



**NOTICE TO BUYER: SELLER-PROCURED INSPECTION REPORT**

The following notice is given with respect to the Purchase and Sale Agreement dated \_\_\_\_\_  
between \_\_\_\_\_ ("Buyer")  
and **Duffy Revocable Trust** \_\_\_\_\_ ("Seller")  
concerning **13500 171st Ave NE Redmond WA 98052** ("the Property").

Seller has given or is giving Buyer the following Inspection Report(s) concerning the Property (check all that apply):

- ☒ Whole House Inspection
- ☐ Sewer Inspection
- ☐ Pest Inspection
- ☐ Other: \_\_\_\_\_

The Inspection Report(s) are intended to be a part of any Seller Disclosure Statement (NWMLS Form 17) that is provided in this transaction, whether or not the two documents are attached to each other. The Inspection Report(s) were procured by Seller and are provided for informational and disclosure purposes only. The Inspection Report(s) are not intended to constitute a warranty, either express or implied, about the condition of the Property. Buyer is advised to procure their own inspections from professional inspectors chosen by Buyer or hire the inspectors that prepared the Inspection Report(s). Buyer has the opportunity to inspect the Property to Buyer's satisfaction.

  
\_\_\_\_\_  
Seller DATE

  
\_\_\_\_\_  
Seller DATE

**Buyer's Acknowledgment of Receipt**

The undersigned Buyer acknowledges receipt of the foregoing Notice and the above-referenced Inspection Report(s).

\_\_\_\_\_  
Buyer DATE

\_\_\_\_\_  
Buyer DATE

**Tim and Jackie Duffy  
13500 171 Avenue NE  
Redmond, WA 98052**

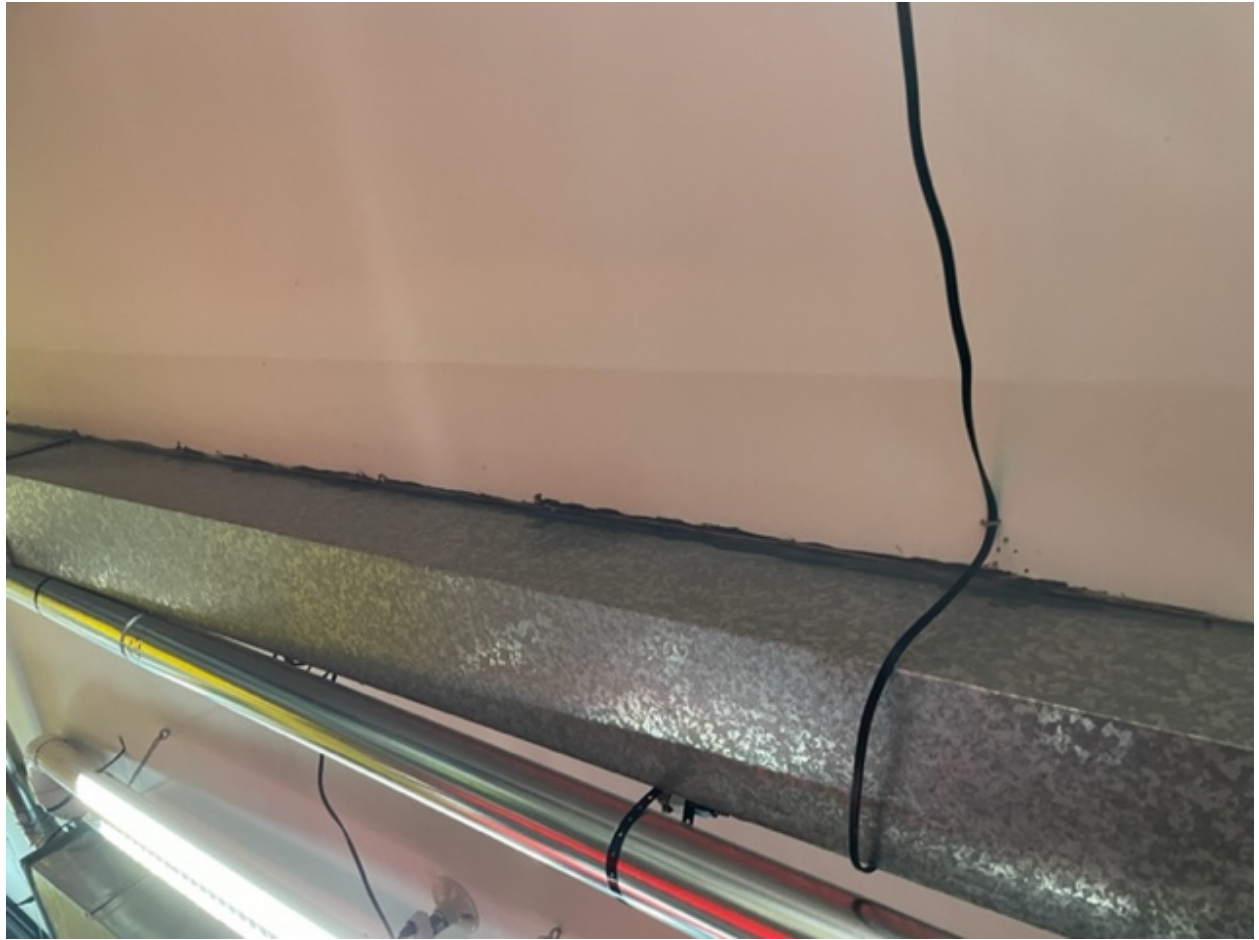
**Per the seller, the following items listed on the pre-sale inspection summary dated February 12, 2022 have been corrected by the seller as part of preparation for sale in good faith.**

**1) The following actions items have been completed by seller as of February 22, 2022**

- 6.3 Garage Door Opener – Replaced by Precision Garage Door on February 22, 2022
- 6.4 Fire Separation – All gaps around ducting sealed with Fire Block caulking
- 6.7 Receptacles – GFCI installed in garage East wall
- 7.14 Receptacles – Outlet on the West wall has been tightened
- 7.15 See 6.7
- 11.16 Powder room toilet was pulled, re-sealed and reset by Pioneer Plumbing on February 21, 2022
- 13.10 Gas piping is secured per code
- 15.4 Damper – C-clamp has been installed
- 3.3 Pest Control – Terminix performs an inspection and treatment for pests inside and out on a quarterly basis
- 3.4 Soffits – All gaps have been sealed with caulking as recommended
- 4.3 Skylights – Skylights have been secured with stainless steel screws
- 9.5 Expansion Tank – Expansion tank inspected by Pioneer Plumbing on February 21, 2022. The expansion tank is installed per code. Seismic strapping is not recommended, nor available for tanks of less than 5 gallons. Please see the comments in their report following the inspection report.
- 19.4 Vapor Barrier – Vapor barrier issue will be addressed and repaired by Terminix on March 15, 2022
- 19.5 Pest control – See 3.3



















February 14, 2022

**Mr. & Mrs. Tim & Jackie Duffy  
13500 171st Ave NE  
Redmond, WA.**

**Re: 13500 171st ave ne  
Redmond, WA.**

Dear Tim & Jackie;

At your request, a visual inspection of the above referenced property was conducted on 02/12/2022. We have inspected the major structural components, plumbing, heating and electrical systems for signs of significant non-performance, excessive or unusual wear and general state of repair.

Clark Inspections inspectors, inspect all homes and buildings according to the stringent professional standards and code of ethics set forth by the American Society of Home Inspectors (ASHI). The ASHI standards are designed to identify and disclose to the client certain conditions of the major systems as these conditions exist at the time of the inspection. These standards are designed for a visual inspection of the readily accessible areas of the included system. A copy of these standards will be provided upon request or can be obtained by calling the ASHI automatic "Information-On-Demand" phone number at 1-800-743-2744

Home or building inspections performed under these standards should not be construed as a compliance inspection of any governmental or non-governmental codes or regulations. Inspections performed under these standards are essentially visual; are based on the experience and opinion of the inspector; and are not intended to be technically exhaustive. Inspections performed under these standards are not meant to be warranties nor guarantees of adequacy of performance of the structures, systems, or their component parts.

This inspection does not include an inspection for construction or other materials which might be hazardous to your health. It is possible that such materials may be present and not noted in this report.

This inspection does not include the testing or inspection of security systems, intercoms, communication systems, video, or sprinkler systems. These items are highly specialized and individualistic. Clark Inspections recommends that you have the seller and/or real estate agent/broker demonstrate the operation and serviceability of these systems to you prior to the closing of the sale.

Mechanical equipment is inspected for operability only and may contain undisclosed defects which may significantly impair it's usefulness.

Defects are examined and a determination is made on how a particular defect will affect interrelated building parts and whether immediate repairs are required.

Since all buildings have defects, it is important to know and understand what they are and how they affect the house and property. Some of the defects mentioned in this report may be quite typical, and found in other homes of comparable age and price. Some however, may not. We make our best attempt to distinguish this for you in both verbal and written reports.

## REPORT SUMMARY

The comments in this report are categorized. General information is given on the type of materials and construction methods. Specific information is given pertaining to the condition of a component and applicable repair and maintenance work that may be required.

Statements, representations, or conclusions offered by the inspector are the considered opinion of the inspector, but these statements, representations, or conclusions do not constitute an expressed or implied warranty of any kind. Neither the inspector nor Clark Inspections Inc. shall be liable for any direct, special, incidental, or consequential damages under an circumstances whatsoever, whether arising in tort, negligence, or contract, nor for any loss, claim, expense, or damage caused by or arising out of his or its inspection of a structure, nor will the inspector or Clark Inspections Inc. indemnify or hold others harmless for any loss, claim, expense, or damage arising out of his or its inspection of a structure.

## ACTION ITEMS, SIGNIFICANT DEFECTS AND/OR HEALTH AND SAFETY ISSUES

Non-operational (Action) items, safety or health issues, areas with limited viewing for proper inspection and components that do not serve their intended function (Significant Defects) are listed here. These items will likely require further evaluation and repair by licensed tradespeople.

**Please Read entire report**

## GARAGE

### ATTACHED GARAGE

#### 6.3 GARAGE DOOR OPENER

There was no photo-eye sensor installed for the south garage door to offer protection for small children and/or pets. We recommend that a photo-eye sensor be installed for the garage door at a height of within 4-6" of the floor.

#### 6.4 FIRE SEPARATION

There are voids in the fire resistive barrier between the living space and garage that will allow flames to penetrate. The gypsum barrier slows the spread of a fire from the garage to the structure and/or living space. Patching the voids with a fire retardant caulk is recommended.

The pull down ladder is a breach in the fire resistive barrier in the garage. This is a safety concern. The gypsum barrier on the ceiling slows the spread of a fire from the garage to the attic. The installation of a layer of 5/8" gypsum type X board over the 1/4" plywood is recommended.



#### 6.7 RECEPTACLES

There are unprotected receptacles in the garage. The installation of GFCI protection for all of the garage receptacles is recommended.

## ELECTRICAL SYSTEM

### 7.9 SERVICE PANEL

Screws that secure the panel cover to the panel box are missing. This is a potential hazard. Missing screws

should be replaced with the original style blunt end screws.

#### 7.10 SUBPANEL

Screws that secure the panel cover to the panel box are missing. This is a potential hazard. Missing screws should be replaced with the original style blunt end screws.

#### 7.14 RECEPTACLES

The receptacle on the west wall of the garage is loose. This is a potential shock and a fire hazard. All loose receptacles should be repaired as necessary.

#### 7.15 GFCI RECEPTACLES

The installation of additional GFCI protection in the garage receptacles is recommended.

The installation of just one GFCI outlet for protection of each circuit is recommended.

### KITCHEN

#### 10.8 AIR GAP

The dishwasher drain lacks an air gap. The dishwasher will function without one, but there is a risk of contamination of the inside of the dishwasher by waste water. The installation of an air gap is recommended.



### BATHROOMS

#### MAIN FLOOR BATHROOM

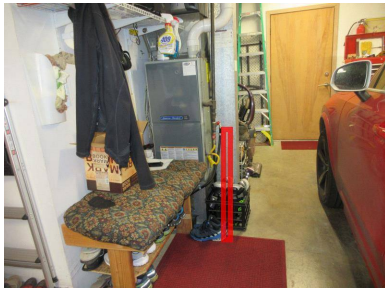
#### 11.16 TOILET

The toilet is loose where it mounts to the floor. A loose toilet will eventually start to leak and will damage the flooring material, underlayment and subfloor. The most reliable fix for this condition is to remove the toilet and install a new wax seal. The toilet should then be securely mounted to the floor.

### PLUMBING SYSTEM

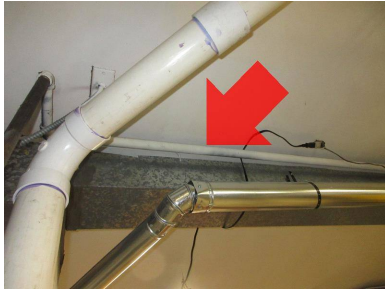
#### 13.10 GAS PIPING

The gas pipes in front of the furnace and water heater are not protected by a bumper stop. A vertical steel pipe, bolted to the floor, is typically installed in front of the water heater to prevent a car bumper from damaging the gas lines.



The gas pipe in the garage was not adequately secured. This can damage the pipe. The gas pipe should be secured in accordance with industry standards.





### 13.12 SEPTIC SYSTEM

The house uses a private (septic) sewage disposal system. The septic system was not inspected. Our general house inspection will sometimes reveal major defects in the septic system (e.g., complete blockage, complete drain field failure), providing that it is not raining and the ground is dry. However, we still recommend that you have the septic tank pumped out and the septic system inspected by a qualified septic system service company, prior to the closing of the sale. Ask for a "Septic Tank Operational Report". It is also recommended that you have the tank pumped out every four years and avoid introducing grease and non-biodegradable foreign matter into the septic system.

## INTERIOR

### 14.7 SMOKE DETECTORS

Smoke detectors are examined for location only. They are not tested. Smoke detector batteries should be replaced when you move in and every year thereafter. Once batteries have been replaced, the smoke detectors should be tested for proper operation.

**FOR MAXIMUM PROTECTION:** Use both Ionization and Photoelectric smoke alarms in every bedroom/hallway on every level of your home.

At least one carbon monoxide monitor should be installed for each floor. The best place to install the monitor is in an open area near the gas appliance.

## FIREPLACES, WOOD STOVES AND SPACE HEATERS

### 15.3 GAS LOGS

The gas log was tested and was functioning as intended. When operating this gas log, make sure that the fireplace damper is open otherwise deadly combustion gases will spill into the room. The installation of a carbon monoxide detector in the room near the fireplace is recommended as a safety upgrade.

### 15.4 DAMPERS

A C-clamp should be installed on the fireplace damper to prevent full closure. This is a safety measure designed to insure that carbon monoxide does not spill out into the room in the event that you forget to open the damper after lighting the gas log.

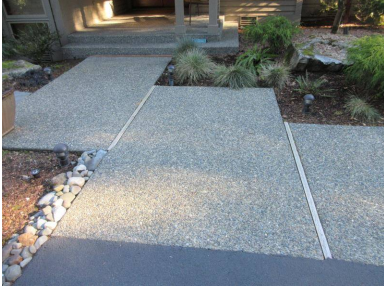
## MAINTENANCE ITEMS AND/OR COMPONENTS NEARING THE END OF THEIR SERVICE LIFE

Any item that in the opinion of the inspector is nearing the end of its normal service life and/or conditions that need repair, maintenance and/or upgrades, but have not affected basic functions are listed herein.

## BUILDING SITE

### 2.5 WALKWAY

When the wooden dividers separating the concrete walkway sections have deteriorated to a point where they become a trip hazard. Replacement with mortar is recommended.



## BUILDING EXTERIOR

### 3.3 PEST CONTROL

Untreated wood in direct contact with concrete was observed along the porch stoop. Untreated wood should be raised 1-2" above the concrete. Treating the wood with a preservative sometimes will prevent wood destroy organism damage.



### 3.4 SOFFITS AND OVERHANGS

There are large gaps over 1/4" in size adjacent the soffit vent blocks. These gaps allow insects and rodents to enter the attic. Covering the gaps with screening, a strip of wood and/or caulking is recommended.



## ROOF

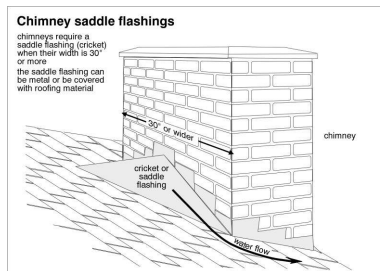
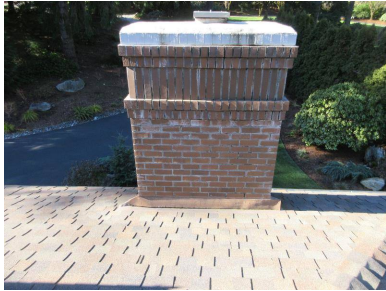
### 4.3 SKYLIGHTS

The skylights over the deck are not secured to the roof. Skylights can get blown off roofs during high winds if they are not secured. Fastening the skylights to the curb with plated or stainless screws is recommended.



#### 4.4 CHIMNEYS

There is no cricket on the up-slope side of the living room fireplace chimney. This is conducive to leakage. Consideration should be given to installing a cricket to divert water around the chimney.



### ATTIC

#### 5.1 ACCESS

The access opening to the attic is too small by today's standards. The rough framed opening should not be less than 22 inches by 30 inches. Modification of the access opening is recommended for inspection and servicing of components in the attic.



#### 5.2 VENTILATION

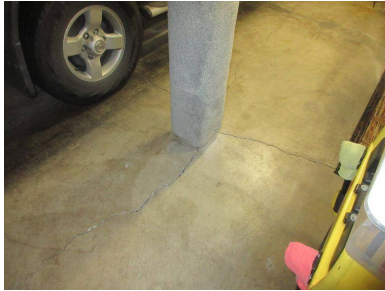
Wind baffles locations are compromised in some areas of the attic. The proper placement of wind baffles in front of all soffit vents is recommended.



**GARAGE**ATTACHED GARAGE6.1 GARAGE FLOOR

There are large cracks and some vertical displacement of the garage floor slab. This type of defect is usually caused by a lack of proper soil preparation (compacting) prior to the placement of the concrete. This is primarily an aesthetic defect, since the floor slab is not a structural component.

There is a noticeable slope to the garage floor. The garage floor should slope towards the door opening so that water and spilled flammable liquids will flow out of the garage. Consideration should be given to pressure grouting the floor up to slope towards the door or removing and replacing it.

**WATER HEATER**9.5 EXPANSION TANK

The expansion tank is not adequately secured to the wall. As code requirements start to call for engineered expansion tank supports we recommend the installation of seismic restraints to secure the expansion tank instead of allowing it to simply depend on piping connections that could result in damage to the water pipe and leakage during an earthquake.

**BATHROOMS**MASTER BEDROOM BATHROOM11.6 SINK

The east sink drain stop is not operational. It should be repaired or replaced.

UPPER FLOOR HALLWAY BATHROOM11.27 SINK

The drain stops are not operational. They should be repaired or replaced.

**LAUNDRY ROOM**12.8 APPLIANCES

Upgrading the washer connections to high pressure (steel braided) lines is recommended.

**PLUMBING SYSTEM**13.2 MAIN WATER SHUTOFF VALVE

The main water supply shutoff valve is located in the crawlspace. This could be inconvenient in an emergency. Consideration should be given to installing a water shutoff valve in the house.



## INSULATION

### 17.3 FLOOR INSULATION

The floors are insulated with 9" R-21 fiberglass batt insulation. The floor insulation has been properly installed and is in good condition. One missing batt was observed, missing batts should be replaced.



## CRAWLSPACE

### 19.4 VAPOR RETARDER

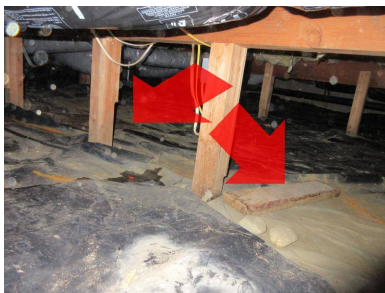
The support post concrete piers are covered with the plastic vapor retarder. This allows the transmission of water vapor from the soil up and into the floor framing. The plastic vapor retarder should be removed from the pier so that it covers at least 85% of the entire surface of the soil only.



### 19.5 PEST CONTROL

There is evidence of rodent activity in the crawlspace. The first step in eliminating rodents from the crawlspace is to seal all possible entry points using wire mesh, caulking, wood, stainless steel wool, aerosol foam or mortar. Careful work sealing cracks, holes, gaps, and covering ground water drain inlets will discourage rodent activity. Once this work is completed, snap traps baited with peanut butter should be installed and monitored. The absence of rodents in the traps typically means that the rodents have been excluded from the area.

Cellulose forms were left in place on the pier footings. This cellulose is conducive to the infestation of various wood destroying organisms. The removal of the cellulose is recommended.



Scrap-wood and other cellulose debris was observed on the crawl floor. This wood debris creates conducive conditions for wood boring insects. The removal of all cellulose debris is recommended.

Several of these items will likely require further evaluation and repair by licensed tradespeople. Other minor items are also noted in the report and could be mentioned but none of them affect the habitability of the house.

Thank you for selecting our firm to do your home inspection. If you have any questions regarding the inspection report or the home, please feel free to call us.

Sincerely,

Terry Clark  
206-660-9200  
Clark Inspections Inc.

# **Confidential Inspection Report**

**13500 171st ave ne  
Redmond, WA 98052**

**February 12, 2022**

**Prepared for: Tim & Jackie Duffy**

<p><b>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.</b></p>
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## Inspection Table of Contents

GENERAL INFORMATION	4
BUILDING SITE	7
BUILDING EXTERIOR	8
ROOF	9
ATTIC	10
GARAGE	12
ELECTRICAL SYSTEM	13
HEATING SYSTEM	15
WATER HEATER	17
KITCHEN	18
BATHROOMS	19
LAUNDRY ROOM	21
PLUMBING SYSTEM	22
INTERIOR	24
FIREPLACES, WOOD STOVES AND SPACE HEATERS	25
ENVIRONMENTAL ISSUES	25
INSULATION	27
STRUCTURE	27
CRAWLSPACE	28



2/14/2022

**Mr. & Mrs. Tim & Jackie Duffy  
13500 171st Ave NE  
Redmond,WA**

Dear Tim & Jackie,

Thank you for inviting Clark Inspections to inspect for you. We appreciate having the opportunity to perform this home inspection and are happy to help with all of your inspection needs. Enclosed is our report for the property located at;

**13500 171st ave ne**

We have inspected the major structural components, plumbing, heating, and electrical systems for signs of significant non-performance, excessive or unusual wear and general state of repair.

This inspection report is designed to be easy to understand. Please take time to review it carefully. If you have any questions regarding this inspection, or receive information from another building inspection professional, contractor, or tradesperson, that is in conflict with this report, or any major defect in your home or building that was not described in your verbal or written reports, please call our office immediately. We are happy to answer any questions you may have.

Thank you for the opportunity to be of service.

Sincerely,

Terry Clark

Clark Inspections

## GENERAL INFORMATION

### CLIENT & SITE INFORMATION:

#### 1.1 DATE OF INSPECTION:

2/12/2022.

#### 1.2 INSPECTOR'S NAME:

Terry Clark.

#### 1.3 CLIENT NAME:

Mr. & Mrs. Tim & Jackie Duffy.

#### 1.4 MAILING ADDRESS:

13500 171st Ave NE  
Redmond WA.

#### 1.5 CLIENT E-MAIL ADDRESS

duffy.tim@gmail.com; [jacduffy@gmail.com](mailto:jacduffy@gmail.com).

#### 1.6 ADDRESS OF PROPERTY INSPECTED

13500 171st Ave NE  
Redmond, WA.



West elevation



East elevation

### CLIMATIC CONDITIONS:

#### 1.7 WEATHER:

Clear.

#### 1.8 APPROXIMATE OUTSIDE TEMPERATURE:

50 degrees.

**BUILDING CHARACTERISTICS:****1.9 MAIN ENTRY FACES:**

West.

**1.10 ESTIMATED AGE OF BUILDING:**

The building is approximately 36 years old.

**1.11 BUILDING TYPE:**

Two story single family residence.

**1.12 SPACE BELOW GRADE:**

Crawlspace.

**SCOPE, PURPOSE AND LIMITATIONS****1.13 RESIDENTIAL**

The purpose of this inspection was to discover and evaluate major defects, deficiencies and deferred maintenance found in the main components of the house and in the building site immediately around the building inspected. A major defect or deficiency is a system or component that in the judgment of the inspector, would cost in excess of \$500.00 to repair or replace, is not performing it's intended function, or adversely affects the habitability of the dwelling or building. Defects are examined and a determination is made on how a particular defect will affect interrelated building parts and whether immediate repairs are required.

The major components in this report are categorized. General information is given on the type of materials and construction methods. Specific information is given pertaining to the condition of a component and applicable repair and maintenance work that may be required.

Since all buildings have defects, it is important to know and understand what they are and how they affect the house and property. Some of the defects mentioned in this report may be quite typical, and found in other homes of comparable age and price. Some, however, may not. We make our best attempt to distinguish this for you in both the verbal and written reports.

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Mechanical equipment is inspected for operability only and may contain undisclosed defects which may significantly impair it's usefulness.

Statements, representations, or conclusions offered by the inspector and/or by Clark Inspections are based solely upon a

visual examination of the exposed areas of the structure inspected. Areas of the structure which are not exposed to the naked eye cannot be inspected, and no conclusions, representations, or statements offered by the inspector are intended to relate to areas not exposed to view. Hidden defects could have a significant impact on the visually based conclusions, statements, and representations made by the inspector.

Statements, representations, or conclusions offered by the inspector are the considered opinion of the inspector, but these statements, representations, or conclusions do not constitute an expressed or implied warranty of any kind. Neither the inspector nor Clark Inspections shall be liable for any direct, special, incidental, or consequential damages under any circumstances whatsoever, whether arising in tort, negligence, or contract, nor for any loss, claim, expense, or damage caused by or arising out of his or its inspection of a structure, nor will the inspector or Clark Inspections indemnify or hold others harmless for any loss, claim, expense, or damage arising out of his or its inspection of a structure.

If you receive information from another building inspection professional, contractor or trades person that is in conflict with ours, or if you discover a major defect in your home or building that was not described in your verbal or written reports, please call us immediately.

#### **GENERAL COMMENTS**

#### **1.14 RECOMMENDATIONS**

Certain building designs and/or building site topography may not qualify for earthquake insurance. Each company has its own underwriting policies. You should check with your insurance agent to determine whether or not your insurance company will write an earthquake policy on this property.

There may be information pertinent to this property which is a matter of public record. A search of public records is not within the scope of this inspection. We recommend you review all applicable public records that pertain to this property.

We make no representations as to the extent of presence of code violations, nor do we warrant the legal use of this building. This information can be obtained from the local building and/or zoning department.

#### **1.15 BUILDING CODES**

A code is a system of rules and procedures, the purpose of which is to provide minimum standards to safeguard life, health, and property by regulating certain aspects of building design, construction, use and maintenance. Local codes are usually based on model codes. A community may amend or adopt only parts of a model code. These local codes may not always be the latest version of the model code. Code enforcement is nearly always a local government responsibility and is handled in several ways depending on the type of code and community involved. All model codes and most local codes, grant the code compliance inspector or building official the right to interpret the code to suit special situations. This makes the building official the final authority, not the code book.

Answering the question "Does this meet code?" depends on the building's age, when remodels and upgrades were performed and which codes if any are enforced. This information may not be readily available to the home inspector. Private inspectors usually can determine if an item complies with applicable national model codes, if they know when the work was done and what code was applicable at that time. Local municipalities adopt and enforce national model codes at their discretion. Private building inspectors are typically not permitted to perform code compliance inspections. Code compliance inspections are typically performed by the local code enforcement official. Private building inspectors check to determine whether or not an item performs its intended function or is in need of repair.

Code enforcement usually is a local question and subject to the interpretation by the building code enforcement official. Most communities do not require an existing building to meet "code" prior to sale.

Specific code questions can be referred to the local building official. however, you must realize that if city inspectors check a building, they have the authority to require corrections of any violation. Private building inspectors act solely in an advisory capacity. Their objective reports are a tremendous benefit to anyone purchasing or selling real estate.

## BUILDING SITE

The evaluation of the building site and grounds includes grading, roof water and surface drainage systems, fencing, gates, walkways, curbs, driveways, patios, and retaining walls connected to or directly adjacent the structure. These items are visually examined for proper function, excessive or unusual wear and general state of repair. Components or portions of components may not be visible because of soil, vegetation, storage of personal effects and/or the nature of construction. In such cases these items are considered inaccessible and are not inspected. Lawn irrigation systems, fountains, and low voltage decorative garden lights are not included in this inspection.

*The following components were inspected:*

### 2.1 ROOF WATER DRAIN SYSTEM

A below grade roof water drain system is used to divert rain water discharged from the downspouts away from the foundation wall. Below grade drain system designs vary and it is virtually impossible to evaluate the integrity of the system definitively, due to the fact that it is entirely underground. There is a high incidence of defects in these systems, due to the fact that historically, very few municipalities inspected or enforced design or quality standards.

Defects in these drain systems are one of the most common causes of water or moisture problems in ground floor occupancies, basements and crawlspaces. Overflowing gutters and clogged downspouts and scuppers also frequently cause or exacerbate moisture or water entry problems in and around the building. When water entry or moisture problems are discovered we recommend checking the entire roof water drain system to insure that it is functioning properly.

Occasionally, (once a year) flushing out the drain lines with a garden hose will reduce the build-up of debris and sludge which could impede drainage. This type of maintenance is most effective if the end of the drain line terminates in open air or in a storm sewer. If the drain line terminates in a dry well or leach field, then the washing of debris down the line is not advisable. The debris may eventually clog the perforations in the line which allow the water to escape. This could render the drain system inoperative. It is always best to prevent debris from entering at the inlet.

### 2.2 GRADING

The building site is well drained. The finish grade slopes away from the house. No evidence of recent building site flooding, drainage or soil stability problems was observed.

### 2.3 VEGETATION

Dense shrubbery and trees planted too close to the building can damage siding and the roof overhang and interfere with drainage and air movement, thus promoting fungus growth and accelerated deterioration of exterior finishes and wood. Trees and shrubs in contact with the building also provide carpenter ants with a route into walls or attics. Trees and shrubs should be trimmed back, where required. When landscaping, trees and shrubs should be planted back away from the building so that they have room to grow.

### 2.4 DRIVEWAY

The driveway is paved with asphalt paving mix. The driveway is properly installed and is performing its intended function. Seal coating the surface of the asphalt is recommended to maximize the service life of the paving. Asphalt sealers are available at most home improvement stores.

### 2.5 WALKWAY

There are minor cracks in the walkway, however, they do not affect it's functionality and it remains in serviceable condition.

When the wooden dividers separating the concrete walkway sections have deteriorated to a point where they become a trip hazard. Replacement with mortar is recommended.

Many legal and public works departments have defined a trip hazard as an irregularity in a walking surface exceeding one inch (1") in height. All walking surfaces should maintain, free of a vertical surface change of 3/4" or more, in the interest of public and personal safety.





## BUILDING EXTERIOR

The evaluation of the building exterior includes the paint, stain, siding, windows, doors, flashing, trim, fascia, eaves, soffits, decks, porches balconies and railings. These items are visually examined for proper function, excessive or unusual wear and general state of repair. Components or portions of components may not be visible because of soil, vegetation, storage of personal effects and/or the nature of construction. In such cases these items are considered inaccessible and are not inspected.

*The following components were inspected:*

### 3.1 PRIMARY EXTERIOR WALL CLADDING

Cedar lap siding is used as an exterior wall cladding. Cedar is a wood that is durable and moderately resistant to decay. Maintaining the finish on the exposed siding will maximize its service life. The siding has been properly installed and is functioning as intended.

### 3.2 FLASHINGS

The exterior wall flashings have been properly installed and are performing their intended function.

### 3.3 PEST CONTROL

Good building practice requires that foundation walls or pier footings supporting wood frame construction, extend at least 8" above the finish grade with at least a 6" clearance between the top of the soil and the bottom of the wood finish materials. Soil in direct contact with wood creates a hospitable environment for wood destroying organisms. These minimum standards should be maintained throughout the building exterior.

Untreated wood in direct contact with concrete was observed along the porch stoop. Untreated wood should be raised 1-2" above the concrete. Treating the wood with a preservative sometimes will prevent wood destroy organism damage.



### 3.4 SOFFITS AND OVERHANGS

The building has adequate overhangs. Overhangs protect the exterior walls, windows, doors, siding and exterior finish from the ravages of direct rain fall. Buildings with adequately sized overhangs will generally require less frequent exterior maintenance and are less likely to suffer from moisture related problems on the exterior walls.

There are large gaps over 1/4" in size adjacent the soffit vent blocks. These gaps allow insects and rodents to enter the attic. Covering the gaps with screening, a strip of wood and/or caulking is recommended.



### 3.5 GUTTERS AND DOWNSPOUTS

Roof runoff is collected and channeled into the downspouts by aluminum gutters fastened to the rafter tails. The gutters and downspouts are properly installed and are performing their intended function. Gutters should be cleaned regularly to prevent clogging and overflow. The downspouts are properly installed and are functioning as intended.

### 3.6 PAINT

The exterior paint and caulking is in good condition and is functioning as intended. Paint protects the wood from cupping, checking, warping and rot.

### 3.7 DECK

The deck is installed close to the ground making it more vulnerable to deterioration. The proximity of the deck to the ground also prevented an inspection of the deck framing. The visible portions of the deck are in good condition.

### 3.8 STAIRS

The deck stairs are properly constructed and are performing their intended function.

### 3.9 PORCH

The front porch is in good condition.

### 3.10 EXTERIOR DOORS

The exterior doors are properly installed and are functioning as intended.

### 3.11 EXTERIOR WINDOWS

The wood windows used in this home are vulnerable to deterioration if they get wet. Protecting the windows from exposure to moisture is essential. This can be accomplished by maintaining gutters and downspouts, protecting lower windows from garden sprinklers and by maintaining the paint and caulk on and around the windows.

## ROOF

We evaluate the condition of the roof system by inspecting the roofing material, skylights, flashings, penetrations and roof water drainage system for damage and deterioration. If we observe conditions such as damage, deterioration, defects in materials or workmanship, these items will be noted in your report. We may also offer opinions concerning repair and replacement. Opinions stated herein concerning the condition of the roof and roof service life are based on the condition of the roof system at the time of the inspection. These opinions do not constitute a warranty that the roof is, or will remain, free of leaks. All roof systems require annual maintenance and occasional repair. Failure to perform routine roof maintenance will usually result in leaks and accelerated deterioration of the roofing material. Our estimate of the life expectancy of the roof is based on the assumption that the roof will be properly repaired and maintained during that period.

*The following components were inspected:*

### 4.1 GENERAL INFORMATION

The roofing material is asphalt composition shingles. The slope or pitch of the roof is medium. Metal gutters are used to collect the roof water drainage. The roof is approximately 13 years old.

### 4.2 INSPECTION METHOD

The inspection of this roof was conducted from the roof surface. The inspector walked on the roof and made a visual

inspection of the components listed below.

#### 4.3 SKYLIGHTS

The skylights are properly installed and there was no evidence of leakage underneath them.

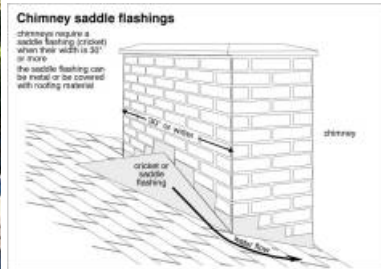
The skylights over the deck are not secured to the roof. Skylights can get blown off roofs during high winds if they are not secured. Fastening the skylights to the curb with plated or stainless screws is recommended.



#### 4.4 CHIMNEYS

The visible portion of the masonry chimney is properly constructed and is in good condition.

There is no cricket on the up-slope side of the living room fireplace chimney. This is conducive to leakage. Consideration should be given to installing a cricket to divert water around the chimney.



#### 4.5 GAS APPLIANCE VENTS

The visible portion of the gas appliance type B vent is properly installed and in good condition.

#### 4.6 FLASHINGS

Metal flashings are used to seal around chimneys, vents and roof to wall intersections. The flashings are properly installed and are performing their intended function.

#### 4.7 GENERAL COMMENTS

The roofing material was properly installed and is in serviceable condition. With proper care and maintenance this roof should remain serviceable for up to 25 more years.

## ATTIC

The attic contains the roof framing and serves as a raceway for components of the plumbing, electrical and mechanical systems. There are often heating ducts, bathroom vent ducts, electrical wiring, chimneys and gas appliance vents in the attic. We examine the visible portions of the various systems and components for proper function, excessive or unusual wear, general state of repair, roof leakage, attic venting and misguided improvements. When low clearance and/or deep insulation prohibit walking in an unfinished attic, inspection will be performed from the access opening only.

*The following components were inspected:*

#### 5.1 ACCESS

The attic access holes are located in the garage two are in the master bedroom and another in the middle bedroom. Due to limited clearances, the attics were inspected from the access holes only.

The access opening to the attic is too small by today's standards. The rough framed opening should not be less than 22 inches by 30 inches. Modification of the access opening is recommended for inspection and servicing of components in the attic.



## 5.2 VENTILATION

The attic is adequately vented.

There are two types of ventilation systems that are typically used in today's design and construction. Natural (passive) and Mechanical (pressure). Passive attic ventilation allows for moisture laden air, that migrates into the attic from the living space below to move out into the atmosphere without forming condensation on cool surfaces within the attic. This method used in design and construction is the most efficient and time tested.

The following are just a few of the conditions that may develop if soffit vents, roof and ridge vents are either missing, obstructed, inadequate, or simply not installed:

When water vapor comes in contact with cold surfaces of the roof sheathing and framing it condenses and remains as water. This water can drip down on the insulation and decrease it's effectiveness, will rot or deteriorate roof sheathing, cause mold and mildew growth, cause plaster or wall board to crack, paint to peel and will reduce the serviceable life of the roofing material.

Pressure induced attic ventilation ie: attic fans, solar fans or other systems that mitigate moisture amounts may be necessary due to certain conditions found within some buildings. However the pressure increase or decrease of the ambient air of the living space may affect the performance of and/or venting of gas appliances or fireplaces when in use creating conditions may be hazardous to your health. These are designed systems that should be installed by a qualified contractor.

Wind baffles prevent wind from blowing through the soffit vents and pushing the insulation away from the vent opening. The absence of wind baffles will often result in the exposure of large areas of the ceiling to cold temperatures. Wind baffles also prevent insulation from blocking the vents.

Wind baffles locations are compromised in some areas of the attic. The proper placement of wind baffles in front of all soffit vents is recommended.



## 5.3 MECHANICAL VENTILATION SYSTEMS

The visible portions of the air ducts for the bathroom fans are properly installed and are performing their intended function.

## 5.4 PEST CONTROL

There is evidence of rodent activity in the attic. The first step in eliminating rodents from the attic is to seal all possible entry points using wire mesh, caulking, wood, stainless steel wool, or aerosol foam. Careful work sealing cracks, holes and gaps over 1/4" in size will discourage further activity. Once this work is completed, snap traps baited with peanut butter should be installed and monitored. The absence of rodents in the traps typically means that the rodents have been excluded from the area.

## GARAGE

The garage often contains major components of the plumbing, heating and electrical systems. These components are discussed under their respective headings. Components that were tested and/or inspected in the garage and reported here include the garage floor, overhead door(s), automatic openers and fire resistive barriers.

*ATTACHED GARAGE - The following components were inspected:*

### 6.1 GARAGE FLOOR

There are large cracks and some vertical displacement of the garage floor slab. This type of defect is usually caused by a lack of proper soil preparation (compacting) prior to the placement of the concrete. This is primarily an aesthetic defect, since the floor slab is not a structural component.

There is a noticeable slope to the garage floor. The garage floor should slope towards the door opening so that water and spilled flammable liquids will flow out of the garage. Consideration should be given to pressure grouting the floor up to slope towards the door or removing and replacing it.



### 6.2 OVERHEAD GARAGE DOORS

The garage is fitted with three roll-up doors. The garage doors are properly installed and are performing their intended function.

### 6.3 GARAGE DOOR OPENER

The garage door openers were tested and were functional. The auto stop reverse safety switches were functioning as intended.

There was no photo-eye sensor installed for the south garage door to offer protection for small children and/or pets. We recommend that a photo-eye sensor be installed for the garage door at a height of within 4-6" of the floor.

### 6.4 FIRE SEPARATION

There are voids in the fire resistive barrier between the living space and garage that will allow flames to penetrate. The gypsum barrier slows the spread of a fire from the garage to the structure and/or living space. Patching the voids with a fire retardant caulk is recommended.

The pull down ladder is a breach in the fire resistive barrier in the garage. This is a safety concern. The gypsum barrier on the ceiling slows the spread of a fire from the garage to the attic. The installation of a layer of 5/8" gypsum type X board over the 1/4" plywood is recommended.





#### 6.5 PASSAGE DOOR

The door between the garage and living space is a fire rated door with a self closing hinge. The door is properly installed and is in good condition.

#### 6.6 EXTERIOR DOOR(S)

The exterior door to the garage has been properly installed and is in good condition.

#### 6.7 RECEPTACLES

There are unprotected receptacles in the garage. The installation of GFCI protection for all of the garage receptacles is recommended.

#### 6.8 SINK

The laundry sink is properly installed and is in good condition.

#### 6.9 SINK FAUCET

The sink faucet is properly installed and is in good condition.

#### 6.10 DRAINS, TRAPS AND TRAP ARMS

The sink drain is properly installed and is performing its intended function.

## ELECTRICAL SYSTEM

An electrical system consists of the service, distribution, wiring and convenience outlets (switches, lights and receptacles). Our examination of the electrical system includes the exposed and accessible wiring, service panels, subpanels, overcurrent protection devices, light fixtures and all accessible wall receptacles. We look for adverse conditions such as improper installation of aluminum wiring, lack of grounding, overfusing, exposed wiring, open-air wire splices, reversed polarity and defective GFCIs. The hidden nature of the electrical wiring prevents inspection of every length of wire. Telephone, video, audio, security system and other low voltage wiring is not included in this inspection. We recommend you have the seller demonstrate the serviceability of these systems to you.

*The following components were inspected:*

#### 7.1 ELECTRICAL SYSTEM SPECIFICATIONS

The voltage is 120/240 single phase three wire service. The power is delivered to this building via an underground service lateral. The amperage rating of this service is 200. Copper wire is used for all 120 volt circuits. Aluminum is used for some of the 240 volt circuits. Non-metallic sheathed cable (Romex) is the type of wiring used throughout the house. The grounding of the service is provided by two driven rods.

#### 7.2 UNDERGROUND SERVICE LATERAL

The underground service lateral was not visible for inspection. However, there was 120/240 volt power to the building which suggests that it is functioning as intended.

#### 7.3 SERVICE PANEL LOCATION

The service panel is located in the garage.

#### 7.4 SUBPANEL LOCATION

The subpanel is located in the garage.

**7.5 MAIN DISCONNECT LOCATION**

The main disconnect is an integral part of the service panel. The ampacity of the main disconnect is 200 amps.

**7.6 SERVICE ENTRANCE CONDUCTORS/CABLES/RACEWAYS**

The service entrance conductors are 4/0 aluminum and have an ampacity of 200 amps. The service entrance conductors are properly installed and in serviceable condition.

**7.7 SERVICE AMPACITY**

The capacity of the electrical service is 200 amps. A 200 amp service is adequate for this house with the existing electrical equipment. There is also room to add additional circuits if necessary.

**7.8 SERVICE GROUNDING AND BONDING**

The service grounding electrode conductor attachment point was not visible for inspection. The adequacy of the service ground was not determined. The evaluation of this connection may require removal of finish materials and is beyond the scope of this inspection.

**7.9 SERVICE PANEL**

The electrical service panel is properly installed and in serviceable condition except where noted below.

Screws that secure the panel cover to the panel box are missing. This is a potential hazard. Missing screws should be replaced with the original style blunt end screws.

The circuits are labeled. The accuracy of the labeling was not verified. Do not assume the labeled circuit is off unless it has been checked with a voltage tester.

**7.10 SUBPANEL**

The sub panel is properly installed and in serviceable condition except where noted below.

Screws that secure the panel cover to the panel box are missing. This is a potential hazard. Missing screws should be replaced with the original style blunt end screws.

**7.11 OVER CURRENT PROTECTION**

Circuit breakers are used for over current protection. The circuit breakers are properly installed and the ampacity of the connected wires is compatible with that of the circuit breakers. The circuit breakers were not tested.

**7.12 WIRING**

There were no defects observed in the visible and accessible wiring.

**7.13 ALUMINUM WIRING**

This house uses stranded aluminum wire for service entrance conductors and for dedicated major appliance circuits. This type of aluminum wire circuitry is typically found in most houses and is considered safe and reliable when installed correctly.

**7.14 RECEPTACLES**

All of the readily accessible receptacles were tested. Testing revealed defects requiring repair. These defects are outlined below.

The receptacle on the west wall of the garage is loose. This is a potential shock and a fire hazard. All loose receptacles should be repaired as necessary.

**7.15 GFCI RECEPTACLES**

A ground fault circuit interrupter (GFCI) is a device that detects ground faults (current leakage to ground). It protects you from electrocution. GFCI protection is required for receptacles in bathrooms, kitchens, garages, unfinished basements, crawlspaces and at exterior receptacles.

The installation of additional GFCI protection in the garage receptacles is recommended.

The installation of just one GFCI outlet for protection of each circuit is recommended.

The reset button for the GFCI protected receptacles in the upper bathrooms is located in the upper floor hallway bathroom.

The reset button for the GFCI protected receptacles in the kitchen is located in the laundry room closet.

#### **7.16 AFCI RECEPTACLES**

AFCI protection is required for all 15 and 20 amp branch circuits to have protection from the entire branch circuit when that circuit has outlets in dwelling family homes, dining rooms, living rooms, parlors, libraries, dens, bedrooms, sunrooms, recreation rooms, closets, hallways, or similar rooms or areas.

Replacement receptacles are now required to be arc-fault circuit interrupter (AFCI) protected. This means that if you are replacing an old outlet in an old home in a location that needs AFCI protection in a new home, the replacement outlet needs to be AFCI protected.

AFCI protection was installed in the panel for several of the circuits.

#### **7.17 LUMINARIES**

All of the accessible luminaries were tested and were found to be functional.

#### **7.18 SWITCHES**

All of the accessible switches were tested and were found to be properly wired and functional.

#### **7.19 CEILING FAN**

Ceiling fans can fall from the ceiling if not properly installed. Verifying proper installation requires removal of the ceiling fan which is beyond the scope of this inspection. The fan should be installed on a special electrical box that is approved for use with a ceiling fan. The box should be securely fastened to the framing. The ceiling fan was tested and was functioning as intended.

## **HEATING SYSTEM**

A natural gas, propane or oil fired furnace or boiler consists of the self contained furnace or boiler, ducts or pipes for heated air or water distribution, thermostats for regulating the amount of heat and a vent system for removing the combustion gases from the building. The readily accessible portions of these items are examined for defects and are tested using normal operator controls. Most heating systems should be serviced annually by a qualified service technician. Failure to perform regular maintenance will affect the reliability of the heating system and will reduce service life.

*FORCED AIR HEATING SYSTEM - The following components were inspected:*

#### **8.1 GENERAL INFORMATION**

Heat is provided by a high efficiency natural gas fired condensing furnace. The furnace is located in the garage. The furnace is approximately 6 years old. The input rating of the furnace is 80,000 BTU. This BTU rating is typical of a home of this size and age.

#### **8.2 GAS PIPING**

The flex connector is properly installed and is performing its intended function.

#### **8.3 AUTOMATIC GAS VALVE**

The automatic gas valve or safety valve is designed to prevent the emission of fuel into the furnace if it does not detect heat for ignition. These valves are generally very reliable. The automatic gas valve was functioning as intended.

#### **8.4 IGNITION**

The furnace uses an electronic spark ignition. This component was functioning as intended.

#### **8.5 BURNERS**

The gas burners are properly installed and are functioning as intended.

**8.6 COMBUSTION AIR**

The combustion air provides the oxygen for the fuel burning appliances. Combustion air also aids in the movement of combustion gases up the flue. Adequate ventilation around all fuel burning appliances is vital for their safe operation. The air can come from inside the house or from outside providing that the amount of air reaching the appliance is sufficient to maintain efficient combustion and draft. The combustion air supply is adequate.

**8.7 ELEVATION ABOVE GARAGE FLOOR**

The burners in the furnace are elevated at least 18" above the garage floor in accordance with industry standards. This elevation prevents ignition of gasoline fumes that might leak from cars, lawn mowers, gas cans, etc.

**8.8 HEAT EXCHANGER**

The heat exchanger is not visible without disassembling and removing it from the furnace. Cracks typically develop in heat exchangers after 10-20 years. Have your gas furnace technician check the heat exchanger during the next major service.

**8.9 DRAFT INDUCER**

The draft inducer pulls the combustion gases through the heat exchanger and pushes them up the vent connector into the flue. The draft inducer was functioning as intended.

**8.10 VENT**

The PVC plastic vent pipe for the condensing furnace is properly installed and is functioning as intended.

**8.11 BLOWER**

The blower draws air from the return air ducts and pushes it over the heat exchanger where it is heated. The air is then pushed through the distribution ducts into the rooms. The blower was tested and was functioning as intended.

**8.12 AIR FILTER**

An electronic air filter is used to remove dust. Electronic air filters remove dust and microscopic particles such as smoke and pollen from the air. Microscopic dust particles are forced to adhere to collector plates because of the electric charges imparted by the filter. These filters are typically found on high quality heating systems.

There are typically four removable parts that require cleaning; two prefilters and two electronic filter cartridges. These components should be cleaned once or twice a year. More often in dusty or smoky environments. They can be placed in the dishwasher or soaked in a hot soapy water solution in a laundry sink or bathtub. They should be rinsed and dried before reinstallation.

Most filters have an on and off switch and a test button on the front of the unit. Turn off the switch on the unit for 5-10 minutes before removal of filters. After cleaning and reassembly, the switch should be turned back on and the test button pushed. An arcing sound means the unit is functioning. Testing revealed that the electronic air filter is functional.

**8.13 DUCTS**

The ducts are constructed out of sheet metal and flex duct. The ducts are properly installed and are performing their intended function.

**8.14 THERMOSTAT**

The thermostat is properly installed and the unit responded to the basic controls. This is a programmable device with options for automatic temperature settings (up and down). Testing the automatic operations of this thermostat is beyond the scope of this inspection.

**8.15 CONDENSATE DRAIN/PUMP**

High efficiency furnaces like this one produce condensate water inside the furnace that must be collected and disposed of. The water is collected and disposed of via a plastic drain pipe. The drain pipe appears functional.

## WATER HEATER

Our review of water heaters includes the tank, gas and/or water connections, electrical connections, venting and safety valves. These items are examined for proper function, excessive or unusual wear, leakage and general state of repair. The hidden nature of piping and venting prevents inspection of every pipe, joint, vent and connection.

*The following components were inspected:*

### 9.1 GENERAL INFORMATION

The water heater fuel is natural gas. The capacity of the water heater is 50 gallons. The input rating of the burner is approximately 40,000 BTU. The water heater is approximately 6 years old. Water heaters of this type typically last about 10-15 years.

### 9.2 PRESSURE RELIEF VALVE

The pressure relief valve is properly installed. The valve was not tested, as this could cause the valve to leak.

### 9.3 SHUTOFF VALVE

The shutoff valve for the water supply to the water heater is properly installed and is functioning as intended.

### 9.4 WATER CONNECTIONS AT TANK

The water connections at the tank are properly installed and are performing their intended function.

### 9.5 EXPANSION TANK

The expansion tank is not adequately secured to the wall. As code requirements start to call for engineered expansion tank supports we recommend the installation of seismic restraints to secure the expansion tank instead of allowing it to simply depend on piping connections that could result in damage to the water pipe and leakage during an earthquake.



### 9.6 AUTOMATIC GAS VALVE

The automatic gas valve or safety valve is designed to prevent the emission of fuel into the appliance if it does not detect heat for ignition. These valves are generally very reliable. The automatic gas valve was functioning as intended.

### 9.7 BURNER

The gas burner is properly installed and is functioning as intended.

### 9.8 GAS PIPING

The flex connector is properly installed and is performing its intended function.

### 9.9 VENT

The water heater uses a type B vent from the top of the draft hood to the exterior. The visible portion of the B vent is properly installed and is functioning as intended.

### 9.10 COMBUSTION AIR

The combustion air provides the oxygen for the fuel burning appliances. Combustion air also aids in the movement of combustion gases up the flue. Adequate ventilation around all fuel burning appliances is vital for their safe operation. The air can come from inside the house or from outside providing that the amount of air reaching the appliance is sufficient to maintain efficient combustion and draft. The combustion air supply is adequate.

**9.11 SEISMIC RESTRAINT**

The water heater is secured to the wall. This prevents it from falling over during an earthquake and rupturing gas and water lines.

**9.12 ELEVATION ABOVE GARAGE FLOOR**

The burner of the water heater is elevated at least 18" above the garage floor in accordance with industry standards. This elevation prevents ignition of gasoline fumes that might leak from cars, lawn mowers, gas cans, etc.

**9.13 GENERAL COMMENTS**

The water heater is properly installed and is performing its intended function.

## KITCHEN

The kitchen was inspected for proper function of components, active leakage, excessive or unusual wear and general state of repair. We inspect built-in appliances using normal operating controls. This includes running the dishwasher, operating the garbage disposal and microwave and checking the burners or heating elements in the stove and oven. Accuracy and/or function of clocks, timers, temperature controls and self cleaning functions on ovens is beyond the scope of our testing procedure. Refrigerators are not tested or inspected unless specifically noted.

*The following components were inspected:*

**10.1 COUNTERTOPS**

The countertops are covered with slab quartz. The counter tops are properly installed and are in good condition.

**10.2 CABINETS**

The finish on the kitchen cabinets is slightly worn. The cabinets are otherwise in good condition.

**10.3 FLOORING MATERIAL**

The floor is covered with hardwood. The floor is properly installed and is in good condition.

**10.4 VENTILATION**

Ventilation in the kitchen is provided by a range hood over the stove. The vent is ducted to the exterior. The vent fan is properly installed and is performing its intended function.

**10.5 SINK FAUCET**

The sink faucet is properly installed and is in good condition.

**10.6 SINK**

The kitchen sinks are properly installed and are in good condition.

**10.7 DRAINS, TRAPS AND TRAP ARMS**

The sink drains are properly installed and are performing their intended function.

**10.8 AIR GAP**

The dishwasher drain lacks an air gap. The dishwasher will function without one, but there is a risk of contamination of the inside of the dishwasher by waste water. The installation of an air gap is recommended.

**10.9 OVEN**



The oven was tested and was functioning as intended.

**10.10 MICROWAVE**

The microwave oven was tested and was functioning as intended.

**10.11 COOKTOP**

The cooktop burners were tested and were functioning as intended.

**10.12 DISHWASHER**

The dishwasher was tested and was functioning as intended.

**10.13 GARBAGE DISPOSAL**

The garbage disposals were tested and were functioning as intended.

**10.14 TRASH COMPACTOR**

The trash compactor was tested and was functioning as intended.

**10.15 REFRIGERATOR**

The refrigerator is functioning as intended.

## BATHROOMS

Our inspection of the bathrooms consists of testing of the plumbing fixtures for condition and function. Defects such as leaks, cracked or damaged sinks, tubs and toilets will be listed under the heading of the bathroom in which they were found. The bathroom floor, tub and shower walls are examined for water damage. Ventilation fans are tested for proper operation. Cabinets and countertops are examined for excessive wear and deterioration. Hydromassage tubs are tested and the pump and related equipment are examined when accessible.

**BATHROOM****11.1 LOCATION**

Master Bedroom.

**11.2 SHOWER**

The shower walls are properly installed and are in good condition. Most ceramic tile is applied directly over gypsum board rather than on a concrete board such as "Durock" or "Wonder Board". Where the tile is applied directly over the gypsum board, it is critical that the tile grout be maintained to prevent water intrusion behind the tile. Missing or cracked grout should be repaired. Inside corners, and penetrations in the tile should be kept sealed with a high quality caulk.

**11.3 GLASS ENCLOSURE**

The glass shower enclosure is labeled as tempered safety glass, is properly installed and in good condition.

**11.4 FLOORING MATERIAL**

The floor is covered with ceramic tile. The tile is properly installed and is in good condition.

**11.5 TOILET**

The toilet was flushed and was functioning as intended.

**11.6 SINK**

The bathroom sinks are properly installed and are in good condition.

The east sink drain stop is not operational. It should be repaired or replaced.

**11.7 DRAINS, TRAPS AND TRAP ARMS**

The sink drains are properly installed and are performing their intended function.

**11.8 FAUCET FIXTURES**

The faucet fixtures were tested and were functioning as intended.

**11.9 CABINETS**

The bathroom cabinets are properly installed and are in good condition.

**11.10 COUNTERTOP**

The countertop is covered with slab marble. The countertop is properly installed and in good condition.

**11.11 VENTILATION**

Ventilation in this bathroom is provided by a ceiling fan. This fan was operated and was found to be working satisfactorily.

**11.12 SUPPLEMENTAL HEAT**

An electric resistance radiant heating system is installed in the floor. The heating system was tested and was functioning as intended.

**11.13 GFCI RECEPTACLES**

GFCI protected receptacles were found in this bathroom.

**BATHROOM****11.14 LOCATION**

Main Floor, Powder Room.

**11.15 FLOORING MATERIAL**

The floor is covered with hardwood. The floor is properly installed and is in good condition.

**11.16 TOILET**

The toilet is loose where it mounts to the floor. A loose toilet will eventually start to leak and will damage the flooring material, underlayment and subfloor. The most reliable fix for this condition is to remove the toilet and install a new wax seal. The toilet should then be securely mounted to the floor.

**11.17 SINK**

The bathroom sink is properly installed and is in good condition.

**11.18 DRAINS, TRAPS AND TRAP ARMS**

The sink drain is properly installed and is performing its intended function.

**11.19 FAUCET FIXTURES**

The faucet fixture was tested and was functioning as intended.

**11.20 VENTILATION**

Ventilation in this bathroom is provided by a ceiling fan. This fan was operated and was found to be working satisfactorily.

**11.21 GFCI RECEPTACLES**

GFCI protected receptacles were found in this bathroom.

**BATHROOM****11.22 LOCATION**

Upper Floor Hallway.

**11.23 BATHTUB**

The bathtub is properly installed and is in good condition.

**11.24 TUB WALLS**

The tub walls are properly installed and are in good condition. Most ceramic tile is applied directly over gypsum board rather than on a concrete board such as "Durock" or "Wonder Board". Where the tile is applied directly over the gypsum board, it is critical that the tile grout be maintained to prevent water intrusion behind the tile. Missing or cracked grout should be repaired. Inside corners, and penetrations in the tile should be kept sealed with a high quality caulk.

**11.25 FLOORING MATERIAL**

The floor is covered with ceramic tile. The tile is properly installed and is in good condition.

**11.26 TOILET**

The toilet was flushed and was functioning as intended.

**11.27 SINK**

The bathroom sinks are properly installed and are in good condition.

The drain stops are not operational. They should be repaired or replaced.

**11.28 DRAINS, TRAPS AND TRAP ARMS**

The sink drains are properly installed and are performing their intended function.

**11.29 FAUCET FIXTURES**

The faucet fixtures were tested and were functioning as intended.

**11.30 CABINETS**

The bathroom cabinet is properly installed and is in good condition.

**11.31 COUNTERTOP**

The countertops are covered with slab quartz. The counter tops are properly installed and are in good condition.

**11.32 VENTILATION**

Ventilation in this bathroom is provided by a ceiling fan. This fan was operated and was found to be working satisfactorily.

**11.33 SUPPLEMENTAL HEAT**

An electric resistance radiant heating system is installed in the floor. The heating system was tested and was functioning as intended.

**11.34 GFCI RECEPTACLES**

A ground fault circuit interrupter (GFCI) is a device that detects ground faults (current leakage to ground). It protects you from electrocution. GFCI protection is required for receptacles in bathrooms, kitchens, garages, unfinished basements, crawlspaces and at exterior receptacles. GFCI protected receptacles were found in this bathroom.

## LAUNDRY ROOM

Appliances are tested when present and when circumstances allow.

*The following components were inspected:*

**12.1 CABINETS**

The laundry room cabinets are properly installed and are in good condition.

**12.2 COUNTERTOP**

The countertops are covered with Corian. The countertops are properly installed and in good condition.

**12.3 FLOORING MATERIAL**

The floor is covered with sheet vinyl. The floor is properly installed and is in good condition.

**12.4 VENTILATION**

Ventilation in this laundry room is provided by a ceiling fan. This fan was operated and was found to be working satisfactorily.

**12.5 SINK**

The laundry sink is properly installed and is in good condition.

**12.6 SINK FAUCET**

The sink faucet is properly installed and is in good condition.

### **12.7 DRAINS, TRAPS AND TRAP ARMS**

The sink drain is properly installed and is performing its intended function.

### **12.8 APPLIANCES**

The hookups for the washer are properly installed and in serviceable condition. The washer itself was operated through a partial cycle, however we did not conform the complete operation of the cycle timer.

Upgrading the washer connections to high pressure (steel braided) lines is recommended.

The hookups for the dryer are properly installed and in serviceable condition. The dryer itself was operated through a partial cycle, however we did not confirm the complete operation of the cycle timer.

### **12.9 DRYER VENT**

The visible portions of the dryer vent are properly installed and in serviceable condition. Dryer ducts should be cleaned annually as part of routine home maintenance. A dryer duct that is clogged with lint is a fire hazard.

## **PLUMBING SYSTEM**

A plumbing system consists of the water heater, domestic water supply lines, drain, waste and vent lines and gas lines. Inspection of the plumbing system is limited to the water heater, visible faucets, fixtures, valves, drains, traps, exposed pipes and fittings. These items are examined for proper function, excessive or unusual wear, leakage, and general state of repair. Valves are not tested except where specifically noted. The hidden nature of piping prevents inspection of every pipe and joint. A sewer lateral test, necessary to determine the condition of the underground sewer lines, is beyond the scope of this inspection. If desired, a qualified individual could be retained for such a test. Our review of the plumbing system does not include landscape irrigation systems, off site community water supply systems or private (septic) waste disposal systems. Review of these systems should be performed by qualified and licensed specialists prior to the close of escrow.

*The following components were inspected:*

### **13.1 PLUMBING SYSTEM SPECIFICATIONS**

The building is on a public water supply system. The building is on a private (septic) sewage disposal system. The newer water supply piping is Cross link polyethylene (PEX) plastic tubing. The older or original water supply piping is copper. ABS plastic is used for the drain, waste and vent pipes.

### **13.2 MAIN WATER SHUTOFF VALVE**

The main water supply shutoff valve is located in the crawlspace. This could be inconvenient in an emergency. Consideration should be given to installing a water shutoff valve in the house.

### **13.3 MAIN WATER LINE**

The main water line is buried underground and was not visible for inspection. The flow indicator on the water meter was checked with all the water shut off in the house. There was no movement of the flow indicator. This suggests that there are no leaks in the main water line. You should check the meter periodically (2-4 times a year) with all the water in the house shut off. Movement of the flow indicator on the meter means that there is a leak either inside the house or in the main line underground.

### **13.4 INTERIOR WATER SUPPLY PIPES**

The visible portions of the copper water supply pipes are properly installed and functional. Copper is considered one of the most desirable materials for interior supply pipes and is expected to last the lifetime of the building.

Cross link polyethylene (PEX) plastic tubing is also used for water supply piping. PEX is a tough, flexible plastic tube that can be used for both hot and cold water. It has been a relatively uncommon material in this area but, has been in use extensively in Europe and in other parts of this country. The service life of this material is not known, as it has a limited track record.

### **13.5 WATER PRESSURE**

The water pressure is 80 PSI This is in the normal range of 30-80 PSI.

### 13.6 DRAIN AND WASTE PIPES

ABS plastic is used for drain, waste and vent pipes. All of the visible drain pipes were properly installed and functional. ABS is a durable, reliable material and should last the lifetime of the building. All drain, waste and vent pipes were stress tested by filling bathtubs and fixtures to the overflow and then draining them while simultaneously flushing the toilet and running the sinks and showers. No leaks were observed and all fixtures emptied in a reasonable amount of time with no fluctuation in the rate of flow down the drain. This is commonly referred to as "functional drainage".

### 13.7 VENT PIPES

The visible portions of the vent pipes are properly installed and are performing their intended function.

### 13.8 FAUCET FIXTURES

All faucet fixtures were tested and were functioning as intended.

### 13.9 HOSE BIBBS AND EXTERIOR SUPPLY PIPES

The hose bibbs are the old style that must be protected during freezing weather. This can be accomplished either by installing a foam cap over the bibb or by shutting off the water supply at the indoor gate valve opposite the bibb and then opening the bibb to allow the water to drain out.

### 13.10 GAS PIPING

The visible portions of the gas piping were properly installed and are performing their intended function. There was no odor of gas leakage at the time of the inspection.

The gas pipes in front of the furnace and water heater are not protected by a bumper stop. A vertical steel pipe, bolted to the floor, is typically installed in front of the water heater to prevent a car bumper from damaging the gas lines.

The gas pipe in the garage was not adequately secured. This can damage the pipe. The gas pipe should be secured in accordance with industry standards.



### 13.11 GAS METER

The gas meter is located on the south side of the building. The main gas shut off valve is installed on the high pressure line emanating out of the ground. This valve requires a wrench to open and close. Keeping a gas valve wrench or adjustable wrench accessible near the gas meter is recommended.

### 13.12 SEPTIC SYSTEM

The house uses a private (septic) sewage disposal system. The septic system was not inspected. Our general house inspection will sometimes reveal major defects in the septic system (e.g., complete blockage, complete drain field failure), providing that it is not raining and the ground is dry. However, we still recommend that you have the septic tank pumped out and the septic system inspected by a qualified septic system service company, prior to the closing of the sale. Ask for a "Septic Tank Operational Report". It is also recommended that you have the tank pumped out every four years and avoid introducing grease and non-biodegradable foreign matter into the septic system.

## INTERIOR

Our review of the interior includes inspection of walls, ceilings, floors, doors, windows, cabinetry, countertops, steps, stairways, balconies and railings. These features are examined for proper function, excessive wear and general state of repair. In some cases, all or portions of these components may not be visible because of furnishings and personal effects. In such cases these items are not inspected.

*The following items were inspected:*

### 14.1 GENERAL COMMENTS

The interior wall, floor, and ceiling surfaces were properly installed and generally in serviceable condition.

### 14.2 STAIRS

The stairs were used several times during the inspection. The stair components are properly installed and no deficiencies were noted during use.

### 14.3 WALLS AND CEILINGS

Minor cracks in the walls and/or ceilings is a common condition with this type of construction and does not indicate a structural deficiency. The cracks can be repaired or painted over during routine maintenance. Cracks in drywall that have been repaired and reoccur several months after the repairs have been completed is typically due to seasonal movement of the structure caused by changes in humidity.

### 14.4 DOORS

All of the doors were tested and were found to be functioning as intended.

### 14.5 CLOSET DOORS

All of the closet doors were tested and were found to be functioning as intended.

### 14.6 WINDOWS

The window frames are constructed from wood and have insulated glass in them. All of the windows were tested and/or inspected. All of the windows tested and/or inspected were found to be functioning as intended.

### 14.7 SMOKE DETECTORS

There is a smoke detector inside each of the bedrooms and in the hallway outside of the bedrooms on the upper and lower floors.

Smoke detectors are examined for location only. They are not tested. Smoke detector batteries should be replaced when you move in and every year thereafter. Once batteries have been replaced, the smoke detectors should be tested for proper operation.

Ionization technology is generally more sensitive than photoelectric technology at detecting small particles, which tend to be produced in greater amounts by flaming fires, which consume combustible materials rapidly and spread quickly. Sources of these fires may include paper burning in a wastebasket or a grease fire in the kitchen.

Photoelectric technology is generally more sensitive than ionization technology at detecting large particles, which tend to be produced in greater amounts by smoldering fires, which may smolder for hours before bursting into flame. Sources of these fires may include cigarettes burning on couches or bedding.

**FOR MAXIMUM PROTECTION:** Use both Ionization and Photoelectric smoke alarms in every bedroom/hallway on every level of your home.

At least one carbon monoxide monitor should be installed for each floor. The best place to install the monitor is in an open area near the gas appliance.

### 14.8 DOOR BELL

The doorbell was functioning as intended.



## FIREPLACES, WOOD STOVES AND SPACE HEATERS

*The following components were inspected:*

### 15.1 MASONRY FIREPLACES

The visible portion of the masonry fireplace was evaluated. The fireplace is in good condition and no defects or deficiencies were observed.

### 15.2 METAL FIREPLACES

The master bedroom and living room fireplaces are factory built, direct vent, gas appliances. The vents for this type of fireplace are above the roof. The firebox is sealed from the house interior which makes it more efficient and prevents combustion gases from spilling into the house. The vent for this type of fireplace is above the roof. The gas valve and piezo ignition are located underneath, behind a removable panel. Instructions for lighting the pilot are located in this area. Testing revealed that the direct vent fireplaces were functioning properly.

### 15.3 GAS LOGS

The gas log was tested and was functioning as intended. When operating this gas log, make sure that the fireplace damper is open otherwise deadly combustion gases will spill into the room. The installation of a carbon monoxide detector in the room near the fireplace is recommended as a safety upgrade.

### 15.4 DAMPERS

The fireplace damper is functioning as intended. A fireplace damper that is left open when the fireplace is not being used allows huge quantities of heated air to escape up the chimney. Keeping your fireplace damper closed will result in a significant reduction in heating costs.

A C-clamp should be installed on the fireplace damper to prevent full closure. This is a safety measure designed to insure that carbon monoxide does not spill out into the room in the event that you forget to open the damper after lighting the gas log.

## ENVIRONMENTAL ISSUES

Environmental issues include but are not limited to carbon monoxide, radon, asbestos, lead paint, lead contamination, toxic waste, formaldehyde, electromagnetic radiation, buried fuel oil tanks, ground water contamination and soil contamination. The absence of a statement on any of the environmental issues listed above does not necessarily mean that they are not present. We make reference to these substances only when we recognize them during the normal inspection process. Most of the toxic substances listed above cannot be identified without laboratory testing. If further study or analysis seems prudent, the advice and services of the appropriate specialists are advised.

*The following items may exist in this building:*

### 16.1 CARBON MONOXIDE

Many of us encounter CO regularly and never know it because it's invisible and odorless. That's why victims of CO poisoning often have no warning that they are in danger... until it's too late. Symptoms include headache, nausea, chronic fatigue, confusion and dizziness. Extreme exposure can even cause a coma or death.

Carbon monoxide is a product of incomplete (poor) combustion. It's a direct and cumulative poison. When combined with blood hemoglobin, CO replaces oxygen in the blood until it completely overcomes the body. Death from CO occurs suddenly. The victim inhaling the toxic concentration of the gas becomes helpless before realizing that danger exists.

According to the American Society of Heating, Refrigeration and Air Conditioning Engineers (ASHRAE) (Ventilation Standard 62- 89), a concentration of no more than 9 parts per million (ppm) (0.0009%), of CO is permissible in residential living spaces. In addition, the Occupational Safety and Health Administration (OSHA) has set an eight-hour work place maximum of 35 ppm. And in flue gas, the Environmental Protection Agency (EPA) and the American Gas Association (AGA) have established the maximum allowable concentration of CO at 400 ppm (See charts).

To ensure safe and efficient combustion, it is imperative that all gas burning appliances be inspected and serviced regularly (once a year) if used in normal service conditions).

## 16.2 FORMALDEHYDE

Formaldehyde, a colorless gas with a pungent odor, is so commonly used today that virtually everyone is likely to be exposed to at least small amounts of it, and a significant number of people are developing symptoms due to exposure to large amounts of formaldehyde in their homes or workplaces. It was an integral component of the urea formaldehyde foam insulation (UFFI) that was installed in more than five hundred thousand homes in the 1970's. (The use of formaldehyde in insulation was banned by the Consumer Product Safety Commission in 1982, but this ruling was overturned by a federal court in 1983.) In addition, it is present in a large variety of consumer products. It is a major part of the resins used as glue in particle board, plywood, and other pressed wood products used extensively in the construction of homes and furniture. Some cosmetics, paper towels, upholstery, permanent press fabrics, carpets, milk, toilet seats, pesticides, and explosives contain it too. Formaldehyde is also present in the exhaust from combustion appliances and in tobacco smoke.

The most common symptoms of excessive formaldehyde exposure are burning eyes, itching, shortness of breath, tightness in the chest, coughing, headaches, nausea, and asthma attacks. Large amounts of the gas have produced cancer in laboratory animals, and government policy assumes that any substance that can cause cancer in animals may also cause it in humans.

People who live in homes that have been "tightened" for maximum energy conservation are most likely to suffer from the effects of formaldehyde gas. The formaldehyde gas seeps from the walls, furniture, carpet, etc. into the air, building up to high levels in the "tightened" home, which can be irritating, particularly to sensitive people.

To minimize your exposure to formaldehyde, ventilate your home - in good weather, open the windows to provide a constant supply of fresh air. Some methods of heat recovery, such as heat recovery ventilators (also known as air-to-air heat exchangers), are available that can ventilate the home while also conserving energy.

You can seal exposed, raw surfaces of particle board and plywood with oil enamel, varnish, wallpaper, or vinyl floor coverings. If you have UFFI insulation, make certain it is completely sealed in the walls or, as a last resort, have it removed.

## 16.3 ASBESTOS

Asbestos is a naturally occurring mineral fiber that has been used in more than 3,000 different construction materials and manufactured products. It is commonly found in heating system insulation, decorative spray-on ceiling treatments, vinyl flooring, cement shake siding and a variety of additional materials. Some asbestos-containing materials were still being installed into the late 1980s.

The asbestos content of different materials varies according to the product and how it is used. Among those materials with higher concentrations of asbestos are insulating products on heating systems and the backing on sheet vinyl flooring. However, an uncontrolled disturbance of any asbestos-containing material in any concentration may be dangerous to your health!

Why is it a problem? Breathing asbestos fibers could kill you. When disturbed, asbestos breaks down into fibers up to 1,200 times thinner than a human hair. When inhaled, they become trapped in lung tissues. Medical research tells us that up to 30 years after inhalation, asbestos fibers can cause lung cancer or mesothelioma, a related terminal cancer of the tissue lining the chest cavity.

Because asbestos is a naturally occurring mineral and has been so widely used in manufactured products, including automobile brake linings, it can be found almost everywhere. Trace amounts are in the air we breathe every day. Most of us have asbestos fibers in our lungs.

On the other hand, there's no known safe level of asbestos exposure. That's why medical, environmental health and regulatory organizations stress the need to protect health by minimizing exposure to airborne asbestos fibers. This is particularly true when asbestos fibers accumulate at elevated levels. Elevated levels result from uncontrolled disturbances and removal of asbestos-containing materials.

How do I know if it's asbestos? Don't guess! Look for asbestos markings on the product or track the product back to its manufacturer or supplier. If these approaches don't work, submit a small sample for laboratory analysis. Cost is minimal. Laboratories are listed in the yellow pages under "Asbestos - Consulting and Testing." Ask a laboratory technician to instruct you how to safely take a sample. If you decide not to check for asbestos in a suspected material, you should assume it contains asbestos and treat it accordingly.

## INSULATION

Insulation, weatherstripping, dampers, storm windows, insulated glass and set-back thermostats are features that help reduce heat loss and increase the comfort and thermal efficiency of your home. We examine these items and identify approximate R values for insulation. When appropriate, we offer suggestions for upgrading. Our review of insulation is based upon a random sampling of accessible areas and does not constitute a warranty that all such areas are uniformly insulated or are insulated to current standards.

*The following items were inspected:*

### 17.1 ATTIC INSULATION

The attic is insulated with blown in fiberglass insulation. The approximate R value of this insulation is 19. This provides moderate resistance to heat transfer. Adding additional insulation to achieve an R value of 30 is recommended to reduce heat loss through the ceilings.

The vaulted ceiling is insulated with fiberglass batt insulation. The approximate R value of this insulation is 30. This provides good resistance to heat transfer.

### 17.2 WALL INSULATION

The walls are insulated with fiberglass batt insulation. The 2x6 walls suggest that it is 6" R-19 fiberglass.

### 17.3 FLOOR INSULATION

The floors are insulated with 9" R-21 fiberglass batt insulation. The floor insulation has been properly installed and is in good condition. One missing batt was observed, missing batts should be replaced.



## STRUCTURE

The structural elements of most residential buildings include a foundation, footings, floor, wall, ceiling and roof framing. The visible portions of these items are examined for proper function, wear, deterioration or signs of non-performance. Some structural components or portions of them are inaccessible because they are buried below grade or hidden behind finished surfaces. Therefore, much of the structural inspection is performed by identifying resultant symptoms of movement, damage and deterioration. Where there are no visible symptoms, components or conditions requiring repair may go undetected and identification will not be possible. We make no representations as to the internal conditions or stabilities of soils, concrete footings and foundations, except as exhibited by their performance.

*The following components were inspected:*

### 18.1 GENERAL INFORMATION

The foundation is constructed from poured in place concrete. A perimeter foundation wall supports the exterior walls of the building. Interior load bearing components are supported by pier footings and/or continuous spread footings. The floor structure is constructed out of wood joists. The subflooring is plywood. The stud walls are constructed from 2 X 6 dimensional lumber. The exterior wall sheathing is plywood. The roof structure is constructed out of a combination of manufactured trusses and conventional stick framing. The roof sheathing is oriented strand board (OSB) installed over a layer of open sheathing.

### 18.2 FOUNDATION

The foundation is constructed in a manner typical of buildings of this type and age. There are minor shrinkage cracks in the foundation. Shrinkage cracks are common in poured concrete foundation walls. They do not affect the performance of the

foundation. No action is indicated.

### **18.3 MUDSILL**

The mudsill is typically a 2x4 or 2x6 member that is laid flat directly on the top of or cast into the top of the foundation wall. The mudsill is usually bolted to the foundation wall and serves as a base for the rest of the floor framing. Most of the mudsill is inaccessible and cannot be evaluated. The visible portions of the mudsill are properly installed and are performing their intended function.

### **18.4 ANCHOR BOLTS**

Anchor bolts are bolts that are cast into the top of the concrete foundation and retain the mudsill. The anchor bolts primary function, is to prevent the building from being displaced from its foundation during an earthquake. Anchor bolts have grown in diameter over the years as have the nuts and washers that retain the mudsill. Generally speaking, the newer the building, the better resistance it will have to seismic activity. Anchor bolts are installed and are performing their intended function.

### **18.5 BEAMS AND POSTS**

The beams and posts are properly installed and are performing their intended function.

### **18.6 FLOOR JOISTS**

The visible portions of the floor joists are properly installed and are performing their intended function.

### **18.7 SUBFLOORING**

The subfloor was covered with insulation and finished surfaces and was not visible for inspection. There was no evidence present suggesting that defects or deficiencies are present.

### **18.8 WALLS**

The walls are covered with finished surfaces and therefore were not visible for inspection. No evidence of defects or deficiencies was observed.

### **18.9 ROOF STRUCTURE**

The roof structure is constructed from a combination of factory-built, engineered trusses and site cut and assembled dimensional lumber. The roof structure is constructed in a manner consistent with buildings of this type and is performing its intended function. No defects or deficiencies were observed.

### **18.10 ROOF SHEATHING**

The roof sheathing is installed in a manner consistent with buildings of this type and is performing its intended function. No defects or deficiencies were observed.

## **CRAWLSPACE**

The crawl space is where some of the building's structural elements and portions of its mechanical systems are located. These include foundation, structural framing, electrical, plumbing and heating. The visible portions of accessible systems and components are examined for proper function, excessive or unusual wear and general state of repair. Some items observed in the crawlspace will be discussed under the individual systems to which they belong. It is not unusual to find occasional moisture and dampness in crawl spaces. However, significant and/or frequent water accumulation can adversely affect the building foundation and support system and creates conditions conducive to various types of wood destroying organisms. We check for signs of excessive moisture and water entry. Unfortunately, water entry is often seasonal and therefore evidence may not be present at the time of the inspection.

*The following components were inspected:*

### **19.1 CRAWLSPACE ACCESS**

The crawlspace access is located in the closet under the stairs. The crawlspace was entered and all accessible areas were inspected.

### **19.2 MOISTURE**

The soil was damp under the vapor barrier, however, no evidence of water intrusion or standing water problems was observed.

### 19.3 VENTILATION

The crawlspace is adequately ventilated. Vents should be kept unobstructed and clear of leaves and other organic debris. Screens should be maintained to prevent rodent entry.

### 19.4 VAPOR RETARDER

The soil under the house is covered with a polyethylene plastic vapor retarder. This component is typically referred to as a "vapor barrier". While not a true vapor barrier, it does reduce the transmission of water vapor from the soil to the air. The vapor retarder is properly installed and is performing its intended function. The vapor retarder should be maintained so that it covers at least 85% of the entire surface of the soil.

The support post concrete piers are covered with the plastic vapor retarder. This allows the transmission of water vapor from the soil up and into the floor framing. The plastic vapor retarder should be removed from the pier so that it covers at least 85% of the entire surface of the soil only.



### 19.5 PEST CONTROL

There is evidence of rodent activity in the crawlspace. The first step in eliminating rodents from the crawlspace is to seal all possible entry points using wire mesh, caulking, wood, stainless steel wool, aerosol foam or mortar. Careful work sealing cracks, holes, gaps, and covering ground water drain inlets will discourage rodent activity. Once this work is completed, snap traps baited with peanut butter should be installed and monitored. The absence of rodents in the traps typically means that the rodents have been excluded from the area.

Cellulose forms were left in place on the pier footings. This cellulose is conducive to the infestation of various wood destroying organisms. The removal of the cellulose is recommended.

Wood boring insect activity in the Puget Sound area usually does not occur unless there is a ventilation problem inside or underneath the structure, a water leakage/rotting condition in the house or significant quantities of soil to untreated wood contact in a crawlspace or outside around the building exterior. Carpenter ant, termite and wood boring beetle activity is most often a direct result of rot damaged wood and/or excessively moist, humid or damp conditions inside, around or underneath the building. Structural damage from termites and ants in most cases does not extend much past the moisture source and/or rot damaged wood. Eliminating high moisture conditions, improving ventilation, correcting the conditions that are conducive to rotting wood and replacing rot damaged wood will usually eliminate the wood boring insect activity, providing that the building is properly maintained thereafter.

The best way to avoid wood boring insect problems is by preventative maintenance. This includes:

- x Good construction practices which exclude water and prevent high moisture conditions.
- x Removal of wood debris and form wood from the crawlspace and around the building exterior.
- x Maintaining the roof water drain system.
- x Maintaining good yard drainage away from the foundation wall.
- x Avoiding wood-soil contact in the crawlspace or around the house exterior.
- x Storing fire wood 6" above grade and in a dry area.

There should be no soil to wood contact in any part of the building exterior or crawlspace, unless that wood is pressure treated. For the greatest safety to permanent structures there should be no soil to wood contact of any kind. Untreated wood in direct contact with exterior flatwork should also be avoided.

Good building practice requires that foundation walls or pier footings supporting wood frame construction, should extend at

least 8" above the finish grade with at least a 6" clearance between the top of the soil and the bottom of the wood finish materials. Untreated wood should be raised 1-2" above surrounding flatwork and should have a moisture barrier such as 30 lb. asphalt impregnated felt installed between the concrete and wood. For additional information and treatment options, you should retain the services of a qualified pest control operator.

Scrap-wood and other cellulose debris was observed on the crawl floor. This wood debris creates conducive conditions for wood boring insects. The removal of all cellulose debris is recommended.

