



Home Inspection Report

Inspection Date:
June 6, 2017

Prepared for:
Someone Special

Prepared by:
**Enlightened Home
Inspections, LLC
16292 High Canal Ct.
Broomfield, CO 80023**

Mobile: (720) 273-5759

AHIT Certified

Report Number:
2017060601

Inspector:
Tim Chiles
Graduate American Home
Inspectors Training Institute
ASHI Associates Member

Inspection Address:





Table of Contents

EXPLANATION OF TERMS	3
CLIENT ADVISORY	4
INSPECTION PHOTOS	5
INSPECTION OVERVIEW	7
STRUCTURE	11
BUILDING EXTERIOR & SITE	15
ROOF SURFACE	25
PLUMBING SYSTEM	29
WATER HEATER	33
ELECTRICAL SYSTEM	36
HEATING SYSTEM	40
COOLING SYSTEM	46
INTERIOR COMPONENTS	49
ENVIRONMENTAL TOPICS	55
AFTER THE INSPECTION	57



Explanation of Terms

Thank you for your trust and confidence. In the Inspection Report that follows, we have made recommendations expressing our opinion about the importance which should be assigned to each condition that we felt should be monitored or receive additional attention.

To help you place your own priorities on our recommendations, we have expanded upon our comments by offering the following explanations:

Where we said a condition should be **monitored**, we meant this:

The condition was not yet serious, and we did not anticipate that its repair would be either urgent or costly. For the time being, we recommend continued monitoring. If the condition becomes worse, then appropriate corrective action should be undertaken immediately.

Where we said a condition should be addressed during **routine maintenance**, we meant this:

In our opinion, addressing this condition was not urgent, and it may not be very expensive. However ignoring this situation could lead to further damage, deterioration or inconvenience and, almost certainly, increased cost. We recommend attending to it during the next regular periodic maintenance session or budgeting for the services of an appropriate, competent technician.

Where we said a condition was a **significant concern**, we meant this:

While the condition may not have been urgent, nevertheless, its correction might be expensive and additional costs could be incurred, if hidden conditions are discovered during the course of repair or replacement. In any case, we recommend that these situations be addressed by competent, licensed specialists familiar and experienced with the particular system or component, *before* the close of this transaction.

Where we said a condition was **urgent**, we meant this:

An urgent condition demands immediate attention from an appropriate qualified professional or technician whose recommendations for repair or replacement should be carried out by a competent, licensed specialist familiar and experienced with the particular system or component.



Client Advisory

Please note that this *Advisory* is **not** a “summary” of the inspection report that follows. That’s why we urge you to **read** the *entire* inspection report *first*.

As an additional service to our Clients and their Real Estate Professionals, we have compiled this listing of items that, in the professional opinion of your Inspector, merit further attention, investigation, or improvement at this time. Some of these conditions may be of such a nature as to require repair or modification by a skilled craftsman, technician or other specialist. However, a homeowner such as you can easily handle the others.

In listing these items, your Inspector is not offering any opinion as to who, among the parties to your transaction, should take responsibility for addressing any of these concerns. As with most other facets of your transaction, we recommend consultation with your Real Estate Professional, Attorney or Home Builder for further advice with regards to any of the Advisory items:

Often, following your Inspector’s advice will result in enhanced safety for the occupants of your home or improved performance and/or extended life for the component in question.

INTERIOR COMPONENTS

1. The clothes dryer vent had accumulated dirt and debris. We recommend that it be cleaned out to increase the efficiency of the dryer
2. Smoke alarms (“Smoke Detectors”) were not located inside some of the bedrooms or on some of the levels. Current industry standards require the installation of a smoke alarm inside every sleeping room and on every level within the dwelling. We recommend installation of smoke alarms *that utilize photoelectric technology*, in all sleeping rooms and on all levels, prior to, or shortly after, your assuming possession of this home
3. Mold growth was visible in the upper floor hall bath. A qualified technician, using current industry practices, should remove the growth, or all materials upon which the growth was occurring should be removed and replaced. In all cases, if additional growth is discovered when presently concealed areas are opened, then further remediation or replacement should be undertaken as appropriate. Finally, as a vital part of any remediation effort, the source of the moisture that sustained the growth should be located and be properly eliminated to ensure that the growth does not reoccur.
4. The GFCI protection did not function properly when tested in the upper floor hall bath. GFCI protection should be re-established for this area for an increased margin of safety.

BUILDING EXTERIOR & SITE

5. One or more window wells on the exterior of the dwelling were placed in a walkway or patio. As a safety precaution, grills are required to cover these wells to prevent accidental falls into them. We recommend installation of adequate grills wherever necessary to comply with current industry standards.
6. A backflow prevention device (anti-siphon valve), as required by present standards could not be located during this inspection. As an upgrade, we recommend installation of such a device at each valve, or on the main supply line for the irrigation system
7. The GFCI protection did not function properly when tested on the back patio. GFCI protection should be re-established for this area for an increased margin of safety.
8. The light-actuated safety beam for the garage door opener was not installed properly to direct its beam across the door opening not more than six inches (6”) above the floor. We recommend re-installation, repair or replacement of the safety beam, as appropriate, by a competent garage door opener mechanic to restore its proper function.



Inspection Photos



#1



#2



#3



#4



#5



#6



#7



#8



#9



#10



Inspection Overview

Please Read This Important Information

Essential Wisdom and Pertinent Precautions for the Home Buyer

While most of the primary concerns arising out of your inspection today have been addressed in the Client Advisory Section of this Report, nevertheless . . .

WE STRONGLY URGE YOU TO READ ALL OF THE INSPECTION REPORT THAT FOLLOWS . . . BEFORE CLOSING ON YOUR PURCHASE!

Although, we strive in every way to give each client a competent and thorough inspection, there may be specific features, systems or components which we are not able to inspect or perhaps even confirm their existence. Even in the case of those items which receive the most thorough examination, there may be further tasks which you as the home buyer and the new homeowner, will need to address during your period of ownership.

We urge you to make arrangements, as a part of the Pre-Closing Walk-Through (see the section behind the tab toward the back of this report) to cover all of the points concerning the maintenance and operation of this home with the previous owner or occupants! To aid you in this orientation we have suggested items or tasks throughout this report which we believe you should cover with the outgoing occupants before they leave and you take over.

This inspection is only a beginning on the journey of home ownership. We know that through it you will have the advantage of being better educated than homeowners who did not have the wisdom to obtain a home inspection. However home inspectors (even the most competent ones) are not normally ordained members of the clergy! A home inspection is not a religious blessing on your new home! Just because you have had an inspection, you should not assume that you have nothing more to do but sit back and enjoy your home without conscientiously caring for and maintaining it!

Your Inspection and this Report are not substitutes for common sense!...
 . . . They are only educational supplements!



QUESTIONS AND ANSWERS ABOUT BUILDING PERMITS AND “THE CODE”

Q. *Have you ever heard someone ask the question, "Is this house 'up to Code'?"*

A. Home inspectors are often asked if something in a home we are inspecting is "up to code." Unfortunately, we usually can't answer that question for a number of reasons. A given code will be in effect for a specific home at a specific point in time. Codes vary for a multitude of reasons including one or more of the following:

1. Each jurisdiction (a town, city or county) may choose to adopt, as its standard, any one of several model codes.
2. Even though different jurisdictions may each adhere to the same model code, such as the International Residential Code, they may each use a different *version* of the same code, i.e. the "2010 Version" or the "2013 Version"; etc.
3. Even though the local jurisdiction has adopted a given version of whatever Code, that jurisdiction can still *exclude* certain provisions which were in the model document or *add* its own custom provisions to tailor the model code to be more suitable to local conditions.
4. Finally, even though a jurisdiction may have a clearly defined "Code," it is still up to the local Building Official, while on site during an inspection, to further interpret the local code for conditions specific to that house.

Thus, it should be easy to understand why a responsible Home Inspector would exclude Code compliance from the scope of their Home Inspection. Only the local Building Official can offer an opinion as to whether a given condition in a home “meets Code”. In that rare instance where our client may require an opinion as to whether a certain feature meets Code, we will refer them directly to the office of the local Building Official who will be the only person who can legally render such an opinion.

Q. *What is a Building Permit, and how important is it?*

A. Today, virtually every locality requires that an owner or their contractor obtain a Building Permit before attempting original construction, renovation which changes the original configuration of a building or structure, or replacement of certain systems or components. Examples of activities which usually require a permit are the following:

1. Original construction of a home or erection of outbuildings such as garages or barns.
2. Finishing an unfinished basement.
3. Replacement of roof coverings, electrical services, furnaces, water heaters, etc.
4. Installation of stoves or fireplaces.

A Building Permit is quite important as it signifies that the project complies with local regulations and usually has been inspected by the local Building Official. The existence of Building Permits for all activities on a given property for which a permit would be required is an important attribute. If you have questions as to whether aspects of your new home are covered by permits, seek out the local Building Department and inquire as to the status of permits. Most Building Departments can furnish a complete history, and will do so at no, or a minimal charge.

Q. *What can happen if a home owner finished, say their basement, without a Building Permit?*

A. The *current owner* of a property is responsible for Code compliance. If a homeowner finishes a basement without a Building Permit and its accompanying inspections, and there exists the possibility of undesirable outcomes:

1. Should an otherwise insurable loss occur, such as a fire, and the homeowner's insurance company determines that the loss originated from work done without a Building Permit, some insurance carriers have been known to deny coverage for the loss.
2. The current owner of an improved property is responsible for the status of permits and Code compliance. Thus, when you become "the *current owner*" of the property you will take on this responsibility should the local building official determine that remedial measures are necessary to bring your home into compliance. A likely scenario that may trigger such a determination would be when you attempt to remodel or add to your home and seek a Building Permit for this new work.

Copyright© 1998-2017, PRENTerprises, LLC., *The Summit System* All Rights Reserved. v02.15.17

This inspection was done on June 6, 2017, by Inspector Tim Chiles of Enlightened Home Inspections, LLC, (720) 273-5759. Acceptance and/or use of this Inspection Report shall constitute acceptance of, and agreement to, all of the provisions of the *Property Inspection Contract* and its *Standard Terms and Conditions* which are incorporated by reference and form a part of this Inspection Report. Summit System *Master Comment Library* Copyright © 1998 - 2017, Summit Property Inspection Systems. All Rights Reserved. www.summitinspection.net



Inspection Overview

CLIENT ADVISORY

DESCRIPTIVE INFORMATION

Weather Conditions:	• Cloudy Skies
Temperature Range:	• 70 - 80 Degrees F
Orientation of the Dwelling:	• The front entrance faced East
Age of the Dwelling:	• Estimated at 46 years, based upon the Inspector's observation
Main Water Shutoff Location:	• Basement Furnace Room
Sewer Cleanout Location:	• In the driveway
Electrical Panel Location:	• In the basement
Main Disconnect Location:	• Inside the main distribution panel
Main Gas Shut-Off Location:	• At the left-front corner of the exterior
Persons in Attendance:	• None of the parties to the transaction attended the inspection

ADVICE, PRECAUTIONS & CONDITIONS AFFECTING THE SCOPE OF THE INSPECTION

IMPORTANT NOTICE

We performed this Home Inspection for the *exclusive* use of the Client(s) named in this Report. If anyone other than our Client for this inspection reads this Report, we wish to emphasize that by contract, **our sole responsibility is to our Client(s) and no third party may rely** on this report for any purpose. If anyone else wishes to obtain current information on the condition of this home, we can arrange to perform, for a fee, a follow-up inspection on their behalf.

Location/Direction Conventions Used In This Report

Over the years, we have found that our clients appreciate information on the location of thermostats, furnace filters, electrical panels, ground fault circuit interrupt devices, and the main water, electricity and gas shutoffs, especially if they are normally hidden or hard to get to.

Specifying these critical locations becomes even more valuable for those of our clients who are not able to accompany the inspector on the inspection. Not only does this information aid you in operating and maintaining your home, but the abundance of information contained in our Report is reassurance that your inspector did, in fact, crawl into all those nasty places and examine all those “nitty-gritty” details.

Here is how we are going to call out locations and directions in your report:

When we talk about the “right” or “left side” of the house, we are assigning direction as we would if we were standing at the street and were looking towards the front door.

For features inside the home, they will be located by imagining that you are standing in the doorway of the main entrance looking towards the center of the house. Then locations will be described as “left” or “right”, and “front” or “rear”. (For example, “the left rear corner of the right front bedroom”).

This *confidential* report was prepared for Someone Special

The floors or levels are referenced from the level which we enter from the front (main) entrance. The level that you walk in on will be called the “Main Level”. If there is a basement, that is usually the level below the Main Level, and the floor above would be called the “Second Floor” or “Upper Level”.

Furnishings and Storage Limited Our Access

The presence of furnishings, personal items and decorations necessarily limited our view, and thus, the scope of the inspection. For instance, the placement of furniture prevented access to every electrical receptacle. We recommend that the purchaser conduct a thorough pre-closing walkthrough inspection immediately before the close of escrow at which time the dwelling will, hopefully, be empty. Instructions and a checklist for conducting this pre-closing walkthrough have been supplied with this Report.

Maintain Drainage to Minimize Soil Movement

Movement caused by expansion and contraction of the soils under and around the dwelling could cause exterior and interior cracking, sticking doors, and other undesirable, yet avoidable, conditions. Maintaining proper grading and adequate drainage around and from the foundation is the best and most cost-effective way to minimize this movement. If desired, more information about expansive soils could be obtained from the municipal engineering department, or a private soils engineer.



Structure

THE STRUCTURE A Definition

The purpose of the structure of any building is to carry all loads safely to the ground. The structure is the system of load bearing components, including the foundation, that support the roof, floors and exterior walls.

A HISTORY OF THE DEVELOPMENT OF RESIDENTIAL STRUCTURES

Man's earliest dwellings were provided by nature - in the form of caves, trees and rock ledges. The advent of crude tools and better hunting techniques resulted in shelters made from animal skins supported with poles. These portable shelters were ideal for the nomadic lifestyle of the hunters and gatherers.

Early settlers in America built homes and shelters of native materials - logs from wooded areas, stone from the mountains, sod from the plains and adobe in the southwest. Shelters were limited in their placement by the available supply of building materials.

During this era, the primary structural configuration was "post and beam" or "column and lintel" where walls or posts supported vertical loads while beams or lintels carried horizontal loads. Stone masonry and adobe were the beginnings of home construction utilizing modular components.

With the advent of more sophisticated machinery, particularly saw mills, structural components became even more portable and modular components more prevalent. Early building foundations were made of stone – often, "dry-laid" without mortar. Later, lime/sand mortar was used to bond the stone and then brick into a more cohesive foundation for even larger homes.

The advent of truck transportation and Portland Cement concrete brought the concrete foundation onto the home building scene. Today, in urban areas, poured concrete or concrete block foundations are typical, while in remote locations, treated timber foundations are often encountered.

THE STRUCTURE - OUR INSPECTION PROCEDURE

Our inspection of the structural aspects of your dwelling will include the following:

- A. The types of materials used to form the structure, and its configuration.
- B. An examination of the visible and accessible roof components, usually from the attic access. These will include roof sheathing or decking, trusses or rafters and may include ceiling joists, crossties and purlins.
- C. A visual check of the load bearing walls, looking for excessive and/or unusual cracking and noticeable movement of door openings causing them to become out-of-square.
- D. An evaluation of the floors, looking for humps or sags which might be symptomatic of support system movement.
- E. An examination of the visible and readily accessible aspects of the foundation and underbuilding support elements.

Copyright© 1998-2017, PRENTerprises, LLC., *The Summit System* All Rights Reserved. v05.30.16



GLOSSARY OF STRUCTURAL TERMS

While our report is designed to be clear and easy to understand, it may contain terms or phrases with which you may not be familiar. We are pleased to furnish this reference to define and clarify terms and phrases that may appear in your report.

ANCHOR BOLT - A bolt used to secure a wooden sill plate to a concrete or masonry floor or wall. The purpose of the bolt is to limit the ability of the framing to move independently of the foundation in the event of seismic activity.

BALLOON FRAMING - A framing system configuration where the exterior wall studs extend from the foundation to the roof – as opposed to Platform Framing.

BRIDGING - Short, structural members “crisscrossed” between floor or ceiling joists to provide reinforcement and load distribution.

CRACKS IN INTERIOR WALLS/CEILINGS - Hairline cracking in the interior walls and ceilings, as well as minor sloping and sagging of floors and door jambs, should be expected as a result of ordinary settlement and expansion of the foundation system, structural framing, and soil. These conditions do not, in our opinion, represent a failure of the framing system. We are not registered engineers. Additional information concerning settlement of the structure and building site would have to be obtained by retaining a qualified registered engineer.

EFFLORESCENCE - A deposit of soluble salts, usually white, on the surface of concrete and masonry walls due to evaporation of water.

FOUNDATION - Construction below or partly below grade, which provides support for exterior walls or other structural parts of the building.

GUSSET - A strap made of metal or wood attached at the connection of roof trusses or rafters or foundation area beams and posts. Gussets will help limit the framing's ability to laterally “rack” (move out of square) in the event of high winds or earthquake.

INADEQUATE FOUNDATION CLEARANCE - Subarea clearance between the soil and the wood framing which is less than eighteen inches. Insufficient clearance does not allow access for inspection or maintenance and creates a condition conducive to moisture damage and decay of wood members. We recommend a minimum of 24 inches of clearance be provided between the soil and the framing. Any damaged material found in the course of this work should be replaced.

PARGING - A coat of cement over block foundation walls, or a coat of plaster over stone or brick walls.

PLATFORM FRAMING - A framing configuration where each story is built on a platform and the studs run the height of that story only – as opposed to Balloon Framing (see above).

TO “POINT-UP” MORTAR JOINTS - To fill and finish the joints between bricks with cement or mortar. Often called “Tuck Pointing”. We recommend that this work be done by experienced professionals.

RAFTERS - A series of inclined structural members which support the roof, running from the exterior wall to the ridge board.

RIDGE BOARD - The horizontal structural member at the very top of a roof where the rafters meet.

FOUNDATION ROTATION - Many older foundations were constructed on shallow footings without steel reinforcement. The weight of the structure was placed on the outer edge of the foundation wall. This design commonly results in some leaning of the foundation. Poor drainage is often times the catalyst for rotation. Rotation does not necessarily mean that the foundation has failed. It does weaken the foundation and it is more vulnerable to excessive moisture conditions and seismic activity. However, if left unattended, this condition may worsen and eventually result in failure of the foundation.

SETTLEMENT - Settlement is that instance in which some portion of the foundation drops below the original “as built” grade. This occurs as a result of a loss of bearing due to compaction of fill, erosion of supporting soil, and/or dehydration (shrinkage of supporting soil).

SHEATHING - A term commonly used to describe material used to cover the walls, floors, or roof of a wood frame house.

SILL PLATE - Framing lumber placed on and around the foundation to support exterior wall studs and outer floor joists.

SILT MARKS - When a subarea gets wet enough for water to pond, it can leave a sediment deposit on the foundation walls and foundation area support piers.

SPALLING - Breaking off of the surface of brick or concrete.

STUD - A vertical framing member in a wall or partition, usually spaced 16 or 24 inches apart.

VAPOR BARRIER - A material used to prevent the passage of moisture. Plastic vapor barriers are sometimes applied over the subarea soil. This helps create a dry air space between damp soil and wood framing and limits the amount of moisture able to rise into the framing, thereby reducing moisture damage. A plastic vapor barrier tends to keep moist soil from drying out completely and reduces the subsequent shrinkage and cracking that often occurs. This reduces the settlement often associated with expansive soil subject to fluctuating moisture content.

Copyright © 1998-2017, PRENTerprises, LLC., *The Summit System* All Rights Reserved. v05.30.16



Structure

DESCRIPTIVE INFORMATION

Foundation Type:	• Perimeter wall with basement slab
Foundation Material:	• Poured in place concrete
Exterior Wall System:	• Conventionally framed wood stud
Interior Bearing Walls:	• Conventionally framed wood partitions
Floor System:	• Plywood over wood joists
Roof Structure:	• Factory built trusses
Roof Sheathing:	• Plywood nailed across the top chords of the roof trusses
Basement Access:	• By way of an interior stairway

OBSERVATIONS & RECOMMENDATIONS

Beams and Girders

Where visible, the support beams or girders were performing as intended and were in satisfactory condition.

Sill Plate

The sill plate, where visible, was in acceptable condition.

Floor Joists

In the areas where the floor framing was visible, all components were properly installed and in acceptable condition.

Subflooring

In general, the subfloor was in acceptable condition.

Generally, the subfloor was in acceptable condition. However, the floors did squeak in some areas. This condition can usually be eliminated with additional securing of the subflooring to the joists and should not be considered a structural defect.

Basement Floor

The basement floor was a concrete slab in acceptable condition, although small cracks were observed. This type of cracking is common and normally not structurally significant.

Basement Partition Walls

The basement partition walls, where visible, were conventional wood framed construction, and appeared to be in acceptable condition.

Basement Moisture

The basement was dry at the time of this inspection. No adverse conditions or damage related to excessive moisture was observed.

Basement Ventilation

Ventilation in the basement was adequate.

CLIENT ADVISORY

The clothes dryer vent had accumulated dirt and debris. We recommend that it be cleaned out to increase the efficiency of the dryer.

Dryer Vent

← **For important additional information on this item, please be sure to read the Client Advisory in the column to the left.**

General Comments About the Basement

All the visible structural elements, systems and components in the basement were in generally acceptable condition and were performing as would be expected for a dwelling of this age and type of construction.

Basement Partition Walls

The basement partition walls, where visible, were conventional wood framed construction, and appeared to be in acceptable condition.

Wall Framing

Where wall framing was visible, all elements were functioning as intended and in acceptable condition.

Roof Sheathing

The roof sheathing, where visible, was in acceptable condition.

Roof Trusses

The visible trusses were generally in acceptable condition and had performed adequately since their installation.

Summary Comments On The Structure

All the visible structural elements and components in this dwelling were in generally acceptable condition and were performing as would be expected for a dwelling of this age and type of construction.

ADVICE, PRECAUTIONS & CONDITIONS AFFECTING THE SCOPE OF THE STRUCTURE INSPECTION**Usually, Our Evaluation Must Be Based On Symptoms**

Most of the time, many, if not all, structural components are inaccessible. Thus, our evaluation is based only on our observations of symptoms of movement, damage, and deterioration. If there are no visible symptoms, conditions requiring repair may go undetected. We make no comment on the internal conditions of soils, foundations and framing, except as reflected in their performance.

A Word About Foundation Cracks

Cracking is common in concrete or masonry foundations. Minor cracks caused by shrinkage and/or settling can be found in even relatively new foundations. Moderate or larger cracks may indicate ongoing settling or movement and the eventual need for underpinning or foundation repair. There is no way to determine if a crack will grow in size or if new cracks will form. Most large cracks were once small. The best way to estimate the likelihood of future movement may be to monitor the number and size of cracks over a period of time.

Ceiling Joists Covered By Insulation

The ceiling joists were concealed by thermal insulation and could not be visually inspected.



Building Exterior & Site

THE EXTERIOR SHELL A Definition

The Exterior Shell is that combination of materials and components installed on the perimeter designed to shed water and protect the structure and interior finishes from damage caused by moisture delivered by rain or snow.

The exterior shell, in combination with the roof covering, is intended to keep wind and moisture from entering the dwelling.



A HISTORY OF THE DEVELOPMENT OF EXTERIOR CLADDING SYSTEMS

Up until the middle of the nineteenth century, most of the exterior cladding systems on homes consisted of the exposed surfaces of the structure. Stone or brick masonry and even logs and adobe were the structural elements used during this time, so the outside face of the exterior walls was the "weather shell" of these buildings.

With the increased availability of lumber, the structure and the weather shell became two separate, but connected elements of the building. Wood siding was applied in overlapping horizontal strips similar to the way wood had been applied to the outside of ship's hulls. Thus, the origin of the term "shiplap" siding.

While wood siding is known for its aesthetic appeal, it is also considered to be a high maintenance material when used outdoors. Anyone who has owned a home with wood on the exterior knows how often painting or staining is required. Thus, in many areas of the country stucco became popular because of its increased durability and lower maintenance demands. Today, stucco substitute materials are often applied over foam insulation board, which has been nailed to the outside face of the wood framing members. This system is known generically as "E.I.F.S.", or Exterior Insulation Finish System.

In the past 30 years, manufacturers have offered wood siding materials which are composites made up of wood fibers and chips bonded with resins. These sidings have become popular because of their lower cost and the lack of knots, splits or checks that are common in natural wood siding. With these sidings, the importance of keeping all surfaces and edges well sealed against moisture penetration is imperative. If water is allowed to saturate these components, they tend to revert to the wood chips from whence they came.

More recently, cement-based composite siding has become the material of choice because of its great durability and non-flammability.

THE EXTERIOR - OUR INSPECTION PROCEDURE

We will walk around the accessible areas of the building site examining the exterior finishes and details on the dwelling for condition, function and general state of repair. Our examination includes the primary cladding materials, trim, fascia, eaves and soffits, doors and windows, flashings, exterior plumbing and electrical details as well as decks, porches, patios, railings and other attached structures. We are watchful for the condition of gutters, downspouts, site grading adjacent to the structure and other features which might influence potential moisture caused damage to the dwelling.

Copyright© 1998-2017, PRENTerprises, LLC., *The Summit System* All Rights Reserved. v05.30.16

This inspection was done on June 6, 2017, by Inspector Tim Chiles of Enlightened Home Inspections, LLC, (720) 273-5759. Acceptance and/or use of this Inspection Report shall constitute acceptance of, and agreement to, all of the provisions of the *Property Inspection Contract* and its *Standard Terms and Conditions* which are incorporated by reference and form a part of this Inspection Report. Summit System *Master Comment Library* Copyright © 1998 - 2017, Summit Property Inspection Systems. All Rights Reserved. www.summitinspection.net



GLOSSARY OF SITE & EXTERIOR TERMS

While our report is designed to be clear and easy to understand, it may contain terms or phrases with which you may not be familiar. We are pleased to furnish this reference to define and clarify terms and phrases that may appear in your report.

CAULK/SEAL GAPS - Gaps in the exterior can occur around doors, windows and plumbing and electrical entry points. All gaps should be caulked and sealed to prevent heat loss, air infiltration and moisture entry.

DECK RAILING UPGRADE - We recommend all decks and landings 30 inches or more above the ground have a railing. The railing should be at least 36 inches high and the spacing between the railing balusters should be no more than 4 inches.

DOWNSPOUT OR GUTTER LEAKS - A leaking gutter or downspout can allow water to penetrate a sidewall and enter the interior through a foundation wall or slab. Deteriorated gutters and downspouts should be repaired or replaced as necessary.

E.I.F.S. (Exterior Insulation Finish System) - Consists of a layer of foam insulation board applied over the exterior framing of the dwelling. The foam board is then covered with several layers of acrylic stucco applied over mesh reinforcement. Because the exterior coating is applied over foam insulation, EIFS adds significantly to the overall thermal efficiency of the dwelling. However, it also can be soft, making it vulnerable to damage from impact and pecking birds.

FASCIA - A flat, vertical board enclosing the overhang under the eave that runs along the roof edge.

FIRE-RESISTIVE BARRIER - A fire-resistive separation barrier. Fire-resistive walls may not have been required at the time of construction. Present building standards require a one-hour fire-resistive barrier between the garage and the occupied interior. The purpose of this barrier is to prevent the spread of fire from the garage into the living areas. Flammable liquids are often stored in the garage, so the risk of a fire starting in the garage is significant enough to warrant installing a one-hour fire-resistive barrier.

FLASHING - Material used at connections and penetrations in a roof or wall to prevent leakage.

FLATWORK - A concrete or asphalt surface such as a sidewalk, driveway or patio. Significant cracks should be patched and any holes or gaps filled. The flatwork should be examined periodically for signs of failure or further deterioration and repairs made if necessary.

GRADE - The ground level around a structure. When the ground is less than six inches below the top of the foundation it is considered marginal. A marginal grade can lead to moisture damage and/or pest control problems. If no damage is present, we recommend that these areas be periodically reviewed by a competent individual for signs of damage. Then, repairs should be made as necessary.

INADEQUATE FOUNDATION DRAINAGE - Moisture accumulation around the foundation often causes damage and deterioration to the foundation and framing. We recommend that the drainage be improved to collect all moisture and route it away from the house.

LEDGER FLASHING MISSING - The ledger is a piece of horizontal lumber, usually a 2x10 or 2x 12 bolted or nailed to the exterior of a building. Joists are attached to the ledger and the finished decking is secured to the joists. Water seeping behind the ledger can cause damage to the siding and framing as well as rotting the ledger itself. Ideally, the ledger should be flashed at the top edge to prevent moisture penetration behind it and around the ledger fasteners. A less desirable, temporary method of dealing with this condition is to keep the top edge of the ledger caulked and sealed as well as applying caulking at the ledger fasteners.

NEGATIVE GRADING - Grading which is sloped *toward* the structure. Low spots and negative grading will increase the chances of water penetration through the foundation and subsequent pooling in the basement, garage or subarea. We recommend that the site be re-graded as necessary to make sure that surface water runs *away* from the structure.

POINT-UP MORTAR JOINTS - To fill and finish the joints between bricks with cement or mortar. Often called "Tuck Pointing".

RETAINING WALLS - True retaining walls are engineered structures designed to retain earth that, if they were to fail, would adversely affect the integrity of buildings, driveways, pools and other site improvements. Home inspectors are not normally equipped to analyze such structures, but may comment on what they observe about them.

ROUTE DOWNSPOUTS - Any downspouts that do not terminate within drain lines should be routed sufficiently away from the foundation to prevent pooling and seepage through the foundation and into the basement, garage or subarea.

SOFFIT - The underside of an overhang of structural members, such as staircases, beams and eaves.

STUCCO - Comprised of a mixture of sand, water and Portland Cement, which is usually trowel-applied over wire reinforcing mesh-called "wire lath"-which has been attached with special "spacer nails" to the exterior substrate of the dwelling.

UNDERLAYMENT - A building material used as a protection against the passage of air and moisture.

VEGETATION ENCROACHMENT - Trees, vines or shrubbery that contacts the exterior. This vegetation can cause damage. We recommend that all vines, shrubbery, tree limbs or branches that have overgrown the exterior should be cut back to eliminate building contact.

Copyright © 1998-2017, PRENterprises, LLC., *The Summit System* All Rights Reserved. v02.15.17

This inspection was done on June 6, 2017, by Inspector Tim Chiles of Enlightened Home Inspections, LLC, (720) 273-5759. Acceptance and/or use of this Inspection Report shall constitute acceptance of, and agreement to, all of the provisions of the *Property Inspection Contract* and its *Standard Terms and Conditions* which are incorporated by reference and form a part of this Inspection Report. Summit System *Master Comment Library* Copyright © 1998 - 2017, Summit Property Inspection Systems. All Rights Reserved. www.summitinspection.net



Building Exterior & Site

CLIENT ADVISORY

One or more window wells on the exterior of the dwelling were placed in a walkway or patio (**See inspection photo #1**). As a safety precaution, grills are required to cover these wells to prevent accidental falls into them. We recommend installation of adequate grills wherever necessary to comply with current industry standards.

DESCRIPTIVE INFORMATION

Lot Topography:	• Nearly flat
Site Gradient:	• The direction of the slope varied according to the location on the site
Driveway Surface:	• Concrete
Walkway Surface:	• Concrete
Patio Surface:	• Concrete
Primary Exterior Cladding:	• Brick veneer
Secondary Exterior Cladding:	• Vinyl siding
Exterior Window Material:	• Extruded vinyl frame
Exterior Window Material:	• Exposed aluminum frame
Number/Type of Garage Door:	• Two roll-up “Overhead” type doors

OBSERVATIONS & RECOMMENDATIONS

Grading and Drainage

The grading of the lot adequately drained surface water and roof runoff away from the dwelling and off the property.

Downspouts

The downspouts were properly installed and in acceptable condition.

Window Wells

The purpose of a window well is to protect interior and exterior aspects of the basement windows from damage, reduce the potential for water penetration of the building, accommodate sudden changes in grade and to encourage surface water to naturally drain away from the foundation.

← **For important additional information on this item, please be sure to read the Client Advisory in the column to the left.**

Driveway

The small cracks in the driveway pavement were not significant in terms of the performance of the driveway. The driveway was otherwise in acceptable condition, however, any driveway cracks wider than a “hairline” should be caulked to prevent moisture entry and subsequent widening from freeze-thaw action patio (**See inspection photo #2**).

Walkways

A trip hazard was observed in the walkway. We recommend repair, if possible, or removal and replacement, of the deteriorated section of the walkway to eliminate trip hazards and reduce the potential for personal injury. Sometimes simply “ramping-up” concrete patching material at the change in elevation can serve as a short term solution (**See inspection photo #3**).

The curb and sidewalk on the public right-of-way were in acceptable condition.

Fences and Gates

The fences were not inspected and are not included in this report.

The gate was operational. Routine maintenance should keep it functional and maximize its service life.

Landscape Irrigation

The main shutoff valve for the water supply to the yard sprinkler system was located in the basement.

← **For important additional information on this item, please be sure to read the Client Advisory in the column to the left.**

Masonry Walls

The masonry walls were performing as designed and were in acceptable condition.

Vinyl Siding

The vinyl siding was performing as designed and was in acceptable condition.

Exterior Trim

All of the exterior trim was in acceptable condition.

Fascia

The fascia (boards nailed across the ends of the rafters at the eaves) was in acceptable condition.

Eaves and Soffits

The eaves or overhangs are comprised of those portions of the roof that extend beyond the exterior walls. The eaves protect the siding, windows and doors from the deteriorating effects of direct rain or snowfall.

The eaves and overhangs were in acceptable condition.

Flashings

The visible flashings on the dwelling exterior were in acceptable condition.

Paint and Stain

Exterior finishes were in acceptable condition.

Exterior Doors

The exterior doors were in acceptable condition.

Exterior Windows

The exterior aspects of the windows were in acceptable condition.

Because it is harder to break and less likely to cause injury if broken, safety glass is now required in certain specified locations. These include, but are not limited to, all door glass, and fixed and operable glass adjacent to doors and stair landings; enclosures for showers, hot tubs, saunas, steam rooms, and bathtubs; most large windows, and windows near doors and floors.

The concrete patio evidenced fine cracks and slight settlement, typical of this type of installation, but was otherwise in acceptable condition. Should be sealed with appropriate caulking to prevent water intrusion in this critical area **(See inspection photo #5)**.

A backflow prevention device (anti-siphon valve), as required by present standards could not be located during this inspection. As an upgrade, we recommend installation of such a device at each valve, or on the main supply line for the irrigation system.

Patio Covering

The patio cover was in acceptable condition.

The gap between the back edge of the front porch and the dwelling foundation should be sealed with appropriate caulking to prevent water intrusion in this area.

Porches

The surface and supporting structure of the porch were in acceptable condition, with exceptions noted.

Except for some spalling of the surface of the pavement, the porch was in acceptable condition. Spalling of the surface was probably a result of freeze/thaw action, or perhaps the application of salt to melt ice, and primarily cosmetic. The spalling will shorten the effective life of the pavement by allowing water to saturate it more easily, however, and cause deterioration **(See inspection photo #4).**

Exterior Plumbing

Inspected exterior plumbing was in acceptable condition and functioning as intended.

Gas Meter Installation

The condition and placement of the gas meter were acceptable at the time of this inspection.

Gas Piping

The gas piping was in acceptable condition. No evidence of leakage was detected at any of the exposed gas piping. Pressure testing may reveal leaks, but this procedure would be considered beyond the scope of a home inspection.

Electrical Service Lateral – The Underground Electrical Supply

The visible portions of the service lateral were in acceptable condition.

Electric Meter Condition

The electric meter installation was in satisfactory condition. No need for immediate attention was evident.

Electrical Receptacles on the Exterior

← **For important additional information on this item, please be sure to read the Client Advisory in the column to the left.**

Electrical Lights on the Exterior

All electrical lights located on the exterior of this dwelling, which were checked, were found to be in acceptable condition.

General Comments about the Exterior

Exterior features were generally in acceptable condition. The few exceptions have been commented upon in this section and elsewhere in this report. Regular maintenance will extend the service life of this important “weather shell”.

Garage Structure

The garage framing was properly installed for the time that it was constructed and, based on conventional construction standards, was adequate to resist lateral movement. The garage framing can usually serve as an indicator of the type and quality of the framing in general.

The receptacles on the patio were not equipped to provide GFCI (ground fault circuit interrupter) protection. For an increased margin of safety, we recommend the installation of GFCI receptacle(s).

Electrical Receptacles in the Garage

All of the receptacles in the garage, which were accessible and which were checked, were properly installed and operational.

Electrical Switches in the Garage

All of the electrical switches in the garage, which were accessible and which were checked, were found to be functioning as intended.

Garage Lighting

All permanently installed light fixtures in the garage were operated and were in acceptable condition.

Garage Vehicle Doors

The garage doors were operated and were in generally acceptable condition.

Portions of the trim were separating from the garage door frame. Loose and/or missing trim should be repaired or replaced (**See inspection photo #6**).

Garage Door Openers

The garage door openers operated properly to raise and lower the doors, including the auto-reverse mechanism, which stopped and reversed the direction of the doors when striking an object in their path.

← **For important additional information on this item, please be sure to read the Client Advisory in the column to the left.**

Personnel Doors serving the Garage

The door between the garage and the living space appeared to be of fire resistive construction, however we could not confirm this conclusively, as no label was evident. It did include a functional automatic closer. This was a positive feature that provided a greater margin of safety.

Minor cracking was evident in the floor slab, but no noticeable vertical displacement of the slab was observed. No action is indicated.

Garage Ceiling & Walls

The visible areas of the garage ceiling and walls were in acceptable condition.

The ventilation in the garage was adequate.

The wall between the garage and the living space was of fire resistive construction as required by today's building standards.

ADVICE, PRECAUTIONS & CONDITIONS AFFECTING THE SCOPE OF THE EXTERIOR INSPECTION**Exterior Concealed by Vegetation**

Portions of the building exterior and the site and grounds were obstructed by dense vegetation and could not be inspected. No adverse conditions were observed, or suspected, but clearing the obstructions may reveal reportable items.

Soil Considerations In Home Construction and Maintenance

While some may have read accounts of spectacular earth movements such as rockslides, earthquakes or landslides, here in our service area the soil behaviors are not nearly as dramatic. However, their potential effect on your house and the concrete flatwork can still be costly and destructive. You may have heard disquieting stories about basement floors which have heaved as a result of accidental saturation of the underlying soils, and a few instances have

The light-actuated safety beam for the garage door opener was not installed properly to direct its beam across the door opening not more than six inches (6") above the floor. We recommend re-installation, repair or replacement of the safety beam, as appropriate, by a competent garage door opener mechanic to restore its proper function.

This *confidential* report was prepared for Someone Special been reported where excessive settlement or lateral pressures have destroyed the foundation of a home. While one of these extreme situations can be potentially ruinous, the odds of their happening are extremely slim, especially if the informed homeowner will exercise a few common sense precautions.

The good news is that you, as the homeowner, can influence, to a great extent, the behavior of the soils that are present under and around your house. The primary way in which you can influence and control the behavior of these soils is through adequate and aggressive moisture management. In this section, it is our goal to provide you with many suggestions and recommendations that, if conscientiously followed, will help you to stay in control of the soil environment.

After you have read what follows and have studied the environment at your home, you may be tempted to conclude that since you don't see any current signs of water infiltration or slab movement you are safe. Keep in mind, however, that the drainage environment in your yard is ever changing. Gutters can accumulate leaves and debris that clog downspouts, downspout extensions are removed to facilitate lawn mowing – and then are not replaced, swales silt in, underground drainage pipes silt or cave in, and list goes on. To sum all of this up, always monitor the drainage environment around your yard, and conscientiously maintain an efficient flow of water away from the foundation and concrete flatwork.

In most regions of the country, one must consider two distinct soil behaviors – shrinkage and expansion. Each is often described by other names: settlement, consolidation or compaction for shrinkage, and heaving, crowning or up-thrusting for expansion.

Soil Shrinkage:

Soil shrinkage in our area is most often the result of poor quality and/or inappropriate materials in the backfill and/or improper or inadequate compaction of that backfill. To help explain the most frequent causes of soil shrinkage, we should describe in simple terms the evolution of a typical building foundation. In order to properly construct a foundation in a cold climate, the bottom of the foundation (usually called a "footing" and sometimes called a "grade beam and caisson") must be set well below the outside grade. So that the freezing and thawing of the soil near the foundation will not cause the building to move up and down as the outside temperatures change during the winter.

In order to form and pour the concrete for the foundation footing or grade beam, the ground where the house is being built must be "over excavated". So that the resulting hole will be large enough and deep enough to accommodate not only the foundation but also the workers as they build it. Once the foundation is completed and the formwork has been removed, there remains a sizable cavity between the outside of the foundation and the inside face of the excavation. The practice that has been adopted in recent years has been to backfill the cavity surrounding the foundation with – you guessed it "backfill". Hence, this refilled cavity has become known as the "backfill zone".

More often than not, when it comes time to backfill the foundation of a house under construction, the "backfill" is gleaned from the building site rather than the builder incurring the added expense of importing selected backfill materials from a more appropriate source. Thus, the "backfill materials" often include such inappropriate objects as empty beer or pop cans, lunch sacks, banana or orange peels, wallboard or lumber scraps, sawdust (and other floor sweepings) and abandoned cardboard boxes. Naturally, this motley assortment is often

This *confidential* report was prepared for Someone Special concealed under a nicely groomed cover of “dirt” by the time that you get to see it.

Seldom in residential construction does the builder take the time or have the appropriate equipment readily available to properly and adequately compact the backfill. Their reluctance to adequately consolidate the backfill is further enhanced by the fact that the potential risk of cracking the foundation walls is quite high at this stage of construction. At the time when most foundations are backfilled, they are especially prone to damage for several reasons. First of all, during the initial stages of home construction, the concrete in the foundation walls is still young (called “green” in the trade) and has not yet, attained anywhere near its full strength. Usually, “full” design strength may not develop in the type of ready-mixed concrete typically used in home construction for several years after completion of the house. Second, most foundation walls, on residences with the most commonly encountered wood framed floor diaphragms, must actually function structurally as vertical cantilevers. This means that the next floor system above the basement floor (usually the “first” or main floor) provides little or no lateral support to the top of the foundation wall, leaving it vulnerable to cracking from the excessive pressure which could be applied during the backfill operation. Because of these systemic weaknesses, many residential builders fail to do an adequate job of both backfill material selection and backfill compaction.

Soil Expansion:

After reading the preceding section, it might be hard to imagine how one could experience a situation where the soil could expand. But we encounter symptoms of swelling soils every day.

What conditions could cause the soil to expand? In most areas, the presence of clay minerals in rocks and soils is the leading cause. More specifically, it is the presence of significant deposits of Montmorillonite clay (often called “bentonite”) that make themselves apparent by pushing up basement and garage floors as well as patios and front walks. The cause of the expansive movement is the pushing apart of the tiny clay plates by water molecules attracted into the spaces between the plates. In extreme cases, under laboratory conditions, samples of pure Montmorillonite have produced expansions of up to 15 times their original volume!

These swelling soils are likely to be present almost anywhere there are population concentrations. Fortunately, the deposits found around most residential developments may not expand more than 35 to 50 percent. Nevertheless, the pressures and resulting movements of improperly designed building foundations or inadequately drained slabs can be quite damaging and should be addressed with healthy respect accompanied by a liberal application of preventive measures. Once the homebuyer has learned that there is a high probability that at least some swelling soil may be present under or around their home, the next logical step is for the informed purchaser to be aware of the types of preventive measures. These measures can and should be taken to minimize the possibility for soil movement and the attendant damage to the structure and/or flat work.

In summary, the combination of likely geology and prevalent building practices makes it highly probable that vertical soil movement can and will occur around your home. The fact that this potential exists, however, is not a valid reason to avoid purchasing the house. It is, though, reason enough for the conscientious homeowner to learn all that they can about these movements and to take all appropriate and prudent preventive measures.

The Importance of Extending Downspouts

Extensions, splash blocks or subsurface drain lines should be installed at the bottoms of all downspouts leading from the roof surface to direct collected water away from the foundation. The gutters and downspouts are a very important part of any drainage system, as a substantial amount of water can flow from the roof surface when it is raining heavily. For example, a roof that is 15 feet by 40 feet in size can collect more than 280 gallons of water for each one inch of rainfall (enough water to fill a two-person hot tub)! The downspout system should direct this water away from the house foundation, helping to reduce the possibility of undesirable structural movement. Controlling roof drainage can also reduce the need for exterior maintenance. The gutters and downspout system should be checked regularly to ensure that it functions properly during wet weather.

Recommend Patching And Sealing The Driveway

We recommend repair, patching and sealing of the pavement immediately and on a regular basis to extend the effective life of the driveway.

We Suggest Caulking Cracks In The Walkways

Any cracks in the concrete walkways wider than a “hairline” should be caulked to prevent moisture entry and subsequent widening of these cracks from freeze-thaw action prevalent in this climate.

Masonry Walls Were A Veneer

The masonry walls were a veneer over conventional wood frame construction. The masonry was not a structural element of the building. Masonry veneer is often used for its architectural and aesthetic appeal as well as its durability and low maintenance requirements.

Safety Glass Labeling

Generally speaking, all safety glass should be labeled using either an etching or ceramic-blasting method to produce a permanent emblem in the surface of the glass that must remain visible after it has been installed. During our inspection, we will look for the emblem as evidence that the glass is, indeed, safety glass. However, industry standards do allow for installation of safety glass that does not display the specified emblem, under certain circumstances.

Nevertheless, our policy is to hold to the conservative view that, if no emblem can be found that confirms that a light of glass is, in fact, safety glass, then we will NOT assume that it is.

Finally, experts on the subject of safety glazing advise that the only conclusive way to determine once and for all that a specific piece of glass is safety glass is to break it. Clearly, destructive testing is well outside the scope of nationally recognized standards for a home inspection.

Useful Information On Outside Hose Faucets (Called Hose Bibbs or Sill Cocks)

Outside hose bibbs come in two basic types, so called “Freezeproof” and conventional (Non-Freezeproof). Generally, a “Freezeproof” hose bib can be recognized by the fact that the shaft to which the handle is attached runs straight into the body of the faucet and into the heated space of the house, perpendicular to the face of the wall. Conventional faucets often will have the shaft and handle projecting at some other angle such as 45 degrees to the wall

This *confidential* report was prepared for Someone Special or even parallel to the wall. The following precautions should be observed according to the type of hose bib described below.

If you are taking possession of your new home in the fall or winter, you should confirm the status of the hose bibbs before closing on your purchase!

“Freezeproof” Hose Bibbs: Do not leave hoses or other devices (such as water timers, splitters, etc.) attached to “Freezeproof” hose bibbs when outside temperatures are anticipated to drop below freezing!! Leaving such devices attached will often trap water in the exterior cavity of the faucet where it can freeze and split the faucet housing. Freeze-split housings are usually not discovered until the next spring when warm weather activities start up again. After the faucet housing has been frozen and split, use of the faucet for watering or washing a car will often result in flooding of the lowest levels of the house!

Conventional Hose Bibbs: In cold winter climates, every Conventional hose bibb should have an inside shutoff valve located safely inside the heated portion of the house. As an informed homeowner, you must know where this valve is located for each of your outside conventional faucets. Usually, on the side of these inside shutoffs there is a drain hole covered by a small screw cap with a knurled top. As winter approaches each year and you stop watering for the summer and fall, you should go to each of the inside shutoff valves and turn it completely off. Then you should open the outside conventional faucet and then open or remove the drain valve/cap on the side of the shutoff valve body to allow the pipe between the shutoff and the outside faucet to drain completely. Leave the shutoff turned off for the winter, but leave the outside faucet and drain open all winter. The procedure for turning the water back on in the spring will be just the opposite of the fall shutdown previously described.

Upgrading Exterior Hose Bibbs

Backflow prevention devices are now required on exterior hose bibbs to help prevent contamination of the domestic water supply. These devices are inexpensive and available at most hardware stores. Upgrading the hose bibbs should be considered.



Roof Surface

THE ROOF SURFACE A Definition

The Roof Surface is that combination of materials and components installed on the uppermost elements of the building designed to shed water and protect the structural frame and the interior finishes from damage caused by moisture delivered by rain or snow.

The roof surface, in combination with the exterior cladding, is intended to keep weather caused moisture from entering the dwelling.



A HISTORY OF THE DEVELOPMENT OF MODERN ROOF COVERINGS

When early man left his cave as a nomadic hunter, he was forced to devise a portable form of shelter. One of the byproducts of a successful hunt was the skin of the hunted animal. Hence, the earliest man-made shelters were made of animal skins. As man stayed in one place for longer periods of time, he made better use of readily available natural materials such as mud and thatch. These materials still left a lot to be desired, because during periods of prolonged rain or snow, the cover tended to become saturated and would lose its water shedding properties.

A great advance in roofing technology came with the use of slates to cover the dwelling. Slate roofs were more impermeable and durable. Their main drawback was their great weight coupled with the difficulty of moving slates over long distances. In addition, the heavy weight per square foot required heavier structural framing in order to support all that "rock" on the roof.

Shortly after the development of the slate roof, several attractive alternatives appeared. Sheet copper was used on the homes of the more affluent and on public buildings. Other sheet materials soon appeared on the scene, including galvanized sheet metal and even gold foil. In each case, the goal was to provide a reliable water-tight covering to keep the occupants and contents dry during wet weather.

Architects and homeowners then discovered the natural beauty of wood shingles, and later, wood shakes. The difference between a wood shake and a wood shingle is that a wood shingle is sawn on both sides to produce a very uniform profile, while a wood shake is sawn on only one side. The other side of a wood shake is "hand-split." By the 1900's, wood shingles were the most common roof covering material.

With refinement of coal-tar pitch and asphalt compounds, lower sloped roofs became feasible. These materials, when used in conjunction with asphalt impregnated roofing paper provided a watertight surface for flat and near-flat roofs.

Today, the homeowner has a vast choice of material from which to choose for covering roofs of every conceivable pitch from "dead flat" to very steep.

THE ROOF SURFACE - OUR INSPECTION PROCEDURE

We believe the best way to evaluate the condition of any roof surface is to walk upon it and examine it from a "birds eye" point of view. We will attempt to walk on every roof considering the slope, the weather during the inspection and the durability of the material to withstand walking. In short, we will usually walk every roof which is safe for the Inspector *and* the roof surface.

We will look at the overall condition of the roof covering and details such as flashings, vents, chimneys and skylights. Where there is an accessible attic, we will also examine the underside of the roof for signs of past moisture penetration and proper ventilation.

Copyright © 1998-2017, PRENTERprises, LLC., *The Summit System* All Rights Reserved. v05.30.16

This inspection was done on June 6, 2017, by Inspector Tim Chiles of Enlightened Home Inspections, LLC, (720) 273-5759. Acceptance and/or use of this Inspection Report shall constitute acceptance of, and agreement to, all of the provisions of the *Property Inspection Contract* and its *Standard Terms and Conditions* which are incorporated by reference and form a part of this Inspection Report. Summit System *Master Comment Library* Copyright © 1998 - 2017, Summit Property Inspection Systems. All Rights Reserved. www.summitinspection.net



GLOSSARY OF ROOFING TERMS

While our report is designed to be clear and easy to understand, it may contain terms or phrases with which you may not be familiar. We are pleased to furnish this reference to define and clarify terms and phrases that may appear in your report.

AIR POCKET/BLISTER - A bubble in the roof surface formed by water vapor expanding between the layers of a built-up roof membrane. This can reduce the useful life of the roofing and is conducive to moisture penetration.

BRITTLE SURFACE - A roof surface which is brittle will be prone to breakage. This is an indication of aging and suggests that the roof surface is nearing the end of its useful life.

CRACKED MASTIC - Cracks in the roof cement coating used to seal roof connections and penetrations can cause moisture penetration and subsequent leakage. We recommend that cracked areas be sealed to prevent leakage.

DEBRIS ON ROOF OR IN GUTTERS - Gutters filled with debris should be cleaned to ensure proper drainage. Roof surfaces covered with debris should be cleaned to ensure proper drainage and to prevent premature deterioration of the roof surface.

EAVE - The part of the roof which extends beyond the wall.

EXPOSED ROOF FASTENERS - An indication of roofing wear or poor installation creating a condition conducive to moisture penetration and leakage into the building. All exposed fasteners should be covered.

GABLE ROOF - A roof configured with two pitches, designed to provide more space on the upper floors.

HIP ROOF - A roof with no gables usually having inclined planes on all four sides of the building.

INADEQUATE ROOF DRAINAGE - Roof "ponding" can indicate inadequate drainage. Standing water can result in leakage. We recommend that the drainage be upgraded as necessary to properly divert water off of the roof.

INSUFFICIENT ROOF SLOPE - A shingle type roof surface applied over framing whose pitch is less than three inches in twelve inches. This means that for every twelve horizontal inches, the roof fails to rise at least three inches. This roof surface can leak because of poor drainage. We recommend that these roofs be periodically checked for signs of moisture penetration, patched and sealed as necessary to prevent leakage. When the roof surface is replaced, we recommend installation of a conventional built-up or single-ply roof membrane.

MASTIC - Asphalt material used to seal around roof connections and penetrations.

MOSS BUILDUP - Moss retains moisture and can damage the roof surface. We recommend that any moss be removed.

MULTIPLE LAYERS - Multiple roof surfaces add extra weight to the roof structure. Too much weight can crack framing members. Some local building departments limit the number of roof surfaces to two while others only allow one. At such time as replacement of the roof surface is made, we recommend that all of the existing roof surfaces be removed, any areas re-sheathed as necessary and all roof connections and penetrations re-flashed before the new surface is installed. This will reduce the weight on the framing and prolong the useful life of the new roof.

NO UNDERLAYMENT - Roofing installed directly over the sheathing without an underlayment. An underlayment provides a moisture barrier between the roof surface and the attic. The manufacturer's specifications may permit this method of installation; however, it is our opinion that without an underlayment, any roof is subject to premature leakage. We recommend that surfaces without an underlayment be periodically examined by a qualified and licensed roofing contractor for signs of leakage and repairs made if necessary.

PARAPET WALL - The part of the sidewall of a structure which extends above the roof line.

PENETRATIONS - Any projection through a roof surface such as plumbing vents, flues, chimneys and skylights.

ROOF PITCH - The degree of slope of a roof.

SHAKES - Hand split wood shingles.

SURFACE GRANULATION FAILURE - An indication of roof surface wear due to exposure. This wear will continue and leaks may eventually develop. Until the roof is replaced, it should be examined periodically by a qualified roofing contractor for indications of wear significant enough to result in moisture penetration and repairs should be made as necessary.

TILE ROOF - Fired clay, stone or concrete roofing material. Tile roofs are highly resistant to wear and have a life expectancy of fifty-plus years. However, problems can develop and may need attention to prevent leakage. Walking on a tile roof may result in tile breakage. If walking on a tile roof might result in breakage, we will examine it from the ground and other vantage points. We look for cracked and missing tiles and deteriorated mortar joints. We examine the visible flashings for damage and defects. Problems in these areas must be corrected to prevent moisture penetration. The water tightness of a tile roof depends to a large degree on the condition of the felt underlayment.

VALLEY - A depressed angle formed when two roof planes meet.

Copyright © 1998-2017, PRENTerprises, LLC., *The Summit System* All Rights Reserved. v02.15.17



Roof Surface

CLIENT ADVISORY

DESCRIPTIVE INFORMATION

Roof Coverage Area:	<ul style="list-style-type: none"> • The entire dwelling, including the attached garage
Slope, or Pitch, of the Roof:	<ul style="list-style-type: none"> • Medium
Roof Covering Material:	<ul style="list-style-type: none"> • Asphalt-Composition shingles
Number of Layers:	<ul style="list-style-type: none"> • One
Age of Roof Covering:	<ul style="list-style-type: none"> • Unknown. Could not be determined
Edges/Sides Flashing With:	<ul style="list-style-type: none"> • Sheet metal
Penetrations Sealed With:	<ul style="list-style-type: none"> • Sheet metal flanges with Neoprene “boots” or collars
Penetrations Sealed With:	<ul style="list-style-type: none"> • Sheet metal
Roof Drainage System:	<ul style="list-style-type: none"> • Gutters and downspouts
Method of Inspection:	<ul style="list-style-type: none"> • Inspected from the roof surface – the inspector walked upon the roof and examined it from above

OBSERVATIONS & RECOMMENDATIONS

Composition Shingles

The asphalt composite shingle roof surface on this dwelling was in acceptable condition. No action was indicated at the time of the inspection.

Flashings

The accessible flashings were in acceptable condition. However, all flashings should be periodically examined for signs of leakage, and repairs should be performed if necessary.

Gutters

Roof runoff water is collected and channeled to the downspouts by a metal gutter system that was attached to the fascia boards, or directly on the ends of the rafters, along the edge of the roof.

The gutters were in acceptable condition, but should be checked for debris and cleaned on a regular basis to prolong their useful life.

The chimney was generally in acceptable condition, with exceptions noted. Attention to the conditions noted will help maintain the chimney in safe working condition.

Small cracks were evident in the mortar cap on the top of the chimney. We recommend caulking all cracks to seal them against moisture penetration and subsequent damage from freeze-thaw action (**See inspection photo #8**).

The flashings on the chimney should be sealed with asphalt roofing sealant now, and periodically in the future, as a normal part of an ongoing preventive maintenance program (**See inspection photo #9**).

Plumbing Vents

The plumbing vents were in acceptable condition.

Appliance Vents

The appliance vents were properly installed and in acceptable condition, with exceptions noted.

Vent caps should be prepped and painted to restore their cosmetic appearance **(See inspection photo #7)**.

Vegetation Considerations

from the trees had accumulated on the roof and was obstructing the free flow of roof runoff. Nearby trees should be trimmed to avoid damage to the roof surface and obstruction of roof runoff.

General Commentary on the Roof

This roof was in the middle of its expected service life, and with routine maintenance should remain reliable for a number of years.

The attic was accessible through a hatch in the ceiling of the kitchen and upstairs hallway.

To prevent damage to ceilings below, our inspection of the attic was limited to a visual examination from the various access openings. Thus, portions of the attic were not visually accessible for inspection.

Attic Ventilation

The space between the ceilings and the roof was adequately vented.

ADVICE, PRECAUTIONS & CONDITIONS AFFECTING THE SCOPE OF THE ROOF SURFACE INSPECTION**We Cannot Guaranty a Leak-free Roof**

Our comments do not constitute a warranty that the roof is free of leaks, or will remain free of leaks.

The Attic Was Inspected From The Access Hatch

Because of limited clearances and the potential for damage to insulation and ceiling finishes below caused by walking in the attic, our inspection of the attic space was performed from the access opening only.



Plumbing System

THE PLUMBING SYSTEM A Definition

Technically speaking, the plumbing system is the combination of pipes, fixtures and controls necessary to supply water and fuel gas, and to remove liquid waste from the building.



A BRIEF HISTORY OF RESIDENTIAL PLUMBING, OR "HOW THE PLUMBING CAME INDOORS"

The dictionary tells us that the word "Plumbing" was derived from the Latin word "plumbum" meaning lead. From the earliest times, lead was used to fashion piping, fixtures and utensils used in the supply of fresh water and to convey waste out of buildings. Lead piping has been superseded by cast iron, copper and more recently plastic, but one can still see lead drainage fittings in homes built as recently as the 1930s.

Archaeologists have found evidence of waste disposal systems in dwellings 10,000 years old. Waste disposal and running water were provided in the palaces of royalty and priests as early as 2500 to 1700 BC. These systems were well developed during the Roman Empire.

Here in America, the supply of water for residential use started with nearby streams or springs and progressed to wells. Thus, the supply of water for domestic consumption started on the exterior of the home. Likewise with waste disposal. Most of us are familiar with the image of the outhouse in the backyard. It was often said that they were "100 yards too close (to the house) in the summer, and 100 yards too far (away) in the winter."

Fortunately, plumbing had moved indoors for all but the poorest or most remote of the population by the late 1800s. During this transition period, homes built prior to the "move indoors" could be recognized by the fact that the kitchen and bathroom were housed in an addition on the back of the house. It wasn't until later that bathrooms and kitchens were located centrally and conveniently within the home. It was the advent of central water supply and sewage collection systems which made indoor plumbing practical. In rural areas, a drilled well and a septic system are still the most prevalent and practical methods for supplying water and disposing of waste.

The next time that a family member complains about having to go down the hall to the bathroom, we could remind them of their grandparents who had to make do with the water pitcher and "thunder mug" on their nightstand!

THE PLUMBING SYSTEM - OUR INSPECTION PROCEDURE

Our examination of the Plumbing System will include the visible portions of the water, gas and drain piping. We will operate every functional shower and tub, flush every operable toilet and run every working wash basin and sink. Hydrotherapy ("jetted") tubs are filled and activated. Accessible underbuilding areas are checked for visible plumbing leaks.

The water heater is examined for function and operation including fuel or electric supply, water connections, relief valves and their discharge piping. We also check for proper venting and clearances for gas fired water heaters.

The components which make up the plumbing system in your specific dwelling are described in the pages which follow. In these pages we will also report on the condition and operability of controls and fixtures.



Copyright © 1998-2017, PRENterprises, LLC., *The Summit System* All Rights Reserved. v05.30.16



GLOSSARY OF PLUMBING TERMS

While our report is designed to be clear and easy to understand, it may contain terms or phrases with which you may not be familiar. We are pleased to furnish this reference to define and clarify terms and phrases that may appear in your report.

“ABS” - Black plastic pipe and fittings. Generally used in waste water drainage and vent systems. Introduced in the 1960s; popular for new residential construction and remodeling.

ANGLE STOP - A valve used to shut off the flow of water to a fixture.

ANTI-SIPHON VALVE - A device installed on irrigation piping designed to prevent the drawing of contaminated ground water into the domestic water supply system.

FROZEN FIXTURE SHUT-OFF VALVES – Plumbing shut-off valves that no longer operate. This occurs when the valves are seldom operated. An inoperable valve prevents the water from being turned off if it is necessary to repair the fixture. We recommend that they be repaired and be made operable again or be replaced with a new valve.

FUNCTIONAL DRAINAGE - A plumbing drain is functional when the fixture empties in a reasonable amount of time, and does not overflow when another fixture is drained simultaneously.

FUNCTIONAL FLOW - A reasonable flow at the highest fixture in a dwelling when another fixture is operated simultaneously.

GALVANIZED PIPE - Steel pipe with a protective zinc coating. Used for supply of domestic water and waste and vent piping.

GATE VALVE - A shut-off valve using a round rising disc (gate) to control liquid flow.

INADEQUATE CLEARANCE TO COMBUSTIBLES - Gas-fired appliance vents must be far enough away from combustible surfaces to prevent the heat that these vents carry from causing a fire. Single wall vents should be at least six inches away from combustible surfaces and double wall vents should be at least one inch away.

“PVC” - Rigid white plastic pipe and fittings used for supply of domestic water and yard sprinkler systems and in some interior drain, waste and vent systems. Introduced in the 1960s.

“S” TRAP - A sink drain line configuration in which the piping beyond the trap runs vertically instead of horizontally. This can cause the water in the trap to be siphoned out, allowing sewer gas to enter the occupied interior. We recommend that the pipe after the trap be repaired so that it runs horizontally with a slight downward slope until it joins the main drain and vent piping, or that an approved mechanical vent be installed.

TEMPERATURE/PRESSURE RELIEF VALVE - A safety valve designed to release excess temperature and pressure. Commonly used on water heaters and steam boilers.

TOILET LOOSE (on the floor) - When a toilet is not securely fastened to the floor, the wax ring seal can distort or deteriorate, causing the connection to the sewer to leak. A leaking toilet connection can damage the floor and the floor framing. A toilet can leak for some time before the damage becomes visible. If a toilet is loose, we recommend that the wax ring seal be replaced and the toilet be securely fastened to prevent costly repairs.

TRAP - A fitting to provide a liquid seal that prevents the back passage of gases, without materially affecting the flow of sewage or water through it.

VENT (PLUMBING) - A pipe installed to provide a flow of air to or from a drainage system and to minimize the possibility of trap siphonage and back pressure.

WASTE (Dishwasher) AIR GAP - A sink device installed between the dishwasher and the drain line. Its purpose is to prevent the drawing of waste water into the dishwasher.

WATER HAMMER - A sudden pounding noise in a piping system caused by rapid pressure changes due to very quick closing of valves or other restrictions. It is possible to correct this condition by installing an air chamber.

WATER PRESSURE - 55-85 pounds per square inch is considered in the mid-range of normal water pressure. Less than 30 psi is considered in the low-range of normal water pressure. This usually occurs as a result of mineral deposits building up inside the domestic water supply piping which restrict the flow of water. The corroded lines eventually will need to be replaced. Excessive water pressure (above 100 psi) puts unnecessary strain on the water heater, water lines and fixtures which can result in leaks. We recommend that a pressure reducing valve be installed in such instances.



Plumbing System

CLIENT ADVISORY

DESCRIPTIVE INFORMATION

Domestic Water Source:	• Municipal/Community supply
Landscape Water Source:	• Public, same as domestic water source
Main Supply Line Material:	• Copper, where visible
Supply Piping Material:	• Copper, where visible
Water Pressure:	• At the mid-range of normal
Waste Disposal:	• Municipal/Community collection system
D,W,V Pipe Material:	• ABS Plastic

OBSERVATIONS & RECOMMENDATIONS

Water Shut Off Valve Condition

The main water supply shut-off valve was located, but testing the operation of this valve is not within the scope of a home inspection. Operation of the valve from time to time will keep it functional and maximize its useful life.

Main Water Supply Piping

No surface corrosion or leakage was visible at the exposed and accessible portions of the main water supply piping.

Interior Water Supply Piping

The visible portions of the exposed and accessible supply piping generally were in acceptable condition.

Water Pressure

Functional flow of water at the fixtures on the highest level was judged to be adequate. Several fixtures were operated simultaneously. Minor changes in flow, when other fixtures are turned on or turned off, are considered normal.

A sewer cleanout was located on the exterior driveway.

Drain & Waste Lines

The visible drain & waste piping was in acceptable condition.

Vent Lines

The visible portions of the vent piping for the dwelling were in acceptable condition.

Gas Meter Installation

The condition and placement of the gas meter were acceptable at the time of this inspection.

Gas Piping

The gas piping was in acceptable condition. No evidence of leakage was detected at any of the exposed gas piping. Pressure testing may reveal leaks, but this procedure would be considered beyond the scope of a home inspection.

Fixtures: Overall

The plumbing fixtures were operating and were in satisfactory condition. Routine maintenance should keep them functional and maximize their useful life.

General Comments About The Plumbing System

The plumbing system was in satisfactory condition and was functioning as designed and intended.

ADVICE, PRECAUTIONS & CONDITIONS AFFECTING THE SCOPE OF THE PLUMBING INSPECTION**For Water Quality Questions, Ask The Supplier**

For information concerning water quality, we suggest contacting the municipality or utility company that provides water to this property.



Water Heater



THE “LIFE AND TIMES” OF RESIDENTIAL WATER HEATERS

Often one of our client's first questions is, "How old is the water heater?" You will notice in your Inspection Report that we try to state the age of the water heater whenever we can determine it from the heater's data plate. If our answer to this initial question is more than about five years, the next question is, "How long should I expect this water heater to last?" The standard answer to this question is that the *average* life of a residential water heater is eight to 12 years.

Recently the Institute for Business and Home Safety conducted a series of studies that found that the chance that a water heater will leak or burst (the most common mode of failure) increases dramatically when its age passes five years old. According to the I.B.H.S., three-quarters of all water heaters fail before they reach twelve years of age. The author had the personal experience of replacing a residential water heater at the age of only eight years. On the other hand, inspectors have observed water heaters over 20 years old which were still making hot water and were not leaking.

There are several conditions which can dramatically reduce the service life of your water heater. Among them are:

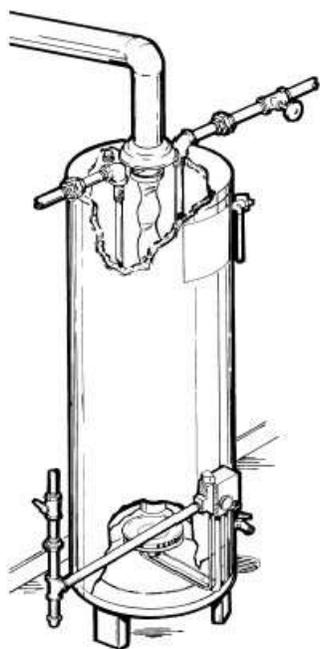
- Excessive water pressure (excessive is anything over 75 psi),
- Too much sediment accumulation in the bottom of the heater, or
- Operating the heater at unnecessarily high temperatures (above 120 degrees).

Excessive pressure is cured by the installation of a Pressure Reducing Valve (PRV) in the supply to the house. Lower pressures inside the home will also extend the service life of toilet ball cocks (fill valves) and reduce the incidence of water hammer in the water supply system.

Hardly anyone regularly flushes the sediment from the bottom of their water heater tank as all manufacturers recommend, even though this is a preventative maintenance step which costs the homeowner nothing and may contribute to a significant extension of the life of the water heater.

In addition to tank failure, there are other less catastrophic maladies which do not require replacement of the heater itself. These include failure of the temperature and pressure relief valve or, if your water heater is electric, the heating elements may burn out before the tank reaches the end of its life. Fortunately, heating elements are relatively easily replaced. Another minor concern can be a leak from the drain valve - usually because of debris trapped in the valve seat.

The last question in our discussion concerns the cost of their replacement. There is quite a variation in the cost depending upon many factors such as capacity (size), length of warranty, fuel efficiency and heater type (“Storage” vs. “Demand”). Replacement costs start around \$800 for a 40 gallon storage type heater and can be as much as \$2,500 for a demand type heater. Other factors which influence replacement cost are the quality of the new heater and how diligently you “shop” for the plumber(s) to do the job. Another factor is the urgency of the situation. One can expect to pay more for installation of a new water heater on Thanksgiving, Christmas Eve and other popular holidays, which; according to “Murphy's Laws” will be the likely time of failure.



Copyright © 1998-2017, PRENterprises, LLC., *The Summit System* All Rights Reserved. v05.30.16

CLIENT ADVISORY

Water Heater

DESCRIPTIVE INFORMATION

Water Heater Location:	• In the basement
Energy Source:	• Natural Gas
Storage Capacity:	• 50 Gallons
Water Heater Age:	• 4 years, from Serial Number
Water Heater Configuration:	• Free standing tank
Vessel Insulation:	• Manufactured with insulation

OBSERVATIONS & RECOMMENDATIONS

Water Connections

The cold water inlet and hot water outlet connections were properly installed and in acceptable condition.

Temperature and Pressure Relief Valve

The water heater installation included a temperature and pressure relief valve. This device is an important safety feature and should not be altered or tampered with. No adverse conditions were observed.

Water Heater Gas Supply

The gas supply piping included a 90-degree shutoff valve in the vicinity of the heater for service personnel and emergency use. The valve was not operated, but this age and style of valve is normally found to be operable by hand and generally trouble free.

The gas connector was an approved flexible type in acceptable condition.

Water Heater Combustion Air Supply

Combustion air provides the oxygen needed for the safe and efficient operation of fuel burning appliances. An adequate supply of fresh air around all fuel burning appliances with open combustion compartments is vital for their safe operation.

The combustion air supply for the water heater was adequate.

Water Heater Ignition System

The pilot light was controlled by a thermocouple, which ensures that the pilot gas valve will close, if the pilot light is extinguished. This system was in acceptable condition.

The Water Heater Burner

The water heater burner was generally clean and was in acceptable condition.

The Water Heater Venting System

The water heater vent was properly installed and was in acceptable condition.

General Comments About The Water Heater

This was a newer water heater, which was operating satisfactorily. With routine maintenance, it should be reliable for a number of years.

ADVICE, PRECAUTIONS & CONDITIONS AFFECTING THE SCOPE OF THE WATER HEATER INSPECTION**Why is a Discharge Pipe Required on Every T & P Relief Valve?**

The function of the T & P Relief valve, which is required on every water heater, is to allow excessive pressure to safely escape the tank without causing damage to the vessel or the surroundings. Excessive pressure can be caused by a variety of conditions, including too high an internal temperature, which could even cause the water to flash to steam. In any case, when the valve discharges (as is its intended function), it will spray very hot water or even steam from its exit opening. If no discharge pipe has been installed to safely conduct this scalding water (or steam) to the floor, or to the exterior of the building, nearby persons could be seriously burned.



Electrical System

RESIDENTIAL ELECTRICAL SYSTEMS A Definition

Residential electrical systems consist of supply and distribution wiring, controls, and devices necessary to provide for safe and convenient use of electrical power.

Common components, in addition to wire and conductor cables, are switches, light fixtures and receptacles ("plugs"). There are also outlet and fixture boxes, and distribution panels with protective devices called fuses or circuit breakers.

ILLUMINATING INFORMATION ON THE HISTORY OF ELECTRICITY IN THE HOME

The earliest history of electricity in the residential setting evolved around its use in providing light. Man's early attempts to light his dwelling were cumbersome, inconvenient and even dangerous. All were based upon fire and thus involved burning something which gave off more unwanted byproducts than light. With the development of candles and oil lamps, the production of light became cleaner and more convenient. Then came the introduction of the gas lamp. They were cleaner burning and gave off more light in the homes of the more affluent city dwellers as fuel gas was piped in to their houses.

With the invention of the light bulb in the 1870s, gas lamps were replaced with electric lights. Electric appliances had yet to be invented, so electrical installations did not provide for convenience outlets (receptacles). As new uses were developed, receptacles began to appear in homes for supplying cord-connected appliances such as clothes washing 'machines' and radios. This evolutionary process explains why, in older homes, there may be only one electrical receptacle in each room.

As more devices were created utilizing electricity to make our lives easier, "convenience outlets" have been added in homes until today the "rule of thumb" is that new houses have a receptacle within six feet of any point along most walls.

We have become so dependent upon the convenience of electricity that "batteries not included" could ruin your whole day.

THE ELECTRICAL SYSTEM - OUR INSPECTION PROCEDURE

Your inspector will operate at least a representative sample of light switches and receptacles during the inspection. Ground fault protection devices will be tested utilizing an industry standard ground fault circuit tester. Arc-fault protection, where present, will be tested using the "Test" button on the Arc-fault circuit breakers in the main distribution panel. Subject to accessibility, we will remove the protective cover on the distribution panel(s) so we can evaluate the condition of the components and the workmanship employed in installing the system.

We inspect the visible portions of the service entrance (overhead service *drop* or underground service *lateral*) and the system grounding. During our inspection, we are alert for signs of homeowner wiring, particularly in areas such as basements, additions or outbuildings where non-electricians are likely to have applied their "talents".



GLOSSARY OF ELECTRICAL TERMS

While our report is designed to be clear and easy to understand, it may contain terms or phrases with which you may not be familiar. We are pleased to furnish this reference to define and clarify terms and phrases that may appear in your report.

AMP - Short for Amperes. The rate of flow of electricity through wire - current. There are 1000 *Milliamps* in 1 *Amp*.

CIRCUIT - The path of electricity away from and back to its source.

CIRCUIT BREAKER - An overcurrent protection device which automatically opens an electrical circuit when excessive current flows through the conductor.

CONDUCTOR - An electrical wire capable of carrying current.

CONDUIT - A hollow pipe (metal or plastic) casing through which electric wires run.

DEAD-FRONT - Switches, boards, circuit breakers, switchboards, control panels and panel boards must be covered so that no current-carrying parts are exposed. This cover is called a Dead-Front.

DRIPLOOP - A downward loop in the overhead electrical service entrance conductors designed to prevent the entry of moisture into the weather head, service raceway or equipment.

EXPOSED WIRING - Wiring or connections not properly covered and protected.

FUSE - An overcurrent protection device with a circuit opening fusible member directly heated and destroyed by the passage of too much current through it.

FUSED NEUTRAL - Where an electrical neutral wire is fused. If the fuse on the neutral wire blows, the circuit will be "open", and the fixtures and/or appliances on this circuit will not function. However, power will still be present through the circuit, right up to the outlet. This creates a shock hazard.

GFCI (Ground Fault Circuit Interrupter) - A safety device which monitors the difference between current flowing through the hot and neutral wires of a receptacle. If there is an imbalance of current greater than five milliamps, the current will be cut off. GFCI protection is recommended in the garage, outdoor and bathroom receptacles, pool and spa equipment, and all kitchen receptacles within six feet of the sink. Their presence will reduce shock and short hazards.

GROUND CONDUCTOR SPLICES AND LOOSE CONNECTIONS - The electrical system ground will be ineffective because of splices and loose connections.

GROUND - A connection between an electrical circuit or equipment and the earth or to some conducting body that serves in the place of the earth.

"LAMPCORD" WIRING - Unapproved extension cord wiring. It is easy to overload the wire and the wire is subject to physical damage. All lampcord wiring should be removed and replaced with proper wiring.

MAIN DISCONNECT - A device or devices by which the electrical system can be disconnected from its source.

MULTI-WIRE BRANCH CIRCUIT - An electrical circuit consisting of two or more ungrounded conductors having a potential difference between them and a grounded conductor having equal potential difference between it and each ungrounded conductor. This type of circuit is commonly used to energize the dishwasher and garbage disposer outlet located in the sink base cabinet. A common problem arises when both hot conductors of the circuit are connected to the same pole or leg of the distribution panel. If both the dishwasher and disposer are operated at the same time, the breaker protecting the circuits will not trip. The circuit should be repaired.

OUTLET (Electrical) - A switch, light or receptacle.

OVERFUSED - A fuse or circuit breaker rated too high for the circuit. This allows too much current to flow through a wire before the overcurrent protection device trips. Increased demand on a circuit may result in a conductor overheating which can cause a fire. We recommend that all over fused branch circuits be repaired by equipping with appropriate overcurrent protection devices.

POLARITY REVERSED - An electrical receptacle which has been wired with the hot and neutral wires reversed. Reversed polarity can compromise the grounding of an appliance and cause some electrical equipment to operate improperly. We recommend that the polarity be corrected.

PULL CHAIN LIGHT NEAR WATER - Pull chain lights in rooms with running water can create a shock hazard. We recommend that these lights be equipped with approved switches properly located.

RECEPTACLE - An electrical device to receive the prongs of a plug and which is connected to an electric circuit.

REPRESENTATIVE SAMPLE - Defined by the **American Society of Home Inspectors®** as follows, "For multiple identical components such as windows and electrical outlets - one such component per room. For multiple identical exterior components - one such component on each side of the building."

RUNNING SPLICE - An electrical connection made without proper protection. We recommend that all connections be mechanically protected.

WATT - The amount of electricity flowing through a line, measured in terms of watts. Volts times amps equals watts.

Copyright© 1998-2017, PRENTerprises, LLC., *The Summit System* All Rights Reserved. v02.15.17



Electrical System

CLIENT ADVISORY

DESCRIPTIVE INFORMATION

Service Entry Type:	• Underground lateral
Electric Meter Location:	• On the rear of the dwelling
Service Voltage Supplied:	• 120-240
Service Entrance Conductors:	• #2 Aluminum. Providing an ampacity of 100
System Amperage Capacity:	• 100
Based Upon:	• The rated capacity of the main circuit breaker
System Grounding Source:	• Water supply piping at the main water shutoff
Circuit Protection:	• Circuit breakers
Conductor Material:	• A combination of copper and aluminum
Wiring Type:	• Non-metallic sheathed cable (“Romex”)

OBSERVATIONS & RECOMMENDATIONS

Electrical Service Lateral – The Underground Electrical Supply

The visible portions of the service lateral were in acceptable condition.

Electric Meter Condition

The electric meter installation was in satisfactory condition. No need for immediate attention was evident.

The original electrical system had been expanded without increasing the service capacity. Although, no urgent conditions were apparent, overloading of the service may be possible. A competent, licensed electrician should perform detailed load calculations to analyze current conditions and make appropriate suggestions.

The Main Disconnect

The function of the main disconnect was provided by a two-pole circuit breaker mounted in the main distribution panel. The breaker appeared to be in good condition, although it was not tested during this inspection.

The Main Distribution Panel

The main distribution panel was in acceptable condition with circuitry generally installed and protected in an acceptable manner.

Service Grounding

The system and equipment grounding were acceptable.

Branch Circuitry

Accessible branch circuitry was examined and was in acceptable condition.

Electrical Conductor Material – The “Wire”

The conductor material in the 120 volt circuits was copper. The 240 volt circuits rated above 30 Amps were installed utilizing aluminum conductors. The use of stranded aluminum conductors in sizes #8 and larger is still standard accepted trade practice in residential electrical systems.

Inspected circuitry in this subpanel was in acceptable condition.

Circuits in the subpanel were labeled. The accuracy of the labeling was not verified. When the opportunity arises, we recommend verifying the accuracy of the labeling by actually operating the breakers.

Receptacles; Overall

Based upon the inspection of a representative number, the receptacles were generally properly grounded and in acceptable condition, with exceptions noted.

Switches; Overall

A representative number of switches were operated and were in acceptable condition.

Lights: Overall

The light fixtures in this dwelling were generally operational and in acceptable condition.

Smoke Alarms (“Smoke Detectors”)

← For important additional information on this item, please be sure to read the Client Advisory in the column to the left.

General Comments On The Electrical System

Multiple significant potential hazards in the electrical system were discovered during the course of this inspection. The deficiencies listed above may not be a complete list. Other deficiencies may be discovered upon closer examination of the system.

ADVICE, PRECAUTIONS & CONDITIONS AFFECTING THE SCOPE OF THE ELECTRICAL INSPECTION**A Word About Voltage Terms**

We use the terms, “120 volts” and “240 volts” throughout the inspection report, as this is the nominal value of the designated voltage class in all nationally recognized standards for both residential and commercial construction. The actual voltage at which circuits operate can vary from the nominal within a range that permits satisfactory operation of the equipment, again, as defined in nationally recognized standards. This range includes 110 volts and 220 volts, the term you may be most familiar with. In fact, we are both speaking of the same voltage levels and not of a different type of class.

GFCI Protection Explained

GFCI (ground fault circuit interrupter) protection is a modern safety feature designed to help prevent shock hazards. GFCI breakers and receptacles function to de-energize a circuit or a portion of a circuit when a hazardous condition exists. GFCI protection is inexpensive and can provide a substantially increased margin of safety.

Smoke alarms (“Smoke Detectors”) were not located inside some of the bedrooms or on some of the levels. Current industry standards require the installation of a smoke alarm inside every sleeping room and on every level within the dwelling. We recommend installation of smoke alarms that utilize photoelectric technology, in all sleeping rooms and on all levels, prior to, or shortly after, your assuming possession of this home.



Heating System

RESIDENTIAL HEATING SYSTEMS A Definition

The heating system consists of those components installed in the home for the purpose of maintaining the temperature of the interior at a controlled level. This heat can be supplied to each room by individual units, or by registers or radiant units which are supplied with air, water or steam from a central source. All heating systems contain a heat source and a means of control. In addition, central systems have a means of distribution to circulate the heat throughout the conditioned spaces.

THE EVOLUTION OF INDOOR CLIMATE CONTROL

Temperature and comfort control has come a long way from the open fire and the daily circuit of the sun across the sky. When the early settlers built their log cabins, the "central heating system" was the fireplace. It served as the cook stove, and a source of light after the sun went down.

As homes got larger, it became necessary to supply heat to more than one room. Since the heat source was still wood or coal, stoves were developed to radiate the heat into the surrounding rooms.

The next step in the development of heating systems was to centralize the heat source in a furnace or boiler and distribute it to each room by means of heated air or water. Most early furnaces and boilers were located in the basement and used coal which was delivered by wagon and put in the basement near the furnace.

Over the years, central heating systems have been improved by adding forced distribution, more sophisticated controls and increasing the efficiency of combustion, heat transfer and distribution. Our grandfathers would hardly recognize our modern gas-fired forced air furnaces, hot water heating systems or heat pumps.

THE HEATING SYSTEM - OUR INSPECTION PROCEDURE

Our examination of the heating system will include a visual check of the condition and operation of the heat source as well as the means of distribution. We will activate the thermostats and observe the response of the system. If the system has a centrally controlled source, we will open panels which would normally be used by a homeowner and observe the condition and operation of the heating plant, its fuel supply and its exhaust venting system.



GLOSSARY OF HEATING & COOLING TERMS

While our report is designed to be clear and easy to understand, it may contain terms or phrases with which you may not be familiar. We are pleased to furnish this reference to define and clarify terms and phrases that may appear in your report.

AIR FILTER - A filter installed in the cold air return which filters out dust and debris and prevents its re-entry into the conditioned spaces.

AIR RETURN - A duct for interior cool air to return to the furnace. This air is then circulated through the heat exchanger, warmed, and distributed to the rooms.

AUTOMATIC SAFETY CONTROLS – Devices designed and installed to protect systems and components from too high or low pressures or temperatures, fuel leaks, or other unsafe conditions.

BLOWER - A fan in a furnace or air conditioning unit which blows air through ducts.

BOILER - A heating device which heats hot water or creates steam for circulation in heating pipes, radiators, baseboards or convectors.

BTU (British Thermal Unit) - A unit of measure of heat. One BTU is the quantity of heat needed to raise the temperature of one pound of water one Fahrenheit degree.

COMPRESSOR - A pump which forces refrigerant through an air conditioning system.

DUCTS - A chamber used for distributing warm or cool air.

FORCED-AIR SYSTEM - A heating system where air is heated in a furnace and distributed through a structure by a blower.

HEAT EXCHANGER - A device by which heat is exchanged from one heat-carrying medium to another without direct contact between the two media.

HVAC UNIT - A single unit which supplies heating, ventilation and air conditioning.

INADEQUATE CLEARANCE TO COMBUSTIBLES - Gas-fired appliances and their vents must be far enough away from combustible surfaces to prevent the heat that these vents carry from causing a fire. Single wall vents should be at least six inches away from combustible surfaces and double wall vents should be at least one inch away.

COMBUSTION AIR - The air which fuel burners need to operate safely. It is normally supplied through ducts or openings in walls, doors, floors or ceilings.

INSULATION INSTALLED BACKWARDS - Insulation installed with the vapor barrier placed on the side opposite the living space. This can cause a buildup of moisture inside the insulation itself and cause damage. We recommend that all insulation be installed with the vapor barrier oriented toward the heated side of the building in line with the manufacturer's recommendations. Any damaged material found in the course of this work should be repaired or replaced.

PLENUM - A large duct or air chamber in which the conditioned (hot or cold) air from the furnace is distributed to the ducting and through the ducts to the registers.

REGISTER - A grill installed at the end of a duct which controls and directs the flow of air into a room.

THERMOSTAT - An automatic heating/cooling control device. Some units are controlled by clocks to set back the temperature during certain time periods as a fuel-saving measure.

VENT - A metal or plastic tube or pipe, usually extending upward through the roof, but sometimes horizontally through the wall, which carries exhaust gasses from fuel burning appliances such as furnaces, boilers and water heaters, safely to the outside of the building.

TRANSITE VENT - A pipe composed chiefly of asbestos and Portland Cement used to carry products of combustion from gas fired appliances safely to the exterior of a dwelling. Transite vents are not recognized by present industry standards. They are subject to failure because of their absorbency and the effect of the products of combustion on the product binders. The local building department may require replacement of these vents.

TRANSITION BOOT - A rectangular box attached to the end of a duct into which a register is placed.



Heating System

CLIENT ADVISORY

DESCRIPTIVE INFORMATION

Heating System Type:	• Gas fired Forced Air Furnace
Heat Plant Location:	• In the basement
BTU Input Rating:	• 96,000
Heating Plant Age:	• Age from Data Plate 12 years
The Air Filter Type:	• Disposable media
The Air Filter Size:	• 16" x 20" x 1"
Heat Element Location:	• In the floor slab
Number of Zones:	• Single Zone system
Attic Insulation Type:	• Fiberglass
Wall Insulation Type/R-Value:	• Inaccessible, not visible, could not be inspected
Floor Insulation Type/R-Value:	• Inaccessible, not visible, could not be inspected

OBSERVATIONS & RECOMMENDATIONS

Forced Hot Air Heating System

Forced air furnaces operate by heating a stream of air moved by a blower through a system of ducts. Important elements of the system include the heat exchanger, exhaust venting, blower, controls, and ducting.

The accessible portions of the heat exchanger were visually examined and no cracks, holes or other severe conditions were observed.

The visible and accessible wiring for the electrical supply for this unit was in acceptable condition.

Fuel Supply

The gas supply piping installation included a 90-degree shutoff valve in the vicinity of the heating plant for service personnel and emergency use. The valve was not operated, but this age and style of valve is normally found to be operable by hand and generally trouble free.

The gas connector was an approved flexible type in acceptable condition.

Heating Plant Combustion Air Supply

The combustion air supply for the heating plant was adequate.

Ignition and Controls

The standing pilot was controlled by a thermocouple, which ensures that the pilot gas valve will close if the pilot light is extinguished. This system was in acceptable condition.

Exhaust Venting System

The visible sections of the heating plant's venting system were functional and were in acceptable condition.

The visible portions of the distribution ducts were properly installed and in acceptable condition.

System Controls

Operation of the user controls on the thermostat caused the unit to respond.

General Comments About The Heating System

The heating system responded to normal operating controls, and related components were in acceptable condition. Routine maintenance will keep it functional and maximize its service life.

The heating system was in the middle of its expected service life. It responded to normal operating controls and with routine maintenance should be reliable for a number of years.

ADVICE, PRECAUTIONS & CONDITIONS AFFECTING THE SCOPE OF THE HEATING SYSTEM INSPECTION

General Information On Warm Air Furnaces

The life expectancy of warm air furnaces can vary in the extreme. Both environmental and operational factors can affect their lifespan. Often we are asked, "When is the best time to replace a furnace?" Generally, warm air furnaces are operational until the heat exchanger develops either a hole or a crack. In most building department jurisdictions, once a heat exchanger has developed either a hole or a crack, it must be replaced. Since most furnaces are relatively old by the time that their exchangers develop such breaches, this requirement usually translates into replacement of the entire furnace, since, by that time, a heat exchanger alone is not available.

The Heat Exchanger is the Heart of the Furnace

The heat exchanger is the central component in a warm air furnace. The heat exchanger is a metal chamber or series of metal chambers that form an airtight vessel that separates the burner(s) on the combustion side from the warm (house heating) air on the other (air) side. Once the heat exchanger develops an opening of any type, combustion products may be allowed to migrate from the burner chamber(s) into the air side of the heat exchanger where they can be circulated into the living spaces of the house. There always is a possibility that these combustion products could contain carbon monoxide gas, which, in any significant quantity, can be deadly. Thus, it is easy to see why any type of crack or hole in the heat exchanger should be cause for immediate replacement. While a crack in its early stages may, in fact, be tight (in that it does not allow the passage of flue gasses) nevertheless, heat exchangers never "heal". Instead, the crack or hole will probably increase in size with age. There are no approved methods for patching or re-welding cracks or holes in heat exchangers.

If a hole or a crack in the heat exchanger is reported, then replacement of the heat exchanger or the entire furnace should be anticipated. While some persons may argue that a hairline crack is not of sufficient width to allow the passage of flue gases into the air stream of the house, nevertheless, a crack of any kind in the heat exchanger is usually cause for the gas supplier to "red tag" the furnace. This means that the furnace cannot be operated until proper repairs are made or the furnace is replaced.

During our inspection, we will not *completely* disassemble the furnace. Industry standards limit the home inspector to removal of those covers or doors that normally could be removed by a homeowner. Generally, this is limited to the blower compartment door and possibly the flame shield over the front of the combustion compartment. Thus, depending on the particular type of furnace and associated access limitations, an examination of the furnace done during a normal home inspection may only be able to cover ten to twenty percent of the interior of the heat exchanger. The only way to examine the entire heat exchanger is through a process called a “teardown inspection”. Such an inspection requires the complete disassembly of the furnace and should only be undertaken by a competent heating technician who possesses the appropriate licenses, tools, equipment and knowledge. During a teardown inspection, it is common for the burners to be removed from the combustion compartment as well as for portions of the furnace cabinet to be removed or for the heat exchanger itself to be removed from the furnace. An in-depth examination such as this makes it much easier to confirm the condition of the heat exchanger. If a recommendation is made in the Client Advisory section of the report to undertake a complete examination of the furnace, the intention is to call for a teardown inspection.

Environmental Influences on the Lifespan of a Furnace

You can extend (or prematurely shorten) the life of your furnace by altering the environment in which it operates. High humidity in the area where the furnace is installed may damage the furnace. This is particularly likely where furnaces have been installed in underbuilding crawl spaces and where the crawl spaces are excessively moist or even wet. Obviously, since most heat exchangers are made of mild steel, they are particularly susceptible to rusting and premature failure due to high humidity.

Another factor that can prematurely shorten the life of a heat exchanger is the installation of a humidifier in the warm air plenum immediately *above* the furnace. Such installations are definitely *not* recommended. If the humidifier float valve malfunctions and allows excess water into the humidifier reservoir, that water may end up overflowing down *inside* the furnace where it ends up on the heat exchanger. If this happens over a long enough period of time, the exchanger can be rusted through from the outside.

Another environmental concern involves the placement of “kitty litter” or “litter boxes” in the vicinity of your furnace. Most kitty litters contain chlorine as a sanitizing and odor reducing media. The chlorine is outgassed from the kitty litter and permeates the surrounding air. When this excess chlorine comes in contact with the metal surfaces of the heat exchanger, it can cause accelerated corrosion due to the abnormal concentration of chlorides. So, you see why it is a good idea to put the kitty litter box somewhere well away from the furnace.

Operational Influences on the Lifespan of a Furnace

The primary operational influence on the lifespan of a furnace requires keeping the combustion system properly tuned. A competent heating technician should check the fuel-air mixture at the burners and check the overall combustion efficiency at least every other year. During this check, the heating technician will also check the adjustment of the pilot and will check for excessive roll-out on ignition. Roll-out, or delayed ignition, is the process whereby, when the main gas valve opens and the main burner ignites, the flame extends outside of the combustion compartment, often through or past the flame shield.

This *confidential* report was prepared for Someone Special

Excessive roll-out over a period of time can result in destruction of electrical wiring in the furnace vestibule in front of the combustion compartment. Excessive roll-out is often a symptom of a dirty combustion compartment and/or maladjustment of the burner ignition system.

Another operational requirement is the conscientious maintenance of clean furnace filters. An excessively dirty furnace filter is likely to impede the flow of air through the heat exchanger enough to cause the temperature of the heat exchanger to rise to a level where it will actuate the high limit control, causing the furnace burner to shut down. If an excessively dirty filter is causing the burner to overheat the heat exchanger, this can lead to premature failure of the heat exchanger.

Finally, when lighting a pilot or replacing a filter on a furnace, make sure that the front panels (upper and lower) are replaced properly. Even a slight gap or opening left along the side of the panels could allow combustion products to be drawn into the house. Never allow an opening (such as an air grille) in the return air system anywhere within the furnace room.

To Sum It All Up

In summary, several important points should be remembered. First, if the inspection notes the existence of a crack or hole in the heat exchanger, we would strongly advise further investigation by a competent heating technician. Second, you, as the homeowner, should take steps to provide the most suitable environment for your furnace. This will include keeping kitty litter away from the furnace room area and/or providing a dry crawl space in which the furnace can operate. Third, it is very important to maintain the filter in relatively clean condition so as to avoid overheating the heat exchanger. Fourth, if there is a furnace (or duct) mounted humidifier, which is marginally functional or difficult to access and disassemble, then remove and do not replace it. Finally, invest in a visit from your heating technician on an every-other-year basis for an inspection, general tune up and service of your furnace.

Air Filters Need Regular Service

All types of heating and air conditioning system filters need regular servicing for efficient operation of the equipment. Typical intervals would be every thirty to sixty days during each heating and/or air conditioning season. In all cases, we advise following the manufacturer's specifications.



Cooling System

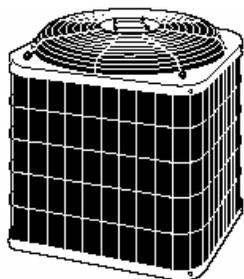
AIR CONDITIONING

THE BASICS

The basic principle involved in modern air conditioning is that a gas expanding under pressure absorbs heat while a gas condensing to a liquid releases heat.

An air conditioning unit (or system) operates by removing heat from the air inside the dwelling and releasing it outdoors. Heat pumps, which cool and heat, operate in much the same manner, but are reversible for winter heating use.

The major elements of an air conditioning system are an evaporator coil and fan (the furnace or air handler blower) with an expansion valve (the indoor unit), a condenser coil and fan with the compressor (the outdoor unit), and a sealed refrigerant circulating system connecting the two units.



MAINTENANCE 101 FOR THE HOMEOWNER

Central air conditioning systems do not require a burdensome amount of maintenance, but some simple care must be exercised periodically if the unit is to achieve its maximum economic life span. A regular maintenance program can add many years of service. Aside from the sound recommendation of having an annual service check of the system (and the refrigerant level) by a local cooling professional, the following are the most important considerations for the homeowner:

- A) Clean and/or replace air filters monthly. Service the electronic air cleaner, if you have one.
- B) Maintain clearance around and over your outdoor unit. Keep vegetation, PETS and storage three feet from the unit, and do not locate the vent from the clothes dryer discharge within 15 feet of the outdoor unit.
- C) If there is a drain pan under the unit, as is the case in many attic installations, be sure the pan is clean and the condensate drain open. If your unit has a condensate pump, keep it clean and in working order.
- D) We advise that one never operate a residential air conditioning system when the outside temperature has been below 65°F for several hours. This can damage the compressor. We also do not recommend operating heat pumps in the heating mode when the outside temperature is above 75°F.

Copyright© 1998-2017, PRENTerprises, LLC., *The Summit System* All Rights Reserved. v05.30.16

This inspection was done on June 6, 2017, by Inspector Tim Chiles of Enlightened Home Inspections, LLC, (720) 273-5759. Acceptance and/or use of this Inspection Report shall constitute acceptance of, and agreement to, all of the provisions of the *Property Inspection Contract* and its *Standard Terms and Conditions* which are incorporated by reference and form a part of this Inspection Report. Summit System *Master Comment Library* Copyright © 1998 - 2017, Summit Property Inspection Systems. All Rights Reserved. www.summitinspection.net



Cooling System

CLIENT ADVISORY

DESCRIPTIVE INFORMATION

Type of Cooling System:	<ul style="list-style-type: none"> • Central air conditioning system sharing distribution with a gas fired furnace
Energy Source for Cooling:	<ul style="list-style-type: none"> • Natural Gas
The Air Filter Size:	<ul style="list-style-type: none"> • 16" x 20" x 1"
Cooling Capacity:	<ul style="list-style-type: none"> • Approximately 2 tons
Cooling System Age:	<ul style="list-style-type: none"> • 9 Years, from Serial Number

OBSERVATIONS & RECOMMENDATIONS

Type Of Cooling System

Cooling was accomplished by electrically powered refrigerant compression, with the cooling (evaporator) coil mounted adjacent to the gas fired furnace.

Cooling Equipment Compressor/Condenser

The condensing unit was in acceptable condition.

Notes On The Evaporator Coil

An evaporator coil is the component of an air conditioning or heat pump system that transfers or absorbs heat from the air passing through it to a liquid refrigerant. In doing so, the liquid refrigerant remains within the system as it is evaporated or boiled off to a gas while making its way through the evaporator.

Refrigerant Lines

Refrigerant lines connect the evaporator coil and the condenser in an air conditioning or heat pump system. The "hot" side of the lines is the conduit through which collected heat from the living area is conveyed to be released through the condenser outdoors. Normally, the "cold", or the suction, or return side of the refrigerant lines is the larger of the two and should be insulated.

Accessible refrigerant lines were in acceptable condition.

The air filter for the cooling unit was a conventional disposable media filter.

The visible and accessible wiring for the electrical supply was in acceptable condition.

General Comments About The Cooling System

The cooling equipment was moderately aged, but responded to user operating controls and was generally in acceptable condition.

ADVICE, PRECAUTIONS & CONDITIONS AFFECTING THE SCOPE OF THE COOLING SYSTEM INSPECTION

Do Not Operate A/C System When It Is Below 65 Degrees Outside

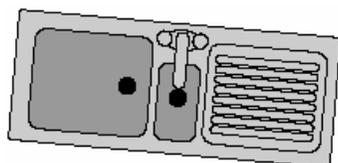
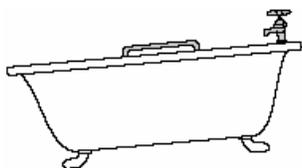
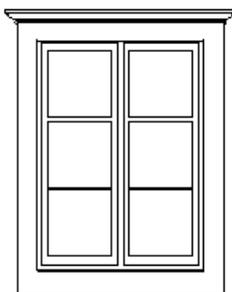
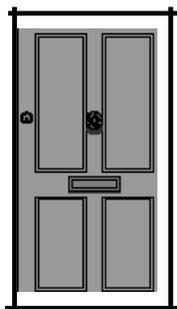
Some authorities recommend running the compressor intermittently (perhaps once a month for a few minutes) during the season to keep the seals lubricated and pliable so that they will not begin to leak as soon. Extreme care must be taken to insure that the compressor is NOT operated when the outside temperature is below 65 degrees Fahrenheit, or serious damage may occur to the compressor itself!

The lubricant placed inside the factory sealed compressor unit of an air conditioning system during manufacturing will become very viscous (thick, like syrup) when subjected to cool temperatures. When it becomes thick, it will not circulate properly and doesn't adequately coat all of the internal moving parts.

For this reason, manufacturers of air conditioning compressors strongly recommend against running these units for any length of time when the outside temperature is below 65 degrees Fahrenheit. To do so invites the risk of mechanically seizing the compressor. Once a compressor has seized, the only course of action that can restore proper operation is to completely replace the compressor itself – often to the tune of \$1,000 to \$2,000, depending upon its size.



Interior Components



From the very beginning, man has searched for ways to control his environment and create favorable conditions for his activities. His housing design has reflected the different solutions advanced in each period and place. It was the shelter's *exterior* that provided protection against unwanted environmental elements. It was the shelter's *interior* that gave man a comfort bubble in which to live.

The shelter was the main instrument man used to fulfill the requirement of comfort. It modifies the natural environment to approach optimum conditions of livability. It should filter, absorb or repel environmental elements according to their beneficial or adverse contributions to man's comfort.

In early times, it was the cave that provided this protection. Temperate China had its underground settlements. Equatorial man had his thatched roofs with no walls. In the transition from cold caves to cold castles much had changed, however man still huddled around his fire pit or fireplace for warmth.

With the technological advances made in the last 100 years, man has made great strides in modifying his structure to provide optimum living environments, within the interiors of his architecture. He can now control interior spaces to have exact temperatures, humidity, light, sound qualities, and aesthetic dimension.

If our forefathers could only see us now, they would not believe their senses. Our spaces can be physically and psychologically pleasing. They provide us with excellent spaces for both group and solitary activity. In short, we have created a place of comfort out of the wilderness. We hope you enjoy yours.

THE INTERIOR - OUR INSPECTION PROCEDURE

Our examination of the interior and its components will include opening and closing every operable and unobstructed door and a representative sample of windows, where the window is not covered with curtains or a blind. In addition, we operate light switches and check readily accessible electrical receptacles. Where possible, we flush all toilets, run all wash basins, bathtubs and showers and check kitchen sinks. Finally, we check for the presence and operation of a permanently installed source of heat and/or cooling in each habitable room.



A VIEW OF WINDOWS

Most home buyers take windows for granted until they discover that one or more of them don't operate satisfactorily or appear to be fogged. As we inspect a representative sample of the windows, we may not discover *all* possible or potential faults with *all* of the windows in any given home on any given day. Thus, we have prepared this supplementary information to increase the knowledge and refine the expectations of our Inspection clients.

QUESTIONS AND ANSWERS

The following questions and answers will add to your understanding of windows.

Q. *Will all the windows in the home be inspected?*

A. Possibly not. In occupied homes (particularly with curtains, blinds or shades on the windows), we will inspect a representative number of windows, which typically means one window per room.

Q. *Do you operate all the windows that you inspect?*

A. Not necessarily, as our ability to do so is strongly influenced by their accessibility which can be impeded by furniture or personal property in the room or curtains or blinds over the windows.

Q. *Will the inspector find all of the breached seals in the windows he/she inspects?*

A. Physical damage to seals in double glazed windows cannot always be detected in a visual inspection. The fact that a seal has been breached can't be spotted visually, but one looks for symptoms such as fogging or staining between the layers of glass. Since staining looks a lot like a dirty window and since fogging only occurs under the right conditions of inside temperature vs. outside temperature, it is not unusual that symptoms of breached seals may not be apparent during the time available for your home inspection.

Thus, you may find that the symptoms of breached seals will only be apparent to you after you have occupied your home. If this occurs, please be assured that it is *not* the result of a substandard inspection.

Q. *What are the consequences of a breached seal in a double glazed window?*

A. A small breach in a double glazed window seal will not necessarily reduce the insulating value or solar conductivity of the unit. Usually, the most significant disadvantage to a window with a breached seal is purely aesthetic. The only permanent "cure" for a breached seal in a given window is removal and replacement of that window glazing unit (pane).

Q. *If breached seals (or even their symptoms) cannot always be detected during a home inspection, then how can the home buyer be confident that this condition does not exist in one or more windows or doors?*

A. Unfortunately, the home buyer can never be *absolutely* sure, no matter how many times they visit the house and examine the windows and doors prior to closing. Nevertheless, the home buyer can take a very effective precaution and ask the seller or occupant of the home whether they have ever observed any condensation, fogging or staining between the layers of glass in any of the windows or doors in the home. Since they have presumably lived in that house for an extended period of time, if there are breached seals, the sellers or occupants probably are aware of them. This question can properly be asked, and a written answer requested, as a part of the Seller's Disclosure obligations, now a common part of most real estate transactions.



Copyright © 1998-2017, PRENterprises, LLC., *The Summit System* All Rights Reserved. v05.30.16



Interior Components

CLIENT ADVISORY

Mold growth was visible in the upper floor hall bath. A qualified technician, using current industry practices, should remove the growth, or all materials upon which the growth was occurring should be removed and replaced. In all cases, if additional growth is discovered when presently concealed areas are opened, then further remediation or replacement should be undertaken as appropriate. Finally, as a vital part of any remediation effort, the source of the moisture that sustained the growth should be located and be properly eliminated to ensure that the growth does not reoccur.

DESCRIPTIVE INFORMATION

Number of Bathrooms:	• Two and a half
Number of Bedrooms:	• Four
Window Material:	• Extruded vinyl frame
Window Material:	• Exposed aluminum frame
Window Glazing:	• Double pane (“Insulated”)
Wall Finish:	• Gypsum wallboard, commonly called “Drywall”
Ceiling Finish:	• Gypsum wallboard, commonly called “Drywall”
Floor Covering:	• Carpet • Hardwood flooring • Floor Tile

OBSERVATIONS & RECOMMENDATIONS

Interior Surfaces

The interior wall, floor, and ceiling surfaces gave the appearance of having been professionally installed and were generally in acceptable condition, taking into consideration the effects of normal wear and tear.

The floors were dirty and should be cleaned, but otherwise, were in acceptable condition.

The hardwood flooring was, in our opinion, in only fair condition. However, refinishing of the floor would only be for cosmetic reasons.

Interior Walls

The interior walls were generally in acceptable condition with exceptions noted below.

← **For important additional information on this item, please be sure to read the Client Advisory in the column to the left.**

Ceilings

The ceilings were generally in acceptable condition, with exceptions noted below.

← **For important additional information on this item, please be sure to read the Client Advisory in the column to the left.**

Interior Doors

The interior doors were properly installed and in acceptable condition, with exceptions noted below.

The basement door latches were sticking in the doors and would not fully extend. First, we recommend attempting lubrication or adjustment to free any internal binding. If these actions are not sufficient to cause each latch to fully extend, then it should be replaced.

Several of the doors throughout the dwelling were in need of attention. We recommend adjustment, trimming, restoration, or replacement of interior doors as required, for smooth operation and full function.

Windows

The windows tested were functional and in acceptable condition. We operated a representative sample of the windows, but did not open, close, and latch *every* window.

The screens had yet to be installed on the windows. We recommend that all window screens be installed and checked for proper fit and any damage which might have occurred while they were in storage.

Interior Stairs

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

Interior Railings

The interior railings were installed where appropriate by current standards and were in acceptable condition.

The fireplace was intended to be gas fired only. It was fully functional at the time of the inspection, however no attempt should be made to burn wood in this fireplace, and it cannot be converted in the future to burn wood or *any* other solid fuel.

Fireplace Insert(s)

A fireplace insert has an exterior, interior, damper system and a fire burning area. We visually inspect the accessible components for signs of significant non-performance, excessive or unusual wear and general state of repair.

The fireplace insert was in acceptable condition with no signs of excessive damage or unusual wear.

Smoke alarms (“Smoke Detectors”) had not been installed on some levels of this dwelling as required by current industry standards. We recommend installation of smoke alarms *that utilize photoelectric technology*, on all levels, prior to, or shortly after, your assuming possession.

At one time, a receptacle was provided with GFCI protection. However, that protection had subsequently been removed and not replaced, even though this safety feature was, and still is, required. GFCI protection must be re-established for this area to maintain an increased margin of safety. It may take the form of a GFCI receptacle installed in the outlet box or a GFCI Circuit Breaker installed in the distribution panel from which this circuit is supplied. A competent, licensed electrician should do the installation.

The GFCI protection did not function properly when tested in the upstairs guest bathroom. GFCI protection should be re-established for this area for an increased margin of safety.

Upper Floor Hall Bath

Washbasin

The washbasin was properly installed. When operated, it was fully functional and in acceptable condition.

Bathtub

The bathtub was in acceptable condition.

Shower and Shower Surround

The shower/tub water supply valve(s) and shower diverter were operated for the inspection. The valve(s) and diverter were in acceptable condition.

The shower walls were functioning as intended and were in acceptable condition.

Toilet

The toilet was made of vitreous china, with a porcelain finish. The toilet was flushed and functioned properly.

Electrical Receptacles on the Interior

← For important additional information on this item, please be sure to read the Client Advisory in the column to the left.

Bathroom Ventilation

A ceiling vent fan provided ventilation for this bathroom. The fan was operated and was in acceptable condition.

Cabinets & Countertops

The cabinets were in acceptable condition.

The countertop showed typical wear and tear, normal for this heavily used component. We considered any flaws cosmetic in nature with no action indicated.

In Summary

Our inspection of the significant components in this bathroom led us to conclude that they were functioning as intended and in acceptable condition, with a few exceptions already noted.

Lower Floor Hall Bath

Washbasin

The washbasin was properly installed. When operated, it was fully functional and in acceptable condition.

Toilet

The toilet was made of vitreous china, with a porcelain finish. The toilet was flushed and functioned properly.

Cabinets & Countertops

The cabinets were in acceptable condition.

The countertop showed typical wear and tear, normal for this heavily used component. We considered any flaws cosmetic in nature with no action indicated.

Kitchen

The Sink

When the sink was operated, it was fully functional and in acceptable condition.

Cabinets & Countertops

The cabinets were in acceptable condition.

The countertop showed typical wear and tear, normal for this heavily used component. We considered any flaws cosmetic in nature with no action indicated.

All appliances were tested using normal operating controls and were found to be in satisfactory working condition.

The GFCI protection did not function properly when tested in the upper floor hall bath. GFCI protection should be re-established for this area for an increased margin of safety.

In Summary

Our inspection of the significant components in this kitchen led us to conclude that they were functioning as intended and in acceptable condition.

General Interior**General Comments On This Area**

Features associated with this area were found to be generally in acceptable condition at the time of the inspection. However, some were in need of routine maintenance as noted above.

General Comments About the Interior

In addition to any specific rooms noted, we inspected all rooms generally considered to be habitable space. These usually include the living room, dining room, family room, den, bedrooms, utility room, etc., in addition to the kitchen, bathroom, laundry area and garage, as applicable.

The interior surfaces, hardware, fixtures, doors and windows were properly installed and in acceptable condition.

In addition to any specific rooms noted, we inspected all rooms generally considered to be habitable space. These usually include the living room, dining room, family room, den, bedrooms, utility room, etc., in addition to the kitchen, bathroom, laundry area and garage, as applicable.

A representative sample of the windows was operated in each room, but not every window was opened, closed and latched. Nationally recognized home inspection standards require testing a minimum of one window in every room, where accessible.

The Original Fireplace Was Not Accessible

The fireplace insert was installed within the fireplace opening. This made the fireplace interior and flue inaccessible. Thus, we cannot offer any opinions regarding the performance or condition of the original fireplace.

Requirements for Receptacle Placement

For reference, current standards for typical room plugs require grounded, three-prong receptacles within six feet of any point on all walls. Upgrading to this standard is only required in specific areas of existing buildings during remodeling. During this inspection, a representative number of receptacles were checked for proper polarity and operating condition only. The number of receptacles and their locations may be mentioned, but only in terms of convenience and personal safety.

Wall and Window Coverings Are Not Included in a Standard Home Inspection

Wallpaper and other types of wall coverings, as well as window coverings, are not considered a part of a standard home inspection and, in most cases; no comment on their condition will be made.



Environmental Topics

In our *Property Inspection Contracts* we specifically exclude inspection or testing for any toxic or dangerous substances other than fuel gas. Thus, your inspector does *not* inspect for the presence of Asbestos, Urea-formaldehyde foam, Lead in paint or water, and a long list of environmental contaminants.

We don't test or inspect for these substances because:

- 1) It requires an individual with highly specialized training and appropriate certification;
- 2) Testing requires a significant length of time, well beyond that required for a standard Home Inspection;
- 3) Testing may involve the use of expensive, specialized sampling and measuring equipment;
- 4) We don't get enough calls for such services to warrant our investing in all of this specialized training and equipment.

There are many companies who stand ready to carry out such surveys for our clients. Our office can refer you to several sources, or you can consult the Internet or Yellow Pages of the local telephone directory.

These companies can carry out as extensive a survey as you may desire. These services range in cost from around \$100 to over well over \$1000 for an exhaustive on-site survey with laboratory analysis all carried out by trained and certified personnel.

ENVIRONMENTAL TESTING

Laboratories, testers, and contractors will be listed with the U.S. Environmental Protection Agency, an appropriate State Agency or other recognized certifying authority, if they have qualified under that authority's guidelines to perform testing, laboratory analysis, or reduction and control of hazardous substances. You should request that your laboratory, tester, or reduction/control contractor provide you with their credentials.

FORMALDEHYDE

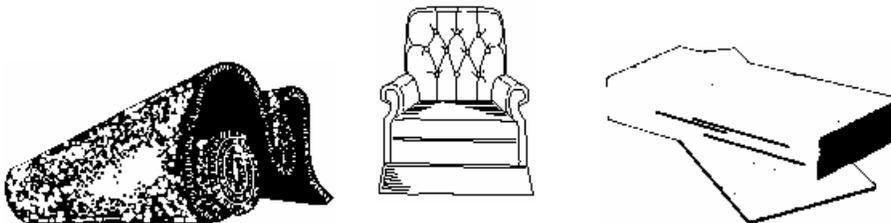
Formaldehyde, a colorless gas with a pungent odor, is so commonly used today that everyone is likely to be exposed to small amounts of it, and a number of people have developed symptoms due to exposure to large amounts of formaldehyde in their homes or workplaces. It was an integral component of the urea formaldehyde foam insulation (UFFI) that was installed in more than 500,000 homes in the 1970s. It is present in a large variety of products. It is a major part of the resins used as glue in particle board, plywood, and other pressed wood products used in the construction of homes and furniture. Some cosmetics, paper towels, upholstery, permanent press fabrics, carpets, toilet seats, pesticides, and explosives contain it, too.

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.

REDUCING THE RISK

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 gas seeps from the walls, furniture, carpet, etc. into the air, 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.



Copyright © 1998-2017, PRENTerprises, LLC., *The Summit System* All Rights Reserved. v05.30.16



Mold and Allergens

IMPORTANT INFORMATION CONCERNING MOLD, MILDEW AND RELATED ALLERGENS

We hope that the following facts and considerations regarding mold, mildew and related allergens, the scope of this home inspection and your family's health, will aid in your understanding of this important and timely topic:

- ◆ Mold spores are present in the outside air everywhere, even in the driest of the so-called desert climates. Thus, every home contains mold both inside and on all surfaces. But the mold will remain dormant until the right conditions of moisture and food become present. Accurately identifying those conditions often takes specialized skill and experience.
- ◆ Mold generates a number of mold byproducts. Particles include the mold organism, spores and fragments. Chemical byproducts include enzymes, mycotoxins and gasses. Many of these byproducts can affect susceptible people in a variety of ways, and from a health point of view it often makes no difference if the mold is dead or alive.
- ◆ Mold spores are present on the surfaces and in the cracks and pores of building materials as they are incorporated into new construction, no matter where in the world a new home is being built. While it is true that molds usually do not propagate if removed from a source of moisture, nevertheless they can remain in a dormant state for years waiting for the right conditions to spring into life and fill the atmosphere both inside and outside of a building with their progeny.
- ◆ Some molds give off toxic gases as an offensive "weapon". These toxic gases aid them in killing competing molds and expanding their "territory". These same gases can be dangerous to humans as well.
- ◆ Human reaction to, and the possible effects of, exposure to specific molds and other fungi can vary widely, *even between members of the same family exposed to the same conditions.*
- ◆ Many experts consider all molds to be potential allergens and irritants, including some toxins. Health concerns from exposure to mold in humans varies with each individual and can range from simple allergy symptoms to asthma, watery eyes, sneezing, wheezing, difficulty breathing, sinus congestion, blurry vision, sore throat, dry cough, aches and pains, fever, skin irritation, bleeding of the lungs, headaches, and memory loss.
- ◆ Searching for environmental hazards of *any* kind, including molds and/or mildew is not a part of this home inspection, or *any* standard home inspection and report. (See your Property Inspection Contract)
- ◆ Many times, mold infestations occur inside wall cavities or in an underbuilding space or attic where they cannot be seen without the destructive disassembly of the building, an activity specifically prohibited by all nationally recognized Standards of Practice governing the Home Inspection profession. Remember, also, that *you* as the Client would be financially responsible for the repair of any damage resulting from any invasive methods used to find hidden mold growth in a building that you do not yet own!
- ◆ Unfortunately, there have been many documented cases of significant and harmful mold growths that were totally concealed and which left absolutely *no* outwardly visible symptoms of their presence.
- ◆ During your inspection, if we did come across conditions that, in our opinion, could cause or suggest the presence of these organisms, we have made every effort to note them in the report.
- ◆ **No matter whether we have mentioned any visible evidence or even suspicious symptoms in your report, and whether you or any member of your family have been known to have ever had an adverse reaction to possible mold exposure, or if you are concerned at all about these organisms being present in this home, we strongly recommend that you engage the services of a qualified expert that specializes in the identification of these organisms and follow their recommendations.**

Copyright© 1998-2017, PRENTerprises, LLC., *The Summit System* All Rights Reserved. v02.15.17

This inspection was done on June 6, 2017, by Inspector Tim Chiles of Enlightened Home Inspections, LLC, (720) 273-5759. Acceptance and/or use of this Inspection Report shall constitute acceptance of, and agreement to, all of the provisions of the *Property Inspection Contract* and its *Standard Terms and Conditions* which are incorporated by reference and form a part of this Inspection Report. Summit System *Master Comment Library* Copyright © 1998 - 2017, Summit Property Inspection Systems. All Rights Reserved. www.summitinspection.net



After the Inspection

STANDARDS TO GO BY

These requirements should be the minimum acceptable standards which *all* corrective measures should meet:

1. All repairs or modifications should be done by licensed and/or qualified tradespersons who are familiar with the system or component they will be servicing.
2. These persons should render a written report or itemized invoice which details all work done and certifies that new materials were used, that any necessary permits and inspections were obtained, and that the work was done in a workmanlike manner.
3. Finally, the trades-person completing the work should certify, in writing, that the system or component was left in a fully operational, safe and adequate condition.

Virtually every home inspection is bound to turn up a few conditions or concerns which will be listed in the *Client Advisory* sections of the *Inspection Report*. What you *do* with the information gained from your home inspection is strictly up to you, since your Professional Home Inspector is not a party to your transaction. However, because many of our clients are using our services for their very first home purchase, we have compiled the following guidelines and suggestions to help you interpret and respond to our findings.

Begin with the assumption that in the eyes of virtually every seller, they have "taken really good care of" the home that they are now selling to you. Furthermore, most sellers are not anticipating that a home inspector will find anything which might need immediate attention in their home! Additionally, that same seller usually has his/her attention focused on their *next* home and their impending move, and they are no longer fully "tuned in" to current conditions in their present home.

Because of this, if you request that the seller make any corrections, based on the Inspection Report findings, the seller's motivation might be to get the work done as quickly and inexpensively as possible. This may translate into the seller doing the work him or herself (or hiring inexpensive and unqualified help) and using the most inexpensive materials available. Usually, "corrections" made in this manner only provide a false sense of security. Additionally, it is not practical for your inspector to re-inspect such completed corrections. Without being constantly on site to observe each step, no one can ascertain, after the fact, that all work was done properly and up to industry standards.

In the majority of circumstances, we urge our clients (through your Real Estate Professional or Attorney, as applicable) to negotiate so that, no matter which party takes responsibility for agreed to corrections, the "Standards to Go By" (at the left) be followed rigorously.

(See the *Pre-closing Walk-Through Guidelines* on the next page.)



Pre-Closing Walk-Through GUIDELINES

The primary purpose for a pre-closing walk-through is to confirm that there have not been any significant changes in the condition of the property or operation of its components after the pre-purchase inspection.

A one-time pre-purchase inspection will not assure you that a property will be okay at closing time. You should check it during poor weather conditions in the interim and check it 24-48 hours before closing. After several days of rain, a house may show some basement or roof leakage.

Visiting a house during very cold or windy weather may demonstrate frozen pipes or that the house won't heat adequately. Extremely hot or humid weather may demonstrate inadequate air-conditioning or basement condensation problems. Cold weather with snow on the roof may demonstrate ice damming on the roof or in the gutters.

For investment properties, this guide will establish a condition statement at a particular time. This allows fair deductions from damage deposits for those occurrences which are beyond normal wear and tear.

Here are some of the events you might anticipate occurring between the time that you sign your Purchase contract and the time that you move in:

1. A disgruntled tenant or owner may deliberately or accidentally damage the property or leave it dirty.
2. Weather damage may occur. Frozen soil, high winds, or heavy rains can deliver water into the basement where no evidence would suggest it had ever been.
3. High winds or lightning can damage roofing, gutters can clog with leaves, trees or limbs can fall on houses. Hail can dent siding, break windows and destroy roofing.
4. Sealed, insulated glass windows and doors can lose (breach) their seals.
5. Toilets can clog, drains can become plugged (especially if painting or plaster or drywall repairs have taken place, since these trades often flush waste materials down the drains, which frequently blocks them up). The hardware of plumbing fixtures may leak and require new seats, packing, or washers.
6. Pests (fleas, roaches, mice, termites, etc.) may infest the property.
7. Mechanical systems may fail, furnace heat exchangers may crack, electrical controls may fail and air-conditioning compressors may quit.
8. Freshly painted or decorated areas may peel, expose mildew, or open cracks.
9. Plaster ceilings may loosen, flooring may squeak and windows and doors may bind.
10. Items or appliances you thought would be conveyed with the house no longer exist or are exchanged for different ones.

You should also take the opportunity to operate, check or test those things which were practical prohibitions during the professional home inspection.

Here is a sample listing:

1. Operation of all localized fixture shut off valves and all outside hose bibs and shut-off valves.
2. Air conditioners or heat pump cycles not operational due to temperature. Flue drafts (bird nests, bricks, and disintegration can block them).
3. Those items found defective or questionable during the professional inspection. Mechanical items often demonstrate intermittent operation or may be out of the range of thermostat or humidistat controls.
4. Uninstalled window air conditioners, screens, etc.
5. Those areas inaccessible (obscured by furniture or stored items) during the professional inspection.
6. Floors under rugs, etc. Attics and crawl spaces without access openings, etc.
7. Roofing or yard areas (sidewalks, drives, etc.) previously covered with snow, ice or leaves.
8. Non-functional lighting fixtures and bulbs, receptacles or switches, etc.
9. Intercoms, security and telephone systems, etc., TV antennas and fireplace draws, cleanliness, etc. Accuracy of thermostats and timers, ice makers, door bells, etc.
10. Swimming pools and related equipment.
11. Those windows, doors and hardware not part of the original random sample.

If you have any questions about the need for this Pre-Closing Walk-Through or how to perform it, ask your Professional Home Inspector.

Copyright © 1998-2017, PRENTERprises, LLC., *The Summit System* All Rights Reserved. v02.15.17

This inspection was done on June 6, 2017, by Inspector Tim Chiles of Enlightened Home Inspections, LLC, (720) 273-5759. Acceptance and/or use of this Inspection Report shall constitute acceptance of, and agreement to, all of the provisions of the *Property Inspection Contract* and its *Standard Terms and Conditions* which are incorporated by reference and form a part of this Inspection Report. Summit System *Master Comment Library* Copyright © 1998 - 2017, Summit Property Inspection Systems. All Rights Reserved. www.summitinspection.net

Pre-Closing Walk-Through CHECK LIST

Address: _____

Inspection Number: _____

Signature: _____

	OK	Needs Attention		OK	Needs Attention
GENERAL			KITCHEN		
Have agreed-upon repairs been completed?	<input type="checkbox"/>	<input type="checkbox"/>	Do all the appliances work?	<input type="checkbox"/>	<input type="checkbox"/>
Are warranties and/or guarantees available for the repairs?	<input type="checkbox"/>	<input type="checkbox"/>	Does the exhaust fan work?	<input type="checkbox"/>	<input type="checkbox"/>
BASEMENT/CRAWL SPACE			HEATING AND COOLING		
Is the area dry?	<input type="checkbox"/>	<input type="checkbox"/>	Does the Heating System work?	<input type="checkbox"/>	<input type="checkbox"/>
Are there any signs of water?	<input type="checkbox"/>	<input type="checkbox"/>	Does the Cooling System or Evaporative Cooler work?	<input type="checkbox"/>	<input type="checkbox"/>
Is the sump pump functioning?	<input type="checkbox"/>	<input type="checkbox"/>	Is there a working source of heating and/or cooling in each habitable room?	<input type="checkbox"/>	<input type="checkbox"/>
SITE AND GROUNDS			ATTIC		
Have any concrete driveways, walkways, sidewalks or patios cracked or settled?	<input type="checkbox"/>	<input type="checkbox"/>	Are there any signs of leaks?	<input type="checkbox"/>	<input type="checkbox"/>
Is there any <i>new</i> damage or deterioration to decks, steps, fencing or retaining walls?	<input type="checkbox"/>	<input type="checkbox"/>	Are there any signs of birds, rodents, or animals?	<input type="checkbox"/>	<input type="checkbox"/>
GARAGE			WALLS, CEILINGS AND FLOORS		
Do <i>all</i> the doors operate properly?	<input type="checkbox"/>	<input type="checkbox"/>	Are there any new water stains?	<input type="checkbox"/>	<input type="checkbox"/>
Does the automatic door opener operate, stop and reverse properly?	<input type="checkbox"/>	<input type="checkbox"/>	Have any previous stains become larger?	<input type="checkbox"/>	<input type="checkbox"/>
PLUMBING			Are there any new interior cracks?	<input type="checkbox"/>	<input type="checkbox"/>
Do all the fixtures work?	<input type="checkbox"/>	<input type="checkbox"/>	Have previously noted cracks become larger?	<input type="checkbox"/>	<input type="checkbox"/>
Is there adequate flow from all the faucets in the highest bathroom?	<input type="checkbox"/>	<input type="checkbox"/>	Are the carpets stained?	<input type="checkbox"/>	<input type="checkbox"/>
Are there any drain or faucet leaks?	<input type="checkbox"/>	<input type="checkbox"/>	Is there any cracked bathroom tile?	<input type="checkbox"/>	<input type="checkbox"/>
Do the tubs and basins drain?	<input type="checkbox"/>	<input type="checkbox"/>	Are there any cracked or broken windows?	<input type="checkbox"/>	<input type="checkbox"/>
Is the "Hot" water hot?	<input type="checkbox"/>	<input type="checkbox"/>	Are any double-pane windows fogged or dirty <i>between</i> the panes?	<input type="checkbox"/>	<input type="checkbox"/>
If included, do the washer and dryer work?	<input type="checkbox"/>	<input type="checkbox"/>	Have any permanent fixtures been removed?	<input type="checkbox"/>	<input type="checkbox"/>
ELECTRICAL			Is there noticeable pet odor?	<input type="checkbox"/>	<input type="checkbox"/>
Do all the lights work?	<input type="checkbox"/>	<input type="checkbox"/>	ROOF		
Do all the switches work?	<input type="checkbox"/>	<input type="checkbox"/>	Are there any signs of roof leaks?	<input type="checkbox"/>	<input type="checkbox"/>
Do all the receptacles ("plugs") work?	<input type="checkbox"/>	<input type="checkbox"/>	Has the roof surface been damaged?	<input type="checkbox"/>	<input type="checkbox"/>
Do the smoke & Carbon Monoxide alarms work?	<input type="checkbox"/>	<input type="checkbox"/>	Are all downspouts attached?	<input type="checkbox"/>	<input type="checkbox"/>
Does the doorbell work?	<input type="checkbox"/>	<input type="checkbox"/>	Do any downspouts allow water to collect near the foundation?	<input type="checkbox"/>	<input type="checkbox"/>
If any of these items or systems are present, we recommend that you also check their condition during your walk-through:			Are the gutters clean and aligned?	<input type="checkbox"/>	<input type="checkbox"/>
Hot Tub, Pool or Spa	<input type="checkbox"/>	<input type="checkbox"/>	Do you have a recent flow test from a competent well service company?	<input type="checkbox"/>	<input type="checkbox"/>
Landscape Irrigation ("Sprinkler") System	<input type="checkbox"/>	<input type="checkbox"/>	Did you have an inspection of the septic system by a competent, private septic system inspector?	<input type="checkbox"/>	<input type="checkbox"/>

Copyright © 1998-2017, PRENterprises, LLC., *The Summit System* All Rights Reserved. v02.15.17

Life Expectancy of Different Products / Items / Materials in the Home

Appliances

Average Life Expectancy in Years

Compactors	10
Dishwashers	10
<i>Proper maintenance includes checking to see that the water temperature is at least 130°F and cleaning the filter screens and door seals.</i>	
Disposal	10
<i>Using it regularly is the best maintenance. Also grinding bones helps clear away build-up.</i>	
Dryers, Compact	14
<i>Proper maintenance includes regularly cleaning out the lint, tightening the connection between the wires and the heating element, lubricating the pulleys and rollers, and examining the exhaust outlet.</i>	
Dryers, Electric	14
<i>Same as compact dryers.</i>	
Dryers, Gas	13
<i>Same as compact dryers.</i>	
Freezers, Compact	12
<i>Proper maintenance includes cleaning the condenser coils every three months and sanitizing the door gaskets in order to maintain an effective seal.</i>	
Freezers, Standard	16
<i>Same as compact freezers.</i>	
Microwave Ovens	11
Ranges, Free-standing Electric	17
<i>Proper maintenance includes checking electrical connections, checking the oven vent for blockage and making sure the surface units are secure and level.</i>	
Ranges, Built-in Electric	17
<i>Same as free-standing electric ranges.</i>	
Ranges, Free-standing Gas	19
<i>Properly maintained by cleaning the igniters once a year.</i>	
Ranges, Built-in Gas	19
<i>Same as free-standing gas ranges.</i>	
Ranges, High Oven, Gas	14
<i>Same as free-standing gas ranges.</i>	
Refrigerators, Compact	14
<i>Proper maintenance includes cleaning the condenser coils every three months, sanitizing the door gaskets in order to maintain an effective seal, cleaning the mouth of the drain, and occasionally pouring a tablespoon of chlorine bleach followed by water in order to keep blockages from forming.</i>	
Refrigerators, Standard	17
<i>Same as compact refrigerators.</i>	
Washers, Automatic and Compact	13
<i>Proper maintenance includes checking the shaft seal, lubricating the pump, and tightening the belts.</i>	
Exhaust Fan	20

Bathrooms

Average Life Expectancy in Years

Cast Iron Bathtub	50
Insulation Molded	20
Pumps Sump and Well	10
Burners	21

Insulation

Average Life Expectancy in Years

Foundation	Lifetime
Roof, Ceiling	Lifetime
Roof-Electrical Vent	Lifetime
Walls	Lifetime
Floor	Lifetime
Metal Weather Stripping	Lifetime

Landscaping

Average Life Expectancy in Years

Wooden Decks	16
<i>Varies from the materials and products used in the construction.</i>	
Steel Decks	25–50
<i>With the proper maintenance.</i>	
Brick Patios	24
<i>Varies from the materials and products used in the construction.</i>	
Concrete Patios	24
<i>Varies from the materials and products used in the construction.</i>	
Tennis Courts	10
<i>Varies from the materials and products used in the construction.</i>	
Concrete Walks	24
<i>Varies from the materials and products used in the construction.</i>	
Gravel Walks	4
<i>Varies from the materials and products used in the construction.</i>	
Asphalt Driveways	10
<i>Varies from the materials and products used in the construction.</i>	
Swimming Pool	10
<i>Varies from the materials and products used in the construction.</i>	
Sprinkler Systems	15–20, 12
<i>Provided that the system is properly maintained.</i>	
Fences	12
<i>Varies from the materials and products used in the construction.</i>	

Masonry

Average Life Expectancy in Years

Chimney	Lifetime+
Fireplace	Lifetime+
Brick Veneer	Lifetime+
Brick Walls	100+
<i>Provided that there are no structural problems.</i>	
Stone Walls	100+
<i>Provided that there are no structural problems.</i>	
Block Wall	Lifetime
Masonry Floor	
Stucco	Lifetime
<i>Provided that it is properly supported.</i>	
Mantels	Lifetime
<i>With the proper maintenance.</i>	

Mill Work

Average Life Expectancy in Years

Stairs	60
Rails	30–40
Disappearing Stairs	30–40
Cornices	Lifetime
Baseboard and Shoe	Lifetime
Door and Window Trim	Lifetime
Built-in Bookshelves	Lifetime

Paints and Stains

Average Life Expectancy in Years

Wood	5–10, 7–10
Brick	5–10, 7–10
Aluminum	5–10, 7–10
<i>Doesn't face the moisture problems of wood.</i>	
Interior Wall Paint	5–10
<i>Depends on the acrylic content.</i>	
Trim and Doors	5–10
Wallpaper	7

This inspection was done on June 6, 2017, by Inspector Tim Chiles of Enlightened Home Inspections, LLC, (720) 273-5759.

Acceptance and/or use of this Inspection Report shall constitute acceptance of, and agreement to, all of the provisions of the *Property Inspection Contract* and its *Standard Terms and Conditions* which are incorporated by reference and form a part of this Inspection Report.

Summit System Master Comment Library Copyright © 1998 - 2017, Summit Property Inspection Systems. All Rights Reserved. www.summitinspection.net

Plumbing

Average Life Expectancy in Years

Pressure Pipes	Lifetime
Copper	Lifetime
Galvanized Iron	Lifetime
Plastic	Lifetime
Waste Pipe	Lifetime
Concrete	50–100
Vitreous China	Lifetime
Plastic	Lifetime
Cast Iron	75–100
Lead	Lifetime
Finish	Lifetime
Enamel Steel Sinks <i>They are not very durable.</i>	5–10
Enamel Cast Iron Sinks and China Sinks <i>Much more durable than enamel steel sinks.</i>	25–30
Faucets — Low Quality	2–5
High Quality	15–20
<i>Depends mostly on the finish. Chrome finish lasts much longer than brass or enamel finish.</i>	
Flush Valves	Lifetime
Well and Septic Systems	Lifetime

Roofing

Average Life Expectancy in Years

Asphalt Shingles	15–30
Wood Shingles and Shakes <i>They last longer if pressure treated.</i>	15–30
Tile <i>Depends on the quality of tile and the climate.</i>	50
Slate <i>Depends on the grade.</i>	50–100
Sheet Metal <i>Depends on the gauge of metal, the quality coating and application.</i>	20–50+
Built-up Roofing Asphalt <i>Depends on materials and drainage. Coatings will add to life.</i>	12–25
Coal Tar <i>Depends on quality of materials, thoroughness of design and application.</i>	12–30
Felt Paper <i>Will last as long as roofing materials.</i>	Indefinitely
Asphalt Composition Shingle	15–30
Asphalt Overlap	25–35

Sources:

Association of Home Appliance Manufacturers
 Air Conditioning and Refrigeration Institute
Air Conditioning and Refrigeration News
 Air Movement and Control Association
 American Gas Association
 American Society of Gas Engineers
 American Society of Heating
 Refrigeration and Air-Conditioning Engineers, Inc.
U.S. News and World Report
 Insulation Contractors Association of America
 North American Insulation Manufacturers Association
 Associated Landscape Contractors of America
 Irrigation Association
 Steel Deck Institute
 Architectural Components
 National Association of Brick Distributors
 National Stone Association
 Finnaren and Haley
 Glidden Company

Rough Structure

Average Life Expectancy in Years

Basement Floor System	Lifetime
Framing Exterior Walls	Lifetime
Framing Interior Walls	Lifetime

Shutters

Average Life Expectancy in Years

Wood — Interior	Lifetime
Exterior <i>Depends on weather conditions.</i>	4–5
Metal — Plastic (Vinyl) Exterior <i>The color starts to fade.</i>	7–8
Aluminum — Interior	35–50
Exterior	3–5

Siding

Average Life Expectancy in Years

Gutters and Downspouts	30
Siding — Wood	
Metal (Steel)	50–Life
Aluminum	50–Life
Vinyl	50–Life
Gable Vents — Wood	Lifetime
Aluminum	Lifetime
Gable Vent Screens	Lifetime
Cornice Rake Trim	Lifetime
Trellis	Lifetime

Walls and Wall Treatment

Average Life Expectancy in Years

Drywall	30–70
Plaster	30–70
Wood Paneling	Lifetime
Ceramic Tile <i>Assuming its the highest grade of installation.</i>	Lifetime
Tub Alcove and Shower	Lifetime
Bath Wainscot	Lifetime

Windows

Average Life Expectancy in Years

Window Glazing	20
Storm Windows and Gaskets	Lifetime
Steel Casement	10, 15–20
Wood Casement	Lifetime
Jalousie	8–9
Wooden Double-hung	Lifetime
Screen	25–50

The Wall Paper

American Concrete Pipe Association
 Cast Iron Soil and Pipe Institute
 Neil Kelly Designers
 Thompson House of Kitchens and Baths
 National Roofing Contractors Association
 A.C. Shutters, Inc.
 Alcoa Building Products
 American Heritage Shutters
 Alcoa Building Products
 Alside, Inc.
 Vinyl Siding Institute
 Association of Wall and Ceiling Ceramic Tile Institute
 Best Built Products
 Decorative Window Coverings Association
 Optimum Window Manufacturing
 Safety Glazing Certification Council
 Screen Manufacturers Association

This inspection was done on June 6, 2017, by Inspector Tim Chiles of Enlightened Home Inspections, LLC, (720) 273-5759.

Acceptance and/or use of this Inspection Report shall constitute acceptance of, and agreement to, all of the provisions of the *Property Inspection Contract* and its *Standard Terms and Conditions* which are incorporated by reference and form a part of this Inspection Report.

Summit System Master Comment Library Copyright © 1998 - 2017, Summit Property Inspection Systems. All Rights Reserved. www.summitinspection.net