

Baker Real Estate Inspections

Property Inspection Report
Exclusively Prepared For
Erin Garcia



1075 W. 17th Street
Houston, TX 77008



Sandy Baker
Master Inspector

Texas Real Estate Commission
Professional Inspector License #6462



Residential Combination
Inspector

PROPERTY INSPECTION REPORT

Prepared For: Erin Garcia
(Name of Client)

Concerning: 1075 W. 17th Street, Houston, TX 77008
(Address or Other Identification of Inspected Property)

By: Sandy Baker, Lic #TREC 6462, ICC 8002272-R5 04/17/2019
(Name and License Number of Inspector) (Date)

(Name, License Number of Sponsoring Inspector)

PURPOSE, LIMITATIONS AND INSPECTOR / CLIENT RESPONSIBILITIES

This property inspection report may include an inspection agreement (contract), addenda, and other information related to property conditions. If any item or comment is unclear, you should ask the inspector to clarify the findings. It is important that you carefully read ALL of this information.

This inspection is subject to the rules ("Rules") of the Texas Real Estate Commission ("TREC"), which can be found at www.trec.texas.gov.

The TREC Standards of Practice (Sections 535.227-535.233 of the Rules) are the minimum standards for inspections by TREC-licensed inspectors. An inspection addresses only those components and conditions that are present, visible, and accessible at the time of the inspection. While there may be other parts, components or systems present, only those items specifically noted as being inspected were inspected. The inspector is NOT required to turn on decommissioned equipment, systems, utility services or apply an open flame or light a pilot to operate any appliance. The inspector is NOT required to climb over obstacles, move furnishings or stored items. The inspection report may address issues that are code-based or may refer to a particular code; however, this is NOT a code compliance inspection and does NOT verify compliance with manufacturer's installation instructions. The inspection does NOT imply insurability or warrantability of the structure or its components. Although some safety issues may be addressed in this report, this inspection is NOT a safety/code inspection, and the inspector is NOT required to identify all potential hazards.

In this report, the inspector shall indicate, by checking the appropriate boxes on the form, whether each item was inspected, not inspected, not present or deficient and explain the findings in the corresponding section in the body of the report form. The inspector must check the Deficient (D) box if a condition exists that adversely and materially affects the performance of a system or component or constitutes a hazard to life, limb or property as specified by the TREC Standards of Practice. General deficiencies include inoperability, material distress, water penetration, damage, deterioration, missing components, and unsuitable installation. Comments may be provided by the inspector whether or not an item is deemed deficient. The inspector is not required to prioritize or emphasize the importance of one deficiency over another.

Some items reported may be considered life-safety upgrades to the property. For more information, refer to Texas Real Estate Consumer Notice Concerning Recognized Hazards or Deficiencies below.

THIS PROPERTY INSPECTION IS NOT A TECHNICALLY EXHAUSTIVE INSPECTION OF THE STRUCTURE, SYSTEMS OR COMPONENTS. The inspection may not reveal all deficiencies. A real estate inspection helps to reduce some of the risk involved in purchasing a home, but it cannot eliminate these risks, nor can the inspection anticipate future events or changes in performance due to changes in use or occupancy. It is recommended that you obtain as much information as is available about this property, including any seller's disclosures, previous inspection reports, engineering reports, building/remodeling permits, and reports performed for or by relocation companies, municipal inspection departments, lenders, insurers, and appraisers. You should also attempt to determine whether repairs, renovation, remodeling, additions, or other such activities have taken place at this property. It is not the inspector's responsibility to confirm that information

obtained from these sources is complete or accurate or that this inspection is consistent with the opinions expressed in previous or future reports.

ITEMS IDENTIFIED IN THE REPORT DO NOT OBLIGATE ANY PARTY TO MAKE REPAIRS OR TAKE OTHER ACTIONS, NOR IS THE PURCHASER REQUIRED TO REQUEST THAT THE SELLER TAKE ANY ACTION. When a deficiency is reported, it is the client's responsibility to obtain further evaluations and/or cost estimates from qualified service professionals. Any such follow-up should take place prior to the expiration of any time limitations such as option periods. Evaluations by qualified tradesmen may lead to the discovery of additional deficiencies which may involve additional repair costs. Failure to address deficiencies or comments noted in this report may lead to further damage of the structure or systems and add to the original repair costs. The inspector is not required to provide follow-up services to verify that proper repairs have been made.

Property conditions change with time and use. For example, mechanical devices can fail at any time, plumbing gaskets and seals may crack if the appliance or plumbing fixture is not used often, roof leaks can occur at any time regardless of the apparent condition of the roof, and the performance of the structure and the systems may change due to changes in use or occupancy, effects of weather, etc. These changes or repairs made to the structure after the inspection may render information contained herein obsolete or invalid. This report is provided for the specific benefit of the client named above and is based on observations at the time of the inspection. If you did not hire the inspector yourself, reliance on this report may provide incomplete or outdated information. Repairs, professional opinions or additional inspection reports may affect the meaning of the information in this report. It is recommended that you hire a licensed inspector to perform an inspection to meet your specific needs and to provide you with current information concerning this property.

TEXAS REAL ESTATE CONSUMER NOTICE CONCERNING HAZARDS OR DEFICIENCIES

Each year, Texans sustain property damage and are injured by accidents in the home. While some accidents may not be avoidable, many other accidents, injuries, and deaths may be avoided through the identification and repair of certain hazardous conditions. Examples of such hazards include:

- malfunctioning, improperly installed or missing ground fault circuit protection (GFCI) devices for electrical receptacles in garages, bathroom, kitchens, and exterior areas;
- malfunctioning arc fault protection (AFCI) devices;
- ordinary glass in locations where modern construction techniques call for safety glass;
- malfunctioning or lack of fire safety features such as, smoke alarms, fire-rated doors in certain locations, and functional emergency escape and rescue openings in bedrooms;
- malfunctioning carbon monoxide alarms;
- excessive spacing between balusters on stairways and porches;
- improperly installed appliances;
- improperly installed or defective safety devices;
- lack of electrical bonding and grounding; and
- lack of bonding on gas piping, including corrugated stainless steel tubing (CSST).

To ensure that consumers are informed of hazards such as these, the Texas Real Estate Commission (TREC) has adopted Standards of Practice requiring licensed inspectors to report these conditions as "Deficient" when performing an inspection for a buyer or seller, if they can be reasonably determined.

These conditions may not have violated building codes or common practices at the time of the construction of the home, or they may have been "grandfathered" because they were present prior to the adoption of codes prohibiting such conditions. While the TREC Standards of Practice do not require inspectors to perform a code compliance inspection, TREC considers the potential for injury or property loss from the hazards addressed in the Standards of Practice to be significant enough to warrant this notice.

Contract forms developed by TREC for use by its real estate licensees also inform the buyer of the right to have the home inspected and can provide an option clause permitting the buyer to terminate the contract within a specified time. Neither the Standards of Practice nor the TREC contract forms requires a seller to remedy conditions revealed by an inspection. The decision to correct a hazard or any deficiency identified in an inspection report is left to the parties to the contract for the sale or purchase of the home.

INFORMATION INCLUDED UNDER "ADDITIONAL INFORMATION PROVIDED BY INSPECTOR", OR PROVIDED AS AN ATTACHMENT WITH THE STANDARD FORM, IS NOT REQUIRED BY THE COMMISSION AND MAY CONTAIN CONTRACTUAL TERMS BETWEEN THE INSPECTOR AND YOU, AS THE CLIENT. THE COMMISSION DOES NOT REGULATE CONTRACTUAL TERMS BETWEEN PARTIES. IF YOU DO NOT UNDERSTAND THE EFFECT OF ANY CONTRACTUAL TERM CONTAINED IN THIS SECTION OR ANY ATTACHMENTS, CONSULT AN ATTORNEY.

ADDITIONAL INFORMATION PROVIDED BY INSPECTOR

For inspection purposes the building is considered to face west.

Photos are representative of conditions found and not all inclusive of all areas found.

I=Inspected

NI=Not Inspected

NP=Not Present

D=Deficient

I NI NP D

I. STRUCTURAL SYSTEMS

A. Foundations

Type of Foundation(s): Pier & Beam - Crawlspace

Comments:

Inspected From:

The crawl space was inspected from the perimeter of the foundation.

The crawl space was not entered as there was not an adequate access opening of a minimum of 18 inches in height and 24 inches in width.

Fallen Insulation

Fallen insulation was noted in the crawl space. Corrections should be undertaken.



Foundation Elevation Readings taken with a Zip Level

Northwest corner of the entry (reference point)	0.0
Northwest corner of the family room	-0.6
Southwest corner of the family room	0.3
Southeast corner of the pantry	-0.2
Northeast corner of the back entry	-0.1

B. Grading and Drainage

Comments:

Soil Grade/ Yard Drains

Soil grade and drainage patterns around some areas of the house do not appear to properly direct water away from the foundation to aid in controlling runoff water should yard drains not drain properly.

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Gutters

Downspout Discharge on Roof

Downspout(s) that discharge onto the roof should be extended to discharge directly into the gutters below. This condition, if left unattended, can result in premature deterioration of the roofing under the end of the downspouts.



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C. Roof Covering Materials

Types of Roof Covering: Composition Shingles

Viewed From: The roof was observed from the ground level with binoculars. The two story home roof level does not have readable safe access.

Comments:

All components of the roof coverings were found to be performing and in satisfactory condition on the day of the inspection.

Note: I was unable to visually inspect all of the rear roof do to the close proximity of the buildings.

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I	NI	NP	D
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D. Roof Structures and Attics

Viewed From: interior of attic from the service deck

Approximate Average Depth of Insulation: 10" to 11"

Comments:

Roof Structure

Modified Strut

A strut was noted to have been modified in the attic.



Insufficient Purlin Bracing

Insufficient purlin bracing should be corrected. Purlin braces should be sized no less than the size of the rafter material they support. Purlin braces shall be continuous and supported by a 2 inch X 4 inch braces installed to bearing walls at a slope not less than 45-degrees horizontal. The braces shall not be more than 4 feet on center and the un-braced length of the braces shall not exceed 8 feet.

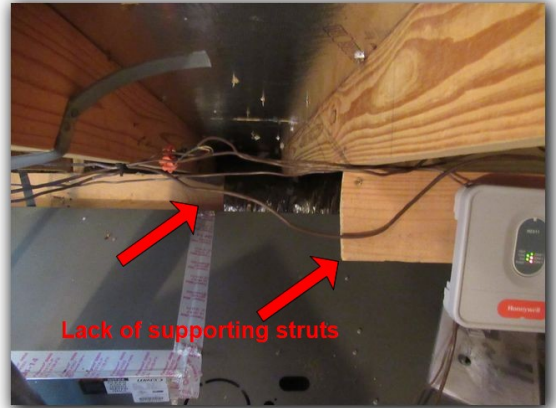
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Attic Insulation/Ventilation

Type of Exhaust Vents: static hock and ridge

Type of Intake Vents: soffit

Lack of Insulation on Water Supply Lines

There is a lack of insulation on the water supply lines within the attic space.

Improvements should be undertaken to avoid damage to the pipes in freezing weather, which can also result in interior water damage to the home as well.

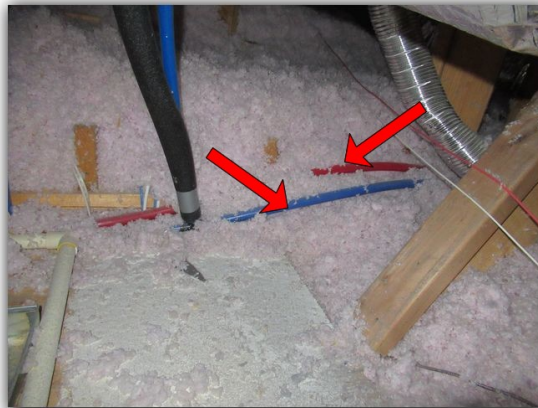
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E. Walls (Interior and Exterior)

Comments:

Interior Walls

Deteriorated Sealant

Deteriorated sealant was noted at joint in the baseboards.



Paint Failure

The paint on the window sill of the southeast bedroom has begun to peel.

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Cabinets

Paint Failure

The paint on the kitchen cabinets has begun to chip/rub off.



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Exterior Walls

Exterior Cladding: cement fiber board siding

Sealant/Caulk Needed at Wall Penetrations

Seal/caulk around all exterior siding penetrations to prevent water entry and/or air infiltration. Included but not limited to dryer, bath, and range vents, light fixtures, ect.



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F. Ceilings and Floors

Comments:

Ceilings

Functional with no significant problems noted.

Floors

Mortar Cracks

Mortar cracks were noted in the tile of the master bath.



G. Doors (Interior and Exterior)

Comments:

Interior Doors

Adjust Striker Plate

The striker plate of the following listed doors is in need of adjustment in order that the door latches properly.

master bedroom

Missing/Damaged Door Stops

Missing/damaged door stops were noted on the following listed door(s). It is recommended that missing/damaged door stops be replaced to avoid drywall damage and/or other finish damage.

pantry

half bath

Exterior Doors

Missing/Damaged Door Stops

Missing/damaged door stops were noted on the following listed door(s). It is recommended that missing/damaged door stops be replaced to avoid drywall damage and/or other finish damage.

garage

H. Windows

Comments: double pane

Window Screens Missing

The following listed window screens were found to be missing.

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I	NI	NP	D
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through out the house

Note: I was unable to to visually inspect or operate some of the windows due to height, window treatments, personal effects, large, heavy or fragile storage and/or furniture.



I. Stairways (Interior and Exterior)

Comments:

Functional with no significant problems noted.

J. Fireplaces and Chimneys

Comments:

K. Porches, Balconies, Decks, and Carports

Comments:

All components of the porch were found to be performing and in satisfactory condition on the day of the inspection.

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L. Other

Comments:

II. ELECTRICAL SYSTEMS

A. Service Entrance and Panels

Comments:

Service Entrance

Underground Service Entrance

Main Panel

Cabinet Manufacturer: Square D

Location: Garage

Box and/or Main Disconnect Rating: 200 amps

Branch Circuit Wire Type: Copper

Functional with no significant problems noted.

B. Branch Circuits, Connected Devices, and Fixtures

Type of Wiring: Copper

Comments:

Lack of Switch

No light switch was found for the pantry light.

Lights: Inoperative

The following listed light(s) is/are inoperative. If the bulbs are not blown, the circuit should be investigated.

master closet - 1

northeast bedroom - 1

Lack of Fan Remotes

There were no fan remotes found for the master bedroom and the northeast bedroom.

As a result the fan in the master bedroom could not be operated and the light on the fan in the fan in the northeast bedroom could not be turned on.

III. HEATING, VENTILATION AND AIR CONDITIONING SYSTEMS

A. Heating Equipment

Type of Systems: Centralized Forced Air System

Energy Sources: Gas

Comments:

All heating systems components appear to be performing adequately at the time of the inspection. This system is achieving an operation, function, or configuration consistent with accepted industry practices of its age.

Manufacturer: Lennox

Model # EL180UH090E60C-01

Serial # 5915A06037

Approximate Manufacture Date: Jan 2015

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B. Cooling Equipment

Type of Systems: Central Forced Air System - Zoned

Comments:

Functional with no significant problems noted.

Temperature Drop Normal Range

The drop in temperature across the coil was 20.1 - degrees which is with in normal acceptable range. Readings were taken at the evaporator coil.

Outdoor Unit

Manufacturer: Lennox

Model # 14ACXS042-230A15

Serial # 1915A33826

3 1/2 TON

Approximate Manufacture Date: Jan 2015

Indoor Unit

Manufacturer: Lennox

Model # CH35-48C-2F-3

Serial # 6014E41876

Approximate Manufacture Date: May 2014

C. Duct Systems, Chases, and Vents

Comments:

Ducts

Air Loss at Ducts/Plenum

Conditioned air loss was detected at the duck work connections at the distribution plenums.

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Heating Exhaust Vent
Properly vented to the exterior.

IV. PLUMBING SYSTEMS

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A. Plumbing Supply, Distribution Systems and Fixtures

Location of water meter: unknown

Location of main water supply valve: North exterior wall

Static water pressure reading: 60

Comments:

Sink: Drain Control Defective

The control mechanism for the hall bath bath vanity sink(s) drain(s) are not working properly and slow allow the water to seep from the sink.

Bathtub: Seal Fixtures

The bathtub fixtures needs to be re-sealed in the hall bath. It is recommended these fixtures be sealed to the bathtub surround/tile to avoid water intrusion into the wall cavity.

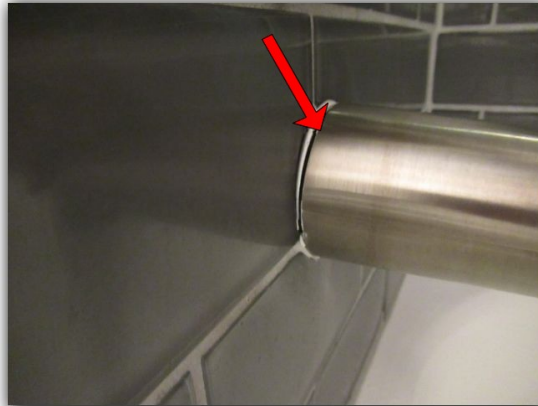
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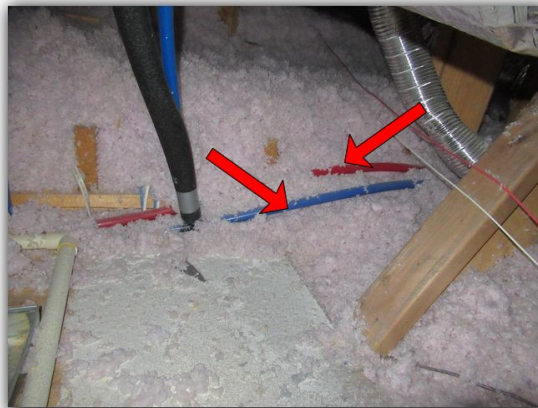
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Lack of Insulation on Water Supply Lines

There is a lack of insulation on the water supply lines within the attic space. Improvements should be undertaken to avoid damage to the pipes in freezing weather, which can also result in interior water damage to the home as well.



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B. Drains, Wastes, and Vents

Comments:

Drains/Clean Outs: Lack of Protection

The exposed plumbing drains and/or clean outs should be painted to avoid deterioration of the PVC material from exposure to UV rays.



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C. Water Heating Equipment

Energy Sources: Gas

Capacity: 40 gallons

Comments:

Plumbing Strap Disconnected

The plumbing strap needs to secure be properly to the structure as required.



Vent Lacks Proper Clearance from Combustibles

The vent pipe serving the water heater does not have safe clearance from combustible materials. Double walled B Gas vents require a minimum of 1-inch clearance from combustible materials. *This condition should be improved for safety reasons.*

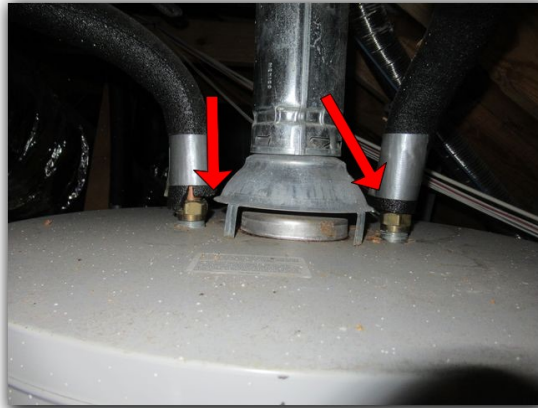
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Location: Attic
Manufacturer: Bradford White
Model # M4403S6FRN
Serial # LF34586832
Approximate Mfr. Date: June 2014

D. Hydro-Massage Therapy Equipment
Comments:

E. Other
Comments:

V. APPLIANCES

A. Dishwashers
Comments:
Functional with no significant problems noted.

Manufacturer: Whirlpool
Model # WDT720PADM1
Serial # F51274633

B. Food Waste Disposers
Comments:
Functional with no significant problems noted.

Manufacturer: In Sink Erator
Model # 1-87
Serial # 15031869787

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C. Range Hood and Exhaust Systems

Comments:

Functional with no significant problems noted.

Manufacturer: Whirlpool
Model # GXW7330DXS1
Serial # XS 514560064
Type: venting to exterior

D. Ranges, Cooktops, and Ovens

Comments:

Cooktop

Functional with no significant problems noted.

note: Must turn control just past the ignite for the burners to lite.

Manufacturer: Whirlpool
Model # WCG51US0DS00
Serial # D51516245

Built in Oven

Functional with no significant problems noted.

Manufacturer: Whirlpool
Model # WOS51ECOAS02
Serial # D51410727

E. Microwave Ovens

Comments:

Functional with no significant problems noted.

Manufacturer: Whirlpool
Model # WMC30516AS0
Serial # XV50500328

F. Mechanical Exhaust Vents and Bathroom Heaters

Comments:

Functional with no significant problems noted.

G. Garage Door Operators

Comments:

Functional with no significant problems noted.

Manufacturer: Chamberlain

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Model # Lift Master My Q

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H. Dryer Exhaust Systems

Comments:

Vent Not Sealed to Roof Bonnet

The dryer vent is not properly sealed to the roof bonnet as it has separated. Therefore lint has fallen back into the attic space. The lint is considered to be highly flammable material thus creating a fire hazard. Improvements should be undertaken by sealing the vent properly to the roof bonnet.



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I. Other

Comments:

ADDENDUM: MAINTENANCE ADVICE

Upon Taking Ownership

After taking possession of a new home, there are some maintenance and safety issues that should be addressed immediately. The following checklist should help you undertake these improvements:

- * Change the locks on all exterior entrances, for improved security.
- * Check that all windows and doors are secure. Improve window hardware as necessary. Security rods can be added to sliding windows and doors. Consideration could also be given to a security system.
- * Install smoke detectors on each level of the home. Ensure that there is a smoke detector outside all sleeping areas. Replace batteries on any existing smoke detectors and test them. Make a note to replace batteries again in one year.
- * Create a plan of action in the event of a fire in your home. Ensure that there is an operable window or door in every room of the house. Consult with your local fire department regarding fire safety issues and what to do in the event of fire.
- * Examine driveways and walkways for trip hazards. Undertake repairs where necessary.
- * Examine the interior of the home for trip hazards. Loose or torn carpeting and flooring should be repaired.
- * Undertake improvements to all stairways, decks, porches and landings where there is a risk of falling or stumbling.
- * Review your home inspection report for any items that require immediate improvement or further investigation. Address these areas as required.
- * Install rain caps and vermin screens on all chimney flues, as necessary.
- * Investigate the location of the main shut-offs for the plumbing, heating and electrical systems. If you attended the home inspection, these items would have been pointed out to you.

Regular Maintenance

EVERY MONTH

- * Check that fire extinguisher(s) are fully charged. Re-charge if necessary.
- * Examine heating/cooling air filters and replace or clean as necessary.
- * Inspect and clean humidifiers and electronic air cleaners.
- * If the house has hot water heating, bleed radiator valves.
- * Clean gutters and downspouts. Ensure that downspouts are secure, and that the discharge of the downspouts is appropriate. Remove debris from window wells.
- * Carefully inspect the condition of shower enclosures. Repair or replace deteriorated grout and caulk. Ensure that water is not escaping the enclosure during showering. Check below all plumbing fixtures for evidence of leakage.
- * Repair or replace leaking faucets or shower heads.
- * Secure loose toilets, or repair flush mechanisms that become troublesome.

SPRING AND FALL

- * Examine the roof for evidence of damage to roof coverings, flashings and chimneys.
- * Look in the attic (if accessible) to ensure that roof vents are not obstructed. Check for evidence of leakage, condensation or vermin activity. Level out insulation if needed.
- * Trim back tree branches and shrubs to ensure that they are not in contact with the house.
- * Inspect the exterior walls and foundation for evidence of damage, cracking or movement. Watch for bird nests or other vermin or insect activity.
- * Survey the basement and/or crawl space walls for evidence of moisture seepage.
- * Look at overhead wires coming to the house. They should be secure and clear of trees or other obstructions.

- * Ensure that the grade of the land around the house encourages water to flow away from the foundation.
- * Inspect all driveways, walkways, decks, porches, and landscape components for evidence of deterioration, movement or safety hazards.
- * Clean windows and test their operation. Improve caulking and weather-stripping as necessary. Watch for evidence of rot in wood window frames. Paint and repair window sills and frames as necessary.
- * Test all ground fault circuit interrupter (GFCI) devices, as identified in the inspection report.
- * Shut off isolating valves for exterior hose bibs in the fall, if below freezing temperatures are anticipated.
- * Test the Temperature and Pressure Relief (TPR) Valve on water heaters.
- * Inspect for evidence of wood boring insect activity. Eliminate any wood/soil contact around the perimeter of the home.
- * Test the overhead garage door opener, to ensure that the auto-reverse mechanism is responding properly. Clean and lubricate hinges, rollers and tracks on overhead doors.
- * Replace or clean exhaust hood filters.
- * Clean, inspect and/or service all appliances as per the manufacturer's recommendations.

ANNUALLY

- * Replace smoke detector batteries.
- * Have the heating, cooling and water heater systems cleaned and serviced.
- * Have chimneys inspected and cleaned. Ensure that rain caps and vermin screens are secure.
- * Examine the electrical panels, wiring and electrical components for evidence of overheating. Ensure that all components are secure. Flip the breakers on and off to ensure that they are not sticky.
- * If the house utilizes a well, check and service the pump and holding tank. Have the water quality tested. If the property has a septic system, have the tank inspected (and pumped as needed).
- * If your home is in an area prone to wood destroying insects (termites, carpenter ants, etc.), have the home inspected by a licensed specialist. Preventative treatments may be recommended in some cases.

Prevention Is The Best Approach

Although we've heard it many times, nothing could be more true than the old cliché "an ounce of prevention is worth a pound of cure." Preventative maintenance is the best way to keep your house in great shape. It also reduces the risk of unexpected repairs and improves the odds of selling your house at fair market value, when the time comes.

Please feel free to contact our office should you have any questions regarding the operation or maintenance of your home. Enjoy your home!

ADDENDUM: CARBON MONOXIDE INFORMATION

What is carbon monoxide (CO) and how is it produced in the home?

CO is a colorless, odorless, toxic gas. It is produced by the incomplete combustion of solid, liquid and gaseous fuels. Appliances fueled with gas, oil, kerosene, or wood may produce CO. If such appliances are not installed, maintained, and used properly, CO may accumulate to dangerous levels.

What are the symptoms of CO poisoning and why are these symptoms particularly dangerous?

Breathing CO causes symptoms such as headaches, dizziness, and weakness in healthy people. CO also causes sleepiness, nausea, vomiting, confusion and disorientation. At very high levels, it causes loss of consciousness and death.

This is particularly dangerous because CO effects often are not recognized. CO is odorless and some of the symptoms of CO poisoning are similar to the flu or other common illnesses.

Are some people more affected by exposure to CO than others?

CO exposures especially affect unborn babies, infants, and people with anemia or a history of heart disease. Breathing low levels of the chemical can cause fatigue and increase chest pain in people with chronic heart disease.

How many people die from CO poisoning each year?

In 1989, the most recent year for which statistics are available, there were about 220 deaths from CO poisoning associated with gas-fired appliances, about 30 CO deaths associated with solid-fueled appliances (including charcoal grills), and about 45 CO deaths associated with liquid-fueled heaters.

How many people are poisoned from CO each year?

Nearly 5,000 people in the United States are treated in hospital emergency rooms for CO poisoning; this number is believed to be an underestimate because many people with CO symptoms mistake the symptoms for the flu or are misdiagnosed and never get treated.

How can production of dangerous levels of CO be prevented?

Dangerous levels of CO can be prevented by proper appliance maintenance, installation, and use:

Maintenance:

- * A qualified service technician should check your home's central and room heating appliances (including water heaters and gas dryers) annually. The technician should look at the electrical and mechanical components of appliances, such as thermostat controls and automatic safety devices.
- * Chimneys and flues should be checked for blockages, corrosion, and loose connections.
- * Individual appliances should be serviced regularly. Kerosene and gas space heaters (vented and unvented) should be cleaned and inspected to insure proper operation.
- * CPSC recommends finding a reputable service company in the phone book or asking your utility company to suggest a qualified service technician.

Installation:

- * Proper installation is critical to the safe operation of combustion appliances. All new appliances have installation instructions that should be followed exactly. Local building codes should be followed as well.
- * Vented appliances should be vented properly, according to manufacturer's instructions.
- * Adequate combustion air should be provided to assure complete combustion.
- * All combustion appliances should be installed by professionals.

Appliance Use:

Follow manufacturer's directions for safe operation.

- * Make sure the room where an unvented gas or kerosene space heater is used is well ventilated; doors leading to another room should be open to insure proper ventilation.
- * Never use an unvented combustion heater overnight or in a room where you are sleeping.

Are there signs that might indicate improper appliance operation?

Yes, these are:

- * Decreasing hot water supply
- * Furnace unable to heat house or runs constantly
- * Sooting, especially on appliances
- * Unfamiliar or burning odor
- * Increased condensation inside windows

Are there visible signs that might indicate a CO problem?

Yes, these are:

- * Improper connections on vents and chimneys
- * Visible rust or stains on vents and chimneys
- * An appliance that makes unusual sounds or emits an unusual smell
- * An appliance that keeps shutting off (Many new appliances have safety components attached that prevent operation if an unsafe condition exists. If an appliance stops operating, it may be because a safety device is preventing a dangerous condition. Therefore, don't try to operate an appliance that keeps shutting off; call a service person instead.)

Are there other ways to prevent CO poisoning?

Yes, these are:

- * Never use a range or oven to heat the living areas of the home
- * Never use a charcoal grill or hibachi in the home
- * Never keep a car running in an attached garage

Can Carbon Monoxide be detected?

Yes, carbon monoxide can be detected with CO detectors that meet the requirements of Underwriters Laboratories (UL) standard 2034.

Since the toxic effect of CO is dependent upon both CO concentration and length of exposure, long-term exposure to a low concentration can produce effects similar to short term exposure to a high concentration.

Detectors should measure both high CO concentrations over short periods of time and low CO concentrations over long periods of time - the effects of CO can be cumulative over time. The detectors also sound an alarm before the level of CO in a person's blood would become crippling. CO detectors that meet the UL 2034 standard currently cost between \$35 and \$80.

Where should the detector be installed?

CO gases distribute evenly and fairly quickly throughout the house; therefore, a CO detector should be installed on the wall or ceiling in sleeping area/s but outside individual bedrooms to alert occupants who are sleeping.

Aren't there safety devices already on some appliances? And if so, why is a CO detector needed?

Vent safety shutoff systems have been required on furnaces and vented heaters since the late 1980s. They protect against blocked or disconnected vents or chimneys. Oxygen depletion sensors (ODS) have also been installed on unvented gas space heaters since the 1980s. ODS protect against the production of CO caused by insufficient oxygen for proper combustion. These devices (ODSs and vent safety shutoff systems) are not a substitute for regular professional servicing, and many older, potentially CO-producing appliances may not have such devices. Therefore, a CO detector is still important in any home as another line of defense.

Are there other CO detectors that are less expensive?

There are inexpensive cardboard or plastic detectors that change color and do not sound an alarm and have a limited useful life. They require the occupant to look at the device to determine if CO is present. CO concentrations can build up rapidly while occupants are asleep, and these devices would not sound an alarm to wake them.

For additional information, write to the U.S. Consumer Product Safety Commission, Washington, D.C., 20207, call the toll-free hotline at 1-800-638-2772, or visit the website <http://www.cpsc.gov>