Iron Mountain Home Inspection Training Academy

RESIDENTIAL REPORT

1234 Main Street
Portsmouth, VA 23701

Buyer Name
05/25/2024 9:00AM

Agent
Agent Name
555-555-5555
agent@spectora.com

FULL PDF HOME INSPECTION REPORT FOR TRAINING PURPOSES

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1: INSPECTION DETAILS

Information

In Attendance
Property location
Client

Selection for persons in attendance.

Occupancy
Occupied

Style
Ranch

Type of Building
Single Family

2: ROOF

Information

Roof Type/Style
Roof
Hip
Roof type and style.

Inspection Method
Roof
Ladder, Ground, Drone
Inspection method is performed using a ladder, drone or magnification from the ground.

Coverings, roof drainage systems, flashing, skylights, chimney and other roof penetrations: **Coverings, roof drainage systems, flashing, skylights, soffit vents, chimney and other roof penetrations**

Roof

Asphalt, No gutters

Roof system photos are for your information:

1. Estimated age of roof: 20 to 23 years.
2. Gutters installed: No.
3. The service life of this roof is: 20 years depending on conditions.
4. Shingle type: 3-tab shingles (not a 30-year shingle).

Additional roofing information:

Roofs are constructed in different materials depending on the property. Common materials are Asphalt, metal, concrete, wood (cedar shake), Slate (stone), clay, and rubber membrane (flat). See the examples in the images for roofing terms, roofing types and roofing materials. Asphalt is the most common due to its availability and cost effectiveness.

Purpose of a roof:

The purpose of a roof is to provide protection and shelter for a building or structure. Here are the primary functions and purposes of a roof:

1. Weather Protection: The roof acts as a barrier against the elements, such as rain, snow, hail, wind, and sunlight. It prevents water from entering the building, protecting the interior from moisture damage and ensuring a dry and comfortable living or working environment.

2. Structural Support: The roof structure, including the framing, trusses, and beams, provides support for the weight of the roof itself, as well as any additional loads such as snow accumulation or equipment installed on the roof. It transfers the weight to the walls or support columns, ensuring the stability and integrity of the entire structure.

3. Thermal Regulation: The roof plays a role in insulating the building and regulating its temperature. It helps to keep the interior cool in hot weather by reflecting sunlight and preventing excessive heat absorption. Additionally, insulation materials installed within the roof system can improve energy efficiency by reducing heat loss in cold weather.

4. Ventilation and Airflow: Proper roof design includes ventilation systems to allow air circulation in the attic or roof space. This helps remove excess heat, moisture, and pollutants, preventing damage to the roof structure and promoting a healthier indoor environment.

5. Protection from Pests: A well-constructed roof with proper sealing and screening can help keep out pests such as birds, insects, and small animals, preventing them from entering the building and causing damage or creating unsanitary conditions.

6. Aesthetics and Architectural Style: The roof significantly contributes to the overall appearance and architectural style of a building. It can enhance the curb appeal and aesthetics, making a visual statement and harmonizing with the surrounding environment or architectural design.

7. Longevity and Durability: A properly installed and well-maintained roof can have a long lifespan, protecting the building for many years. Quality roofing materials, regular inspections, and timely repairs or replacements contribute to the durability and longevity of the roof.

Overall, the purpose of a roof is to provide a protective covering that safeguards the building, its occupants, and its contents from the elements, while also supporting the structural integrity and energy efficiency of the structure.

How roofs are installed (components of a roof):

The process of installing a roof can vary depending on the specific type of roofing material and the design of the building. However, here are the general steps involved in installing a roof:

1. Preparation: Before installing the roof, the existing roof covering, if any, is removed. The roof deck is inspected and repaired if necessary. Any damaged or rotted materials are replaced, and the deck is cleaned and cleared of debris.

2. Underlayment: A layer of underlayment is installed on the roof deck to provide an extra layer of protection against moisture. This can be a synthetic underlayment or asphalt-saturated felt paper.

3. Flashing: Flashing is installed around roof penetrations, such as chimneys, skylights, vents, and valleys, to prevent

water from seeping into vulnerable areas. Flashing materials can include metal, rubber, or specialized flashing membranes.

4. Starter Course: A starter course is installed along the eaves of the roof to provide a secure base for the first row of shingles or other roofing materials. It helps to prevent wind uplift and ensures proper alignment of the roof covering.

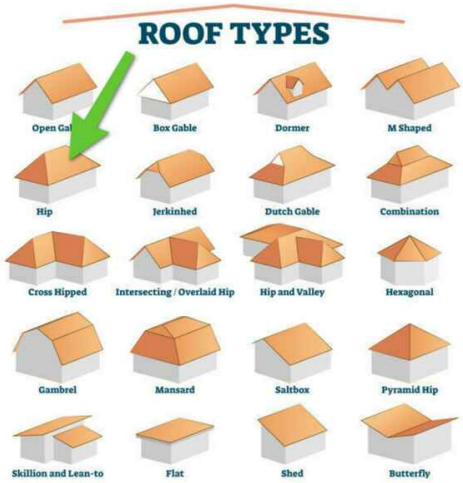
5. Roofing Material Installation: The roofing material is installed according to the manufacturer's instructions. This can include shingles, metal panels, tiles, or other roofing materials. Each material has its own specific installation process, which may involve nailing, fastening, or adhesive application.

6. Ridge Vents and Ventilation: If the roof design requires ventilation, ridge vents or other types of ventilation systems are installed along the ridge line to allow for proper airflow and heat dissipation.

7. Finishing Touches: Once the roofing material is installed, the final touches are completed. This can include the installation of ridge caps, hip caps, or other finishing elements to provide a watertight and aesthetically pleasing finish.

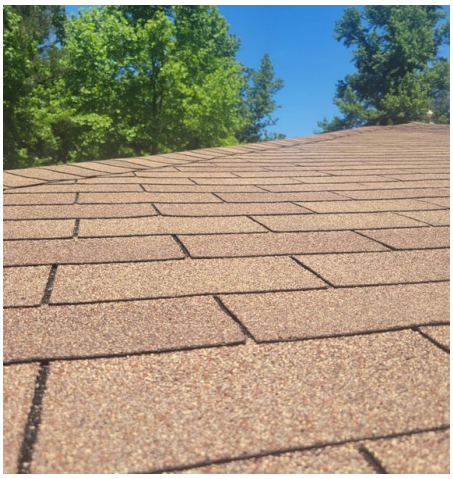
It's important to note that installing a roof is a complex task that requires knowledge and expertise. It is recommended to hire professional roofers who are experienced in the specific roofing material you choose. They can ensure proper installation, adherence to building codes, and provide warranties for their workmanship.

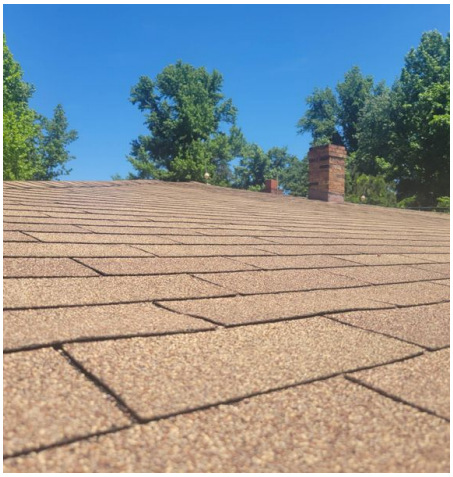
TYPES OF ROOFING MATERIALS

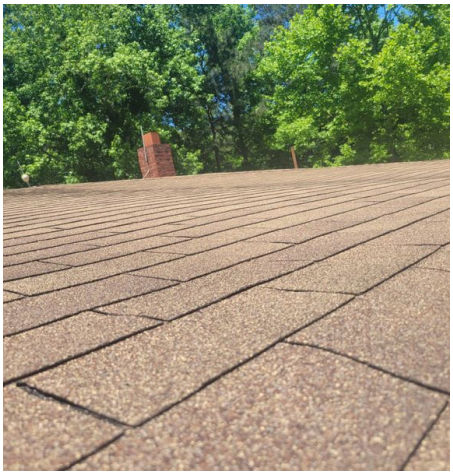


ROOF TYPES EXAMPLE ONLY

EXAMPLE ONLY (ROOF TERMS)

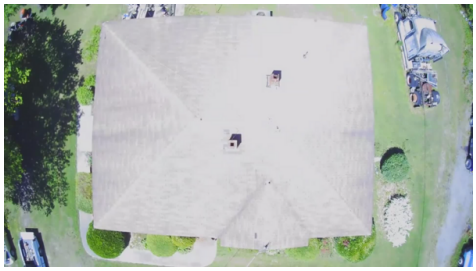










Limitations

General

ROOF DISCLAIMER

Our review is not a warranty of the roof system or how long it will be watertight in the future. This inspection is made on the basis of what is visible and accessible around the Eaves using a Ladder or a Telescoping pole or Drone on the day of the inspection and in most cases without walking the roof as walking the roof is forbidden by OSHA. Many leaks occur only under conditions of prolonged rain or other increased weather patterns, and these conditions may not be present at the time of the inspection. Additionally, if several items are noted with roofing defects a Separate review from a qualified Roofer should be considered and conducted and if so the outcome of this more advanced inspection and findings should be followed for updates and or repairs by qualified Roofers over our General Inspection recommendations as we do not quote code nor are we Roofers. For an accurate cost on what repair or replacement cost will be, a qualified roofing contractor should be contacted. Buyers are encouraged to ask the current owner about the presence of any roof leaks. All roof coverings require periodic maintenance, and an annual inspection is recommended especially after storms or long periods of rain and or Nor-Easters, Hail etc.

De ciencies

2.1.1 Coverings, roof drainage systems, flashing, skylights, chimney and other roof penetrations

Recommendation

FASCIA AND SOFFIT LOOSE OR SEPARATED

ROOF

During the inspection, it was observed that the Fascia and soffits exhibit signs of being loose or separated. Such conditions can lead to water infiltration around the roof edges. In some instances, the lumber beneath the metal flashing may have incurred damage due to this looseness. These components are typically secured to the home with nails and can be tightened to prevent moisture intrusion. It is recommended to seek evaluation and repair from a qualified contractor to address these issues effectively.

Recommendation

Contact a qualified roofing professional.

EXAMPLE ONLY







2.1.2 Coverings, roof drainage systems, flashing, skylights, chimney and other roof penetrations

Recommendation

THE ROOF IS NEAR THE END OF ITS SERVICE LIFE

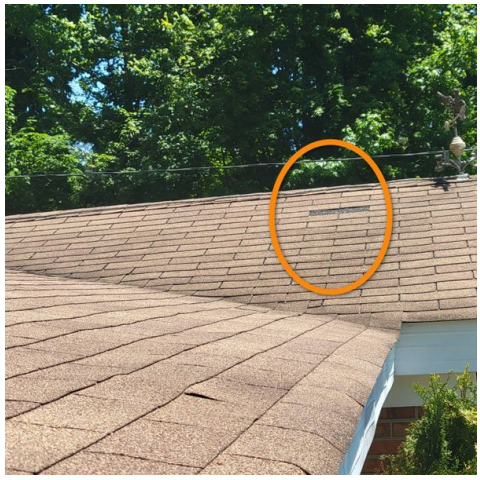
ROOF

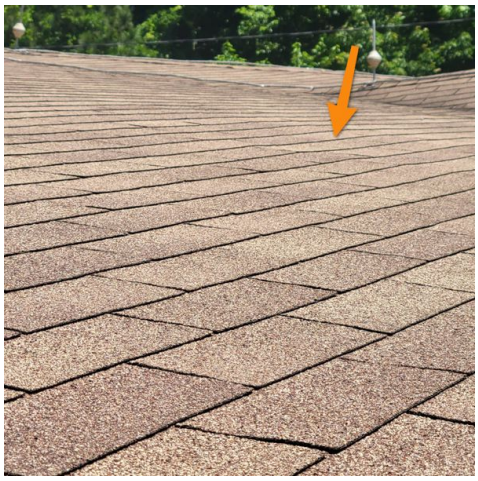
The roof shows signs of significant wear, nearing the end of its serviceable life, with leaks evident within the living area. These leaks may stem from damaged flashing around the chimneys, this area has been patched. Missing shingles and a wavy appearance on the roof indicate aging roof sheathing, a common occurrence (aged roof sheathing in attic). When replacing the roof, it's advisable to address the chimney flashing to prevent future issues. Moisture intrusion in the attic has also been observed, alongside uncapped chimneys. Concerning the moisture stains on the ceiling, no additional water sources were identified in the visible attic areas. *Recommend a roofing contractor to evaluate and repair or replace this roof.*

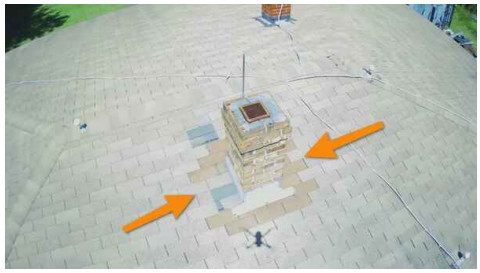
Recommendation

Contact a qualified roofing professional.

HOW LONG DO SHINGLES LAST (EXAMPLE ONY)







2.1.3 Coverings, roof drainage systems, flashing, skylights, chimney and other roof penetrations

Recommendation

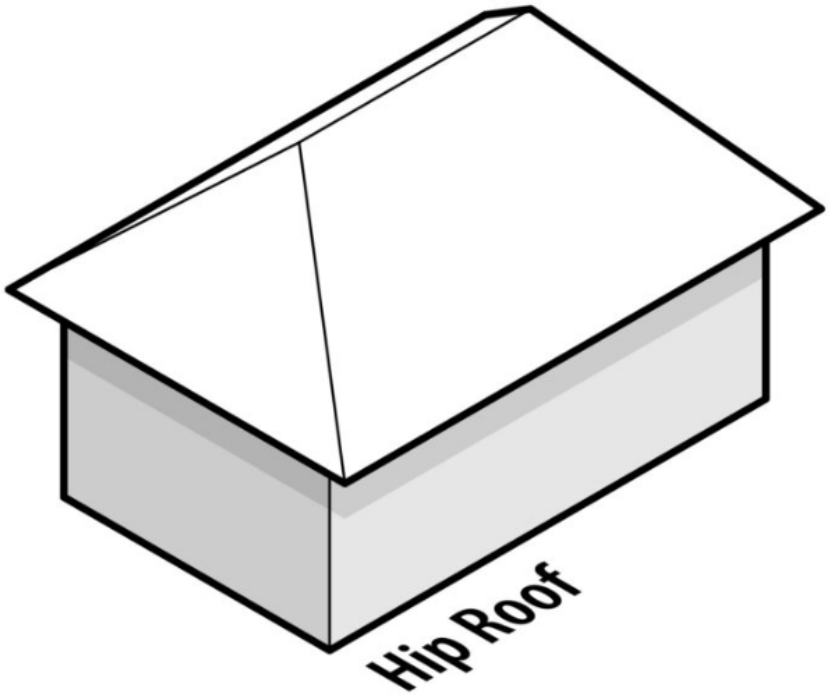
NO GUTTERS INSTALLED

ROOF

It is advisable to install gutters to divert water away from the home, helping to prevent potential water damage. Additionally, the presence of a hipped roof provides ample space for gutter installation, as all four sides feature a fascia.

Recommendation

Contact a qualified gutter contractor








3: EXTERIOR

Information

Inspection Method
Visual

Walkways, Patios & Driveways:
Driveway/ Material/photos
Exterior
Gravel

Exterior drive way/walk way photos for your information.

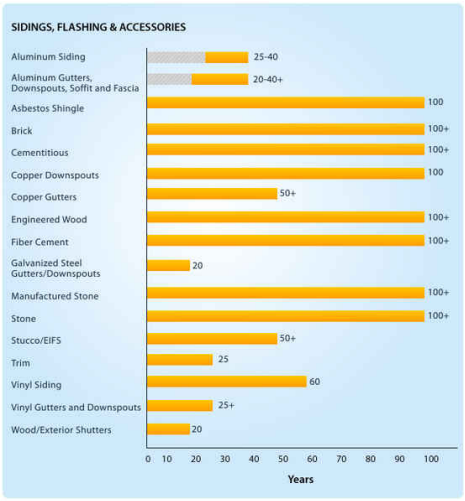
Siding, Flashing & Trim, exterior doors, eaves, soffit vents, windows and fascia: Siding Material

Exterior

Brick

Exterior Siding/door photos for your information.

TYPES OF SIDING MATERIALS
EXAMPLE ONLY



EXAMPLE ONY FOR SERVICE LIFE OF SIDING







Decks, Balconies, Porches & Steps: Appurtenance

Exterior

Multiple porches

Exterior photos of the decks, balconies, porches and steps for your information.

Additional information on how decks are built:

Building a deck involves several key steps to ensure a sturdy and functional structure. Here is a general outline of how decks are typically built:

1. Design and planning: Determine the size, shape, and layout of your deck. Consider factors such as the desired location, purpose, local building codes, and any necessary permits. Create a detailed plan that includes dimensions, materials, and any special features.

2. Site preparation: Clear the area where the deck will be built. Remove vegetation, rocks, and other debris. Level the ground if necessary, ensuring proper drainage away from the house.

3. Foundation and footings: Decide on the type of foundation for your deck. Common options include concrete footings, concrete piers, or helical screw piles. Dig holes for the footings, ensuring they reach below the frost line and are of the appropriate size and depth. Install the footings according to local building codes and specifications.

4. Ledger board installation: If attaching the deck to the house, install a ledger board. This board is attached to the exterior wall of the house, providing support and stability for the deck. Ensure the ledger board is level and securely fastened to the house's framing.

5. Support posts and beams: Install support posts on top of the footings, typically using metal post brackets or embedded anchors. Attach beams to the support posts, creating the framework for the deck. Ensure the posts and beams are level and securely attached.

6. Joist installation: Attach joists horizontally between the support beams, creating the deck's substructure. Space the joists according to the manufacturer's guidelines and local building codes. Use joist hangers or brackets to secure the joists to the beams.

7. Decking installation: Install the deck boards on top of the joists, starting from the outer edge and working your way inward. Use appropriate fasteners, such as screws or nails, recommended for the specific decking material you're using. Leave a small gap between the deck boards to allow for expansion and drainage.

8. Railing installation: Install the railing around the perimeter of the deck, if desired or required by local building codes. Choose a railing style that fits your design and ensure it is securely attached to the deck's framework.

9. Stairs and landings: If your deck requires stairs or landings, construct them according to the design and local building codes. Ensure the steps are uniform in height and width for safety and ease of use.

10. Finishing touches: Apply any desired finishes or treatments to the deck, such as staining, sealing, or painting. Install any additional features, such as lighting, benches, or planters.

Throughout the construction process, it's important to follow all relevant building codes, obtain any necessary permits, and use appropriate safety measures. It's also recommended to consult local building authorities or a professional contractor to ensure compliance with regulations and to obtain specific guidance based on your location and project requirements.

Decks, Balconies, Porches & Steps: Material

Wood

Additional information on deck building materials:

There are several different materials commonly used for building decks, each with its own characteristics, benefits, and considerations. Here are some popular deck materials:

1. Pressure-treated wood: Pressure-treated wood is the most common and affordable option for deck construction. It is treated with preservatives to resist rot, decay, and insect damage. Pressure-treated wood is durable and readily available, but it requires regular maintenance such as staining or sealing to prolong its lifespan.

2. Cedar: Cedar is a popular choice for its natural beauty and resistance to rot and insects. It has a warm, reddish-brown appearance and contains natural oils that provide some resistance to decay and moisture. Cedar decks require regular maintenance to preserve their color and prevent weathering.

3. Redwood: Redwood is similar to cedar in terms of its beauty and resistance to decay. It has a rich, reddish color and natural tannins that offer some protection against insects and rot. Redwood decks require regular maintenance to maintain their appearance and structural integrity.

4. Composite decking: Composite decking is made from a combination of wood fibers and recycled plastic. It offers the look of wood with low maintenance requirements. Composite decking is resistant to rot, warping, and insect damage. It does not require staining or sealing, but periodic cleaning is recommended to remove dirt and debris.

5. PVC (Polyvinyl chloride) decking: PVC decking is made from synthetic materials that are highly resistant to moisture, mold, and rot. It is durable, low-maintenance, and available in a variety of colors and styles. PVC decking is less prone to fading, staining, or splintering compared to natural wood, but it can be more expensive.

6. Aluminum decking: Aluminum decking is a lightweight and durable option that is resistant to rust, decay, and insect damage. It is low-maintenance and available in various finishes and colors. Aluminum decking can be more expensive upfront, but it offers long-term durability and requires minimal upkeep.

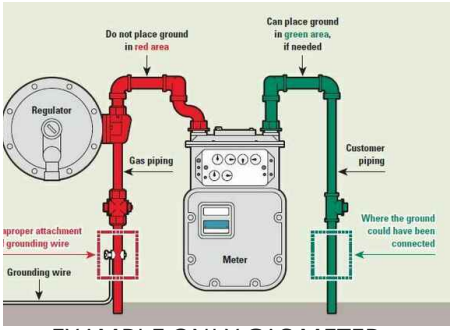
7. Tropical hardwoods: Tropical hardwoods, such as ipe, cumaru, or tigerwood, are known for their natural beauty, durability, and resistance to decay and insects. They offer exceptional strength and longevity but can be more expensive and require special tools and expertise for installation.

When choosing a deck material, consider factors such as budget, desired aesthetics, maintenance requirements, durability, and environmental impact. It's also important to check local building codes and regulations to ensure compliance with specific material requirements in your area.

Gas: Gas meter images

exterior

The gas meter on the home typical powers the hot water heater, gas furnace or the stove. Some homes in the country may use propane tanks for fuel for any of these appliances. Ensure to check with your local utility companies before acquiring the property.



EXAMPLE ONLY GAS METER OPERATION

Limitations

General

EXTERIOR LEGAL DISCLAIMER

Areas that visually appear to be deteriorated may be probed, if accessible. We cannot be held responsible for any hidden defects found after the inspection. Additional defects may be found when repairs are made to items listed in this report or when remodeling is done on the exterior. Siding and/or structural defects may be hidden behind dense vegetation, vines, snow, stored items, debris or finishes and cannot be included with this inspection. Vegetation, grading, surface drainage, and retaining walls are reviewed when any of these items may potentially adversely affect the building.

De ciencies

3.1.1 Siding, Flashing & Trim, exterior doors, eaves, soffit vents, windows and fascia

Recommendation

ASBESTOS SIDING OBSERVED

EXTERIOR (FRONT ONLY)

1. Asbestos shingles observed at the time of inspection. Recommend a qualified contractor to evaluate and remedy.
2. Asbestos siding can be encapsulated, painted, replaced or a combination of repairs can be performed. It is recommended not to disturb asbestos shingles. Recommend a qualified contractor to evaluate and repair.
3. Note: This only effects the front section of the home. The easiest way to mitigate this is to have it painted or to have vinyl siding installed over the shingles.

Additional information:

Asbestos siding is a type of siding that was commonly used in the mid-20th century. It consists of cement reinforced with asbestos fibers, which provided durability, fire resistance, and insulation properties. However, asbestos poses significant health risks when its fibers are released into the air and inhaled.

Due to the health hazards associated with asbestos, its use in construction materials, including siding, has been banned or heavily regulated in many countries. If you have asbestos siding on your house, it is important to take proper precautions.

Here are some key points to consider regarding asbestos siding:

1. Asbestos testing: If you suspect that your siding contains asbestos, it is crucial to have it tested by a certified asbestos professional. They will take a sample and analyze it in a laboratory to confirm the presence of asbestos.

2. Health risks: Asbestos fibers are hazardous when they become airborne and are inhaled. Prolonged exposure to asbestos can lead to serious respiratory diseases, including lung cancer, asbestosis, and mesothelioma. It is important to handle asbestos-containing materials with caution to prevent fiber release.

3. Maintenance and repair: If the asbestos siding is in good condition and not damaged, it may be possible to leave it undisturbed. However, regular maintenance is necessary to prevent deterioration and fiber release. Do not sand, drill, cut, or otherwise disturb the siding, as it can release asbestos fibers.

4. Professional removal or encapsulation: If the asbestos siding is damaged, deteriorating, or needs to be replaced, it is recommended to hire a licensed asbestos abatement professional to safely remove it. They will follow strict protocols to minimize fiber release and dispose of the materials properly. Alternatively, encapsulation may be an option, where a protective coating is applied over the siding to prevent fiber release.

5. Legal and regulatory considerations: It is important to comply with local regulations and requirements regarding asbestos removal and disposal. Check with your local authorities or environmental agencies for specific guidelines and regulations.

Due to the potential health risks associated with asbestos, it is strongly recommended to consult with professionals who have experience in asbestos abatement. They can provide accurate guidance and ensure the safe handling and removal of asbestos-containing materials.

Recommendation

Contact a qualified siding specialist.



3.1.2 Siding, Flashing & Trim, exterior doors, eaves, soffit vents, windows and fascia

Recommendation

CRACKED OR DAMAGED WINDOW/WINDOWS ARE IN POOR CONDITION

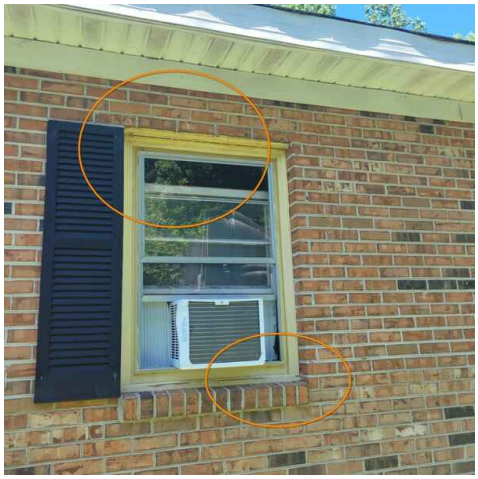
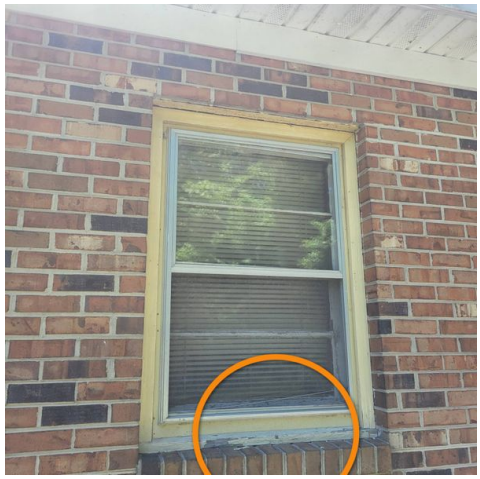
WHOLE HOUSE

1. Multiple windows are cracked or damaged. The majority of the windows in poor condition. These windows are wood-framed, and several have cracked glass and damaged locking mechanisms, while others are missing screens. It is recommended to have these windows replaced.
2. Rusted lintels are observed on the tops of the windows. This is common for the age of the home.

Recommendation

Contact a qualified window repair/installation contractor.








3.3.1 Decks, Balconies, Porches & Steps

Recommendation

LOOSE HANDRAIL/ROTTED LUMBER

EXTERIOR

1. A loose handrail was observed during the inspection. It is recommended to have a qualified contractor evaluate and repair it.
2. The handrails on the exterior of the home are rotted. While salvaging them is possible by sanding with an electric sander and applying paint, it's also advisable to apply waterproofing sealant for added protection.

Recommendation

Contact a qualified carpenter.

4: BASEMENT, FOUNDATION, CRAWLSPACE & STRUCTURE

Information

Inspection Method
Foundation
Crawlspace Access, Visual

Foundation photos for your information.

Foundation: Material

Exterior

Brick

Foundation photos for your information.

Additional information on how concrete slabs are poured:

Pouring a concrete slab for a house involves several steps to ensure a solid foundation. Here's a general outline of the process:

1. Site Preparation:
   - Excavation: Clear the site of any vegetation, debris, or topsoil. Excavate the area to the required depth, taking into account the thickness of the slab and any necessary grading for proper drainage.
   - Compaction: Compact the soil using compaction equipment to create a stable base for the concrete slab.

2. Formwork Construction:
   - Formwork setup: Construct the formwork, which acts as a mold for the concrete slab. This typically involves setting up temporary wooden or metal frames that define the perimeter and shape of the slab. Ensure the formwork is properly aligned, leveled, and securely braced.

3. Reinforcement Placement:
   - Reinforcement installation: If required by the design or local building codes, place reinforcement such as steel rebar or wire mesh within the formwork. This helps enhance the structural integrity of the slab and minimize cracking.

4. Pouring the Concrete:
   - Concrete delivery: Arrange for the delivery of the concrete mixture from a ready-mix concrete supplier or prepare it on-site if you have the necessary equipment.
   - Concrete placement: Pour the concrete into the formwork in manageable sections. Use shovels, rakes, or concrete pumps to evenly distribute and level the concrete within the formwork.
   - Consolidation: Consolidate the concrete using vibrating tools or a screed to remove air pockets, ensure proper compaction, and create a smooth and even surface.

5. Finishing the Concrete:
   - Smoothing and leveling: Use a screed board or bull float to level and smooth the surface of the freshly poured concrete. This helps achieve a uniform thickness and eliminates high or low spots.
   - Edging and jointing: Create neat edges along the perimeter of the slab using an edger tool. Additionally, use a jointer or grooving tool to create control joints or expansion joints as required by the design or local building codes.
   - Surface finishing: Apply any desired surface finishes, such as troweling, broom finishing, or decorative techniques, depending on the intended appearance and functionality of the slab.

6. Curing and Protection:
   - Curing: Protect the newly poured concrete from premature drying and ensure proper hydration by applying a curing compound or covering the slab with plastic sheeting. Follow recommended curing practices, which typically involve keeping the slab moist for several days.
   - Protection: Prevent any foot traffic or heavy loads on the slab during the initial curing period to avoid surface damage or cracking.

It's important to note that pouring a concrete slab for a house is a complex process that requires knowledge of local building codes, proper techniques, and equipment. It is generally recommended to hire professional concrete contractors to ensure the quality and structural integrity of the foundation.

Basements & Crawlspaces: Crawl space photos/Duct work/plumbing/basement images

Crawl space

Photos of the crawl space or basement for your information.

Additional information on how crawl spaces are built:

Building a crawl space involves several steps to create a raised foundation with accessible space beneath a house. Here's a general outline of the process:

1. Excavation and Site Preparation:
   - Excavation: Clear the area where the crawl space will be located by removing any vegetation, debris, or topsoil.
   - Leveling: Ensure the ground is properly leveled and graded to provide a stable base for the crawl space.

2. Foundation Walls:
   - Footings: Construct concrete footings along the perimeter of the crawl space area to provide support for the foundation walls.
   - Foundation wall construction: Build the foundation walls using concrete blocks, poured concrete, or other suitable materials. Ensure the walls are properly aligned, leveled, and reinforced as required by local building codes.

3. Ventilation and Insulation:
   - Ventilation: Install vents or other ventilation systems along the foundation walls to allow air circulation and prevent moisture buildup within the crawl space. The number and placement of vents will depend on local climate conditions and building code requirements.
   - Insulation: Apply insulation to the crawl space walls and floor to help maintain a consistent temperature within the space and prevent heat loss or gain. Common insulation materials include foam boards, fiberglass batts, or spray foam insulation.

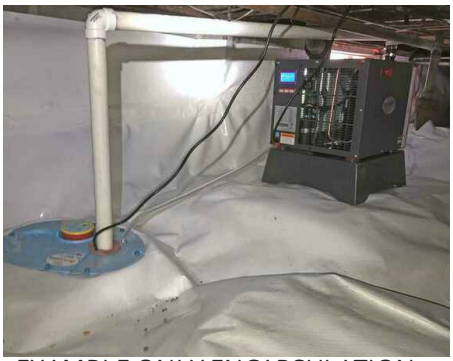
4. Moisture Barrier:
   - Moisture barrier installation: Install a vapor barrier, typically made of heavy-duty plastic sheeting, over the ground within the crawl space. This helps prevent moisture from seeping into the space and causing issues such as mold or rot. The vapor barrier should overlap and be securely fastened to the crawl space walls and any piers or supports.

5. Access and Utilities:
   - Access openings: Create access openings or crawl space doors to allow entry for maintenance, repairs, or inspections. These openings should be properly sealed to prevent moisture infiltration.
   - Utilities installation: Install necessary utilities such as plumbing, electrical wiring, and HVAC ducts within the crawl space, ensuring they are properly insulated and protected.

6. Crawl Space Flooring:
   - Flooring material: Choose a suitable flooring material for the crawl space, such as a vapor-impermeable material like concrete, or install a layer of gravel or crushed stone for improved drainage.

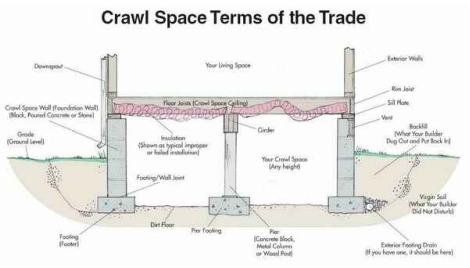
7. Pest Control and Maintenance:
   - Pest prevention: Take measures to prevent pests from entering the crawl space by sealing any potential entry points and considering additional pest control methods.
   - Regular maintenance: Periodically inspect the crawl space for any signs of moisture, damage, or pest activity. Address any issues promptly to maintain the integrity and functionality of the crawl space.

It's important to note that building a crawl space requires compliance with local building codes and regulations. It is recommended to consult with professionals, such as contractors, architects, or structural engineers, who have expertise in crawl space construction to ensure the design and implementation meet safety and code requirements specific to your location and project.

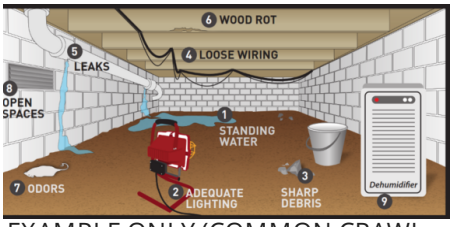


EXAMPLE ONLY ENCAPSULATION WITH DEHUMIDIFIER

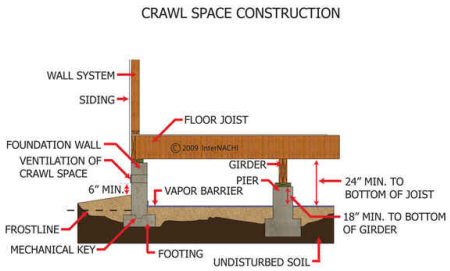
EXAMPLE ONY REPAIR WITH JACK



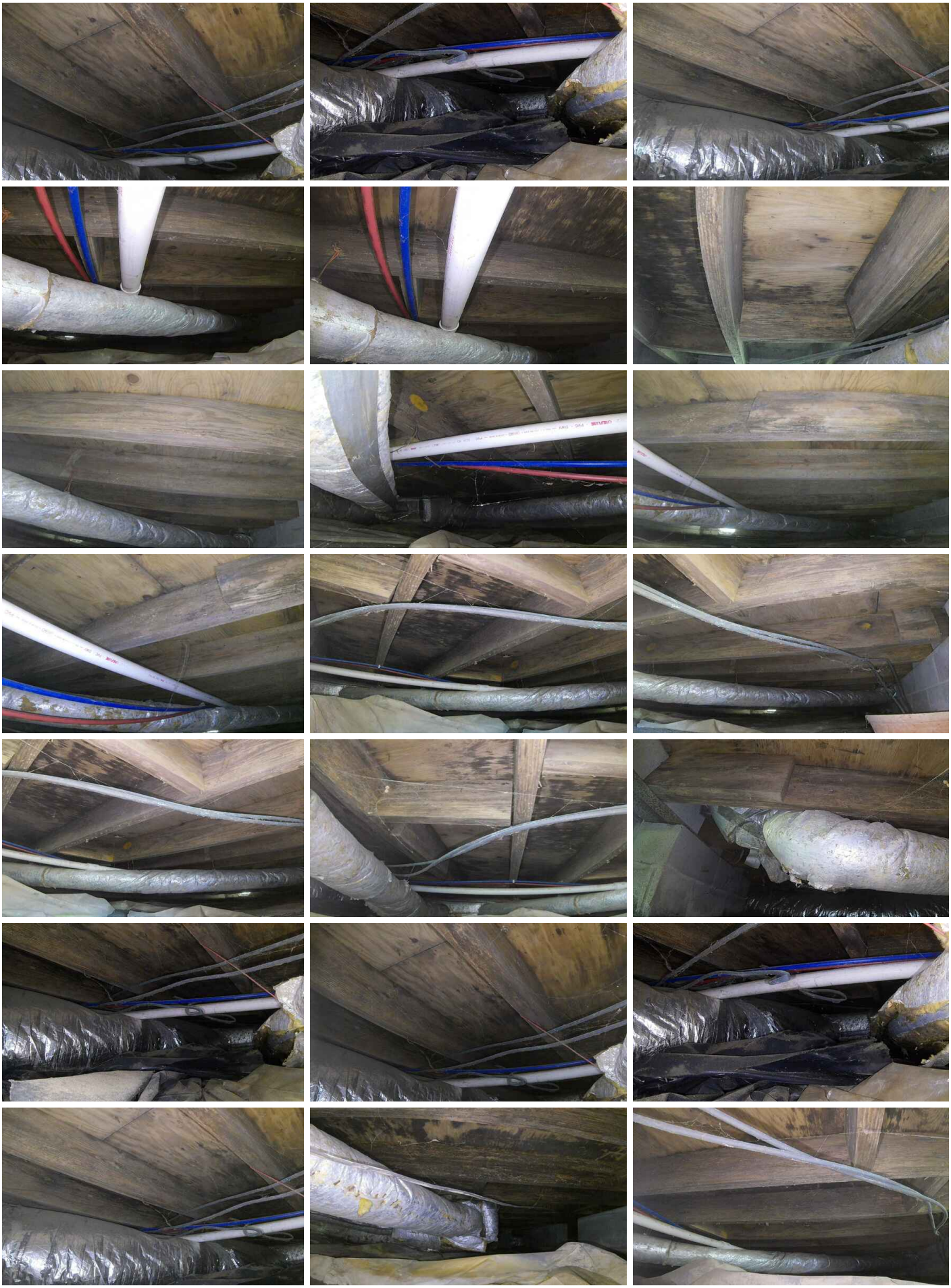
Crawl space terms EXAMPLE ONLY

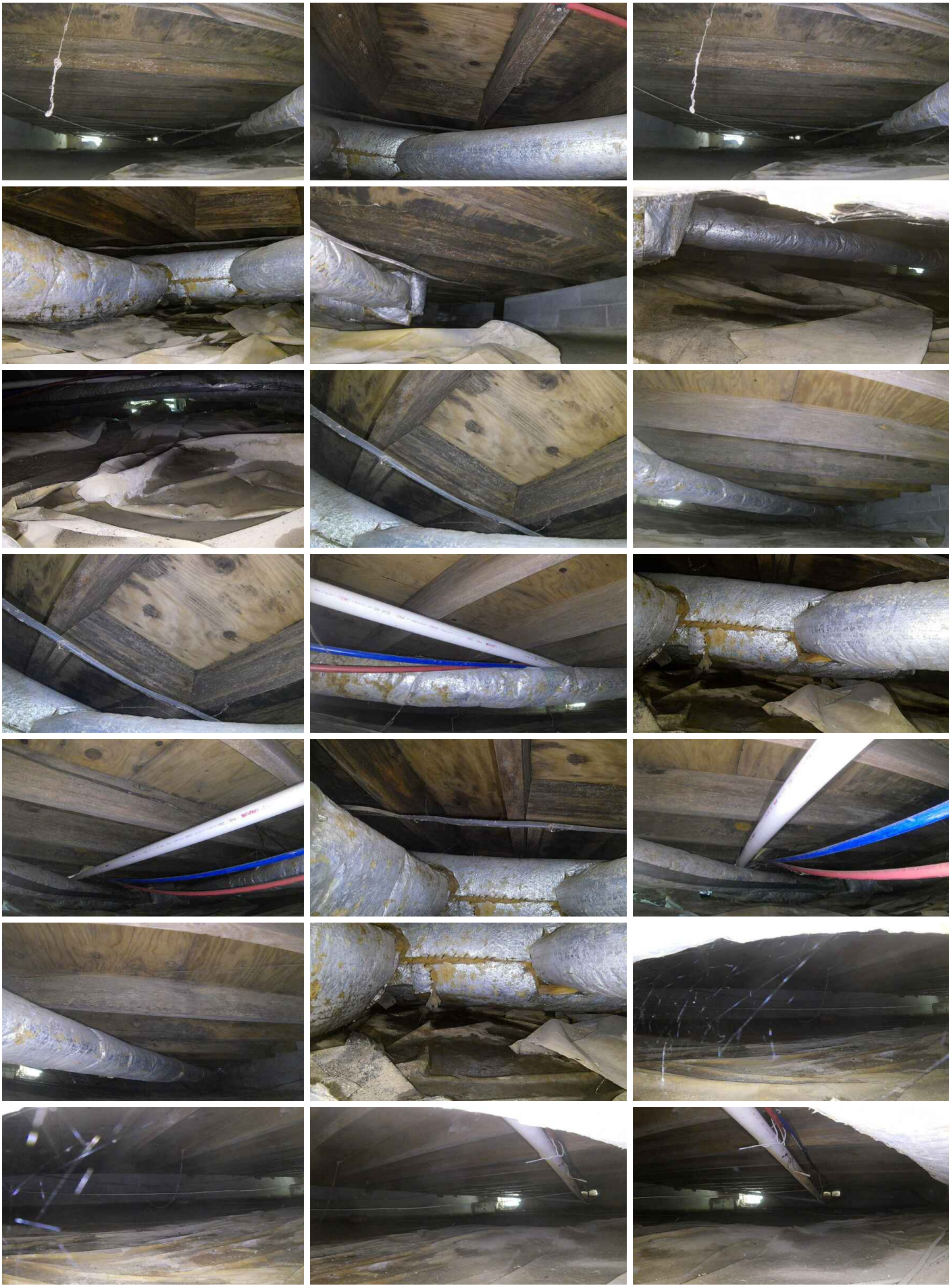


EXAMPLE ONLY (COMMON CRAWL SPACE DEFECTS)



EXAMPLE ONLY (TERMS)





Limitations

General

FOUNDATION/STRUCTURAL DISCLAIMER

Any repairs to Sub flooring that are performed under the home is not a validation that more damages cant be discovered when updates or remodeling of interior spaces are realized. Some foundation cracking is typical of settlement and/or shrinkage and does not usually indicate a structural decency. Defects may be present at hidden foundation areas that could allow water infiltration or may have been caused by structural movement. Please ask your Inspector for further information if there are still questions prior to the end of your Discovery Period. Only the readily visible portions of the foundation and structure were observed. Foundation surfaces that are hidden behind surfaces cannot be observed by the inspector and we are not allowed to remove Insulation with out written permission. Some times bathroom(s) or kitchen flooring can have two or three layers and only a Visual inspection of Laminate or hard wood or flooring is conducted inside the home and never do we remove flooring to review under these area(s) that have sub flooring issues discovered in the Crawl space.

Basements & Crawlspaces

INSULATION BLOCKING VIEW

CRAWL SPACE

Insulation blocks areas of the subfloor in a crawl space. Home inspectors are not permitted to remove this insulation to view the flooring.

De ciencies

4.1.1 Foundation

Recommendation

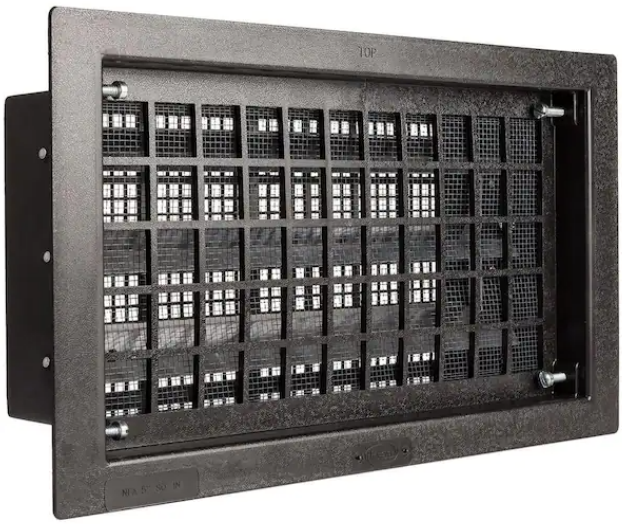
LOOSE CRAWL SPACE VENTS (AGED VENTS)

FOUNDATION AREA

1. Loose vents observed at the time of inspection. Recommend a qualified contractor to evaluate and remedy.
2. Newer vents have two screws on the sides of the vents that screw behind the foundation wall.

Recommendation

Contact a qualified professional.



EXAMPLE ONLY: NEW CRAWL SPACE VENT

4.1.2 Foundation

Recommendation

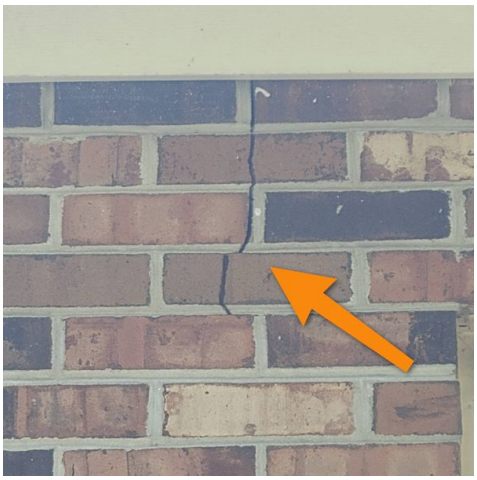
HEAVY SETTLEMENT/EXCESSIVE STAINING ON EXTERIOR BRICK WALL

EXTERIOR

1. Heavy settlement of the home's foundation is observed at the time of inspection. Recommend a qualified contractor to evaluate and repair.
2. Excessive staining observed on the exterior brick. Recommend having the home pressure washed.

Recommendation

Contact a foundation contractor.




4.2.1 Basements & Crawlspaces

Recommendation

IMPROPER CRAWL SPACE COVER OR MISSING COVER

FOUNDATION AREA (SIDE AND REAR)

1. Damaged crawl space cover or no crawl space cover observed. A tight seal on a crawl space cover helps to keep moisture, rodents and insects out of the crawl space. Recommend a qualified contractor to evaluate and repair.
2. See the example below of a new crawl space cover. These covers are sold in two parts, the top cover slips over the base to create a seal.
3. *There is excessive mold/fugus like substance in the crawl space due to this cover having a screen on it and the crawl space not being sealed.*

Recommendation

Contact a qualified professional.

EXAMPLE ONLY (NEW CRAWL SPACE COVER)

4.2.2 Basements & Crawlspaces

Recommendation

NO MOISTURE BARRIER INSTALLED IN CRAWL SPACE OR PARTIAL BARRIER

CRAWL SPACE

1. There was either no moisture barrier or only a partial one installed in the crawl space. Additionally, the insulation in the crawl space has been removed, which is a minor issue. Furthermore, there is mud and standing water present in the crawl space, leading to excessive mold growth.

What is a Crawl Space Vapor Barrier?

Crawl space vapor barriers are durable membranes that work by preventing the infiltration of water vapor into the crawl space. And when you combine a crawl space vapor barrier with a waterproofing system, now you have the ultimate moisture protection of the crawl space from both liquid water and water vapor before it has the chance to enter your building. It is also common for dehumidifiers to be installed in crawl spaces (see example of crawl space encapsulation before and after and dehumidifier example).

Additional information on how to fully seal (encapsulate a crawl space to current standards):

Crawl space encapsulation is a process of sealing and insulating the crawl space to create a conditioned and controlled environment. It involves several steps to effectively encapsulate the crawl space. Here's a general guide on how to encapsulate a crawl space:

1. Inspection and Preparation:
- Inspect the crawl space for any existing issues, such as water leaks, mold, or structural damage. Address these issues before proceeding with encapsulation.
- Clean out any debris, remove organic materials, and ensure the crawl space is free of any standing water or excessive moisture.

2. Moisture Barrier Installation:
- Install a vapor barrier on the crawl space floor and walls. The vapor barrier is typically made of thick plastic sheeting or a specialized crawl space liner.
- Cover the entire crawl space floor, extending the barrier up the walls and securing it in place with fasteners or adhesive.
- Overlap and seal the seams of the vapor barrier to create a continuous and airtight seal.

3. Insulation:
- Insulate the crawl space walls and rim joists to improve energy efficiency and temperature control in the crawl space.
- Use insulation material suitable for the crawl space environment, such as rigid foam insulation or spray foam insulation.
- Install the insulation against the walls, ensuring a tight fit and proper coverage.
- Insulate the rim joists, which are the vertical boards that support the floor joists above. In older homes the insulation is sometimes removed when the material becomes wet and aged. It is not required to have insulation especially if the house is located in warmer climates.

4. Air Sealing:
- Seal any gaps, cracks, or openings in the crawl space walls, foundation, and around utility penetrations using caulk, foam sealant, or other appropriate sealing materials.
- Pay special attention to areas where pipes, wires, vents, or ducts enter or exit the crawl space.

5. Ventilation and Dehumidification:
- Evaluate the need for crawl space ventilation. In some cases, it may be necessary to seal off or modify existing vents to prevent outdoor air and moisture from entering the encapsulated crawl space.
- Consider installing a crawl space dehumidifier to control humidity levels and maintain optimal conditions.

6. Monitoring and Maintenance:
- Regularly monitor the crawl space for any signs of moisture, mold, or pest activity.
- Keep the crawl space clean and free of debris.
- Periodically check the vapor barrier, insulation, and seals for any damage or deterioration, and make repairs as needed.

Crawl space encapsulation is often a complex task that may require professional assistance. Consulting with a qualified contractor or crawl space specialist can ensure that the encapsulation process is done properly and tailored to your specific crawl space conditions.

Note: The encapsulation process can vary based on the specific requirements of your crawl space and local building codes. It's essential to research and follow applicable regulations and guidelines in your area.

Recommendation

Contact a foundation contractor.

*EXAMPLE ONLY CRAWL SPACE ENCAPSULATION BEFORE AND AFTER

* EXAMPLE ONLY dehumidifier in crawl space

4.2.3 Basements & Crawlspaces

FUNGUS/MOLD LIKE SUBSTANCE (EXCESSIVE)

CRAWLSPACE

Recommendation

Excessive fungus and mold growth were observed in the crawl space. This is partly attributed to the crawl space cover not being sealed, allowing moisture to accumulate. Additionally, standing water was found under the home, and the barrier beneath the home is damaged. Remediation is necessary for this area. While simple treatments may suffice in some cases, the extensive mold growth has led to the softening and weakening of the joists and structural supports due to compromised lumber.

Recommendation

Contact a foundation contractor.

EXAMPLE ONLY *CHEMICAL FOR TREAT (1)

4.2.4 Basements & Crawlspaces

Recommendation

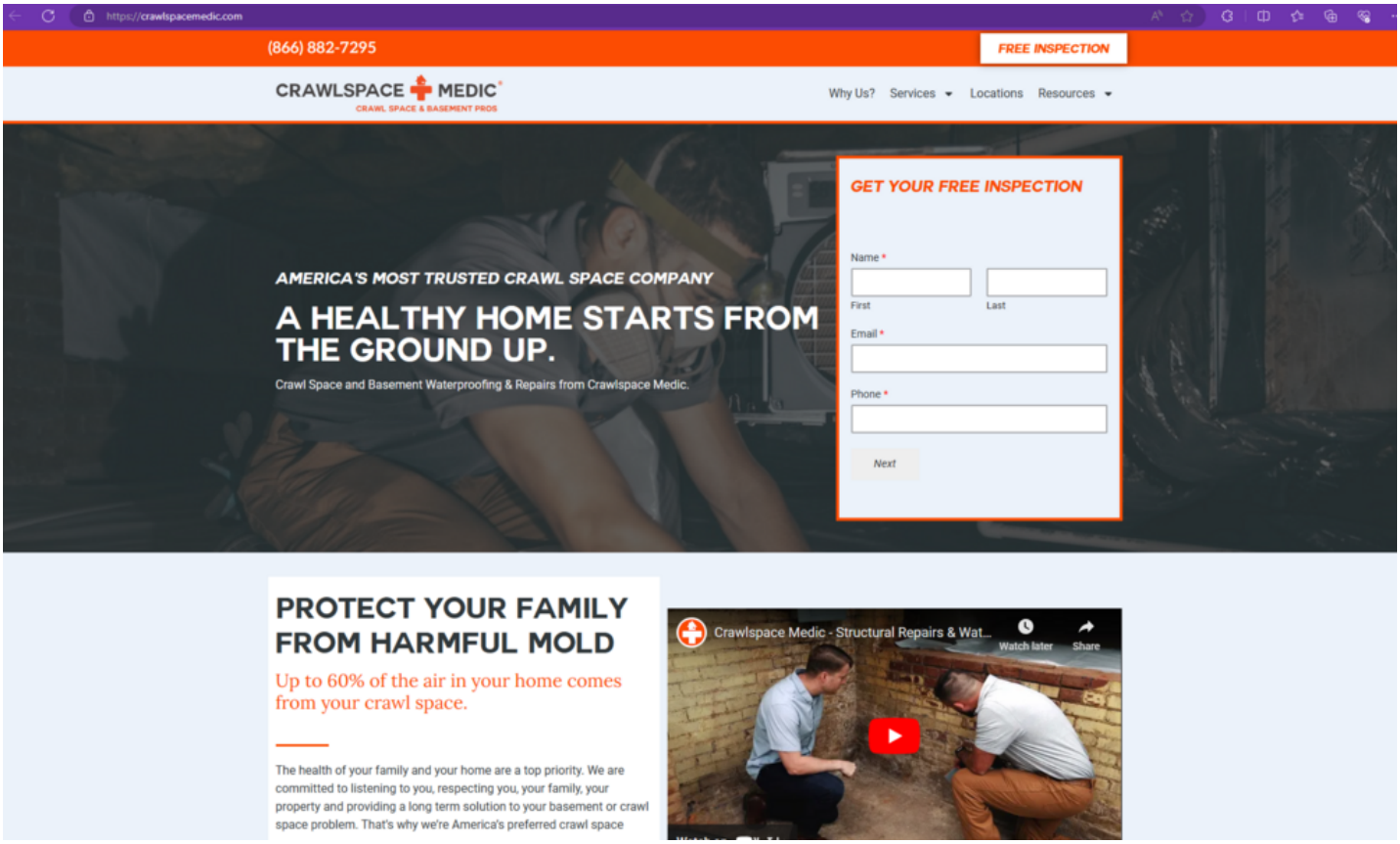
GENERAL SUMMARY OF CRAWL SPACE/FOUNDATION AREA

CRAWL SPACE

The property, constructed in 1967, is now 57 years and 5 months old. The crawl space is in poor condition, with excessive mold growth that has compromised the integrity of the joists and various areas of the structure. As a result, sections of the floor in the home have become soft and uneven. It is recommended to engage a foundation contractor to evaluate and address these issues. Necessary actions include fungal treatment, joist sistering or replacement, adding additional piers for support, securing the sill, installing a proper door, and adding additional girder beams and concrete or metal piers under the sagging areas of the floor to reinforce the structure. *The damage in this homes crawl space is considered to be excessive.*

Note: See the examples below for crawl space repair and encapsulation.

Note: This is a foundation company that has more affordable crawl space repair pricing, although, the purchase of this company by a larger company may have caused prices to increase:



Recommendation

Contact a qualified professional.

EXAMPLE OF ADDITIONAL PEIRS AND GIRDER BEAMS (CHEAPER OPTION WITH CONCRETE BLOCKS)

EAMPLE ONLY (NOT INSPECTED HOME) SUMP PUMP AND DEHUMIDIFIER

EXAMPLE ONLY_SUPPORT ADDED UNDER HOME

EXAMPLE ONLY - BEFORE AND AFTER FULL ENCAP






4.2.5 Basements & Crawlspaces

Recommendation

DAMAGED DUCT WORK

CRAWLSPACE

1. Damaged duct work observed at the time of inspection. Recommend a qualified contractor to evaluate and repair.
2. The ducts are connected; however, there are holes in the ducts that cause some AC/heat loss. The vent covers in the home are also aged.

Recommendation

Contact a qualified HVAC professional.






5: HVAC

Information

Heating and cooling equipment :

Energy Source

Multiple

Gas

Heat source information.

Information: types of residential systems

The Four Types of HVAC Systems

Type #1: Heating and Air Conditioning Split System

A split system is an outdoor unit containing the condenser and compressor, and an indoor unit containing the evaporator coil and blower. Split-system central air conditioning is most popular type of residential heating and air-conditioning. The indoor unit is often connected to a furnace or heat pump.

HVAC split systems will typically have:

- An outdoor unit that houses the condenser coil, compressor, electrical components, and a fan.
- Refrigerant that circulates to and from the indoor and outdoor unit via a series of pipes (refrigerant lines).
- An evaporator coil that usually sits above the furnace inside the home.
- A blower that sends warm air over the cold evaporator coil, which absorbs heat from the air.
- Ducts that carry air throughout your building. Supply ducts pull in air while return ducts blow it out.
- A thermostat that controls the systems and sets your desired temperature.
- The occasional optional accessories for quality indoor air, such as air scrubbers, purifiers, humidifiers, UV lamps, and so on.

Type #2 Hybrid Heat Pump System

In a hybrid heating and cooling system, a heat pump (powered by electricity) is used in conjunction with a furnace that burns natural gas, propane, or fuel oil. Don't be fooled by the name heat pump – these systems also cool your home.

In fact, heat pumps are air conditioners that can also work in reverse to efficiently heat your home. It's one system that efficiently heats and cools your home.

These systems have a furnace for when temperatures dip below 40 degrees. A heat pump isn't very efficient, and that's when the furnace kicks on to do the heating.

On all but the coldest of nights (where you'll need a furnace backup), a heat pump can take heat out of the air outside and transport it into your home. And in the summer, it functions just like an air conditioner, so you'll get year-round energy savings from one product.

An ideal hybrid heat split system will have:

- A heat pump that heats and cools the refrigerant.
- A furnace, plus the evaporator coil for conversion of the refrigerant and circulation of air.
- Ductwork to channel the air around your building.
- The thermostat for adjusting and controlling the system.
- Optional accessories for improved indoor air quality.

Want more information on what the right type of AC & heating units are right for your home? Consultations and quotes are risk-free. Go here to schedule one.

Type #3 Ductless Mini-Split Heat Pump

A duct-free HVAC system provides a solution for spaces where conventional ducted systems aren't compatible. They can also be great compliments to existing ducted types of HVAC systems.

Ductless mini-split units are installed directly into the zones of the home that need heating and cooling. You can have as many as four indoor air handling units (four zones or rooms) for each outdoor unit.

Ductless mini-split systems will have the following:

- The heat pump unit outdoors that contains the usual compressor, condenser, and fan.
- A fan coil that is compact.
- Wires and tubing for the refrigerant (only requires a 3-inch hole), connecting the outdoor unit to the fan coil.
- The thermostat (aka control panel).
- Optional accessories to clean the air and make it more pleasant before its distribution through the house.

Type #4 Packaged Heating & Air Conditioning System

A packaged HVAC system contains the compressor, condenser, and evaporator all in one unit, often located on a roof or near the foundation.

It is a good solution for homes and offices without adequate space for all the separate components of split systems. They are sometime used in small commercial buildings and often include electric coils or a furnace for heating.

Packaged HVAC systems include:

- The air conditioner/heat pump together with the evaporator/fan coil in one unit.

- Thermostat/control interface for a complete control of the system.
- Optional air quality improvers. Things like the air purifiers, cleaners, ventilators or UV lamps, which are geared towards making the air extra clean before it circulates your home or office.

Type # 5 Geo thermal

A geothermal heat pump or ground source heat pump is a type of heat pump used to heat and/or cool a building by exchanging heat with ground.

Type# 6 Boiler units (radiator heat)

A boiler is a common component of HVAC systems that is used for heating purposes. Here's a general overview of how a boiler works in an HVAC system:

1. Heat Generation: The boiler generates heat by burning fuel, such as natural gas, oil, or propane, or through electrical resistance. The fuel is ignited, and the heat is transferred to the boiler's combustion chamber.

2. Heat Exchanger: The boiler contains a heat exchanger, which is a metal chamber or pipe system. As the fuel burns, the heat is transferred to the water or steam circulating through the heat exchanger.

3. Circulation System: The heated water or steam produced by the boiler is circulated through a system of pipes. In a hydronic system, the hot water is pumped to radiators, baseboard heaters, or radiant floor heating systems, where it releases heat to warm the surrounding space. In a steam system, the steam travels through pipes to radiators, which then release heat into the room.

4. Expansion Tank: The boiler system includes an expansion tank, which helps accommodate the expansion and contraction of the water or steam as it heats and cools. This helps prevent damage to the system and maintains proper pressure levels.

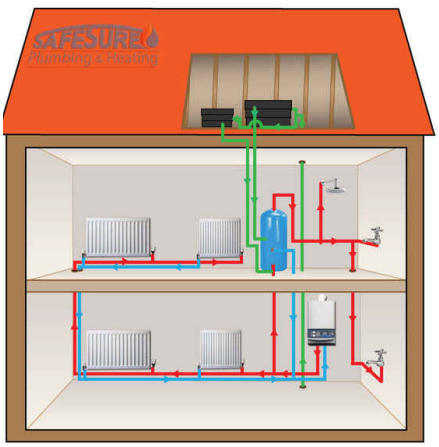
5. Controls and Safety Features: The boiler is equipped with controls and safety features to ensure efficient and safe operation. These may include thermostats, pressure relief valves, temperature sensors, and flame sensors. The controls regulate the fuel supply, water temperature, and system pressure to maintain a comfortable and safe heating environment.

6. Venting: Combustion gases produced during the fuel-burning process are vented safely to the outside of the building through a flue or chimney. This ensures that harmful gases, such as carbon monoxide, are expelled from the building.

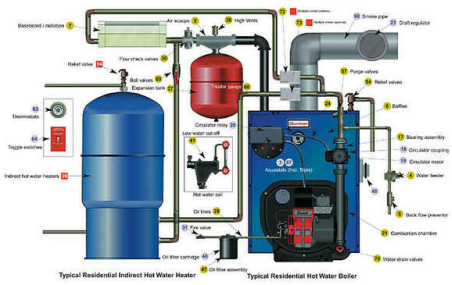
7. Water Supply: The boiler system may require a water supply for the continuous circulation of water. This water supply can be connected to a municipal water source or a separate water storage tank.

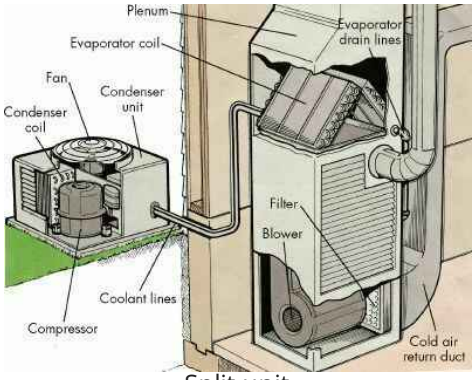
8. Maintenance and Servicing: Regular maintenance and servicing of the boiler are essential to ensure its efficient and safe operation. This may include cleaning the heat exchanger, checking and adjusting controls, inspecting and maintaining venting systems, and addressing any repairs or component replacements as needed.

Boilers are versatile heating systems that can provide both space heating and domestic hot water. They are commonly used in residential, commercial, and industrial settings. The specific operation and features of a boiler may vary depending on the type and model of the unit. It is important to consult the manufacturer's instructions and, if needed, seek the assistance of a qualified HVAC technician for proper installation, maintenance, and repairs.

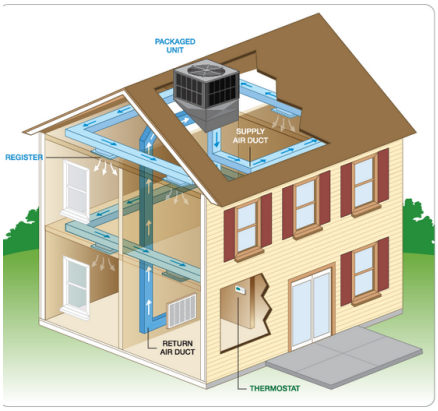


BOILER UNIT FLOW

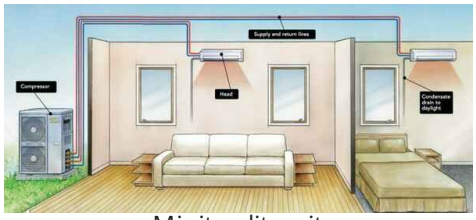

BOILER UNIT



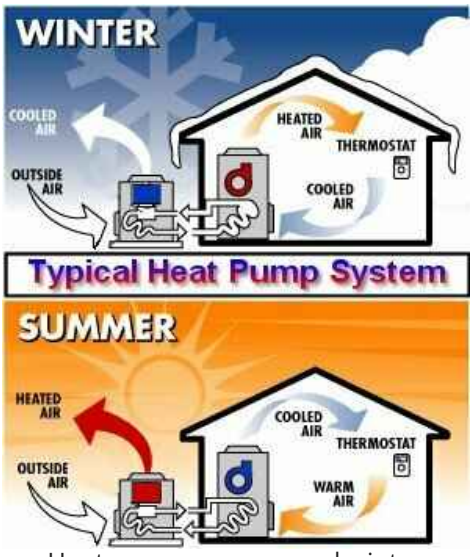
Split unit



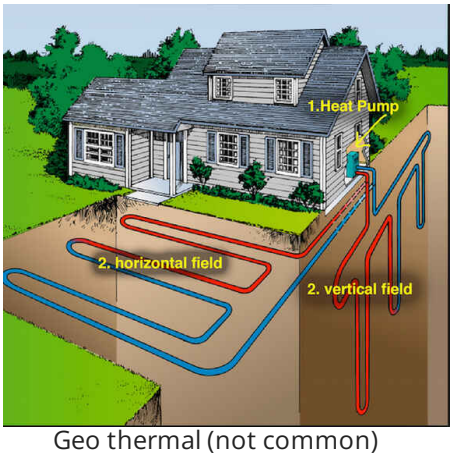
Packaged unit



Minit split unit



Heat pump summer and winter



Geo thermal (not common)

Heating and cooling equipment : Brand (heating and cooling)

HVAC

Amana

Original Findings:

Manufacturer year for packaged gas unit: 2005 (18 years and 5 months)

Modern air conditioners can last between 15-20 years due to improvements in technology. *Older air conditioners last around 12-15 years*. The health and efficiency of your A/C depends on a number of factors, including whether or not you properly maintained the unit throughout its lifetime. The service life of units also depends on manufacture specifications. *Older units should be serviced by HVAC contractors, this is considered general maintenance and should be completed annually.*

How HVAC systems work:

HVAC systems, which stands for Heating, Ventilation, and Air Conditioning systems, are designed to provide thermal comfort and maintain indoor air quality in residential, commercial, and industrial buildings. Here's a general overview of how HVAC systems work:

1. Heating: The heating component of an HVAC system is responsible for warming the indoor space during cold weather. It typically consists of a heating source, such as a furnace or heat pump, that generates heat. The heat is then distributed throughout the building using ductwork or radiant heating systems.

2. Ventilation: Ventilation is crucial for maintaining healthy indoor air quality by removing stale air, pollutants, and odors from the building and introducing fresh outdoor air. HVAC systems incorporate various methods of ventilation, such as natural ventilation (open windows), mechanical ventilation (fans and blowers), or balanced ventilation systems with heat recovery.

3. Air Conditioning: The air conditioning component of an HVAC system is responsible for cooling the indoor space during hot weather. It typically involves a cooling unit, such as a central air conditioner or a heat pump, which removes heat from the indoor air and releases it outside. The cooled air is then distributed throughout the building using ductwork or other air distribution methods.

4. Thermostat Control: HVAC systems are controlled by a thermostat, which allows users to set the desired temperature and control the operation of the heating and cooling components. The thermostat senses the temperature in the building and sends signals to the HVAC system to adjust its operation accordingly.

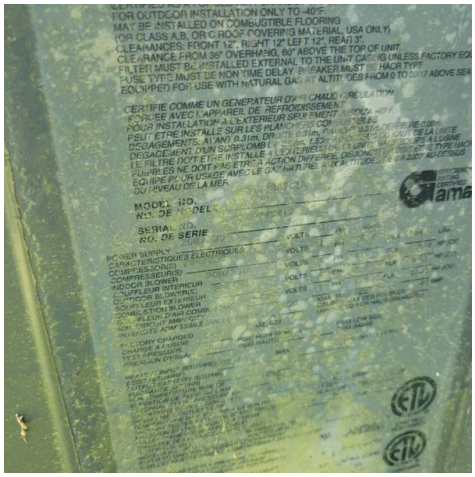
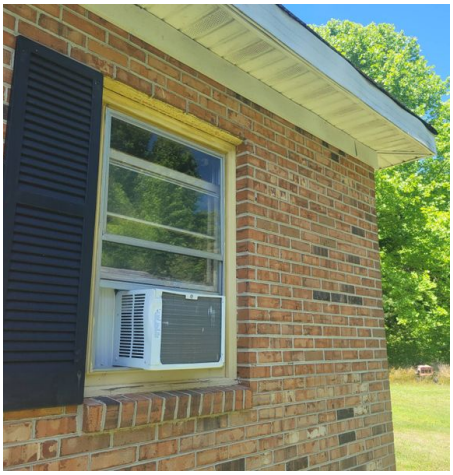
5. Air Distribution: HVAC systems use ductwork to distribute conditioned air throughout the building. Supply ducts deliver heated or cooled air to different rooms, while return ducts bring the air back to the HVAC system for reconditioning. Air registers and grilles are installed in various locations to control the airflow and direct it into the desired areas.

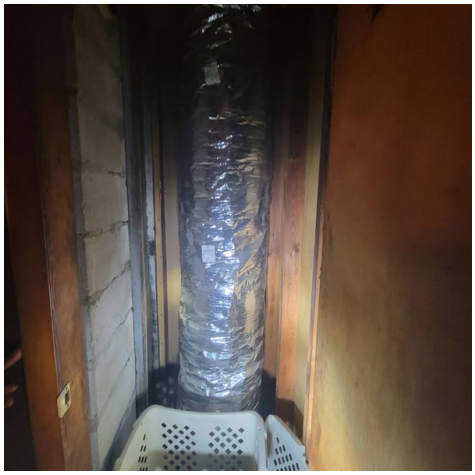
6. Filtration: HVAC systems often include air filters that help remove dust, allergens, and other airborne particles from the circulating air. Filters help improve indoor air quality by capturing pollutants and preventing them from being recirculated.

7. Refrigerant Cycle (for cooling): Air conditioning systems utilize a refrigerant cycle to cool the indoor air. The refrigerant, a special fluid, undergoes a cycle of compression, condensation, expansion, and evaporation, absorbing heat from the indoor air and releasing it outside.

8. Energy Efficiency: Modern HVAC systems are designed to be energy-efficient, with features such as variable-speed motors, programmable thermostats, zoning capabilities, and improved insulation. Energy-efficient HVAC systems help reduce energy consumption and lower utility costs.

It's important to note that HVAC systems can vary in design and components depending on the specific building and HVAC system type. The above overview provides a general understanding of how HVAC systems work, but for specific details or troubleshooting, it is recommended to consult with a qualified HVAC technician or professional.

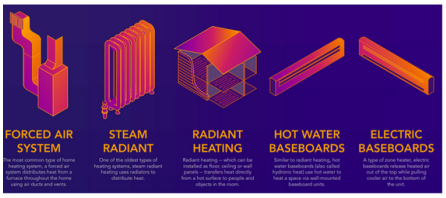






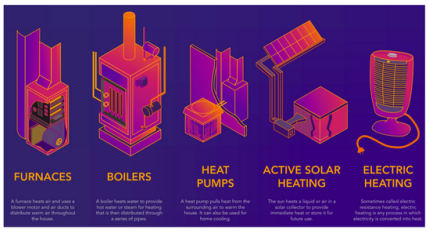
Heating and cooling equipment : Heat Type

Forced Air

Heating system diagrams.



heating system fig 2



heating system fig 1

Normal Operating Controls/distribution system/Presence of installed heat/ac source : Distribution systems

Interior area

Insulated

Distribution system (duct work).

Additional information on duct work installation:

The installation of ductwork in a house involves a series of steps to ensure proper airflow and efficient distribution of conditioned air throughout the building. Here's a general overview of how ductwork is installed in a house:

1. System Design: The first step is to design the duct system based on the heating and cooling needs of the house. This involves determining the size and layout of the ducts, the number and location of supply and return vents, and considering factors such as the building's size, layout, insulation levels, and airflow requirements.

2. Material Selection: Ductwork can be made from various materials, including sheet metal, flexible ducts, fiberglass ductboard, or ducts with an insulated lining. The choice of material depends on factors such as cost, accessibility, noise considerations, and local building codes.

3. Planning and Marking: Before installation, the route and placement of the ducts are planned and marked on the floors, walls, and ceilings. This helps ensure that the ducts are installed in the intended locations and that they don't interfere with other building components.

4. Duct Fabrication: If sheet metal ducts are used, they are typically fabricated in a workshop or on-site using specialized tools. The duct sections are cut, bent, and assembled according to the design specifications. Joints and seams are sealed to minimize air leaks.

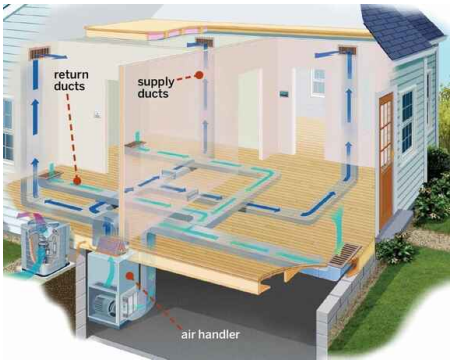
5. Duct Installation: The ducts are installed in the designated areas using appropriate hangers, supports, or straps. They are secured in place and connected to the HVAC equipment, such as the air handler or furnace.

6. Sealing and Insulation: Proper sealing of duct joints and connections is crucial to prevent air leakage, which can reduce system efficiency. Ductwork is sealed using foil tape, mastic, or other approved sealing materials. Additionally, insulation may be applied to ducts located in unconditioned spaces to prevent heat gain or loss.

7. Vents and Registers: Supply and return vents, as well as registers, are installed in the walls, floors, or ceilings. These components allow the conditioned air to enter the living spaces and provide a way for air to return to the HVAC system.

8. Balancing and Testing: Once the ductwork is installed, the system is balanced and tested to ensure proper airflow and performance. This involves adjusting dampers, measuring airflow rates, and verifying that the system meets design specifications.

It's important to note that ductwork installation requires proper knowledge and skills, and it's often performed by HVAC professionals. Following local building codes and industry standards is essential to ensure safety and efficiency. Consulting with a qualified HVAC contractor is recommended for the design and installation of ductwork in your specific home.



Normal Operating Controls/distribution system/Presence of installed heat/ac source : Thermostat image

Interior

Thermostat image.

Additional information on thermostat operation:

Thermostats are devices used to control heating, ventilation, and air conditioning (HVAC) systems. They work by sensing the temperature in the environment and sending signals to the HVAC system to adjust the heating or cooling output. Here's a general overview of how thermostats work:

1. Temperature Sensing: The thermostat contains a temperature sensor, typically a thermistor or a bimetallic strip. These sensors detect changes in temperature and provide a corresponding electrical signal.

2. Setpoint and User Input: The thermostat allows users to set their desired temperature, known as the setpoint. This is typically done using buttons or a dial on the thermostat. The setpoint represents the temperature at which the user wants the HVAC system to activate.

3. Comparison and Control Logic: The thermostat continuously compares the actual temperature in the environment to the setpoint. Based on this comparison, the thermostat's control logic determines whether the HVAC system needs to be activated to adjust the temperature.

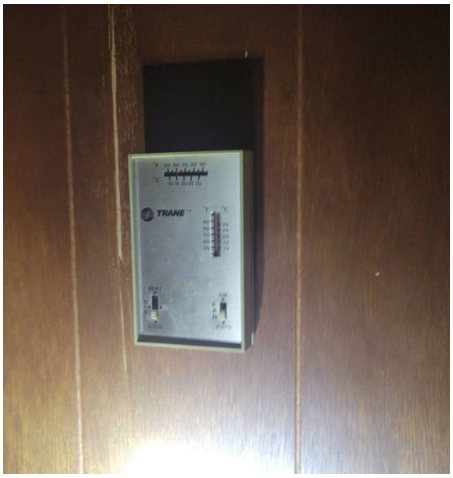
4. Output Signal: When the actual temperature deviates from the setpoint, the thermostat sends an output signal to the HVAC system. This signal can be in the form of electrical voltage, current, or digital communication (depending on the thermostat type).

5. HVAC System Activation: The output signal from the thermostat triggers the HVAC system to turn on or off, depending on whether heating or cooling is required. For example, if the temperature is below the setpoint, the thermostat will send a signal to activate the heating system. Once the temperature reaches or exceeds the setpoint, the thermostat will send a signal to deactivate the heating system.

6. Additional Features: Thermostats may include additional features, such as programmable schedules, Wi-Fi connectivity, and smart home integration. These features allow users to set different temperature profiles throughout the day, remotely control the thermostat using mobile apps, and integrate the thermostat with other smart devices for enhanced automation and energy savings.

It's important to note that thermostats can vary in design and functionality, depending on the type and model. Some thermostats use simple mechanical mechanisms, while others are digital or programmable. The specific operation and programming options may differ, so it's essential to consult the manufacturer's instructions for your particular thermostat model.

Overall, thermostats play a crucial role in maintaining desired comfort levels and energy efficiency by controlling HVAC systems based on temperature settings and feedback.



Normal Operating Controls/distribution system/Presence of installed heat/ac source : Temperature images of cold vents (AC)
Interior

1. Thermal/temp photos of vents (AC normal operation). AC is operational.
2. Readings are taken using a thermal imager or temperature testing device.

Limitations

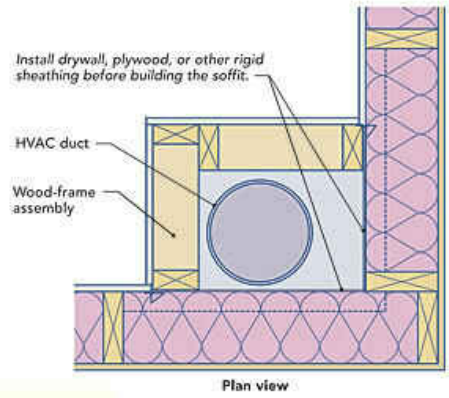
General
HVAC DISLAIMER

All heating units should be professionally serviced prior to the start of each heating season to maintain efficiency and for personal safety. WE DO NOT
REVIEW HEAT EXCHANGERS NOR CERTIFY EQUIPMENT HAS BEEN CORRECTLY INSTALLED.
Failure to perform your required walk-thru could leave you exposed to unforeseen costs. If HVAC is verified at time of Inspection and also verified at
Walk-thru by you or an authorized representative this is proof system was working and also validated by you prior to taking possession. Our review on
Inspection Day is not a Warranty or a Guarantee to how long a system will last or perform without issues. Where possible always purchase a proper
Home warranty! We do not determine if a System is Installed properly or if a Permit is Pulled. Our review if based on Thermostat and operation and
Maintenance of equipment visually seen! Any suggestion from a qualified HVAC contractor that Home Inspectors are certified HVAC contractors is
misleading and falsely represents what our standards for review of HVAC equipment actually is!
Air conditioning units should be professionally serviced prior to the start of each cooling season for best performance and exterior compressor units
should be left uncovered in the winter months to avoid excess moisture build-up and premature corrosion.
Any space heaters present in the building should always be operated in full accordance with the manufacturer's recommended procedures and safety
precautions to prevent oxygen depletion and possible build-up of carbon monoxide.
ONLY DUCT WORK THAT IS VISABLE CAN BE REVIEWED AND INSPECTION IS NOT A VALIDATION AS TO QUALITY OF AIR AND OR
OVERALL CONDITIONS OF DUCT WORK. ONLY A QUALIFIED HVAC CONTRACTOR CAN MAKE STATEMENTS TO CONDITIONS OF HVAC
EQUIPMENT AND OR DUCT WORK. SHOULD ISSUES ARISE OUT OF THIS INSPECTION THAT REQUIRE ADDITIONAL
INSPECTIONS/CORRECTIONS IT IS SUGGESTED TO HAVE HVAC SYSTEM(S)REVIEWED FROM A LICENSED HVAC PROFESSIONAL AND
THEN THOSE ITEMS DISCOVERED FROM THIS INDUSTRY PROFESSIONAL SHOULD THEN BE FOLLOWED FOR CORRECTION PRIOR
TO CLOSING.

Normal Operating Controls/distribution system/Presence of installed heat/ac source

NON VISIBLE DUCT WORK DUE TO CONSTRUCTION LAYOUT

Due to how HVAC contractors install ducts in the home not all duct work is visible inside home with out entry into walls and ceilings.



Hidden duct work

Normal Operating Controls/distribution system/Presence of installed heat/ac source

HEAT NOT TESTED DUE TO HIGH TEMP INDEX.

Heat not tested due to high temp index.

De ciencies

5.1.1 Heating and cooling equipment

Recommendation

UNIT NEAR END OF SERVICE LIFE (HVAC)

EXTERIOR (REAR)

The packaged gas unit installed in the property was manufactured in 2005, making it 18 years and 5 months old. This is a "two in one" system that produces both heat and AC. The duct work runs under the home and is distributed through the floor vents inside of the home.

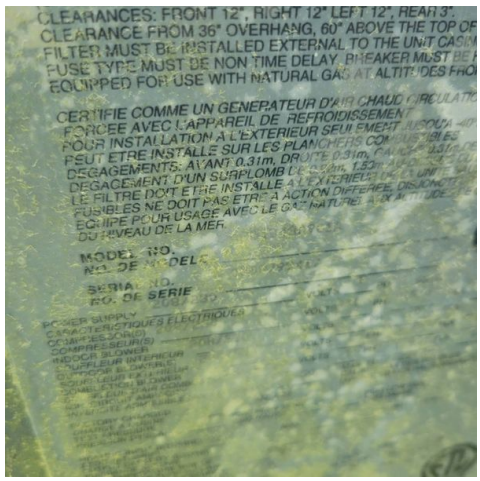
Modern air conditioners can typically last between 15-20 years, benefiting from advancements in technology. However, older units like this one generally have a lifespan of around 12-15 years. The longevity and efficiency of an A/C unit depend on various factors, including regular maintenance throughout its lifetime and adherence to manufacturer specifications.

In the case of larger homes, it's common to have multiple A/C units, typically around 4 for two or three-story homes. During earlier construction periods, undersized units may have been installed, particularly in non-split-level systems. It's crucial to have older units serviced annually by HVAC contractors as part of general maintenance.

It's advisable to prepare for the replacement of this unit. The unit is currently operational. The gas line also shows some signs of wear, and the main duct cover is rusted which is allowing water into the crawl space.

Recommendation

Contact a qualified heating and cooling contractor



5.1.2 Heating and cooling equipment

Recommendation

NEEDS SERVICING/CLEANING (THIS APPLIANCE DOES NOT MEET SAFETY OR CODE REQUIREMENTS)

LIVING AREA

The living room contains an aged Wonderluxe wood/coal burning stove, which presents several concerns:

- The stove is currently situated on wood blocks, which is not recommended. It should ideally be placed on a masonry base that extends outward. This arrangement helps prevent fires caused by embers coming into contact with the wood floor.
- The flue is improperly installed, with a piece of fireproof drywall installed where the flue enters the wall. Additionally, the stove is positioned too close to the wall, posing a potential fire hazard.

Overall, the installation of various items in the home appears to be DIY, and it's evident that the stove installation does not meet all fire code requirements. Options for addressing this issue include having the stove properly serviced or removing it altogether, especially considering the presence of central heating and AC in the home.

Many homeowners choose to store the stove or use it in a different building. Alternatively, some opt to update and use the stove as supplemental heating during the winter months, alongside the main heating provided by the gas packaged unit.

Note: View the code requirements for wood stoves here. A "fire stop" is what protects the hot flue from the surrounding structure when it penetrates the ceiling and the roof line. The "hearth" is what all stoves or fireplaces should have extending in front and or around the appliance.

Recommendation

Contact a qualified heating and cooling contractor

5.2.1 Normal Operating Controls/distribution system/Presence of installed heat/ac source

Recommendation

UPGRADE THERMOSTAT

INTERIOR

Aged thermostat observed. Consider having the thermostat upgraded.

Recommendation

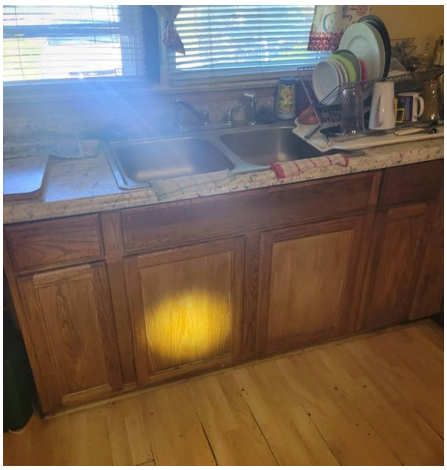
Contact a qualified HVAC professional.

6: DOORS, WINDOWS & INTERIOR

Information

Counter tops & Cabinets and kitchen appliances : Kitchen sink
Kitchen

Photos of the kitchen sink for your information.



Interior doors, windows, floors, ceilings : Interior doors, windows, floors and ceiling photos

interior

Interior doors, window, floor and ceiling photos for your information.

Additional information on drywall installation:

Installing drywall, also known as gypsum board or sheetrock, is a common method for creating interior walls and ceilings in residential and commercial buildings. Here's a general overview of how drywall is installed:

1. Preparation: Before installing drywall, the wall studs or ceiling joists should be in place. Any electrical or plumbing work should be completed, and insulation may be installed if needed. The framing should be free of any protrusions or obstructions.

2. Measurement and Layout: Drywall sheets are typically 4 feet wide and come in various lengths. Measurements are taken to determine the required size and quantity of drywall sheets. Layout lines may be marked on the framing to guide the installation.

3. Cutting Drywall: Drywall sheets are cut to size using a utility knife or a drywall saw. Measurements are transferred to the drywall, and then a straight edge is used as a guide for making the cuts. Score the front side of the drywall, and then snap it along the score line. Finally, cut through the paper backing on the back side.

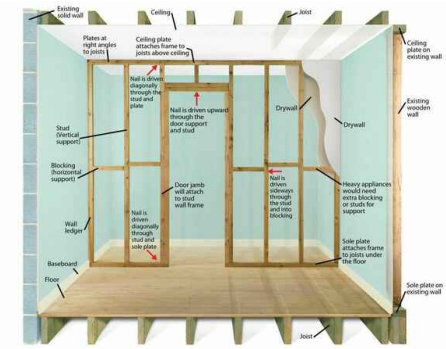
4. Installation: Drywall is typically installed horizontally, starting from the ceiling and moving down to the floor. The first sheet is positioned against the ceiling, with the tapered edge facing down. It is secured to the framing using drywall screws or nails. Screws are preferred as they provide better holding power and minimize the risk of popping or cracking.

5. Taping and Joint Compound: Once the drywall is installed, joints between the sheets, as well as screw or nail indentations, need to be covered with joint tape and joint compound. Joint tape is applied over the joints, and joint compound is used to cover the tape and fill in the gaps. Multiple layers of compound may be applied, allowing each layer to dry and sanding between coats.

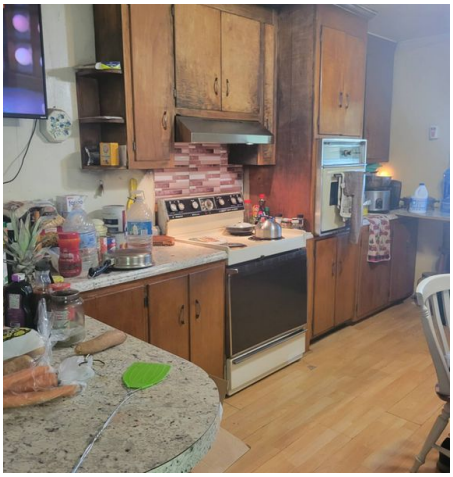
6. Finishing: After the joint compound has dried, the finished surface is achieved through a process called drywall finishing. This involves applying additional layers of joint compound, sanding, and smoothing the surface until it is flat and even. The finish can be customized based on the desired level of smoothness or texture.

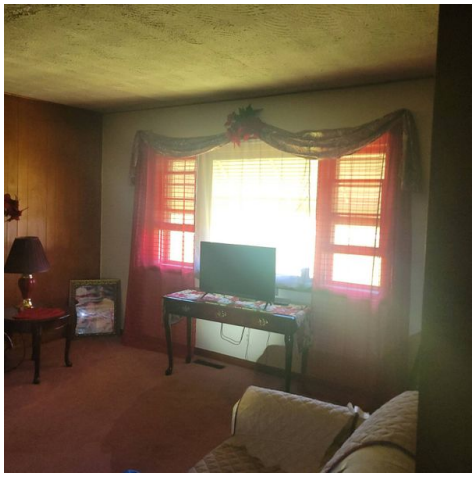
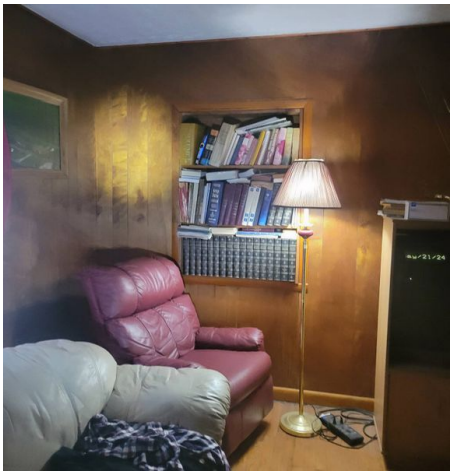
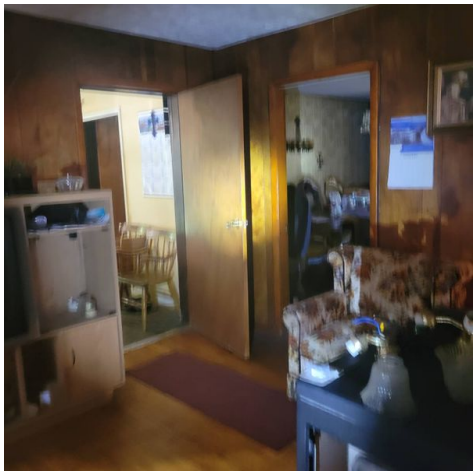
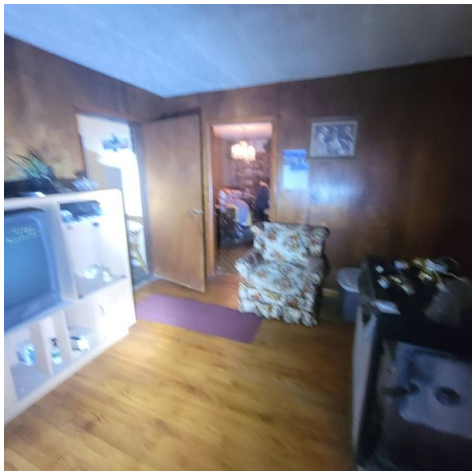
7. Priming and Painting: Once the drywall is finished and sanded, it is ready for priming and painting. A coat of primer is applied to seal the drywall surface, and then one or more coats of paint are applied to achieve the desired color and finish.

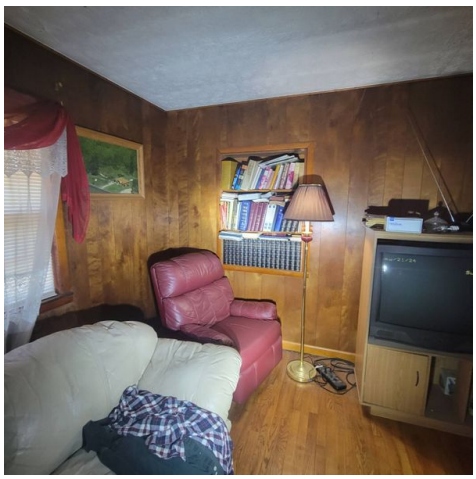
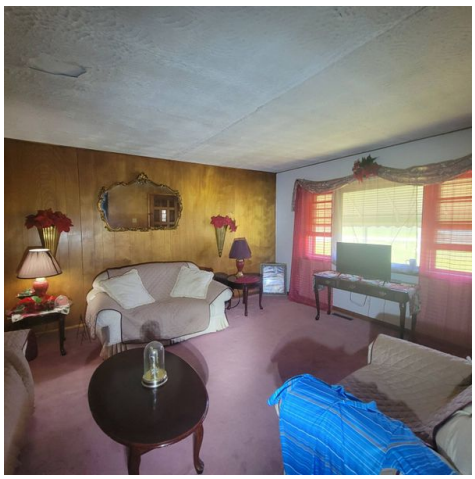
It's important to note that drywall installation requires proper techniques and tools, and it's often performed by experienced professionals or skilled DIYers. Working with drywall can be physically demanding and may involve working on ladders or scaffolding. It's recommended to follow local building codes and consult with professionals for guidance and assistance if needed.

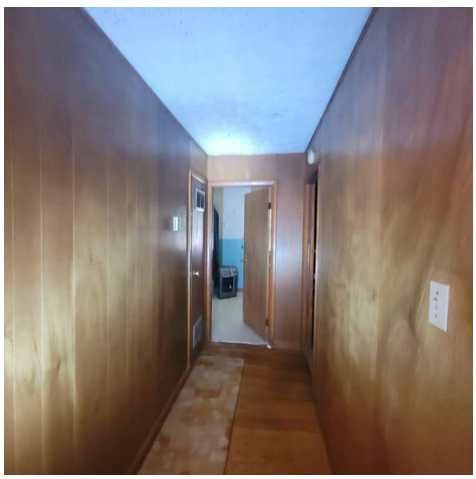


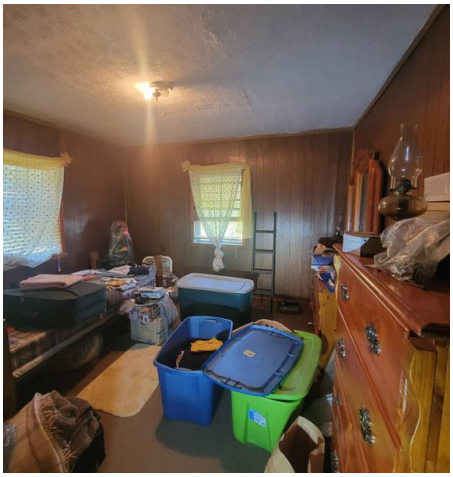
DRYWALL INSTALLTION





Counter tops & Cabinets and kitchen appliances : Cabinetry and counter tops

Kitchen

Wood

Photos of cabinets and counter tops for your information.

Additional information on installing cabinets and counter tops:

Installing kitchen cabinets and countertops involves careful planning, precise measurements, and attention to detail. Here's a general overview of how kitchen cabinets and countertops are installed:

1. Planning and Design: Determine the layout and design of your kitchen cabinets, considering factors such as storage needs, functionality, and aesthetics. Create a detailed plan that includes the cabinet dimensions, placement, and any special features or accessories.

2. Remove Existing Cabinets: If you have existing cabinets, remove them carefully, taking care not to damage the walls or surrounding surfaces. Disconnect any plumbing or electrical connections if necessary.

3. Preparing the Space: Ensure the walls are clean, smooth, and level. Make any necessary repairs, such as patching holes or fixing uneven surfaces. Install a ledger board along the wall to provide temporary support for the base cabinets during installation.

4. Install Base Cabinets: Start with the base cabinets. Begin at a corner and work your way along the wall. Use shims to level and align the cabinets, ensuring they are plumb and level. Secure the cabinets to the wall studs using screws or appropriate fasteners.

5. Install Upper Cabinets: After the base cabinets are installed, proceed with the installation of the upper cabinets. Again, use shims to ensure they are level and aligned. Secure the cabinets to the wall studs.

6. Install Cabinet Doors, Drawers, and Hardware: Install the cabinet doors, drawers, and any hardware or accessories, such as handles or knobs. Adjust the hinges and drawer slides to ensure proper alignment and smooth operation.

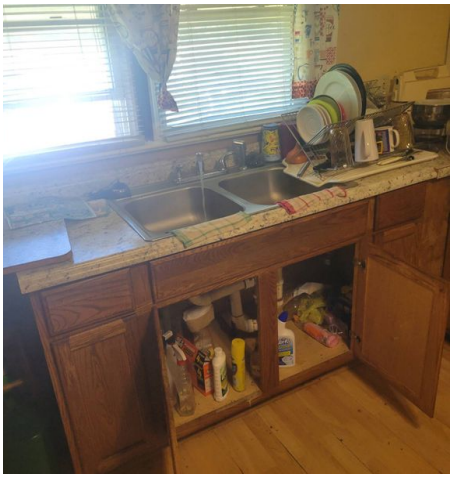
7. Measure and Cut Countertops: Measure the dimensions for the countertops carefully, accounting for any wall irregularities or obstacles. Transfer the measurements to the countertop material and cut it to the appropriate size. If using solid surface or quartz countertops, professional cutting and fabrication may be required.

8. Install Countertops: Place the countertops on the base cabinets, ensuring they fit properly and are level. Secure the countertops to the cabinets using screws or adhesive, following manufacturer instructions. Make any necessary cutouts for sinks, cooktops, or other fixtures.

9. Connect Plumbing and Electrical: If you had to disconnect plumbing or electrical connections, reconnect them according to local codes and regulations. Ensure proper sealing and secure connections.

10. Finishing Touches: Make any final adjustments, such as aligning doors and drawers, adjusting hardware, or adding trim. Seal any gaps between the cabinets and walls using caulk or trim pieces.

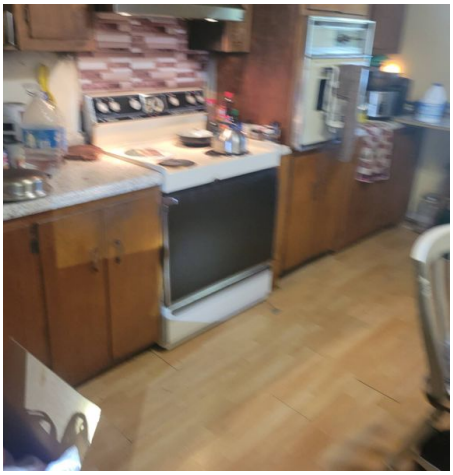
It's important to note that the installation of kitchen cabinets and countertops can be complex, and it may require specialized tools and skills. It's recommended to consult with professionals or experienced contractors to ensure the proper installation and achieve the desired outcome.

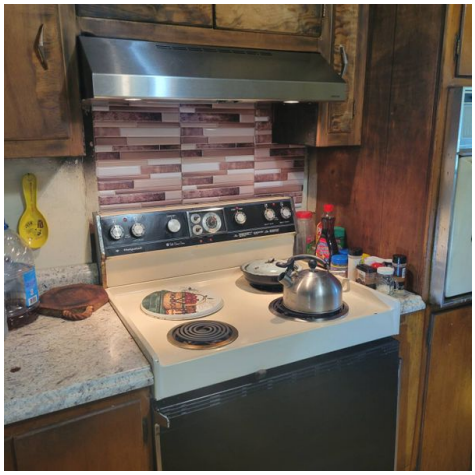


Counter tops & Cabinets and kitchen appliances : Kitchen appliances

Kitchen

Photos of the Kitchen appliances for your information.






Limitations

General

INTERIOR ROOM DISCLAIMER

INTERIOR OF HOME

Most wall and ceiling cracking is typical and not usually caused by structural movement. Lastly we are not allowed to open walls or ceilings to perform destructive Testing. Normal shrinkage, settlement and seasonal changes in wood framing may cause minor cracking in walls and ceilings. If soft walls or damaged walls or ceilings are discovered we cannot see into these walls or ceilings to determine if other issues are present. Failure to investigate potential issues could leave you exposed to unexpected costs that are beyond this type of inspection. Furniture and other personal possessions and/or stored items may prevent a complete examination of wall and/or floor surfaces.

General

GENERAL PROPERTY AND BUILDING INTERIOR DISCLAIMER

GENERAL PROPERTY CIRCUMSTANCES
This inspection has focused on the major elements of the property. As noted, some items are only sample tested or partially reviewed. Additionally, this
inspection may have been impeded by limited accessibility, especially in occupied homes. Therefore, please do not expect that every defect will be
reported. Clients might anticipate and budget an amount not less than $1000.00 to cover unforeseen and undiscovered defects and/or
minor repairs. This inspection does not determine whether proper building permits have been obtained for work performed at this property prior to this
inspection. We recommend that the client inquire with the current owner and the local building department as to the disposition of building
permits, if any were required. Lastly we are not allowed to pull wires apart to look at connections behind wiring and or Caps or Junction
boxes. If Electrical issues are noted in the Attic this does not mean we open junction boxes or tampered with wiring connections as this is
beyond the scope of this Inspection.

Building interior disclaimer

Furniture and other personal possessions and/or stored items may prevent a complete examination of wall and/or floor surfaces. Normal shrinkage,
settlement and seasonal changes in wood framing may cause minor cracking in walls and ceilings. Most wall and ceiling cracking is typical and not
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leave you exposed to unexpected costs that are beyond this type of inspection

De ciencies

6.1.1 Interior doors, windows, floors, ceilings

Recommendation

MULTIPLE DEFECTS: INTERIOR (GENERAL COSMETIC DEFECTS)

INTERIOR

This home has numerous cosmetic defects attributable to its age, wear, and DIY construction. The laundry room's wallpaper is peeling, various walls show poor painting, and cracks have appeared due to settlement and issues in the crawl space (refer to crawl space recommendations). Additionally, the doors have loose hardware and general cosmetic damage, and several parts of the home remain unfinished. Walls and ceilings have stains and are generally in poor condition.

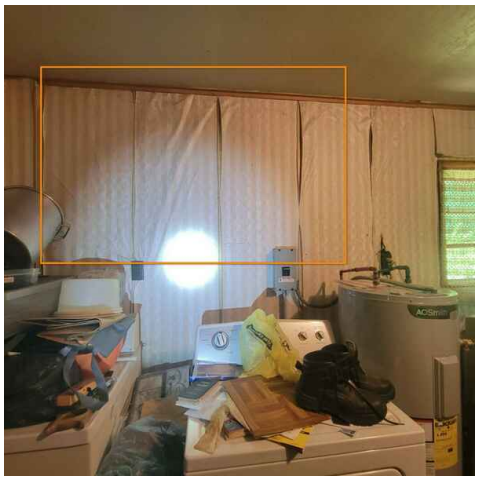
For a large contracting company aiming to "flip" this property at a low cost, the following steps could be taken:

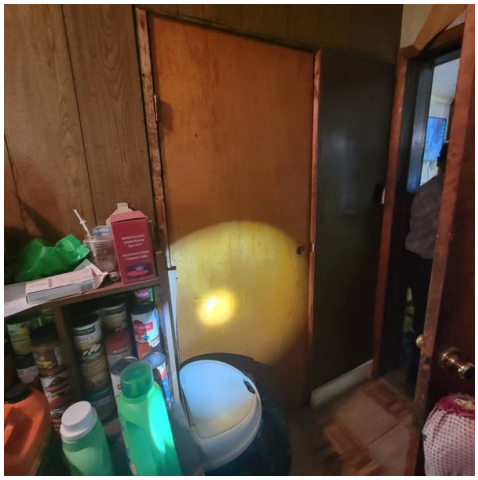
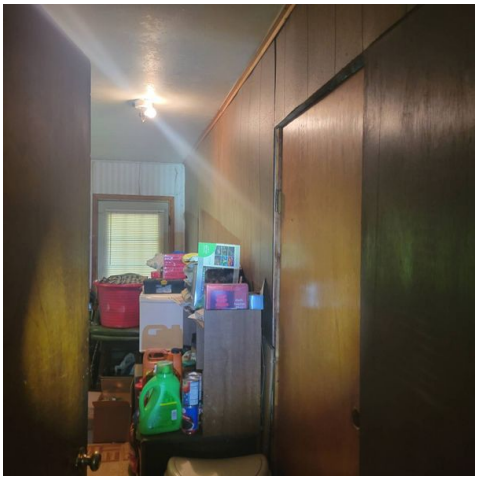
1. Clear the home of all items, including removing wallpaper and materials from walls and ceilings. If keeping the doors, remove them at this stage. Remove the damaged textured ceiling and have the area sanded and prepared for paint.
2. Apply a black paint barrier to the entire floor to protect it and tape all areas near the bottom of the wall with painter's tape.
3. Scrub all walls and ceilings with soap and water, allowing them to dry thoroughly. Patch holes and nail pops in walls and complete all drywall work to repair damaged walls and ceilings.
4. Utilize professional-grade paint suits, respirators, PPE, and paint sprayer guns to paint all areas of the home while the flooring is covered. Typically, 2 to 4 full passes are needed in each room. This will require multiple 5-gallon paint contains (average cost is $150 per container).
5. Sand and stain doors and replace hardware if not getting new doors. Paint window frames as needed. Note: wood plank panels can be removed or they can be re-nailed and, sanded and painted to avoid having to remove the glue from the walls.

Note: This method prioritizes efficient and cost-effective wall and ceiling painting without damaging the floor. After completing these steps, install flooring to avoid paint from the sprayer affecting new flooring or sanded/stained hardwood.

Recommendation

Contact a qualified professional.

6.1.2 Interior doors, windows, floors, ceilings

Recommendation

DAMAGED CEILING/DAMAGED CEILING TEXTURE MATERIAL/POSSIBLE COLLAPSING CEILING

INTERIOR

Multiple sections of the ceiling display substantial cracks, with portions in the hallways and bathrooms showing signs of collapsing. Additionally, moisture stains are evident in multiple areas of the ceiling. The stains in the living room likely stem from a previous leak at the base of the chimney, which has been patched on the roof. Furthermore, the textured ceiling throughout the home appears aged, poorly installed, and is peeling in various areas. It is advised to enlist the services of both a drywall contractor and a painting contractor to assess and address these issues.

What is this material? "Popcorn ceiling", "texture ceiling" or "acoustic ceiling texture." It's a textured finish that was popular in the mid-20th century for its ability to hide imperfections and absorb sound. The texture is achieved by spraying a mixture of materials, including paint and Styrofoam or other aggregates, onto the ceiling surface.

Popcorn ceilings can indeed become brittle over time and may start to break off or crumble, especially if they're disturbed or if there's moisture damage. Due to concerns about asbestos, which was sometimes used in older popcorn ceilings, many homeowners opt to remove or cover them with a different finish.

Recommendation

Contact a qualified professional.














6.1.3 Interior doors, windows, floors, ceilings

Recommendation

UNLEVEL/SOFT FLOORS

INTERIOR

1. Unlevel floors observed at the time of inspection. Recommend a qualified contractor to evaluate and repair.
2. Multiple areas of the floor in the home are soft. This is due to compromised floor joist and subflooring in the crawl space. Excessive mold growth has weakened the structure. Repair by a foundation contractor is recommended prior to replacing or refinishing the flooring in the home. See the crawl space section for recommendations.

IMAGE: AREA UNDER UNLEVEL/SOFT FLOORING/CRAWL SPACE DEFECTS (SEE CRAWL SPACE SECTION)

Recommendation

Contact a qualified professional.





6.1.4 Interior doors, windows, floors, ceilings

Recommendation

WORN FLOORS/CARPET

INTERIOR

1. Worn floors/carpet/or unlevel floors observed at the time of inspection. Recommend a qualified contractor to evaluate and remedy.
2. Carpets can be steamed clean, patched or replaced. Carpet patching involves a contractor cutting out damaged pieces of the carpet then sewing in a new piece.
3. Hardwood flooring can be re-sanded and stained. This is recommended to be completed after large scale painting and drywall projects.

Additional information on how carpet is installed:

Installing carpet involves several steps to ensure a proper and professional installation. Here's a general overview of how carpet is installed:

1. Preparation: The first step is to prepare the space for carpet installation. This includes removing any existing flooring, such as old carpet, and ensuring the subfloor is clean, dry, and free of debris. If necessary, repairs or adjustments are made to the subfloor to create a smooth and even surface.

2. Carpet Measurement: Accurate measurement of the area to be carpeted is crucial to determine the amount of carpet material needed. It's recommended to add a few inches to each side to allow for trimming and fitting during the installation process.

3. Carpet Selection: Prior to installation, the chosen carpet is delivered to the installation site. It's important to acclimate the carpet to the environment by allowing it to rest and adjust to the temperature and humidity conditions of the space for a period specified by the manufacturer.

4. Carpet Padding: Carpet padding, also known as cushion or underlay, is typically installed over the subfloor to provide additional comfort, insulation, and protection for the carpet. The padding is cut to fit the dimensions of the room and is placed on top of the subfloor.

5. Carpet Installation: The carpet is rolled out onto the prepared floor, ensuring it is properly aligned and centered within the room. The carpet installer uses specialized tools, such as a knee kicker, power stretcher, and carpet knife, to stretch and secure the carpet into place.

6. Trimming and Seam Placement: Excess carpet material is trimmed along the edges of the room using a carpet knife. If necessary, seams may be required to join multiple pieces of carpet. Careful attention is given to seam placement and alignment to ensure a seamless and inconspicuous appearance.

7. Tucking and Fastening: The edges of the carpet are tucked and secured using a variety of methods, such as tack strips or adhesive. Tack strips are commonly used along the perimeter of the room to hold the carpet in place, while adhesive may be used in specific areas where needed.

8. Finishing Touches: Once the carpet is properly installed, any visible seams are carefully sealed, and the carpet is trimmed to fit around obstacles, such as doorways or vents. The installers may also vacuum or groom the carpet to give it a neat and finished appearance.

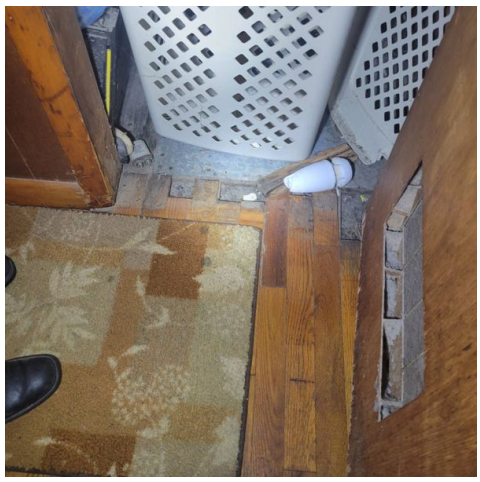
It's worth noting that carpet installation can be a complex task, requiring experience and expertise. Hiring professional carpet installers is recommended to ensure a high-quality and satisfactory installation. They have the necessary tools, skills, and knowledge to handle the installation process efficiently and effectively.

Recommendation

Contact a qualified flooring contractor





6.2.1 Counter tops & Cabinets and kitchen appliances

Recommendation

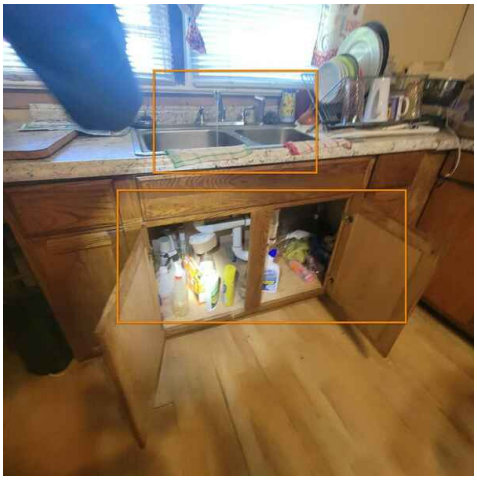
MULTIPLE DEFECTS: KITCHEN SINK

KITCHEN

The sink exhibits signs of aging, with loose plumbing lines and a need for garbage disposal servicing. It's crucial to ensure the drain is configured as a P-trap rather than an S-trap or U-trap. A P-trap is necessary to prevent sewer gases from entering the home and to maintain proper drainage. Despite these issues, many of these defects are expected given the property's age and minimal updates.

Recommendation

Contact a qualified plumbing contractor.



6.2.2 Counter tops & Cabinets and kitchen appliances

Recommendation

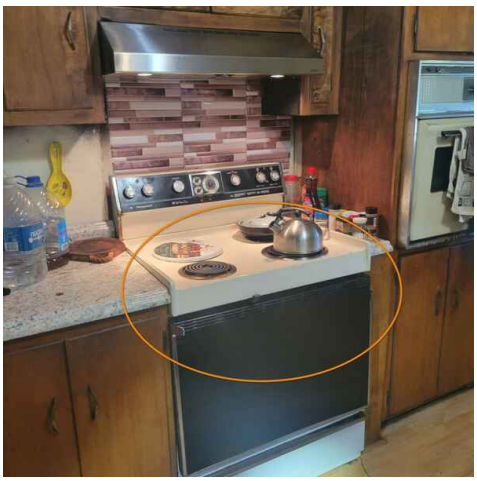
MULTIPLE DEFECTS: KITCHEN

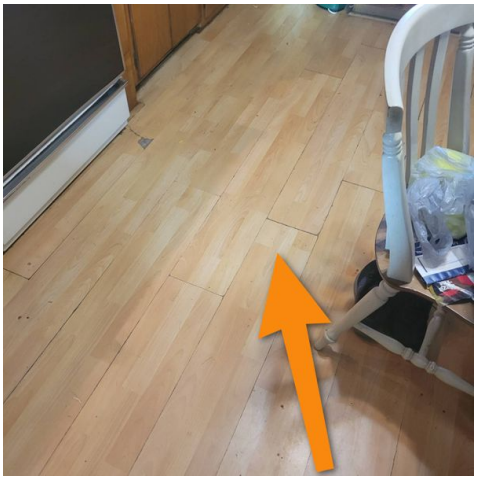
KITCHEN

The kitchen exhibits multiple defects including aged appliances, absence of an anti-tip device on the stove, worn and damaged cabinets, loose ceiling fan base, and worn floors with gaps. Additionally, burn markings on the ceilings suggest a past fire or neglect. Missing smoke detectors and light fixtures are observed, along with the absence of GFCIs near the sink. These issues require attention to ensure safety and functionality in the kitchen space. Recommend evaluation and repair. Natural wood cabinets can be sanded and stained.

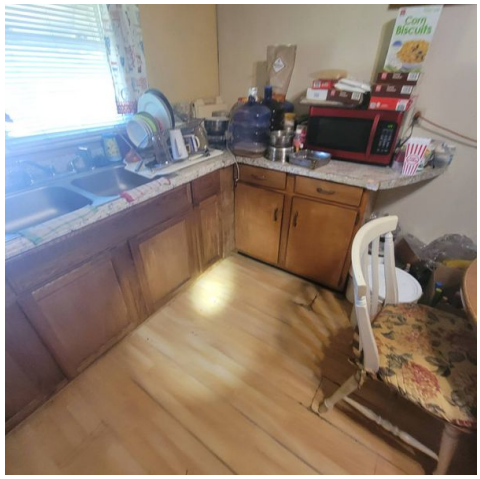
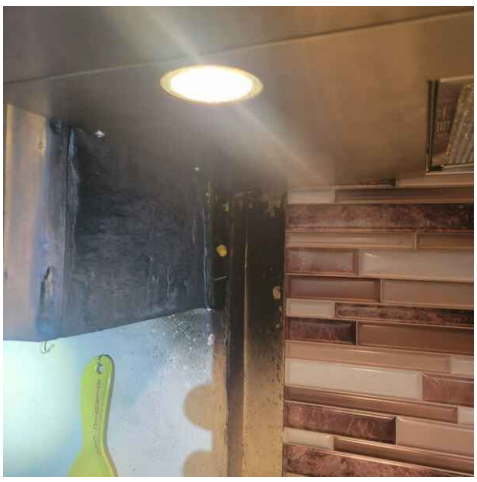
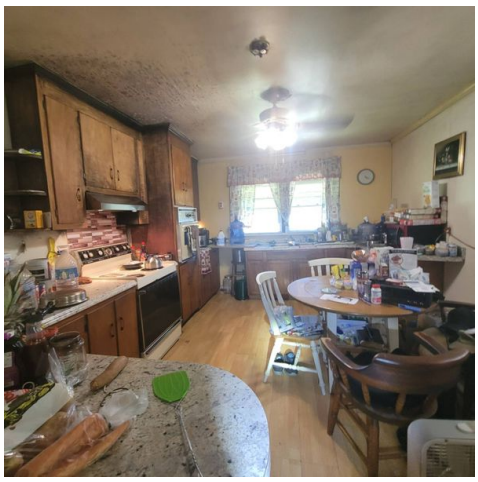
Recommendation

Contact a qualified professional.







6.2.3 Counter tops & Cabinets and kitchen appliances

Safety Hazard

POSSIBLE PAST FIRE IN THE KITCHEN

KITCHEN AREA

Evidence suggests a past fire in the kitchen, likely originating under the stove hood where capped wires are visible. This area likely served as the point of ignition, leading to burn markings on the ceilings, indicating a potential electrical fire. It is crucial to have the electrical system evaluated and upgraded by a qualified electrician to mitigate any further risks or issues. Immediate attention and repair are recommended to ensure safety and prevent potential future incidents.

Recommendation

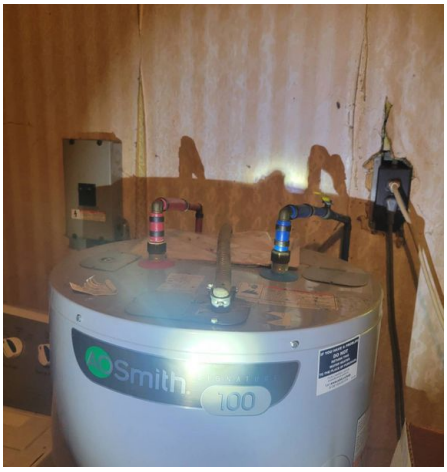
Contact a qualified professional.

7: PLUMBING

Information

Hot Water Systems, Controls, Flues & Vents: Power Source/Type

Electric



Water Source

Public

Water is typically supplied to houses from the city through a municipal water supply system. Here's a general overview of how water reaches your house from the city:

1. Water Treatment Plant:
   - The journey begins at a water treatment plant where the city sources its water. The water is usually obtained from lakes, rivers, or underground wells.

2. Water Treatment:
   - At the water treatment plant, the water undergoes a series of processes to remove impurities and ensure it meets quality and safety standards. Treatment processes may include filtration, disinfection (such as chlorination), and sometimes additional steps like softening or fluoridation.

3. Water Storage:
   - After treatment, the water is stored in large reservoirs or water towers to maintain a steady supply for the city. These storage facilities help ensure a continuous flow of water, even during periods of high demand.

4. Water Distribution Network:
   - From the water storage facilities, the treated water is distributed through a network of underground pipes, often referred to as the water distribution system or water mains. These pipes are typically made of materials like cast iron, ductile iron, or PVC.

5. Water Meters and Valves:
   - Along the distribution network, water meters are installed at individual properties to measure the amount of water consumed. Valves are also installed to regulate the flow of water and isolate specific sections of the network if repairs or maintenance are needed.

6. Service Lines:
   - Service lines connect the water distribution network to each individual property. These lines, typically made of copper, plastic, or galvanized steel, bring the water from the main supply to your house.

7. Water Meter and Shut-off Valve:
   - At your property, there is a water meter that measures your water usage. A shut-off valve is also located near the meter, allowing you to turn off the water supply to your house if needed.

8. Plumbing System:
   - Inside your house, the water supply enters your plumbing system, which includes pipes, fixtures (such as faucets and showers), and appliances that require water. The plumbing system distributes the water throughout your house for various uses, such as drinking, bathing, and cleaning.

It's important to note that the specific infrastructure and processes may vary depending on the location and the city's water supply system. Local regulations and practices also influence how water is delivered to houses.

Additional information on water sourced from a well:

When water is sourced from a well, it follows a different process compared to receiving water from a city's municipal supply. Here's a general overview of how water comes from a well:

1. Well Drilling:
   - Wells are typically drilled into the ground to access underground water sources. Professional well drillers use specialized equipment to dig deep into the earth's surface until they reach the water table.

2. Water Table:
   - The water table refers to the level below the ground where water saturates the soil or rocks. It can vary in depth depending on the location and geological conditions. The well is drilled below the water table to ensure a constant supply of water.

3. Submersible Pump or Jet Pump:
   - Once the well is drilled, a submersible pump or a jet pump is installed inside the well to extract water from the water table.
   - A submersible pump is placed directly in the well and is submerged in water. It pushes water up to the surface through a pipe connected to the pump.
   - A jet pump is installed above the ground or in a separate pump house near the well. It uses suction to pull water from the well and push it through pipes to the house.

4. Pressure Tank:
   - To maintain consistent water pressure and minimize the cycling of the pump, a pressure tank is typically installed near the house. The tank stores a reserve of pressurized water and helps regulate the water flow.

5. Distribution System:
- From the pressure tank, the water is distributed throughout the house via a plumbing system. Pipes carry the water to fixtures, faucets, appliances, and other water outlets within the property.

6. Filtration and Treatment:
- Depending on the quality of the well water, filtration and treatment systems may be installed to remove impurities, sediment, or harmful contaminants.
- Filtration systems can include sediment filters, activated carbon filters, or other specialized filters depending on the specific water quality concerns.
- Treatment systems such as water softeners, disinfection systems, or pH correction systems may be used if needed.

It's important to note that the specifics of well systems can vary depending on factors such as the type of well (e.g., drilled well, dug well), local regulations, and the geological characteristics of the area. Proper well maintenance, regular testing of water quality, and adherence to local regulations are essential for ensuring the safety and reliability of well water. Consulting with a professional well contractor or plumber is recommended for the installation and maintenance of well systems.

Main Water Shut-off Device: Location

Limited view

If a shut off valve is not installed in a conspicuous area like on the wall of the garage or in the closet the only place for the valve is under the meter in the front yard. Some times this meter can be difficult to reach even for the utility company due to the valve being covered with dirt. A valve can be cut into a location inside the home making it easier to reach. A plumbing contractor can cut into the wall close to the main source and add this valve. Other areas are located under the home in the crawl space, this makes the valve difficult for the homeowner to reach. Consider contacting a plumber to create and easy access for the valve if not located in a common area.

Locating and Operating Your Main Water Shut-Off Valve:

Knowing where your home's main water supply is located, and how to turn it off, is as important as knowing how to find and reset an electric circuit-breaker.

Every home was required to have a main water shut-off valve installed inside the home when it was built. For most emergencies or repairs, shutting off the proper inside valve is all you will need to do. However, there are also underground shut-off valves installed outside at the property line. If it's necessary to shut off this valve, please call a registered master plumber or WSSC Water at 301-206-4003 to work this valve.

Where are my supply valves?

It is important to understand that different plumbing arrangements will dictate where the proper main supply valve is located. Some homes have the water meter located inside, while others are located outside, underground within a “pit” at or near the property line or right-of-way. Some homes also have submeters, which typically are inside even if the main meter is outside/underground. Newer homes have fire sprinkler systems, while older ones generally do not. Home construction also differs greatly; basements, crawl-spaces, and slab-on-grade. Water shut-off valves may have round “wheel” handles or lever handles.

Locating the proper valve

Basements – the shut-off valve is typically located near the front foundation wall. The main water may come through the concrete floor or through the wall. The valve is typically within three to five feet of where the main water enters. In some cases, the main water may enter in a different area, like a mechanical room, up through the floor, near the water heater or furnace.

Crawl-space plus a basement – the shut-off valve may be where the water enters the basement; in some older homes, the shut-off may be inside the crawl space. If your shut-off valve is located in a crawl space, you may want to consider a secondary valve located in the basement.

Crawl-space with no basement – the shut-off valve typically is located near the water heater or under the kitchen sink, but anywhere is possible. If it is located inside the crawl space, you may want to consider a second valve located in the living space, for example, near the water heater or under a sink.

Slab-on-grade construction – the shut-off valve typically is located near the water heater or under the kitchen sink, but anywhere is possible.

Which valve should you operate?

If your home has a fire sprinkler system, care is needed when selecting a shut-off valve. Unless it is a sprinkler pipe that is leaking, you should only shut off the plumbing supply and leave the sprinkler piping charged/live.

If the water shut-down is for a broken sprinkler line or sprinkler head, locate the first valve (that is, the one closest to the main water line entry point) and operate that valve as described below.

For all other general plumbing shut-offs, emergency and non-emergency:

1. For homes with fire sprinklers and an inside main water meter, locate and operate the second valve (it will be above the main meter and past (downstream of) the fire sprinkler system “tee”). If you have a submeter, its second valve will only isolate the irrigation and/or hose bibbs.
2. For homes with fire sprinklers and an outside main water meter, locate and operate the second valve, it will be past (downstream of) the fire sprinkler “tee.”
3. For homes without fire sprinklers and with an inside main water meter, either valve will shut off supply to the home, but operating the second valve is a good practice and a safeguard if you are not sure if your home has fire sprinklers.
4. For homes without fire sprinklers and with an outside main water meter, you likely have only one shut-off valve that will shut down the entire home.

How to close the main valve (Shut-off/Turn-off)

1. Round “wheel” handle valves will turn off by turning the handle clockwise. It may take two or more full revolutions.
2. Slowly turn level handle valves ¼ turn, until the handle is not parallel with the pipe. It should stop at a ¼ turn.
3. Open a tub or sink faucet (hot and cold) on the highest level of the home to relieve pressure, and watch that spout to ensure that water has stopped flowing. Then continue to open faucets throughout the home to drain-down as needed.

4. If draining down the home, be sure to de-energize the water heater and boiler where applicable by shutting off power to electric water heaters and any type of boiler. For gas water heaters, turn thermostat down to the pilot-only setting; if you drain the heater, turn off the gas.

Opening the main valve (Open/Turn-on)

1. Close all faucets except a tub or sink on the highest level of the home.
2. Partially turn on valves slowly; extra slow for lever handles; stop after ½ revolution on wheel handle, ½ of a ¼ turn for lever handle; with water flowing, slowly turn off highest open faucet.
3. Listen for water pressure to equalize (noise ends); fully open main valve. Bleed air from lines by slowly opening (hot and cold) on all faucets, one at a time, until air stops flowing, then close each faucet; repeat the process on all faucets until complete.
4. Turn power on to electric water heaters and boilers only after the water system is full and all air has been bled out. If gas was turned off, carefully follow re-starting directions on the appliance jacket or call a registered plumber or your gas company for service.

Water Supply, Distribution Systems, Fixtures, Drain, waste and vent systems : Water Supply Material

Whole house

Copper, Galvanized, Pex, PVC, Cast iron drain line

Plumbing photos for your information.

Water supply lines, which bring water into buildings, can be made from various materials. The choice of material depends on factors such as local building codes, water quality, budget, and personal preferences. Here are some common materials used for water supply lines:

1. Copper: Copper pipes are widely used for water supply lines due to their durability, corrosion resistance, and long lifespan. They can withstand high temperatures and are suitable for both hot and cold water applications. Copper pipes are often joined using soldering or compression fittings.

2. PEX (Cross-linked Polyethylene): PEX pipes have gained popularity in recent years. They are flexible, making them easier to install and maneuver around obstacles. PEX is resistant to corrosion and scale buildup and can handle high temperatures. PEX pipes are typically joined using crimp or clamp fittings.

3. CPVC (Chlorinated Polyvinyl Chloride): CPVC pipes are made of a thermoplastic material and are commonly used for hot and cold water supply lines. They are resistant to corrosion and can handle high temperatures. CPVC pipes are joined using solvent cement or threaded fittings.

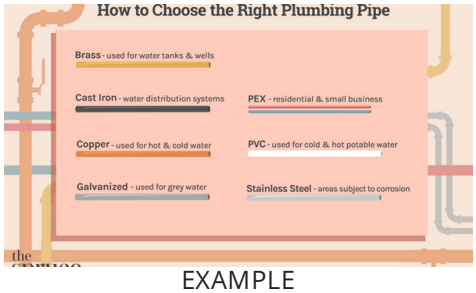
4. PVC (Polyvinyl Chloride): PVC pipes are mainly used for cold water supply lines and not recommended for hot water applications. They are less expensive than other options and easy to install. PVC pipes are joined using solvent cement or threaded fittings.

5. Galvanized Steel: Galvanized steel pipes were commonly used in the past but are now less popular due to their tendency to corrode and restrict water flow over time. If your building has older plumbing, it may have galvanized steel pipes. It is often recommended to replace them with more modern materials.

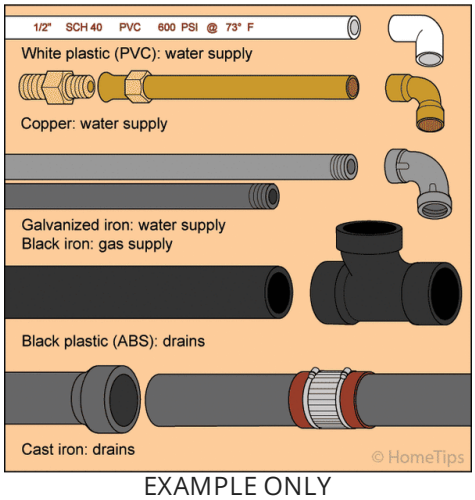
6. Polyethylene (PE): High-density polyethylene (HDPE) pipes are used for water supply lines in some applications, particularly for underground installations. They are resistant to chemicals and can handle high pressures. PE pipes are typically joined using heat fusion or mechanical fittings.

It's essential to consult local building codes and regulations and consider factors such as water quality, budget, and specific requirements when choosing the appropriate material for water supply lines. Professional plumbers or contractors can provide guidance on the best choice of materials for your specific situation.

EXAMPLE OF PLUMBING LINE RUN



EXAMPLE



EXAMPLE ONLY



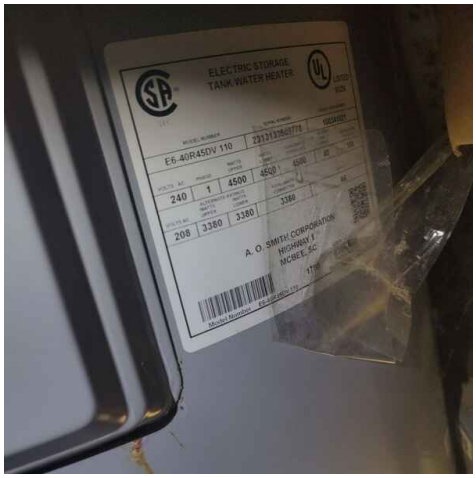



Hot Water Systems, Controls, Flues & Vents: Capacity

40 gallons

Manufacture year: 2003,

The service life of a hot water heater is approximately 10 to 15 years.



Hot Water Systems, Controls, Flues & Vents: Location

Utility Room

Water heater diagrams.

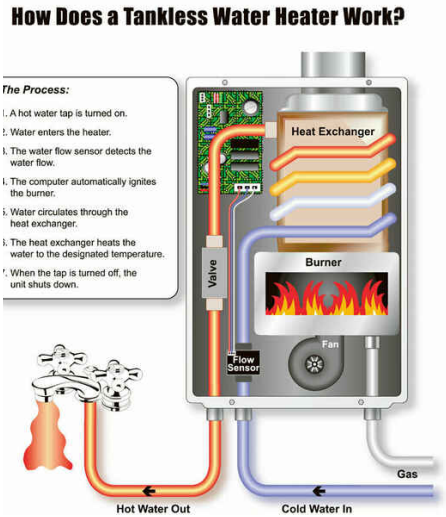
Hot water heaters, also known as water heaters or hot water tanks, are devices used to heat and store water for domestic or commercial use. They work by utilizing one of the following heating mechanisms:

1. Storage Tank Water Heaters: This is the most common type of water heater. It consists of an insulated tank that stores and heats a specific volume of water. Here's how it works:
   - Cold water enters the tank through a dip tube located near the top.
   - Inside the tank, a heating element (typically electric resistance coils or a gas burner) heats the water.
   - As the water heats up, it rises to the top of the tank.
   - Hot water is drawn from the top of the tank through a hot water outlet when a faucet or appliance is turned on.
   - To maintain a consistent supply of hot water, the tank refills with cold water, which displaces the hot water and triggers the heating cycle again.

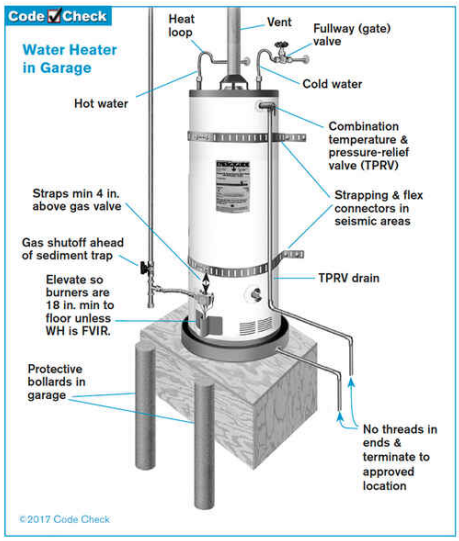
2. Tankless (On-Demand) Water Heaters: Tankless water heaters heat water directly as it passes through the unit without the need for a storage tank. Here's how they work:
   - When a hot water tap is turned on, cold water flows into the unit.
   - Inside the unit, a heating element (typically a gas burner or electric heating coils) rapidly heats the water.
   - The heated water then exits the unit and travels directly to the faucet or appliance where it is needed.
   - Tankless water heaters provide hot water on-demand and can supply a continuous flow of hot water as long as the demand does not exceed the unit's heating capacity.

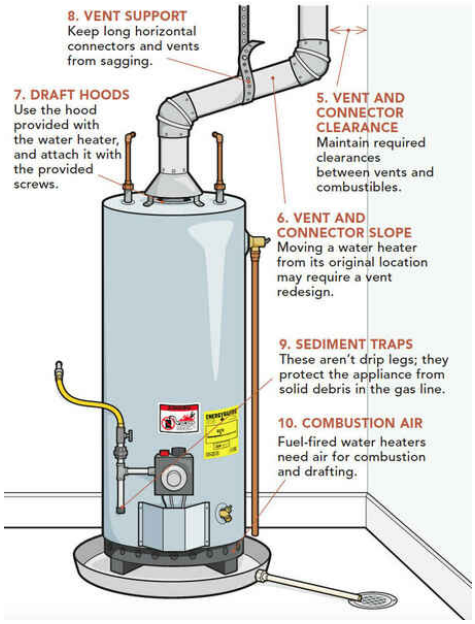
Both types of water heaters are equipped with temperature and pressure relief valves to ensure safety by preventing excessive pressure or temperature buildup.

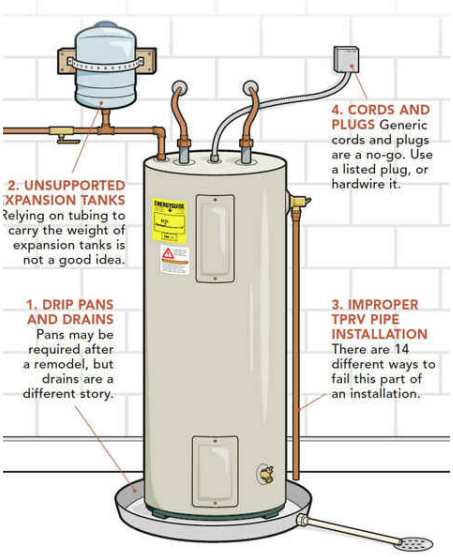
It's worth noting that the specific operation and features of hot water heaters can vary depending on the model, fuel source (gas, electric, solar, etc.), and efficiency ratings. It's important to refer to the manufacturer's instructions and guidelines for proper installation, operation, and maintenance of your specific water heater.



TANKLESS WATER HEATER







Hot Water Systems, Controls, Flues & Vents: Manufacturer

AO Smith

I recommend flushing & servicing your water heater tank annually for optimal performance. Water temperature should be set to at least 120 degrees F to kill microbes and no higher than 130 degrees F to prevent scalding.

Here is a nice maintenance guide from Lowe's to help.

Bathrooms : Bathroom

1st floor

1. Bathroom photos for your information.
2. Water temperature photo using thermal imager or temperature measuring device. Water temp is sufficient.

Limitations

General

PLUMBING DISCLAIMER

Supply and drainage piping is observed in exposed areas only. The condition of piping within walls or under ground or under other surfaces cannot be
determined as a part of this inspection. Wells and septic systems are specifically excluded from this inspection as well as water Treatment equipment
and or Sprinkler systems - separate, specialized testing and inspection of these systems is recommended (and may be required by law). All plumbing
work should be performed by licensed plumbers. Additionally if corrosion and or rust is noted at time of inspection on drain piping or supply piping
remember this is a Visual inspection "only" as there could be issues below the earth or in areas that supply or drain piping are not accessible from a
visual inspection. Only a Licensed Plumber can evaluate these areas with a Lighted Boroscope or other approved tools to actually determine if there are
issues within Drain/Supply piping as again this is Outside the area of a Visual non evasive inspection. Please Ask your Home inspector any question
that needs to be clarified prior to end of discovery period..

General

LIMITED VIEW

Limited view on plumbing lines inside of walls or directly behind fixtures due to the construction of the home.

Water Supply, Distribution Systems, Fixtures, Drain, waste and vent systems

PLUMBING LINES OR DRAIN LINES IN CONCRETE SLAB

CONCRETE SLAB

Sections of the plumbing lines in concrete slabs cannot be observed. All plumbing lines are observable on homes that are on crawl spaces (persons can crawl under home). The main drain line on homes that are on a slab are also in/under the slab. If issues arise with these types of homes it is common for plumbing contractors to have to enter the slab to correct the issue.

Water Supply, Distribution Systems, Fixtures, Drain, waste and vent systems

COULD NOT TEST TUB JETS/CLEAN AND SERVICE TUB JETS

The tub "bubble pump" could not be tested at the time of inspection due to restrictions. These jets can shoot out a dark sludge that can stain the tub. It is recommended to fill the tub with water and to add a solution that cleans the jets. This also helps to remove the bacteria from other persons in the tub and tub jets. The access for the tub jets is usually a square shaped panel located around the tub or on the outer wall adjacent to the tub.

Water Supply, Distribution Systems, Fixtures, Drain, waste and vent systems

LIMITED VIEW ON PLUMBING PIPES

Because of how home homes are built plumbing pipes and go through floors and walls depending on how the plumber installs them and the time frame during the install. typically speaking homes with crawl spaces have "exposed plumbing" were the distribution pipes and plumbing material is easily visible.

Bathrooms

BATHROOM DISCLAIMER

We recommend periodic cleaning (removal of built-up dust and dirt) of bathroom ventilation (exhaust) fans to maintain proper operation. Periodic review
of caulking and grouting at all tiled areas and backsplash is strongly recommended to prevent moisture damage to the underlying surfaces. Repairs
should always be made with the proper materials. Water leaks may not appear during the inspection if the home is vacant due to lack of normal usage,
but may appear after repeated usage, and we cannot be held responsible for these.

Bathrooms

LIMITED VIEW ON LINES

1. Limited view on plumbing lines due materials obstructing view.
2. Plumbing lines behind the vanity and in the floors/walls can not be viewed.

De ciencies

7.2.1 Water Supply, Distribution Systems, Fixtures, Drain, waste and vent systems

Recommendation

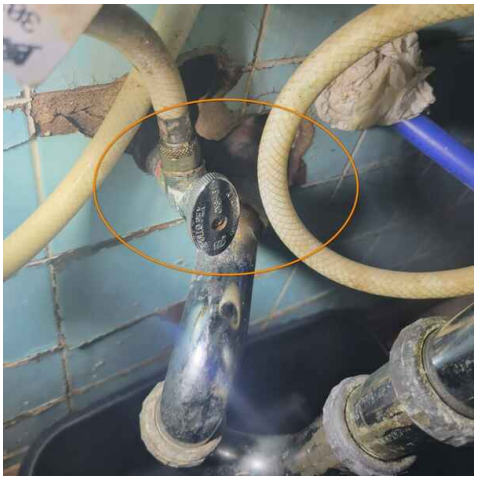
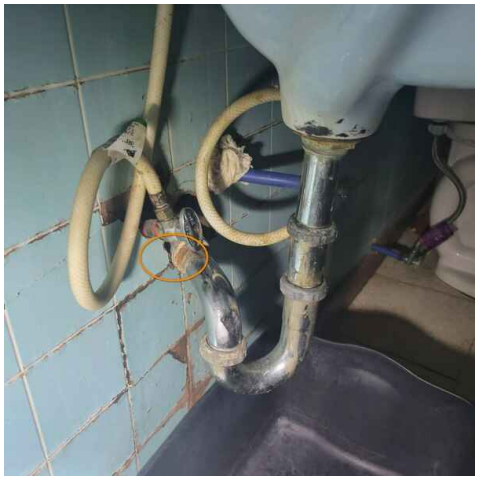
SUBSTANDARD PLUMBING SYSTEM

WHOLE HOUSE

The plumbing system in this property is substandard. Some of these upgrades may have been attempted as do-it-yourself projects. The improper slope of the drain line can result in drainage issues, indicating the need for a plumber to evaluate and upgrade the system. Homes in this condition often experience plumbing issues. Additionally, galvanized plumbing was observed, with some copper lines upgraded to PEX. However, the installation of these lines and drains is poor and may require attention to ensure proper functionality.

Recommendation

Contact a qualified plumbing contractor.


7.3.1 Hot Water Systems, Controls, Flues & Vents

Recommendation

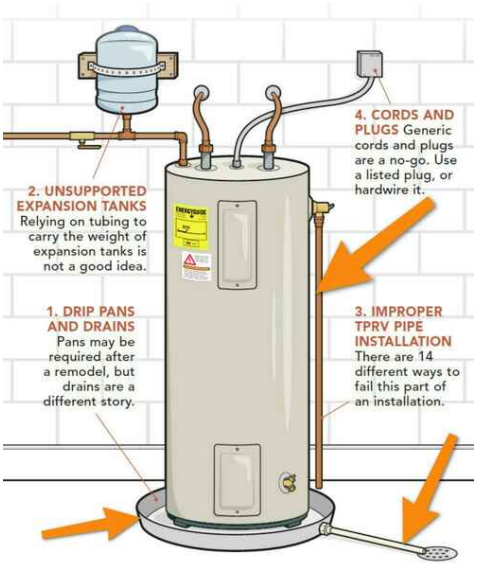
NO DRAIN PAN OR DRAIN LINE/MISSING TPR VALVE DRAIN LINE

LAUNDRY ROOM

The water heater was replaced in 2023; however, it lacks a drain pan and a drain line exiting the home. Additionally, the TPR (Temperature Pressure Relief) valve should have a CPVC line running to the pan to drain its discharge. The TPR valve serves as a pressure relief measure. The absence of these safety-related items suggests a potentially amateur installation, as licensed plumbers typically ensure all safety related items are installed in modern times.

Recommendation

Contact a qualified plumbing contractor.



7.4.1 Bathrooms

Recommendation

MULTIPLE DEFECTS: SHARED BATHROOM

BATHROOM (SHARED)

Multiple defects were observed in the bathroom:

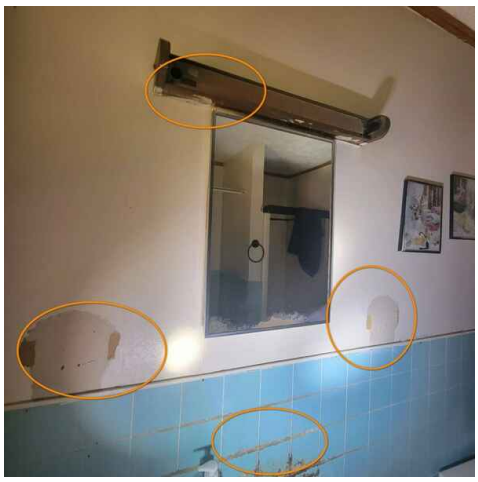
- The ceiling shows signs of impending collapse.
- The sink and walls exhibit damage.
- The faucets and tub are loose and damaged (but are operational).
- The toilet base is loose, resulting in a slow flush.
- There is no GFCI protection installed.
- The flooring is damaged.
- The fan is non-operational.
- The shower stall base shows signs of rust and requires attention.
- Loose PEX plumbing lines were observed.
- A blue PEX line was used for the shower head instead of a metal shower pipe.
- The sink drain is leaking.
- Possible issues with the drainage system in the tub and the shower.
- Despite these issues, the bathroom does have functioning hot and cold water, and the toilet flushes.
- Evaluation and repair by a qualified contractor are recommended.

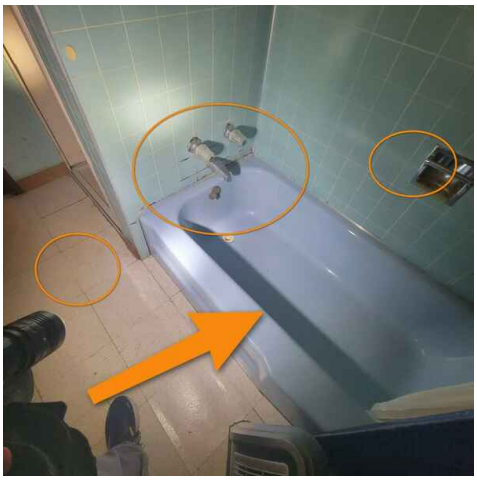
Recommendation

Contact a qualified professional.

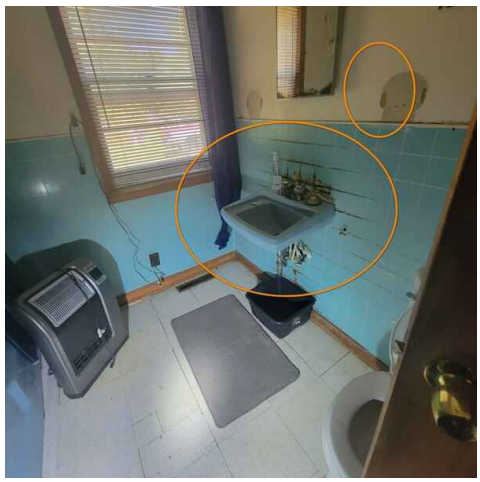










8: ELECTRICAL

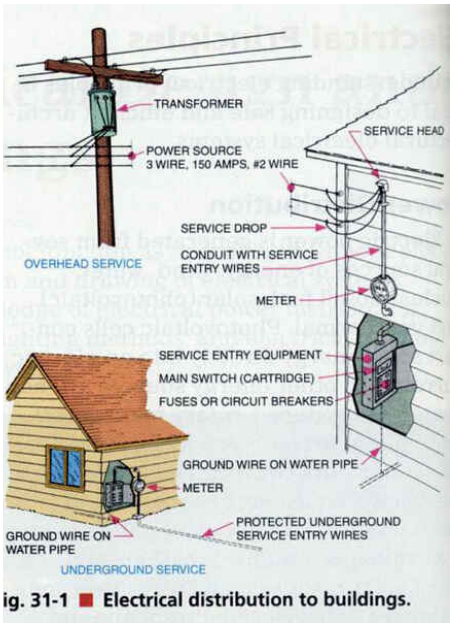
Information

Service Entrance Conductors: Electrical Service Conductors

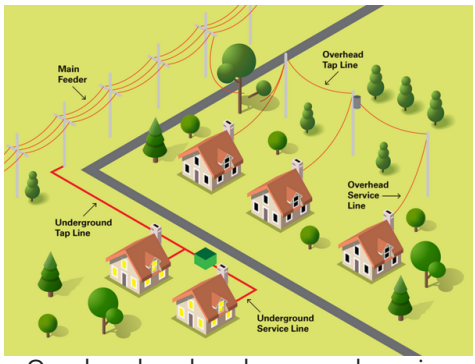
Exterior

Overhead

Service entrance conductor photos for your information.



ig. 31-1 ■ Electrical distribution to buildings.



Overhead and underground service description

Main & Subpanels, Service & Grounding, Main Overcurrent Device: Main Panel Location

rear

Electrical Panel photos for your information.

Additional information:

There are several types of electrical wires commonly used in residential houses. The specific types of wires used depend on the application and electrical codes in your region. Here are some common types of electrical wire:

1. Non-Metallic Sheathed Cable (NM or Romex): NM cable is the most common type of electrical wire used in residential applications. It consists of two or more insulated conductors (typically black, white, and bare copper) wrapped in a plastic sheathing. NM cable is used for general wiring, such as lighting, outlets, and appliances.

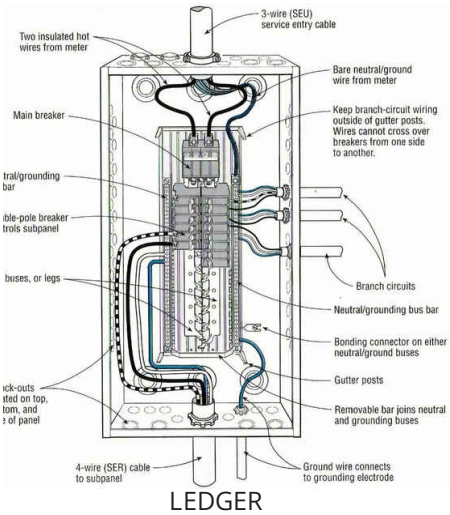
2. Underground Feeder Cable (UF): UF cable is designed for underground or direct burial applications. It has similar construction to NM cable but includes a moisture-resistant outer jacket. UF cable is used for outdoor wiring, such as outdoor lighting, underground circuits, and outdoor outlets.

3. Armored Cable (AC or BX): Armored cable consists of insulated conductors wrapped in a flexible metal sheath. The metal sheath provides protection against physical damage and can also serve as the grounding conductor. Armored cable is used in areas where additional protection is required, such as exposed areas or where there is a risk of damage from rodents.

4. Conduit and THHN Wire: Conduit is a protective tubing that holds individual THHN (Thermoplastic High Heat-resistant Nylon) wires. THHN wire is a single conductor with insulation rated for high temperatures. Conduit and THHN wire are commonly used in commercial or industrial applications but can also be used in residential installations where additional protection is needed or required by local codes.

5. Low Voltage Wiring: Low voltage wiring is used for low-power systems, such as doorbells, intercoms, security systems, and audiovisual equipment. It typically consists of smaller gauge wires with insulation specifically designed for low-voltage applications.

It's important to note that electrical codes and regulations may vary depending on your location. It's always best to consult with a licensed electrician or follow local electrical codes and guidelines when selecting and installing electrical wire in residential applications.



LEDGER

Main & Subpanels, Service & Grounding, Main Overcurrent Device: Panel Capacity

100 AMP

The NEC is updated periodically, and different states or local jurisdictions may adopt specific versions of the code. However, some general standards and practices commonly followed for residential electrical panels include:

1. Main Service Disconnect: The main electrical panel must have a clearly labeled main service disconnect that can shut off power to the entire panel. It is typically located at the top or bottom of the panel and should be easily accessible.

2. Panel Ratings: Residential electrical panels are typically rated for 100 to 200 amps, although larger panels are available for higher-demand installations. The panel rating should match the capacity of the electrical service provided to the house.

3. Circuit Breakers: Residential panels commonly use circuit breakers as the primary means of protection for individual circuits. The breakers must be properly sized to protect the wiring and equipment connected to the circuit. The capacity of the panel determines the number of circuit breakers that can be installed.

4. Panel Construction: Residential electrical panels are typically constructed with a metal enclosure for safety and durability. The panel should be properly grounded, and the cover should be securely fastened.

5. Labeling and Marking: As mentioned earlier, electrical panels should be properly labeled to identify the circuits and corresponding breakers/fuses. This helps with troubleshooting, maintenance, and safety.

It's important to note that electrical codes and standards can vary by country, region, or local jurisdiction. It is always recommended to consult the specific electrical code adopted in your area or seek guidance from a licensed electrician to ensure compliance with the current standards and regulations.

Limitations

General

ELECTRICAL LEGAL DISCLAIMER

Only qualified electricians should perform all electrical repairs or modifications. The condition of wiring is typically only observed in the electrical panel(s)
- junction box covers, outlet and switch covers or junction boxes are not removed. Lights that do not appear to function are often the result of burned out
bulbs. AFCI (arc fault circuit interrupter) devices and only tested in vacant houses. Smoke detectors are visually checked but not tested in accordance
with industry standards. Low voltage systems (door bells, telephones, alarm systems, cable, phone, internet etc.) are not included in this inspection.
Lastly if there are a number of Electrical issues noted on inspection report for the Home you are buying a separate review from a Qualified Licensed
Electrician of the Electrical systems is recommended and there findings should be considered as a result of there inspection going forward as we do
not quote code nor pull wires out of insulation in the Crawl space or Attic nor do we pull apart wires to review connections and or certify that your
electrical system wont have problems in the future. You are required to perform a walk-thru prior to closing so if your homes electrical system was noted
in satisfactory condition by you or your allowed representative then this is proof that no visual conditions were noted by **Iron Mountain Home Inspection Training Academy** and You and or allowed representative prior to taking possession. If items are discovered at Home Inspection and or walk-thru please have your Real-Estate professional represent you prior to closing to have Selling/Owner or Listing or FSBO side correct any issues discovered during Inspection and or
required Walk-thru prior to you taking possession.
SMOKE AND CARBON MONOXIDE DETECTORS SHOULD BE PERIODICALLY CHECKED FOR FUNCTION.

Carbon Monoxide Detectors/Smoke detectors

SMOKE/CARBON MONOXIDE DETECTOR DISCLAIMER

Smoke Alarm/Carbon Monoxide alarms Info- Smoke/CO2 alarms. During our inspection, we do not operate these alarms . We also do not smoke-test alarms, which is the only definitive test to confirm proper function. If there are no fire extinguishers in the house it is recommend that a fire extinguisher be accessible in the kitchen, garage, and second floor if present. Smoke alarms should be replaced every 10 years if not sooner.

De ciencies

8.1.1 Service Entrance Conductors

Safety Hazard

ENTRANCE CABLE IS IN POOR CONDITION

FRONT RIGHT SIDE OF HOME

The service entrance wires are damaged, indicating a safety issue. Contact the utility company or an electrician for evaluation and repair. Additionally, consider upgrading or replacing the meter base, as multiple meters are installed on the property. Ownership and responsibility for maintenance of the utility pole on the property should be clarified, especially concerning wiring for additional structures. Consulting professionals will provide clarity and ensure compliance with safety standards.

Note: There are wires ran across the roof that are attached to point on the top of the chimney. This is possibly a lightning protection system or part of a system for an antenna. This is atypical configuration.

Recommendation

Contact your local utility company

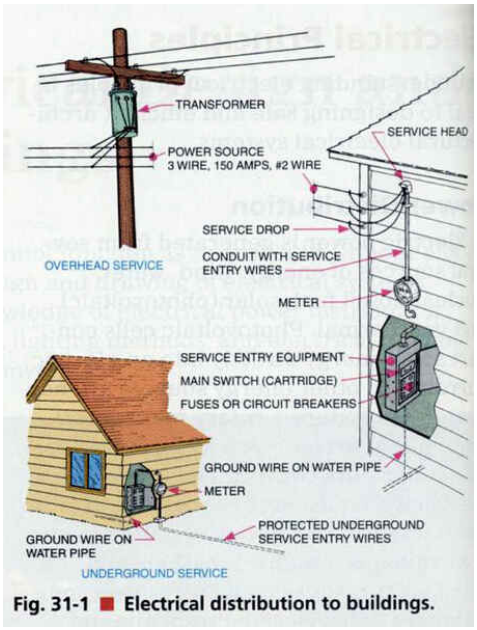


Fig. 31-1 ■ Electrical distribution to buildings.

8.2.1 Main & Subpanels, Service & Grounding, Main Overcurrent Device

MULTIPLE DEFECTS: ELECTRICAL PANEL (UPGRADED RECOMMENDED)

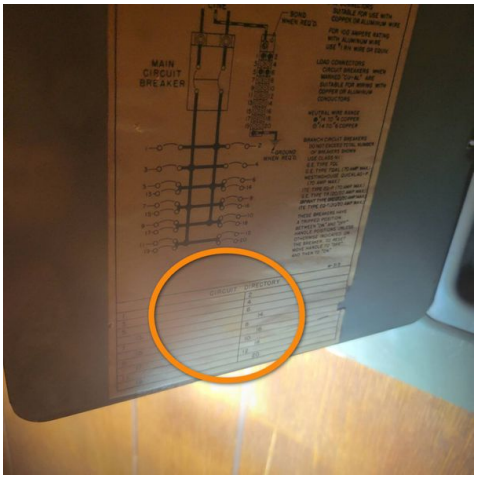
PANEL

Recommendation

The electrical panel lacks labeling, and there are signs of an electrical fire in the kitchen area. Additionally, the presence of two-prong receptacles throughout the home indicates a lack of grounding. Upgrading the panel, which currently operates at 100 amps, is advisable, considering that modern standards typically recommend 200 amps for safety and efficiency. A buzzing sound emanating from the panel suggests potential issues with its connections. Due to safety concerns, the panel cover couldn't be removed for further inspection. It's common for older homes to encounter these issues, indicating a need for thorough evaluation and upgrades by a qualified contractor. Typically, panels in older homes undergo upgrades at least once since their initial construction.

Recommendation

Contact a qualified electrical contractor.




8.3.1 Switches & Receptacles

Recommendation

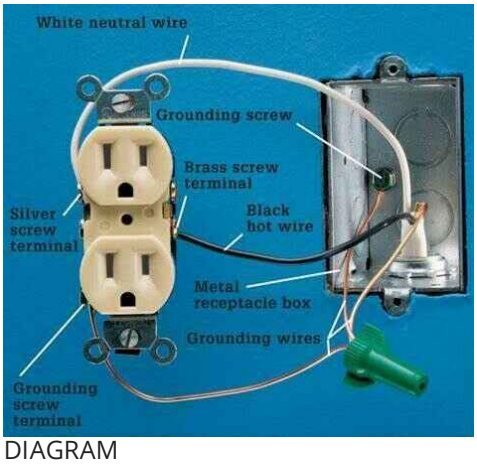
MULTIPLE DEFECTS: ELECTRICAL RECEPTACLES

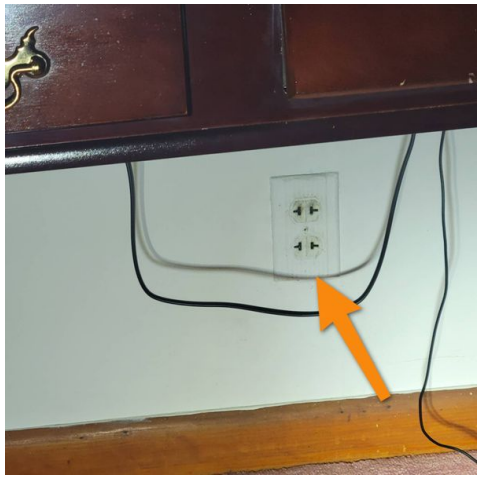
MULTIPLE

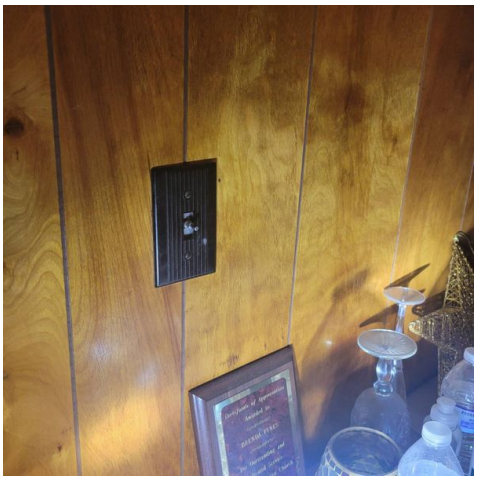
1. The receptacles throughout the home are loose and show signs of aging. As they are two-pronged, they lack proper grounding. Additionally, the absence of GFCIs poses a safety concern, particularly in areas where water is present, such as within 6 feet of sinks. Several light fixtures also exhibit instability and potential wiring issues, suggesting possible DIY installations. Cover plates are missing or damaged. There most likely will be some degree of electrical problems in this home that will be experienced that require a diagnostic from an electrician. Upgrading these elements is recommended to ensure electrical safety and compliance with modern standards.

Recommendation

Contact a qualified electrical contractor.


White neutral wire
Grounding screw
Brass screw terminal
Silver screw terminal
Black hot wire
Metal receptacle box
Grounding wires
Grounding screw terminal
DIAGRAM





8.3.2 Switches & Receptacles

Recommendation

NO GFCIS INSTALLED

ALL AREAS WITH IN 6 FEET OF WATER

1. No GFCIs installed/
2. A ground fault circuit interrupter (GFCI) can help prevent electrocution. If a person's body starts to receive a shock, the GFCI senses this and cuts off the power before he/she can get injured. GFCIs are generally installed where electrical circuits may accidentally come into contact with water.

How GFCIs work:

A Ground Fault Circuit Interrupter (GFCI) is a safety device designed to protect against electric shocks and electrical fires caused by ground faults. Here's how a GFCI works:

1. Sensing Current Imbalance: The GFCI continuously monitors the electrical current flowing through the circuit. It compares the current entering the circuit with the current returning from the circuit. In a properly functioning circuit, the incoming and returning currents should be equal.

2. Detecting Ground Faults: If there is a ground fault, where electricity is leaking or taking an unintended path to ground, the current balance is disrupted. The GFCI detects this current imbalance, even a small amount as low as 4-6 milliamperes (mA), and responds quickly.

3. Tripping the GFCI: When a ground fault is detected, the GFCI responds by tripping or interrupting the circuit, cutting off the electrical power within milliseconds. This quick response prevents electric shocks and reduces the risk of electrical fires.

4. Protecting Against Electric Shocks: By interrupting the circuit, the GFCI protects against electric shocks. When a person comes into contact with faulty equipment or a path to ground, the GFCI detects the current leakage and interrupts the circuit, preventing the flow of electricity through the person's body.

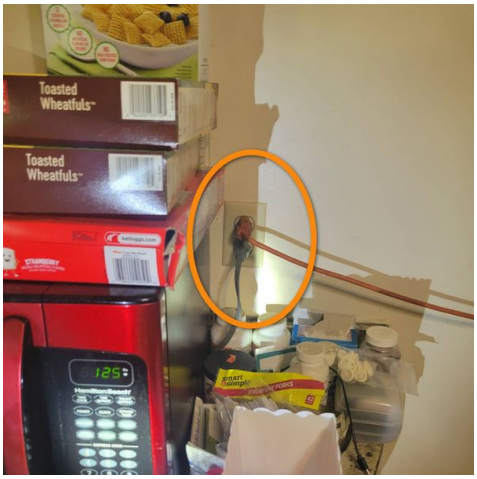
5. Manual Reset: After tripping, the GFCI needs to be manually reset to restore power to the circuit. This is typically done by pressing a reset button on the GFCI outlet or GFCI breaker.

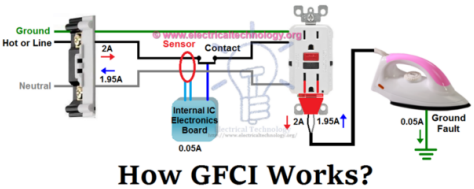
GFCIs are commonly installed in areas where water and electricity are likely to come into contact, such as bathrooms, kitchens, laundry rooms, outdoor outlets, and garages. They provide an extra layer of protection against electrical hazards and are an important safety feature in residential and commercial buildings.

It's worth noting that GFCIs should be periodically tested to ensure proper functionality. Most GFCIs have a built-in test button that allows you to simulate a ground fault and verify that the device trips and cuts off the power. Regular testing and maintenance of GFCIs are essential for ensuring their continued effectiveness in protecting against electrical hazards.

Recommendation

Contact a qualified electrical contractor.





EXAMPLE ONLY HOW GFCI WORKS

8.3.3 Switches & Receptacles

Deferred Maintenance

UPGRADE SMOKE DETECTION/CARBON MONOXIDE SYSTEM OR ALARM SYSTEM

WHOLE HOUSE

1. Recommend upgrading the smoke detection/carbon monoxide system. Newer systems include Wi-Fi options that notify the homeowner through an application in the event that the homeowner is not present at the property.
2. Recommend having the alarm system upgraded if an alarm system is on the premises.

EXAMPLE ONLY NEWER UNIT

Recommendation

Contact a qualified professional.

9: FIREPLACE

De ciencies

9.1.1 Vents, Flues & Chimneys

Recommendation

MISSING CHIMNEY CAP/COMMENT REGARDING THE LINER

ROOF

Missing chimney cap observed at the time of inspection.
Recommend a qualified contractor to evaluate and remedy.

One of these is the flue for the wood stove. The flashing around the chimney is damaged (area that seals the roof). The flue is possibly damaged from age. Thes clay flues are generally fitted with a metal liner. Over time the clay flues crack and become unsafe to use.

Purpose of a chimney cap:

The purpose of a chimney cap is to provide protection and perform several important functions for a chimney system. Here are the key purposes of a chimney cap:

1. Rain and Moisture Protection: A chimney cap acts as a barrier against rainwater, preventing it from directly entering the chimney flue. Excessive moisture in the chimney can cause damage to the masonry, deteriorate the chimney liner, and lead to issues such as mold and mildew growth.

2. Spark Arrestor: Many chimney caps are equipped with a mesh screen that acts as a spark arrestor. It helps to prevent burning embers and sparks from escaping the chimney and potentially igniting nearby flammable materials, such as the roof or surrounding vegetation.

3. Animal and Debris Prevention: Chimney caps serve as a barrier against animals, birds, and small pests from entering the chimney. They prevent nesting, blockages, and potential damage caused by animals or debris falling into the chimney.

4. Blockage Prevention: A chimney cap helps prevent leaves, twigs, branches, and other debris from entering the chimney and obstructing the flue. Blockages can reduce airflow, lead to poor chimney performance, and increase the risk of chimney fires.

5. Downdraft Reduction: In windy conditions, a chimney cap can help reduce downdrafts by creating a barrier against strong gusts of wind. It helps to maintain proper airflow and prevent smoke from blowing back into the house.

6. Protection from Snow and Ice: During winter, a chimney cap helps prevent snow and ice from accumulating inside the chimney. Excessive snow or ice buildup can obstruct the flue and impede proper ventilation.

Overall, a chimney cap is an essential component of a chimney system as it provides protection against various potential issues, improves safety, and helps maintain the efficiency and functionality of the chimney. It is recommended to choose a chimney cap that is appropriate for your specific chimney type and have it professionally installed to ensure proper fit and functionality.

Recommendation

Contact a qualified chimney contractor.

10: ATTIC, INSULATION & VENTILATION

Information

Roof system/Insulation : Attic/roofing system photos/duct work photos

Attic and roof system photos for your information.

Information on roof framing:

Roof framing refers to the structural framework of a roof that supports the weight of the roof covering, transfers the load to the walls or support columns, and provides stability to the overall roof structure. The roof framing system typically consists of several key components:

1. Roof Trusses or Rafters: The primary load-bearing elements of the roof framing are roof trusses or rafters. Trusses are pre-engineered structural frameworks made of wood or metal, while rafters are individual framing members installed on-site. They are designed to span the distance between the exterior walls or support columns and provide the basic shape and structure of the roof.

2. Ridge Beam: The ridge beam is a horizontal beam located at the highest point of the roof. It provides support and stability to the upper ends of the roof trusses or rafters and helps to define the ridge line of the roof.

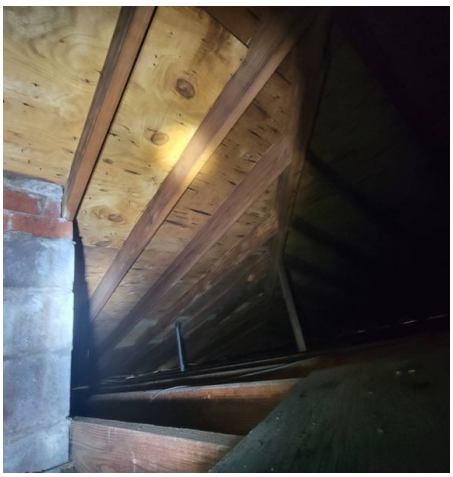
3. Roof Joists or Purlins: Roof joists or purlins are secondary framing members that run horizontally across the roof, perpendicular to the trusses or rafters. They are installed to provide additional support and to help distribute the load evenly.

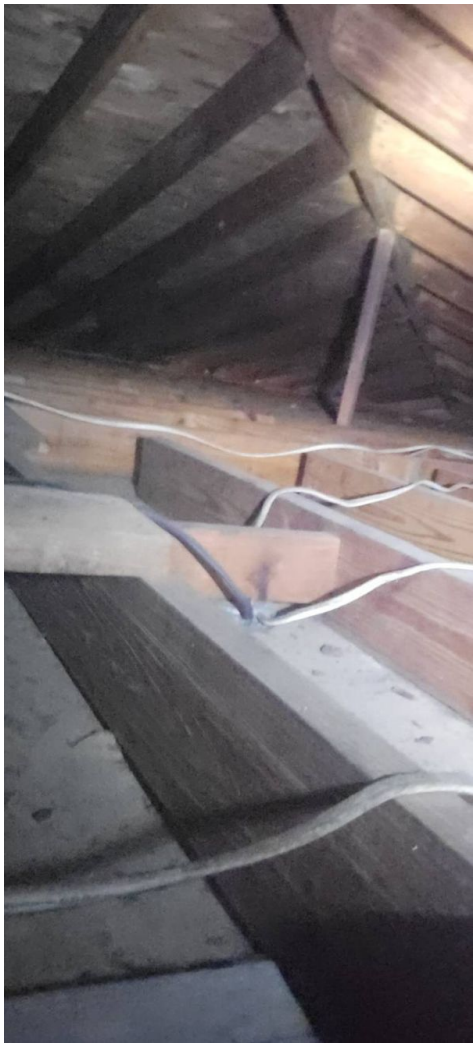
4. Collar Ties or Collar Beams: Collar ties or collar beams are horizontal members installed between opposing roof rafters or trusses near the midpoint of the roof height. They help to resist the outward thrust and spread the load to prevent the roof from sagging or spreading apart.

5. Roof Sheathing: The roof sheathing is a layer of boards or panels that are installed on top of the roof framing. It provides a solid surface for attaching the roof covering and adds strength and rigidity to the roof structure.

6. Roofing Materials: The roofing materials, such as shingles, tiles, or metal sheets, are installed on top of the roof sheathing. They protect the roof framing from the elements and provide the finished appearance of the roof.

The design and construction of roof framing depend on various factors, including the type of roof, local building codes, climate conditions, and the size and shape of the structure. It is important to follow proper building practices and consult with a structural engineer or a professional roof contractor to ensure the roof framing is adequately designed and constructed to withstand the expected loads and provide a safe and durable roof structure.



Ventilation: Ventilation Type

Passive, Soffit Vents

Roof ventilation refers to the system or components designed to allow air to flow in and out of the roof space. Proper roof ventilation is important for maintaining a healthy and efficient roof system. Here's an explanation of roof ventilation and its benefits:

1. Purpose of Roof Ventilation: The primary purpose of roof ventilation is to promote air circulation and control moisture buildup in the attic or roof space. It helps to remove excess heat, humidity, and condensation that can lead to a range of issues such as roof damage, mold growth, and reduced energy efficiency.

2. Types of Roof Ventilation: There are two main types of roof ventilation: intake vents and exhaust vents.

a. Intake Vents: Intake vents are typically located at the lower part of the roof, such as the soffits or eaves. They allow fresh air to enter the roof space from the outside. Common types of intake vents include soffit vents, continuous soffit vents, or gable vents.

b. Exhaust Vents: Exhaust vents are installed at the upper portion of the roof, such as the ridge, roof peaks, or gable ends. They allow warm and moist air to escape from the roof space. Common types of exhaust vents include ridge vents, roof vents, gable vents, or powered attic fans.

3. Benefits of Roof Ventilation:

a. Temperature Regulation: Proper ventilation helps to regulate the temperature in the attic or roof space, preventing excessive heat buildup during hot seasons. This can reduce the strain on the roof materials and potentially lower cooling costs for the living space below.

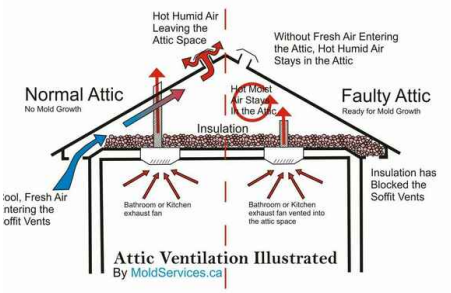
b. Moisture Control: Roof ventilation helps to prevent condensation and moisture buildup in the attic. This reduces the risk of mold growth, rotting of wood structures, and damage to insulation.

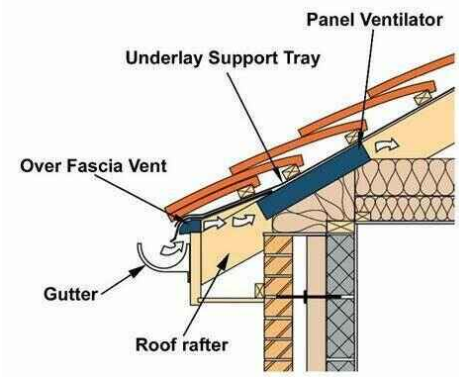
c. Roof Longevity: Adequate ventilation can extend the lifespan of the roof by reducing the potential for damage caused by excessive heat, moisture, and ice dams.

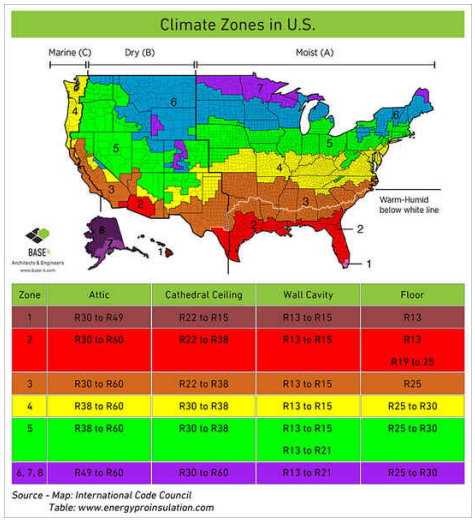
d. Energy Efficiency: A well-ventilated roof can improve energy efficiency by reducing the need for excessive air conditioning or insulation loads. It helps to create a more balanced and comfortable indoor environment.

4. Proper Ventilation Design: The specific ventilation requirements for a roof depend on factors such as the climate, roof size, and design of the building. It is important to ensure the correct balance between intake and exhaust vents to create proper airflow. Consulting with a professional roofer or ventilation specialist can help determine the appropriate ventilation design for your specific roof.

Proper roof ventilation is crucial for maintaining the health and longevity of the roof system. It is recommended to consult with a qualified professional to assess the ventilation needs of your roof and ensure proper installation and maintenance.







Zone	Attic	Cathedral Ceiling	Wall Cavity	Floor
1	R30 to R49	R22 to R15	R13 to R15	R13
2	R30 to R60	R22 to R38	R13 to R15	R13 R19 to 25
3	R30 to R60	R22 to R38	R13 to R15	R25
4	R38 to R60	R30 to R38	R13 to R15	R25 to R30
5	R38 to R60	R30 to R38	R13 to R15 R13 to R21	R25 to R30
6, 7, 8	R49 to R60	R30 to R60	R13 to R21	R25 to R30

Limitations

General

ATTIC DISCLAIMER

Please Note: Attic areas that are not safe for normal passage can only be viewed from hatch and or openings areas, as this can be unsafe to the inspector and potentially cause injury to inspector and or potential damage to personal property. We recommend checking with current owner as to the conditions of the attic and understand that in some cases hidden defects may be discovered in the future in areas not accessible at time of inspection.

Access / Visibility Attic areas were not fully accessible for observation. Attic areas were not fully accessible for observation due to structural limitations. Attic space(s) not walked due to blown-in insulation. Insulation could not be viewed due to floored attic areas.

Roof system/Insulation

LIMITED ATTIC ACCESS

Limited attic access present do to the construction of the home. Attic and crawl space have atypical access points.

De ciencies

10.1.1 Roof system/Insulation

Recommendation

MULTIPLE DEFECTS: ATTIC AREA

ATTIC

Limited access to the attic was noted due to an undersized door. Moreover, insulation is absent in this space, necessitating blown-in insulation using specialized equipment. Moisture damage to the roof sheathing was observed, a common issue addressed during roof replacements. Typically, new sheathing is installed, and chimneys are reflashed before re-insulating the area. Old ductwork from previous appliances remains in the attic. Prior to adding insulation, it's advisable to address any repairs to ceilings and light fixtures. The lack of insulation facilitates easier access for electrical cable securing. Installing a properly sized attic door is recommended for convenient entry. Additionally, due to its spaciousness, additional storage can be accommodated in this attic, typical for hip roofs with sloping sides. Evaluation and repair by a qualified contractor are advised.

Recommendation

Contact a qualified professional.



STANDARDS OF PRACTICE

Roof
I. The inspector shall inspect from ground level or the eaves: A. the roof-covering materials; B. the gutters; C. the downspouts; D. the vents, flashing, skylights, chimney, and other roof penetrations; and E. the general structure of the roof from the readily accessible panels, doors or stairs. II. The inspector shall describe: A. the type of roof-covering materials. III. The inspector shall report as in need of correction: A. observed indications of active roof leaks. IV. The inspector is not required to: A. walk on any roof surface. B. predict the service life expectancy. C. inspect underground downspout diverter drainage pipes. D. remove snow, ice, debris or other conditions that prohibit the observation of the roof surfaces. E. move insulation. F. inspect antennae, satellite dishes, lightning arresters, de-icing equipment, or similar attachments. G. walk on any roof areas that appear, in the inspectors opinion, to be unsafe. H. walk on any roof areas if doing so might, in the inspector's opinion, cause damage. I. perform a water test. J. warrant or certify the roof. K. confirm proper fastening or installation of any roof-covering material.

Exterior
I. The inspector shall inspect: A. the exterior wall-covering materials, flashing and trim; B. all exterior doors; C. adjacent walkways and driveways; D. stairs, steps, stoops, stairways and ramps; E. porches, patios, decks, balconies and carports; F. railings, guards and handrails; G. the eaves, soffits and fascia; H. a representative number of windows; and I. vegetation, surface drainage, retaining walls and grading of the property, where they may adversely affect the structure due to moisture intrusion. II. The inspector shall describe: A. the type of exterior wall-covering materials. III. The inspector shall report as in need of correction: A. any improper spacing between intermediate balusters, spindles and rails. IV. The inspector is not required to: A. inspect or operate screens, storm windows, shutters, awnings, fences, outbuildings, or exterior accent lighting. B. inspect items that are not visible or readily accessible from the ground, including window and door flashing. C. inspect or identify geological, geotechnical, hydrological or soil conditions. D. inspect recreational facilities or playground equipment. E. inspect seawalls, breakwalls or docks. F. inspect erosion-control or earth-stabilization measures. G. inspect for safety-type glass. H. inspect underground utilities. I. inspect underground items. J. inspect wells or springs. K. inspect solar, wind or geothermal systems. L. inspect swimming pools or spas. M. inspect wastewater treatment systems, septic systems or cesspools. N. inspect irrigation or sprinkler systems. O. inspect drainfields or dry wells. P. determine the integrity of multiple-pane window glazing or thermal window seals.

Basement, Foundation, Crawlspace & Structure
I. The inspector shall inspect: A. the foundation; B. the basement; C. the crawlspace; and D. structural components. II. The inspector shall describe: A. the type of foundation; and B. the location of the access to the under-floor space. III. The inspector shall report as in need of correction: A. observed indications of wood in contact with or near soil; B. observed indications of active water penetration; C. observed indications of possible foundation movement, such as sheetrock cracks, brick cracks, out-of-square door frames, and unlevel floors; and D. any observed cutting, notching and boring of framing members that may, in the inspector's opinion, present a structural or safety concern. IV. The inspector is not required to: A. enter any crawlspace that is not readily accessible, or where entry could cause damage or pose a hazard to him/herself. B. move stored items or debris. C. operate sump pumps with inaccessible floats. D. identify the size, spacing, span or location or determine the adequacy of foundation bolting, bracing, joists, joist spans or support systems. E. provide any engineering or architectural service. F. report on the adequacy of any structural system or component.

HVAC
I. The inspector shall inspect: A. the heating system, using normal operating controls. II. The inspector shall describe: A. the location of the thermostat for the heating system; B. the energy source; and C. the heating method. III. The inspector shall report as in need of correction: A. any heating system that did not operate; and B. if the heating system was deemed inaccessible. IV. The inspector is not required to: A. inspect or evaluate the interior of flues or chimneys, fire chambers, heat exchangers, combustion air systems, fresh-air intakes, humidifiers, dehumidifiers, electronic air filters, geothermal systems, or solar heating systems. B. inspect fuel tanks or underground or concealed fuel supply systems. C. determine the uniformity, temperature, flow, balance, distribution, size, capacity, BTU, or supply adequacy of the heating system. D. light or ignite pilot flames. E. activate heating, heat pump systems, or other heating systems when ambient temperatures or other circumstances are not conducive to safe operation or may damage the equipment. F. override electronic thermostats. G. evaluate fuel quality. H. verify thermostat calibration, heat anticipation, or automatic setbacks, timers, programs or clocks.

Doors, Windows & Interior
I. The inspector shall inspect: A. a representative number of doors and windows by opening and closing them; B. floors, walls and ceilings; C. stairs, steps, landings, stairways and ramps; D. railings, guards and handrails; and E. garage vehicle doors and the operation of garage vehicle door openers, using normal operating controls. II. The inspector shall describe: A. a garage vehicle door as manually-operated or installed with a garage door opener. III. The inspector shall report as in need of correction: A. improper spacing between intermediate balusters, spindles and rails for steps, stairways, guards and railings; B. photo-electric safety sensors that did not operate properly; and C. any window that was obviously fogged or displayed other evidence of broken seals. IV. The inspector is not required to: A. inspect paint, wallpaper, window

treatments or finish treatments. B. inspect floor coverings or carpeting. C. inspect central vacuum systems. D. inspect for safety glazing. E. inspect security systems or components. F. evaluate the fastening of islands, countertops, cabinets, sink tops or fixtures. G. move furniture, stored items, or any coverings, such as carpets or rugs, in order to inspect the concealed floor structure. H. move suspended-ceiling tiles. I. inspect or move any household appliances. J. inspect or operate equipment housed in the garage, except as otherwise noted. K. verify or certify the proper operation of any pressure-activated auto-reverse or related safety feature of a garage door. L. operate or evaluate any security bar release and opening mechanisms, whether interior or exterior, including their compliance with local, state or federal standards. M. operate any system, appliance or component that requires the use of special keys, codes, combinations or devices. N. operate or evaluate self-cleaning oven cycles, tilt guards/latches, or signal lights. O. inspect microwave ovens or test leakage from microwave ovens. P. operate or examine any sauna, steamgenerating equipment, kiln, toaster, ice maker, coffee maker, can opener, bread warmer, blender, instant hot-water dispenser, or other small, ancillary appliances or devices. Q. inspect elevators. R. inspect remote controls. S. inspect appliances. T. inspect items not permanently installed. U. discover firewall compromises. V. inspect pools, spas or fountains. W. determine the adequacy of whirlpool or spa jets, water force, or bubble effects. X. determine the structural integrity or leakage of pools or spas.

Plumbing

I. The inspector shall inspect: A. the main water supply shut-off valve; B. the main fuel supply shut-off valve; C. the water heating equipment, including the energy source, venting connections, temperature/pressure-relief (TPR) valves, Watts 210 valves, and seismic bracing; D. interior water supply, including all fixtures and faucets, by running the water; E. all toilets for proper operation by flushing; F. all sinks, tubs and showers for functional drainage; G. the drain, waste and vent system; and H. drainage sump pumps with accessible floats. II. The inspector shall describe: A. whether the water supply is public or private based upon observed evidence; B. the location of the main water supply shut-off valve; C. the location of the main fuel supply shut-off valve; D. the location of any observed fuel-storage system; and E. the capacity of the water heating equipment, if labeled. III. The inspector shall report as in need of correction: A. deficiencies in the water supply by viewing the functional flow in two fixtures operated simultaneously; B. deficiencies in the installation of hot and cold water faucets; C. mechanical drain stops that were missing or did not operate if installed in sinks, lavatories and tubs; and D. toilets that were damaged, had loose connections to the floor, were leaking, or had tank components that did not operate. IV. The inspector is not required to: A. light or ignite pilot flames. B. measure the capacity, temperature, age, life expectancy or adequacy of the water heater. C. inspect the interior of flues or chimneys, combustion air systems, water softener or filtering systems, well pumps or tanks, safety or shut-off valves, floor drains, lawn sprinkler systems, or fire sprinkler systems. D. determine the exact flow rate, volume, pressure, temperature or adequacy of the water supply. E. determine the water quality, potability or reliability of the water supply or source. F. open sealed plumbing access panels. G. inspect clothes washing machines or their connections. H. operate any valve. I. test shower pans, tub and shower surrounds or enclosures for leakage or functional overflow protection. J. evaluate the compliance with conservation, energy or building standards, or the proper design or sizing of any water, waste or venting components, fixtures or piping. K. determine the effectiveness of anti-siphon, backflow prevention or drain-stop devices. L. determine whether there are sufficient cleanouts for effective cleaning of drains. M. evaluate fuel storage tanks or supply systems. N. inspect wastewater treatment systems. O. inspect water treatment systems or water filters. P. inspect water storage tanks, pressure pumps, or bladder tanks. Q. evaluate wait time to obtain hot water at fixtures, or perform testing of any kind to water heater elements. R. evaluate or determine the adequacy of combustion air. S. test, operate, open or close: safety controls, manual stop valves, temperature/pressure-relief valves, control valves, or check valves. T. examine ancillary or auxiliary systems or components, such as, but not limited to, those related to solar water heating and hot water circulation. U. determine the existence or condition of polybutylene plumbing. V. inspect or test for gas or fuel leaks, or indications thereof.

Electrical

I. The inspector shall inspect: A. the service drop; B. the overhead service conductors and attachment point; C. the service head, gooseneck and drip loops; D. the service mast, service conduit and raceway; E. the electric meter and base; F. service-entrance conductors; G. the main service disconnect; H. panelboards and over-current protection devices (circuit breakers and fuses); I. service grounding and bonding; J. a representative number of switches, lighting fixtures and receptacles, including receptacles observed and deemed to be arc-fault circuit interrupter (AFCI)-protected using the AFCI test button, where possible; K. all ground-fault circuit interrupter receptacles and circuit breakers observed and deemed to be GFCIs using a GFCI tester, where possible; and L. smoke and carbon-monoxide detectors. II. The inspector shall describe: A. the main service disconnect's amperage rating, if labeled; and B. the type of wiring observed. III. The inspector shall report as in need of correction: A. deficiencies in the integrity of the serviceentrance conductors insulation, drip loop, and vertical clearances from grade and roofs; B. any unused circuit-breaker panel opening that was not filled; C. the presence of solid conductor aluminum branch-circuit wiring, if readily visible; D. any tested receptacle in which power was not present, polarity was incorrect, the cover was not in place, the GFCI devices were not properly installed or did not operate properly, evidence of arcing or excessive heat, and where the receptacle was not grounded or was not secured to the wall; and E. the absence of smoke detectors. IV. The inspector is not required to: A. insert any tool, probe or device into the main panelboard, sub-panels, distribution panelboards, or electrical fixtures. B. operate electrical systems that are shut down. C. remove panelboard cabinet covers or dead fronts. D. operate or re-set over-current protection devices or overload devices. E. operate or test smoke or carbon-monoxide detectors or alarms F. inspect, operate or test any security, fire or alarms systems or components, or other warning or signaling systems. G. measure or determine the amperage or voltage of the main service equipment, if not visibly labeled. H. inspect ancillary wiring or remote-control devices. I. activate any electrical systems or branch circuits that are not energized. J. inspect low-voltage systems, electrical de-icing tapes, swimming pool wiring, or any timecontrolled devices. K. verify the service ground. L. inspect private or emergency electrical supply sources, including, but not limited to: generators, windmills, photovoltaic solar collectors, or battery or electrical storage facility. M. inspect spark or lightning arrestors. N. inspect or test de-icing equipment. O. conduct voltage-drop calculations. P. determine the accuracy of labeling. Q. inspect exterior lighting.

Fireplace
I. The inspector shall inspect: readily accessible and visible portions of the fireplaces and chimneys; lintels above the fireplace openings; damper doors by opening and closing them, if readily accessible and manually operable; and cleanout doors and frames.

II. The inspector shall describe: the type of fireplace.

III. The inspector shall report as in need of correction: evidence of joint separation, damage or deterioration of the hearth, hearth extension or chambers; manually operated dampers that did not open and close; the lack of a smoke detector in the same room as the fireplace; the lack of a carbon-monoxide detector in the same room as the fireplace; and cleanouts not made of metal, pre-cast cement, or other non-combustible material.

IV. The inspector is not required to: inspect the flue or vent system. inspect the interior of chimneys or flues, fire doors or screens, seals or gaskets, or mantels. Determine the need for a chimney sweep, perate gas fireplace inserts, light pilot flames, determine the appropriateness of any installation, inspect automatic fuel-fed devices, inspect combustion and/or make-up air devices, inspect heat-distribution assists, whether gravity-controlled or fan-assisted,ignite or extinguish fires, determine the adequacy of drafts or draft characteristics, move fireplace inserts, stoves or firebox contents, perform a smoke test, dismantle or remove any component, perform a National Fire Protection Association (NFPA)-style inspection perform a Phase I fireplace and chimney inspection.

Attic, Insulation & Ventilation
I. The inspector shall inspect: A. insulation in unfinished spaces, including attics, crawlspaces and foundation areas; B. ventilation of unfinished spaces, including attics, crawlspaces and foundation areas; and C. mechanical exhaust systems in the kitchen, bathrooms and laundry area. II. The inspector shall describe: A. the type of insulation observed; and B. the approximate average depth of insulation observed at the unfinished attic floor area or roof structure. III. The inspector shall report as in need of correction: A. the general absence of insulation or ventilation in unfinished spaces. IV. The inspector is not required to: A. enter the attic or any unfinished spaces that are not readily accessible, or where entry could cause damage or, in the inspector's opinion, pose a safety hazard. B. move, touch or disturb insulation. C. move, touch or disturb vapor retarders. D. break or otherwise damage the surface finish or weather seal on or around access panels or covers. E. identify the composition or R-value of insulation material. F. activate thermostatically operated fans. G. determine the types of materials used in insulation or wrapping of pipes, ducts, jackets, boilers or wiring. H. determine the adequacy of ventilation.