



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

The following notice is given with respect to the Purchase and Sale Agreement dated \_\_\_\_\_ between \_\_\_\_\_ (“Buyer”) and **Johnson Yeung** **Maggie Chu** (“Seller”) concerning **16938 NE 118th Way** **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.

Authentisign  
*Johnson Yeung* 06/25/24  
\_\_\_\_\_  
Seller DATE

Authentisign  
*Maggie Chu* 06/25/24  
\_\_\_\_\_  
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

John & Maggie Yeung  
16938 NE 118<sup>th</sup> Way  
Redmond, WA 98052

Per the seller, the following items listed on the pre-sale inspection summary dated June 21, 2024, are being 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 July 11, 2024:

- **GARAGE DOOR OPENER:** Photo beam sensors are 7" above floor and are operating per spec. The sensors have lowered to within 4-6" of the floor

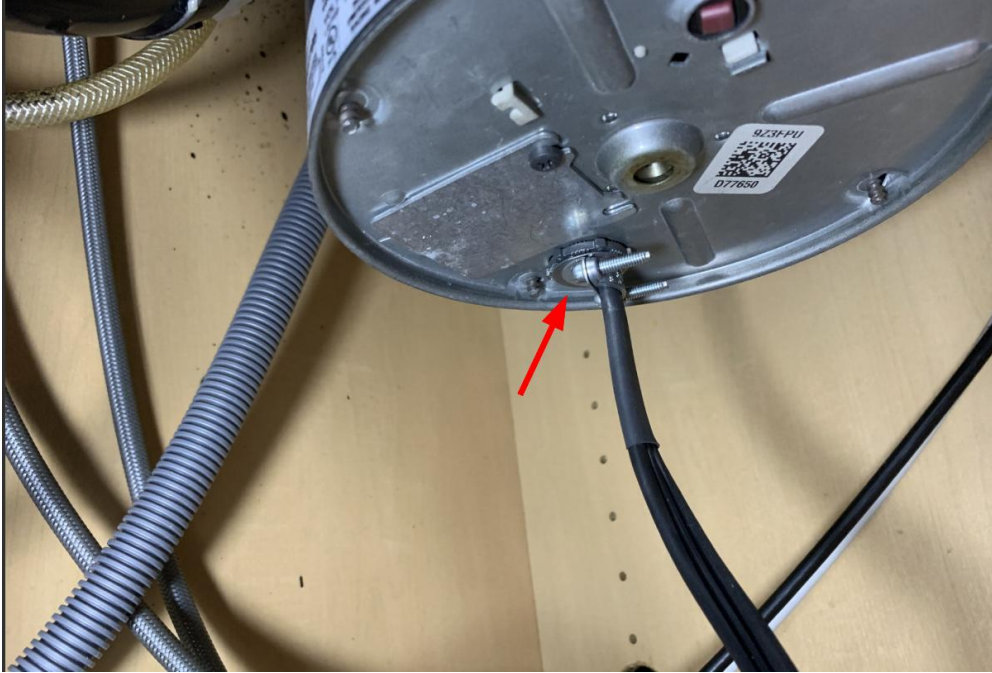


- **FIRE SEPARATION:** Garage fire resistive barrier patched with fire retardant caulk. The overhead door brackets and cable penetration gap have been patched.

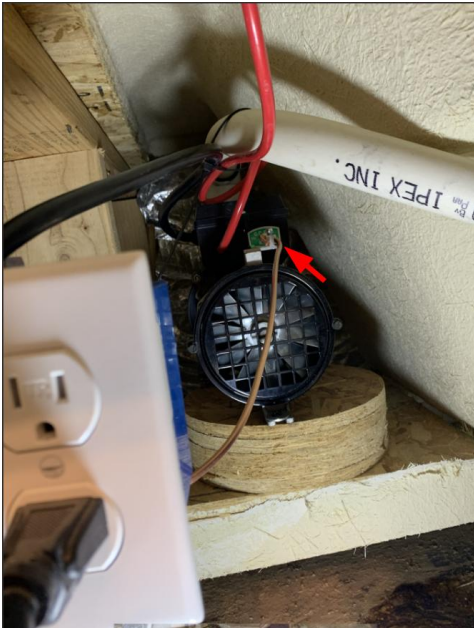


- **RECEPTACLES:** All receptacles have been inspected and tightened if necessary.

- **GARBAGE DISPOSAL:** Installed the power cable clamp on the garbage disposal.



- **PRIMARY BATHROOM BATHTUB:** The pump motor has been bonded.



- **LAUNDRY ROOM:** The laundry tub has been secured to the wall.
- **SMOKE DETECTORS:** All smoke detectors were replaced before expiration date and include new batteries.

- **BUILDING EXTERIOR SOFFITS AND OVERHANG:** Openings adjacent the ends of the outlook boards outside the nook was closed by foam.



- **WATER HEATER EXPANSION TANK:** The expansion tank have been secured to the wall.



- **MAIN FLOOR BATHROOM:** Counter top, sink & toilet have been re-caulked.



- **PRIMARY BATHROOM:** Tub, sinks, shower & toilet have been re-caulked.



- **PAINT:** Siding nails have been caulked and painted.



June 21, 2024

**Mr. & Ms. John & Maggie Yeung**  
**16938 NE 118th Way**  
**Redmond, WA.**

**Re: 16938 NE 118th Way**  
**Redmond, WA.**

Dear John & Maggie;

At your request, a visual inspection of the above referenced property was conducted on 06/21/2024. 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 GARAGE DOOR OPENER

The Photo-eye beam was installed to high above the floor of the garage to adequately offer protection for small children and/or pets. We recommend that the photo-eye be lowered to within 4-6" of the floor.



#### FIRE SEPARATION

There are voids (adjacent the overhead door brackets) and cable penetration 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.

### **ELECTRICAL SYSTEM**

#### RECEPTACLES

There are several loose receptacles throughout the home. This is a potential shock and a fire hazard. All loose receptacles should be repaired as necessary.

### **KITCHEN**

#### GARBAGE DISPOSAL

The cord is not clamped where it enters the disposal. This could damage the wires or cause a ground fault. The cord should be clamped in accordance with industry standards.



## BATHROOMS

### PRIMARY BEDROOM BATHROOM BATHTUB

The pump motor is not bonded. This is a safety concern. The installation of a bonding wire between the motor chassis and water pipes is recommended.



## LAUNDRY ROOM

### SINK

The laundry tub was free standing and was not secured to the floor or wall. Attachment is recommended to prevent damage or leakage to the attached plumbing.

## INTERIOR

### *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.

## 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 EXTERIOR

### *SOFFITS AND OVERHANGS*

There are openings adjacent the ends of the outlook boards under the overhang through which insects and



rodents can enter into the attic. These openings should be covered with wood, wire mesh or filled with aerosol foam.



### **GUTTERS AND DOWNSPOUTS**

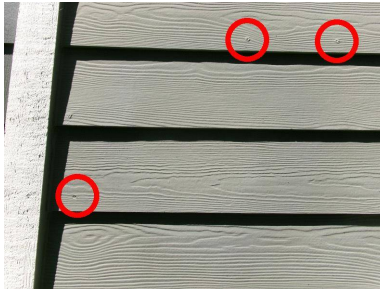
Downspouts draining directly onto the asphalt shingle surface causes excessive wear of the roofing material. Downspout extensions to the lower gutters should be installed to prevent excessive wear and tear of the roofing.



### **PAINT**

The bottom edge of the lower sections of siding on the exterior are unprotected. Paint protects the siding from moisture absorption and its propensity to hold paint. Painting of the exposed edges is recommended.

Siding nails that have damaged the surface overlay need to be caulked. Caulking prevents water intrusion of the siding. Consideration should be given to caulking the siding as necessary. Exterior caulking is recommended.



### **WATER HEATER**

#### **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

### MAIN FLOOR BATHROOM COUNTERTOP

The backsplash caulking is cracked. Cracking of the caulk allows water to enter the gap and is difficult to clean. Caulking the cracks and/or gaps is recommended.



### PRIMARY BEDROOM BATHROOM FLOORING MATERIAL

The caulking is cracked at the intersection between the tub and floor. This can lead to water damage to the flooring and substrate. Caulking this area with a flexible caulk is recommended.



### COUNTERTOP

The side backsplash is missing. The installation of a backsplash 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

**Clark Inspections**  
3834 Golden Eagle Loop SE  
Olympia WA 98513  
206-660-9200  
clarkinspections@gmail.com

**Report:** John & Maggie Yeung

**Confidential Inspection Report**  
**16938 NE 118th Way**  
**Redmond, WA 98052**

**June 21, 2024**

**Prepared for: John & Maggie Yeung**

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

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# GENERAL INFORMATION

## CLIENT & SITE INFORMATION:

DATE OF INSPECTION: 6/21/2024.  
 INSPECTOR'S NAME: Terry Clark.  
 CLIENT NAME: Mr. & Ms. John & Maggie Yeung.  
 MAILING ADDRESS: 16938 NE 118th Way  
 Redmond, WA.  
 CLIENT E-MAIL ADDRESS: [cbyeung318@gmail.com](mailto:cbyeung318@gmail.com).  
 ADDRESS OF PROPERTY INSPECTED: 16938 NE 118th Way  
 Redmond, WA.



South elevation



North elevation

## CLIMATIC CONDITIONS:

WEATHER: Partly Cloudy.  
 APPROXIMATE OUTSIDE TEMPERATURE: 75 degrees.

## BUILDING CHARACTERISTICS:

MAIN ENTRY FACES: South.  
 ESTIMATED AGE OF BUILDING: The building is approximately 13 years old.  
 BUILDING TYPE: Two story single family residence.  
 SPACE BELOW GRADE: Crawlspace.

## SCOPE, PURPOSE AND LIMITATIONS

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 its 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

### 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.

### 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:

**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.

**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.

**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.

**DRIVEWAY** The driveway is paved with concrete. There are minor shrinkage cracks visible in the concrete. Shrinkage cracks are common and do not affect the serviceability of the concrete.

**PATIO** The concrete patio is properly installed and is performing its intended function.

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

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.

**FENCES AND GATES** The fences are properly installed and are performing their intended function. The gates are properly installed and are performing their intended function.

## 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:**

**PRIMARY EXTERIOR WALL CLADDING** Hardie Plank cement fiber siding is used as an exterior wall cladding. It is manufactured from Portland Cement, ground sand, cellulose fiber, select additives and water. It is a durable material that will not burn, rot or dent. It holds paint tenaciously. It comes with a limited 50 year, transferable product warranty. It is a very popular material due to its cost and durability. The siding has been properly installed and is functioning as intended.

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

**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.

**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 openings adjacent the ends of the outlook boards under the overhang through which insects and rodents can enter into the attic. These openings should be covered with wood, wire mesh or filled with aerosol foam.



**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.

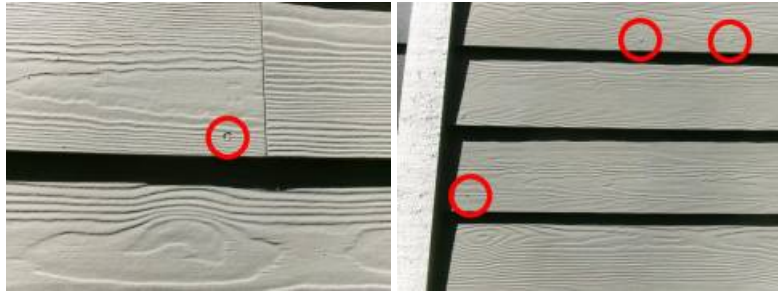
Downspouts draining directly onto the asphalt shingle surface causes excessive wear of the roofing material. Downspout extensions to the lower gutters should be installed to prevent excessive wear and tear of the roofing.



**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.

The bottom edge of the lower sections of siding on the exterior are unprotected. Paint protects the siding from moisture absorption and its propensity to hold paint. Painting of the exposed edges is recommended.

Siding nails that have damaged the surface overlay need to be caulked. Caulking prevents water intrusion of the siding. Consideration should be given to caulking the siding as necessary. Exterior caulking is recommended.



PORCH  
EXTERIOR DOORS

The front porch is in good condition.

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

## 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:**

<i>GENERAL INFORMATION</i>	The roofing material is asphalt composition shingles. The slope or pitch of the roof is medium in some areas and steep in others. Metal gutters are used to collect the roof water drainage. The roof is approximately 13 years old.
<i>INSPECTION METHOD</i>	The roof was inspected from the ground.
<i>GAS APPLIANCE VENTS</i>	The visible portion of the gas appliance type B vent is properly installed and in good condition.
<i>FLASHINGS</i>	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.
<i>GENERAL COMMENTS</i>	The roofing material was properly installed and is in serviceable condition. With proper care and maintenance this roof should remain serviceable for up to 10 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:**

- |                           |                    |   |
|---------------------------|--------------------|---|
| <i>ACCESS</i>             |                    | The attic access holes are located in the bedroom and in the bedroom closet. Due to limited clearances, the attic was inspected from the access hole only.  |
| <i>VENTILATION</i>        |                    | The attic is adequately vented.   |
| <i>MECHANICAL SYSTEMS</i> | <i>VENTILATION</i> | The visible portions of the air ducts for the bathroom fans are properly installed and are performing their intended function.  |
| <i>PEST CONTROL</i>       |                    | The first step in preventing rodents from entering 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 activity. |

## 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:**

*GARAGE FLOOR*

There are small shrinkage cracks visible in the concrete, however, there is no vertical displacement of any portion of the slab. Shrinkage cracks are common in garage floors and are not considered a structural defect. The garage floor is properly installed and is functioning as intended.

*OVERHEAD GARAGE DOORS*

The garage is fitted with a single roll-up door. The garage door is properly installed and is performing its intended function.

*GARAGE DOOR OPENER*

The garage door opener was tested and was functional. The auto stop reverse safety switch was functioning as intended.

The Photo-eye beam was installed to high above the floor of the garage to adequately offer protection for small children and/or pets. We recommend that the photo-eye be lowered to within 4-6" of the floor.



*FIRE SEPARATION*

The fire resistive barrier between the garage and the living space is properly installed and in serviceable condition.

There are voids (adjacent the overhead door brackets) and cable penetration 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.



*PASSAGE DOOR*

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

*EXTERIOR DOOR(S)*

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

## 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:

<i>ELECTRICAL SPECIFICATIONS</i>	<i>SYSTEM</i>	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.
<i>UNDERGROUND LATERAL</i>	<i>SERVICE</i>	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.
<i>SERVICE PANEL LOCATION</i>		The service panel is located in the garage.
<i>MAIN DISCONNECT LOCATION</i>		The main disconnect is an integral part of the service panel. The ampacity of the main disconnect is 200 amps.
<i>SERVICE CONDUCTORS/CABLES/RACEWAY</i>	<i>ENTRANCE</i>	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.
<i>AYS</i>		
<i>SERVICE AMPACITY</i>		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.
<i>SERVICE BONDING</i>	<i>GROUNDING AND</i>	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.
<i>SERVICE PANEL</i>		The electrical service panel is properly installed and in serviceable condition. 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.
<i>OVER CURRENT PROTECTION</i>		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.
<i>WIRING</i>		There were no defects observed in the visible and accessible wiring.
<i>ALUMINUM WIRING</i>		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.
<i>RECEPTACLES</i>		All of the readily accessible receptacles were tested. Testing revealed defects requiring repair. These defects are outlined below.
<i>GFCI RECEPTACLES</i>		There are several loose receptacles throughout the home. This is a potential shock and a fire hazard. All loose receptacles should be repaired as necessary.
<i>AFCI RECEPTACLES</i>		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 the bathrooms, kitchen, garage and exterior.
<i>AFCI RECEPTACLES</i>		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

*LUMINARIES*  
*SWITCHES*

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.

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

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



## 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:

<i>GENERAL INFORMATION</i>	Heat is provided by a natural gas fired forced air furnace. The furnace is located in the garage. The furnace is approximately 14 years old. The input rating of the furnace is 75,000 BTU. This BTU rating is typical of a home of this size and age.
<i>GAS PIPING</i>	The flex connector is properly installed and is performing its intended function.
<i>AUTOMATIC GAS VALVE</i>	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.
<i>IGNITION</i>	The furnace uses an electronic spark ignition. This component was functioning as intended.
<i>BURNERS</i>	The gas burners are properly installed and are functioning as intended.
<i>COMBUSTION AIR</i>	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.
<i>ELEVATION ABOVE GARAGE FLOOR</i>	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.
<i>HEAT EXCHANGER</i>	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.
<i>DRAFT INDUCER</i>	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.
<i>VENT</i>	The furnace uses a type B vent from the top of the furnace to the exterior. The visible portion of the B vent is properly installed and is functioning as intended.
<i>BLOWER</i>	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.
<i>AIR FILTER</i>	The air filter is located in the return air plenum adjacent to the furnace. The air filter should be cleaned or replaced at least 2-3 times during the heating season.
<i>DUCTS</i>	The ducts are constructed out of sheet metal and flex duct. The ducts are properly installed and are performing their intended function.
<i>THERMOSTAT</i>	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.
<i>GENERAL COMMENTS</i>	The furnace responded to the thermostats call for heat and all major components were functional. This type of furnace should be serviced annually.

## 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:**

<i>LOCATION OF UNIT</i>	The water heater is located in the garage.
<i>GENERAL INFORMATION</i>	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 was just recently installed. Water heaters of this type typically last about 10-15 years.
<i>PRESSURE RELIEF VALVE</i>	The pressure relief valve is properly installed. The valve was not tested, as this could cause the valve to leak.
<i>SHUTOFF VALVE</i>	The shutoff valve for the water supply to the water heater is properly installed and is functioning as intended.
<i>WATER CONNECTIONS AT TANK</i>	The water connections at the tank are properly installed and are performing their intended function.
<i>EXPANSION TANK</i>	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.



<i>AUTOMATIC GAS VALVE</i>	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.
<i>BURNER</i>	The gas burner is properly installed and is functioning as intended.
<i>GAS PIPING</i>	The flex connector is properly installed and is performing its intended function.
<i>VENT</i>	The vent connector from the water heater to the B vent is properly installed and is functioning as intended.
<i>COMBUSTION AIR</i>	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.
<i>SEISMIC RESTRAINT</i>	The water heater is secured to the wall. This prevents it from falling over during an earthquake and rupturing gas and water lines.
<i>ELEVATION ABOVE GARAGE FLOOR</i>	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

*GENERAL COMMENTS*

that might leak from cars, lawn mowers, gas cans, etc.

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



## 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

<i>LOCATION</i>	Main Floor.
<i>SHOWER</i>	The one piece fiberglass shower unit is properly installed and in good condition.
<i>GLASS ENCLOSURE</i>	The glass shower enclosure is labeled as tempered safety glass, is properly installed and in good condition.
<i>FLOORING MATERIAL</i>	The floor is covered with ceramic tile. The tile is properly installed and is in good condition.
<i>TOILET</i>	The toilet was flushed and was functioning as intended.
<i>SINK</i>	The bathroom sink is properly installed and is in good condition.
<i>DRAINS, TRAPS AND TRAP ARMS</i>	The sink drain is properly installed and is performing its intended function.
<i>FAUCET FIXTURES</i>	The faucet fixtures were tested and were functioning as intended.
<i>CABINETS</i>	The bathroom cabinet is properly installed and is in good condition.
<i>COUNTERTOP</i>	The countertop is covered with granite tile. The countertop is properly installed and in good condition.

The backsplash caulking is cracked. Cracking of the caulk allows water to enter the gap and is difficult to clean. Caulking the cracks and/or gaps is recommended.



<i>VENTILATION</i>	Ventilation in this bathroom is provided by a ceiling fan. This fan was operated and was found to be working satisfactorily.
<i>GFCI RECEPTACLES</i>	GFCI protected receptacles were found in this bathroom.

### BATHROOM

<i>LOCATION</i>	Primary Bedroom.
<i>SHOWER</i>	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.
<i>BATHTUB</i>	The hydromassage tub was filled to the overflow. It was run for several minutes and functioned as intended.

Failure to follow proper cleaning and maintenance procedures for the hydromassage tub circulation system can result in the growth and transmission of infectious bacteria. The circulation system should be flushed regularly.

The pump motor is not bonded. This is a safety concern. The installation of a bonding wire between the motor chassis and water pipes is recommended.



*TUB WALLS*

The tile around the bathtub is in good condition.

*GLASS ENCLOSURE*

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

*FLOORING MATERIAL*

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

The caulking is cracked at the intersection between the tub and floor. This can lead to water damage to the flooring and substrate. Caulking this area with a flexible caulk is recommended.



*TOILET*

The toilet was flushed and was functioning as intended.

*SINK*

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

*DRAINS, TRAPS AND TRAP ARMS*

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

*FAUCET FIXTURES*

The faucet fixtures were tested and were functioning as intended.

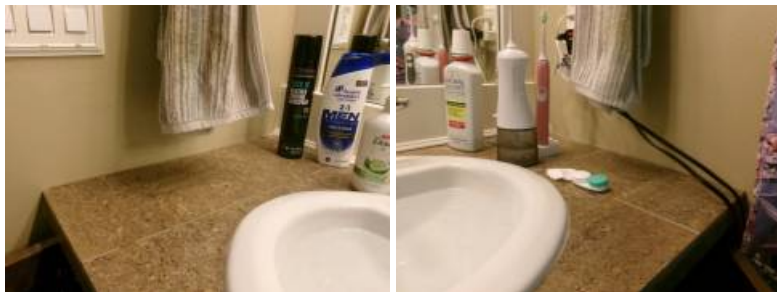
*CABINETS*

The finish on the bathroom cabinet is slightly worn. The cabinet is otherwise in good condition.

*COUNTERTOP*

The countertop is covered with granite tile. The countertop is properly installed and in good condition.

The side backsplash is missing. The installation of a backsplash is recommended.



*VENTILATION*

Ventilation in this bathroom is provided by ceiling fans. The fans were operated and were found to be working satisfactorily.

*GFCI RECEPTACLES*

GFCI protected receptacles were found in this bathroom.

**BATHROOM**

*LOCATION* Upper Floor Hallway.

*BATHTUB* The one piece fiberglass bathtub and shower unit is properly installed and in good condition.

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

It is important to maintain the caulking around bathtubs and showers, especially at the intersection between the tub or shower and the floor. Failure to maintain this seal will often result in damage to flooring materials, subflooring and framing.

*TOILET* The toilet was flushed and was functioning as intended.

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

*DRAINS, TRAPS AND TRAP ARMS* The sink drains are properly installed and are performing their intended function.

*FAUCET FIXTURES* The faucet fixtures were tested and were functioning as intended.

*CABINETS* The finish on the bathroom cabinet is slightly worn. The cabinet is otherwise in good condition.

*COUNTERTOP* The countertop is covered with granite tile. The countertop is properly installed and in good condition.

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

*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:**

- FLOORING MATERIAL* The floor is covered with sheet vinyl. The floor is properly installed and is in good condition.
- VENTILATION* Ventilation in this laundry room is provided by a ceiling fan. This fan was operated and was found to be working satisfactorily.
- SINK* The laundry sink is in good condition.  
  
The laundry tub was free standing and was not secured to the floor or wall. Attachment is recommended to prevent damage or leakage to the attached plumbing.
- SINK FAUCET* The sink faucet is properly installed and is in good condition.
- DRAINS, TRAPS AND TRAP ARMS* The sink drain is properly installed and is performing its intended function.
- 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.  
  
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.
- 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:

<i>PLUMBING SPECIFICATIONS</i>	<i>SYSTEM</i>	The building is on a public water supply system. The building is connected to the municipal sewer system. Copper tubing is used for the water supply piping. ABS plastic is used for the drain, waste and vent pipes.
<i>MAIN WATER SHUTOFF VALVE</i>		The main water supply shutoff valve is located in the garage adjacent to the water heater. It was tested and was functional.
<i>MAIN WATER LINE</i>		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.
<i>INTERIOR WATER PIPES</i>	<i>SUPPLY</i>	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.
<i>WATER PRESSURE</i>		The water pressure is 55 PSI. This is in the normal range of 30-80 PSI.
<i>DRAIN AND WASTE PIPES</i>		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".
<i>VENT PIPES</i>		The visible portions of the vent pipes are properly installed and are performing their intended function.
<i>FAUCET FIXTURES</i>		All faucet fixtures were tested and were functioning as intended.
<i>HOSE BIBBS AND SUPPLY PIPES</i>	<i>EXTERIOR</i>	The hose bibbs on this building are the frost free type. These hose bibbs typically will not freeze as long as the hoses are removed. Failure to remove hoses during freezing weather could result in a cracked pipe and leakage. The bibbs were tested and were functioning as intended.
<i>GAS PIPING</i>		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.
<i>GAS METER</i>		The gas meter is located on the east 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.

## 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:

#### *STAIRS*

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

#### *GUARD RAILINGS*

The guard railing is properly installed and is functioning as intended.

#### *WALLS AND CEILINGS*

There are minor cracks in the walls and/or ceilings. This 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 will often reoccur several months after the repairs have been completed. This is due to seasonal movement of the structure caused by changes in humidity.

#### *DOORS*

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

#### *CLOSET DOORS*

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

#### *WINDOWS*

The window frames are constructed from PVC 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.

#### *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.

#### *DOOR BELL*

The doorbell was functioning as intended.

## FIREPLACES, WOOD STOVES AND SPACE HEATERS

### The following components were inspected:

#### *METAL FIREPLACES*

The fireplace is a factory built, direct vent, gas appliance. The firebox is sealed from the home interior which makes it more efficient and prevents combustion gases from spilling into the building. The vent for this type of fireplace is mounted on the exterior wall in back of the appliance. The gas valve and piezo ignition is located underneath behind a removable panel. Instructions for lighting the pilot are located in this area. Testing revealed that the direct vent fireplace was functioning properly.

## 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:

#### *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).

#### *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,

**ASBESTOS**

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.

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:

<i>ATTIC INSULATION</i>	The attic is insulated with blown in fiberglass insulation. The approximate R value of this insulation is 41. This provides good resistance to heat transfer.
<i>VAULTED CEILING</i>	The insulation in the vaulted ceiling was not visible for inspection. Houses of this age typically have 12" R-30 fiberglass batt insulation between the rafters.
<i>WALL INSULATION</i>	The walls are insulated with fiberglass batt insulation. The 2x6 walls suggest that it is 6" R-19 fiberglass.
<i>FLOOR INSULATION</i>	The floors are insulated with 12" R-30 fiberglass batt insulation. The floor insulation has been properly installed and is in good condition.
<i>DUCT INSULATION</i>	The duct insulation has been properly installed and is performing its intended function.

## 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:

<i>GENERAL INFORMATION</i>	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 engineered truss joists. The subfloor is oriented strand board (OSB). The stud walls are constructed from 2 X 6 dimensional lumber. The exterior wall sheathing is oriented strand board (OSB). The roof structure is constructed out of a combination of manufactured trusses and conventional stick framing. The roof sheathing is oriented strand board (OSB).
<i>FOUNDATION</i>	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.
<i>MUDSILL</i>	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.
<i>ANCHOR BOLTS</i>	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.
<i>BEAMS AND POSTS</i>	The beams and posts are properly installed and are performing their intended function.
<i>FLOOR JOISTS</i>	The visible portions of the floor joists are properly installed and are performing their intended function.
<i>SUBFLOORING</i>	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.
<i>WALLS</i>	The walls are covered with finished surfaces and therefore were not visible for inspection. No evidence of defects or deficiencies was observed.
<i>ROOF STRUCTURE</i>	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.
<i>ROOF SHEATHING</i>	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:

<i>CRAWLSPACE ACCESS</i>	The crawlspace access is located in the closet under the stairs. The crawlspace was entered and all accessible areas were inspected.
<i>MOISTURE</i>	The soil was damp under the vapor barrier, however, no evidence of water intrusion or standing water problems was observed.
<i>VENTILATION</i>	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.
<i>VAPOR RETARDER</i>	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.
<i>PEST CONTROL</i>	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.