

Confidential ASHI Home Inspection Report

**126 Penn Road
Wayne, PA 19087
2/6/2024**



Prepared for: David & Betsy Alexander

This report is the exclusive property of the inspection company and the client whose name appears herewith and its use by any unauthorized persons is prohibited.

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Report Table of Contents

Understanding your home inspection report: The home inspection report is divided into five sections. Following the Table of Contents, in order to provide easy references and convenience, is the summary of *Major Points of Concern*. These are defects that likely cost over \$1,000 to repair or pose a recognized safety or health concern. The second section outlines the *ASHI Standards of Practice*. The third is the *Descriptive* portion. It lists and defines the building components used in construction. The *Minor Points of Concern/Minor Problems* discovered in the home inspection process are then listed. A house is full of minor issues and this list is certainly not meant to be complete or exhaustive. The last section of the report, the thrust of the home inspection, is to screen for *Major Points of Concern/Major Problems*.

Please read your entire customized home inspection report thoroughly and carefully. While the report is intended to be electronic, if you choose to print it, best to print on both sides of the paper. HomePro Systems of Delaware Valley, Inc. hopes you refer to it far into the future, finding it a useful tool for budgeting and home maintenance.

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February 6, 2024

SUMMARY OF MAJOR POINTS OF CONCERN

All clients are urged to read their report in its entirety.

This section is intended to bring to your attention items that are recommended to have further evaluation and/or repair by a licensed tradesperson. Delay in repair of items brought to your attention in this summary area may cause dramatic shortening of life expectancy of the item, may have a negative effect on other related systems or may be a potential safety hazard. Other minor items are noted in the report and should receive eventual attention, but none of them affect the habitability of the house and their correction is typically considered a maintenance type item. The majority are the result of normal wear and tear. It is recommended to conduct a diligent pre-settlement walk through of the property prior to settlement.

Unexpected minor expenses should be anticipated. A home inspection screens for major points of concern-defects that cost over \$1,000 to repair, items that pose a significant safety concern or are a recognized health concern. Throughout the home inspection process, minor points of concern are noted. Often left unattended, minor problems will grow into major problems. Minor problems should be repaired. Not all minor problems will be documented in the home inspection report.

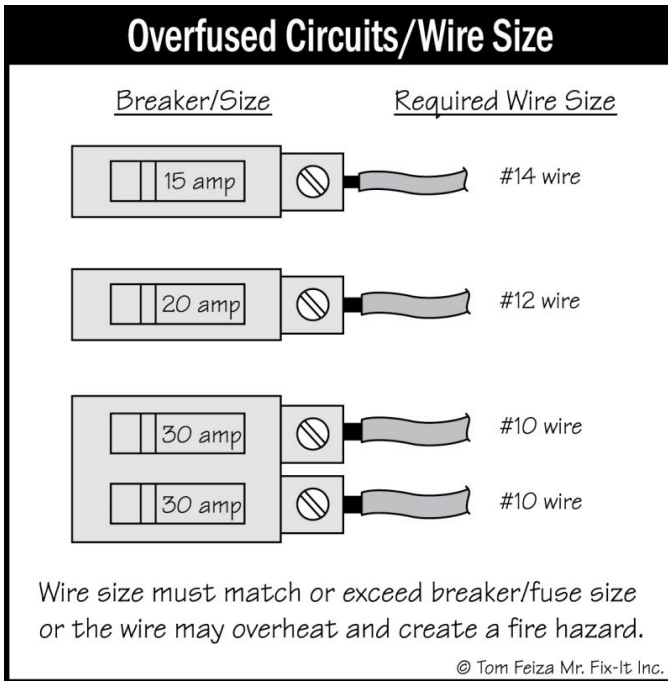
Electric

Electric Major Problems/Points of Concern/Safety Concerns

D. Overfusing

D.1. Overfusing exists when small wires are attached to big breakers. Fuses and circuit breakers limit the amount of electrical current that can flow through wires. Wires are sized according to the amount of current they can carry. Excess current can over heat the wires. The fuse/breaker and wire sizing are supposed to be compatible for safety. Air conditioners and other devices with motors may be overfused with regard to the wire, but not the load. When a compressor starts; there is a large, momentary draw. Consequently a smaller gauge wire, #10, may be on a 40 amp breaker. The load of the motor must not exceed the wires rating. The home inspection does not check motor loads.

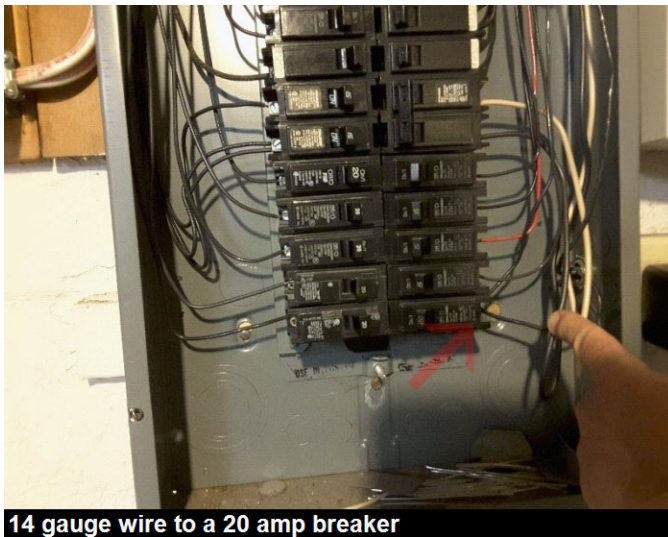
Action: Have an electrician examine the wire to breaker sizing. The breaker may be able to be changed to correct this safety condition. The wire might be too small, necessitating the wire be replaced. Replacing a breaker is easy and inexpensive where as replacing a wire is more difficult and expensive. An electrician should review the load rating on the a/c compressor to verify the wire and breaker are compatible. Secure an electrical inspection sticker to make sure that everything is now safe. Overfusing is a safety concern that should be corrected as soon as possible.



E137

D.2. Overfusing: 14 gauge wire to a 20 amp breaker. Repair.

Bottom right breaker in the main panel.



L. Ground Bonding Strap/Rod Missing/Loose

L.2. No grounding jump over the water meter. Add wire and clamps.

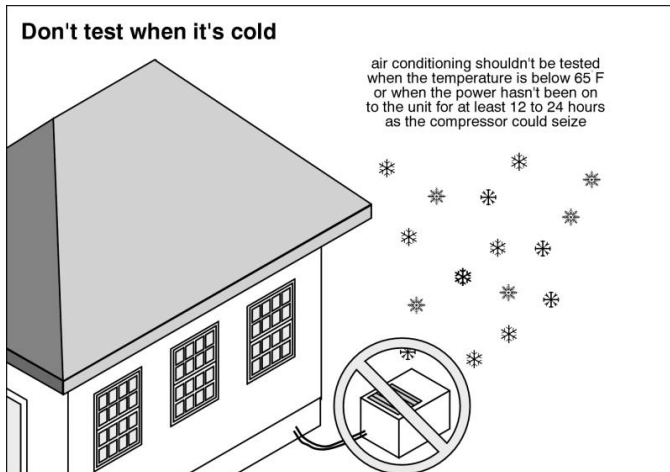


Heating, Air Conditioning

Heating/AC Major Problems/Points of Concern/Safety Concerns

Q. Too Cold To Check

Q.1. Too cold to check A/C. Check at your pre-settlement walk through if possible. Ask the listing agent to turn the thermostat on the AC to 68 degrees 24 hours prior to the pre-settlement walk through so the house will be cold and the compressor motor will be operating.



Too cold to check A/C.



Interior

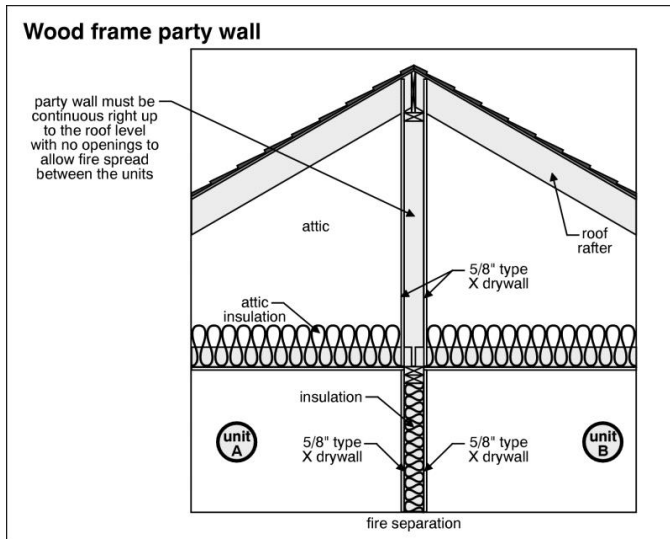
Interior Major Problems/Points of Concern/Safety Concerns

E. Party/Fire Wall

E.1. Party/fire wall. In today's construction, there should be a one hour fire rated wall between the house and the garage as well as between adjoining buildings. There are often openings between the two spaces that can provide a pathway for fire to spread. Walls and ceilings should be covered with a fire rated drywall (two layers by today's standards) and at least one coat of drywall compound over the nails and tape. The door between the units should be a UL rated door. The gable in the garage or attic should be one hour fire rated. The safety requirements have steadily increased over the years. The concern is safety.

Action: This task is best left to a professional contractor. Add protective coverings. Add a double layer of fire rated drywall over a garage attic hatch. Add a metal cover over garage pull down stairs. Add a metal cover or replace the garage to house door with a steel insulated door. Patch any holes or openings. Fire rated drywall may need to be installed on a gable to house wall. Studs and drywall may need to be installed in a common attic-one shared between one unit and another. Repair this safety concern as soon as possible.

E.2. Inappropriate material type. While the finishings may have once been approved, proper coverings need to be applied to obtain fire wall protection.



Missing drywall tape and compound over joints.



Q. Smoke Alarms/Carbon Monoxide Alarms

Q.1. Smoke alarms are an inexpensive and indispensable safety device. Have one on every level and one in every bedroom. Add a carbon monoxide alarm on the sleeping level of the home when there are fossil fuels and/or an attached garage.

Action: Safety first. Install smoke alarms and carbon monoxide alarms right away. Best to use 10 year batteries. Replace smoke alarms that may be a decade old. Either get a smoke alarm and carbon monoxide alarm combination device or install a stand alone CO detector. There are wall outlet plug in versions for a quick and easy installation. Carbon monoxide is the leading cause of poisoning in the US.

Q.2. Missing. Add a smoke alarm immediately.



Sincerely,
John Spoehr

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Inspections and Services

Great care has been taken in developing your home inspection report. HomePro Systems of Delaware Valley, Inc.'s goal is to deliver an accurate, comprehensive and useful document detailing the condition of the home at the time of the ASHI Standard Visual Inspection.

This is your written, final home inspection report. All highlighted items must be read in order to have a comprehensive understanding of the condition of the building. The home inspection report is a two part report-both verbal and written. Therefore, it is not considered transferable. Client may not sell or transfer any portion of this report.

It is also a confidential report. This report is performed and prepared for the sole and confidential use and possession of the client who has purchased this report. This report may not be sold, transferred or assigned to any other party. Liability under this report is limited only to the party for whom this report was originally prepared.

Several documents are associated with your customized home inspection report. First are our professional standards. This home inspection was performed according to the *American Society of Home Inspectors (ASHI) Professional Standards*. Also, our *Society's Code of Ethics* were followed as part of the home inspection process. A copy of the ASHI Standards of Practice was sent earlier as a separate document.

Note: This inspection does not cover items or conditions that may be discovered only by invasive methods. No removal of materials or dismantling of systems was performed under this inspection. This is not a technical exhaustive inspection. An earnest effort was made on your behalf to discover all visible major defects, however, in the event of an oversight, maximum liability must be limited to twice the fee paid. The client is always encouraged to solicit more in-depth reports from specialists, receipts from the seller to verify installation dates, warranties and to demonstrate the work was done by a licensed professional.

As a cautionary word, it is easy to find differing opinions, especially from self-serving contractors. When securing post home inspection opinions, best not to allow for any conflict of interest. Hire the specialist for their opinion only, inform them that they will not be getting a "job" from their diagnosis. A subsequent professional is hired for their expertise, you are not paying them to submit a bid for repairs.

SYSTEMS EXCLUSIONS: (a) Structure Integrity (b) Geological stability or ground condition of site (c) System design problems, functional adequacy, operation capacity, quality or suitability for particular use of items inspected (d) Fireplace and flue draft (e) Cosmetic items such as minor scratches, scrapes, dents, cracks, stains, soiled or faded surfaces (f) Wells or well pumps (g) Personal property-Refrigerators, Washers, Dryers, etc. (h) Water quality or flow/volume (i) Water conditioning systems (j) Environmental hazards (k) Electronic air cleaners or filters (l) Detached retaining walls (m) Solar systems (n) Security systems (o) Detached buildings or equipment (p) Generator electrical panels (q) Home warranty, system warranty and component warranty, etc.

Unless you have paid a separate fee, the following is a list of systems **NOT INCLUDED** in the Home Inspection Report: (a) Radon Gas Test, (b) Wood Destroying Insect Inspection, (c) Septic systems, Cisterns, (d) Well and Water Test, (e) Moisture Intrusion testing, (f) Solid Fuel Burner, (g) Asbestos, (h) Lead based paint or other environmental tests, (i) Swimming pools, (j) Spa/Whirlpool/Hot tub, (k) Mold analysis and testing, (l) Engineering; etc.

The "***Sellers' Property Disclosure Statement***" or commonly known as "the Sellers' Disclosure" is relied upon since the sellers have a long, intimate relationship with the property. The inspection performed is **not** intended as a substitute for a Sellers' Disclosure Statement. The inspection is not a code compliance inspection or certification of any kind. It is simply an inspection of the "condition" of the home "at the time of the inspection."

The property description sheet or "*Listing sheet*" also contains information useful to the home inspection reports. When available, previous home inspection reports (pre-listing, relocation, past sale, etc.), radon tests and wood destroying insect reports, engineer's reports, moisture intrusion tests, bids for past or upcoming work, professional letters and analysis are also incorporated into the home inspection report.

Other documents that are **not** used include-building plans and specifications; a public record search for permits; certificate of occupancy; home owner's association documents; insurance information, etc. This home inspection report is not to be construed as an appraisal and may not be used for this purpose. No warranties are expressed or implied. Some clients may choose to buy a third party warranty to cover individual components for the home.

Per *State of Delaware regulations and Pennsylvania State ACT 2000-114*: A home inspection is intended to assist in evaluation of the overall condition of the dwelling. This inspection is based on observation of the visible and apparent condition of the structure and its components on the date of the inspection. The results of this home inspection are not intended to make any representation regarding the presence or absence of latent or concealed defects that are not reasonably ascertainable in a competently performed home inspection. No warranty or guarantee is expressed or implied. If the person conducting your home inspection is not a licensed structural engineer or other professional whose license authorizes the rendering of any opinion as to the structural integrity of a building or its components or parts, you may be advised to seek a professional opinion as to any defects or concerns mentioned in the report.

Prior to the home inspection, a sheet "*Preparing for the Home Inspection*" was sent to the listing agent to forward to the seller. This inspection is an analysis of the condition of the home. Any areas not safely and readily accessible or visible to the inspector will not be included in the home inspection. It asked for all pilots to be lit, remote controls placed in obvious locations, access be given to the attic hatches, etc. HomePro Systems of Delaware Valley, Inc. wants the home inspection process to flow smoothly.

Lastly, as a separate document, the office will send you a "*Pre-settlement Final Walk Through Checklist*." It is vitally important that you check the house again just before you take possession. The home inspection only documents the condition for this one moment in time.

HomePro's goal is to identify potentially significant expenses that would affect a typical purchaser's knowledge of the property within the scope of the inspection. The inspection report you have received is a professional home inspector's opinion, based on a visual inspection of clues, signs and telltales in the premises over a limited time. There are obviously numerous limitations to the Standard Visual Home Inspection. Therefore, it should be understood that a professional home inspection can reduce the risk of purchasing, however we cannot eliminate it nor can we assume it.

Home inspections can be performed to various degrees. This home inspection screens for **Major Problems** (recognized safety defects, construction related health concerns and material defects-items not functioning as intended, costing over \$1,000.00). While inspecting for Major Points of Concern, numerous minor issues are also uncovered. No attempt is made to create a complete or even exhaustive list of minor problems. This notation further alerts the client to the fact that based on the existence of discovered minor points of concern, there is also a likely

unexpected minor expense to repair ranging from: Low \$100-\$400; Medium \$400-\$600; High \$600-\$1,000. There are always unexpected minor repairs. Do not postpone repairs or delay routine maintenance.

Should any disagreement or dispute arise as a result of this inspection or report, it shall be decided by arbitration and shall be submitted for binding, not-appealable arbitration to the "American Arbitration Association" in accordance with its Construction Industry Arbitration Rules and shall be limited to double the cost of the inspection. In the event of a claim, the clients will allow the inspection company to inspect the claim prior to any repairs or waive the right to make the claim. Client agrees not to disturb or repair or have repaired anything which may constitute evidence relating to the complaint, except in the case of an emergency.

The report is **not** binding unless the *Inspection Agreement* has been signed by the client(s) and returned to HomePro Systems of Delaware Valley, Inc. along with payment of the inspection fee.

Miscellaneous Services

Radon Gas Test

The radon test will be performed according to EPA Protocols. Results will be forwarded separately.

Those Attending the Inspection

Those Attending the Inspection

Owner. Wood Destroying Insect Inspector. Radon Technician. Appraiser.

Structure

Confidential: Client may not sell or transfer this report.

Note: This is not an engineering report.

Per ASHI Standards: The Home Inspector shall observe structural components including foundations, floors, walls, columns or piers, ceilings and roof. The home inspector shall describe the type of foundation, floor structure, wall structure, columns or piers, ceiling structure, roof structure. The home inspector shall: probe structural components where deterioration is suspected; enter under floor crawl spaces, basements, and attic spaces except when access is obstructed, when entry could damage the property, or when dangerous or adverse situations are suspected; report the methods used to observe under floor crawl spaces and attics; and report signs of abnormal or harmful water penetration into the building or signs of abnormal or harmful condensation on building components. The home inspector is not required to: enter any area or perform any procedure that may damage the property or its components or be dangerous to or adversely effect the health of the home inspector or other persons.

Structure

1. Structural Access

1.A. Structural access. Water causes the ruins of structures. Mortar deteriorates. Wood rots. A dry house is a happy house. Protecting a structure from water and its destructive forces is paramount to maintaining structural integrity. Roofs are designed to shed water, siding needs to provide a tight seal, gutters and ground slope should carry rainwater away from the structure. Vapor barriers need to control moisture. Sump pumps should discharge water away from the building. Lastly, plumbing supply pipes and waste drains need to have water exit the structure. Some houses are built on "engineered sites" and have very special maintenance requirements. A structure is in a constant state of stress. There are lots of forces pressing against a house and within the house. The individual components are stronger when working in unison than individually. Structural failure is the inability of a structural member or system from being able to support a dedicated load which results in fracture, excessive deflection or collapse. Plain and simple: the greatest force on a structure is gravity. Gravity causes structures to move. Strong structures can resist gravity. Gravity will win the battle against weaker structures. Gravity wins when 1) The soil below the structure is not strong enough to support the structure. 2) If the skeleton is weak due to workmanship or materials, it will not support the structure's live and dead load. If the structure is altered and loads are not focused as intended. The two great forces within a structure are compression and tension. Compression pushes, typically from both ends. Tensions pulls. Compressed structural members get shorter. Those under tension get longer. Sometimes a structural member feels both compression and tension. Two other stresses are shearing and bending. Shearing occurs when forces are applied perpendicular to the member, causing a tear. Building materials must be strong enough to withstand all the forces against it, otherwise, we will have movement of the entire house or a part of the house, distortion sags, bows, leaning, water penetration, building material deteriorations, etc. The materials may be proper, but the workmanship may be lacking.

3. Restricted

3.A. Restricted access means some portion of the structure cannot be readily inspected. This condition (possessions, finishings, insulation, etc.) limits the standard visual survey. Unsafe conditions may be the limiting factor-pests, standing water, environmental hazards such as asbestos, etc. Also small openings under porches due to lattice or panels nailed shut restrict access.

3.B. Possessions restrict access.

3.D. Insulation restricts access.

3.G. Inaccessible crawl space. No access available, cannot be inspected.

3.H. Small visual entry only severely restricts access. HomePro recommends creating a larger opening.

3.I. Insulation restricting access.

4. Foundation Style

4.A. Full basement. Refers to the height under the house not that the entire house sits over a basement. The basement should be examined after heavy or prolonged rains for water penetration. Water seepage effects foundations. Look for and monitor any newly formed cracks in the wall and floors. The deeper the foundation, the more weight against the wall, the more prone to failure. Soil pressure increases with depth. The foundation wall not only transfers the weight from the building above; but it must withstand the lateral soil pressure. Technically a basement has more than 50% of the wall below grade.

4.B. Crawl space. Crawl spaces were named because a home owner could not stand erect in this space under the house. Pipes and ducts should be insulated against the cold. The home owner should inspect this typically difficult to access area every three months for plumbing leaks, pests, wood borers and rot. The access or entry should be large enough for any contractors to enter. A crawl space is only intended for storage. A crawl space would not be finished. Crawl spaces tend to have vents whereas basements have windows. Rarely are crawl space vents opened and closed for a season. Ventilation helps keep the crawl space dry.

5. Altered Foundation

5.A. Original construction. Original construction typically has fewer problems than those structures that were extended, modified, or added on to. Perhaps it is because of better code enforcement inspections or builders following a common well used blue print or more specialized contractors. Builders may simply have more professionalism than remodeling contractors.

5.C. Expanded. Expanded basement foundations simply mean something was added-a porch, a rear sunroom, from original construction. Often the intersection or attachment reflects a problem-settled footer, butted brick joint as opposed to toothed, etc. Minor settlement cracks will develop due to unequal settlement. Expanded basements can have a "cold joint" where the addition meets the original foundation. This joint is more prone to water and radon penetration. Adding an outside basement egress and doorway will weaken the foundation wall. Stairwells are also vulnerable to freezing.

Findings:

Recommendations:

The rear dining room and master bedroom are an addition.

6. Columns

6.A. Columns are vertical structural members designed to carry larger loads from a beam to a foundation. Columns need to be plumb. If they are not, then another column can be placed parallel to the existing column. The added column should rest overtop the existing footer and be attached to the beam above. Concrete, brick, and masonry columns are strong in compression but have very little tensil strength unless reinforced. Steel columns are often hollow; when filled with concrete, they are often referred to as "lolly columns." Steel columns can rust; especially at the base. Wood columns can rot and crush. Inspect damage yearly.

6.E. Metal. While small in diameter, metal columns are very strong. They need to be plumb. A concrete filled metal column is a "Lolly column." Joints in adjustable columns make them weaker. They are typically used as a "temporary support."

7. Foundation Materials

7.B. Block. A block foundation is comprised of concrete masonry units (CMU). The older colloquial term "cinder block" is often applied although cinders are no longer used in concrete block manufacturing. The block joints are typically staggered over the middle of each course. The wall block are usually hollow. The top course usually has a solid or FHA block. Block widths are 8", 10", or 12". The wider the stronger. Shorter walls are stronger than longer walls. Again, shorter walls are stronger than longer walls. Some hidden reinforcements may exist, (cores may be filled with rebar and grout, ladder reinforcements add lateral support) to offer added strength. Cracks are typical and confusing: vertical and step cracks are common. They are caused by uneven settling. Horizontal cracks are more concerning. Block can absorb ground water. The internal cores can conceal termite

tunnels. Damp block walls can lead to rot in framing members. White salty stains called efflorescence indicate moisture.

7.C. Parged. A parged foundation has a coat of cement troweled over the surface. This is best accomplished on a two step process. The first application is a primer. The second coat creates a more water tight surface. Parging helps lessen water penetration.

7.D. Unparged. Unparged foundations are more likely to suffer from water penetration. Signs of moisture penetration are more likely.

8. Foundation Settlement

8.A. Foundation settlement noted. Settlement refers to structural movement typically downward, often inward. All foundations settle with time. The question is to what degree? Uniform settlement, where the weight of the building settles evenly, is expected.

8.B. Slight. Slight settlement is common in construction. Most settlement is typically in the first two to five years. Cracks are usually just hairline or knife blade in width. Often cracks are caused by building materials shrinking. A house under construction is very wet-concrete, mortar, lumber, drywall compound, paint, etc. all dry out during the construction process. Cracks under windows are relatively unimportant.

Findings:

Recommendations:

Vertical cracks under rear right bedroom windows.

9. House Is:

9.A. Stone. Stone buildings have through and through stone siding. These buildings are extremely heavy and strong. The stone pointing needs to be repointed about every fifty years. On the down side they are difficult to insulate.

9.E. Wood frame. Wood frame construction is also called "stick built." Lumber is used to construct the structure. Problems with wind and rain penetration are more common and need to be addressed through flashings, painting, and caulking. Interior water vapor must be vented. Wood destroying insects are more problematic. Wood framing members may be spaced 16" or 24" on center. Older buildings may be constructed in a "balloon frame" style where the floor joists rest against studs that extend from foundation to the roof. This style of framing lacks fire stops and is no longer used.

9.G. Floor joists. Floor joists' strength is in their height, not width. These individual framing members carry weight to foundation walls and beams.

9.I. Roof rafters. Roof rafters are individual framing members that transfer weight from the ridge (the uppermost board) to the top of the wall.

11. Framing Settlement

11.A. Internal framing settlement noted. Settlement is reflected in cracking.

11.B. Slight. Slight settlement is commonplace. Often cracks are not caused by settlement but by shrinkage. Houses lose hundreds of gallons of water in the construction process. Floors are often not truly level as joists cure, they move up and down. Not all floor joists are exactly the same width. Poorly fitting joists may crush over time. Cracks over openings such as doors and windows are often merely cosmetic. Since chimneys are so heavy, they settle at a different rate than the house structure.

13. Shallow Crawl Space

13.A. Shallow crawl space. A shallow crawl space, under 24", will restrict access for the Standard Visual Inspection due to access limitations. Close earth to framing contact increases the likelihood of wood destroying insects and rot. This condition is a heightened risk for undetected problems. Making repairs is also more expensive since the finished floor above the problem may be damaged in the repair process.

15. Complete Wood/Pest Inspection Report Recommended

15.A. A home inspection is not a wood destroying insect inspection. They are each performed by separate professionals. Since all structures are vulnerable to all wood borers/wood destruction and pests, a wood destroying insect inspection is strongly recommended.

17. Unexpected Minor Expenses Should Be Anticipated

17.A. Unexpected minor expenses should be anticipated. A home inspection screens for major points of concern-defects that cost over \$1,000 to repair, items that pose a significant safety concern or are a recognized health concern. Throughout the home inspection process minor points of concern are noted. Often left unattended, minor problems will grow into major problems. Minor problems should be repaired. Not all minor problems will be documented in the home inspection report.

17.B. Less than \$400.

Structure Minor Problems/Points of Concern/Safety Concerns

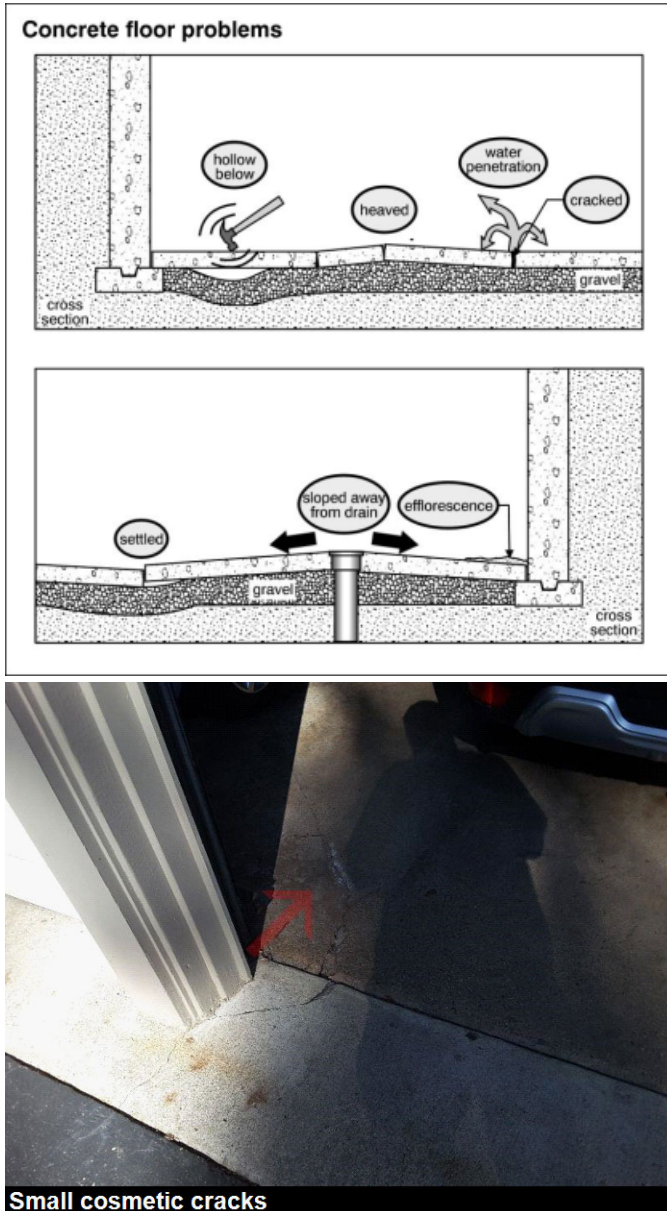
b. Slab Cracks

b.1. Slab cracks. As concrete cures, water is released and chemical changes occur. Simultaneous shrinkage can create minor cracks or crazing in the finish. As concrete cures, cracks develop. Often a control joint is installed to have the slab crack in a particular location. Slabs, themselves, settle and crack, often in poorly supported corners. These conditions are typical and are no need for concern. While hairline cracks are typical, once a crack is about 1/4" wide, then it is more concerning. In less expensive construction, a slab might not have a trowel finish and just a rough aggregate surface. Monitor cracking over the life of the building, as all slabs settle. Floating slabs are not structural. Often slabs in the garage have a 6x6 wire mesh installed for added strength. Also, they may be "keyed" into the foundation wall.

Action: Cracks can be sealed to help reduce water and radon penetration. Tapping on the slab with a 4x4 post can determine if the floor is unsupported by the soil beneath. On rare occasion, clay soils can rise when they get wet and lower as they dry resulting in areas of lifted concrete. In a worst case scenario, the subject area can be removed and replaced.

b.2. Cracks in garage slabs develop over time. The slab should be pitched to carry any water out of the garage. The cause may be due to poor bearing under the heavy concrete.

Small cosmetic cracks in the garage slab.



f. Framing Lumber

Two sistered joists, one over the water meter and another in the front of the crawl space.

Electric

Confidential: Client may not sell or transfer this report.

Note: You must read all of the information associated with the items reported on this key sheet and contained within the body or the report to have full knowledge of the content of this report. This survey system is a two part system; the verbally disclosed survey and the recorded report. As such, it is not considered transferable. Consequently, the client (s) may not sell or transfer this report. **Note:** This is not a code compliant inspection. HomePro Systems of Delaware Valley, Inc. recommends adding GFCI's at all damp/wet locations.

Per ASHI Standards: The Home Inspector shall observe: Service entrance conductors; service equipment, grounding equipment, main over current device, and main and distribution panels; amperage and voltage ratings of the service; branch circuit conductors, their over current devices, and the compatibility of their ampacities and voltages; the operation of a representative number of installed ceiling fans, lighting fixtures, switches and receptacles located inside the house, garage, and on the dwellings exterior walls; the polarity and grounding of all receptacles within six feet of interior plumbing fixtures, and all receptacles in the garage or carport, and on the exterior of inspected structures; the operation of ground fault circuit interrupters; and smoke detectors. The home inspector shall describe: Service amperage and voltage; service entry conductor materials; service type as being overhead or underground; and location of main and distribution panels. The home inspector shall report any observed aluminum branch circuit wiring. The home inspector shall report on presence or absence of smoke detectors, and operate their test function, if accessible, except when detectors are part of a central system. The home inspector is not required to: insert any tool, probe, or testing device inside the panels; test or operate any over current device except ground fault interrupters; dismantle any electrical device or control other than to remove the covers of the main and auxiliary distribution panels; or observe: low voltage systems; security system devices, heat detectors, or carbon monoxide detectors; telephone, security, cable TV, intercoms, or other ancillary wiring that is not a part of the primary electrical distribution system, or built-in vacuum equipment.

Electric

1. Access

1.A. Typical access to the electrical system means the service entrance cable, electrical panel and an appropriate number of outlets are all readily accessible to perform an ASHI Standard Visual Home Inspection. The distribution panel cover could be removed. The service entrance cable was visible. Light switches and outlets could be sampled randomly. Safety to both people and property is the primary concern when inspecting the electrical system.

2. General

2.A. Voltage.

2.B. 120 volts.

2.C. 240 volts.

2.D. Phase.

2.E. One phase. When there are three wires at the entrance cable, the house is "single phase." When there are four wires, as in commercial buildings, the house is "three phase." Three phase electrical systems are rare and typically used with motors.

2.G. Main breaker provides one immediate way to turn off all the electricity in the panel and for the building. Older regulations and manufacturing allowed for no more than six hand movements or breakers/fuses. Larger houses may have two main disconnects. One at the top of each panel. Sometimes in condos, the main disconnect is under lock and key making it inaccessible.

3. Approximate Amps

3.A. Entrance cable is the power line which brings electricity into the home. The size of the entrance cable coming in underground can only be approximated since it is not visible. The overhead service entrance cable extends from the weatherhead (where the inspection begins) to and through the meter and then to the distribution box (panel). Older service entrance cables may be cloth covered where as newer are plastic covered. The wire may be in a metal or plastic conduit to protect passerbys from contact with a deteriorated wire. There are three connectors 120, 120, and zero. The overhead service entrance cable is attached to the building at a weatherhead.

3.F. 200 amps.

3.H. The meter base is provided by the utility company. They are sized according to the needs for the house. Most are 200 rated. A sealant called "Dux seal" is often applied on the top of the panel where the service entrance cable penetrates. Its purpose is to stop water penetration. When the service cable is underground, sometimes as excavated soil settles, it will pull the meter off the wall.

3.I. Main boxes or panels contain the main disconnect, hot, neutral and ground bus bars, a bond screw and a ground wire. They are often labeled by the manufacturer. In larger houses, there may be more than one panel. A 60 amp panel is minimal even in a row house with gas, heat, water, stove and dryer. A 100 amp panel would be the minimum in new construction. Panels can be located outside provided they are weather tight. Seal any openings in the panel box to prohibit any unwanted contact with live wires.

4. Entrance Cable

4.A. Underground entrance cables means the service is underground and consequently not visible. Since the cable is buried and the wire is not visible, cuts and tears in the casing will go undetected. There is always a concern of water penetration too.

5. Circuit Interrupters

5.A. Breakers are mechanical circuit interrupters that act like a switch. They are a combination of a switch and an over current protector. Breakers trip without any damage to themselves. When a breaker will not reset, the breaker may be bad or the problem may still exist and the breaker is protecting you. Beware of rust and water. Their purpose is to break the electrical circuit. Breakers protect against too many amps running through a wire causing the wire to overheat resulting in a fire. Circuit breakers are not tested, operated, or tripped as part of the Standard Visual Inspection. Operate breakers every six months.

5.C. Ground fault breakers. Ground fault breakers shut off the current when continuity to ground is disrupted.

6. Panel

6.A. Location: Main panels should be very accessible allowing the occupant to turn off the electricity immediately. It is best to have an area the size of a refrigerator open in front of an electrical panel. Existing panels can be relocated when upgrading the system. This is expensive however.

6.D. Basement rear left.

6.P. Main disconnect switches or fuse block will turn off all the electricity. In larger homes, there may be two. In older systems, there may be as many as six breakers that need to be switched off.

6.Q. In panel.

6.S. Partially labeled or unlabeled panels do not indicate what the disconnect controls. If just one or two areas are labeled, then this may indicate they are more likely to be exercised. A partially labeled panel may just indicate the larger draws, 220 amp items, but not the majority of connections. It is prudent to take the time and label what the breakers control.

6.U. Single-refers to the number of panels. Most houses have just one panel. The service cable comes in and the branch wires go out. In multi unit buildings, there may be a service disconnect box in a mechanical or utility room and another in the upstairs unit.

6.X. Expansion room asks if there is space in the panel to add more wires.

6.Y. Yes. Expansion Room-means more electrical connections can be connected within the distribution panel. Often the capacity for a modern 200 amp breaker panel is 40 or 42 breakers. Some types of square D panels have space for more wire attachments on the breaker.

7. Insurance Information

7.C. An "Incomplete heavy up" means that the work of replacing the panel and service cable has not been completed. Often it is simply a work in progress. There is most likely no finished electrical inspection sticker. Best to secure a final inspection sticker prior to taking possession.

7.D. This percentage refers to the amount of wiring that has been upgraded, added, or replaced. More circuitry may have been added to the original system. This number is simply a rough approximation.

7.E. Upgraded means the panel was replaced.

7.F. Added means a sub panel was added to accommodate more wires.

7.K. 30%.

7.S. Entrance cable references the metal wire type connection between the meter and panel. It does not refer to the service entrance cable from the weatherhead to the meter. Aluminum multi-strand wires are typical and an acceptable service entrance. Copper is best but rare because of its expense.

7.U. Aluminum.

7.V. Major appliances references the metal wire type connection leading to major appliances (stove, A/C, dryer, etc.) within the building. Aluminum multi-strand wires are typical and acceptable to serve major appliances. Often there are both, copper and aluminum.

7.Y. Copper & aluminum.

7.Z. General lighting references the metal wire type connection that serve lower amperage breakers or fuses in the panel.

7.a. Copper.

8. Wiring

8.A. Romex is actually a brand name. The technical term is non-metallic or non-armored wires. Wires labeled UV (ultra-violet) can be installed in direct sunlight. UF (underground field) can be buried. It is synonymous with a plastic coating (orange is 10 gauge, yellow is 12 gauge, and white is 14 gauge-although older white wires can be 10, 12 or 14 gauge). There are three wires-hot, neutral and ground in the plastic sheathing.

8.B. Ungrounded/romex is often called "rag wire" since it is a cloth coated wire. There are two wires-a black (hot) and white (neutral) in the cloth jacket. There is no individual ground wire. This type of wire has not been installed for 50 years.

9. Grounding

9.A. Grounding refers to where connectors lead electricity away from the panel-typically plumbing, gas, driven rod. The more grounding the better. While only one ground is required, consider adding a ground to the copper hot water supply pipe, having two ground rods and bonding to the gas pipe. Historically gas companies did not want the gas pipes bonded. This position changed. Flexible yellow corrugated stainless steel tubes (CSST) are to be bonded whereas black is not. Add a ground rod when there is a sub panel in a detached building such as a garage, shed or pool house. It is beyond the scope of the ASHI Standards to determine the appropriateness of grounding/bonding to the gas lines. Contact the gas provider for their position. Continuity to ground is not part of

the home inspection, ONLY noting where the connectors extend.

9.B. Plumbing.

9.I. HomePro Systems of Delaware Valley, Inc. recommends adding GFI's at all wet/damp locations. Don't overlook-whirlpools, laundry, bar sinks, basements, crawl spaces, steam baths, hot tubs, lawn fixtures and outbuildings.

10. Ancillary

10.C. Surge suppressors and lightning rods are useful upgrades.

11. Ground Fault Interrupters

11.A. Ground Fault Interrupters. These locations indicate where GFI's have been located. They are typically in wet and damp locations. The requirements for GFI's have grown in the past few years. More than just one outlet may be protected by a GFI breaker. Caution: While certain areas such as refrigerators, overhead garage doors and sump pumps are to be GFI protected, difficulties can arise if the electric is off to these areas.

11.B. Ground fault interrupters (GFI) are recommended at all wet/damp locations. Ground fault breakers also called ground fault circuit interrupters (GFCI) are a special, quick tripping circuit interrupter design to disconnect the flow of electricity when detecting a "fault." The occupant should test regularly, monthly, by pushing the test and reset buttons on an outlet or by tripping the breaker. Testing GFI breakers and the household circuit breakers is about the only maintenance required in the electrical system. Since GFI's are designed to trip so quickly, 5/1000th of a second, they often fail. GFI and Arc fault breakers are more sensitive than standard circuit breakers. They fail in the "on" position. Typically home owners do not realize the GFI is defective. Replace immediately.

11.D. Panel.

11.E. Bath.

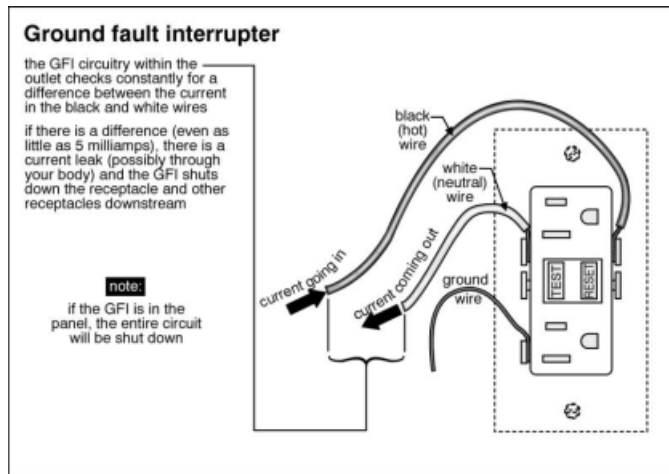
11.F. Garage.

11.G. Exterior.

11.H. Kitchen.

11.I. Basement.

11.O. Laundry.



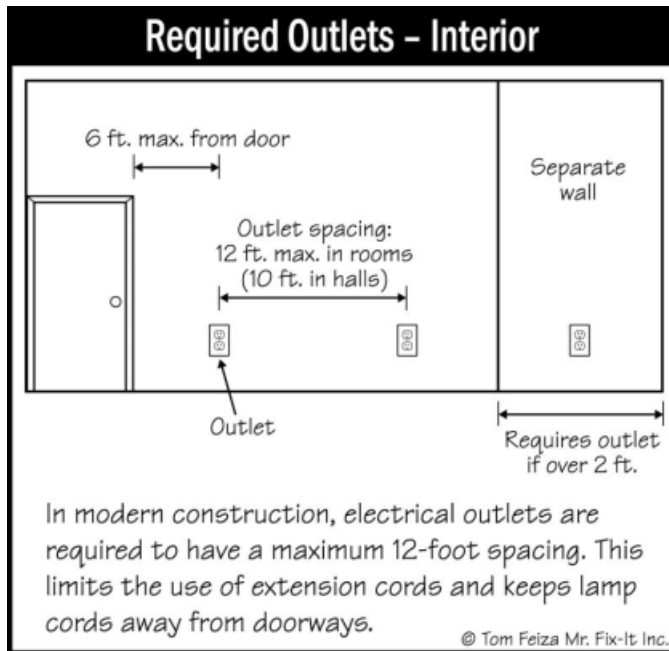
12. Plug Distribution (Refers to the Building's Outlet Distribution)

12.A. Plug distribution refers to the building's outlet distribution.

12.C. Typical means there are an appropriate number of outlets for a modern life style. Usually an outlet on each wall. It does not refer to modern electrical code requirements.

12.E. Two hole type receptacles do not contain a ground. They are typically on ungrounded romex wiring or possibly knob and tube wires in pre-WWII homes. There are only two openings in the outlet. In most cases, a two prong to three prong adapter can be used to allow a three prong wire to be used in a two hole receptacle. The adapter needs to be physically connected via a screw or wire to the receptacle box. The two hole receptacle can be upgraded to a GFI outlet to accommodate the dedicated ground wire. Around 1962, three hole receptacles were introduced. They are typically on modern romex or non-metallic wires or BX (armor clad).

12.G. Three hole type has a black (hot), white (neutral), and bare (ground) wire.



E108

13. Wiring

13.A. Closet, custom lighting refers to illumination in storage areas. Be careful to allow adequate clearances between incandescent light bulbs and possessions. Overheating and fires can occur. Better to have metal pull chains than strings. Custom lighting refers to extra or special light fixtures. Wires may have either been extended or added to the panel.

13.I. Yard or post lighting is not Inspected. Just because the home inspection process does not inspect these items does not mean that the buyer cannot inspect them independently.

14. Inspection Stickers

14.A. Inspection Stickers.

14.B. Note: Last inspection sticker dated:

15. Unexpected Minor Expenses May Approximate

15.A. < \$400.

18. Check With The Following Professionals Prior to Settlement

18.A. Check with an electrician for complete information.

Electric Minor Problems/Points of Concern/Safety Concerns

a. Not Code

a.1. This is not a code compliant inspection. Recommend adding GFCI's at all damp/wet locations.

b. Antioxidant Needed

b.1. Antioxidant needed on entrance cable, major appliance leads. Antioxidant missing. The multi strand aluminum wiring should be coated in an antioxidant. "Penetrox A" and "No locks" are a common low flame spread and low ignition point antioxidant. Aluminum oxidation is an electrical resistor that will grow on the wires surface, resulting in a poorer connection.

Action: This installation must be under taken by a licensed electrician due to the complexity and hazardous condition. The electric to the building must be turned off by the power company or have the meter pulled. The service wires will be disconnected and cleaned. The service attachment, which can loosen over time due to expansion and contraction will be reconnected. This is not an emergency or urgent condition and can usually be completed at the electrician's next visit.

d. Multiple Taps

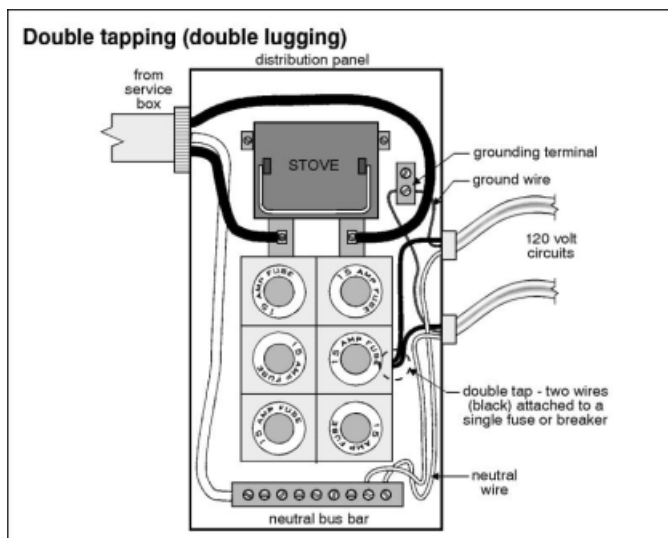
d.1. Multiple taps or "double taps" are a very common minor electrical problem where more than one wire is inappropriately attached to the circuit breaker or fuse. Typically the screws are designed to secure just one wire. Also, the total load for the wires may be greater than the breaker is designed to provide, resulting in a more frequent need to reset the breaker.

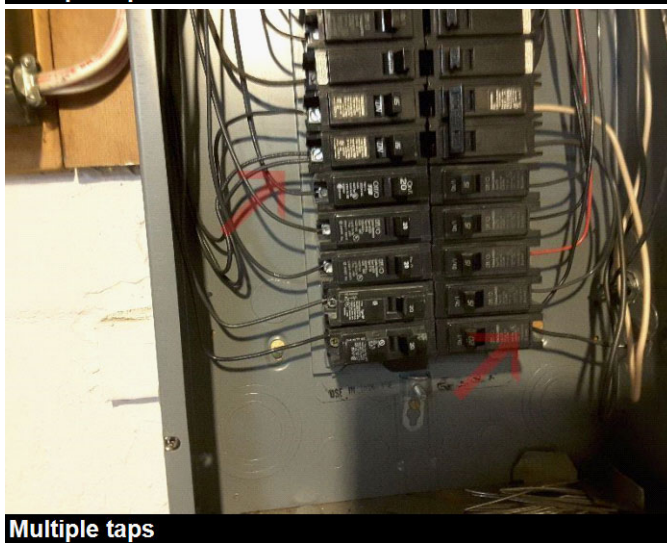
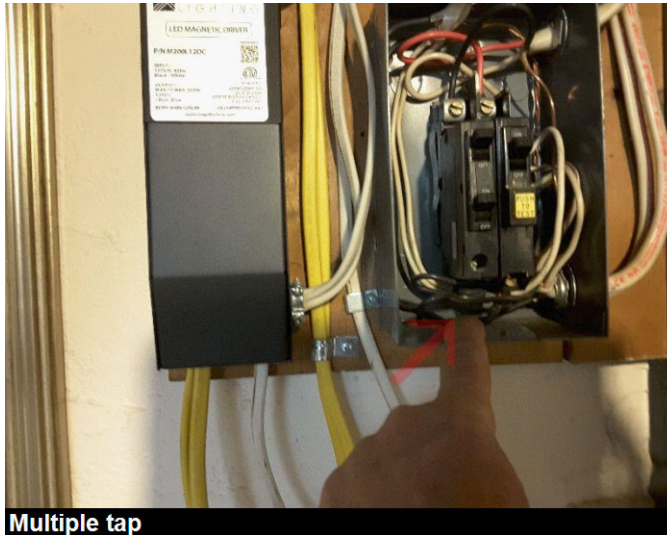
Action: Relocate the extra wire. A fuse or breaker may need to be added. Splitter and "piggy back" breakers may be used in a panel that does not have any open spaces. Care must be taken not to have too many breakers in the panel. Refer to the panels legend. A sub panel may be needed. Multiple tapping reflects amateur workmanship.

d.2. One.

The right breaker in the left panel.

Main panel middle left and lower right breakers.





s. Improve Grounding and Bonding

s.1. Upgrade safety. HomePro recommends increasing the electrical safety by having two ground rods, bonding to the gas supply and to the copper cold and hot water supply pipes. Have a smoke alarm on every level and in every bedroom and a carbon monoxide detector in the bedroom hallway ceiling. Redundancy enhances protection.

s.2. Add ground fault outlets at all wet and damp locations.

bb. Other

bb. Other.

HomePro recommends separating the grounds and neutrals in the main panel.

Findings:	Recommendations:
Put cut wire over the overhead garage door and a box.	

Electric Major Problems/Points of Concern/Safety Concerns

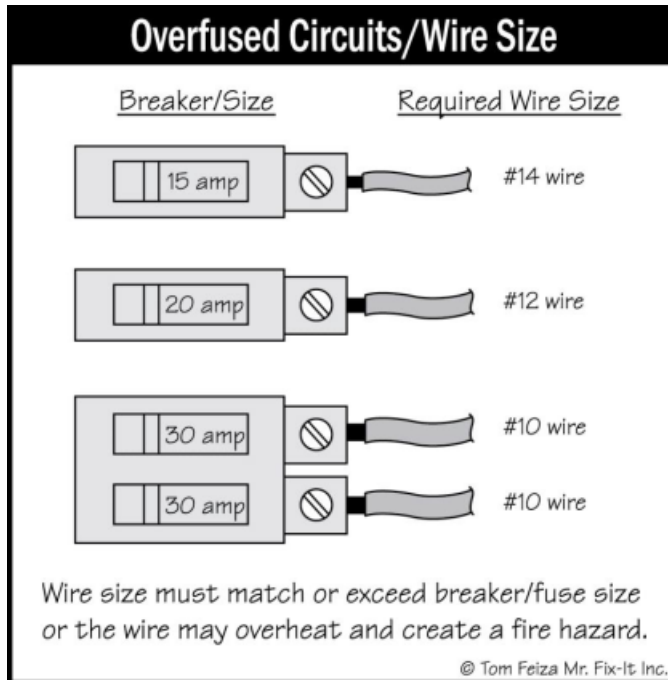
D. Overfusing

D.1. Overfusing exists when small wires are attached to big breakers. Fuses and circuit breakers limit the amount of electrical current that can flow through wires. Wires are sized according to the amount of current they can carry. Excess current can over heat the wires. The fuse/breaker and wire sizing are supposed to be compatible for safety. Air conditioners and other devices with motors may be overfused with regard to the wire, but not the load. When a compressor starts; there is a large, momentary draw. Consequently a smaller gauge wire, #10, may be on a 40 amp breaker. The load of the motor must not exceed the wires rating. The home inspection does not check motor loads.

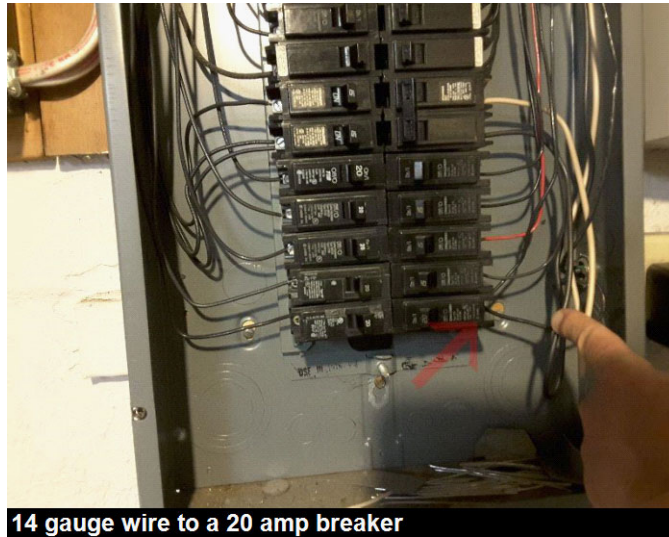
Action: Have an electrician examine the wire to breaker sizing. The breaker may be able to be changed to correct this safety condition. The wire might be too small, necessitating the wire be replaced. Replacing a breaker is easy and inexpensive where as replacing a wire is more difficult and expensive. An electrician should review the load rating on the a/c compressor to verify the wire and breaker are compatible. Secure an electrical inspection sticker to make sure that everything is now safe. Overfusing is a safety concern that should be corrected as soon as possible.

D.2. Overfusing: 14 gauge wire to a 20 amp breaker. Repair.

Bottom right breaker in the main panel.



E137



L. Ground Bonding Strap/Rod Missing/Loose

L.2. No grounding jump over the water meter. Add wire and clamps.



Heating, Air Conditioning

Confidential: Client may not sell or transfer this report.

Note: You must read all of the information associated with the items reported on this key sheet and contained within the body or the report to have full knowledge of the content of this report. This survey system is a two part system; the verbally disclosed survey and the recorded report. As such, it is not considered transferable. Consequently, the client (s) may not sell or transfer this report.

Note: Most often, flues may only be surveyed on a limited basis. Contact a licensed chimney specialist for a full evaluation. **Note:** Recommend a yearly service contract on the heating and air conditioning systems.

Per ASHI Standards: The home inspector shall observe permanently installed heating and cooling systems including: Heating equipment; Cooling equipment that is central to home; Normal operating controls; Automatic safety controls; Chimneys, flues, and vents, where readily visible; Solid fuel heating devices; Heat distribution systems including fans, pumps, ducts and piping, with supports, insulation, air filters, registers, radiators, fan coil units, convectors and the presence of an installed heat source in each room. The home inspector shall describe: Energy source and heating equipment and distribution type. The home inspector shall operate the systems using normal operating controls. The home inspector shall open readily openable access panels provided by the manufacturer or installer for routine homeowner maintenance. The home inspector is not required to: Operate heating systems when weather conditions or other circumstances may cause equipment damage; Operate automatic safety controls; Ignite or extinguish solid fuel fires. The home inspector is not required to: Observe the interior of flues; Fireplace insert flue connections; Humidifiers; Electronic air filters; or the uniformity or adequacy of heat supply to the various rooms.

Heating, Air Conditioning

1. Access

1.B. Restricted access means the heating and cooling equipment as well as distribution system (ducts and pipes) were not visible and readily accessible to perform an ASHI Standard Visual Home Inspection. The unit may be restricted due to little clearance around the system, insulation or possessions, its physical location in a crawl space or attic, etc. Anticipate heightened risk when there is restricted access. The client may choose to have the heating and/or cooling system checked professionally prior to settlement or it may be operated at the pre-settlement walk through. The system will be inspected as best as possible despite the restrictions.

1.E. Combustion air supply refers to the air needed to fire a fossil fuel appliance. Several sources are available. It is dangerous to restrict the combustible air supply to a furnace/boiler since incomplete combustion can result in the production of carbon monoxide. Furnaces/boilers need a large volume of air to burn in order to make heat.

1.H. House. In lesser and mid efficient systems, the combustion air is drawn from the local area. There is a danger in enclosing the heater space by putting it in a closet or by finishing the basement. A confined space has less than 50 cubic feet of air for every 1,000 BTU/hr where as unconfined spaces have more than 50 cubic feet of air for every 1,000 BTU/hr. Door or wall grilles need to be large enough to allow for combustion air to get to the flame. Generally crawl spaces need to be 18" deep and should be 30" high. These mathematical determinations are beyond the scope of the Standard Visual Inspection. The report only indicates the location of the combustion air supply.

2. Heat

2.B. Central heating provides heat to the entire building. The heat may be distributed by air through ducts (quite common in the last 30 years) or by water/vapor in pipes and radiators. A ducted air system usually has supply and return ducts as well as a filter. The sizing and placement of supply registers and return grilles affects comfort. A piped system conveys the heat through pipes. The heat may be delivered in water or steam vapor. The pipes extend from the boiler to radiators, convectors, baseboards or radiant flooring system throughout the building.

3. Fuels

3.B. Oil is another fossil fuel. Fuel oil burns very hot. Oil is simply diesel fuel, referred to as #2 fuel oil. Oil like liquid propane is trucked into a property and stored in a tank. Oil is less efficient and generally a more expensive fuel. Oil fired equipment requires yearly maintenance. Oil fired heating systems should have the in-line oil filter, burner nozzle, and air filter replaced regularly. Any leaks or seeps should be repaired. Any spilled fuel oil should be absorbed and removed. Best to place a pan with kitty litter under the oil filter to absorb any future spills. Oil residue can be smelly. Best to have a service contract with the oil supplier. Oil burns with a yellow flame.

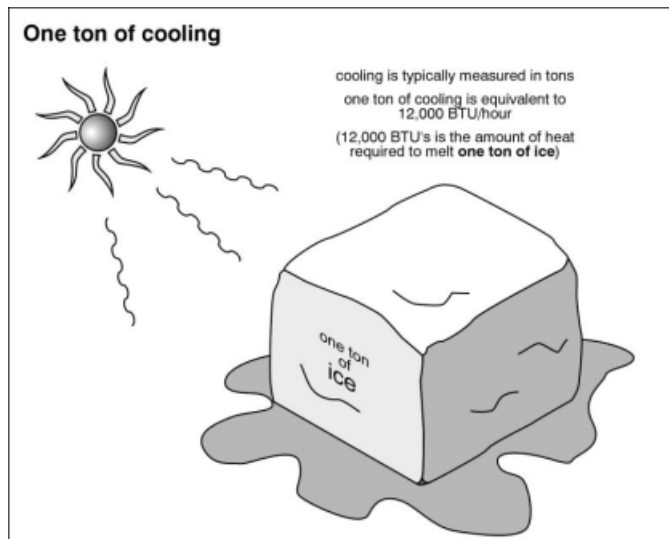
4. Ignition System

4.D. Power burner refers to the "burner" or "gun" that mixes air and fuel on an oil furnace. They require yearly maintenance. They can be replaced independently of the entire oil furnace. Pieces such as the transformer often fail and can be replaced individually. Nozzles need to be replaced yearly.

5. Sizing

5.S. When the cooling size can be determined by a manufacturer's data plate, it will be noted.

5.V. 2.5 ton.



6. Distribution

6.B. A forced system utilizes pumps and fans to move the heated air/water more quickly thereby increasing the occupant's comfort level. Filters must be cleaned regularly for optimal performance.

6.C. Up flow refers to the direction the furnace sends the heat/a/c. The blower is physically located under the heat, created in the heat exchanger. The air conditioner coil is over the heat exchanger which is over the blower motor. This design utilizes gravity. It is easier to push hot air up. This is a typical system.

6.I. Duct dampers allow the flow of volume to be adjusted. Ducts should be insulated in unconditioned areas like garages, attics, and crawl spaces. Ducts are heavy and should be supported at regular intervals. A vapor retarder in humid areas should be used to reduce rusting. Joints should be taped/sealed to lessen distribution loss. Duct dampers are flat metal plates mounted on the inside of smaller supplies. Best to adjust these seasonally in order to improve comfort.

7. Ducting

7.A. Duct dampers/booster fans. Duct dampers allow the flow of volume to be adjusted. Ducts should be insulated in unconditioned areas like garages, attics, and crawl spaces. Ducts are heavy and should be supported at regular intervals. A vapor retarder in humid areas should be used to reduce rusting. Joints should be taped/sealed to lessen distribution loss. Duct dampers are flat metal plates mounted on the inside of smaller supplies. Best to adjust these seasonally in order to improve comfort. Booster fans, also called inline duct fans, can help direct more

flow to a particular area-more a/c to the loft, more flow to the converted porch, etc. Sometimes it is hard to "push" heat since there is a "wind chill" factor.

7.B. Flexible ducts are an insulated bendable duct. Originally used in more difficult to work areas. Today they are used to direct heat from the main trunks because they are so easy to install. A zip tie usually attaches to the duct, to the trunk and register. "Flex ducts" need more support since they are not rigid. Flex ducts are more difficult to clean.

7.C. High/low pressure duct work refers to the duct size.

7.E. Low pressure ducts are large and have smaller fans.

7.I. Individual returns refer to duct designs that use a supply and return ducting for each room. This design affords the most comfort. Generally supply ducts are located on outside walls under windows with return grilles on the interior walls. High and low returns offer even more comfort by alternating the location of the return in summer and fall.

7.J. Improve the second floor return ducting for better comfort.

8. Ancillary

8.A. Humidifiers are excluded from the ASHI Standard Visual Home Inspection. Highlighting this apparatus only indicates its presence. Humidifiers require lots of maintenance. They must be cleaned-filters, drains, and water containment areas. Humidifiers leak often. The humidistat needs to be adjusted in very cold weather in order to lessen interior humidity. Interior humidity will condense on cold window panes and frames. Often broken or unused humidifiers are abandoned and simply remain in place.

Findings:	Recommendations:
Redirect the air conditioning condensate from the laundry tub to the exterior.	

11. Oil Tank

11.A. Oil tanks are prone to water penetration and condensation.

11.B. Indoor fuel storage tanks are weather protected. They can still have leaks and seeps. The copper supply line that extends across the floor should be protected from damage. Interior tanks can be either 10, 12, or 14 gauge thick-4 is the thinnest. The tanks can "thin" on the underside. Since water is heavier than the oil, rusting occurs inside at the bottom underside. Stains from the top to the underside may indicate overfilling. Oil fill pipes should be equal in diameter to better distribute pressure when filling. Older tank fills and vents may not be the same diameter. Steel fills are safer than copper fills. Oil tank capacity gauges are located on the top of the tank. The bobber/float should be able to move freely. The cover should be water tight. While a new fuel oil company may note the old tank does not meet "current codes", be cautious regarding the urgency to make these repairs. Get a second opinion prior to making any upgrades.

11.F. Oil filters screen for particles that can clog the burner's nozzle. The filter should be changed yearly by the service contractor. Oil filters are similar in function to a car's oil filter.

12. Flues

12.B. Restricted access is common because the flue may be inaccessible, covered by a spark arrestor, dog legged, dirty, etc. Anticipate a greater risk of uncovering future problems with restricted access.

12.D. Terra cotta, a clay fired tile, may line heater flues. The joints should be filled with mortar. Pieces crack and break, typically above the roof line. Broken pieces can block the flue. On occasion, the terra cotta only connects at the bottom and top, but not in the middle. The terra cotta can crack. Large cracks should be sealed. Flue caps

will protect the terra cotta from deterioration. A chimney sweep can inspect the flue thoroughly. Advisory: be suspect of self-serving chimney sweeps who call for thousands of dollars of needed repairs and want to bring the flue up to current code. Severely cracked terra cotta flue lined chimneys may need to be relined.

12.H. Old masonry flues often suffer from numerous defects due to their age. These flues are over 50 years old. Vintage flues often were not built as well. Yesterdays' mortars are not as durable as today's. They were mixed by hand and not by machine. Water from rain and condensation from burning fossil fuels for years deteriorates the integrity of the mortar joints. Fallen mortar and pieces of brick can obstruct the flue, reducing its draw capacity. Old masonry fireplace flues may be more prone to fires because creosote may develop on the uneven surfaces. They are more difficult to clean too. Open mortar joints may let exhaust gases or sparks enter into the attic. Have a chimney sweep inspect all flues prior to use. These old masonry flues are prime candidates for relining, which typically occurs when replacing the heating system. Rather than paying to reline an old flue, strongly consider purchasing a direct vent heating unit that vents through the sidewall. Flues are obsolete.

14. Air Conditioning

14.B. Central air conditioning units transfer heat inside the house to outside, over the condenser/compressor. They also remove humidity. The condensate at the interior evaporator coil needs to be discharged to a floor drain or a condensate pump. The condensate drain often needs a trap. They should not drain to the public sewer. Be sure the drains remain free flowing. Best to have the compressor and the "A" coil cleaned yearly.

14.C. Split. A split system has a compressor outside and an "A" coil inside connected by two refrigerant lines.

14.E. Electric compressor central air conditioning is the most common system in use today. The refrigerant material may be Freon (a DuPont product) or a more environmentally friendly one such as Puron. The compressors should sit level on a pad. Some units rest on stands mounted to the foundation wall. Any leaks are difficult to discover in the numerous coils. The compressor will be operated, but its overall cooling ability will not be able to be determined.

14.G. Retrofitted air conditioners mean the ducting distribution system was not originally designed for air conditioning. Often the blower fan needs to be replaced when a/c is added. Generally the duct work is smaller and second floor return ducting needs to be improved also for enhanced comfort.

15. Thermostat

15.A. A single thermostat controls one heater and/or air conditioner.

15.F. Recommend adding a carbon monoxide alarm.

17. Heat Age

17.U. 5 yr. replacement probability.

17.V. High. Begin budgeting now for any future replacement expense.

Findings:	Recommendations:
The oil furnace was manufactured around 1995.	

18. AC Age

18.U. 5 yr. replacement probability.

18.V. High. Begin budgeting now for any future replacement expense.

18.Y. Budget to replace A/C unit.

The air conditioner is approximately 40 years old.

Budget to replace.
Secure a quote to replace proactively.

19. Unexpected Minor Expenses May Approximate
19.A. < \$400.

22. Check With The Following Professionals Prior to Settlement
22.C. Mechanical contractor for complete information.

Heating/AC Minor Problems/Points of Concern/Safety Concerns

a. Flues Not Surveyed

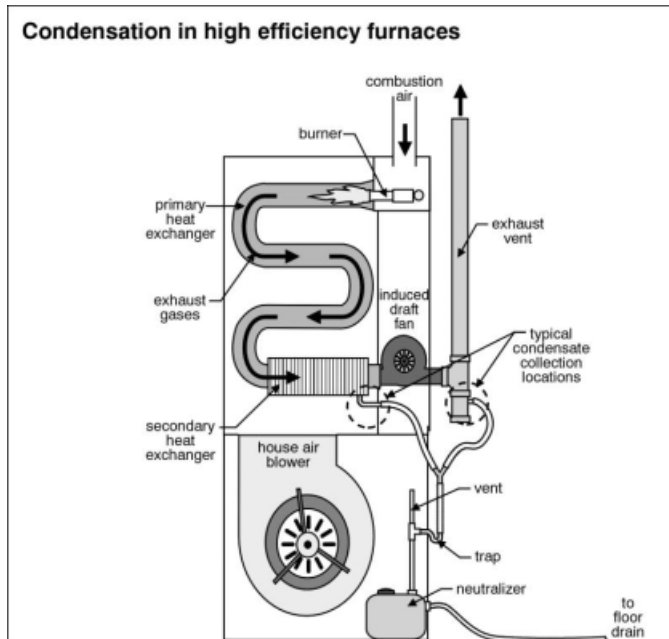
a.1. The flue was not surveyed. Unlined flues need to be lined. Mortar joints open in stone and brick flues. Terra cotta flues crack. PVC joints can open. Contact a licensed chimney sweep for a complete evaluation. HomePro considers heating flues to be obsolete. Better to abandon the flue and install high efficient heating or water heater that simply vents through a PVC pipe when upgrading the system.

b. Heat Exchanger

b.1. Heat exchanger rust-this condition indicates that moisture is thinning the metal on the heat exchanger. While metal in a basement will rust, dehumidifiers may help reduce moisture and lessen rusting. The humidifier or leaking air conditioner's coil may be the water source. Rust may eventually develop into a hole in a heat exchanger.

Action: Have the unit serviced professionally. The air conditioner's coil drip pan needs to be cleaned; drains need to flow. Humidifiers are notorious leakers-consider decommissioning. Rust should be brushed to verify no hole is hidden in the heat exchanger. Add a carbon monoxide alarm to give an early warning to any crack or hole in the heat exchanger that could allow carbon monoxide to get into the household air.

Restricted access to the firebox and heat exchanger.



c. Furnace/Boiler

Black oily stain at port.



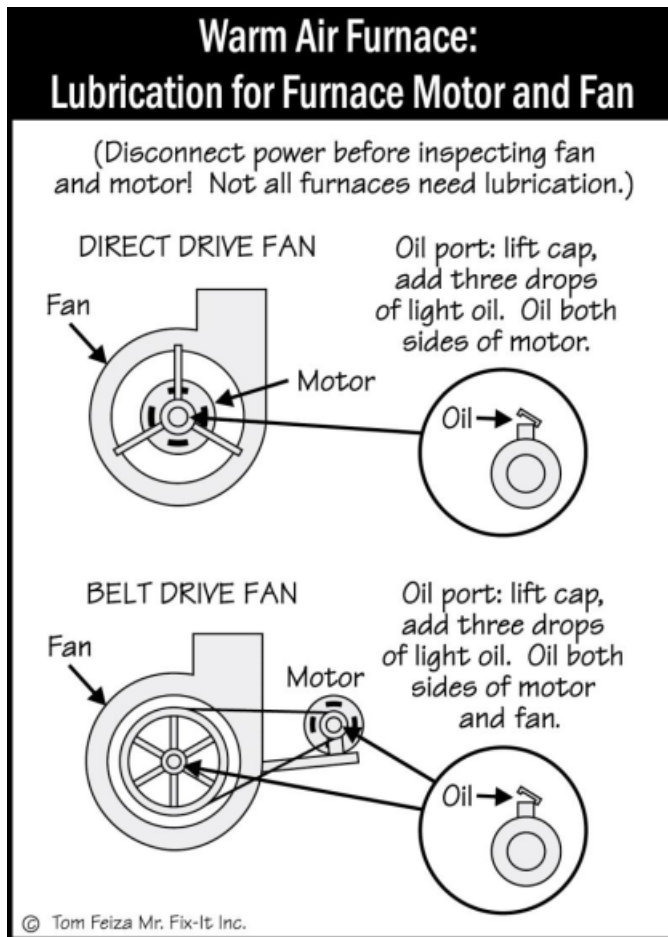
Black oily stain at port

g. Air Handler

g.1. An "air handler" is a generic term that encompasses the blower fan and components which push the conditioned air throughout the building. Blowers can vibrate themselves out of balance or loosen. Attic units should have drains and pans to contain and discharge condensate. Loose insulation can clog drains. There are typically secondary drains. The first drain usually discharges near the foundation (it may need to be extended to help keep the foundation wall dry). The second drain is usually exposed to indicate to the occupants there is a problem with the primary drain. There is a blower compartment door switch which stops the blower from operating, for safety reasons, when the door has been removed. Some contractors purposefully zip tie these switches closed to avoid unnecessary service calls due to home owners not reinstalling the doors properly when they change the air filter resulting in the blower motor from resuming operation. Over riding the safety controls can be dangerous.

Action: Ask the service technician to listen for any problems and look for sound deadening devices. Have all of the drain lines blown out. Have the pan checked for cracks and/or holes. Add a float which will turn off the unit when the float is lifted by a full containment pan. If there is no containment pan, consider adding one-while expensive it may save the occupant from an insurance claim.

g.2. Vibrating. Loose, noisy motors need to be secured. Service unit professionally.



H016



j. AC Coil

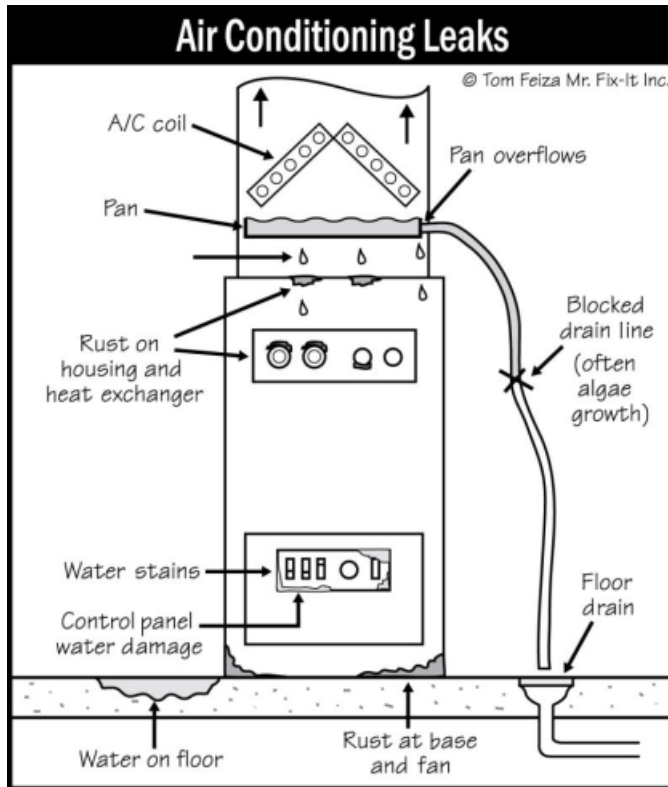
j.1. "A" coils are often in sealed compartments and not accessible during the home inspection process. There may be clues indicating the "A" coil is dirty—for example the lack of service stickers. Dust will act as an insulator on the coil increasing expenses and lower efficiency. Loosely fitting air filters can allow unfiltered household air into the distribution system. Harmful microbial growth can develop in air conditioning pans that retain water. The condensate pump will direct the heat and A/C condensation to a drain.

Action: Add a hinged metal door over the filter opening. Maintain a regular service contact. Have an

access panel installed on each side of the "A" coil to facilitate cleaning. Have a part installed where bleach or a cleaning product can be introduced onto the condensate pan. Simple vinegar can reduce mineral deposits on drain lines. Operate the condensate pump periodically to verify it is working. Have the service technician clean the moving parts.

j.2. Dirty. Dirt acts as an insulator. Dirty systems reduce efficiency.

j.7. Redirect the condensate pump discharge to outside.



z. Add Carbon Monoxide Alarm

z.1. Recommend adding a carbon monoxide alarm.

bb. Other

bb. Other.

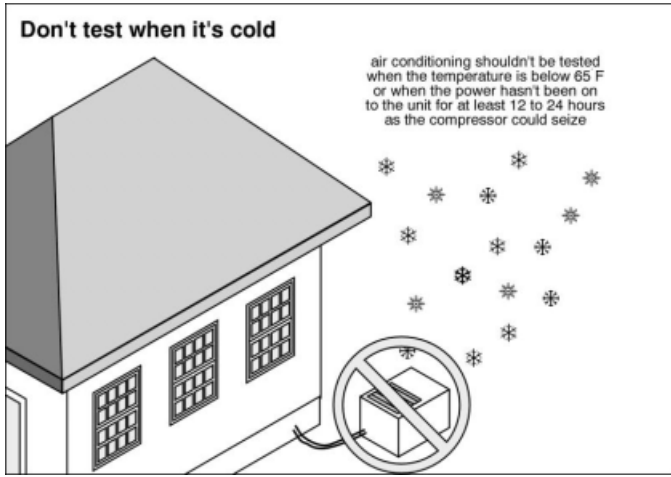
The oil tank fill and vent are not an equal diameter.

Heating/AC Major Problems/Points of Concern/Safety Concerns

Q. Too Cold To Check

Q.1. Too cold to check A/C. Check at your pre-settlement walk through if possible. Ask the listing agent to turn the thermostat on the AC to 68 degrees 24 hours prior to the pre-settlement walk through so the house will be cold and the compressor motor will be operating.

Too cold to check A/C.



Plumbing

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Plumbing is a system of pipes, hardware, and fixtures, which brings potable water into a house, as well as drains wastes and vents gases from the building. This is plumbing in a nut shell. Very simple. **Per the ASHI Standards:** The home inspector shall observe: interior water supply and distribution system including: piping materials, supports, and insulation; fixtures and faucets; functional flow; leaks; and cross connections; Interior drain, waste, and vent system, including: traps; drain, waste, and vent piping; piping supports and pipe insulation; leaks; and functional drainage; Hot water systems including: water heating equipment; normal operating controls; automatic safety controls; and chimneys, flues (when readily accessible), and vents; Fuel storage and distribution systems including: interior fuel storage equipment, supply piping, venting, and supports; leaks; and sump pumps. The home inspector shall describe: water supply and distribution piping materials; drain, waste, and vent piping materials; water heating equipment; and location of main water supply shutoff device. The home inspector shall operate all plumbing fixtures, including their faucets and all exterior faucets and attached to the house, except where the flow end of the faucet is connected to an appliance. The home inspector is not required to: state the effectiveness of anti-siphon devices; determine whether water supply and waste disposal systems are public or private; operate automatic safety controls; operate any valve except water closet flush valves, fixture faucets, and hose faucets; observe: water conditioning systems; fire and lawn sprinkler systems; on-site water supply quantity and quality; on-site waste disposal systems; foundation irrigations systems; spas, except as to functional flow and functional drainage; swimming pools; solar water heating equipment; or observe the system for proper sizing, design, or use of proper materials.

Plumbing

1. Access

1.A. Typical. Typical access refers to the condition where there is a normal amount of exposure of supply and waste pipes as well as fixtures and faucets. Note: Pipes within the house cannot be seen. Those under concrete slabs cannot be inspected. The inspection begins and concludes at the inside of the foundation wall.

2. Water Supply

2.A. Public. Public water means that a municipal or central community system provides treated water to the building for a fee. Often referred to as "city water." Best to verify it is public water as wells can be found in the most unusual places. Public water is supplied from an off-site location. Public water is also treated-generally chlorinated and fluorinated.

4. Ancillary

4.D. Petcock. Petcock, also called saddle clamps, often feed refrigerator ice makers or humidifiers. Since these lines are so small and they pierce the copper pipe with a needle, they often leak; the copper or plastic supply lines fail too.

4.E. Hose faucets. Hose faucets are also called hose bibbs.

4.G. Frost proof hose faucets have a long stem that shuts the water off on the inside of the house. They drain themselves with each use. A good plumber will include a stop and waste shut off valve for good measure. The hose must be removed, over the winter, or the valve won't drain.

4.H. Off. Hose faucets are often off in the winter or at vacant buildings. In the response to the home inspection, ask for them to be on at the pre-settlement walk through in order to be checked.

5. Main Shut Off

5.A. Location.

5.C. Basement front right. The main water shut off will turn off all the water to the building. This valve should be accessible. The main water shut off valve is very important. This is the most important valve in the house. Every occupant should know where it is. Since the valve may not have been turned for years, it may leak when it is exercised. This valve is not turned on and off during the home inspection. Best to replace this valve when a plumber is working at the building. There is usually a shut off handle before and after the water meter. Older gate valves (those whose handles stay stationary when turning and are either fully open or closed) and globe valves (those whose stems rise when turned and can be partially opened/closed in order to throttle down pressure) ball valves (those with a lever handle) are the most dependable. Valves with missing handles, inoperative, or inaccessible shut off valve conditions should be addressed before the need arises. The mains are not turned during the home inspection process.

5.J. Fixture shut offs. Fixture shut offs allow a plumbing fixture, as opposed to the entire house, be turned off individually. The more shut offs, the better. Since they quite likely have not been turned in a long while, they often leak when turned. Consider replacing any valve that may be 25 years old with a ball valve (those with a lever handle).

5.M. Some.



7. Entrance Pipes

7.A. Street/public. Refers to the water line that penetrates through the foundation wall. Inspection limitation-the plumbing inspection begins at the foundation wall. The buried service entrance line is not inspected as part of the Standard Visual Survey. Consider securing insurance to replace the older (more than 50 years) supply lines. This is generally available in the water bill or as a rider on the home owner's insurance policy.

7.E. Copper. Copper supply lines are widely used because they are very reliable and dependable. There is no health hazard. Copper can kill organisms in the water. Some solder used to sweat joints in copper pipes before 1988 contained lead. There is a possibility with acidic water that the lead can leach out into the water supply. The 50/50 lead solder was replaced with one that contained less lead in the solder. Alloy lead free solder is used today. The amount of lead in the solder cannot be determined visually, only a lab test can determine lead in the water. Type K copper is the only one recommended for buried supply.

8. Internal Supply Lines

8.A. Internal supply. Internal supply pipes refer to the tubes inside the building. Since household water is hot, the ratings for interior supply lines may be different than the street supply pipes. Polyethylene and pvc are not used with hot water.

8.D. Copper. Copper supply pipes are industry standard. They are extremely reliable and dependable. They have a long life expectancy and can easily be repaired. They can freeze. There are various types of copper pipes. They are gauged based on their metal thickness. "K", the thickest, is coded green; "L" is blue, quite common; and red, "M" is the thinnest and least expensive. Some municipalities do not allow red copper supply pipes.

9. Drain, Waste, Vent

9.A. Drain and waste vents are designed to drain used or waste water and vent gases out of the building. Mechanical vents, commonly called "stodor vents" can improve venting and assist draining in difficult areas.

9.D. Lead. Lead drain lines are antiquated. They are not repaired. Fewer and fewer plumbers have ever worked with lead pipe or formed the fitting. The pipes are replaced, typically with a pvc drain. They tend to be in sink and tub drains.

9.F. Plastic. Plastic (pvc-polyvinylchloride) drains, waste, and vents are common place in today's construction. Used since the 1960's, they are inexpensive, durable, readily available, lightweight, and easy to work with. They can be noisy. Insulating the pipes solves this problem. Vent pipes might develop frost at the top. The joints are cleaned with a purple primer and then "welded" with a purple solvent. PVC is easy for both professionals and amateurs to use. ABS (acrylonitrile butadiene styrene) is akin to PVC but black in color, not white. Due to some documented failure, the ABS has a stigma, resulting in the preference for PVC.

9.I. Public. Public waste means that the discharged water drains to a common facility. This should be confirmed with a water/sewer bill or by contacting the facility directly. The waste line between the house and the street is the building owners' responsibility. When the sewer drain is over fifty years old, it is recommended to obtain sewer insurance from the sewer carrier or through the home owner's policy-it may need to be a rider. Household products like wipes, diapers and sanitary napkins should be placed in the trash and not flushed down the drain. Tree roots can invade the drain between the house and the street. The home inspection stops at the foundation wall, consequently, the drain pipe between the house and the street is not inspected. If the client has any concerns, the drain can be scoped with a camera.

9.M. Pump dependent system for septic. Pump dependent systems refers to a household pump which helps move all the waste water. This may be in a septic system where the field is physically located up hill from the tank. Pumping tanks, just like holding tanks, need to be pumped regularly-either every year or every other year. Garbage disposals are hard on a septic system and especially hard on pumps associated with private septic systems and public sewage. It may be in a converted system where the existing septic field was abandoned and a pump was added to get the waste water to the municipal drain. Lastly, the sewer line might simply be below the elevation of the drain in the street, consequently requiring a pump. These pumps are located in tanks. There is a red warning light to indicate the pump has failed. The pump and tanks are the home owner's responsibility. Treat the pump with respect as they can fail. Be judicious about what is disposed of into the drainage system. The pump will eventually fail.

10. Insurance Information

10.A. Insurance information refers to what percentage of the plumbing may have been added to or upgraded. Not all the plumbing is necessarily original. Upgrades may reflect amateur workmanship or the solution to a problem or an added fixture.

10.B. % piping updated. Insurance information refers to what percentage of the plumbing may have been added to or upgraded. Not all the plumbing is necessarily original. Upgrades may reflect amateur workmanship or the solution to a problem or an added fixture.

10.F. 30%.

10.N. Number of years ago.

10.X. 10 years old.

12. Tile

12.B. Mud set ceramic tiles are set on a 1" thick bed or layer of mortar or concrete set into a wire mesh. The tile and mortar are relatively impenetrable, extremely durable and a wonderful example of true craftsmanship. Often, so many years later, a mud set tile application only needs a little grout and caulking cracks.

13. Attention! The Following Items Have a Heightened Risk

13.A. Attention: The following items have a heightened risk.

13.B. Sewer pipe through wall. Sewer pipe through wall means the main sewer drain does not drain through the floor, rather it exits the building above the floor, through the foundation wall. Consequently, adding plumbing fixtures in the basement may require pumps-a laundry tub lift, up flushing toilet, a sewage ejection pump or a more powerful washer pump.

13.G. Fixtures without overflow. Fixtures without overflow drains are more likely to overflow. This is common place with laundry tubs and kitchen sinks. The drain connection is the most likely source of a leak.

13.K. Tub without access. Tubs without access cannot be inspected. The compression seal, the drain at the top of the tub, might leak. Replacing the gasket is not difficult, but there must be access. If there is no access, then presume the tub compression seal will leak. This only occurs with bathing, not showering. The biggest problem is when the tub abuts a shower allowing the only access from beneath.

13.L. Ceramic stall. Ceramic tiles require maintenance. Caulking is very important. Leaks can occur at the penetrations-fixtures and drains. The tiles in the corners tend to fail first. Wood framing under the shower pans can rot. Calcium build up under shower pans indicate small leaks. Cracks in the floor tile should be immediately sealed. A flood test, where the shower drain is stopped, is not performed during a home inspection, may find active leaks.

14. Laundry

14.A. Washer is not inspected. Washers are considered personal property and not inspected as part of the Standard Visual Inspection.

14.F. Dryer is not inspected. Dryers are considered personal property and not inspected as a part of the Standard Visual Inspection. Dryer connectors are available. The fuel source can be gas (natural or propane) or electric. Gas dryers are more expensive to purchase and install but they are preferred since they are easier on the clothes and cheaper in the long run.

14.H. Electric. Over the years, the style of 240 dryer wires and receptacles have changed. The newer dryer may not be compatible with the existing outlet.

14.B. Not inspected. Washers are considered personal property and not inspected as part of the Standard Visual Inspection.

14.H. Not inspected. Dryers are considered personal property and not inspected as a part of the standard visual inspection. Dryer connectors are available. The fuel source can be gas (natural or propane) or electric. Gas dryers are more expensive to purchase and install but they are preferred since they are easier on the clothes and cheaper in the long run.



15. Water Heater

15.A. Age. Water heaters are heated by gas (natural or propane), electricity, oil. The water temperature should be about 125 degrees.

15.K. 10 years old.

15.V. Replacement probability.

15.W. High. Begin to budget to replace the water heater. Best to replace proactively at your time, schedule, and prior to any leaks.

15.h. Capacity.

15.o. 80 gal.

15.s. Stand alone style.

15.t Add a water alert near the water heater to detect leaks and lessen any associated damage.



- 18. Unexpected Minor Expenses For the Property May Approximate**
18.A. < \$400.

Plumbing Minor Problems/Points of Concern/Safety Concerns

h. Connection Issues

Some corrosion is developing on the fittings in the basement ceiling.

i. Add Water Alert

- i.1. Recommend adding a water alert to detect any leaks early.
- i.2. Water heater.
- i.4. Mid-high efficient gas furnaces.
- i.6. Laundry (washer/dryer).

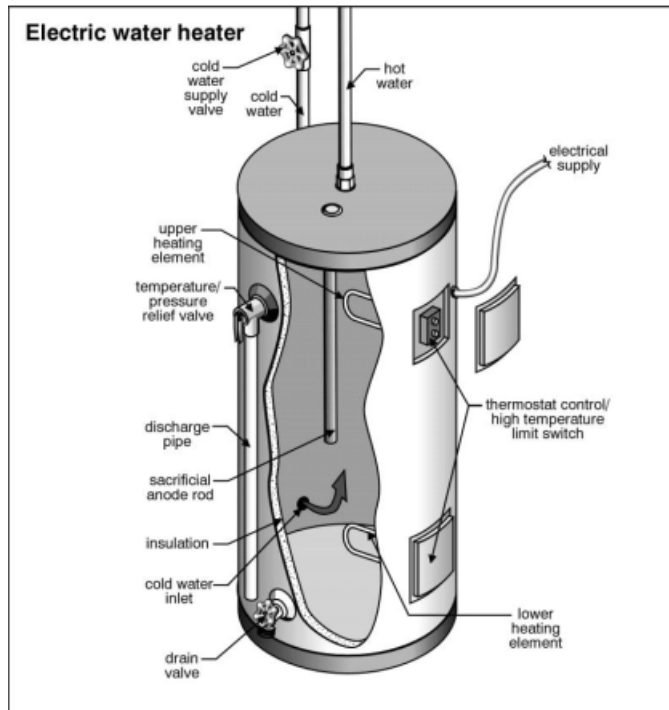
j. Water Heater

j.1. Water heater. Water heaters suffer from numerous minor problems.

j.3. Drain. Stand alone water heaters should be drained yearly. Mineral sediment will accumulate at the bottom of the tank which is typically the lowest point in the water supply. There may be a bubbling or tapping sound emanating from water heaters that need to be drained. This is more common with wells than it is with public water. Draining 1-5 gallons from the tank removes the minerals. The water may be tea or

coffee colored. Sometimes the water in the hot water heater smells of sulfur-rotten eggs. This may be caused by a thinning sacrificial anode. Another cause, typically in vacant houses, desulfobrio, an anaerobic bacteria which like magnesium, can thrive in the water heater and produce a sulfur smell. Action: A plumber can replace the anode. The water heater can be drained, chlorine introduced and purged. In reality, the water heater will get replaced.

Action: Drain the water heater yearly. Note: keep a bucket handy in case the shut off valve does not close entirely.



m. Sink Issues

Gurgle in first floor bathroom sink.

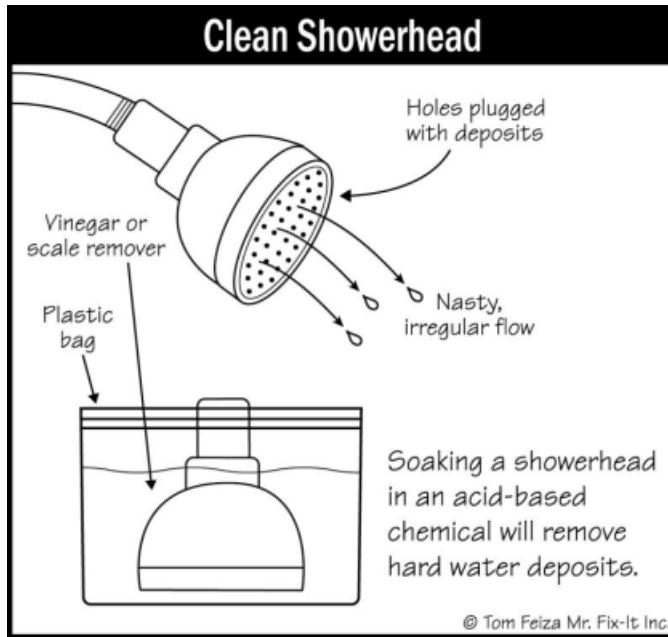
p. Shower Doors/Head

p.1. Shower doors/head. Shower doors are a place where leaks occur due to gaps, poor fittings and the lack of caulk. A shower head should spray water into the stall. On occasion, they spray onto the wall. Some shower heads clog at the parts and deliver low flow.

Action: Caulking is paramount. A sweep can be added at the bottom to help keep shower water in the stall.

Older shower doors may not be tempered glass. Sometimes the doors sag and need to be resecured to the wall. Clean or replace a faulty shower head. The shower head is likely to be less expensive than the wall repair. Address water issues quickly so they don't damage wall and floor surfaces. Shower heads can be cleaned with vinegar and water or a product such as CLR. Teflon tape on the threads may stop leaks on the shower arm or stem.

p.3. Caulk. Caulk is your friend. Caulk all vulnerable areas-the corners, where the wall meets the floor, around the door, at the fixture penetrations, etc.

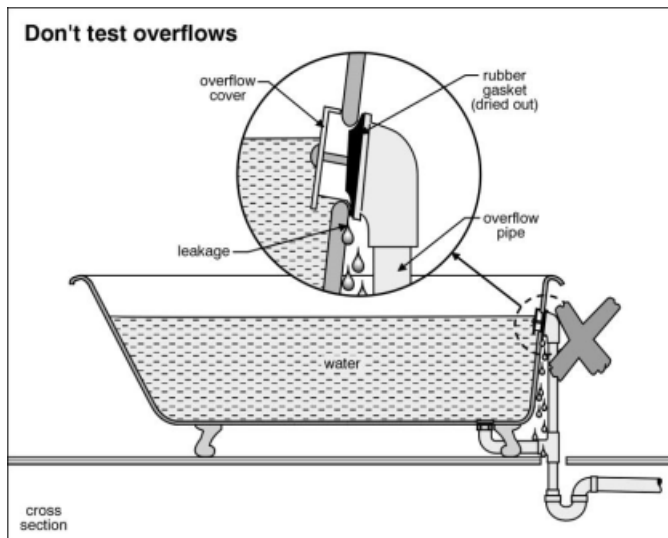


M075

s. Tub Compression Seals

s.1. Tub compression seals.

s.3. No access. If there is no access or if it is sealed, then create an opening about 16" by 16" to access the plumbing supply, drain and compression seal. Sooner or later access will be needed-better to be proactive. The opening can be covered by an inexpensive pre-manufactured access panel. Fill the tub to the drain level and look for a leak. Replace a cracked, deteriorated tub compression seal. Do not caulk or use plumbers putty. Inspection limitations: the tub is not filled during the standard visual home inspection to inspect the tub compression seal. Tubs without access panels cannot be inspected. Often personal property prohibits access. Tubs abutting showers may be very expensive to repair.



Basement, Cellar, Crawl Space, Slab

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Per ASHI Standards: The Home Inspector shall observe and report signs of abnormal or harmful water penetration into the building or signs of harmful condensation on building components.

Basement, Cellar, Crawl Space, Slab

1. Access

1.B. Restricted access notes that finishings, possessions and insulation created a condition that inhibited the ASHI Standard Visual Home Inspection process. A partially or completely finished basement or slab severely restricts a visual inspection. A shallow crawl space, restricts access because the inspector cannot fit in this space. Sometimes environment issues such as water, asbestos, ducting, etc. will restrict entry and access. Stored possessions also restrict access. They are not moved during the ASHI Standard Visual Home Inspection. Best to bring a strong flashlight to inspect all restricted areas during the final walk through when the building is empty and vacant. Restricted access indicates a heightened risk for undiscovered problems.

1.E. Insulation.

1.F. Traversed.

1.G. Fully.

Findings:

Recommendations:

The inspector could not get into the rear crawl space.

2. Under House Space is

2.A. A basement refers to the height of the area below grade or under the building. If everyone can walk around without ducking, then it is a basement. If the area can be converted into a finished space, then it is a basement. It will have solid perimeter walls. Since a basement is below grade, it is subject to water penetration. Water penetrating the building envelope is always a primary concern. Water enters a basement by gravity and hydro-static pressure. Keeping a basement as dry as possible through exterior means and interior efforts is of paramount importance. Radon gas enters a building through the basement.

2.C. A crawl space refers to the height of the area below grade or under the building. A crawl space is aptly named because it can only be accessed by crawling or squatting, not standing. There will be solid perimeter walls, quite possibly only a dirt floor and exterior vents in place of windows. Moisture is typically a concern-exterior water penetration through the walls and floors, high humidity left unattended, unnoticed leaking pipes, etc. Since they are difficult to access, there are often undetected wood destroying insects, rot, pest infestation, freeze vulnerable pipes, fallen and lacking insulation, inadequate vapor barriers, etc. It is very important to keep crawl spaces as dry as possible through exterior and interior measures. Improve ventilation to reduce humidity. Since crawl spaces are not inhabited and vented, there is less of a radon concern.

3. Floor

3.B. Concrete slabs offer a clean finish. Concrete is porous, however. Water can wick through the floor. A concrete floor can puddle any water that penetrates through the walls. Minor hairline cracks are typical. Severe settlement can occur along the wall where the soil was excavated.

3.G. Crawl space.

3.H. A crawl space that is 30" can be entered. Even though it is a deep crawl space, a beam, duct, or plumbing pipes might restrict access.

3.N. Wall insulation will cut down on heating bills (remember to close the vents and insulate over them too-styrofoam panels are best). Existing insulation may need to be reworked, repositioned to allow for a tighter fit; replace if it has gotten wet. New may be needed where existing insulation fell or can be added onto to get a better R value, etc. In high moisture/humidity areas, consider using insulated panels as opposed to fiberglass batting. Remember the foil/paper vapor barrier is supposed to be installed against the finished surface (floor). Also consider adding a vapor barrier on the underside of the floor joists in order to separate the dry framing lumber from the moist crawl space air.

3.O. Partial.

4. Finishing

4.R. Insulated ceiling/wall refers to beneficial attempts to retain heat. While basements are always cool, they can benefit from added insulation. Solid, rigid, or closed cell panel style insulation is better below grade when there is water penetration than standard fiberglass batting. Consider fiberglass in the floor joist bays. Vapor barriers will both help to control and direct moisture. As evaporation is a cooling process, lessening humidity in the lower level will improve comfort.

4.S. Partial insulation refers to room for improvement. While there may be some insulation, more is better. There are openings in the blanket of protection. Improvements can be made to the perimeter floor joists, walls, ceilings, windows, ducts and hot water supply pipes.

4.T. Insulated ceiling/wall refers to beneficial attempts to retain heat. While basements are always cool, they can benefit from added insulation. Solid, rigid, or closed cell panel style insulation is better below grade when there is water penetration; than standard fiberglass batting. Consider fiberglass in the floor joist bays. Vapor barriers will both help to control and direct moisture. As evaporation is a cooling process, lessening humidity in the lower level will improve comfort.

4.U. Partial insulation refers to room for improvement. While there may be some insulation, more is better. There are openings in the blanket of protection. Improvements can be made to the perimeter floor joists, walls, ceilings and windows.

4.W. Dehumidifier recommended will help lessen/lower level humidity in the summer. A dry house is a happy house. A ten pint dehumidifier will handle about 500 square feet. Some houses may need two or even three units. Air conditioners work as effective dehumidifiers, providing the return ducting is sized properly. Fans are useful to move air and desiccate.

5. Lowest Level

5.A. Floor drains are beneficial at discharging water that is on the slab. Not all houses have a floor drain or sump hole where water can be broomed. If there is no floor drain, than a wet/dry vacuum system will be needed to remove water on the floor. If there is a floor drain that drains to the sewer, then consider adding a check valve to stop water from entering the lower level from the drain.

5.B. Yes.

5.D. An outside entrance refers to an egress (door or appropriately sized window) from the lower level. Highlighting this item does not indicate that it meets minimum municipal requirements for a "legal" secondary

means of egress. Best to check with a local code enforcement to make this particular determination. Better to have an egress, even a somewhat limiting one, than none for safety reasons. A basement/lower level bedroom should not be used until either the fire marshal or a code enforcement officer deems the egress as adequate. This determination is outside the scope of the Standard Visual Home Inspection.

5.F. No.

5.N. Hearth forms are a support added under a fireplace or entry stoop during construction. They helped keep the above masonry in place. The forms should be removed. Stoop hearths will rot from rain. Fireplace hearth forms can be a fire hazard. Although the risk is minimal, it still exists.

5.O. Windows and doors not only offer egress but light into a finished lower level. They are also points that can let in rain/ground water. They often weaken the foundations. The cracks over them can develop into significant concerns. Window glass often cracks. Windows rust shut. Doors often need extra weather stripping and dead bolts. Basement windows are not opened because all too often, they will not close easily.

7. Existing Water Control Measures

7.A. Wall sealants are paints applied to the wall. This application lessens dampness and retards humidity but does not stop water. This is a good, useful first step to try to control dampness and brighten the basement.

7.D. A floor-wall sluice is a 1" gap separating the concrete slab from the foundation wall. This channel is designed to collect ground water and direct it to a sump hole. This type of floor is called a "floating slab." The trough needs to be kept clean, free of debris and free flowing. Overtime silt can develop and stop water from draining to the sump pit. It is quite effective. The goal is to stop water from accumulating on the floor. Often the uninformed call a floor wall sluice a French drain. Radon gas can enter the house through the floor wall sluice.

7.G. A sump pump is an electrical pump located in a sub slab pit or crock. It mechanically ejects ground water to the outside. Most municipalities do not want the sump pump's ground water to discharge to the public sewer where it would be treated as soiled or waste water. Some municipalities do not want increased surface water so the discharges plumbed to the public sewer. The sump should not discharge to the septic system since it is both simply ground (not soiled) water and to lessen the amount of water sent to the septic tank/field. A sump pump operates when the float lifts. Be sure the float can rise, it is not restricted. In similar fashion, be sure the float can fall allowing the pump to turn off.



Kitchen

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Per ASHI Standards: The Home Inspector shall inspect: installed ovens, ranges, surface cooking appliances, microwave ovens, dishwashing machines, and food waste grinders by using normal operating controls to activate the primary function. The home inspector is not required to inspect installed and free-standing kitchen and laundry appliances not listed in Section 10.1.F of the ASHI Standards; appliance thermostats including their calibration, adequacy of heating elements, self cleaning oven cycles, indicator lights, door seals, timers, clocks, timed features, and other specialized features of the appliance; Operate, or confirm the operation of every control and feature of an inspected appliance.

Kitchen

1. Kitchen

1.A. Complete.

2. Access

2.A. Typical access means the kitchen-the floor, walls and ceiling as well as cabinets, countertop, sink and appliances are all visible and readily accessible to perform an ASHI Standard Visual Inspection. Kitchens are one of the most dangerous places in the house. Knives are sharp. Burns commonplace. Outlets and appliances can shock. Kitchens are especially dangerous to small children. Be mindful of harsh chemicals-keep them out of reach. Add effective child proof locks. Pets can get into pesticides. The number one cause of household fires is due to unattended cooking. Keep a fire extinguisher nearby and batteries in the smoke alarms.

3. Age

3.C. Updated.

3.E. Completely updated.

4. Exhaust Fans

4.A. An exhaust fan moves cooking exhaust gases primarily smoke, grease, and moisture away from the stove.

4.D. Recirculating exhaust fans simply filter the air of smoke and some grease. They do not remove moisture-humidity created while cooking. Recirculating fans are efficient because they do not send the house's warmed or cooled air outside. Grease filters need to be cleaned. A simple paper towel wetted with mineral spirits can clean the blades and duct. The charcoal filter needs to be replaced regularly. Consider replacing the charcoal filter when you begin using the kitchen exhaust fan. Often recirculating fans are incorporated into microwave hoods.

5. Appliance

5.A. Note: Appliances are not moved, areas beneath are not checked. The appliance ages and replacement probability will be approximated.

5.B. A range(s) is commonly called a stove. The one piece appliance has burners overtop an oven (which contains a baking and broiler element). Clean the gas ports, (baking soda and water works well). Consider boiling the burners. Use a pipe cleaner to clean gas tubes between the pilot and burners. Sometimes special cleansers are needed on glass tops. Clean grease and food particles from around electric burners too. Stoves should be anchored to the floor to prevent them from tipping.

5.C. Heat source.

5.E. Electric.

5.H. Replacement probability.

5.K. Low.

5.Aj. Dishwashers are a convenient, modern time/labor saving appliance. Unlike manual washing which rely on scrubbing, dishwashers clean by using high temperature water. The water heater, usually set at 125 degrees, sends hot water into the dishwasher. An internal coil raises the water temperature to as high as 170 degrees. Newer models may have a strainer over the lower drain that needs periodic cleaning.

5.Am. Replacement probability.

5.Ap. Low.

5.Bf. Disposals grind food stuff sending waste down the drain. They do not have a long life span. They often break and remain in place. They often get mistreated. Be gentle with the disposal. Best to scrape dishes into the trash basket. Grease can cause disposals to clog. Run lots of hot water down the drain when operating. The food stuffs need to flow out of the house. Never reach into the disposal. Look in for anything like silverware that might have accidentally or inadvertently fallen in. Only operate with the cover in place. If the disposal does not operate, check the power and the reset button on the underside of the unit. The disposals cover feed guard/lid/cap should be securely in place prior to engaging. Food stuffs and debris can eject outward and upward when bi-directional vibrators engage. This is an important safety item. Setting the cover feed guard in place forces the user to look down into the drain for something more harmful such as silverware, straws, baby bottles, etc.

5.Bh. Replacement probability.

5.Bi. High.

5.Bm. Batch feed. A batch feed disposal is turned on with an electrical switch.

5.Bo. Disposer guard in place. A disposal cover guard blocks waste from coming back out of the disposal. This is an important safety item.

5.Bp. Yes.

6. Appliances Not Tested

6.A. Appliances not tested. Refrigerators, sub-zeros, freezers, ice makers, wine/beverage refrigerators, portable microwaves, and toaster ovens are not included in the ASHI Standard Visual Inspection. Often they are considered personal property. Verify in the response to the home inspection that they convey and operate. Check them at the pre-settlement walk through too.

6.C. Sub zero not tested/inspected.

6.F. Self cleaning functions not tested.

6.G. Microwave not tested.

10. Unexpected Minor Expenses for This Property May Approximate

10.A. Unexpected minor expenses for the property may approximate.

10.B. Less than \$400.

Kitchen Minor Problems/Points of Concern/Safety Concerns

a. Oven/Range/Stove

Low clearance over stove.



o. Secure Any Paperwork

- o.1. Secure any paperwork regarding items noted in the Seller's Disclosure form or home inspection report.
- o.2. Roof replacement/repairs.
- o.5. Water heater replacement.
- o.6. Kitchen appliances.
- o.7. Kitchen countertops.
- o.12. Interior flooring.
- o.13. Regarding wood destroying insect inspection, treatment and repairs..
- o.20. Sewer drain repair/replacement.
- o.21. French drain installation.
- o.23. Interior/exterior painting.
- o.24. Fireplace flue cleaning.
- o.26. Siding replaced (especially if replacing stucco)
- o.29. Sidewalk repair/replacement.
- o.30. Location of underground drain discharge.

Interior

Confidential: Client may not sell or transfer this report.

Note: You must read all of the information associated with the items reported on this key sheet and contained within the body of the report to have full knowledge of the content of this report. This survey system is a two part system; the verbally disclosed survey and the recorded report. As such, it is not considered transferable. Consequently, the client(s) may not sell or transfer this report.

Per ASHI Standards: The Home Inspector shall observe: Walls, ceilings, and floors; steps, stairways, balconies, and railings; counters and a representative number of installed cabinets; and a representative number of doors and windows. The home inspector shall: operate a representative number of windows and interior doors; garage vehicle doors and garage vehicle door operators; and report signs of abnormal or harmful water penetration into the building or signs of abnormal condensation on building components. The home inspector is not required to observe: paint, wallpaper, and other finish treatments on the interior walls, ceilings, and floors; carpeting; or draperies, blinds, or other window treatments, central vacuum systems, or recreational facilities.

Interior

1. Interior Access

1.B. Restricted by possessions. Restricted access means that possessions make access limited. Doors and windows may be blocked. Furniture makes an area inaccessible. The requirements noted in the ASHI Standard Visual Home Inspection could not be met. Anticipate restricted access as a higher risk. Be diligent in the pre-settlement walk through to uncover any defects.

2. Attic Access

2.C. None. No attic access means the attic was inaccessible. There may not be a hatch or stairs. There should be access if there are ceiling lights. The underside of the roof, rafters, amount of insulation, and ventilation could not be inspected. Since no one has seen this area since construction, there may be concealed issues. Best to create an opening for visual access and to add insulation. Interpret no access as a heightened risk for minor points of concern.

3. Walls

3.A. Plaster.

3.F. Paneling is a manufactured 4'x8' laminated wood wall finish. The edges abut. Small finish nails, and perhaps glue, hold the paneling to the walls. Paneling can be painted. Paneling offers a quick, easily installed wall finish. This wall finish has fallen out of favor for cosmetic reasons. Paneling often retains its stains indicating water penetration. Commercial detergents can clean wood paneling.

3.G. Beaverboard actually refers to two different finish products. One is a pressed fiberboard sheathing. The other is a style of 3/4" thick solid wood paneling often made from knotty pine. It can be refreshed by painting. Take care to seal the knots so they do not bleed through the paint.

3.H. Wall coverings is a generic term referring to wall paper, cork, grass cloth, etc. These are usually a finished product installed to enhance cosmetic appeal. Since they are typically "glued" to the wall, removing them is cumbersome, laborious and time consuming.

4. Ceilings

4.G. High hat or recessed light fixtures are an electrical light that extends above the finished ceiling. They are among the most common features in a home. High hat lights which are positioned in insulation can be a fire safety concern. Older light fixtures required a 1"-3" clearance around them. This gap lets heat dissipate and prevents overheating and the possibility of a fire. Some Hi Hats will shut off when they get too hot. Other, more modern recessed light fixtures, are designed and labeled "IC" allowing direct contact with insulation. Inspection limitation:

The limitations due to existing installation conditions render it impossible to determine the Hi Hat requirements. Consider using a compact fluorescent bulb which generate less heat while in use.

5. Floor Coverings

5.A. Wood.

5.C. Tongue and groove hardwood floors are 3/4" thick. They are nailed in the tongue. A small gap between bonds allows for seasonal expansion and contraction. It can be sanded numerous times, perhaps as many as 8. It is far easier to change to a darker color as opposed to lighter. They can be cleaned and treated with a paste wax. Some uncovered pre-finished oak floor finishings age differently than rug covered floors due to oxidation.

5.D. Face nailed.

5.F. Ceramic/quarry/porcelain tiles are a dimensional finish floor made by molding and firing clay. The gaps between these hard mineral tiles are grouted with mortar. Since the tiles are hard and brittle, they need to be installed over a solid, rigid base otherwise they will crack. Larger tiles are more prone to either crack or have the grout joint crack. Floor tiles in bathrooms especially should have a textured finish to lessen the chance of a fall.

6. Primary Windows

6.A. Wood windows offer good insulation, are durable, and can be painted. Vinyl clad means the outside is wrapped in vinyl, maintenance free, and the inside wood can be stained or painted. The glass panes can be replaced relatively easily.

6.D. Glazing.

6.E. Single insulated glass is only one piece of glass. This is fine in more temperate climates. It is typically found in older construction. Best to add a storm window if possible to lessen heat loss, wear from weather, and condensation.

6.F. Wood.

7. Window Style

7.F. Double hung windows allow both upper and lower sashes to move. Often in older wood double hung windows, the top sash is painted shut. The ideal air flow occurs when the bottom sash is lifted 1/4 of the way up and the top sash 1/4 of the way down and both sashes overlap in the middle. This helps vent hot air and draw in cooler air. Sashes can be lubricated with silicone, WD 40, and soap. Rope sash cords can break. Chains are better. Replacing a sash cord is tedious-trim needs to be removed and reinstalled carefully so it does not break.

7.I. Wood.

7.e. Fixed glass does not vent. It is a piece of glass that cannot be moved or opened. Its only purpose is to let light shine in, not air.

7.h. Wood.

8. Age of Windows

8.B. Upgrades are replacement windows. Sadly, an upgrade does not necessarily mean an upgrade in quality. The original window may have had so many problems that replacing it was the best decision. When considering upgrades, better to buy quality once than cheap windows twice. Just because they are new, it doesn't mean they are good. Sadly, when there are upgrades and originals in a house, there are more problems such as broken seals, in the upgrades and there are fewer problems in the originals.

10. Storm Windows

10.A. Storm windows are either interior or more typically exterior mounted sashes that provide an additional cover to the window. Some are just a panel; others are triple track. These have two sashes and a screen. Storm windows offer more thermal protection, protect the window glass, lessen window maintenance and enhance comfort. In

colder weather, excess humidity can condense on the storm sash pane. Try to reduce household humidity by operating kitchen and bath fans.

10.D. All.

10.G. Condensation evidence.

11. Fireplaces

11.J. Masonry fireplaces are built on site using block, firebrick, a terra cotta liner, metal damper and mortar. A strong foundation is needed to support a very heavy fireplace, flue and chimney. Since each fireplace is constructed on site, they may draft poorly. Masonry fireplaces are durable. Cracked, deteriorated flue liners can be relined. A spark arrestor over the flue will lessen water penetration, protecting the terra cotta liner. The flue needs to be cleaned after about 20 fires to make sure creosote does not accumulate. Creosote can burn twice. Burn hardwoods, not conifers. Keep the masonry joints between the firebrick in the fireplace well pointed as well as any openings in the hearth. The wider the hearth, the better since sparks can jump a great distance. Inspection limitations: Spark arrestor caps are not removed to access the flue liner for inspection. There are often gaps in the mortar between the 18" long terra cotta liners. Hairline cracks are commonplace. Only "readily accessible" flues are inspected. Have a separate chimney flue inspection, using a flue camera, performed by a reputable chimney sweep. Be leery of self-serving chimney sweeps who use scare tactics to sell a relining job. Secure second and third opinions of "dangerous" flues.

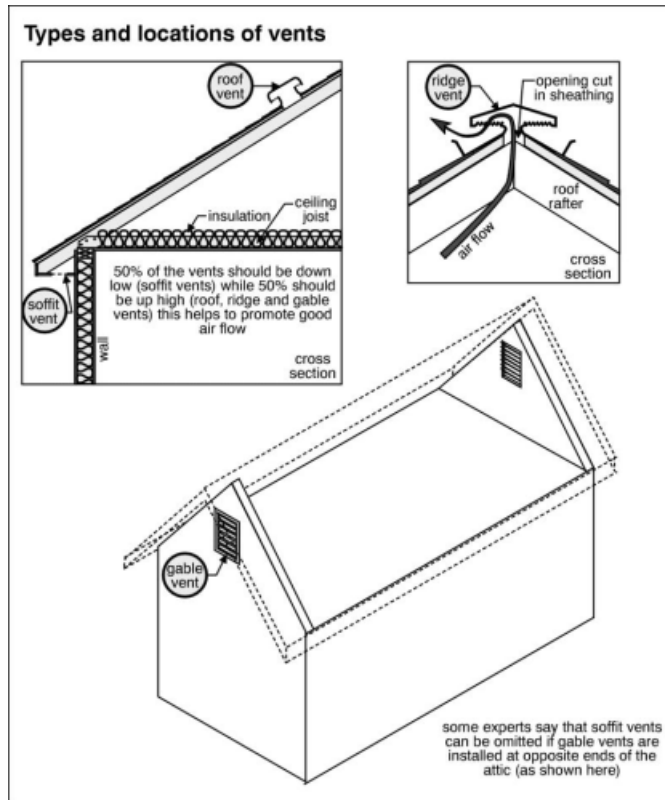
11.K. 1.

11.Z. Access restricted. This is commonplace. Have a chimney sweep inspect and clean prior to use.

13. Attic Ventilation

13.A. Typical attic ventilation does not refer to a theoretical or engineered analysis, rather when compared to peer construction, the ventilation is standard. Attics need to breathe. They need to vent heat and moisture. Modern construction employs a continuous soffit and ridge vent. More ventilation is preferred over less.

13.E. Soffit vents are the perforations through the roof eaves which allow air to enter the attic.



14. Roof

14.E. Leakage probability-High, medium, low, refers to the chance of the leak occurring. This notation is an estimated guess based on current conditions.

14.H. Low.

15. Electrical

15.A. High hat recessed light fixtures.

16. Fans

16.F. Ceiling paddle fans help move air in a room creating greater comfort. Running the blades in one direction moves the air down. Turn the switch on the fan and the blade direction reverses moving air up. Because of wind chill, paddle fans are better at cooling than at distributing heat. Because of their weight and movement, paddle fans need to be anchored tightly to the ceiling. Often amateurs use a standard electrical box and not "listed" fan boxes. The inspection process will not be able to determine the type of electrical box used.

17. Fire/Party/Demise Walls

17.A. Fire/party/demise walls are built to slow down fires from spreading between adjoining living spaces. Buildings should have a physical separation between neighboring units. Party walls will muffle noise, prevent neighboring cats from entering another unit, allow for safe attic storage, etc. Demise walls construction may be visible in the crawl space, basement, garage, and attic.

17.D. Garage.

17.G. Drywall fire walls are built with type "X", 5/8" thick gypsum board. There should be at least one layer on the shared wall of each adjoining unit. The joints should be taped and covered with at least one coat of drywall compound. Nails should be covered also. Sometimes metal tracks are used to seal the drywall joints. Some rooms, like a boiler room, require a fire wall. Daycares have their own special fire wall requirements. The door between the house and garage as well as an attic hatch should be one hour fire rated. Sometimes transite (an asbestos panel) was used to obtain the fire rating.

17.H. Openings. Openings should be sealed asap in order to regain integrity.

18. Misc.

18.A. Overhead garage doors are the heaviest moving object in a home. They can cause injury and death especially to small children and pets. When there is no electric opener and it must be unlocked and opened manually-the overhead door is called a "release" door. Modern installations include motors with remote controls. There are two important safety features, a reversing mechanism and an "electronic eye". An automatic reversing function was required in 1991. The door motion knocks the tension sensor out of proper adjustment. Test the reversing mechanism every six months and adjust the up/down screws on the unit. In 1993, newly installed overhead doors should have a sensor mounted 6" above the floor to detect a break in the beam and reverse the door motion. Since coil springs break, they should have an internal safety wire. A pull cord release disengages the door from the trolley allowing the door to open from the inside when there is a power loss. There should be an outside handle.

18.B. Auto reversing. Auto reversing doors often need their tension sensors adjusted. Check every six months for safety.

18.E. Alarms.

18.F. Smoke alarms are an early fire detection system. Some alarms detect smoke, others are heat or light sensitive. They can be battery powered or hardwired. After 10 years, the sensors can accumulate dust and become ineffective and should be replaced. The batteries need to be changed yearly, typically when setting the clocks back. Best to have one on every level and one in each bedroom. If there is no secondary means of egress from a finished basement, then install numerous "smoke" alarms-one of each different style. Test battery operated alarms monthly and hardwired ones semi-annually. Also install a fire extinguisher near the mechanicals, at the bottom and top of the basement steps as well as near the stove. ABC ratings are the most useful.

18.I. Upgrade. Recommend having one smoke alarm in every bedroom and one on every level. Also, many manufacturers recommend replacing after a decade.

18.O. Paint.

18.P. Fresh paint may have been recently applied to improve the appearance in the house for sale. Other times the paint is intended to conceal cracks, repairs, pet and water stains, smoke damage, filth, and other cosmetic problems. Be circumspect when seeing fresh paint.

19. Exterior Doors

19.A. Exterior doors require ongoing maintenance. They need to be painted. Jambs develop rot. Insurance companies like deadbolts. Double cylinder deadbolts provide better security against theft but can be a hindrance in an emergency. Doors to attached garages should be fire rated. Steel insulated doors are best. Adding weather stripping or a "door snake" will reduce heat loss.

19.B. Glass sliders and French doors allow for easy egress and lots of light. 50 year old doors were often metal sliding with single insulated glass without tempering. Tempered and safety glass break in a way to minimize bodily injury. Sliders are not as secure from burglary. The doors can sometimes be lifted out of place. The locks are not as secure as a deadbolt. Consider adding extra security measures-a prefabricated metal bar, a tried and true stick at the bottom, a "C" clamp mounted to the top track, a toe kick lock, etc.

19.D. Safety glass.

20. Amateur Workmanship

20.A. Recommend improving attic ventilation with a roof fan and also adding deadbolts.

22. Unexpected Minor Expenses for This Property May Approximate:

22.A. Less than \$400.

23. Check With The Following Professionals Prior to Settlement

23.C. Chimney/flue specialist.

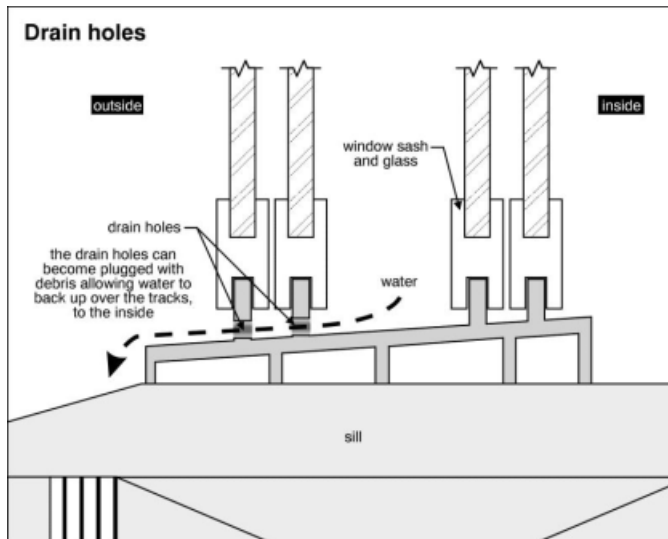
Interior Minor Problems/Points of Concern/Safety Issues

g. Storm Sash

g.1. Storm sashes: Incomplete, broken glass, weep holes. While storm windows are associated with older single pane double hung windows, they are quite effective. They enhance the insulation quality, protect the window from weather and lessen maintenance. Sadly they are often neglected. Sashes may be broken or missing, locks may be broken or hard to adjust, screens torn, etc. Weep holes exist at the bottom of the storm sash frame-look for indentations in the metal about 6" in from the lower corners. Weep holes should be open. Caulk around the frame, but not at the weep holes. They allow air to flow in and out reducing condensation build up. They allow rain water to drain out. Sills will rot if water is trapped between the window and storm window. Frames are often damaged by window a/c units.

Action: Replace broken glass and missing glass storm sashes. Have damaged screens re-screened. Keep the frames, sashes and sills well painted. Lubricate tracks with WD 40, silicon spray, wax or even glycerin. Be sure the weep holes are open and effective. Do not caulk them shut. Caulk with latex caulk around the frames. Open any clogged weep holes. Monitor by looking for any condensation buildup.

g.6. Weep holes. Weep holes need to be open to allow rain water to drain.



i. Fireplace

i.1. Fireplace: Cracked/point up fire box/clean flue/smoky/provide a spark arrestor/ash dump cover missing/damper ineffective/clearance to combustibles. Once fireplaces were the primary heat source, today they provide ambience. Lack of fireplace maintenance is a common household malady. Hot fires can crack the fire brick. Mortar deteriorates around the fire brick at the damper and between flue liners. The brick and mortar help contain the fire. Gaps may exist in the flue between the terra cotta liner. Sparks can escape the liner and potentially burn the framing. Only a chimney sweep using a camera will be able to detect this safety concern. Flues need periodic cleaning-after about 25 fires. Soot can restrict draft. The danger with first degree creosote is that it can burn in the flue. Best to burn hardwoods and not pines. Some flues draft poorly resulting in smoke venting back into the house. The sign of a poorly drafting fireplace is black staining over the fireplace "face." There are lots of reasons for a smoky fireplace-large fire box, short chimney, strong winds, and simply a poorly built fireplace. If the damper is not opened fully, smoke will vent into the house. Dampers can come off their track. Sometimes older fireplaces never had a

cast iron damper. The turn rod may stick or have bent over the years. A spark arrestor will stop animals from entering the flue and even the house. The "cap and screen" will lessen sparks exiting the flue and landing on the roof. Clean ash from the fireplace. Best to put in a bucket and distribute in the garden. If the ashes are put down the ash dump then a smoky smell can occur in humid weather. Hot embers should not be swept down the ash dump. Be sure there is a metal ash dump cover and tight fitting clean out cover in the basement. Always be concerned about containing the fire. There should not be any gaps (open mortar joints) in the hearth. Hearth forms in the basement ceiling should be removed. Wood trim and mantles should be at least 6" from the face. Do not store paper or "fat wood" near the fireplace. Be alert to the potential of a house fire. Older homes tend to have small, narrow hearths. Consider improving them by having a new hearth extend farther into the room. Old fireplaces are an excellent candidate to convert from wood to gas burning. Even electric fireplaces can be quite realistic and distribute a fair amount of heat. If there is a gas fireplace, install a "C" clamp on the damper. This makes sure the damper cannot ever be closed tightly. For safety sake, always use a fireplace screen. Install a nearby smoke and carbon monoxide alarm.

Action: Since there are so many complex safety concerns, have a chimney sweep inspect the fireplace and flue prior to purchase. Have the flue cleaned prior to use. Deteriorated brick or stone as well as mortar can be repaired with a refractory grade mortar. Soot needs to be removed from the flue. The greater concern is first (soft and crumbly) and third (hard and glass like) creosote since it can create a chimney fire. Address the cause of a smoky fireplace. A 3" metal frame on the top of the fireplace opening may reduce smoke rollout. The glass doors may need to be positioned in a particular fashion to help let air flow better into the fire box. Sometimes the fire needs to be built in a particular area, the back to improve venting. Placing brick on the bottom of the inner hearth can change the proportions of the fire box and reduce interior area. Decorative flutes can inexpensively raise the flue height. Sometimes the chimneys need to be warmed or begin to induce a draft. This can be accomplished by putting crumbled up newspaper in the damper and lighting it before igniting the fire. Spark arrestors are inexpensive, effective and easy to install when the flue is accessible. In order to contain hot embers, replace any missing ash dump and be sure the basement access door to the ash pit fits tightly. Proper damper operation is very important. If there is a gap when they are closed, then lots of heat can go up the chimney. One energy saving idea is to put insulation in a trash bag and shove against the damper to lessen heat loss. It can be easily removed when the fireplace is going to be used. Always be concerned about containing the fire. Seal open mortar joints in the hearth. Be attentive to wood trim near the fireplace. Keep combustibles-paper, firewood, rugs, distant from the fireplace. A large sturdy screen is the best first line of defense.

Since there are many technical aspects to a fireplace, hire a reputable chimney sweep to clean and inspect the firebox, damper, and flue prior to settlement. Older fireplaces suffer from a host of safety concerns. It may be best to recondition them for gas or electric or just have them as a decoration. Be leery of a chimney sweep who wants to bring the system up to today's code-this will be extremely expensive and nearly impossible.

Inspection limitation: Flues are only inspected when they are readily accessible. Most commonly the fire box, damper and about 5' over the fireplace and down the flue from the roof can be inspected.

i.12. Clean prior to use.

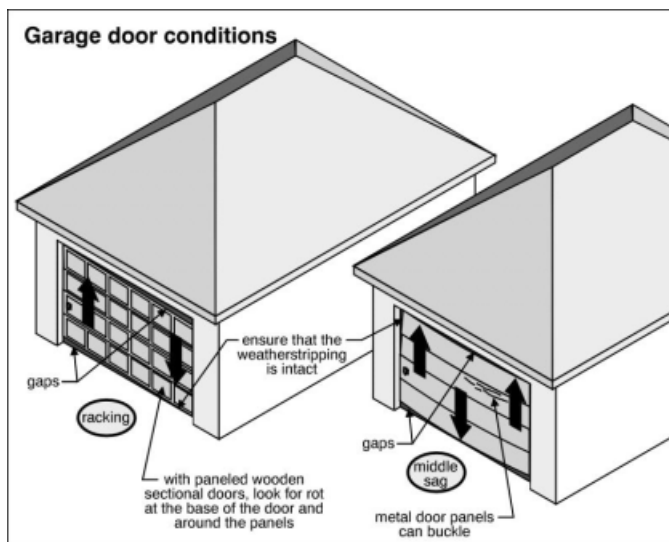


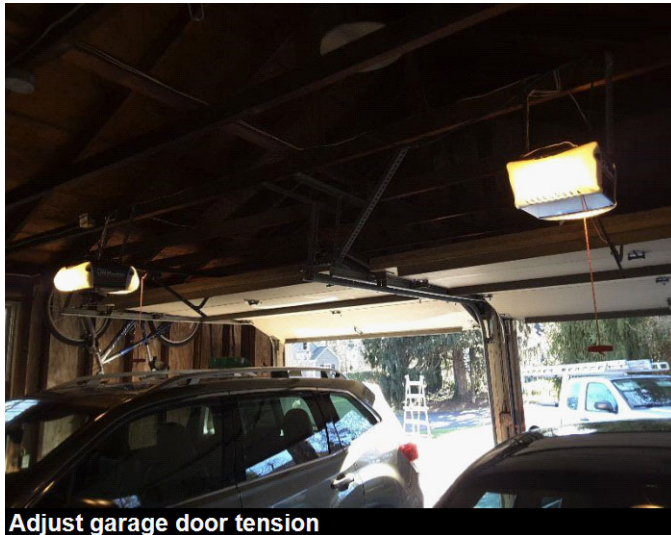
I. Garage Door

I.1. Garage doors are the single largest moving part of a house. Great care for safety must be undertaken. Springs can break-look for large gaps in the coils. The closing tension often loses its effectiveness. Sometimes "electric eyes" are not installed in older units or amateur installations. Keep nuts and bolts tight-they often work themselves loose after years of operation. Keep the doors well painted, especially the wood ones. Best to paint inside and out, paying particular attention to the top, upper edges. Inspection alert: Home inspectors do not check the doors' remotes. Noisy overhead doors may require some minor lubrication.

Action: Install safety wires in the springs. Adjust the tension on the opener to "bounce back up" or reverse when only a small amount of pressure is placed against the bottom panel when closing. Add electric eyes to protect pets, children and possessions from being under a closing door. Inspect the fasteners periodically, tightening as necessary. Outside handles are necessary for safe opening and closing when the overhead opener does not work. Electric eyes need to be repositioned on occasion.

I.9. Adjust garage door tension when closing. This is a safety concern.



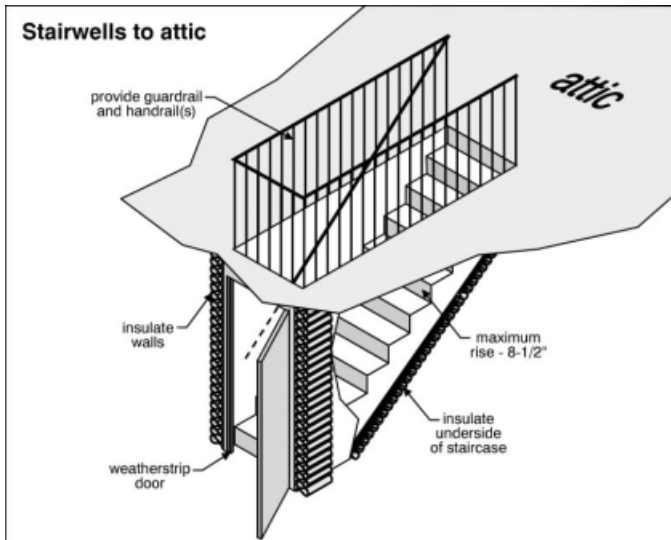


n. Stairs

n.1. Stairs are a common place where people fall. This is for many reasons. The carpet may be loose. Wires or child gates may create a tripping hazard. The risers or treads may not be a regular distance. Older circular stairs may pose special challenges. Some flights of stairs involve a change of direction. Action: Prevent missteps and tripping hazards. Reposition loose carpet or coverings. Remove any item that might catch a heel. Highlight a difficult area with colorful tape. Most importantly, install a sturdy oval railing. If the occupant is elderly, consider a second rail and grab bars at the top or bottom step for added safety. Older homes do not have the same safety requirements as new. By purchasing an older home, the buyer accepts the existing, associated risks.

n.3. Railing needs attention. Make repairs asap for safety's sake.

Loose railing to the second floor.





Interior Major Problems/Points of Concern/Safety Concerns

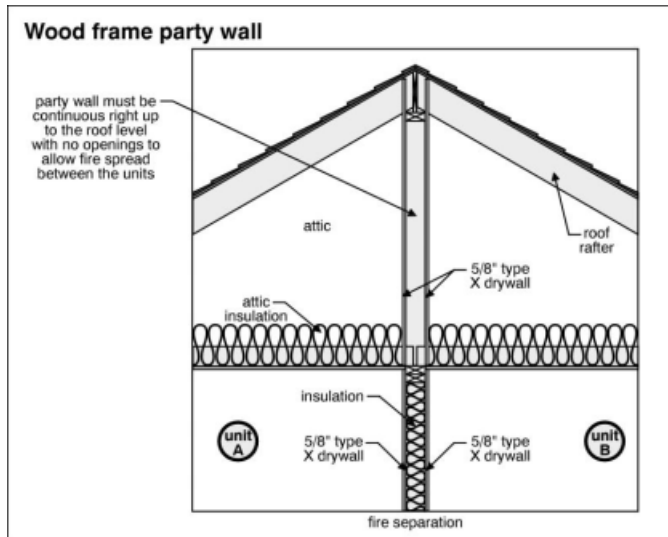
E. Party/Fire Wall

E.1. Party/fire wall. In today's construction, there should be a one hour fire rated wall between the house and the garage as well as between adjoining buildings. There are often openings between the two spaces that can provide a pathway for fire to spread. Walls and ceilings should be covered with a fire rated drywall (two layers by today's standards) and at least one coat of drywall compound over the nails and tape. The door between the units should be a UL rated door. The gable in the garage or attic should be one hour fire rated. The safety requirements have steadily increased over the years. The concern is safety.

Action: This task is best left to a professional contractor. Add protective coverings. Add a double layer of fire rated drywall over a garage attic hatch. Add a metal cover over garage pull down stairs. Add a metal cover or replace the garage to house door with a steel insulated door. Patch any holes or openings. Fire rated drywall may need to be installed on a gable to house wall. Studs and drywall may need to be installed in a common attic-one shared between one unit and another. Repair this safety concern as soon as possible.

E.2. Inappropriate material type. While the finishings may have once been approved, proper coverings need to be applied to obtain fire wall protection.

Missing drywall tape and compound over joints.



Q. Smoke Alarms/Carbon Monoxide Alarms

Q.1. Smoke alarms are an inexpensive and indispensable safety device. Have one on every level and one in every bedroom. Add a carbon monoxide alarm on the sleeping level of the home when there are fossil fuels and/or an attached garage.

Action: Safety first. Install smoke alarms and carbon monoxide alarms right away. Best to use 10 year batteries. Replace smoke alarms that may be a decade old. Either get a smoke alarm and carbon monoxide alarm combination device or install a stand alone CO detector. There are wall outlet plug in versions for a quick and easy installation. Carbon monoxide is the leading cause of poisoning in the US.

Q.2. Missing. Add a smoke alarm immediately.

24021 126 Penn Road, Wayne



Exterior

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Per ASHI Standards: The Home Inspector shall inspect wall coverings, flashing, trim, exterior doors, attached and adjacent decks, balconies, stoops, steps, porches and their associated railings, eaves, soffits, and fascias where accessible from the ground level, vegetation, grading, surface drainage, retaining walls that are likely to affect the building, adjacent and entryway walkways, patios, and driveways. The home inspector shall also inspect roofing materials, roof drainage systems, flashing, skylights, chimneys, and roof penetrations. He shall describe roof materials and methods used to inspect the roof.

Per ASHI Standards: The Home Inspector will not inspect screening, shutters, awnings, and similar seasonal accessories. He will not inspect fences, boundary walls, and similar structures, geological and soil conditions, recreational facilities, outbuildings (other than garages and carports), seawalls, break-walls and docks, erosion control and earth stabilization measures. He will not inspect antennas, interiors of vent systems, flues, and chimneys that are not readily accessible, and other installed accessories.

Secure any paperwork regarding the new roofing, a/c, heater, water heater, kitchen appliances and countertop, windows, doors, radon remediation system; updated tile, flooring; termite treatment, etc. Ask seller/builder about any transferable warranties.

Exterior

1. Exterior Access

1.B. Restricted means the roof, gutters, siding, windows and deck, etc. were both less visible and accessible during the home inspection. Plants, shrubs or ivy may cover finishings. Leaves or snow can limit a visual inspection. Hostile pets or dangerous conditions may prevent access. A complete standard visual survey cannot be completed when there is restricted access. Be sure to check the exterior all the more carefully at your pre-settlement walk through.

2. Roof Access

2.B. Restricted access means only a smaller portion of the roof covering was visible and accessible. The roof may be covered by leaves, snow, moisture, frost, moss, limbs, etc. The roof may not be safe to walk.

3. Roof Inspection Type

3.A. Roof inspection type: Not all roofs can be inspected in the same manner. All visual roof inspections have limitations. The client should check the roof from the underside during inclement weather to see if water is penetrating and small leaks are developing.

3.C. Viewed from edge. Rigid roofing materials may break or get damaged if they are "walked". The pitch may be too steep. The covering might be slippery not just because of dampness but also because of plant growth. Sometimes the best way to inspect the roof coverings is at the edge. This may be from the top of a ladder, or looking out a window or skylight or from a lower porch roof.

3.D. Viewed from ground. Weather will limit home inspection access-snow on the roof or ground, leaves, stable soil. The clients are able to survey the roof from the ground with the home inspector.

4. Roof Pitch

4.A. The roof slope determines how vulnerable it is to leakage and its life expectancy. Not all roofing materials can be applied on every pitch. Pitch is referred to in twelfth increments.

4.C. Moderate roofs shed water but will carry a snow load too. Traditionally covered by rigid or fiberglass shingles. Overlapping joints is important. The shingles and flashings on a moderately pitched roof are more easily accessible and less expensive to repair.

4.D. Low pitched roofs, around a 4 in 12 pitch can be covered by a multitude of materials (shingles and flat roof materials). There is only a slight pitch. They shed water slowly and carry a snow load. Overlapping joints is critical. There may be additional requirements in the underlayments. When fiberglass shingles are installed on a roof pitch that is less than a 4/12 pitch, it may need some added modifications-a reduced reveal or special underlayment. Fiberglass shingles cannot be installed on a less than 2/12 pitch.

5. Roof Locations

5.A. Main covers the majority of the house.

5.B. Porch.

5.F. Addition.

6. Roof Legend

6.A. Roof legend. Roof coverings have life expectancies depending on the materials used, orientation to the sun, amount of attic ventilation and how well they are maintained. Most properly installed roof coverings will reach their life expectancy. Most roofs will be repaired at some point during their life span. Secure any paperwork regarding installation, transferable warranty, and repair history as part of the response to the home inspection.

6.K. Metal roofs are used on both steep and low pitched roofs. Metals, such as copper and zinc, are rigid, durable, long lasting and rather maintenance free. Pitched roofs most likely can't be walked even under the best situations. Flatter roofs most likely can be traversed. Metal roofs tend to be on both older houses and have recently made a resurgence. Styles vary: standing seam, soldered seams, shingles, etc. The roof was installed professionally. Repairs should also be made by a professional. Today's roofers are likely to use roofing cement. Sadly today's roofers can't really solder. It is a lost art. One issue is corrosion. Compatible metals should be used, otherwise galvanic corrosion can develop. Metal roofs should be installed on wood decking, not over asphalt products. Little maintenance is needed. Most older roofs should be cleaned, scraped, primed and painted in order to prolong life. Best to brush on the paint. There should not be any exposed metal, as it will rust and fail. Keep metal roofs well painted to reduce oxidation, thereby prolonging life. Please do not apply tar or asphalt on a metal roof. This type of repair actually harms the metal.

6.M. Cedar shingles/shakes are a tried and true steep and moderate rigid roofing material. They offer a historic look and architectural element. Quite frankly, there are numerous better choices with today's variety of roofing products-fiberglass, slate simulates, etc. A cedar roof should not be walked on since this can damage the shingles. Cedar shingles are smooth sawn on both sides; where as cedar shakes or hand split are rough on the top side. Cedar is a natural product, like slate and clay. Cedar roofs need to breathe. If not installed over spaced lath, then it needs a "breather" installed between the solid sheathing and the wood shingles.

A wide, matrix of factors determine how long a cedar roof will last. Workmanship as always is the most important factor. While the inspector will not be able to determine the nailing pattern, galvanized steel nails should be located 3/4" from the edge and 1" above the exposure line. There should only be a 3/8-5/8 space between the shingles in each course. There should be a minimum of two courses on the starter shingles; three is better. There needs to be a clearance between the grade and any roof siding. The shorter the exposure between each row, the better. Exposure distance is typically 7 1/2" and 10". More layers are better also. 10" exposure usually provides two layers of protection where as 7 1/2" results in three layers. Longer shingles 24" as opposed to 18" offer more layered protection. Interlacing an 18" wide 30# felt paper over each row will help the roof breathe, lessen leaks and extend the wood shingle life. Joists in shingles between rows should be staggered by at least 1 1/2" to provide better layering.

Cedar shingles are available in different thicknesses. The thicker tend to last longer. Blue label are a premium grade of shingles. They are heartwood (no fat), 100% clear (no knots), and edge grain (not flames). The cedar needs to dry out. Consequently, the orientation to the sun is a factor. Shaded portions of the roof will age more quickly. A dry roof is a happy roof.

Cedar roofs are high maintenance. Without periodic 5 to 10 year protective treatments, cedar shingles can buckle and rot. Remove overhead branches that could fall and damage the soft wood shingles. They also result in the

cedar holding water longer. A gentle power washing can clean the roof of moss and mildew. Despite its "charming appearance", any moss growing into the organic cedar shingles needs to be removed. Moss grows into the shingles and holds moisture against the wood. Cedar has a natural water resistant quality. Over time, the oils leach out. The shingles/shakes can be re-oiled. They can also be stained to change their color. Cedar shakes can be repaired. Uneven drying causes the shingles to curl. A roof or gable fan with a humidistat can help dry out the roof and extend its life. Exposed nails need to be caulked. Home owners insurance may be greater because of a historic greater chance for leaks and since wood shingles have a poor fire rating. When cedar becomes soft and spongy, it is at the end of its life. Another sign is deep developing cracks between the bottom and top edges. When replacing the wood roof, first new sheathing, improved ventilation and then new shingles. This is an expensive process.

6.N. Open.

6.P. Felt.

7. Age

7.A. Age. Verify the actual age with the seller. Reference the Seller's Disclosure Sheet.

Various roof ages on the cedar shingles.

8. Layers

8.A. 1. One layer is best.

9. 5 year Replacement Probability

9.C. Low.

13. Repairs to Roof/Flashing

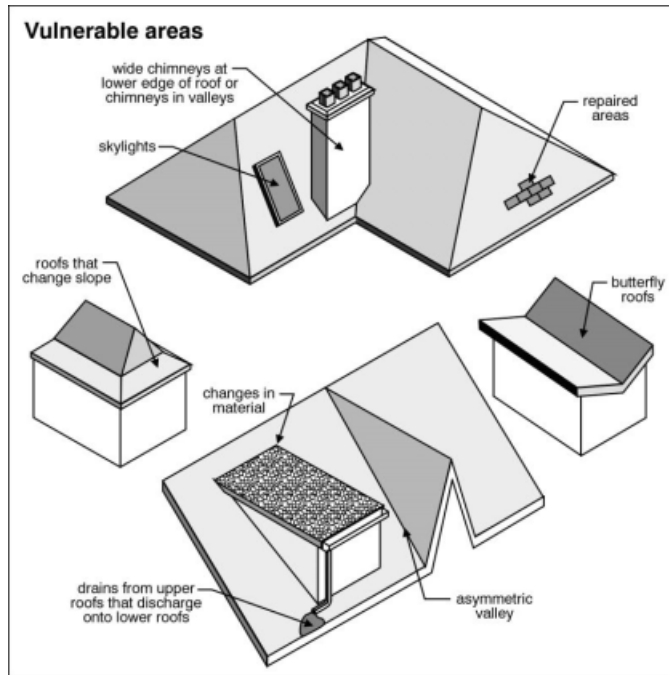
13.A. Repairs to both the roof and flashing is simultaneously a good and bad thing. Repairs indicate a previous failure. Flashings leak. Shingles blow off. Ask the seller about the cause and the repair and when it was completed. Repaired areas are more vulnerable to leak again. There is a heightened risk of another leak and concealed damage.

13.B. No kick out flashing. This important piece of flashing protects the structure under the roof/gutter end/siding intersection.

14. High Maintenance/Vulnerable Areas

14.A. High maintenance/vulnerable areas. Only in the rare instance do roofing systems not leak at some point during their life span. Severe weather will reveal a weak spot. Roofs require maintenance typically around the flashing points. Shingles blow off and become loose. Nails back out. Fewer and fewer roofing companies want to simply repair a roof. They want to replace them, making thousands of dollars instead of hundreds. The life expectancy of most roofs can be prolonged with modest repairs in these high maintenance/vulnerable areas.

14.B. High maintenance and vulnerable areas will lead to leaks. Flashings leak. Seal around chimneys. Replace vent collars-the roof shingles may last 30 years; but not the vent collars. Rain needs to run off a roof. Valleys need to be clean and free flowing-periodically remove all tree debris. Add gutters on dormers to control the flow of water. Extend downspouts across the roof to lessen wear spots. Add a diverter around skylights and flues in the field shingles. Roofs need periodic maintenance-shingles tear, become loose (especially at the edges), nails back out, exposed nail heads need to be caulked. It is only a popular myth that roofs are maintenance free.



16. Mold/Moss/Discoloration

16.A. Mold, moss, and discoloration indicate the roof covering is holding moisture. These plants can damage the roof covering. Best to have the roof be dry. A roof fan with a humidistat can help a wood shingle roof dry out more quickly. This condition restricts both visual access and will likely make the roof impossible to traverse safely. There is a heightened risk of concealed damage. This condition can be remedied by a "roof shampoo". This can be accomplished professionally or by an able home owner. Caution needs to be undertaken since it is dangerous to be on a roof using water and an inattentive job could damage the roof covering.

17. Gutter Style

17.B. Attached gutters are affixed to the fascia. The best method for controlling roof water is to have the rain fall off the roof into a gutter. They perform predictably well. They must be kept free flowing. Clean gutters regularly, often two or three times a season. Do not let water overflow the gutters. Address this condition promptly. Downspouts need to be attached to the building. Drip cap can be added under the first course of shingles and directly into the gutters to assure the rain flows into and not behind the gutter.

18. Gutter Material

18.A. Aluminum gutters are commonplace today. They are seamless, machine produced, easy to install and available in a variety of colors. Seams and joints are sealed with a silicone type caulking.

19. Gutter Condition

19.A. Screens. Recommend adding gutter screens. Gutter screens help keep the gutters free of debris and allow rain water to flow freely. There are innumerable styles for different applications. Typically, the more expensive the more effective. Plastic netting screening is generally worthless. Every 5 years or so, the gutters will need to be cleaned of smaller particulate. A strainer installed at a roof drain will help it clog less frequently. No one likes cleaning their gutters. Good quality gutter screens significantly help water management around the building.

19.B. Underground drains attached to the downspouts direct water away from the foundation. They must be kept clean and free flowing. Do not let the discharge point clog. Often there is a port to aid in cleaning. A drain that does not drain is not a drain! Check bi-annually. Older drains are often abandoned and cannot be reactivated.

20. Siding Material

20.P. Stucco is an exterior siding material made from Portland cement, sand, lime and water. Hard coat stucco is cost effective, versatile and durable creating a variety of architectural effects. It is the least expensive masonry finish. Stucco is troweled on by hand wet and dries hard.

Stone veneer siding is known as "lumpy stucco". The manufactured stone is relatively water impervious, but the mortar joints are stucco. Stone veneer installation follows the same procedures and requirements as hard coat stucco.

There are three types of application. Originally the stucco finish was applied over a masonry-stone or brick. The wet finish bonded integrally with the masonry substrate. In older applications, hard coat stucco was applied over wood boards with excellent craftsmanship, paying attention to numerous details. Today's stucco is applied over panels, plywood or oriented strand board (OSB).

Stucco is installed over horizontal, galvanized steel wire lath that is nailed to the wood boards or sheathing panels. A weather resistant tar paper or building wrap (Tyvek) protects the wood framing from moisture that inevitably passes through the porous stucco. This weather barrier not only prevents exterior water penetration but allows interior water vapor to escape. There should be two layers of vapor barrier. The first layer is considered a sacrificial cover. The second layer facilitates weather resistance. The inspector will not be able to observe the condition or number of layers.

Thickness matters, the thicker the better. Two coats of stucco is called parging. Hard coat stucco has three coats-scratch, brown, and finish. The last coat contains the final color. Modern stucco should be 7/8" thick. Numerous details are needed to protect the wood structure from water penetration. The weep screed is located at the bottom of the framing. The weep screed provides an egress for any water that has penetrated the stucco finish. Drip cap over doors and windows directs water away from these vulnerable openings. Expansion joints help control cracking in large square foot applications. Since stucco is hard, it is brittle. Small hairline cracks are typical. Avoid earth and roof contact to prevent wicking or capillary action. Proper flashings around openings-windows, trim, utility penetrations is imperative. Kick out flashings (a small piece of metal installed at the intersection of the stucco, roof and gutter) are intended to direct water into the gutter, preventing water from getting behind the stucco in this most vulnerable location. Without proper gutters and downspout discharge, water may soak stucco surfaces. In short, when details are omitted, significant problems develop when water/moisture gets behind the hard coat stucco and comes into contact with framing. The purpose of siding is to protect the wood structure from water.

20.U. Brick is durable, solid masonry siding product. It is a time tested building material. Individual pieces are adhered to each other with mortar. As the mortar deteriorates, it can be replaced. This process is called "re-pointing".

Brick is a manufactured material. Brick is kiln fired.

21. Chimneys

21.A. Chimneys contain a flue that vent noxious gases.

21.B. Chimneys on the gable end tend to draw well. There is a smaller amount of flashing that could result in roof leaks. Chimneys on gables tend to leak into attics.

24. Trees

24.A. Trees: Large/overhanging may potentially damage the building. Roots can push against foundations or pry up concrete slabs. The roots can block sewer drain lines. Leaves can clog gutters. Falling limbs can damage roofs and siding. Trees increase exterior maintenance.

24.B. Large. Large means if the tree or limb falls, it can hurt the house.

25. Drainage

25.A. Recent improvements/repairs made were undertaken to address a problem/situation. Water management is crucial to keeping a basement dry. It is not a one time effort, rather ongoing. A swale needs to carry water around the house. Downspouts need to be extended. Grade at the foundation wall needs to carry rain water away from the house. Small holes or depressions need to be filled with soil. A plastic vapor barrier under the deck will drain water away from the basement or crawl space. Small, inexpensive efforts make a big difference.

25.C. Swale. A swale is a "v" shaped depression that is purposefully designed to carry water away from the building and not let yard water drain towards the structure.

25.E. Close to house. The further away from the house, the better.

26. Improvements (Not Inspected)

26.E. Retaining walls attached to the building are inspected. Detached retaining walls are not included in the Standard Visual Home Inspection. Retaining walls stabilize the uphill soil. Best to have the earth be at the top of the wall allowing any water to overflow. If the soil is below the upper lip, water will accumulate against the wall adding greater weight. Weep holes help drain water from behind the masonry wall, lessening hydration pressure. The more water in the earth, the greater force against the wall. Retaining walls are often undersized. Since there is no weight over the wall pressing downward, these walls lean over time. Repairs are difficult and expensive.

27. Site

27.A. Houses above the street level tend to have better onsite grade resulting in less water penetration into the basement. It is easier to direct water away from the building when the yard is sloped.

27.B. Risk. Every property has risk of water flowing toward the house. If the house is above the street, then the surface water will make the uphill wall more vulnerable.

27.C. High-The grading should be improved. Downspouts can be extended. Soil can be added against the foundation. Holes and depressions can be filled. Swales can be deepened to facilitate flow around the building.

28. Yard

28.B. Rolling yards can carry surface water away from the house.

29. Driveway

29.A. Driveways should not be sloped toward the house. They should shed surface water away from the garage/house.

29.D. Asphalt driveways are popular. Depressions can be filled with Sakrete. They need periodic sealing, typically every five years. Anticipate spider web cracking. They tend to last about 20 years.

30. Attachments

30.A. Porches are covered by roofs. Almost the entire structure is exposed to the elements. The roofs need to shed water. They typically have low pitches and are more prone to leak. The columns are structural. The low pitched decks are traversed and more likely to rot. Foot traffic causes deterioration. Carpets hold water. The decking is a roof to the structure below. Older porches were not built with pressure treated lumber. Wood always seems to need painting. Masonry needs pointing. Since the wood is close to the soil, termites attack. The soil should be covered by a vapor barrier too. Porches are probably the highest maintenance area in a house. Decks are elevated exterior platforms. Just like finished basements, decks are often built by home owners. The rules pertaining to construction tighten each year. Flashings between the ledger and house will keep water from damaging the structure. The ledger needs to be anchored to the house. Typically one lag bolt/screw for each joint. Joist hangers secure the joists to the ledger. Joists 16" on center use more labor and material than 24" on center. Fasteners should anchor the joists to the beam. It is best to bolt the beam to the columns. 6x6 columns offer more support than 4x4. Notched columns offer direct bearing to the beam. Metal supports at the bottom of the columns and anchored into the footers create a solid contact point. When the base of the column is above the concrete footer, less rot develops. Footers should descend below the front line, about 36".

Stairs from the ground to the deck need an oval railing and balusters to prevent falling accidents. Railings need to be about 32" over the deck or bench. Openings between the vertical balusters need to be small enough to protect small children (about 4").

Since all of the decks structural elements are exposed to the elements, ongoing maintenance is imperative. Better to maintain than replace. Clean (pressure wash) and seal the deck every other year. Reset rising nail heads. Affix loose railings and deck boards. Replace cracked deck boards. Be sure columns are still plumb. Look for water penetrations at the ledger flashing.

34. Unexpected Minor Expenses for the Property May Approximate

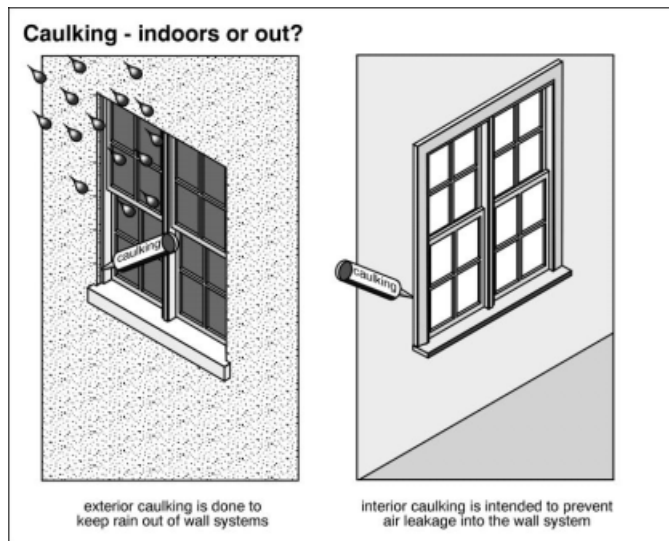
34.A. Less than \$400.

Exterior Minor Problems/Points of Concern/Safety Concerns

k. Caulk

k.1. Caulk-Windows, door thresholds, utilities, slabs, etc. Caulk is your friend. It protects the wood structure from water penetration. Caulking is inexpensive, time consuming and very effective. Caulking joints gives you immediate results. As the carpenter says, "Do your best and caulk the rest". Water will find a way in. Caulk around doors and windows. Poor flashings allow water penetration. Caulking the outer joints can prevent water from even getting to the flashings. Caulk the header (top), sides and sills. Seal around thresholds. Caulk all openings-electrical wires, a/c lines, vents, shutter fasteners, etc. Also seal slab to house joints. This may be the front stoop, rear door step, drive to house joint, etc. Caulk often. Don't forget the roof flashings-especially step and counter flashings. Buy good quality caulk, since the greatest expense is your labor.

Action: Clean all surfaces thoroughly. You don't want the caulk to adhere to dirt. Anyone can caulk. Be sure to caulk when painting. Add caulk around surfaces when doors and windows get replaced. Select the right caulk for the job.



p. Landscape

p.1. Landscape/grading/swales. The soil or grade needs to slope away from the house. The goal is to have gravity carry water away. The slope or grade is usually one inch per foot for the first eight feet. The first few feet are the most important. The goal is to keep the foundation dry. Dry soil exerts less pressure on the foundation wall than does wet soil. Do not allow the grade to slope toward the house. Correct the negative condition. Keep all drains, swales, basins free flowing. A swale is a purposeful cut in the soil which channels surface water away from the house. They are usually 2-3' wide and a foot or so deep. Catch basins are boxes in the ground that collect water. A drain carries this collected water downhill and away from the house.

Action: Improve the grade around the house. Fill in depressions. Improve the grading with dirt, not mulch. Remove the mulch. Add soil to raise the grade. Replace the decorative mulch. Add a plastic vapor barrier along with some ballast under the deck. A catch basin with a drain pipe may be needed to carry water away on a flat or poorly contoured yard. Swales need to be free flowing. Be sure not to let new landscaping disimprove the existing grade or swale. Anyone can improve the grade, but a professional landscaper might also help.

p.3. Rear. Improve grading.

