HOUSE PARTS

WALL COVERINGS

Wall Covering Removal Techniques
Sheetrock or Drywall

PREPARATION

1. Cut drywall tape at the edge of removal area

Results if tape is not cut

3. Remove corner bead from outside edges
CAUTION: edges are sharp

If a portion of corner bead is to be removed, cut with a hacksaw for clean edges. (If there is no crown molding, consider removing entire piece of corner bead for better refitting of repair.

Hit corner bead a glancing blow to remove, or remove nails if nailed into place.

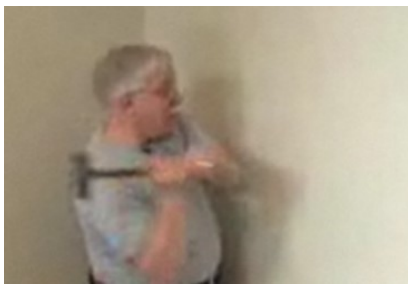
4. Cut drywall at line. A utility knife or oscillating saw works best here.

CAUTIONS:

- Do not cut too deep so a to cut electrical wires.
- Do not use a circular saw as screw heads will become missiles.

2. Mark line for drywall removal. (If partial sheet removal snap line using a chalk line.)

REMOVAL



Make 2 hand holes, grab the rock and gently shake back and forth to remove large pieces

Hit with a shovel at exposed back

Use a rake to pull ceiling drywall down instead of standing on a ladder.

CAUTION: wear protective gear as loose insulation or debris may be above the drywall;

FINISHING

Remove drywall screws and nails from studs

Pound in or pull out screws using hammer, claw or pry bar, or break screws by striking a glancing blow with hammer

Systematically run a flat blade (such as plastic drywall knife) over studs to assure all fasteners have been removed.

Remove all debris, including piles of drywall dust that may otherwise harden and become attached to the floor

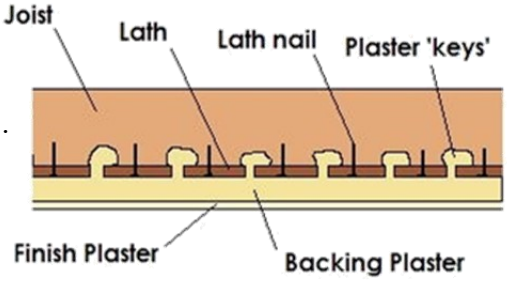
HOUSE PARTS

WALL COVERINGS

Wall Covering Removal Techniques

Lath and Plaster

A typical lath and plaster application (ceiling illustration). It is the 'keys" that hold the plaster in place.



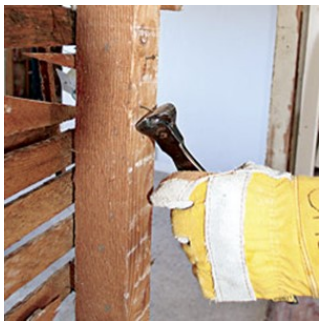
If only a portion of the wall is to be removed:

1. Mark the removal line with a chalk line
2. Cut the plaster at that line (grinder works good here)

Whack plaster to break the keys. Use enough force to flex the laths. (You will hear the keys dropping.) A flat shovel works better than a hammer; more area covered and less tiring. For ease of cleanup, do not break the laths as yet.

Run a flat shovel between the laths and the plaster to pry off large chunks. Run shovel with, rather than across, the laths for less "snagging" of shovel tip.)

Use a hammer, pry bar, or similar tool to pull the laths from the studs. By pulling near a stud, there is a better chance of removing the lath and nails simultaneously. For best results, pull with enough force to remove the lath without breaking it. When several laths have been removed, a large prying tool (such as a shovel or 2x4) may be used. Place tool in the wall and pry out the laths.



Remove any nails that did not pop out with the laths.

- Pull out (preferred method)
- Pound in
- Break with a glancing hammer blow
- Cut off with a grinder

Systematically run a flat blade over studs to assure all nails have been removed or pounded in. (A plastic drywall knife works well for this.)

If both sides of a wall are lath and plaster, only 1 side need be removed to access the wall cavity for mold abatement. Be careful not to damage the other side during removal.

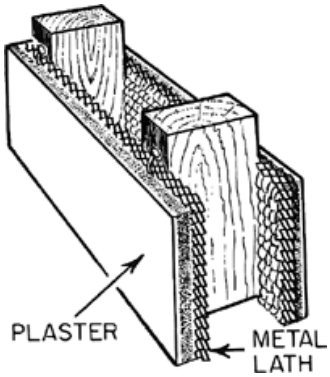
If one side is lath and plaster and the other side is drywall, remove the drywall side.

HOUSE PARTS
WALL COVERINGS

Wall Covering Removal Techniques (Other Materials)

Metal Lath and Plaster

1. If only a portion of the wall is to be removed:
   A.Mark the removal line with a chalk line
   B.Cut the plaster at that line (grinder works good here)
2. In the area to be removed, pound with a hammer, breaking the plaster, in a horizontal line until a metal lath seam is found. Seam will be on a stud.
3. Pound vertically along the seam until reaching the top of the area to be removed, or until finding a horizontal seam.



Metal lath and plaster

4. Unfasten the exposed edges of the lath from the studs.
5 Grasp the top edge of the exposed lath and pull off the studs. (Best practices are to hook the lath with a claw hammer or similar tool rather than using gloved hands.)
6. Repeat steps 4 and 5 as needed
7. Systematically check the studs to assure all fasteners are removed, or have been pounded flat to the stud.

Wood Paneling



Cedar paneling has natural mold inhibitors. However, mold can still form. Close inspection is required.

Wood paneling may be salvageable if it is not warped or delaminated.

Salvageable paneling may be reinstalled (by a later team), or pieced together to form a wainscoting.

If the paneling is over drywall, or is on an exterior wall, it will need to be removed in order to access the materials behind it. Else, the paneling can be pulled out from the bottom to air and treat. (Place a 2x4 in front of the studs to keep the paneling from closing in on the wall cavity.)

Treat the paneling for mold in the same manner as other wood materials. (Clean, spray for mold, and allow to air dry.) If removal is necessary, number pieces on back for installation purposes.

Other Decorative Finishes (such as solid wood)

In general:

- ➔ If it is organic material, it will need to be accessed from both sides for mold abatement treatment.
- ➔ If it can soak up the contaminants in the flood waters it will need to be cleaned (or discarded if cleaning is not an option)
- ➔ The wall cavity behind the wall finish will need to be accessed for mold abatement and possibly insulation removal.
- ➔ Vinyl wall paper will trap water within the wall. It will need to be removed.

Some options:

- ➔ Remove wall entirely
- ➔ Open wall enough to allow airflow and mold abetment treatment
- ➔ Remove only one side of the wall cavity


This home had knotty pine wall coverings. In this case, the back side of the interior wall and the wall cavity and insulation were accessed and treated by removing the exterior metal siding.

HOUSE PARTS

INSULATION

LOOSE FILL INSULATION

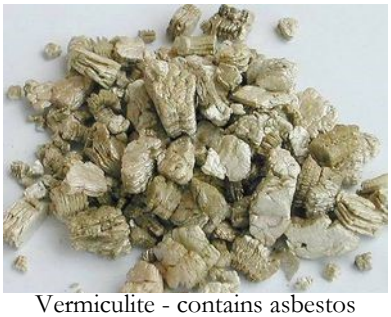
Dust will often mix in with loose insulation and enable mold growth.

If loose insulation is in the walls, and only partial wall removal is required, make a note that an insulation remedy will be needed for the upper walls where the wall covering is not removed.

Sheep's wool—organic material that will grow mold

Loose fiberglass (itchy) - a good chance for mold growth

Cellulose (mostly paper) - mold retardant may not hold up to floods



Vermiculite - contains asbestos

HEALTH HAZARD

not conducive to mold growth

RIGID AND FOAM INSULATION

These are inorganic and not susceptible to mold. However, dust that accumulated on them can grow mold. Clean with brush and/or vacuum

Closed cell Styrofoam

Spray on foam

When working with insulation, long sleeved shirt is advisable, along with eye protection, and especially a respiratory mask (N90 or better) to prevent inhalation of fibers.

See notes on working with asbestos in appendix

BATT INSULATION

DO NOT PULL!

When removing <u>partial</u> batts, DO NOT pull apart as this will cause insulation to be removed at the top of the run (behind the wall covering)

Fiberglass (itchy) - good chance of mold

Denim fibers (not itchy) good chance of mold if water saturated

Rock wool (not itchy) little chance of mold growth except on dust that has accumulated

HOUSE PARTS

FLOORING - 5 situations for removing flooring

FLOOR REMOVAL THIS SHOULD BE THE LAST ACTION IN A ROOM

A: Flooring was wet

If:

1. There is more than one layer to the flooring, and
2. The water was able to get between the layers, and
3. Any of the layers are organic material (e.g. wood), then

Remove flooring down to 1 layer (i.e. subfloor)

Water can't escape from multiple layered floors, causing mold growth if any layer is organic.

B: Flooring is unsound

Flooring damaged to the extent that it can not support weight placed on top of it. This can include subfloor damage.

Damage may have been caused by recent disaster or by repeated wetting (e.g. around toilet or under window). Some examples:

- Warped underlayment
- Water weakened wood (such as particle board (chipboard)
- Rotted boards (from prolonged contact with moisture)
- Delaminated (i.e. spongy) plywood
- Termites

Note: bouncy floors due to too great a truss span or broken supporting beams is NOT cause for removing flooring.

Remove untenable flooring

Inorganic materials (e.g. ceramic or linoleum) on slab do NOT need to be removed.

C: Wet carpet

Carpet and pads that got wet in a flood will retain the contaminants that were in the water. Remove the carpet and pad completely

Carpet and pad now contain flood's contaminants

D: Damaged finished floor material

Flood waters may have disturbed flooring materials such that putting them back in place becomes impossible. Inlaid tile is a case in point. Warped hardwood floors (with no subfloor) may be repairable.

Floor damaged beyond repair

E: Crawl Space not able to ventilate

Some housing may be too close to the ground, or ventilation portals have been buried, or sand and dirt may have filled in the crawl space to the point it can not dry out. In such cases, some of the flooring should be removed in order to allow the drying out of the crawl space.

Vents plugged or non-existent

Dirt and debris restrict air flow

HOUSE PARTS

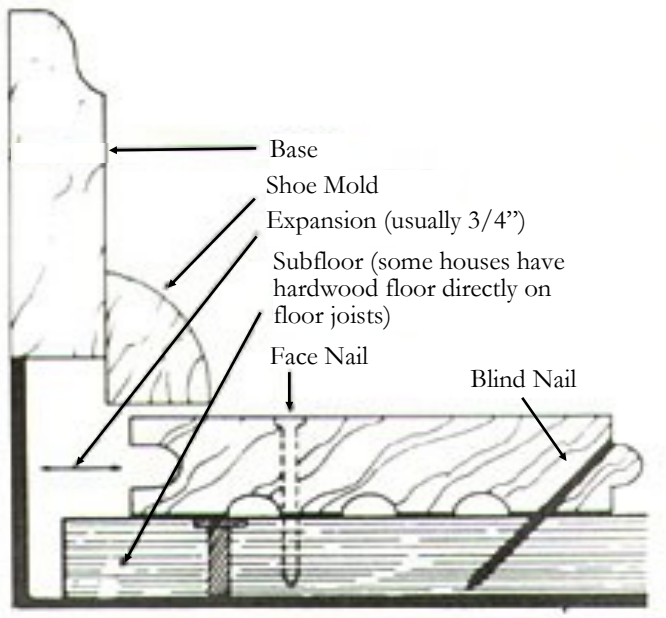
Removing hardwood floors

1. Remove trim (base and shoe mold) for access to floor edge
2. Start near the wall where the tongue of the board faces.
3. If necessary for access, cut the first board in half lengthwise. Set the saw depth appropriately! Hardwood floors are usually 3/4" thick.

4. Pry out the first few boards with a pry bar
5. Advance to crowbar and long handled shovel as space permits

Note: when placing pry bars etc. under the hardwood, take care NOT to gouge the subfloor.

It is easier to pry up boards if several people work together. Else, cut across the boards at 3' intervals to make removal easier.



Removing carpets

1. Start in a corner

2. Cut or tear into manageable strips (around 3' wide')

3. Roll up and discard

Carpets are heavy, especially when wet.

4. Remove carpet pad in the same manner

If the pad is glued down, use a floor scraper

Remove tack strips with long handled shovel

Remove all nails from floor using crow bar or pry bar. In concrete, this will leave a divot.

CAUTION: Carpet tacks are very sharp!

Linoleum Tiles and Sheets

The decision to tear up linoleum floors has several factors:

- Sheet linoleum should prevent water from getting to the top layer of subfloor, making removal unnecessary for that layer
- Holes and frayed edges in tile and sheet goods allow water to get to the subfloor, but the subfloor may be sealed by the mastic. Check floor viability before making the decision to remove.
- The subfloor may not be able to withstand any water (from above or below). If it got wet, then the tile and subfloor will need to be removed.

To remove sheet linoleum, cut the sheet into strips; pull up the top layer, then scrape up the remaining layer and the adhesive.

For tiles, scrape up the tile and the adhesive.

Use a heavy duty floor scrapper.

CAUTION: Tile installed prior to the 1990s may contain asbestos, along with the mastic adhering it to the subfloor. Care should be taken when removing. See Appendix for asbestos abatement information and recommended personal protective equipment (PPE).

Asbestos was used in sheet linoleum, and in tiles of sizes

• 9 x 9 • 12 x 12 • 18 x 18

Some of the precautions for dealing with asbestos include:

➔Wear a HEPA filter mask, properly fitted

➔Break tiles as little as possible (breaking releases the fibers)

➔Dampen workspace to hold down friable asbestos fibers

HOUSE PARTS

Structural Skeleton

Wood I-Beam

Engineered Wood
Manufactured with waterproof adhesives and capable of withstanding some moisture.

Caution
Check that they are not delaminated, or separated, due to excessive swelling and shrinking from prolonged water exposure.

Laminated Veneer Lumber (LVL)

Floor Joists
If floor seems too bouncy, make a note and investigate for possible cause(s). Tables at right are for No 2 Southern Pine, typical for hurricane prone areas. It applies for 1 story homes and decks.

Floor bounce causes
- Improper installation
- Rotting joists
- Termites
- Fires
- Insufficient supporting beams or piers (washed away, collapsed, sunken, etc)

Factors influencing joist span maximums include
- Joist spacing
- Wood type
- Wood grade
- Dead load (house weight)
- Anticipated Live load (people and belongings)

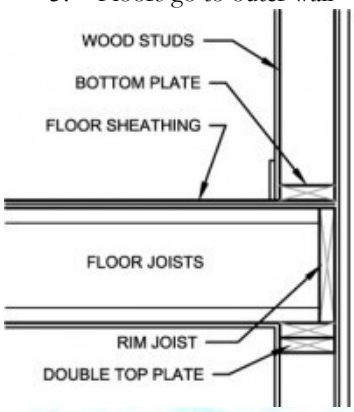
Joist 12" o.c.	Span Max	Joist Size
	10' 3"	2x6
	13' 6"	2x8
	16' 2"	2x10
	19' 1"	2x12

Joist 16" o.c.	Span Max	Joist Size
	9' 4"	2x6
	11' 10"	2x8
	14' 0"	2x10
	16' 6"	2x12

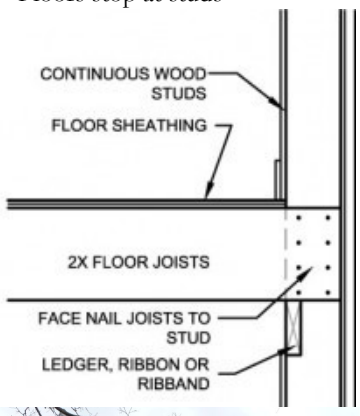
Joist 24" o.c.	Span Max	Joist Size
	7' 7"	2x6
	9' 8"	2x8
	11' 5"	2x10
	13' 6"	2x12

Identifying Building Methods

Platform Built
1. Studs are wall height
2. Joists sit on top of wall
3. Floors go to outer wall

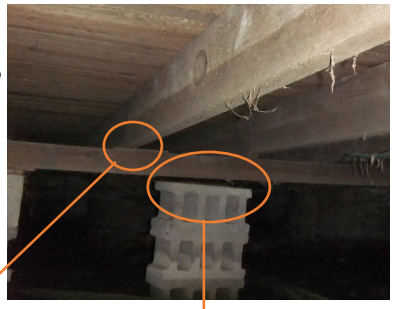


Balloon Built
1. Studs go foundation to roof
2. Joists are held by nails in studs
3. Floors stop at studs



Floor will bounce due to too long a span for the joists.

Multiple issues here.



Wedges between joist and support beam should be here. Flood waters may have lifted the house and washed away wedges.

These wedges are also missing, or the pier may have settled over time, or sunken or tilted due to flood waters.

Stud failure immanent due to termite damage

(Can lead to roof or collapse)

TAKE PRECAUTIONS

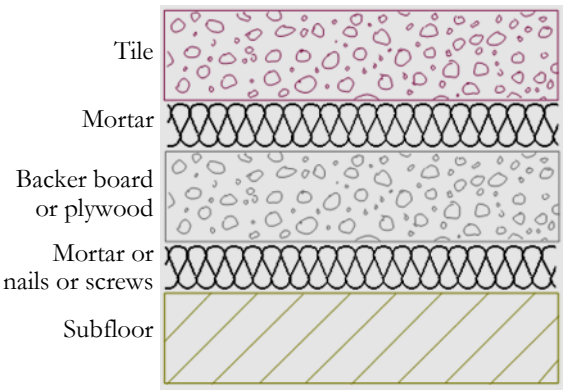
- ➔ Debris and contaminents on 2nd floor of balloon built can fall between studs and down (and out) to first floor.
- ➔ Weak floors (from rot) can result in debris falling onto first floor. (Especially in bathrooms and around windows where wetting has occurred)
- ➔ Termite infestation and rot can cause building collapse
- ➔ Not all additions are according to code. Be watchful of home additions and what they may cover up.

Floor collapsing due to persistent water leaks, debris falling to floor below.

HOUSE PARTS

Inorganic Tiles (Stone, Ceramic)

Typical tiling method



Tile and mortar layer may be repeated (i.e. new tile placed on top of old tile).

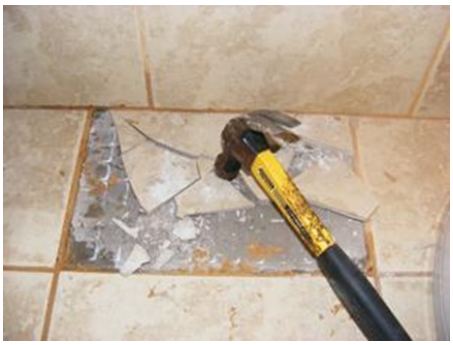
These layers may be plywood on the subfloor, or backer board on mortar on the subfloor, or both, or neither if the subfloor is a concrete slab.

Subfloor may be wood or a concrete slab

- If tile is on a concrete slab, it does not need to be removed.
- Tile and mortar will encase the mold below it. Therefore, if the subfloor is wood, but is viable, then the tile can remain.
- Else, a damaged subfloor will be causation for removing the tile (and subfloor).

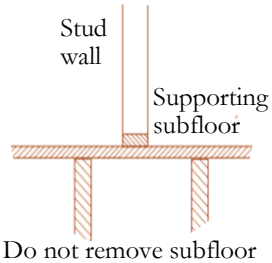
Remove tile by prying up backer board or plywood layer with tile scraper or flat shovel.

If an edge is not accessible for using a scrapper or shovel, place plastic cover over tile that is accessible to the scraper and break with a hand sledge. (The plastic will keep tile shards from flying.)

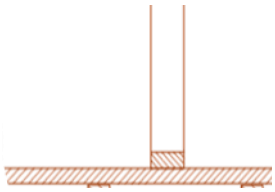


Break up backer board with a hammer, or if plywood, cut with a circular saw. Set saw depth so as not to cut the sub-floor.

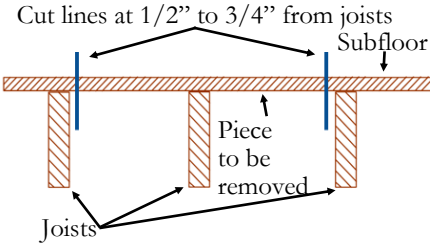
Removing subfloor to aerate crawl space



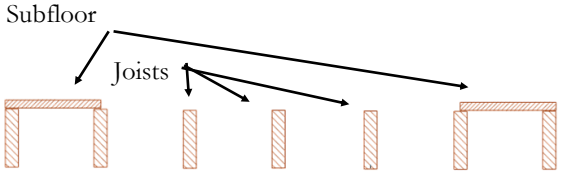
Do not remove subfloor from under a stud wall



Allow space to walk around room (preferably 3' or more from walls



If it is necessary to cut the floor, cut about 1/2" to 3/4" from joists to avoid cutting into nails or staples, and providing a guide for sistering a 2x4 onto the joists.



If a whole piece (normally 4' x 8' is in a good position for removal, use a cat's paw to remove nails, then remove (but save) the piece of flooring

If cutting a floor, set saw depth so as not to cut floor joists

When the Waters Recede

Section 6

House Exterior

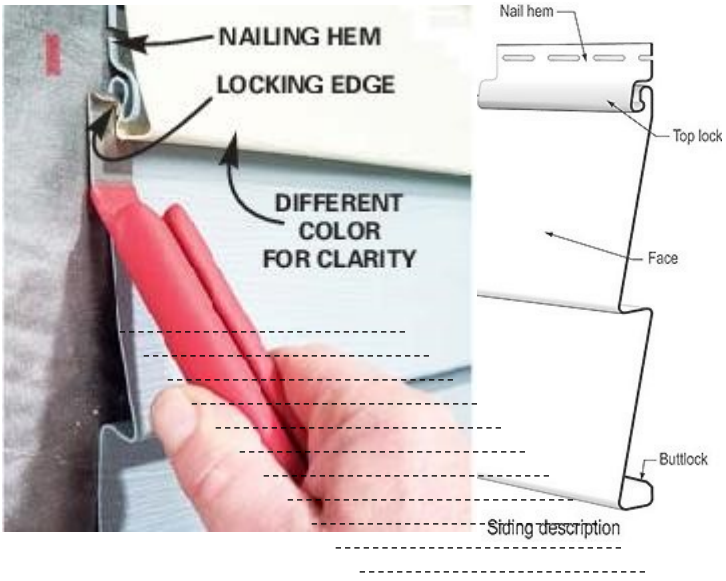
A Field Manual for Early Response

SIDING

Secure and/or weatherproof outside walls

If interior walls are missing, use materials such as plywood to cover exterior wall for security purposes. Otherwise, use materials that will allow the wall cavity to breath and dry out.

For wind blown siding, reattach the strips together. Push the bottom of a strip in until the buttlock locks into the toplock. This can be done by hand or assisted by pulling down on the buttlock with a siding removal (zip) tool

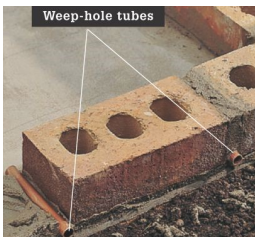


Look to the outside for wall cavity access

- ➔ Mobile homes with panel walls may be accessed from the outside with less damage to the interior wall.
- ➔ T111 siding can be removed, permitting access to insulation and the wall cavity. Retain and mark the pieces for later reinstallation.
- ➔ Metal siding can be unfastened at the bottom and gently pulled out for access to the wall cavity.

When considering outside wall penetration, have a plan for making the structure secure and weatherproof before you depart!

MASONRY



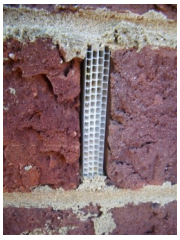
Tubes in joints


Air filter in joint

Weep holes allow drainage.

- Usually placed every 3 - 4 bricks
- Near or at bottom of brick run, or
- Below the floor, and
- Above windows

Check that weep holes are not plugged.


Fibrous vermin barrier


Mortarless joints


Metal vermin barrier


If a cinder block wall is breached and the cavities are filled with water:

1. Wait a day after water is drained from basement
2. If water is still in cavities, drill @ a ½" hole into each cinder block cavity as near the bottom as possible. (Use a hammer drill with a concrete bit.)

DANGER

Falling Brick Hazard


Damaged Obelisk
Place safety barrier between brick and workers before beginning roof tarping

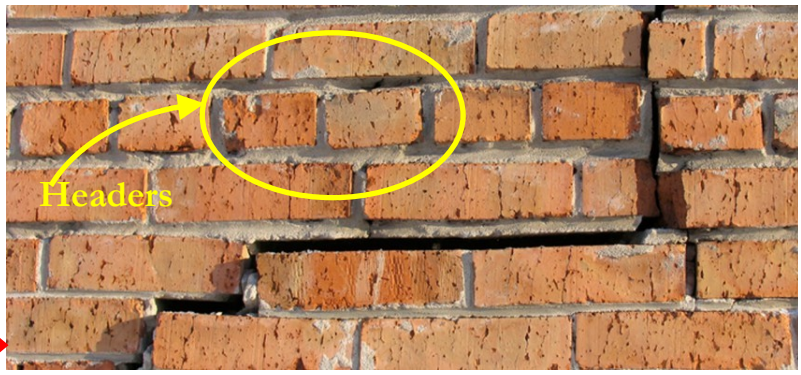
Cordon off falling brick danger zone.

- ➔ @ 3' to the sides
- ➔ Along the fall line: 1½ - 2 times the height of the brick structure


Detached brick veneer. Let a mason and the homeowner decide what will be done.


Horizontal cracks in bottom half below grade: outside forces are pushing wall in, compromising structure.

Structural Damage Do not enter unless okayed by a qualified engineer!



Structural brick wall, distinguished from veneer brick wall by:

- ♦ At least 2 bricks deep
- ♦ Header rows (brick turned 90°or wire mesh between rows)

CRAWL SPACE

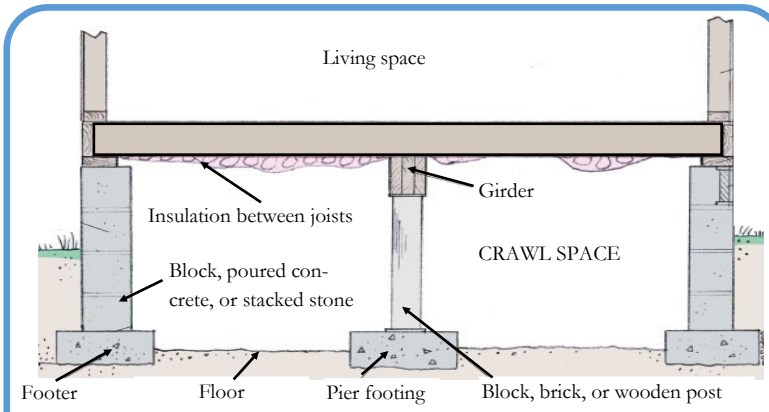
CAUTION — this space may harbor more hazards than the rest of the structure!

Some Hazards of a Crawl Space

- ♦ Standing water
  - ◊ Electrical shock
  - ◊ What the flood brought in
  - ◊ Pesticides from previous applications
- ♦ Previous wet spots
  - ◊ Earlier sewage back-ups
    - 〉 Feces on the ground
    - 〉 Pathogens in the air
- ♦ Debris (nails have a softer space to penetrate when crawling rather than walking in boots
- ♦ Nails protruding through flooring or beams
- ♦ Structural integrity
  - ◊ Piers may be unviable
  - ◊ Beams may be displaced
  - ◊ Previous rot or termite damage could cause collapse
- ♦ Old asbestos insulation
- ♦ Plumbing improperly installed (dripping or leaking)
- ♦ More conducive to mold growth
- ♦ Vermin (your retreating pace is slowed when crawling)
  - ◊ Some possibilities
    - 〉 Rodents
    - 〉 Snakes
    - 〉 Bees or wasps
    - 〉 Spiders
  - ◊ Hazards
    - 〉 Live attacks / bites
    - 〉 Rotting carcass
    - 〉 Droppings
- ♦ No light
- ♦ Communication

Precautions when entering a Crawl Space

- ♦ Good lighting
- ♦ At least 1 other person with you
- ♦ Teammate at the access point
- ♦ Communication (phone or radio) to the outside teammate
- ♦ Eye protection
- ♦ Tyvek suit
- ♦ Knee pads
- ♦ Respirator
- ♦ Hardhat
- ♦ Gloves (waterproof would be good)
- ♦ Stick (for probing and fending off vermin)



Crawl Space Variations

- ♦ Floor could be dirt or poured concrete
- ♦ Floor could be at grade level or below grade level
- ♦ Walls could completely enclose the space, partially surround it, or be non-existent
- ♦ Height of crawl space can be several feet to almost non-existent

Assess Clean Temporary Repairs

Assess

- ➔ Footers not undermined
- ➔ Piers stable
- ➔ Walls intact
- ➔ Beams in place
- ➔ Joists are viable
- ➔ No (or minimal) termite damage
- ➔ No (or minimal) rot

If deemed too hazardous

1. Document damage
2. LEAVE
3. Report to DRC

Clean

- ➔ Remove water (see pages on basements)
- ➔ Remove debris (including wet insulation and old plastic ground cover)
- ➔ Ventilate - if necessary use fans set to draw air out.
- ➔ Disinfect

This is especially important where the crawl space is enclosed, making the living space more susceptible to mold and pathogens seeping in from the crawl space.

If there is poor ventilation in the crawl space, or inspection is impossible due to minimal height, consider removing some of the sub-floor

Temporary Repair

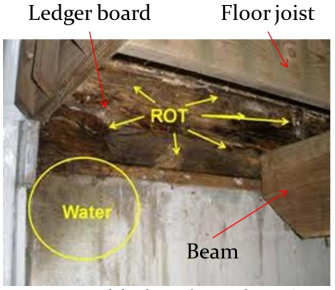
If the duct work is clean but disconnected, reconnect so as to heat the living space and not the crawl space.

Signs of damage:

- Floor is spongy or fallen
- Sagging floor
- Mud funnels on masonry piers
- Wood easily probed with a screwdriver
- Thin, gritty, gray-brown film on damaged material (including drywall)

Hazardous asbestos insulation

Termite damage can cause wall to collapse



1. Rotted ledger board can't hold beam;
2. Causing floor joist to span wider area;
3. Making collapse possible

When the Waters Recede

Section 7

Cleaning and Departing

Sanitizing is meant to reduce, not kill, the occurrence and growth of bacteria, viruses and fungi.

CLEANING AND DISINFECTING

Disinfecting means to "kill" the microscopic organisms. This is the aim of Early Response

Disinfecting / Mold Abatement Solutions

Preferred: disinfectants with longer lasting mold inhibitors.

Examples:

Microban

Shockwave

Sporicidin

These come in concentrate and ready to use spray. Follow instruction on container, including that enough chemical be used to keep surface wet for 15 minutes.)

May need to call company to find local distributor

Chlorine bleach can be used to disinfect and kill mold. It is not preferred as it doesn't inhibit future mold growth, and does not penetrate wood to kill mold roots.

Recommended for non-porous surfaces only!

Notes on chlorine bleach:

Surface needs to stay wet for 2 minutes to disinfect

¼ to ½ cup per gallon is adequate for clean (i.e. no dirt) surfaces – NDSU

1 cup per gallon for hard non-porous surfaces - CDC

Up to 1 ½ cups per gallon recommended for wood and concrete that could not be thoroughly cleaned (i.e. not all dirt was removed and surface is porous) – NDSU

NDSU - North Dakota State University Extension Office – Based on research supported by USDA

CDC – Center for Disease Control

Cleaning Station Set-up


Workbench


Bucket


Rags

Marker


Clean water source


Spray Bottle


Gloves


Scrub Brush

Typical items at a cleaning station

This station will clean and sanitize hard-surfaced items (such as plates and furniture). It is not meant to remove mold stains

→Wash In water and detergent solution **→Rinse** With clean water **→Air Dry** For porous items getting cleaned (e.g. solid wood furniture) finish with a mold abatement solution

✦Do not dry wood products in direct sunlight✦

Other Notes

Do NOT use soaps containing phosphates. The residue is food for mold

Use these less corrosive disinfectants when bleach may damage the materials


Do NOT use power washers on organic surfaces; it forces water into the materials

Consider a borate treatment to resist termites, decay, and mold

Do NOT mix Clorox and ammonia; it emits a VERY toxic gas!

CLEANING AND DISINFECTING

Cleaning the Structure

Run fans all the time when there is power.

Fans should be situated to blow air **OUT** of the structure (removing moist air and mold spores)

Where there is contamination (e.g. oil in the basement) position fans to vent directly to the outside, and position fans in the rest of the house to suck fresh air in. This will keep contaminated air from permeating throughout the house.

Step 1: Clean out debris

Remove all debris

If needed, moisten with clean water to remove mud

Scrape out mud

Sweep and remove remaining particles

Step 2: Remove mold and mold spores

Use a shop vac to remove mold spores from ALL surfaces, especially those susceptible to mold.

Note: Dead mold spores can be a health hazard as are live spores. All need to be removed.

CAUTION:

When using a shop vac for mold spores, either

- ➔ Have a HEPA filter installed

Or

- ➔ Vent the exhaust port to the outside

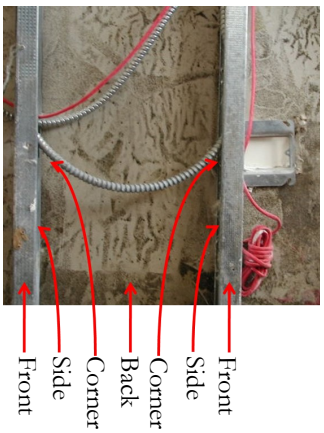
Step 3: Disinfect

For non-porous surfaces such as countertops and toilets, use a bleach and water solution to clean surfaces

For porous surfaces such as wood surfaces, use a disinfectant solution that contains a mold inhibiter.

AND

Methodically spray (and swipe with a brush if possible to eliminate air pockets) all surfaces.



Systematically spray all surfaces and corners. See previous page for spray solutions

Secure the Home Before Leaving

Windows

For cracked panes, use strong tape (such as Tyvek or duct tape) on both sides of window. Alternatively, contact paper on both sides of pane may also be used.

For broken or missing panes, waterproof the entry on the outside with a tarp, or cover the entire window using the same techniques as for a roof. Nail to the outside of the window.

When an entire window is missing, board up the structure from the outside to keep water and people out..

Window Closure with a Vent

When there is excessive moisture, window openings can be secured but still left open for air exchange

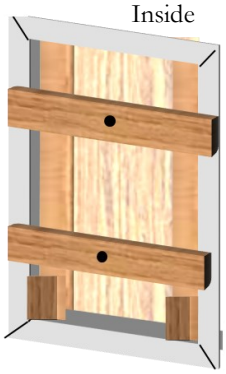
Materials

- 3/8 (or thicker plywood cut to 4" (or more) larger than window opening
- 2 ea 2x4 cut 4" longer than the inside vertical opening of the window
- 4 ea 2x4 cut to width of plywood
- 2 ea 2x4 scrap pieces
- 2 ea 12" carriage bolts
- 10d nails

Step 1: Nail scrap to the vertical piece with the scrap resting on the sill and the top fit snuggly inside the window opening. (This can be done with a double hung window, cutting the vertical to fit above and below the sashes.)

Step 2: Place the verticals to the sides of the window opening and nail the plywood to them.

Step 3: Nail 2 of the remaining 2x4s to the plywood and vertical pieces, about 1/3 from the top and bottom. Then put a carriage bolt through the middle of the 2/4s



Step 4: Attach the remaining 2x4s to the carriage bolts on the inside of the window, having the 2x4s span the window opening horizontally.

Securing a Door

No Lock on Door

Place a 2x4 across door and nail into casing with 16d nails

No Door

Cut 1/2" plywood to fit over door and frame. Nail to the outside with 10d nails

Open the attic access to allow in radiant heat from the roof, aiding in the drying process.

When the Waters Recede

Appendix

A Field Manual for Early Response

Inhaling the microscopic fibers can cause cancer

Asbestos

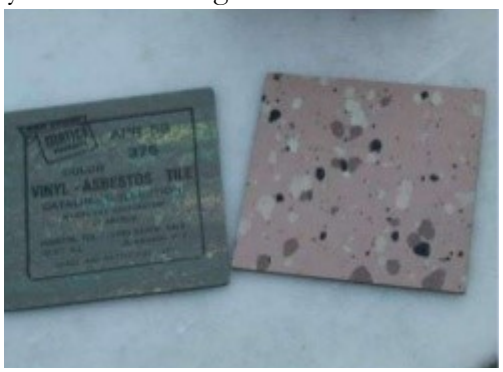
WARNING: Asbestos fibers are a health hazard. Wear an N100 or P100 mask when working with asbestos.

There is no "safe" exposure level

Houses and other structures built before 1980 had asbestos in many of their building materials:

Sheet Vinyl

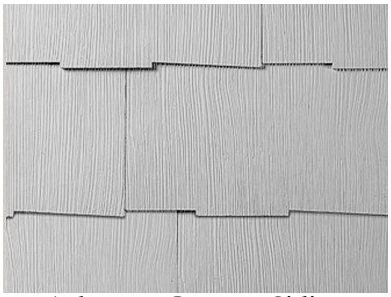
Pipe Insulation



Tile (usually 9", dark color, often with black or dark brown spots, but may be other sizes and colors). The mastic also may contain asbestos.

For possible confirmation on floor products containing asbestos http://inspectapedia.com/hazmat/Asbestos_Floor_Tile_ID.php

Vermiculite Insulation



Asbestos Cement Siding

Sound Proofing Ceiling Tiles

Texture Paint

Cement roofing sheets and spray on sound proofing

Working with asbestos

- Dampen the materials - a water spray will put the fibers on the ground. Otherwise, the fibers are light enough to stay in the air for over 10 hours.
- Wear a Tyvek suit (including booties). The fibers are so fine that washing may not dislodge them.
- Wear appropriate mask. Be sure to have a proper seal of mask to face.
- Take care to break the materials as little as possible. It is the friable fibers that become airborne and are a health hazard
- Put the materials (and Tyvek suit) in heavy plastic bags and seal.
- When removing Tyvek suit, leave mask on until after bag is sealed.

Stay Healthy

Keep the concentration of fibers in the air as low as possible

Keep your exposure to fibers to a minimum

Keep the number of times you are exposed to fibers to a minimum

Always use a high level of protective gear when working around asbestos

Lead Paint

If there is a layer of paint applied prior to 1980, it probably contains lead

Keep children and pregnant woman away from lead dust

Precautions that should be taken

- ➔ Remove furniture that will be salvaged before creating lead dust (i.e. before removing old paint from walls)
- ➔ Keep furniture outside, upwind, and at least 10' from lead dust cloud
- ➔ If items cannot be removed from dust cloud, cover with heavy plastic
  - ⇒ 4 mil thick
  - ⇒ Seal seams
- ➔ Wear protective equipment
  - ⇒ Disposable painter's hat
  - ⇒ Disposable coveralls
  - ⇒ N-100, R-100, or P-100 mask
- ➔ Dampen work surface to hold down dust
- ➔ Wash hands frequently to avoid hand to mouth ingestion of leaded dust
- ➔ Discard dust in plastic bag and seal shut

When finished:

- ➔ Vacuum ALL surfaces with HEPA filtered vacuum
- ➔ Wipe all areas with a wet cloth to absorb microscopic lead particles
- ➔ Discard work clothes (if possible), else
  - ⇒ Change as soon as possible
  - ⇒ Avoid contaminating other areas with lead dust from work clothes (do not shake out clothes)
  - ⇒ Wash lead contaminated clothes by themselves
  - ⇒ Take a shower and wash hair as soon as possible.
- ➔ **KEEP FOOD AND DRINK AWAY FROM LEAD DUST**

Lead poisoning symptoms in adults

Children are primarily at risk, but lead poisoning in adults is dangerous. Signs and symptoms for adults may include:

- High blood pressure
- Abdominal pain
- Constipation
- Joint pains
- Muscle pain
- Declines in mental functioning
- Pain, numbness or tingling of the extremities
- Headache
- Memory loss
- Mood disorders
- Reduced sperm count, abnormal sperm
- Miscarriage or premature birth in pregnant women

High levels can damage kidneys and nervous system.

Very high levels can cause seizures, unconsciousness, and death

Disposable Personal Protective Gear

Disposable Painter's Hat

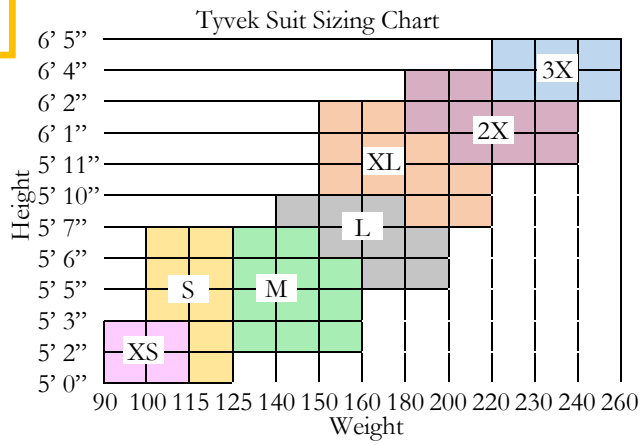
N-100, R-100, or P-100 Mask

Gloves (that can disposed of)

Disposable Booties

Disposable Tyvek Suit (hood and booties optional)

Tyvek Suit Sizing Chart



NOTE: Lead RRP (Renovation, Repair, and Painting) regulations

- Do not apply to volunteers
- Are normally lifted after a disaster

Books, Photographs, Paintings

These items can be further damaged in the drying process. It would be best to have recovery of these items done by trained conservators. In lieu of their availability, it is suggested that the items be treated so as to suspend further damage by mold and water, but not to attempt drying..

Books and Papers

Mold just on the exterior:

1. Remove mold by brush, HEPA vacuum (carefully) or magnetic broom such as swifter (DO NOT USE WATER)
2. Air dry (do expose to excessive sunlight)

Wet and moldy: (handle with care as wet papers tear easily)

1. Rinse mud off carefully
2. If thoroughly wet, place book on its head (top) on blotter paper with the covers only slightly open. Place absorbent paper between binder covers and pages. Replace papers as necessary when they become wet.
3. When partially wet, place blotting paper or unprinted paper towels between pages (about every 20 pages). Open book only a little, placing it facing up and starting from the back. Change papers as needed.
4. When books get to "damp" (as opposed to wet) stand upright and fan the pages often. If covers are still wet, place blotter paper between covers and pages.
5. When almost dry, lay flat, push covers into correct position, put light weights on it, and leave until dry.

CDs and DVDs

1. Rinse carefully with clean water
2. Let air dry

Paintings

Damaged structurally (canvas torn, paint flaking or lifting, dissolving of paints or canvas coverings)

Dry on tables in a face up position

In good condition: (for paintings on canvas)

1. Set several layers of blotter on a table;
2. Put a layer of clean tissue paper on top (tissue paper is not to have any color or writing on it, and is not to have any wrinkles when placing the painting on it)
3. Remove any frame attached to the picture, but not the stretcher for the canvas
4. Place the painting face down on the tissue paper.
5. Place blotters to fit within the stretcher. Do not overlap the blotters, but lay end to end.
6. Place plywood or Masonite to fit inside the stretcher
7. Put some weights on top of the plywood.
8. If the tissue paper adheres to the painting, do not remove it.

Loose Papers

Handle with care as wet papers tear easily

1. Rinse carefully
2. Place sheets out to dry (in places where breezes won't disturb them)

Photographs

While they are still wet:

1. Take them out of albums and separate those that are stacked together
2. Lightly rinse in cold, clean water
3. Lay out face up on unprinted paper towels to dry;

Or

If time doesn't permit to dry: after rinsing mud off the photos, place wax paper between photos, then seal in plastic bag and give to the homeowner to freeze.

CHAINSAW

This page is for review and is not intended for use as training.

Personal Protective Equipment

- Hardhat.
- Eye protection.
- Hearing protection.
- Gloves.
- Long-sleeved shirt.
- Chain saw chaps (recommended to overlap boots by at least 2 inches).
- Work boots with nonskid soles and adequate ankle support.

Chainsaw operation is VERY hazardous

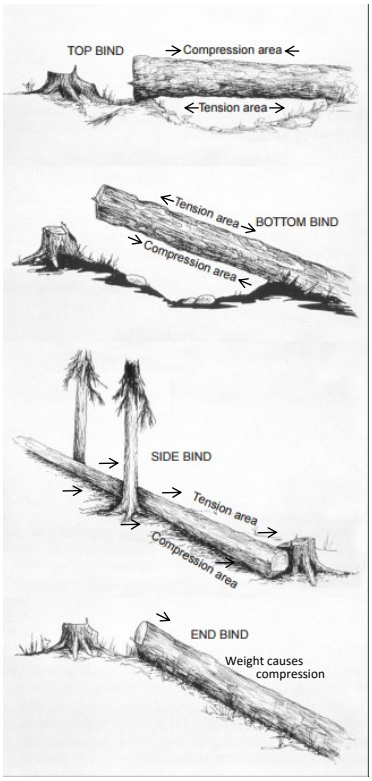
This is not a time for on-the-job training

Do not hesitate to walk away

Misreading a tree for cutting can cause injury or worse. **Leave the difficult cuts to the professionals**

Safety Concerns

- Escape route planned.
- Ground clear of obstructions/hazards
- Have a buddy to keep watch
- Everyone is outside the hazard area (both chainsaw cutting and tree felling).
- No overhead hazards
- Stable footing



Plan your cuts so saw will not bind in the compression, and log will fall safely away from you

If the energy contained in spring poles is released incorrectly, the results can be catastrophic to anyone nearby.

Hazard - downed trees with a root plate will spring up once weight is removed,

Suggested web sites for review of techniques, hazards, and best practices:

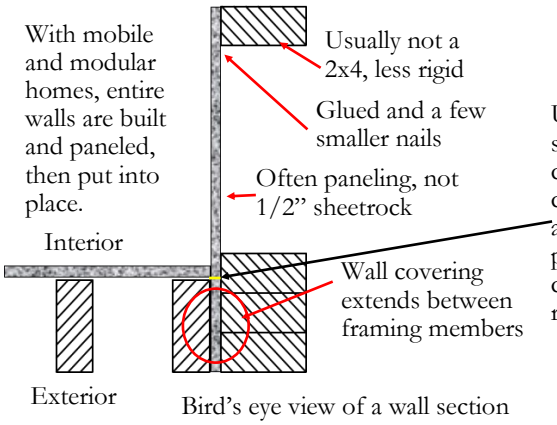
US Forest Service: http://www.fs.fed.us/t-d/pubs/htmlpubs/htm06672805/page04.htm

A series of videos of felling and bucking: https://www.youtube.com/watch?v=dugCSWtRaqM&index=1&list=PL4K4KER62NAh-XXVDdtHeH8Or4qF07JqR

Modular and Mobile Homes

CAUTION: these are built for speed, not durability. Take care when de-constructing.

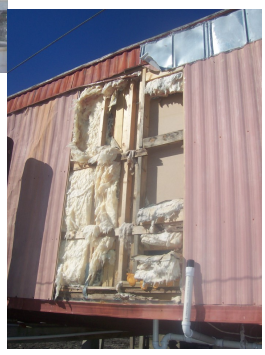
Walls



Bird's eye view of a wall section

If walls have inorganic covering or mold inhibitors (e.g. cedar paneling), and removing paneling will increase costs and time...

… consider getting to the wall cavity and insulation from the outside. Save outside paneling and cover opening with breathable, waterproof covering while it dries out.



Floor

For wall perpendicular to joists, leave some flooring where wall and joist meet

If the floor was not replaced previously, it is probably particle board and will need to be removed if it got wet.

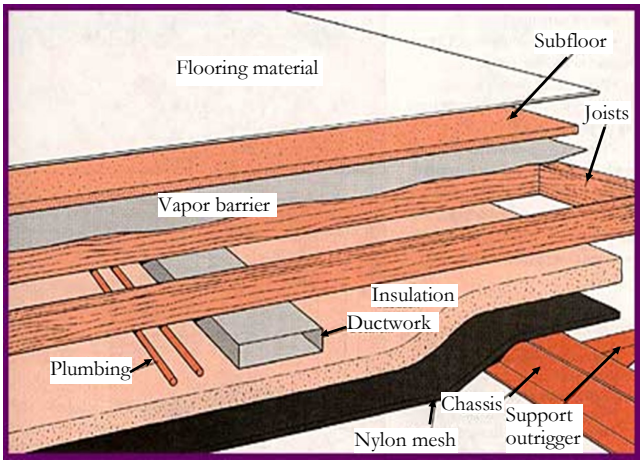
- ➔ It is easier to work from the ends toward the door
- ➔ Set a circular saw 1/8" deeper than the flooring
- ➔ Cut as close to the walls as possible
- ➔ Cut flooring into strips between joists (@ 3' wide)
- ➔ Pry up floor with long handled pry bars and shovels
- ➔ Pull out remaining staples

For walls parallel to joist, leave flooring spanning the joists on either side to give the wall support

Mobile Home Undercarriage

CAUTION:

Vermin make their nests in this area. Expect a lot of animal droppings, and possibly some carcasses



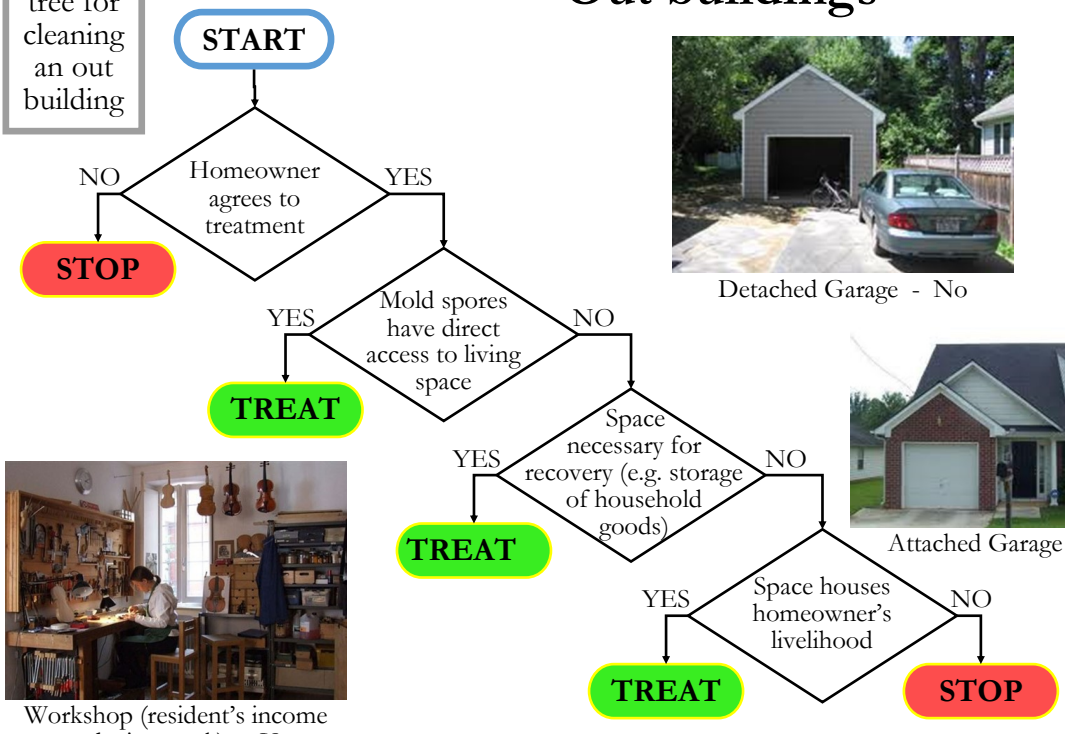
- ➔ Place tarps on the ground to catch debris and make clean-up easier
- ➔ Cut the nylon mesh
- ➔ Pull out insulation and duct work (leave the plumbing in tact)

NOTE: These layers were assembled by laying one item on top of the other. Consequently the insulation is pinched between the chassis and the joist. Remove as best as possible.

Floor joists normally run from side to side, but may run parallel with the sides

Out buildings

Decision tree for cleaning an out building



Detached Garage - No


Open Breezeway - No
However, entry path should be sanitized so as not to track contaminants indoors)


Attached Garage - Yes


Outhouse - If there is no indoor plumbing - Yes, Otherwise No

CAUTION - Take extra precautions in protective equipment when cleaning

Workshop (resident's income producing work) - Yes


Storage Space—No
However, may want to take items to debris pile while pick-up is available


Closed in breezeway or patio - Yes (Mold spores can't escape to the open air, but will enter the residence)


Guest House, Summer Cottage, Vacation Home
No
(Work on primary residence only)


Hobbies Room - No

Non-Traditional Housing


No - Presumably not a primary residence

Criteria for providing service:
1. It is the primary residence
2. It is stable
3. Residence is in its "dock"


Yes - Primary residence and in its dock


Looks like it meets the criteria; is the structure stable?


Is it in its dock, or did it get washed off its piers and wound up here?


No - Structure is not in its dock and is unstable

WEB SITES OF INTEREST

General Advice

Flood Recovery Checklist
https://www.ag.ndsu.edu/pubs/ageng/structu/de1519.pdf

Flood Recovery Checklist for Farmsteads
https://www.ag.ndsu.edu/pubs/ageng/structu/de1562.pdf

FEMA pamphlet on repairing a flooded home
http://permanent.access.gpo.gov/gpo2638/fema_p234_complete.pdf

Texas A&M has many of their pamphlets in Spanish
http://texashelp.tamu.edu/disaster-information-recovery.php#home

LSU AgCenter has sections on pests and vermin after a disaster
http://www.lsuagcenter.com/nr/rdonlyres/e7bd883e-58bd-4c95-b4af-1e2a4f7afa01/26131/pub2668stormrecoveryguide2006lowres.pdf

The latest from HUD has a lot of good information
http://portal.hud.gov/hudportal/documents/huddoc?id=HH_Rebuild_2015_DR.pdf

Cleanup

What is Clean vs Sanitized
https://www.ag.ndsu.edu/pubs/yf/foods/fn1350.pdf

Mold

Cleanup and Removal info on page 2
https://www.ag.ndsu.edu/pubs/ageng/structu/ae1179.pdf
Removing Mold Stains on page 2
https://www.ag.ndsu.edu/pubs/ageng/structu/ae1179.pdf

HVAC

Duct work concerns even if not submerged
http://www.cdc.gov/niosh/topics/emres/Cleaning-Flood-HVAC.html

Important Papers, Books, and Art Work

Papers, books, and photos info on page 4
https://www.ag.ndsu.edu/pubs/ageng/structu/de1519.pdf
Book restoration
https://www.library.cornell.edu/preservation/librarypreservation/mee/management/proceduresforairdryingwetbooksandrecords.html
Books, Papers
http://www.loc.gov/preservation/emergprep/dry.html
An in depth and professional thesis on book and art-work
http://www.ccaha.org/uploads/media_items/technical-bulletin-salvaging-books.original.pdf

Garden Produce

Garden and Landscape info on page 9
https://www.ag.ndsu.edu/pubs/ageng/structu/de1519.pdf

Outdoor Plants

Tree and shrub advice
https://www.ag.ndsu.edu/pubs/plantsci/trees/h1592.pdf
Lawn and Garden Care
https://www.ag.ndsu.edu/pubs/plantsci/landscap/h1593.pdf
Treatise on flooded outdoor areas being safe
http://www.cdc.gov/nceh/ehs/Publications/Guidance_Flooding.htm

Stress

A pamphlet on stress in general:
https://www.ag.ndsu.edu/disasters
Stress after a disaster (page 6) also info on kids' stress
https://www.ag.ndsu.edu/pubs/yf/fitness/fs1730.pdf
Children and Disasters information
http://www.pubs.ext.vt.edu/VCE/VCE-411/VCE-411-pdf.pdf

EDEN

The Extension Disaster Education Network is a great source to a lot of writings by various educational organizations' extension learning.
http://eden.lsu.edu/Pages/default.aspx

When the Waters Recede

Sample Forms

A Field Manual for Early Response

DISASTER SITE/TEAM INFORMATION

Site Manager and phone _____

Hospitality person and phone _____

HOSPITAL address _____

Other contacts _____

_____

Grocery store address _____

Pharmacy address _____

Team members and cell numbers

_____ _____

Leader

_____ _____

_____ _____

_____ _____

_____ _____

_____ _____

_____ _____

_____ _____

_____ _____

_____ _____

New Client Contacts (from the field)

If someone asks, or you find someone needing recovery assistance, refer them to the:

UMC Disaster Recovery Office Phone: _____
Address: _____
Office hours: _____

Fill out the contact information (below) if they are willing to give you that information. Impress on them that they should contact the office directly

---

Name _____
Address
(of affected home) _____
Phone(s) where they can be reached_____
Brief description
of damage _____

Name _____
Address
(of affected home) _____
Phone(s) where they can be reached_____
Brief description
of damage _____

Name _____
Address
(of affected home) _____
Phone(s) where they can be reached_____
Brief description
of damage _____

Name _____
Address
(of affected home) _____
Phone(s) where they can be reached_____
Brief description
of damage _____

DISASTER RECOVERY CENTER

Sign in Sheet

Please Sign in. Date_____

Name:

Client Intake Interview

Please put your initials next to "Name" on the "Client Sign-in" to indicate who has been serviced.

Release Form (Statement of Understanding for Access to Property) If the client refuses to sign this form, there is no purpose to continue with the interview. Without this form, the only help we can provide is to give them a cleaning (flood) bucket.

Client Intake Form:

Date – Today's date
Intake by - Initials of case worker
Address –Address of the structure to be work on.
Phone & 2nd phone - Phone numbers where client can be reached
Release Signed – Have the client sign the release form so we can legally enter the property. Without it, we can not provide the services
Availability – How long for client to arrive at address, times when they are available to come to address; how can teams get access to address
Family Information – Information on number of people in the family, age of the children, pets. This information can be helpful to teams interacting with the client.
Brief Description of Damage - e.g. Water 4 feet in the house; Tore the handicap ramp off the house; Need my stuff removed; Tree fell on the roof.
Own/Rent - Do they own the place, rent it, purchasing from someone? We can not work on a structure unless we have permission from its owner. We can help with the personal property in a rental.
Built in – approximate year when structure was built
Residence type/Business If it is being used in another manner (E.g. storage), write this in.
Chainsaw - Priority would be trees on the house, or blocking access to structure or parking
Blue Tarp – Does the roof leak, needing a temporary fix; are there holes needing to be covered with decking?
Primary Residence – Primary home or second/vacation home.
Bldg can be occupied - Is the damage minimal such that it can be lived in while repairs are being made?
Stories – How many stories to the structure
Slab/Crawl Space/Basement – What type of foundation is the house built on?
Utilities – Fill in information as supplied by client
Appliances – Fill this in if the client knows the information
Client Priority

1— Client's condition demands they be at the top of the list for services. This would include severely handicapped people, or their temporary accommodations are not appropriate
2— Client's circumstances make them a priority. Some examples include elderly or infant in the family, or school aged children who need a place conducive for studying.
3— Client's situation does not require a higher priority

Assessment The rest of the information on the form is for the person doing an onsite assessment.
Assessor: Fill out page 2 of form noting the damage to the structure. The "concerns" listed are only a reference to guide in the damage assessment. Digital photos of damage can be helpful. Provide your name in the **Assessed by** for future reference, and the date of the assessment. Then return to the bottom of page 1 to recap the work needing to be done.

Emergency Needs: List work that needs to provided immediately, such as tarp roof or secure residence or move/cover personal goods that are exposed to the elements.
Synopsis Table: Mark each column in the table as appropriate.

ASSESSMENT CLUES AND FEMA GUIDELINES

Initial or Preliminary Damage Assessment (PDA FEMA)

Damage level	Description	Structure damage	Mobile home damage
Affected	Received damage but usable	Water < 1' in basement; minor access problem	Problems w/ access underneath; no water touched unit
Minor Damage	Currently uninhabitable but can be easily repaired in a short time	Water < 2' on first floor	Utilities flooded; piers shifted or washed out
Major Damage	Currently uninhabitable; substantial damage, will require much repair, but economically feasible	Water > 2' on first floor; structural damage	Bottom of flooring soaked; shifted on piers
Destroyed	Sever damage; not economically feasible to repair	Not economical to repair or pushed off foundation	Water above floor or swept off foundation

For more on FEMA designations: FEMA 9327.1-PR April 2005 Section D.5

http://www.ok.gov/OEM/documents/FEMA-PDA%20SOP%20SM%203-26-05.pdf

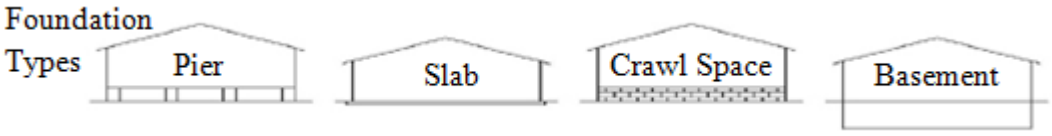
Height Clues

Item	***Standard*** height
Brick	2 ½ inches per course
Cinder block	8 inches per course
Siding	4 or 8 inches per course
Stairs	7 inches per step
Door knob	36 inches
Ceiling height	96 inches
Door height	80 inches
Garage door height	84 inches

Are there window wells (indicating basement) or vents (indicating crawl space) below the 1st floor level?

If there is a basement, is there a hose or other signs of its being pumped out?

Water marks indicating flooding level: discoloration lines on houses, fences, trees; mud on foliage; light debris (e.g. plastic bags snagged in trees).



Disaster Relief Intake & Assessment

Date _____ Intake by _____

Name _____ Phone _____

Address _____ 2nd Phone _____

City, State _____ Community Area _____

Availability _____

Family Information (including pets)

Brief description of damage _____

☐ Own ☐ Rent	☐ Single Family Home ☐ Multiple Family Dwelling ☐ Mobile Home ☐ Business	Chainsaw Needs ☐ Priority ☐ Routine	Roof Tarp Needed ☐ Yes ☐ No ☐ ? Roof Deck Damaged ☐ Yes ☐ No ☐ ?	Primary Residence ☐ Yes ☐ No	Heating System age _____
Built in _____		☐ Pump basement		Bldg can be occupied ☐ Yes ☐ No	Cooling System age _____

_____ Insurance Coverage _____ Insurance Type

House Information
_____ # Bedrooms
_____ # Stories
High water level
_____

Foundation: ☐ Pier ☐ Slab ☐ Crawl space ☐ Basement

Water: ☐ City ☐ Well ☐ On ☐ Off Main shutoff location _____

Sewer: ☐ City ☐ Septic Location of septic field _____

Electric: ☐ On ☐ Off Location of fuse box _____

Gas: ☐ On ☐ Off Meter location _____

Oil Shutoff location _____ Propane shutoff location _____

Appliances that were immersed in flood waters: ☐ H/W ☐ Furnace ☐ Stove ☐ Dishwasher ☐ Refrigerator ☐ W/D ☐ Freezer ☐ Window AC ☐ Whole house AC ☐ Jacuzzi Other _____

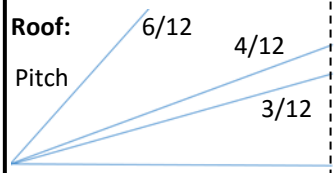
FEMA Damage Category ☐ Affected ☐ Minor ☐ Major ☐ Destroyed ☐ Inaccessible ☐ Unknown **Priority_____**

House Assessment Summary
(To be filled out by assessor)

Emergency Needs:

Tarp Roof	Chainsaw	Pump Basement	Remove Goods	Mud Out	Yard Debris	Crawl Space Work	Demolition	Other
N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
By Client	By Client	By Client	By Client	By Client	By Client	By Client	By Client	By Client
ERTs	ERTs	ERTs	ERTs	ERTs	ERTs	ERTs	ERTs	ERTs
Expert	Expert	Expert	Expert	Expert	Expert	Expert	Expert	Expert
Unknown	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown

Case # _____ Name/Address_____

Area and concerns	Description	Assessed by _____
Lot Condition: How much debris? Special equipment needs? Hazards? Parking available? Building can be accessed? Fence type & condition?		
Roof:  Roof type? Materials? Holes/Decking needed? Size of damaged area? Stories off ground?		
Exterior: Block or wood construction Type of siding? Asbestos? Condition of siding, stairs, windows and doors? Holes in walls? Sq ft? Can house be secured?		
Foundation: Type? Shifts. bowing, or cracks? Height of space? Stone, block, concrete? Ventilation under house? Access info? Mud? Water still in basement?		
Floors: Rugs to be removed Hardwood floors? Other flooring to remove? Rot or weak spots in floor? Subfloor material?		
Wall & Contents Doors. Wall Material? Removal height? Condition of duct work? Upper & Lower cabinets? Belongings to save? How much to move to curb		
Appliances to remove **And other concerns:** HVAC, Hot water heater, Refrigerator, stove, hot tub? Other concerns?		

Name/Address _____

Teams assigned and dates

Case progression note/issues: (Notes on progress or snags)

File closure note/issues: (Problems encountered, such as rotted floor joists)

Client Closeout Conference Date: _____ Case Closed date: _____

Disaster Damaged?

Need help?

Start the process at the

Disaster Recovery Center

address

hours open

Or call phone

Trained personnel ready to help

Disaster Damaged?

Need help?

Start the process at the

Disaster Recovery Center

address

hours open

Or call phone

Trained personnel ready to help

EARLY RESPONSE ASSIGNMENT

Total hours spent _____

---------- **CASE INFORMATION** ----------

Family _____ Phone _____

Address _____

Directions _____

Family information (including pets)

---------- **ASSIGNMENT CONCERNS** ----------

__ Signed Release

Work Assignment:

Refuse __ At Street Other _____

Refuse Separation __None

__Household refuse __Appliances __Electronics (TV, phones, etc) __Construction debris

__Vegetation (trees, etc) __Household hazardous waste (oil, paints, cleaning supplies, batteries, pesticides, gas)

__Other Refuse Instructions: _____

(Refuse pile w/in 10' of street; away from traffic, utility shutoffs, power lines, mail box, fire hydrant, and beyond 10' of living trees)

---------- **RESIDENCE CONCERNS** ----------

Water __On __Off Shutoff location _____

Electric __On __Off Shutoff location _____

Gas __On __Off Shutoff location _____

Oil __On __Off Shutoff location _____

Propane __On __Off Shutoff location _____

Gas __On __Off Shutoff location _____

Septic Field location _____

__Yes __No Structure is stable (on its foundation; support beams in place)

__Yes __No Stairs are sturdy

__Yes __No Known valuables are removed

Other property/valuables concerns

---------- **SPECIAL CONCERNS (ON BACK)** ----------

Example: animals, explosives, house structure, trees

When the Waters Recede

Client Handouts

A Field Manual for Early Response

DE1583

FLOOD RECOVERY

Dry Out Before Rebuilding

Kenneth Hellevang, Extension Agricultural Engineer

The problem: Wood submerged in water will absorb a large amount of water. Rebuilding too quickly after a flood can cause continuing problems such as mold growth, insect infestations and deterioration of the wood and wall coverings.

How long until it's dry? It may take weeks for the wood to be adequately dry to close a wall. The drying time will vary depending on the initial moisture content and the drying conditions.

How can I tell if it's dry enough? Test it with a wood moisture meter. Wood should have a moisture content of less than 15 percent before drywall, paneling or other coverings are placed on the wood. Do-it-yourselfers may be able to borrow or rent a meter from a hardware store or lumberyard. Many county offices of the NDSU Extension Service have meters that can be checked out. If a contractor is doing the work, homeowners should have the contractor verify with a meter that the wood is dry.

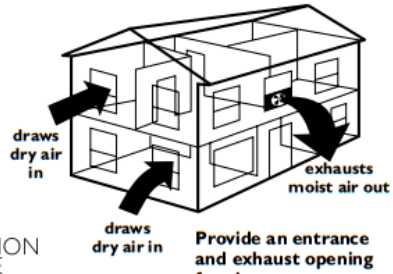
The only accurate way to measure wood moisture content is with a wood moisture meter.

How Can I Dry Things Out?

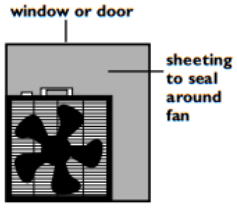
Ventilation. Ventilation is usually the best way to dry things out and can remove several gallons of water per day. Provide an entrance and exhaust opening for air to promote cross-ventilation. Place a fan in a window or door with the fan to the outdoors. Seal the rest of the opening with cardboard, plywood or blankets so the fan can create a vacuum. Use fans to circulate air over wet surfaces. Face fans into corners or other hidden areas.

Heat. Heat increases the moisture-holding ability of the air. Use your furnace or large heaters to heat the air. Small space heaters will have little effect. As wood gets drier it may be helpful to heat the house for a few hours then ventilate to exchange moist air with dry air.

Dehumidifiers. A dehumidifier can be used if outside air is humid. Dehumidifiers function most efficiently at warm temperatures. At 80 degrees and 60 percent relative humidity, most dehumidifiers will remove 1-2 pints of water per hour from the air.



Provide an entrance and exhaust opening for air.



Place fan facing out in a window or door and seal the rest of the opening.

NDSU EXTENSION SERVICE

Reviewed and reprinted June 2011

PHONE NUMBERS AND WEB SITES OF INTEREST

This page is provided as information more for the homeowner than for a disaster response team

Appliances

Amana 866-616-2664
Bosch 800-944-2904
Creda 800-800-2733
Dacor 800-793-0093
Five Star 800-553-7704
Franklin 877-261-9867
Frigidaire 800-374-4432
Gaggenau 877-424-3628
GE 800-626-2005
GE Monogram 800-444-1845
Hamilton Beach 800-851-8900
Hotpoint (GE) 800-626-2005
In-Sink-Erator 800-558-5700
JennAir 800-536-6247
Kenmore 800-469-4663
KitchenAid 800-334-6889
LG 800-243-0000
Magic Chef 800-688-1120
Maytag 866-616-2601
Panasonic 800-211-7262
RCA 877-794-7977
Sears 800-469-4663
Sharp Microwave 800-237-4277
Subzero 800-222-7820
Tappan (see Frigidaire)
Thermador 800-656-9226
Viking 888-845-4641
Whirlpool 866-698-2538

Electronics

DIRECTV 800-494-4388 or TTY 800-779-4388
GE 800-447-1700
Hitachi 800-448-2244
JVC 800-252-5722
Mitsubishi 800-332-2119
Pioneer 800-421-1404
RCA 877-794-7977
Sony 800-222-7669
Toshiba 800-631-3811
Zenith 877-993-6484

General Advice

Flood Recovery Checklist
https://www.ag.ndsu.edu/pubs/ageng/structu/de1519.pdf

Flood Recovery Checklist for Farmsteads
https://www.ag.ndsu.edu/pubs/ageng/structu/de1562.pdf

FEMA pamphlet on repairing a flooded home
http://permanent.access.gpo.gov/gpo2638/fema_p234_complete.pdf

Texas A&M has many of their pamphlets in Spanish
http://texashelp.tamu.edu/disaster-information-recovery.php#home

LSU AgCenter has sections on pests and vermin after a disaster
http://www.lsuagcenter.com/nr/rdonlyres/e7bd883e-58bd-4c95-b4af-1e2a4f7afa01/26131/pub2668stormrecoveryguide2006lowres.pdf

The latest from HUD has a lot of good information
http://portal.hud.gov/hudportal/documents/huddoc?id=HH_Rebuild_2015_DR.pdf

Outdoor Plants

Tree and shrub advice
https://www.ag.ndsu.edu/pubs/plantsci/trees/h1592.pdf
Lawn and Garden Care
https://www.ag.ndsu.edu/pubs/plantsci/landscap/h1593.pdf
Treatise on flooded outdoor areas being safe
http://www.cdc.gov/nceh/ehs/Publications/Guidance_Flooding.htm

Observations on Sources and Advice from the Web

- Not all sources agree on what actions are to be taken following a flood
- The sources above are not all inclusive.
- If searching for other sources, be cognizant of their stake in a recovery (E.g. an appliance manufacturer may be providing good advice, but it may be slanted more toward increasing their business)
- In reading the suggested actions, be aware of the time period for which they are written. Actions suggested for immediately after waters recede may not be effective a week later.
- The nuances of the disaster will also have an impact on actions to be taken:
  - Relatively clean water vs flood waters filled with contaminants
  - Waters containing a lot of silt
  - Duration before the waters receded
  - Sea water vs fresh water