection Guidelines for instructions.

25 STEP INSPECTION PROCESS		
Step #	***Task to Perform***	***Additional Information***
20	Record any damage to private access roads or bridges maintained by the applicant. Be sure to distinguish if single family or multi-family.	• Review Inspection Guidelines for instructions. • Only record damage to private roads and bridges if the damage is: o Disaster-related. o Sufficient to make the applicant's home inaccessible. o The applicant's only access.
21	Address Habitability of the home. If Yes, Address 4th question.	• The three habitability questions are: • Utilities Out? • Inaccessible? • HRR? And if the answer to any of these is "Yes the fourth question will appear. "Have you moved or are you going to move while repairs are being made?"
22	When you complete your inspection, thank the applicant and return to your car. Cover all the questions in the goodbye checklist.	• Once you are back in your car, drive to a safe location and review your inspection for completeness. The Summary Screens in the Tablet are especially useful for review.

25 STEP INSPECTION PROCESS		
Step #	***Task to Perform***	***Additional Information***
23	After you review the inspection and are satisfied with it, change the Status to complete.	• Communicate your inspections throughout the day.
24	Rename and send your photos to the HOST.	
25	Communicate the completed inspection.	

Housing Inspection Services

RG04

Verifying Information

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Overview

Verification is at the heart of the field inspector's job. When meeting the applicant to do a housing inspection, the inspector first verifies personal information about the applicant and then verifies disaster-related damage to the applicant's real and personal property.

Accurate information is necessary for FEMA to determine the applicant's eligibility for disaster assistance. Inaccurate information, such as a wrong address, phone number or name, can delay the assistance.

General Verification Procedures for Field Inspectors

What Applicant Information is Verified?

When an inspection is assigned, basic information about the applicant is downloaded to the inspector's Tablet. This includes information recorded when the applicant originally registered for assistance and that collected through an external contractor database system.

Inspectors should change incorrect information in the Tablet during the inspection. When the correction made, there will be an automatic Comment populated in the Tablet for you to explain the change.

During the inspection process, inspectors should verify the following information with the applicant.

1. The applicant's name and spelling (view applicant's photo Identification).
2. The physical address and spelling of the applicant's damaged home including the county.
3. The applicant's mailing address and spelling.
4. The applicant's telephone numbers (damaged phone, current phone, cell phone, and alternate phone).
5. The applicant's E-mail address.
6. Verify the names and spelling of the household members.
7. Verify the number of household members.
8. The number of occupied bedrooms in the home. (How many bedrooms are used nightly?)
9. The applicant's relation to the home - Owner or Renter.
10. The applicant's occupancy – primary residence status. (Document was used as verification.)
11. Document was used to verify Home Ownership

12. The status of the essential utilities.
13. The applicant's insurance coverage. (What coverage does the applicant have?)
14. The applicant's disaster-related unmet needs (medical, dental, funeral, moving and storage expenses, work and tools/essential tools, eligible purchases/miscellaneous other items, vehicles).
15. The number of household members (if any) who need clothing.
16. Verify the home is located in a designated area.
17. Verify the damages occurred during the incident period.

Verifying Ownership and Occupancy Status

Ownership and Occupancy must be verified before assistance is available through certain categories of the Individuals and Households Program (IHP). Home Repair and Home Replacement assistance is available only to owners who occupy (live in) their home. Renters will not receive repair/replacement money even if they occupy the home at the time of the disaster. On the other hand, while Rental Assistance does not have an ownership requirement, there is an occupancy requirement. If an owner or a renter is displaced from their home because of the disaster, each will be considered for Rental Assistance.

Likewise, the Small Business Administration (SBA) loan program uses ownership and occupancy as some of their loan criteria. A homeowner may be eligible for a SBA loan to repair or replace their disaster-damaged home. Renters and owners can be eligible for SBA loans to repair or replace personal property (furniture, major appliances, clothing, etc.) or vehicles damaged in a disaster.

FEMA's Definition of Owner

To qualify as an owner, an applicant for FEMA assistance must meet one of the following three definitions:

1. The applicant is the legal owner. (Example: the deed to the property is in the applicant's name.);
2. The applicant does not hold the title to the property and pays no rent, however they are responsible for the payment of taxes and/or maintenance of the property. (Example: a family member is given a house by a parent with the agreement that the family member will pay the property taxes and/or any repair bills necessary to keep up the property.);
3. The applicant has lifetime occupancy rights to the property, although someone else holds formal title. (Example: An elderly woman is given a home to live in by her

children and a legal agreement is drawn up giving the woman the right to stay in the house until her death. The children hold title, but their mother has lifetime occupancy rights.)

Acceptable Ownership Documentation

Documents provided to show ownership must be in the applicant's or co-applicants name, and reflect the address shown in the "applicant info" screen.

Documentation to Verify Ownership	
Document and Description	***Acceptable Document Date***
Deed or Official Record: Original deed or deed of trust to the property listing the applicant as the legal owner.	Deed must be current/effective during the disaster incident period.
Mortgage documentation: Mortgage statement or escrow analysis.	The most recent mortgage statements available should be used (within 3 months of the disaster incident period) and escrow documents should be from the last quarter.
Real property insurance document, bill or payment record, structural instance documentation. Real property are the buildings or other structures permanently attached to the land as well as the land itself.	Current and/or effective during the disaster incident period.
Property tax receipt or property tax bill Manufactured home certificate of title Real Estate Provision Contract for Deed Land Installment Contract Quitclaim Deed Bill of Sale or Bond for Title	Current and/or effective during the disaster incident period.

Will naming the applicant as the heir to the property and a death certificate	

Ownership Verified by External Contractor

FEMA obtains ownership verifications through an external contractor database system. These verifications are reliable and can be used in the inspection process in place of traditional verification methods. These verifications are visible to the inspector in the ACE software and are disaster specific in use.

If a red hazard triangle *is* present in the Home Ownership Verification box, FEMA has **NOT** successfully obtained verification of ownership. In this situation, the inspector will follow the normal protocol for verifying ownership.

If a red hazard triangle *is not* present in the Home Ownership Verification box, FEMA **HAS** successfully obtained verification of ownership. In this situation, the inspector will not need to view documentation for ownership. The inspector will select "Official's Record" and comment "Ownership verification obtained by FEMA"

If Ownership cannot be Verified

Inspector will attempt verification by contacting the local Tax Office by phone or online. If verification is still not possible, click the box as "not verified" and a comment is required noting all methods used to verify.

Complete the inspection as normal.

Occupancy

FEMA may assist with repair damages to eligible owners whose primary residence has been damaged in a disaster, not for secondary residences, vacation homes, or unused residences. Occupied at the time of the disaster does not mean the occupants were actually inside the home when the disaster struck. They may have been on vacation.

Definition of Primary Residence

A primary residence means a dwelling where the applicant lives during the major portion (6 months or longer) of the year. In most cases, this will be the address where the applicant is registered to vote and where he or she files their federal income tax return.

If Occupancy or Primary Residence cannot be Verified

The easiest way to verify that the home is the applicant's primary residence is to check with the landlord or with the utility company and ask if the applicant has lived there at least most of the year. Note the name, title, and phone number of the person verifying occupancy in Comments.

If occupancy or primary residence still cannot be verified, complete the inspection as normal. A comment is required noting all methods used to verify.

If the inspector has doubts, he will make a comment about a possible NPR (Not Primary Residence).

Acceptable Occupancy Documentation

Documents provided to show occupancy must be in the applicant's or co-applicants name, and reflect the address shown in the "applicant info" screen.

Documentation to Verify Occupancy	
Document and Description	***Acceptable Document Dates***
Utility Bills: Electric, gas, oil, trash, water/ sewer bills that reflect the name of the applicant or co-applicant and the residence address.	Utility bills must be dated within 3 months prior to the incident period.
Merchant's Statement: Bank or credit card statement, phone bill, cable/satellite bill, etc.	Merchant statements must be dated within 3 months prior to the incident period.
Employer's Statement: Pay stubs and similar documents linking the applicant to the damaged residence.	Employer's statements must be dated within 3 months prior to the incident period.
Driver's license, state-issued ID card, voter registration card.	These documents must be current (not expired) at the time of the disaster.

Occupancy Verified by External Contractor

FEMA obtains occupancy verifications through an external contractor database system. These verifications are reliable and can be used in the inspection process in place of traditional verification methods. These verifications are visible to the inspector in the ACE software.

If a red hazard triangle is present in the Primary Residence Verification box, FEMA has not successfully obtained verification of occupancy. In this situation, the inspector will follow the normal protocol for verifying occupancy.

If a red hazard triangle is not present in the Primary Residence Verification box, FEMA has successfully obtained verification of occupancy. In this situation, the inspector will not need to view documentation for occupancy, and will select "Merchant's Statement" and comment

"Occupancy verification obtained by FEMA". In this situation it is critical the inspector follow the requirement of verbally confirming with the applicant that the home is their primary residence.

Verifying Insurance Coverage

Insurance and Duplication of Benefits

The law prohibits FEMA from providing disaster assistance to anyone who has insurance that will cover the damage in question. This is a duplication of benefits.

For example, consider Mr. John Doe, whose home received only wind/rain damage from the recent severe storms disaster. Mr. Doe has a Homeowner's policy on his home. Because Homeowner's policies cover wind and rain damage, FEMA cannot help Mr. Doe with home repairs until he settles with this insurance company. Once Mr. Doe submits his insurance settlement or denial, FEMA will review the documents may issue the file for an inspection.

What if Mr. Doe's home received flood damage along with the wind/rain damage? Because homeowner's insurance does not cover flood losses, the home would be issued for inspection to document the damages from both causes. The ACE software on the inspection Tablet allows the inspector to assign a cause of damage for each individual repair line item. You simply associate a specific cause of damage (flood, rain/wind driven rain, sewage backup, etc.) to each damaged item regardless of the kinds of insurance coverage the applicant has. You do not need to record damages in Comments. When the inspection is returned for processing, the flood damages will be paid, as they are not insured, and the wind/rain damages will be held until the insurance settlement or denial is submitted by Mr. Doe.

Flood Insurance

Flood insurance is a separate type of insurance available through the federal government to protect against flood losses. Flood insurance covers both real and personal property. However, it generally does not cover Additional Living Expenses (ALE) or Loss of Use (LOU). Applicants who report flood damages, will have their registrations automatically issued for inspections, regardless of the type of insurance held.

Flood insurance can be purchased from an insurance agent

Mobile Home Insurance

There is a difference between Homeowners insurance and Mobile Home insurance policies. Homeowner's policies are policies issued on fixed-site dwellings, while Mobile Home policies are issued for dwellings that are designed to be moved fairly easily from one site to another.

The two kinds of policies can provide different types of coverage, and FEMA needs to know what those coverages are in order to avoid duplication of benefits.

Some owners of mobile homes have Homeowner's Insurance policies instead of Mobile Home policies. This is often true for those mobile homes that have been "permanently" seated on block or concrete foundations.

Verifying Automobile Damage

The IHP ONA and the SBA loan program can provide funds to eligible applicants to repair or replace vehicles. The provision for eligibility is that the damage to the vehicle was disaster-related, currently registered, complies with state insurance requirements, and that the applicant does not have insurance that covers the damage (comprehensive automobile insurance).

If the vehicle is available, inspectors will verify vehicle damage during the home inspection process. At the current time, inspections are not being issued for vehicle only registrations. Those will be processed by submitted documentation.

Verifying Double Damages

What are Double Damages?

Double Damages refers to cases where applicants for assistance in a current federal disaster may have had damage to their homes in a previous federal disaster or another event not declared but outside the incident period as well. An example would be an applicant who sustained damages from two hurricanes three weeks apart.

The Inspection Guidelines established at the beginning of each disaster declaration usually alert the inspector to particular counties where Double Damage cases may occur. The Guidelines also tell the inspector the proper way to record damages in these cases, including the proper information to put in Comments.

Double Damages and the Inspection Process

FEMA has to be careful not to pay an eligible applicant for the same repairs twice if the applicant has not yet made repairs to items damaged and paid for by FEMA in the first disaster when the second disaster occurs. If, on the other hand, the homeowner has made the repairs and the same items are damaged in the second disaster, the homeowner could be eligible for assistance to repair the items again.

The key question the inspector must ask in Double Damages cases is: Did the applicant complete repairs to items damaged in the first disaster before the second disaster damaged those items again? If the answer is yes, the applicant may be eligible for additional repair

money for those items. If the answer is no, the applicant will not be eligible for additional repair money for those items.

For example: A homeowner suffers damage to drywall and flooring during a spring flood disaster. His home is inspected and he receives IHP Home Repair to replace the drywall and flooring. However, before he gets around to making the repairs, a second flood damages his home. He is not eligible for additional money to repair the drywall and flooring damaged in the first disaster because he had not yet made the repairs. He would only be eligible for funds for any additional damage that occurred as a result of the second disaster.

Housing Inspection Services

RG07

Common Disaster Damages and Measurements

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Overview

The different disaster types are defined in the first table of this module. Please note that there may be other types listed under the main heading. For instance, Mudslide would be recorded by an inspector as Flood.

Specific "Cause of Damage" types, such as flood, hurricane, tornado, and earthquake, produce a somewhat predictable set of common disaster-related damages. The charts are provided as a guide only, and outline damages that are common and *may* occur.

Every disaster, and in fact, every inspection, will be different. Some disaster- related damages will be extensive, requiring the inspector to record many different line items; others will require less.

Again, the charts that follow are provided as a guide, *not* as an all-inclusive list.

Finally, typical measurements used by inspectors are discussed in the last section. These include linear feet, square feet and cubic yards. A chart of basic multipliers is included to aid inspectors in determining the exact amount of damage to record.

Disaster Damage Types Defined

Disaster Type Definitions	
Damage Type	**Definition**
Earthquake	• Select if damages were caused by the shaking of the earth's crust caused by changes far beneath the earth's surface. • Aftershocks are also considered earthquake activity.
Fire / Lava Flow / Ash	Select if damages were caused by fire, smoke, soot, lava flow or ash.
Flood	• Select if damages were caused by a partial or complete submersion of normally dry areas caused by a water source originating outside. The flood source may be: o Overflow of inland/tidal waters o Rapid accumulation of rainwater on/in the soil o Ocean waves directly striking property • Also select this box if the damage resulted from mudslide, mudflow, and/or landslide (caused by rising water or ground saturation).

Hail / Rain / Wind Driven Rain	Select if damages were caused by hail, rain or wind driven rain. This includes damages resulting from rain blowing in or around doors/windows and under roofing.
Ice / Snow	Select if damages were caused by the presence or buildup of ice or snow. This includes damages occurring when tree limbs break under the buildup of ice/snow causing damages to the home or personal property.
Power Surge / Lightning	Select if damages were caused by a Power Surge or Lightning strike.
Seepage	Select if damages were caused by water-saturated ground surrounding a structure (usually a basement). Seepage does not require water to rise from the ground up, as in flooding. Water seepage occurs when water-permeated earth makes direct contact with porous building materials, such as concrete blocks, used in foundations and/or basements.
Sewer Backup	Select if damages were caused by an overflow of water and other debris from within a plumbing system.
Tornado / Wind	Select if damages were caused by tornado, hurricane, or straight-line winds. This would include damages caused by flying debris.
Other Damage	**This field is reserved for special use.** • In most cases, you will NOT use this field. • DO NOT select this field for the damages resulting from the following: o Mudflow, mudslide, and/or landslide. These damages are all a result of flooding conditions. Therefore, you should select Flood for this type of damage. o Volcanic eruption. You should select Fire / Lava Flow / Ash for this type of damage.

Flood

Flooding is the most common type of disaster occurring throughout the United States. Flood damage comes from either rising or rushing waters and can include wind and rain damage. Floods can occur with either fresh or salt water. The salinity of the water can cause additional problems. Sewer back up is a common problem with flooding.

<table>
<tr><th colspan="3">Flood Damages</th></tr>
<tr><th>Exterior Repairs</th><th>Interior Repairs</th><th>Other Repairs</th></tr>
<tr><td>Access/Debris:
Debris, Remove
Washout, Fill</td><td>Doors:
Trim & Refit
Replace</td><td>Clean & Sanitize:
All areas of the interior that have been affected with floor water, sewer back-up, or contamination</td></tr>
<tr><td>Foundation
Slab
Piers
Jack and Shore</td><td>Electrical:
Outlets
Switches
Panel Boxes, Replace/Clean
Circuit Breakers, Replace</td><td>General Repairs:
Cabinet, Replace/Reinstall
Pump Out, Basement
Access Steps, Replace</td></tr>
<tr><td>Utility:
Septic Tank, Pump
Sewer Line, Auger
Water Supply, Decontaminate</td><td>Floors
Floor Joist, Replace
Sub Floor, Replace
Floor Covering, Replace
Floor, Sand & Refinish</td><td>Road & Bridge
Repair/Replace</td></tr>
<tr><td>Walls:
Siding and Insulation, Replace</td><td>Heating Systems:
Repair/Replace
Ductwork, Clean & Replace</td><td rowspan="3">Note:
Other Damages Included:
Mudslide damages are considered to be driven by flood events.
Record damages under Flood
Could be large quantities of debris removal to address the mud</td></tr>
<tr><td rowspan="2"></td><td>Plumbing:
Sink
Toilet
Bathtub, Reset/Replace
Water Heater, Repair/Replace</td></tr>
<tr><td>Walls:
Drywall, Replace, Finish</td></tr>
</table>

	Windows: • Repair/Replace	

Tornado

Tornadoes, with their potentially explosive high winds, can wreak havoc throughout a house. Damages are similar to those experienced in other disasters, combining cyclonic winds and intense rains causing extensive roof damage, exterior wall damage, and resultant interior damages.

Tornado Damages		
Exterior Repairs	**Interior Repairs**	**Other Repairs**
Access/Debris: • Debris, Remove • Tree(s), Remove	Doors: • Exterior Door damage	Clean & Sanitize: • Interior room debris, etc.
Exterior Wall: • Siding • Framing	Electrical: • Replace wiring (especially in attic areas) • Light fixtures, etc.	
Roof: • Damage to all phases, Covering, Sheathing, and Framing	Floors • Floor Joist, Replace • Sub Floor, Replace • Floor Covering, Replace • Floor, Sand & Refinish • Floor, Hardwood, Replace	
	Walls: • Interior Complete • Drywall, Replace, Finish	
	Windows: • Repair/Replace	

Hurricane

Hurricanes, primarily impacting coastal areas, bring high wind, rain, and flooding damage. Roofs are particularly impacted. Interior damage on upper floors is primarily caused by exposure to high winds, rain and leakage. Lower floors may experience flood damages from tidal surge.

Hurricane Damages		
Exterior Repairs	**Interior Repairs**	**Other Repairs**
Access/Debris: • Debris, Remove • Tree(s), Remove	Ceilings: • Particularly impacted	Clean & Sanitize: • Wind driven debris • All other damages associated with high winds and storm surge
Electrical: • Power Poles • Service Entrances • Circuit Breakers, etc.	Doors: • Trim & Refit • Replace	
Roof: • Damage to all phases, Covering, Sheathing, and Framing	Electrical: • Replace wiring (especially in attic areas) • Light fixtures, etc.	
	Floors • Floor Joist, Replace • Floor, Sub, Replace • Floor Covering, Replace • Floor, Sand & Refinish • Floor, Hardwood, Replace	
	Walls: • Interior Complete • Drywall, Replace, Finish	
	Windows: • Heavy glass damage to Windows and glass Doors	

Earthquake

Earthquakes are less common than floods in the U.S. but do occur in specific areas and are often widespread and destructive. Damages from earthquakes can vary greatly and repairs may be needed throughout the dwelling. Foundations are often affected.

Earthquake Damages		
Exterior Repairs	**Interior Repairs**	**Other Repairs**
Access/Debris: • Repair/Remove as required	Cabinet: • Reinstall	Clean & Sanitize: • For glass and debris in carpet
Chimney: • Repair/Replace	Doors: • Trim & Refit • Replace	
Foundation • Jack & Re-level • Jack & Shore • Jack & Reset on Foundation • Piers Footings, Repair/Replace • Slab, Replace • Pressure Grout Concrete • Tuck Point	Electrical: • Light fixture, Replace • Others as required	
Roof: • Damage to all phases, Covering, Sheathing, and Framing	Floors: • Repair/Replace	
Utility Connections: • Water • Electric • Sewage • Others as needed	Plumbing: • Sink, Reset/Replace • Toilet, Reset/Replace	

Walls: • Stucco • Masonry • Siding	Walls: • Drywall, Replace, Finish	

Measurements and Calculations

Knowing some basic units of measurement is very helpful in understanding construction and damage assessment. While calculations for construction can get complex, being familiar with measuring fundamentals is valuable. Included here ae some examples that are used frequently.

Linear Foot

A linear foot is used for measuring length. The standard is the 12-inch ruler.

Example: The beam measures eight linear feet.

8 feet

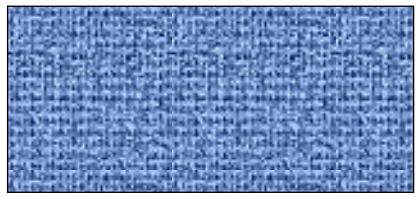
8 Linear feet

Square Foot

A square foot is used for measuring a flat surface such as a wall or floor.

It is calculated by multiplying length X width.

Example: The floor 3 feet wide and 6 feet long. Calculate the square feet.



3 feet

3 X 6 = 18 square feet

6 feet

Cubic Yard

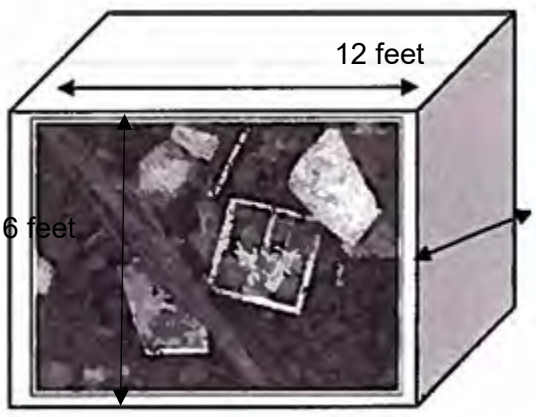
A cubic yard is used for measuring volume. A cubic yard is the FEMA standard for both road fill and debris removal.

It is calculated by multiplying length X width X height.

The volume for 1 cubic yard would measure 3ft x 3ft x 3ft. One cubic yard is equal to 27 cubic feet.

The most accurate way to convert cubic feet to cubic yards it to divide the total number of cubic feet by 27.

For example: Mr. Jones placed the debris left by the flood into a box that was 12 feet long by 6 feet wide by 3 feet tall. How many cubic yards of debris does Mr. Jones have?



12 feet X 6 feet X 3 feet = 216 cubic feet

216 / 27 = 8 cubic yards

Other Line Item Quantities

Square: A Square is commonly used to refer to a quantity of roofing materials such as shingles. A Square is equal to a 10 ft X 10 ft section or 100 square feet.

Each: A unit of measurement used to indicate a quantity of 'one'. Designated for specific line items listed in the inspection tablet.

Basic Multipliers

Basic Multipliers	
Item	**Multiplier**
Ceiling Insulation	= 1 X square feet of damaged area
Drywall	2 feet high = square feet X 0.8 4 feet high = square feet X 1.6 6 feet high = square feet X 2.4 8 feet high = square feet X 3.2 10 feet high = square feet X 4.0
Electric Complete	= square feet of damaged area
Floor Covering: • All covering types (examples: carpet, vinyl, hardwood)	= square feet of damaged room
• Sub floor	= 1 X square feet of damaged area only
Heating Complete	= square feet of damaged area
Outlets and Switches: • Outlets	= 3.5 per 100 square feet of damaged area
• Switches	= 1.5 per 100 square feet of damaged area
• GFI and 220 outlets	Counted separately
Wall Insulation	2 foot high = 2 X linear feet of exterior wall 4 foot high = 4 X linear feet of exterior wall 6 foot high = 6 X linear feet of exterior wall 8 foot high = 8 X linear feet of exterior wall 10 foot high = 10 X linear feet of exterior wall

Housing Inspection Services

RG08

Assessing Damages

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Overview

The ability to assess and record damages caused by a disaster to a home quickly and accurately comes with experience and a reasonably good knowledge of basic construction principles. Most new FEMA inspectors have sufficient construction knowledge when they start the job. Learning what items FEMA addresses and how to record these items properly in ACE takes some practice.

Both Contract inspectors and FEMA inspectors are given a copy of the ACE User Guide when they go to the field to do housing inspections. This item provides step-by-step instructions for recording damage in ACE.

ACE contains Help screens that provide you with additional information. These Help screens include detailed descriptions of the repair line items, along with guidance on how to fill out required information fields in ACE. For example, if you are unsure of how to verify whether an applicant is an owner or renter, you can touch the circled "?" and a pop-up Help screen that describes FEMA's criteria for ownership status is shown.

Remembering a few general guidelines will put you on the right track to doing a thorough and accurate inspection. FEMA requires that inspectors do a complete inspection of a home, not just the damaged portion. This includes inspecting for personal property damage (furniture, appliances, etc.) in addition to real property damage. Inspections should be done room by room and include both the interior and exterior of the home.

Your comments should be appropriate, clear and concise. Remember to include any unusual circumstances about the inspection that the processing staff may need to know to determine the applicant's eligibility.

The most important call you will make as an inspector is the overall habitability call for the home. This is done after you have completed your inspection of the home and recorded all real and personal property damage. The whole purpose of inspecting a damaged home is to determine whether that home is livable or not.

Ask yourself this question: Is the home safe, sanitary, functional and presents no disaster-related hazards to the occupants? Homes with minor disaster-related damage may still be livable by FEMA standards. FEMA depends on your good judgment in making this determination.

General Guidelines for Inspection a Home

If you are a new FEMA inspector, you will be paired up with an experienced inspector for your first few trips to the field. This will give you the opportunity to observe and learn

proper inspection technique and procedure without the pressure of having to do the inspections on your own.

Once you have done a few inspections yourself, the procedure will come naturally. In the meantime, here are some general guidelines for doing good inspections.

Important Points to Remember

- Always read and follow the instructions in the written ACE User Guide. These guidelines outline the basic procedure to follow for verifying applicant information and recording damage. While the inspection procedure is basically the same from one disaster to the next, each disaster has different characteristics and may call for slight adjustments in the way you are asked to record damage. This will be addressed with disaster-specific Addenda.
- Other useful documents to read include the Inspection Guidelines, Line Item Descriptions, Frequently Provided Guidance, and addendums for each disaster.
- Do inspections only during daylight hours.
- When you arrive to do your inspection, introduce yourself and show the applicant your FEMA identification badge. Tell the applicant that you are there to do a complete inspection and record any damage caused by the disaster to the applicant's home.
- Verify all necessary information with the applicant before you start your actual inspection. Make sure spellings are correct. Make sure addresses and phone numbers are accurate.
- Always inspect every room in the house, whether you're doing an initial inspection or an appeal inspection. An accurate inspection is a complete inspection. Move through the home in a logical way, room-by-room and floor-by-floor, so that you don't forget anything.
- If an applicant won't allow you to inspect a certain room, ask politely a second time. If they still won't allow the inspection, mark room denied in the Special Conditions section, and make a Comment to explain.
- Record all room as they are furnished.
- Record damage to both real and personal property in each room.
- Only record items that you can verify, items that you see clearly, accurately, and completely. Get accurate measurements. Don't estimate. Use your tape measure.

Erroneous measurements result in either excessive or inadequate repair awards to applicants.

- Be aware of hidden damage. Drywall soaked in a flood may have saturated insulation behind it. Foundation walls may have cracks from shifting in a flood or earthquake.
- In flood disasters, always locate and record the water level and the floor where the water level is located. This is always measured on the INTERIOR of the home.
- Remember to record the number of occupied bedrooms. This information is needed when determining essential and non-essential living areas. It is also necessary when determining needs for applicants who qualify for Rental Assistance.
- Don't forget to do an exterior inspection. Find out if the applicant has a well or septic drain field. If so, find out if it was damaged from the disaster.
- Note any unusual circumstances in the Comments field. Keep your Comments brief, to the point, and easy to understand. Remember that someone will have to read and make sense of what you're saying. An inspection tells a story and the Comments help clarify that story.
- Finally, be courteous and empathetic to the applicant. Remember that the applicant may be under extreme stress. Answer any questions you feel comfortable answering.

Lump Sum Line Item

While the line items are fairly comprehensive, they don't cover everything you will encounter when doing a housing inspection. Lump sums are available to address damages that don't have corresponding line items.

A Lump Sum is equivalent to $100. You can award one or more Lump Sums to do repairs for items that don't have specific line items.

For example, there is currently no line item for handicap access ramp "repair". If you estimate that it will cost about $200 to repair a 20-foot wooden ramp damaged in a disaster, you can award 2 Lump Sums.

When you use Lump Sums, an automatic comment will populate. For the handicap ramp example, your Comment would read:

> "LS = repair 20 lf wooden handicap ramp."

Service Call Line Item

The Service Call line item is used when a determination cannot be made to the extent of damages; example-possible foundation damage behind drywall in a basement. This is not normally used by In-House inspectors but should only be used on initial inspections.

Overall Habitability Call

The overall habitability determination is based on three questions:

- Are the Public Utilities out at the time of the inspection?
- Can an inspector get to the home to do an inspection?
- Are habitability repairs required?
- Was the applicant forced to relocate?

A 'Yes" answer to one or more of these questions any one of these three questions indicates that the home is uninhabitable or unlivable.

Let's look at each question.

Utilities Out

Utilities refer to central (public) utilities (electricity, gas, sewer, and water service) supplied by a municipality, not to individual appliances or devices within the applicant's home. If any of these utilities are out in an area where the home is located, mark the "YES" button in the Utilities Out field in ACE. You must also note in Comments which utility is affected.

For example, a power outage in an area means that Essential Utilities (electricity) is not being supplied to the dwelling. In this case the Essential Utilities button should be marked YES.

In another instance, the lack of electrical power caused by the home's damaged electrical panel does not mean that Essential Utilities are out if power is still available to the neighborhood. In this instance, the Essential Utilities button should be marked "NO". If the Utility Company removed a meter for safety reasons, this is not utilities out.

Inaccessible

A determination of "Inaccessible" means the home cannot be accessed safely using traditional or alternate routes to confirm home, private road or bridge damage.

An “Inaccessible” inspection represents an incomplete inspection. Tell the applicant to call FEMA when the home is accessible so that a new inspection can be scheduled. Review the Inspection Guidelines for additional guidance.

Habitability Repairs Required

The inspector must determine if the home needs repairs to make it safe, sanitary and functional. If the answer is “YES” then the habitability is compromised, and the damages make the home unsafe and are beyond the applicant’s ability to repair. If the answer is “NO” then the damages are minor in nature and the home is still in a livable condition; it is still safe, secure and functional.

Forced to Relocate

If a renter has damages to their home such as Building Structure, HVAC, Water Heater (boiler) or Main Electrical Panel Box; or, applicants are being forces out of their home while repairs are being made to the damaged dwelling.

Example: Renter lives on 3rd floor while all structure damage was in basement. Water heater, HVAC and Electrical is in basement with HWM of 8’ feet. “Comment is required”.

Example: (Home Owner) If Roads and Bridges are out to the DD and there is no other way in to the property. This will be a “Forced to Relocate with a required comment.”

Performing Inspections for Owners and Renters

For Owners, all damages to both real and personal property caused by the disaster, including damage already repaired by the owner, will be recorded in the inspection. This policy allows a homeowner to begin repairs before the inspection process without being penalized in their Home Repair assistance.

For Renters, all damages to personal property caused by the disaster will be recorded at the time of the inspection.

The difference is the Habitability call. Habitability for Owners is determined at the time of the disaster. Habitability for Renters is determined at the time of inspection.

For more information, see the Habitability module.

Addressing Damage Not Caused by Disaster

For the purpose of disaster housing inspections, the term “Damage not caused by disaster” will be applied to any real property item that was not damaged by the disaster or the damage occurred outside of the incident period. Field inspectors often refer to this condition as NCD.

For example, an older home has a shingle roof that has not been replaced in many years. The shingles are peeling, blistering and cracking, and there may be some minor leaks as a result. This condition is not recorded because it pre-dates the disaster.

If the damage to the roof (or any other portion of the home with conditions pre-dating the disaster) was substantially worsened by the disaster, the applicant may be eligible for grant money to repair the roof. However, the applicant would only be eligible for money to repair the specific portion of the roof that was made worse by the storm, not the entire roof.

For example, if 60 square feet of shingles on an old and dilapidated 500 square foot roof were torn off during the disaster, record 60 square feet of roof covering in line items.

A Comment is not required in these instances. However, if a Comment is needed to clarify a situation of not recording damage that is claimed by the applicant, the only acceptable comment would be "NCD" and describe the item.

Assessing Damage to Mobile Homes

The inspection procedure for a mobile home is exactly the same as that for a house. However, there are certain line items that are specific to mobile homes. Inspectors should familiarize themselves with these line items and the repair procedures they include.

Assessing Damage for Rental Properties

Owners of rental properties and other businesses must register with FEMA to be referred to the U.S. Small Business Administration (SBA) for possible low-interest disaster loans to cover physical damage and/or economic damage (i.e., loss of income). The SBA conducts their own inspections of these properties to verify the disaster losses. Owners of rental properties are not eligible for FEMA Home Repair assistance for these business properties.

Assessing Damage for Boarders

A boarder must register for disaster assistance with FEMA to receive a separate inspection from the owner. A boarder may be eligible for disaster assistance for his or her damaged Personal Property. If forced to move out while repairs are made, the boarder may also receive Rental Assistance or Lodging Expenses Reimbursement (LER).

If, during an inspection for the owner of the home, you discover that the owner has rented one of the bedrooms to a boarder, refer to the Inspection Guidelines and ACE User Guide for instructions.

Housing Inspection Services

RG12

Habitability

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Overview

Habitability – the livability of a home following a disaster – is a factor to FEMA's Individual Assistance Program. Applicants whose homes are deemed ***uninhabitable*** following a disaster ***may be eligible*** for Housing Assistance. Applicants whose homes are deemed ***habitable*** following a disaster ***will not be eligible*** for Housing Assistance.

This habitability standard for Housing Assistance eligibility, including repair, replacement, or rental assistance, is spelled out in the Robert T. Stafford Disaster Relief and Emergency Assistance Act. It is further defined in the Code of Federal Regulations (CFR 44, Subpart D, Temporary Housing Assistance, Section 206.101), which states that "eligibility for assistance is based on the need created by disaster-related unlivability of a primary residence…"

In determining an applicant's eligibility, FEMA relies on the inspector's reasoned judgment as to whether an applicant's home has been made unlivable by a disaster. The habitability determination is made by the inspector in the ACE program on the inspection Tablet. Answering "Yes" to one or more of the three habitability questions ***Utilities Out, Inaccessible and Habitability Repairs Required*** will result in a pop-up containing the question: "Have you moved or are you going to move while repairs are being made?" If the applicant answers "Yes" to this question, they will be evaluated for Rental Assistance.

Habitability is not, and never will be, an exact science. Inspectors must rely on good judgment and common sense in arriving at a habitability determination for a damaged home. However, there are sound principles that will help an inspector make this decision.

The first is what FEMA commonly refers to as the SAFE, SANITARY AND FUNCTIONAL test. If the home is safe, sanitary and functional and presents no disaster-related hazards to the occupants, it is a livable home. No federal assistance is needed.

Second, even homes that have sustained some damage to what are commonly called habitability items (exterior doors, windows and other items that could affect the home's safety, sanitation or functionality) are not necessarily unlivable homes if the damage is minor.

This chapter provides more details about the habitability policy, along with some examples of damage that do and do not make a home unlivable. It also contains information on how inspectors should address habitability issues in the ACE program.

A Summary of Habitability

FEMA defines a habitable home as one that is SAFE, SANITARY and FUNCTIONAL. It presents no disaster-related hazards to the occupants.

- Safe is defined as:
  - Exterior is structurally sound to include windows, doors and roof,
  - Functioning electricity, gas, heat, plumbing, etc.,
  - Interior is structurally sound to include floors, walls, and ceiling,
  - Access and egress are possible,
  - Septic and sewage are functioning properly, and
  - Wells are functioning.
- Sanitary is defined as free of disaster-related health hazards.
- Functional is defined as capable of operating for the intended purpose.

While there are no absolute rules, certain items will generally affect a home's habitability when damaged in a disaster. Examples include

- Electrical outlets and wiring;
- Exterior doors;
- Damage to roofs, walls, sub-flooring, or foundations that affect a home's structural integrity;
- Damage to a primary heating system; and
- Major damage to a septic or sewage system.

There is a difference between renter's inspections and owner's inspections that are outlined in the guidelines. But the biggest difference is that an owner's damages are recorded from the time of the disaster, and a renter's damages are recorded at the time of the inspection.

A Brief History of Habitability

Using habitability as the determining factor in deciding whether an applicant in a disaster is eligible for Disaster Housing Assistance is not a new concept for FEMA. The habitability of a home damaged in a disaster was long used as the yardstick for eligibility. In the 1980s, when inspections were done on paper and 100% of all inspections were manually reviewed for accuracy, Disaster Housing Assistance was awarded only to applicants whose homes were deemed uninhabitable because of disaster-related damage.

This policy met the standard spelled out in the Robert T. Stafford Disaster Relief and Emergency Assistance Act, the enabling legislation passed by Congress, that authorizes FEMA to provide disaster relief to victims in federally declared disasters such as floods, fires, hurricanes, tornadoes and earthquake. The relevant passage in the Stafford Act, Chapter 408(c), states:

> "In lieu of providing other types of temporary housing after a major disaster, the President is authorized to make expenditures for the purpose of repairing or restoring to habitable condition owner-occupied private residential structures made uninhabitable by a major disaster which are capable of being restored quickly to a habitable condition."

In 1989 two large disasters occurred which prompted FEMA to move away from that policy. The Loma Prieta earthquake in California and Hurricane Hugo on the Atlantic Coast generated a large number of disaster inspections. Because all inspections were manually reviewed at that time, a backlog of applications quickly developed.

That backlog prompted the development of the Automated Construction Estimation (ACE) software for field inspectors, which would allow inspections to be recorded and uploaded electronically. The ACE software required some kind of limit on damage before eligibility for Housing Assistance would kick in. That limit was set at anything over $100 in damage to a home, and this effectively meant that FEMA was no longer using habitability as the determining factor for eligibility. The ACE software was piloted in the early 1990s, and first used in a major disaster during California's Northridge Earthquake disaster (DR-1008) in 1994.

Repair awards made in the Northridge disaster, along with repair awards made in many subsequent disasters, prompted an investigation by the Inspector General's office. That investigation culminated in an Inspector General's report in 1996 stating, "FEMA is not making an overall habitability determination for damaged homes. Instead, it accepts damages over $100 as evidence of an uninhabitable house." The report went on to say that an audit of six different disasters showed that "89 percent of the people who received home repair grants said their homes were livable when they applied for assistance."

As a result of the Inspector General's report, FEMA took steps to restore habitability as the primary determinant in eligibility for Disaster Housing Assistance. A task force chaired by Jack Schuback of Region III was convened in 1997 and issued a series of recommendations. Those recommendations were put into a proposal and sent to FEMA Headquarters for approval. FEMA's Response and Recovery Directorate in Washington, D.C. approved the new habitability policy in April of 1998.

The return of habitability criteria as the primary factor in determining an applicant's eligibility for Housing Assistance means that more money will be available to applicants with serious needs.

Repair Scope of Work

FEMA's scope of work for repairs includes items necessary to return the dwelling to a safe, sanitary and functional condition. All real property disaster-related damages within the scope of work are recorded as repair line items for owners (see basement exceptions) as they appeared immediately following the event, and for renters as they appear at the time of the inspection.

Examples of specific damage that individually may not impact overall habitability.

- **Access and Debris** – One (1) cubic yard of debris removal, or minimal Clean & Sanitize.
- **Floors, Walls, and Ceilings** – Floor Covering Replace, Floor Overlay, Floor Sand and Refinish, and drywall Finish.
    - Note: Drywall that needs replacement or is merely stained but does not present a health or safety issue would not result in an uninhabitable determination.
- **Foundation and Masonry** – Minimal Jack and Re-level, Chimney Cap Replace, and Tuck Point provided the crack does not allow water to infiltrate the dwelling.
- **General** – Cabinet Reinstall, Cabinet Base Replace, Cabinet Vanity Replace, Cabinet Wall Replace, Rain Gutter Replace and Down Spout Replace.
- **Mobile Home** – Skirting Replace, minimal Re-level.
- **Plumbing** – Drain Lines, Rout & Flush when the only symptom is slow drainage.
    - Note: Some line items will never be used exclusively; Tub Reinstall will always be used in conjunction with other line items such as drywall or Sub floor Replace.
- **Utilities** – Sewer Line Auger when the only symptom is slow drainage (e.g., completely blocked lines would result in a Home Unsafe = YES determination).
    - Note: Outhouse Replace would only be considered if it were the primary facility.
- **Windows and Doors** – Door Trim & Refit, Screens Replace, minimal Window Glass Replace, and Storm Door.

Basement Flooding

A basement is defined as an enclosed area of the dwelling where any portion of the exterior wall or concrete floor is below grade.

When the cause of damage is flood, sewer backup or ground saturation/seepage, do not record interior doors, floor covering replacement, drywall **in a basement**, except in rooms that are required for the occupation of the dwelling; this includes occupied bedrooms, a bathroom required for the occupied bedroom, or if the sole kitchen or living room are located in the basement. The foundation, furnace, water heater, main panel and other basement components will still be within the repair scope of work.

If there is a secondary kitchen on the first floor of the damaged dwelling, address all damage in line items. For secondary kitchens located in the basement, use “Debris Remove” (for damaged cabinets, flooring, sheetrock, etc.) to address damaged Real Property that is not to be recorded. This is to address any safety or sanitary hazard.

Overall Habitability Determination Examples

Example 1: The inspector notes that the only damage to the dwelling was a minor stain on the ceiling in a second-floor bedroom. There was no roof damage attributable to the storm.

Determination:

Habitability Repairs Required = No

Reason:

The dwelling is still safe, sanitary and fit to occupy. The minor ceiling stain would not prevent the applicant from living safely in the dwelling.

Example 2: The inspector notes that the only damage to the dwelling was 6 inches of runoff into the unfinished basement. Both the furnace and the water heater required repair, and the basement floors and walls need to be cleaned and sanitized.

Determination:

Habitability Repairs Required = Yes

Reason:

The damages to the water heater and furnace are considered to make the dwelling uninhabitable. Note: By itself, the clean and sanitize in the basement would not necessarily make the dwelling uninhabitable.

Example 3: The inspector notes that several limbs blew off of trees and onto the dwelling, including one large limb that damaged the roof covering, sheathing, and framing. The resulting leak damaged the ceilings of several rooms and also affected several overhead light fixtures.

Determination:

Habitability Repairs Required = Yes

Reason:

Both the physical damages to the roof framing and the safety hazard of the damaged light fixtures make the home unsafe to live in.

Example 4: The floor of an occupied bedroom is slightly out of level due to a small amount of foundation settling. A minimal amount of "Jack and Re-level" will correct the problem.

Determination:

Habitability Repairs Required = No

Reason:

The unleveled floor does not make the dwelling unsafe, unsanitary or unfit to occupy.

Example 5: A dwelling with an unfinished basement receives some amount of seepage during the current disaster event. The basement has a history of water infiltration during any heavy rain, and there are several watermarks of varying heights present. No previous action has been taken by the owner to rectify the problem or make repairs from the pre-disaster water damage. The furnace and water heater are elevated and are unaffected.

Determination:

Habitability Repairs Required = No

Reason:

All damages are not caused by the current disaster. Since water infiltration is an ongoing occurrence and all damages present are a result of previous events; there is no disaster-related damage to be recorded. Even if a 'pump out' was recorded, it would not be itself drive habitability to 'Yes'.

The Inspector: Making Habitability Calls in the ACE4 Tablet

The inspector will make an overall habitability call in the **Home Compromised** field on the Wrap Up tab of the Pen Tablet. Tap on the yellow icon and the software will make one of three habitability recommendations based on responses already entered. Generally, the recommendation is the best one to use.

1. “Yes”, indicating the damages make the home unsafe and are beyond the applicant’s ability to repair.

2. “Unable to Determine”, which means the inspector will make a judgement call or Yes or No.

The inspector will enter a ‘Yes’ or ‘No’ to indicate they either agree or disagree with the recommendation.

Inspecting Roads and Bridges

ROAD/BRIDGE REPAIR ELIGIBILITY

1. Damage is disaster-related
2. Applicant owns or is financially responsible for road or bridge
3. Applicant owns the home served by road or bridge
4. Home affected is applicant's primary residence
5. Road or bridge is damaged to extent that it is not passable
6. Damaged road or bridge is only access to applicant's home

Civil Action No. 5:21-cv-00071
11th Interim Response
009332

SINGLE FAMILY AND MULTI-FAMILY ROAD AND BRIDGE REPAIRS

Two kinds of private access roads and bridges are eligible for FEMA repair grants:

1. **Single Family (one owner)**
2. **Multi-Family (shared access) roads and bridges**

Inspectors use Single Family (SF) line items and Multi-Family (MF) line items to distinguish between the two.

SINGLE FAMILY AND MULTI-FAMILY ROAD AND BRIDGE REPAIRS LIMITS

Max Width for Single Family Road = 10 Feet

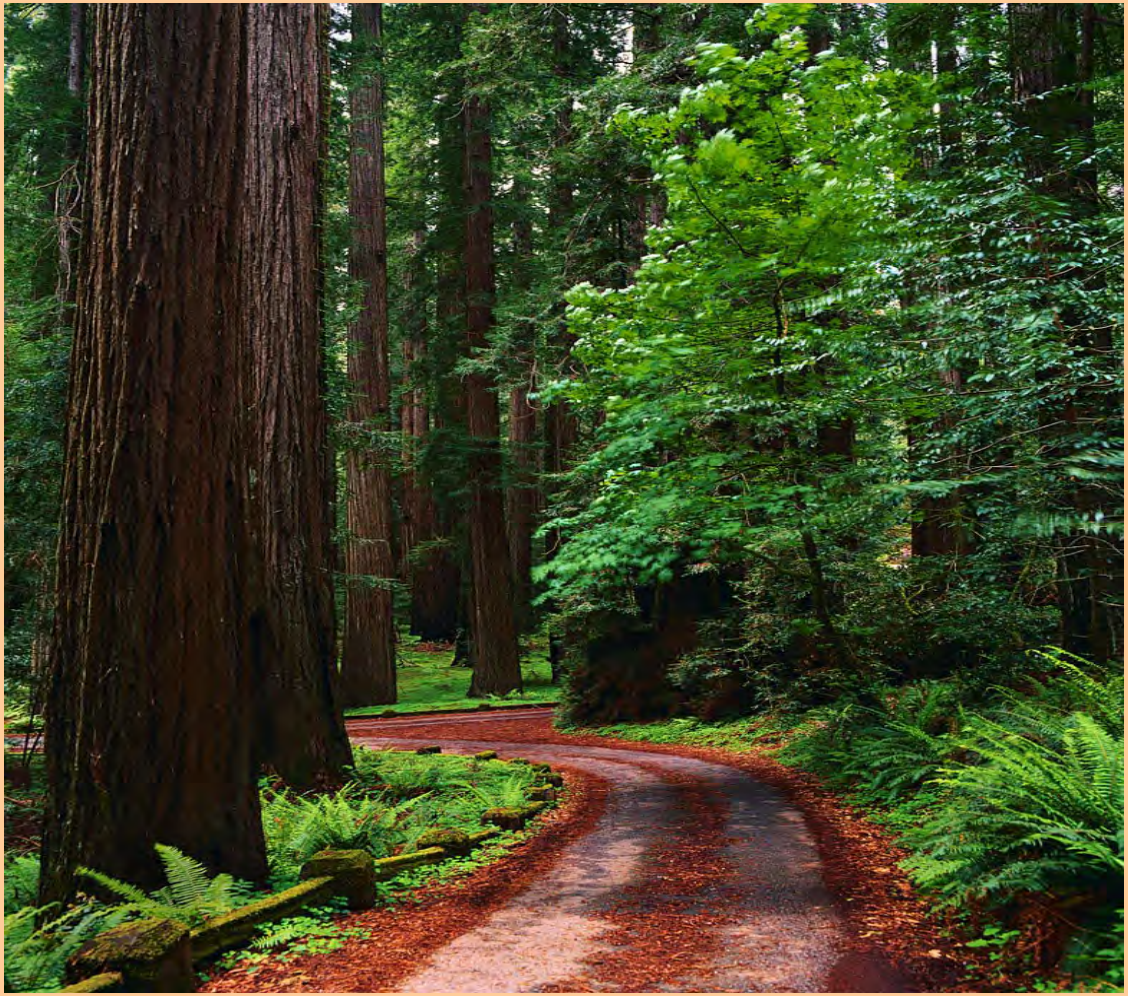
Max Width for Multi-Family Road = 15 Feet

Max Width for a Bridge = 10 Feet

Remember **– Some Bridge Components can be reused.**

Example - Culverts or beams may have just washed down the creek. [Lump Sums are used to recover and reset beams/culverts.]

ROADS



Inspecting Roads and Bridges
Updated: March 2019

ROAD REPAIR LINE ITEMS

1. ROAD FILL - Cubic yards (CY)
2. MACHINE TIME - Hours (HRS)
   (4 hours minimum up to ½ mile; add 1 hour for each additional 1/8 mile)
3. CULVERT 12”-30” REPLACE - Linear Feet (LF)
4. CULVERT 36” + REPLACE - Linear Feet (LF)
5. DEBRIS REMOVE - Cubic Yards (CY)
   Used for removing debris from clogged culvert pipes/blocked road or bridge access
6. LUMP SUM - Each (EA) Used for repairs for which no specific line item exists

Civil Action No. 5:21-cv-00071
11th Interim Response
009336

RECORDING SHARED/MULTI-FAMILY ROAD/BRIDGE DAMAGE

➔ **Use Multi-Family (MF) line items instead of Single-Family line items (SF)**

➔ **Include a Comment listing all applicants who share the road/bridge (and reg ID numbers if available)**

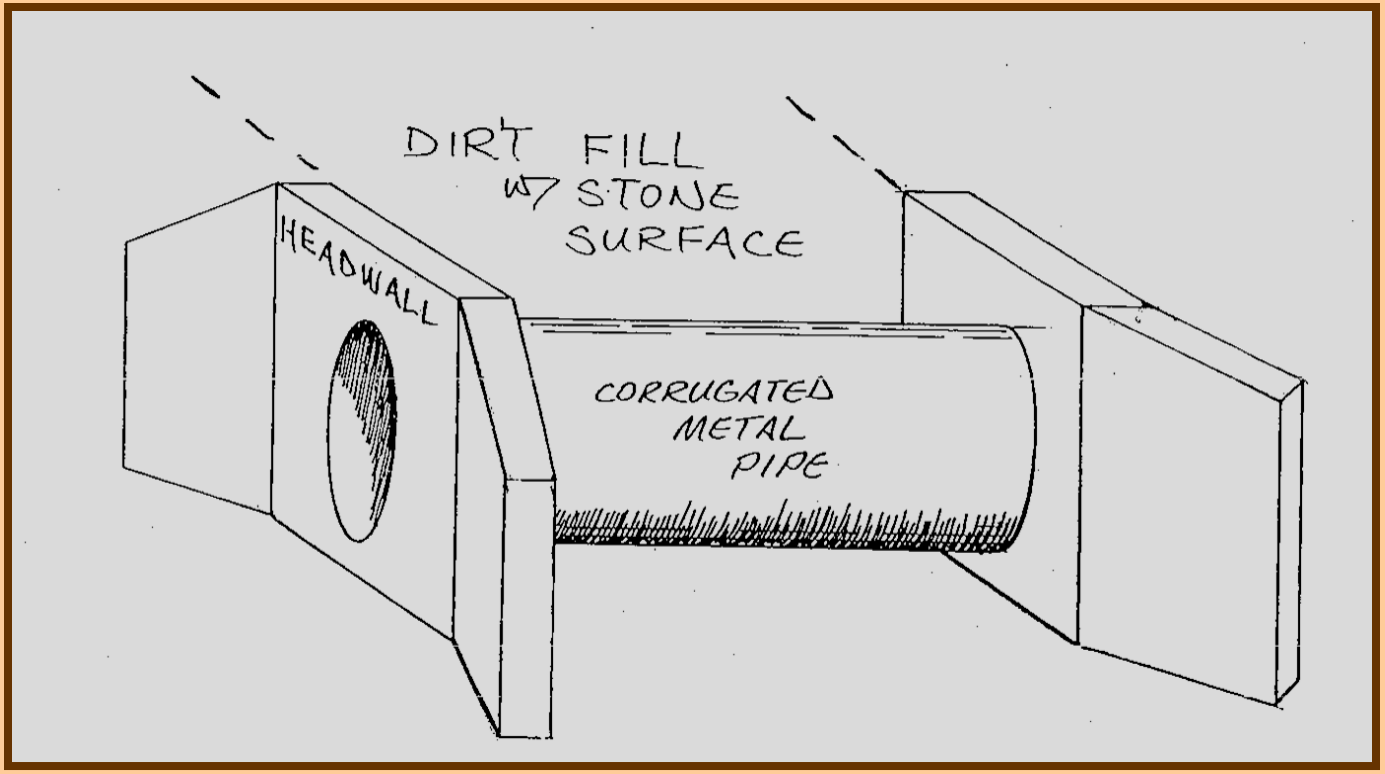
➔ **Include a Comment if the road/bridge is maintained by a Homeowners' Association**

Inspecting Roads and Bridges
Updated: March 2019

Inspecting Roads and Bridges
Updated: March 2019

Inspecting Roads and Bridges
Updated: March 2019

CULVERT DRAINAGE UNDER ROADWAY



Inspecting Roads and Bridges
Updated: March 2019

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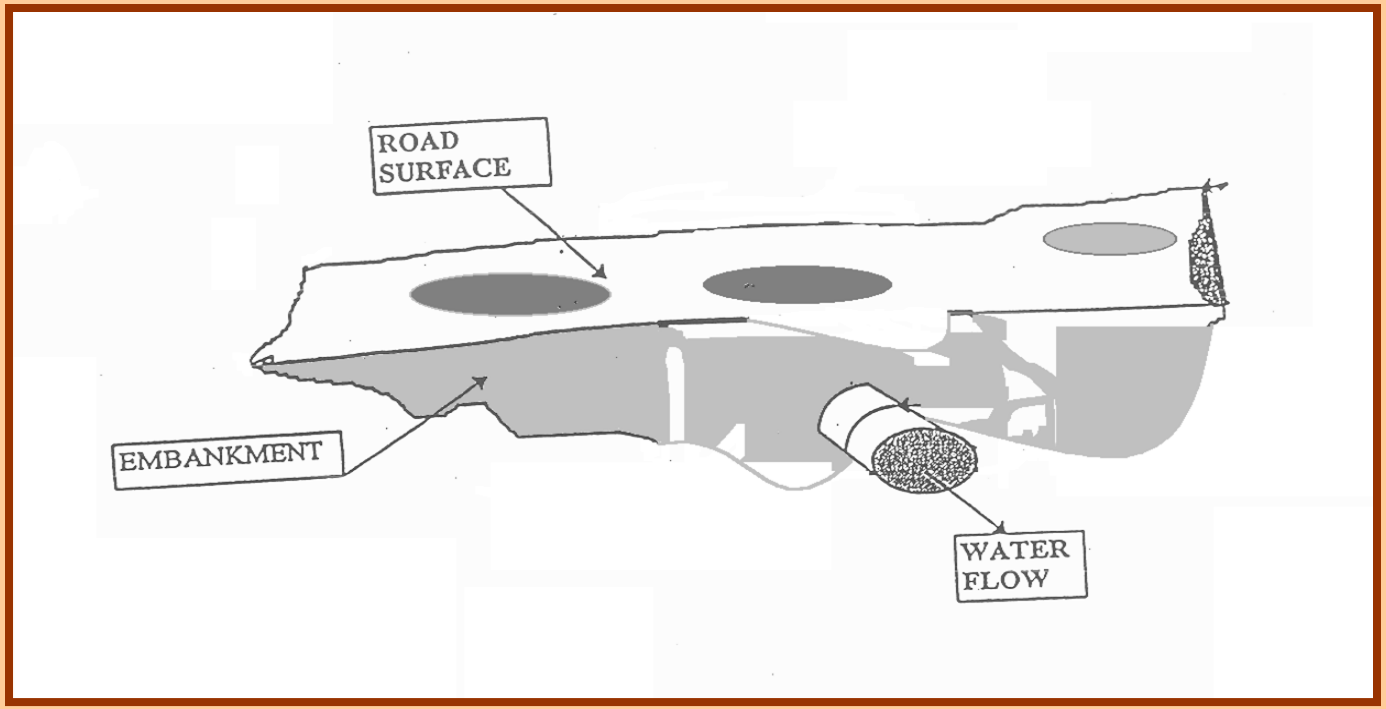
Updated: March 2019

DAMAGE SCENARIO: FLOOD WASHOUT



THE INSPECTOR SEES ROAD DAMAGE:

- Road Washout = 55’ Long X 10’ Wide X 2’ Deep
- Culvert Destroyed = 24’’ Diameter and 15’ Long

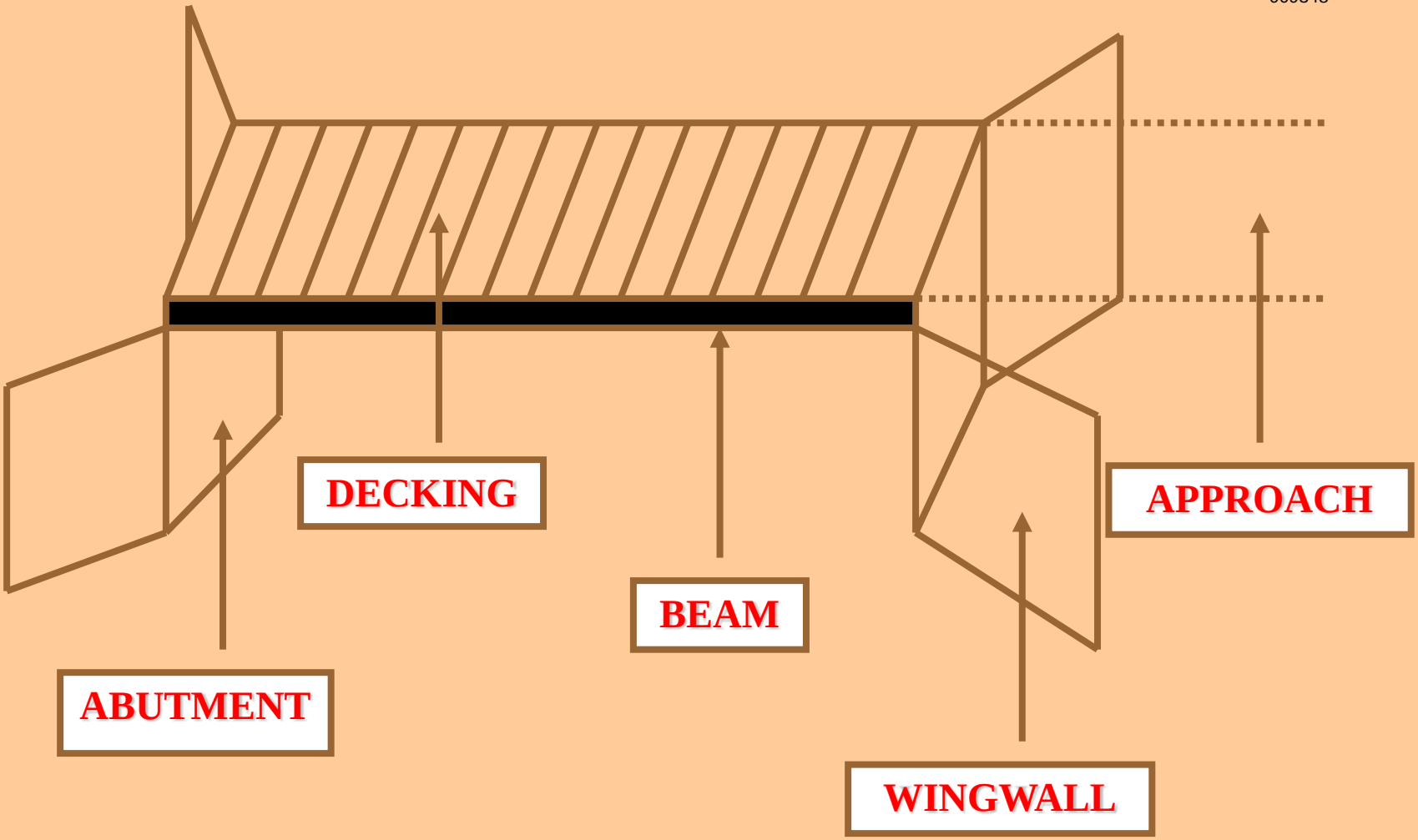
THE INSPECTOR RECORDS:

- ➔ Road Fill = 55X10X2=1100/27=41 Cubic Yards
- ➔ Culvert 12”-30” Replace = 15 Linear Feet
- ➔ Machine Time = 4 Hours

BRIDGES

Three types of bridges:

- BEAM BRIDGE
- CAUSEWAY/LOW-WATER BRIDGE
- FOOT BRIDGE



1. BEAM BRIDGE COMPONENTS

Inspecting Roads and Bridges
Updated: March 2019

BEAM BRIDGE LINE ITEMS

1. Beam, Steel Replace: Linear Feet (LF)
2. Beam, Timber Replace: Linear Feet (LF)
3. Decking Replace: Square Feet (SF)
4. Abutment on Shore: Square Feet (SF)
5. Abutment in Water: Square Feet (SF)
6. Wingwall Replace: Square Feet (SF)
7. Lump Sum: Each (EA)

Note: Inspectors also use Road Fill and Machine Time to cover needed repairs to bridge approaches.

Inspecting Roads and Bridges
Updated: March 2019

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Updated: March 2019

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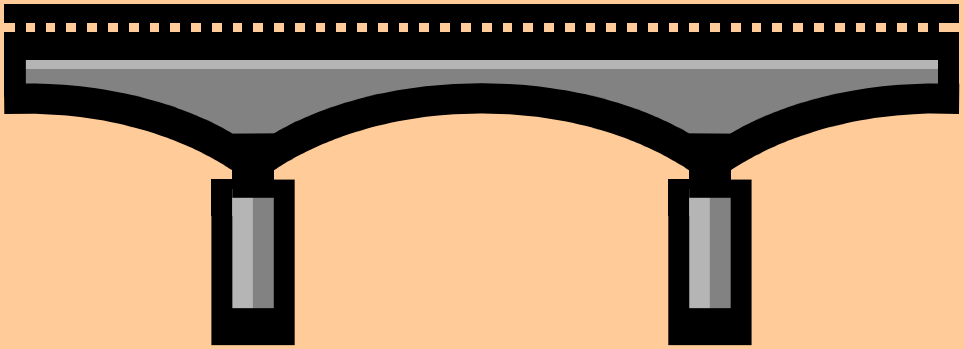
Updated: March 2019

DAMAGE SCENARIO: FLOOD WASHOUT

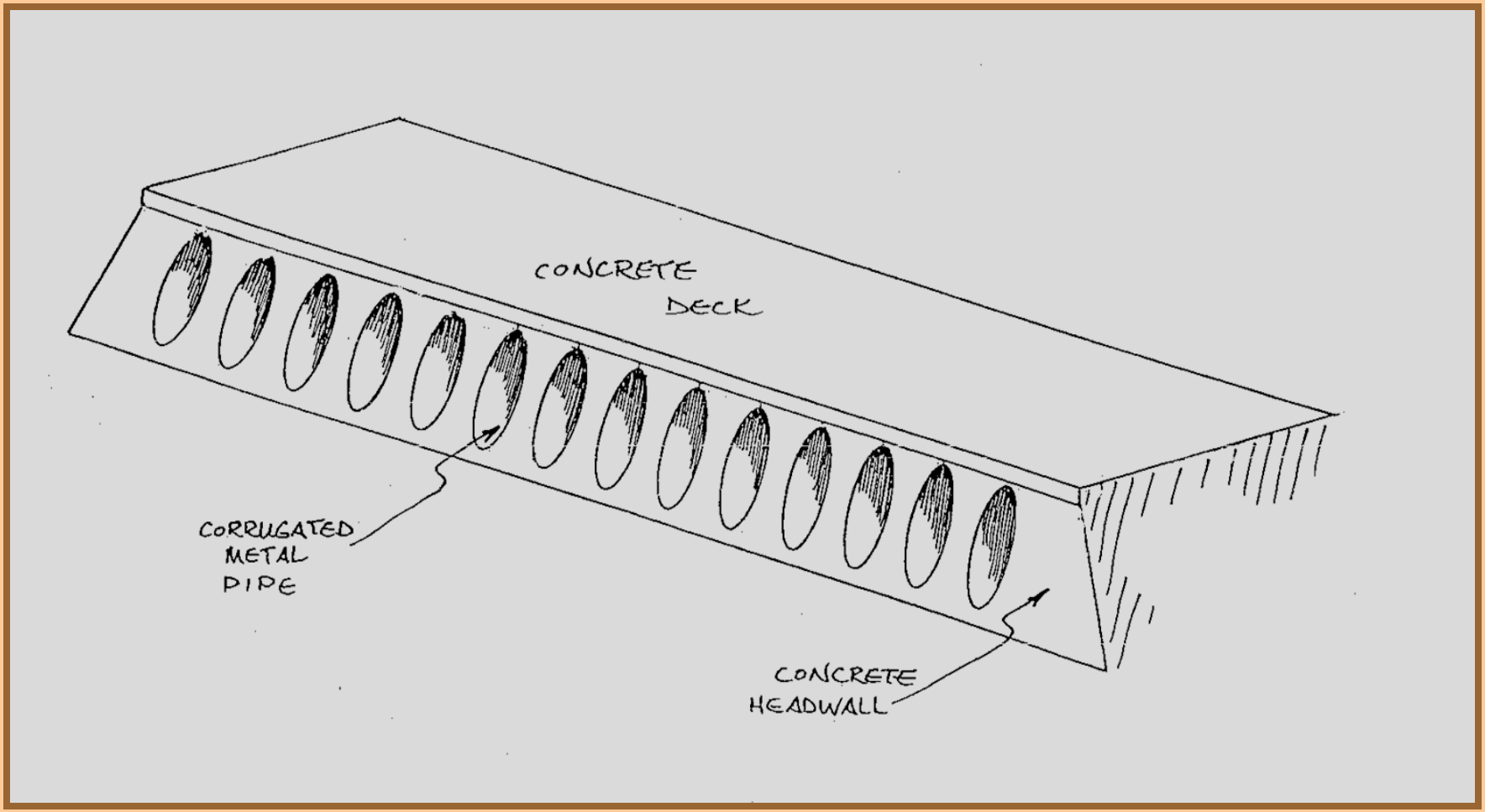


THE INSPECTOR SEES BEAM BRIDGE DAMAGE:

- BEAM BRIDGE = 25’ LONG X 10’ WIDE
- REPLACE ALL DECKING
- REPLACE BOTH STEEL I-BEAMS
- REPLACE 1 CONCRETE ABUTMENT IN WATER (12’ X 10’)
- REPLACE 2 WINGWALLS (12’ X 10’ EACH)
- REPAIR ERODED APPROACH (12’ x 10’ X 3’)

THE INSPECTOR RECORDS:

➔ Bridge Decking Replace	250 SF	Flood
➔ Bridge Beams Replace	50 LF	Flood
➔ Bridge Abutment in Water	120 SF	Flood
➔ Bridge Wingwall Replace	240 SF	Flood
➔ Road Fill	14 CY	Flood
➔ Machine Time	4 Hr	Flood



2. CAUSEWAY/LOW-WATER BRIDGE COMPONENTS

Inspecting Roads and Bridges
Updated: March 2019

CAUSEWAY/LOW-WATER BRIDGE LINE ITEMS

1. Low-Water Bridge Replace: Linear Feet (LF)
2. Culvert 12”-30” Replace: Linear Feet (LF)
3. Culvert 36” or Larger Replace: Linear Feet (LF)
4. Debris Remove: Cubic Yards (CY)

NOTE: Approach damage is dealt with separately using Road Fill (CY) and Machine Time (Hours) line items.

Inspecting Roads and Bridges
Updated: March 2019

Inspecting Roads and Bridges
Updated: March 2019

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Updated: March 2019

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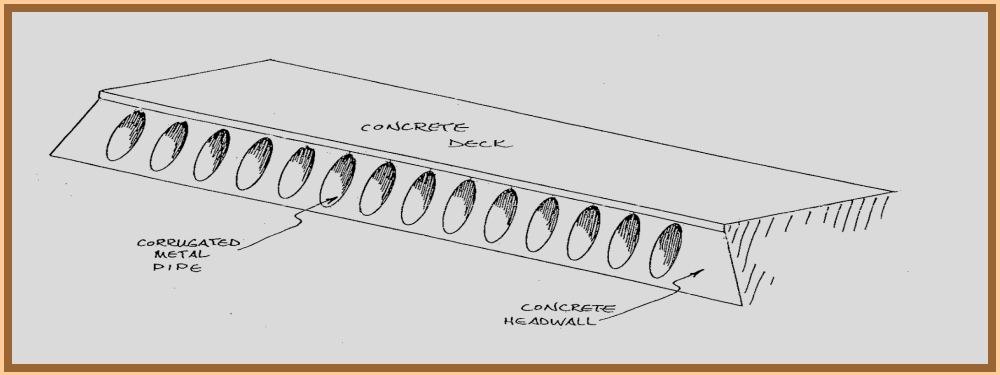
DAMAGE SCENARIO: FLOOD WASHOUT

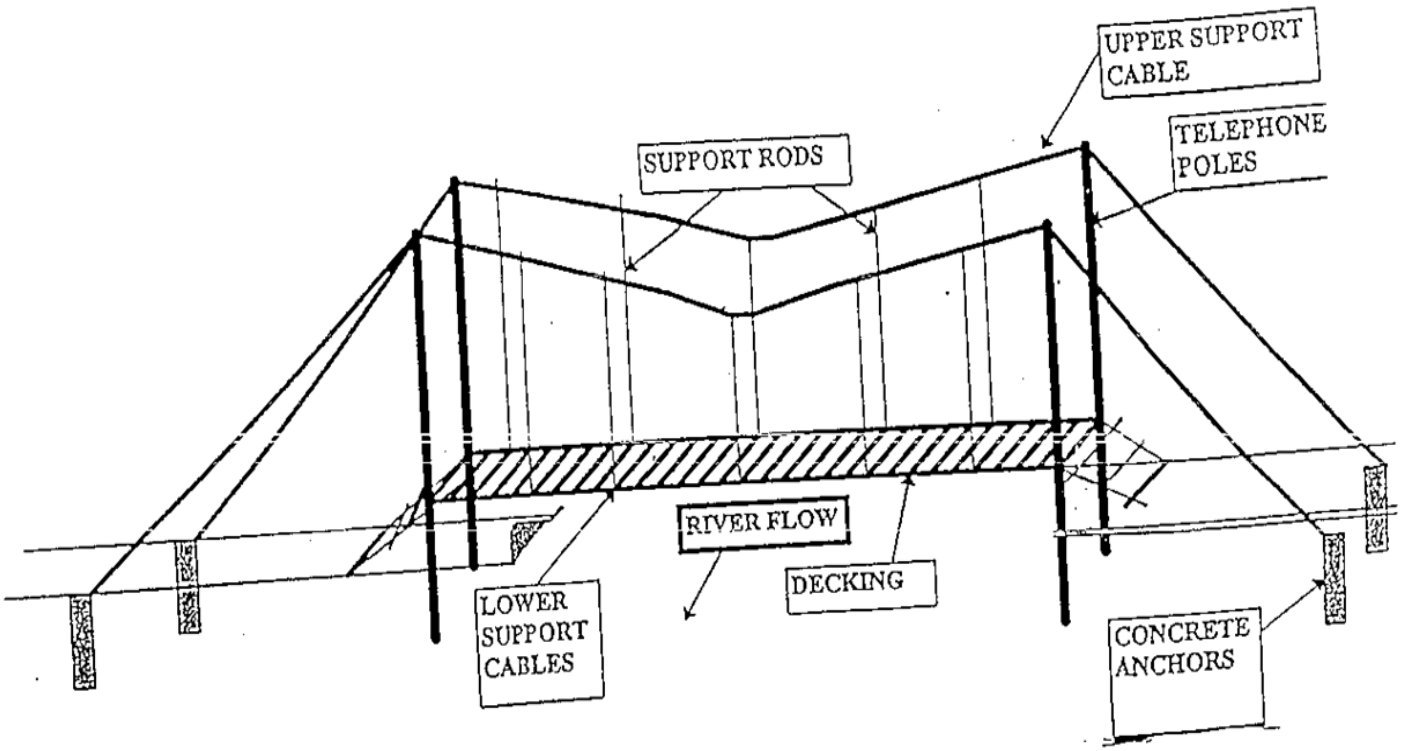


THE INSPECTOR SEES CAUSEWAY/LOW-WATER BRIDGE DAMAGE:

- CONCRETE CAUSEWAY = 30’ LONG X 10’ WIDE
- REPLACE 3 OF 5 CULVERTS = 36” DIAMETER, 10’ LONG EA
- APPROACH WASHOUT = 40’ LONG X 10’ WIDE X 1’ DEEP

THE INSPECTOR RECORDS:

- **Road Fill** **15 CY** **Flood**
- **Culvert 36”+ Replace** **30 LF** **Flood**
- **Machine Time** **4 Hr** **Flood**



3. FOOT BRIDGE COMPONENTS

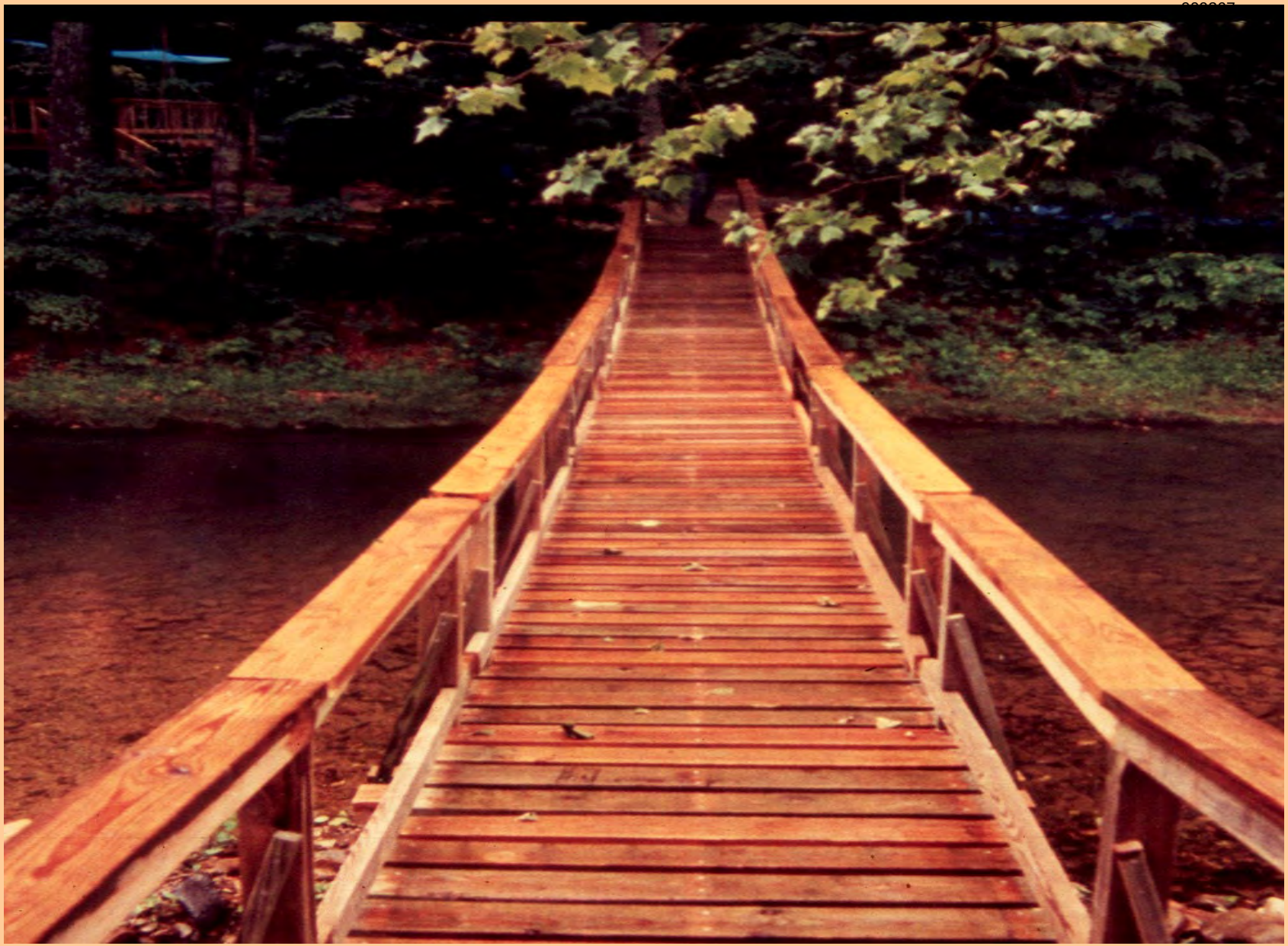
Inspecting Roads and Bridges
Updated: March 2019

FOOT BRIDGE LINE ITEM

Item Help text from ACE 4:

Labor and materials to replace an entire footbridge. This is based on the linear footage of the footbridge and ncludes all supports, decking and handrails. Use if a pre-existin footbridge has been damaged and it is required, in addition to the drivable portion of the access.

Inspecting Roads and Bridges
Updated: March 2019



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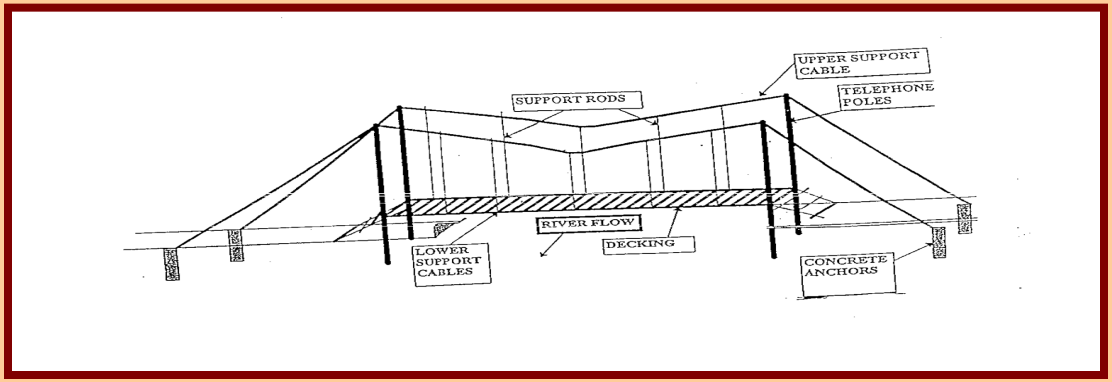
DAMAGE SCENARIO: FLOOD WASHOUT



THE INSPECTOR SEES FOOT BRIDGE DAMAGE

- SUSPENSION FOOT BRIDGE = 20’ LONG X 4’ WIDE
- REPLACE ALL DECKING
- REPLACE BOTH WOODEN SUPPORT BEAMS
- HANDRAIL ON UPSTREAM SIDE WASHED AWAY
- BRIDGE HAS NO ABUTMENTS

THE INSPECTOR RECORDS:

➔ **Foot Bridge Replace 20 LF Flood**

Federal Emergency Management Agency
Housing Inspection Services
Virginia Disaster Operations Center
Winchester, VA 22603

Reinspect Assessment Work Instruction

The assessment will be conducted based on type of reinspect issued.
Standard – Reinspect Comment will designate reason for reinspection and if special attention is needed.
Upgrade – Reinspect Comment will state to verify damage level/destroyed.
Red Flag - Reinspect Comment will state to verify ID and degree of damage.

Standard Reinspect Work Instructions:

1. Contact the applicant and follow all pre-existing assessment work instructions (Job Aid, Video Streaming RA Work Instructions, Onsite RA Work Instructions, etc.).

Upgrade Reinspect Work Instructions:

1. Scheduling
   a. Contact the applicant in the usual manner to schedule the assessment. Inform the Applicant that there is a video live stream option. (Inform the Applicant that video is not a requirement for receiving an assessment).
   b. Establish evidence to record any line items in the Build Home tab recording appropriate damage levels and line items as determined by the Job Aid and applicant statements.
   c. Do not decrease the damage level line item. You may increase to a Wind Level 5 or Destroyed if warranted.
   d. Comment as necessary and/or required by the current Ace 4 Users Guide and Job Aid Guidance.
   e. Record the appropriate Exterior Validation (EV) code based on visual assessment.
      i. EV-1 = Concur – record when site conditions meet the recorded damage level
      ii. EV-2 = Less Than – record when site conditions are less than the recorded damage level
      iii. EV-3 = Greater Than - record when site conditions are greater than the recorded damage level
      iv. EV-4 = Unable to Verify – record when unable to visually verify damages
      NOTE: Comment "EVX = Enter a brief description of damages noted"
   f. Complete the assessment and run validation check, correcting/overriding any validation errors.
   g. If the applicant is not a candidate for video streaming, obtain permission to do an exterior validation and verify that the information in the inspection is accurate. Do your best to rectify any errors you see in the inspection while you have the applicant on the phone. Add the appropriate X comment.

i. Select Special Conditions
ii. Select Disaster Specific
iii. Add one of the following:
    a. X1 (interested but no internet/technology)
    b. X2 (not interested even though they have technology)
    c. X3 (not interested and does not have technology)
    d. X4 (Unable to return to damaged home)

2. Exterior Validation (Not required if video validation was used)
    a. Visit the dwelling, take photos of property to verify disaster caused damage.
    b. Establish evidence to record any line items in the Build Home tab recording appropriate damage levels and line items as determined by the Job Aid and applicant statements.
    c. Do not decrease the damage level line item. You may increase to a Wind Level 5 or Destroyed if warranted.
    d. Comment as necessary and/or required by the current Ace 4 Users Guide and Job Aid Guidance.
    e. Record the appropriate Exterior Validation (EV) code based on visual assessment.
        i. EV-1 = Concur – record when site conditions meet the recorded damage level
        ii. EV-2 = Less Than – record when site conditions are less than the recorded damage level
        iii. EV-3 = Greater Than - record when site conditions are greater than the recorded damage level
        iv. EV-4 = Unable to Verify – record when unable to visually verify damages

    NOTE: Comment "EVX = Enter a brief description of damages noted"
    f. Complete the assessment and run validation check, correcting/overriding any validation errors.

3. Communicate the Assessment
    a. Review the assessment in the summary.
    b. Communicate the completed Assessment to the Host.

Red Flag Reinspect Work Instructions:

1. Scheduling
    a. Contact the applicant in the usual manner to schedule the assessment. Do not offer the video option. Add the following X comment:
        i. Select Special Conditions
        ii. Select Disaster Specific
        iii. Add the following:
            a. X5 (Exterior Validation Required)
    b. Inform the applicant that you must verify their ID and do an exterior assessment of their damages. Ask the applicant to describe their home, such as the number of floors, foundation type, color of the front door, etc. Schedule a date and time to meet the applicant at the home. Explain to the applicant that due to COVID-19 FEMA requires that we do these inspections without any physical contact. Politely remind them to please stay at least 6 feet away while you're onsite. Always be respectful and courteous.

c. Verify that the information in the inspection is accurate. Do your best to correct any errors you see in the inspection while you have the applicant on the phone.
d. If the applicant is unable or unwilling to meet at the home, offer to meet at a neutral location to confirm their ID. Do not meet an applicant in a hotel room.

2. Appointment
    a. Visit the home during your scheduled appointment time and take photos of property to verify disaster caused damage. Do not go inside the home.
    b. Establish evidence to record any line items in the Build Home tab recording appropriate damage levels and line items as determined by the Job Aid and applicant statements.
    c. Comment as necessary and/or required by the current Ace 4 Users Guide and Job Aid Guidance.
    d. Adjust the damage level as needed based on your visual validation. You may increase, decrease or remove it as warranted.
    e. Record the appropriate Exterior Validation (EV) code based on visual assessment.
        i. EV-1 = Concur – record when site conditions meet the recorded damage level
        ii. EV-2 = Less Than – record when site conditions are less than the recorded damage level
        iii. EV-3 = Greater Than - record when site conditions are greater than the recorded damage level
        iv. EV-4 = Unable to Verify – record when unable to visually verify damages

       NOTE: Comment "EVX = Enter a brief description of damages noted"
    f. Complete the assessment and run validation check, correcting/overriding any validation errors.

3. In confirmed instances of Identity Theft, such as when the resident of the home states they did not apply for assistance
    a. Remove all specs from the assessment.
    b. Mark the Possible NPR Special Condition making sure to make a clear comment on the situation.
    c. Return the inspection as Withdrawn.

4. When the assessor is unable to meet with the applicant and verify their ID, the home appears vacant and neighbors state it has been vacant for years
    a. Remove all specs from the assessment.
    b. Mark the Possible NPR Special Condition and make a clear comment on the situation.
    c. Return the inspection as Withdrawn.

5. When the assessor is unable to meet with the applicant at their home or neutral location, there are no indications the home was vacant, and disaster caused damages exist, perform a complete assessment of damages.
    a. Confirm and/or adjust damage level(s) as they existed at the time of the disaster. Question the applicant if any repairs have been made.
    b. Mark the Possible NPR Special Condition and make a clear comment on the situation (Unable to meet with applicant to view photo ID).

6. Communicate the Assessment
    a. Review the assessment in the summary.
    b. Communicate the completed Assessment to the Host.

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Imagery Validation Work Instruction

Imagery validation is required when post disaster imagery is available, along with the appropriate Imagery Verification (IV) Line Item found in ACE. These line items are located under the Exterior Tab for Owners, and Appliances Tab for Renter. Assessors are expected to review all available imagery prior to and during each assessment.

Absent and exterior inspection and no video, imagery is next in line of succession. Imagery can help to minimize the risk of reporting exaggerated damages and to assist in the accuracy of our assessments. Imagery should not be used to challenge an applicant claim or allow for the perception of being confrontational. Assessors are expected to always remain professional and courteous.

Locating Imagery:

When available, link(s) to the imagery can be found on the disaster specific DR Info Sheet located on R: Drive or provided to you by the FSDT or Field Coordination Unit. If no imagery is available, assessors will continue the normal RA process.

Initial Review and Conducting the Initial Assessment:

- Prior to contacting the applicant:
  - Access imagery to determine the applicant's home location by performing a search on Google Maps or Google Earth to assist in identifying the correct home. Any visual information collected during your search can be relayed to the applicant to confirm the home viewed through imagery is the correct home.
  - Get your bearings and look at the surroundings.
  - Utilize the current Remote Assessment Job Aid and Guidelines located in HIS SharePoint - Shared Document to complete the assessment, noting any exaggerations between an applicant's claim and available post disaster imagery.

Recording Line Items:

When post disaster imagery is used assessors will record Line Item IV-1 or IV-2 based on the following situations:

- If imagery **does** support the apps claim record IV-1 and the appropriate level of damage based on the Remote Job Aid (i.e. Damage Level 1, 2, 3, or 4).
- If imagery **partially supports** the apps claim record IV-2 and the appropriate level of damage based on the available information being provided and imagery.
- If imagery shows no damage and **does not** support an apps claim record IV-2 and record the level of damage as Damage Level 1.
- If no imagery is available, IV codes should not be recorded indicating to reviewers that there was no imagery or viable imagery to look at. In this case, assessments should be conducted as normal.

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Video Streaming Assessment Work Instruction

The assessment will be conducted based on the applicant's capabilities.

Goal: Conduct a Remote Assessment utilizing video offsite.

Work Instruction for Video Streaming a remote Assessment:
Call the Applicant to determine if any Video Streaming Capability is available.

1. Scheduling
   a. Contact the Applicant in the usual manner to schedule the assessment. Inform the Applicant that there is a video live stream option. (Inform the Applicant that video is not a requirement for receiving an assessment).
   b. If the applicant is not a candidate for video streaming, follow the traditional remote job aid process.
      i. Select Special Conditions
      ii. Select Disaster Specific
      iii. Add one of the following comments:
         a. X1 – interested but no internet/technology
         b. X2 – not interested even though they have technology
         c. X3 – not interested and does not have technology
         d. X4 – Unable to return to damaged home
   c. If the Applicant is interested in using this option
      i. Relate the technical parameters, inform them they will need to be on site with good cellular signal and a well charged device battery at the scheduled time for the assessment. *Remind the applicant that you cannot view documents or PII on video*, that the video should only show disaster caused damages to property.

   d. If applicant is not able to begin assessment interview schedule a time to call back.
   e. If the applicant is ready to proceed, begin the assessment interview.

2. Remote Assessment with Video
   a. Explain to applicant you have a series of questions before you begin the damage assessment.
   b. Follow the current version of the Job Aid, reading the prescribed (Read This First) statements.
   c. Follow the current version of the Job Aid Guidance, filling out the App Info, Home Info, and Losses/Expenses screens on the Tablet.
   d. Open the Questions screen in the Job Aid, ask the general questions regarding Primary Residency, Ownership, and Type of Residence.
   e. Ask the Applicant if they are ready to proceed to the video portion of the inspection.
   f. Safety and Disclaimer Statement:

i. You are not required to video live stream to receive assistance. This video live stream will not be recorded nor will pictures be taken of your damage during this video live stream. We ask that you do not video record or take pictures during this time. Any information obtained during this video live stream is intended to only view damage to your residence cause by the disaster.
ii. Inform the Applicant that they should not put themselves in harm's way or take any personal safety risk in order to show video to the assessor, that they should not access any unsafe area of the dwelling, or any unsafe area surrounding the dwelling.

g. Prior to starting video, explain to the applicant you will now have them walk you through to view the damage.
    i. Describe how you want to move through the assessment, we will need to review the entire property regardless of damage as I will build the property in our system. We will go from room to room and then to the exterior of the home (vice versa). Please point out all damage as we walk through this process.
    ii. Inform the Applicant that you need to record several different types of damages room by room, Furnishings in essential rooms, and Appliances (FEMA definition).

3. Take a tour of property to record disaster caused damage.
    a. Follow the Job Aid questions regarding damages to Real Property.
    b. Establish evidence to record any line items in the Build Home tab recording appropriate damage levels and line items as determined by the Job Aid and video evidence.
    c. Comment as necessary and/or required by the current Ace 4 Users Guide and Job Aid Guidance.
    d. Request that the App scan the first room to show the Assessor Furnishings damages, pausing on any damaged Furnishings (Follow up with questions to clarify damage levels, etc. as necessary) Record verified Furnishing Damage Level, Cause of Damage, and Verification in the Tablet. (Verification of Viewed should be chosen for damages verified by video)
    e. Request that the App scan the first room to show the Assessor Appliances damages, pausing on any damaged Appliances (Follow up with questions to clarify damage levels, etc. as necessary) Record verified Appliances Damage Level, Cause of Damage, and Verification in the Tablet.
    f. Repeat steps **d** and **e** with the Applicant for each recordable room in the Damaged Dwelling.
    g. Ask the Applicant the Vehicle Damage question. Confirm if all household vehicles were made un-drivable due to the disaster. If so, the inspector will inquire if any vehicles have comprehensive insurance but will not ask to view insurance if the applicant states they have coverage. The inspector will record all vehicles for the household if it is determined the applicant does not have a drivable vehicle and does not have comprehensive insurance coverage for their damaged/un-drivable vehicle. In these instances, the inspector will select the damage level of Not Available/Not Verified for all vehicles
    h. Ask the Applicant if there are any other damages that have not been discussed or viewed. (Follow up and record damages as necessary)
    i. Record all required data fields on the Wrap Up screen.

j. Read the prescribed statements (Read This Last) from the Job Aid.
k. Add the applicable line item for Visual Validation
    i. Owners - Select the applicable VV Line Item (Initial or Appeal) under Speed Estimating
    ii. Renters – Select the applicable line item under Appliance list. Scroll to the bottom of the appliances. 4081 VV Initial or 4082 VV Appeal.
l. For all assessments other than initials, record the appropriate Exterior Validation (EV) code based on visual assessment.
    i. EV-1 = Concur – record when site conditions meet the recorded damage level
    ii. EV-2 = Less Than – record when site conditions are less than the recorded damage level
    iii. EV-3 = Greater Than - record when site conditions are greater than the recorded damage level
    iv. EV-4 = Unable to Verify – record when unable to visually verify damages

    NOTE: While there is not a need to go over entire inspection with applicant for reinspect, please ensure any identified gross mistakes are fixed, (Example: home was damage by flood only and all PP was addressed by wind),
m. Comment, "Verification of Viewed = Video Assisted Remote Assessment"
n. Complete the assessment and run validation check, correcting/overriding any validation errors.

4. Communicate the Assessment
    a. Review the assessment in the summary.
    b. Communicate the completed Assessment to the Host.