



Inspected for:  
Travis Rowe  
3607 Wallace Rd.  
Santa Rosa, CA



**July 29, 2009**

Travis Rowe

Re: 3607 Wallace Rd.  
Santa Rosa, CA

Dear Travis

As requested, a visual inspection of the above referenced property was conducted on July 29, 2009. As noted in the Inspection Agreement, this inspection report documents the visually inspected conditions of the property at the time of the inspection. Please take time to review limitations contained in the Inspection Agreement.

I advise you to obtain competitive estimates from licensed and qualified contractors for correction of any items noted in the report. Also, please be aware that failure to correct any preexisting conditions noted in this report is likely to adversely affect home warranty coverage. The home warranty policy should be thoroughly reviewed should you choose to purchase one.

Thank you for choosing me to perform your home inspection. If you have any questions regarding the inspection report or the conditions noted, the best way to contact me is by email at [fullcircleinspect@sbcglobal.net](mailto:fullcircleinspect@sbcglobal.net).

Sincerely,

Gunnar Alquist  
Full Circle Inspections, Inc.  
122 Calistoga Rd. #196  
Santa Rosa, CA 95409  
(707) 528-7010  
[fullcircleinspect@sbcglobal.net](mailto:fullcircleinspect@sbcglobal.net)

## Report Highlights

The items listed on this page were deemed by the inspector to be of concern. Not all items listed in this report are reflected in the remarks of this summary and this area should not be relied upon in lieu of the complete report. This section is provided as a convenience only, and may not reflect all of the concerns of the Client. The inspection report should be read in its entirety to provide as complete a picture of the property as possible.

### Exterior

#### Trim & Windows:

##### Trim:

**Trim is decayed/damaged at the garage door jambs.**

##### Doors:

**The threshold/frame of the sliding glass door at the rear is damaged.**

### Garage

#### Interior:

##### Loft:

**Roof framing is being used to support a loft and a floor joist is cracked.**

##### Steps:

**The step at the rear of the garage is rather high and is a possible trip hazard.**

**The stairway to the loft is improper.**

### Heating System

#### Furnace:

##### Flue/Vent:

**The flue pipe is improper. Moisture stains and corrosion were observed on the metal flue pipe as well as the draft hood of the furnace.**

**Cement fiber pipe in the attic is an older "transite" pipe that likely contains asbestos.**

### Plumbing System

#### Waste:

##### Material:

**Negative slope observed in a drain/waste pipe under the laundry area.**

**Sections of the drain/waste piping have not been properly supported.**

**Exposed sections of the plastic piping above the roof are not painted.**

#### Fuel Supply:

##### Location:

**Gas odor noted near the garage water heater.**

**The flexible gas supply connector has been run through the furnace cabinet.**

**Gas pipes are not properly supported.**

Water Heater:

Flue/Vent:

**The draft hood is misaligned.**

**The cement fiber pipe in the attic is an older "transite" pipe that likely contains asbestos.**

Seismic Bracing:

**No earthquake straps present.**

Condition:

**This is an older water heater and is beyond its expected life.**

Water Heater:

Flue/Vent:

**Flue pipe is improper and damaged.**

Condition:

**Gas odor was detected near the control valve.**

Kitchen Fixtures:

Supply & Drain:

**A slow leak was observed at the sink drain.**

Disposal:

**The mounting ring and the exterior housing of the disposal is corroding.**

Bathroom Fixtures:

Toilet:

**The toilet bowl for the master bathroom is loose at the floor.**

**There is a leak at the hall bathroom toilet flush valve.**

Electrical System

Laundry Area Panel:

General:

**The dead-front is improper.**

**Restricted clearance is available to access this panel.**

Conductors:

**Neutral and ground wires are connected together in this panel.**

General Wiring:

Grounding System:

**Many of the receptacle outlets are not grounded.**

Attic Area Conditions:

**Unprotected electrical splices present.**

**Unprotected/individual conductors/wires present.**

**Open junction boxes present.**

**Some cables are run directly through openings in junction boxes without a bushing or strain relief clamp.**

## Electrical Fixtures:

## Garage Fixtures:

**Terminated electrical cable with exposed leads observed.**

**Unprotected nonmetallic sheathed cable (romex) present.**

## Kitchen Fixtures:

**Wiring at the base of the dishwasher is improper.**

**Receptacle outlets are the older, two pin, non-grounded type.**

## Bathroom Fixtures:

**The electrical cable sheathing for the hall bathroom whirlpool tub has been stripped and the receptacle outlet is loose.**

**Receptacle outlets are not GFCI (ground fault circuit interrupter) protected.**

## Interior Fixtures:

**A damaged receptacle outlet with exposed contacts was found in the living room.**

**As this is an older home, a limited number of receptacle outlets are available in the interior rooms.**

## Other Comments:

**Due to the items noted in this section, the electrical system should be reviewed by a licensed electrical contractor and repairs or corrections made, as needed.**

## Kitchen

## Plumbing:

## Instant Hot Water:

**Stains were found on the exterior housing.**

## Interior Rooms

## Windows:

**Windows in the front bedrooms are not an adequate size for emergency egress.**

**Full Circle Inspections, Inc.**  
**122 Calistoga Rd. #196**  
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# General Conditions

## Client Information:

**Client Name:**

Travis Rowe

Present for the inspection.

**Payment:**

Inspection fee: \$400.00. Paid check #1038

## Building Information

**Inspection Address:**

3607 Wallace Rd.  
Santa Rosa, CA

**Modifications have been made to this home since original construction.**

Building modifications normally require local building department approval, which includes submitted plans and specifications of the work to be performed, city licenses, building permits, on-site progress inspections, and a final sign-off by a building inspector employed by the building department. Verification of permits is beyond the scope of this home inspection. The local building department should be

contacted for information regarding the permit history for this property, whether or not permits are required or should be obtained for the completed work, the permit/inspection process and any other complete or incomplete building department requirements.



**Homes constructed prior to the mid 1970s often used building materials containing asbestos and/or lead.** This can be of concern if the materials are in deteriorated condition or if remodels/additions are planned. The Centers for Disease Control and Prevention (CDC) and the Environmental Protection Agency (EPA) has information regarding the potential hazards as well as ways to mitigate these hazards. If specific information about this home is desired, a qualified testing laboratory should be consulted.

**Structure Type:**

This is a wood framed, one story single family residence  
Perimeter foundation with a crawlspace.

**Occupancy:**

Home was vacant at time of inspection.

**Utilities Status:**

All utilities were on at time of inspection.

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**General Information:****File Number:**

0709-3103

**Date & Time:**

Inspection began at approximately 12:30 p.m. and finished at approximately 3:30 p.m.  
July 29, 2009

**Inspector:**

Gunnar Alquist.

**Representative:**

Doug Swanson, Pacific Union Residential Brokerage. Present for the inspection.

**Weather:**

Warm and clear at time of the inspection.

**Orientation:**

For purposes of describing conditions noted in this report, orientation is referenced from the street.

**Report Limitations:**

This report is intended only as a general guide to help the client make their own evaluation of the overall condition of the structure, and is not intended to reflect the value of the premises, nor make any representation as to the advisability of purchase. The report expresses the professional observations made by the inspector, based upon a visual inspection of the conditions that existed at the time of the inspection. The inspection and report are not intended to provide a repair or "punch" list, to be technically exhaustive, or to imply that every possible defect was discovered. Underground, concealed, or enclosed systems or components cannot be inspected. Identification of toxic materials or growths can only be made in a laboratory. If information regarding recalled products is desired, the CPSC maintains a website at <http://www.recalls.gov/> with this information. This report is provided for the named client only and is not transferable. A full description of the scope of this inspection and report is listed in the Inspection Agreement. Any general comments about systems and conditions that are excluded in the Inspection Agreement are informational only and do not represent an inspection. Any opinions expressed regarding adequacy, capacity, or expected life of components are general estimates based on information about similar components and variations are to be expected between estimates and actual experience. Any photographs or images that are included are intended to help provide clarification for these specific items and may not include all problem areas noted in the written report. Any repair or corrective work recommended in this report should be performed by a licensed contractor qualified in that particular trade. Documentation of properly completed repair work should be provided in the form of a contract, work order or receipt. Permits from the local building department are required for nearly any work done. The inspector has no interest, present or contemplated, in this property or its improvement and no involvement with tradespeople or benefits derived from any sales or improvements. To the best of my knowledge and belief, all statements and information in this report are true and correct.



## Exterior

### Lot:

#### Driveway:

Concrete. Cracks are present in driveway surface. These cracks are not uncommon and usually due to curing and/or normal soil movement/settling. Patching cracks can help to prevent excess moisture from gaining entry under the driveway and causing further cracking. Corrective measures should be taken if surface becomes uneven or damaged.

**Driveway slopes toward the garage.** This can allow water to collect against and enter the garage. Unable to verify how much water will enter the garage during inclement weather. Installation of a properly installed channel drain across the front of the garage can help to intercept water before it enters the garage.

#### Walkways:

Concrete. Cracks are present in walkway.

#### Steps:

**No handrail present at the steps.** While not required, I advise installation of a handrail to increase safety.

#### Fences:

**No pool fence present.** Current construction standards require a fence that completely encircles the pool and that is a minimum of 5 feet high. This is primarily to ensure safety for children.

**Gate does not close automatically.** Yards with swimming pools should have gates that open out of the pool area and automatically close and latch. This is intended to prevent unauthorized children/people from gaining entry to the pool area. I advise installation of self closing and latching devices for safety.

**Loose nails and deteriorated wood observed at various areas of fence.** This is common on wood fences and requires periodic maintenance and repairs.

#### Grade & Drainage:

Home is built on a flat lot. **Standing water will collect in low and flat areas during periods of rain.**

**This home is located adjacent to a creek and is in an area that may be subject to flooding.**

Client is advised to consult with the seller regarding any past flooding and damage. Further information may be obtained from local government agencies regarding flood planes and recorded water levels.

#### Soil Conditions:

**Expansive soils are commonly found in this area.** This type of soil will expand when wet and contract when dry, often leaving cracks in the soil and gaps between the foundation and the surrounding grade. This is typically a seasonal condition triggered by winter rains, although excessive landscape irrigation can also result in soil movement. Client should consult with a soils engineer if excessive cracks or evidence of heaving/settling are found. No excessive cracks or heaving/settling was observed at time of inspection.

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**Other Comments:**

A built-in pool is present. The pool and equipment were not reviewed as a part of this inspection.

A free standing spa is present. This unit was not reviewed as a part of this inspection. The manufacturer's operation, maintenance and safety instructions should be obtained from the seller. If no documentation is provided, a copy should be obtained from the manufacturer and read prior to use.

**Wood Siding:****Lap Siding:**

**Exterior paint is deteriorated.** Siding should be repainted to prevent damage to siding and structure. Surface preparation should include scraping or pressure washing to remove loose paint, caulking or filling of voids and seams, and priming with a good quality primer/sealer.

**Client is advised to have the paint tested for lead contact prior to commencing preparation for painting.** If lead is found, old paint should be properly addressed by a qualified lead abatement contractor.

**Manufactured Siding:****Panel Siding:**

The fiber siding used on this house is a manufactured product that consists of wood fibers bound together with a synthetic adhesive. These types of sidings were introduced when the cost of solid wood siding became prohibitive. Some types of manufactured siding have been the focus of "class action" lawsuits resulting from swelling, buckling and delamination of siding. However, these defects are not found in all types and brands of manufactured siding. Identification of specific brands is difficult from the exterior as the manufacturer's name is typically stamped on the back side. While no evidence of defective siding was found at time of inspection, this general type of product can be more susceptible to swelling due to moisture intrusion than solid wood siding; even with a non-defective product. As such, it is important to keep the exterior of the home, particularly the edges and cut seams of siding and trim, well sealed with paint and caulking to prevent moisture damage.



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**Trim & Windows:****Trim:**

Wood.

**Trim is decayed/damaged at the garage door jambs.** As this is not a pest inspection and other areas of damage may be present, a licensed pest inspection company should inspect this building and repairs should be made, as needed.

Sealing all cracks/voids between siding and trim is recommended to prevent moisture intrusion to the interior surfaces of the wall.

**Windows:**

Metal, vinyl and wood frames.

The window frames, particularly the metal frames, should be kept well caulked/sealed to prevent water from penetrating into the stud wall cavities. Old caulking at the interior corners of the frame connections should be periodically cleaned out and the connection/seams recaulked.

Dual glazing is present in most of the windows of this home. No evidence of failed seals were found at time of inspection. As determination of failed seals can be difficult to identify, buyer should consult with the seller for information regarding any failed seals that may have occurred at other times or under different conditions.

**Doors:**

**The threshold/frame of the sliding glass door at the rear is damaged.** This appears to have been scorched/melted. I recommend removal of the trim along the base of the door to allow further inspection. The damage may be extensive enough that replacement of the door would be necessary.



**Patio/Deck:****Deck:**

Wood deck supported on wood framing.

**Low elevation of deck restricts view of area under the deck structure.**

**Deck has been supported directly from the house with a wood ledger board.** Moisture can penetrate behind the ledger and become trapped for extended periods. This can lead to hidden moisture damage to the siding and structure. Unable to determine the condition of wood behind the ledger board. A licensed pest inspection company should review this area for damage as a part of a routine pest inspection. There are several methods to correct this condition. One is to completely detach the deck from the house and support with post & piers. Another method is to separate the ledger from the house with metal hardware that is designed to provide an air space between the house and deck.

**Loose boards were found at various areas.** These should be properly resecured or repairs made, as needed.

**Railing:**

**Spacing between railing members is greater than currently allowed.** This was acceptable at time of construction and is not required to be corrected, however it does present a potential hazard to small children. Client is advised to take precautions, as needed.



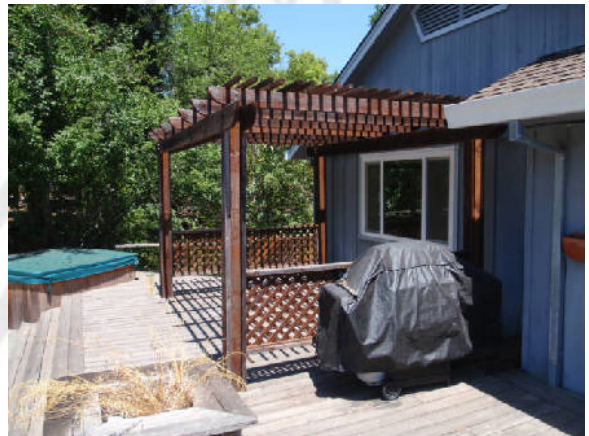
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**Steps/Stairs:**

**Steps do not have a proper handrail.** While not required, I advise installation of an easily gripped handrail (cross section between 1¼ and 2 inches). Handrails are intended to help prevent an individual from falling when ascending or descending.

**Cover:**

**The wood framed arbor is loose and wobbles when pushed.** This should be braced or reinforced to limit movement.



## Roof

This section of the report is an opinion of the general quality and condition of the roofing material and visible elements of installation. While every effort is made to locate potential leaks, the only way to determine whether a roof is absolutely water tight is to observe it during a prolonged rainfall. Many times, this situation is not present during the inspection. Estimates on remaining life are based on past experience with similar materials and does not constitute a warranty or certification. This report is issued in consideration of the foregoing disclaimer.

### General:

#### Style:

Gable roof.

#### Roof Access:

Observed from surface of roof.



### Eaves:

**Eaves are enclosed with soffits.** Visual inspection of soffited eaves is restricted.

**Moisture/mildew stains noted under the roof eaves.** While these are typically cosmetic and can be controlled by cleaning and painting with a mildew resistant paint, the pest inspector should examine this area during a routine pest inspection.



**Flashings:****Roof/Wall Flashings:**

Intact.

**Through Penetrations:**

The type of plumbing flashing on this home relies on the rubber seal around the pipe and is more prone to failure than the two-piece/soldered sheet metal flashing. The rubber grommet will typically last approximately 15-20 years, whereas the roof is likely to last somewhat longer. The rubber seal around the pipe will crack over time and eventually leak to the interior of the home. While no evidence of cracking was observed at time of inspection, monitoring for cracks is recommended as a part of home maintenance.

**Skylight Flashings:**

Intact.

**Chimney Flashings:**

Intact.





## Shingle Roof:

### Type:

Laminated composition (asphalt) shingle.

### Condition:

Roof appears to be less than 25% through its useful life. Presently in serviceable condition.

## Roof Drainage:

### Type:

Metal gutters.

**Stains/corrosion indicate that gutters will leak at connections.** This is common and requires periodic sealing as a part of home maintenance.

**The gutter downspouts terminate adjacent to the foundation.** Adding an extender system to move the roof water away from the perimeter of the house (preferably to the street or storm drain) is recommended to aid lot drainage.

## Attic:

### Access:

Located at the garage. Accessed at time of inspection. Limited review at low sections due to restricted clearance.

### Framing:

Rafter framing with waferboard (oriented strand board) over spaced sheathing.

**Roof framing is sagging.** This is most likely due to the size of rafters used at time of construction. 2x4s were commonly used for rafters, but they would be considered undersized by current construction standards. Reinforcing of the roof does not appear to be necessary at this time; however, the roof structure should be monitored for any increase in sagging. If sagging does increase, a licensed general contractor should be hired to reinforce the roof structure.



### Insulation:

Loose fill cellulose and fiberglass batts. The presence of this insulation limits review of the attic. Insulation is not moved or disturbed to allow inspection.



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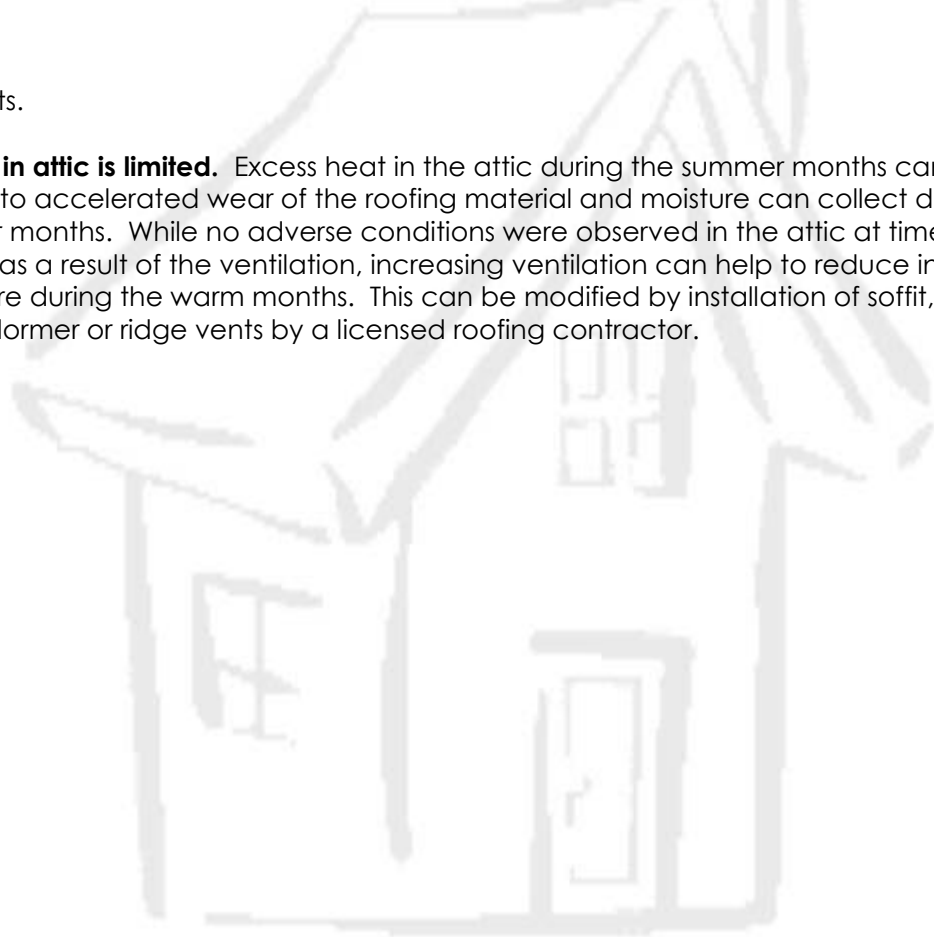
**Leaks:**

**Moisture staining was found on the roof sheathing.** This staining was found only on the older skip sheathing and not on the more recent sheathing. As such, this is likely due to leaking from a previous roof and no longer active. Seller should be consulted regarding the history of the roof and any related repairs.

**Ventilation:**

Gable vents.

**Ventilation in attic is limited.** Excess heat in the attic during the summer months can contribute to accelerated wear of the roofing material and moisture can collect during the cold winter months. While no adverse conditions were observed in the attic at time of inspection as a result of the ventilation, increasing ventilation can help to reduce interior temperature during the warm months. This can be modified by installation of soffit, eyebrow/dormer or ridge vents by a licensed roofing contractor.



# Foundation Area

## Foundation & Grade:

### Access Location:

Access is located at the garage and the master bathroom closet. Foundation area was accessed as a part of this inspection. **Access and inspection was limited due to hanging insulation and general debris.** I recommend cleaning/correcting this area to allow complete access.

### Foundation:

Poured concrete. Common hairline cracks present. Anchor bolts are present.

### Grade & Drainage:

Soil was dry at time of inspection. Moisture penetration into the crawlspace is common under buildings in this area and is not normally of concern. Periodic inspection of crawlspace for excess moisture is recommended.

### Other Observations:

**Animals have gained access into the foundation crawlspace area.** Animal carcasses were found. I recommend removal of the carcasses and making efforts to occlude animals.

## Support System:

### Floor System:

4x6 wood girders with solid wood sheathing.

This type of construction can show the effects of expansive soil more than other types. This commonly results in cracks in interior walls and uneven floors caused by heaving and/or settling of posts supported on expansive soil. This is not necessarily a significant structural defect, however correction typically requires installation of perimeter drains to intercept subsurface water and adjustment of support posts. Continued movement can be expected unless the seasonal differences in moisture content of the soil can be stabilized.



**Openings were found in the subfloor sheathing.** These openings can allow rodents access into areas under bathtubs and into wall cavities. While not required at time of original construction, I suggest screening any openings with a metal mesh.

### Mid Span Support:

Wood posts supported on concrete piers provide mid span support.

**No gussets or hardware present at the post connections.** While likely not required at time of original construction, upgrading post connections with appropriate hardware to secure the posts to the beams and the concrete piers is advised.

## Ventilation & Insulation:

### Insulation:

**Sections of the insulation have been damaged.**

This type of damage is typically caused by animals gaining entry to the crawlspace area. I recommend ensuring that all perimeter screen vents remain in good condition to prevent animals from causing further damage to the insulation. I also advise replacement of all loose or damaged insulation.



### Ventilation:

**Screens are damaged/missing.** Installation of new screens is recommended to prevent animals from gaining entry to the crawlspace area.



# Garage

**Type:**

Attached one car garage.

**Interior:****Slab:**

Concrete. Cracks are present in slab surface.

**Walls:**

Unable to determine if the wallboard material on the wall between the house and the garage is rated for use in a fire separation wall. No rating label found.

**Roof Framing:**

Rafters with waferboard over spaced sheathing.

**Loft:**

**Roof framing is being used to support a loft and a floor joist is cracked.** The floor framing for the loft is nonstandard and I was unable to determine how the floor is supported. The roof framing was not designed or intended to provide support for a loft area or for use as storage. In addition, as this is located within the garage, it should not be used as living or sleeping space, but might be acceptable for storage. I recommend properly resupporting this area with the addition of appropriate framing.

**Windows:**

**Stains were found at the perimeter of the window.** This may be due to moisture condensation on the interior. This can cause moisture staining and damage at the corners of the windows. The exterior perimeter of the window should be kept well sealed with paint and caulking to prevent damage to the sills and interior framing.



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**Vehicle Door:**

One wood sectional overhead door.

Door springs are "safety" type.

Garage door openers should reverse when obstructed while closing. This opener reversed when upward pressure was applied to the door as it closed. **No "electric eye" is present.** This device should be tested by the homeowner on a monthly basis to ensure continued proper operation.



**Nuts are loose on door hardware.** These routinely become loose over time and periodic tightening is necessary as a part of routine maintenance.

**Doors:**

**The rear door and jamb are damaged.** I recommend replacement.

**Steps:**

**The step at the rear of the garage is rather high and is a possible trip hazard.** I recommend construction of an additional step.

**The stairway to the loft is improper.** Treads are undersized, headroom is restricted and no guardrail or handrail is present. Corrections should be made.



# Heating System

The heater is visually reviewed. Examination of the heat exchanger is limited as the unit is not dismantled as a part of this inspection. This is beyond the scope of this inspection. Thermostats are tested for basic functions only. Determining the proper sizing of heating units is beyond the scope of this inspection. Adequacy, efficiency or the even distribution of air throughout a building cannot be addressed by a visual inspection, however a subjective evaluation is made. Normal service and maintenance is recommended on a yearly basis.

## Furnace:

### Type:

Make: Day & Night.

Gas, forced air unit. Input: 100,000 BTU per hour.



### Location:

Hall closet.

**As this is an older heater located in the interior of the home, installation of a carbon monoxide detector is recommended as an upgrade for added safety.**

### Condition:

Gas shutoff valve and electric disconnect present.

### **This heater is in the last third of its expected life.**

While the furnace did operate when tested, there is no indication that it has had any regular maintenance. As such, a licensed heating contractor should be hired to service and inspect the heating system concurrently with repairs noted above. Regular maintenance is necessary to ensure continued operation.



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**Flue/Vent:**

**The flue pipe is improper. Moisture stains and corrosion were observed on the metal flue pipe as well as the draft hood of the furnace.** The exhaust gas from the heater contains water vapor and this vapor will condense on the interior of a cold cement-fiber "transite" pipe where it will drain down until it reaches the connection with the metal flue pipe. As this moisture is corrosive, the inducer fan as well as the metal flue pipe can be expected to corrode. Correction of this condition can usually be achieved by replacing the "transite" pipe with a double walled, metal "B-vent". However, a licensed heating contractor should inspect the condition of the inducer fan and any related parts/equipment and make the necessary corrections/repairs.

**Cement fiber pipe in the attic is an older "transite" pipe that likely contains asbestos.** If client has concerns regarding the asbestos material, a testing laboratory should be consulted.



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**Filters:**

Filter is located at the return air grill.

**Thermostat:**

Setback type thermostat present. Basic functions were operable. Timer functions were not tested as a part of this inspection.

**Ducting:**

Sheet metal and flexible plastic/wire ducting.

**A void is present at the perimeter of the connection to the supply plenum.** I recommend sealing or taping to prevent escape of air from the duct system.

Client is advised that older sheet metal ducting tends to be inefficient due to leaks at seams and connections. Sealing seams and connections with metal tape or a comparable material can reduce air loss through openings in the ducting and thereby increase efficiency. However, it is unlikely that this will meet the current California Title 24 requirements for new installations.

As of October 2005, California energy regulations require that any existing ducting meet specific criteria for air leakage when changes, modifications or additions are made to the heating system. As such, it is often more cost effective to replace older ducting than to seal existing ducting to meet the new requirements. The requirement for upgrading ducting is typically triggered by obtaining a permit from the building department to modify or replace a furnace and will have a significant effect on the cost for furnace replacement. More information can be obtained from a licensed heating contractor.

**Insulation is missing from sections of ducting.** Replacing insulation is recommended for energy efficiency.



## Auxiliary Equipment:

### Whole House Fan:

**Whole house fans can cause "backdrafting" of gas fired furnaces, water heaters and other vented appliances.** "Backdrafting" is a

condition where the exhaust gases from a gas fired appliance or fireplace flow down the flue pipe instead of up and out, and is hazardous.

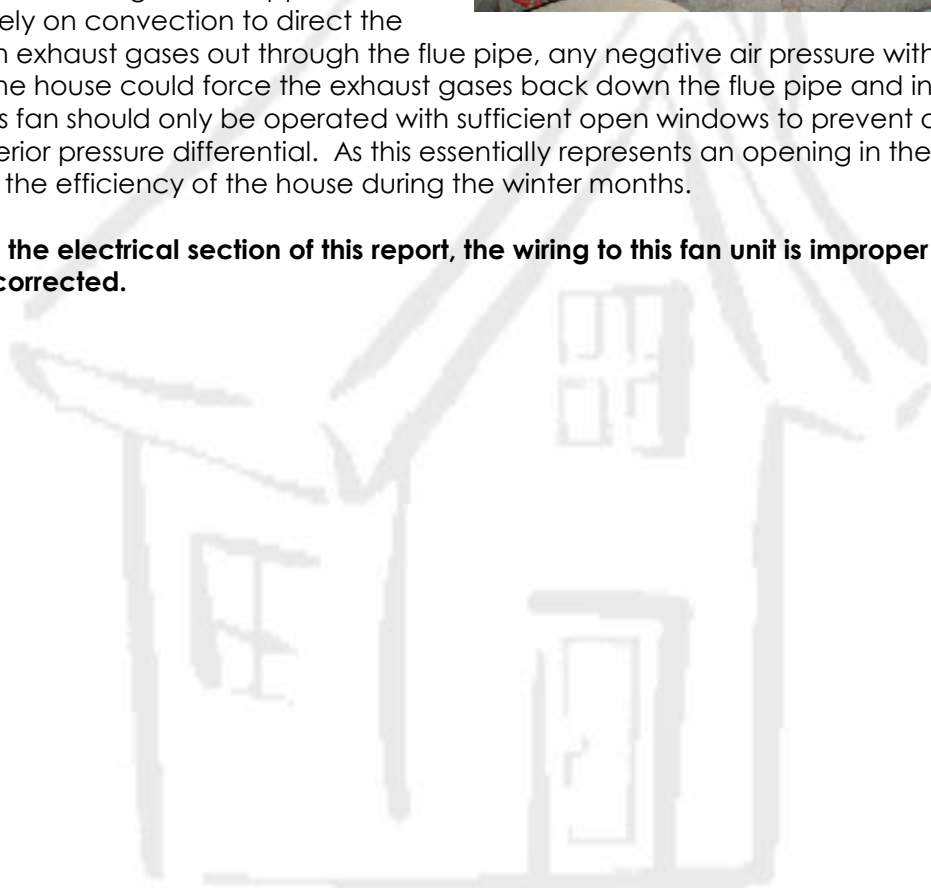
Whole house fans typically operate by pulling air from the interior of the home into the attic, where it is exhausted out of the attic vents.

When the fan is operated, the air pressure within the house is reduced/lowered in comparison to the attic and exterior air pressure. As vented, gas fired appliances and fireplaces rely on convection to direct the

combustion exhaust gases out through the flue pipe, any negative air pressure within the interior of the house could force the exhaust gases back down the flue pipe and into the interior. This fan should only be operated with sufficient open windows to prevent any exterior/interior pressure differential. As this essentially represents an opening in the attic, it will reduce the efficiency of the house during the winter months.



**As noted in the electrical section of this report, the wiring to this fan unit is improper and should be corrected.**



# Plumbing System

All underground piping related to water supply, gas supply, waste, or sprinkler use are excluded from this inspection. Condition of underground piping cannot be detected by a visual inspection. Evaluation of water flow is subjective and judged by operating fixtures and visual observations of flow. Plumbing fixtures are tested for operation, however minor items such as a dripping faucet may not be noted as it is considered routine maintenance. Main and branch shutoff valves are not operated as this can result in leaking around the valve stems. Periodic testing and operation of shutoff valves is advised to ensure proper operation when needed.

## Supply:

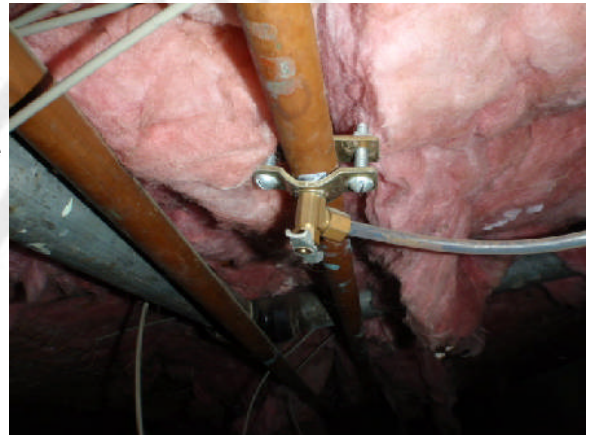
### Main Shutoff:

Water is provided by a well. Main water shutoff is located at the well. This is a specialized system and due to the inaccessible nature of the pump and lines, beyond the scope of this inspection. Water pressure, quality and flow rate are a function of the well system. Review of this system by a qualified well specialist is recommended.

### Materials:

Where visible, supply piping is copper.

**A saddle valve is present on a supply pipe in the crawlspace.** Saddle valves penetrate the pipe, are more prone to leaking and should be replaced with standard valves whenever possible. No leaking observed at time of inspection.



### Exterior Hose Bibbs:

**Hose bibb leaks around the valve stem when faucet is on.** This is common and tightening the packing nut, repacking or replacement of the hose bibb valve will typically correct this leaking.

### Other Comments:

A water softener/conditioner is present. This is a specialized system and beyond the scope of this inspection. If information is desired, a qualified service technician should be consulted.

**Waste:****Material:**

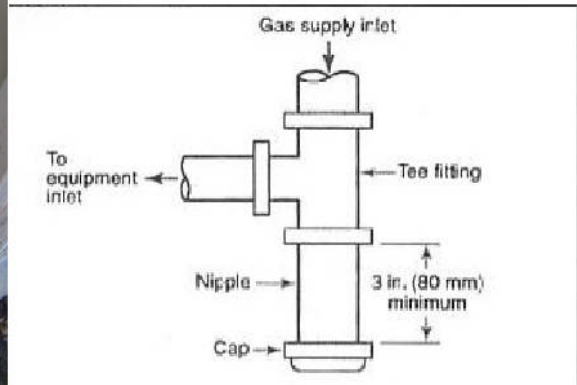
**Where visible, waste lines are cast iron, galvanized and ABS (plastic).** Older metal waste lines are more likely to be corroded and become clogged than other materials. Client is advised that slow drains and leaks are likely to develop over time due to the type and age of the material.

**Negative slope observed in a drain/waste pipe under the laundry area.** As the waste lines require a minimum of  $\frac{1}{4}$  of an inch vertical drop per foot of horizontal run from the plumbing fixtures to properly drain the waste water, this pipe should be adjusted or corrected, as needed, to provide the necessary slope.

**Sections of the drain/waste piping have not been properly supported.** Plastic pipes should be supported with brackets that prevent uplift as well as support the pipe. The support spacing should not exceed 4 feet and any horizontal branch connections should be supported. Flexible straps/tape is not an approved method of support. While no evidence of improper slope was observed at time of inspection, I recommend providing proper support.

**Exposed sections of the plastic piping above the roof are not painted.** This type of piping is typically required to be painted to protect the material from sunlight damage.

The type of waste system cannot be verified through a visual inspection as the system is buried; however, the location of this property would indicate an on-site waste disposal system. This is a specialized system and beyond the scope of this inspection. A qualified septic specialist should be consulted regarding the condition of the tank and leach lines.

**Fuel Supply:****Location:**

Gas is supplied by local utility. Meter is located at the right/front corner. Ideally, a wrench would be kept near the meter to allow the gas to be shut off in the event of an emergency.

**Gas odor noted near the garage water heater.** PG&E should be consulted for review for a possible gas leak.

**Surface corrosion observed on the gas supply piping.** Painting with a rust inhibiting paint is advised to deter continued corrosion.

**The flexible gas supply connector has been run through the furnace cabinet.** The penetration through the cabinet should be made with a hard pipe and the flexible connector attached between this pipe and the gas supply shutoff valve. Corrections should be made by a licensed plumbing or heating contractor.

**Gas pipes are not properly supported.** As sagging or movement of pipes can result in gas leaks, I advise installation of additional supports no more than 10 feet apart to properly support the gas supply pipes.

No sediment traps found adjacent to gas appliances. Sediment traps are typically required to be installed adjacent to the appliance shutoff by most gas appliance manufacturers and are intended to prevent debris from entering and obstructing the appliance valve. This is apparently not enforced by the local building department. I recommend review of the installation instructions for each appliance and installation of sediment traps, as needed.



## Water Heater:

### Type:

Make: American Appliance Mfg. Co.

50 gallon gas water heater.



### Location:

Exterior closet at the right side.

**No drain pan present under this tank.** If the tank were to leak, the water would flood the floor in this area. I recommend installation of a pan that drains to the exterior.



### Flue/Vent:

**The draft hood is misaligned.** This should be corrected by adjustment or replacement of the draft hood by a licensed heating or plumbing contractor. Draft hood should be secured to the top of the water heater tank and to the flue pipe with sheet metal screws to prevent movement.

**The cement fiber pipe in the attic is an older "transite" pipe that likely contains asbestos.** The metal flue pipe has been inserted into the "transite" pipe. Currently, flue pipes are required to be secured together with three evenly spaced sheet metal screws to prevent the flue pipe from becoming disconnected. As this cannot be effectively done with this older flue pipe material, replacement is advised. If client has concerns regarding the asbestos material, a testing laboratory should be consulted.



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**Safety Valve:**

A temperature/pressure (T/P) relief valve with a discharge line is present. This valve was not tested at time of inspection as it is designed as a safety valve only and may leak after testing.

**Seismic Bracing:**

**No earthquake straps present.** The intent of seismic bracing is to prevent the water heater from falling over in the event of an earthquake. The preferred method of anchoring a water heater is to secure two wide metal straps at two points per strap, one around the upper third and one around the lower third of the tank so that the tank is completely encircled and that no slack is present. The tank is then rigidly braced to the wall with pipe or a cradle to prevent lateral movement. Attachment is made with 1/4" by 3" long lag bolts secured to the wood framing. A diagram can be obtained from the Division of the State Architect or from the pamphlet titled *The Homeowners' Guide to Earthquake Safety*. If a manufactured kit is purchased from a hardware store or home improvement center, installation should be as per the manufacturer's instructions.

**Condition:**

Gas and cold water shutoff valves present.

**This is an older water heater and is beyond its expected life.** Typical tank life is between 10 and 15 years. While no active leaking was found at time of inspection, no determination of remaining life could be made. I advise preventative replacement.

Temperature Setting	Time to Produce 2nd & 3rd Degree Burns on Adult Skin
170° F	Nearly instantaneous
160° F	About 1/2 second
150° F	About 1-1/2 seconds
140° F	Less than 5 seconds
130° F	About 30 seconds
125° F	About 2 minutes
120° F	More than 5 minutes

## Water Heater:

### Type:

Make: State.

40 gallon gas water heater.



### Location:

Garage.

**No drain pan present under this tank.** Although located in a garage and not necessarily required, if the tank were to leak, the water would flood the floor in this area. As many people store personal property on the floor of the garage, I suggest installation of a pan that drains to the exterior.



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**Flue/Vent:**

**Flue pipe is improper and damaged.** In addition, the flue pipe in the attic is a "transite" material. I recommend replacement of both sections of flue pipe with a new, metal "b-vent" flue pipe.

**Safety Valve:**

A temperature/pressure (T/P) relief valve with a discharge line is present. This valve was not tested at time of inspection as it is designed as a safety valve only and may leak after testing.

**Seismic Bracing:**

Earthquake straps are present.

**Condition:**

Gas and cold water shutoff valves present.

**Gas odor was detected near the control valve.** This often requires replacement of the control valve; however, as this is an older appliance that is beyond its expected life, I recommend replacement of the water heater.



## Kitchen Fixtures:

### Sink:

**The faucet will leak at the base of the valve handle when the faucet is operated.** This is typical of this design. Replacement of O-rings may correct this condition.



### Supply & Drain:

**A slow leak was observed at the sink drain.** Repairs should be made by a licensed plumbing contractor to prevent damage to cabinet and/or structure.



### Disposal:

**The mounting ring and the exterior housing of the disposal is corroding.** This indicates an older unit. While the disposal did operate at time of inspection, no determination of remaining useful life could be made. Preventative replacement is advised.



## Bathroom Fixtures:

### Toilet:

**The toilet bowl for the master bathroom is loose at the floor.** A loose toilet will cause the wax seal to deform and allow leaking to occur around the base of a toilet. This is a potentially unsanitary condition which can often damage flooring and framing if left unrepaired. The wax seal located between the floor flange and the underside of the toilet bowl will probably need to be replaced and the toilet properly anchored to the floor to remedy this condition. The closet flange should be secured to the subfloor to prevent the pipe from moving. It is possible that some damaged wood will be found and require repair once the toilet is removed. Applying caulk around the base of the toilet after it has been resecured can help to keep the toilet secure.



**There is a leak at the hall bathroom toilet flush valve.** Water sprayed to lid and/or top of the tank and leaked out of the tank while testing. Adjustment or repair of the valve is advised to restore proper operation.

## Laundry:

### Washer Hookup:

Inspector does not disconnect hoses or operate valves. No active leaks observed at time of inspection. Hoses can develop leaks at any time and should be inspected periodically as a part of routine maintenance. The drain lines also cannot be evaluated. Laundry appliances are not tested or moved during the inspection and the condition of any walls or flooring hidden by them cannot be judged.

# Electrical System

## Electrical Service:

### Type:

Service wires are overhead.

Main electrical service is 100 amperes, 240 volts.

## Service Equipment:

### General:



Service equipment is located at the right/front corner of the structure.

**Plants/vegetation adjacent to the panel restrict access to the interior of the panel.** Typically, a minimum clear workspace that is 30 inches wide by 36 inches deep is required in front of the panel. Removing or trimming vegetation away is advised to allow adequate access to the panel and electrical wiring.

### Over Current

#### Protection:

Over current protection is provided by circuit breakers.

Main disconnect is present.





## Laundry Area Panel:

### General:

**The dead-front is improper.** The dead front that covers the panel is wood and is not original to the panel. This is a potential fire hazard and should be corrected. As this panel is no longer being manufactured, a replacement dead-front will be difficult to obtain and replacement of the panel will likely be necessary.

**Restricted clearance is available to access this panel.** Current construction standards require a minimum clear workspace of 30 inches wide by 36 inches deep to access the panel. Adequate workspace should be allowed for when replacing the panel.



### Over Current Protection:

Over current protection is provided by circuit breakers.

**Conditions have been reported with this brand of electrical panel (Zinsco/Sylvania) that include arcing at the circuit breaker/buss bar connections.** This is likely due to way the circuit breaker attaches to the buss bar. As a result of this design, this panel is more likely to fail than a newer panel. This brand of panel was very commonly used in structures built between the early 1960s through the mid 1980s.

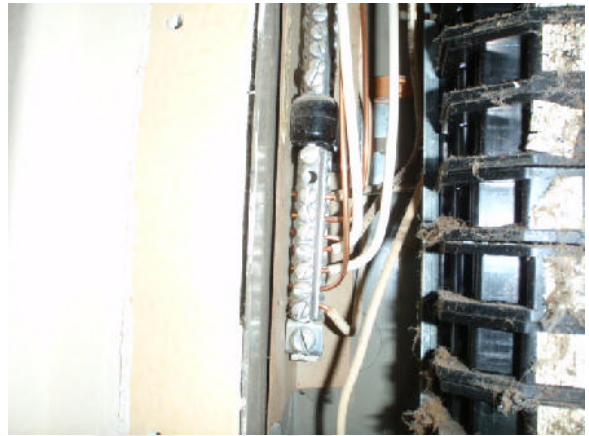
Consequently, I find this brand of panel in the vast majority of similarly aged homes that I inspect. Some electrical contractors are reluctant to perform work on these panels, typically citing liability concerns. Other electrical contractors suggest examining the connections between the circuit breakers and the buss bars for loose connections and/or arc damage and having all electrical connections in these panels tightened, as needed, to ensure that the proper contact is being maintained. The most prudent course would be to replace the panel. At a minimum, some preventative maintenance seems reasonable as replacement of a panel can be costly. As these panels are no longer being manufactured, upgrade/replacement parts can be difficult and expensive to obtain should the need arise. While no evidence of arcing was observed within this panel at time of inspection, positive determination can only be made by having an electrician remove the circuit breakers in order to inspect the buss bars. If more information or further review is desired, a licensed electrical contractor should be consulted. Requiring documentation or other hard evidence is suggested should an electrician advise replacement.



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**Conductors:**

**Neutral and ground wires are connected together in this panel.** Current electrical standards require that the grounding circuit be separated from the "neutral" circuit. A separate grounding circuit should be provided back to the service equipment (main panel). Corrections should be made by a licensed electrical contractor.

**Transfer Switch:****General:**

A transfer switch is present adjacent to the service equipment panel. Transfer switches are designed to isolate the house electrical from the utility when a backup generator is used. No backup generator was present at time of inspection.

**General Wiring:****Conductors:**

Branch circuit conductors are copper.

**Low voltage relay switching is present in this home.** This system consists of relays that are operated by momentary contact switches and some relays were found in the attic. This is an older system and reliability of the relays decreases as the relays age. I was unable to fully evaluate this system and was unable to determine which lights or receptacle outlets are connected to it. If a complete evaluation is desired, a licensed electrical contractor should be consulted.



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**Grounding System:**

Ground rod is present.

**Multiple conductors have been attached to the terminal screw at the grounding electrode (ground rod).** Typically, only one wire should be attached to the electrode terminal. I recommend installation of additional clamps to ensure proper grounding.



**Many of the receptacle outlets are not grounded.** The receptacle outlets in this home are a combination of older two-pin and three-pin outlets. The three-pin outlets were, most likely, installed in an attempt to "update" the electrical system but were improperly installed. The receptacle outlets originally installed had only two slots and the electrical cable used does not provide a ground wire. This system was standard at the time of construction. While new construction requires that all permanent electrical devices be connected to a grounding circuit, it may not be practical, or absolutely necessary to ground all of the outlets. Most small appliances and light fixtures use a two pin plug and have no need for the grounding circuit. However, large appliances, particularly those with metal chassis (such as clothes washers/dryers, dishwashers, refrigerators and computers) generally do require a ground. Installing an adapter on the appliance cord that attaches to the screw on the face of the receptacle outlet does not provide a ground. The grounding circuit is intended to provide a direct path to ground in the event of a short circuit in an appliance. I suggest replacing ungrounded three-pin receptacle outlets with the original (two-pin) type to avoid confusion. While this is a straightforward replacement, this is typically a project for a licensed electrical contractor. Where needed, individual receptacle outlets can be grounded or new outlets can be installed by a licensed electrical contractor.

**The plumbing system does not appear to be bonded to the electrical grounding system.** All metal piping is currently required to be connected (bonded) to the grounding system. This may not have been required at time of construction. Should the metal piping become energized (through a lightning strike or other means), the bonding will conduct the current to ground. Normally, a bonding wire is attached/clamped to the cold water supply pipe where the main water enters the building, a jumper is clamped to the hot and cold water piping adjacent to the water heater to ensure that both the hot and cold water supply piping is properly bonded, and a bonding wire is clamped to the gas supply piping adjacent to the gas meter or the water heater. Bonding of the metal drain/waste piping is also advised. No bonding wires/clamps were found at these locations. Installation/upgrading of bonding is advised.

**GFCI Protection:**

**This building does not have GFCI (ground fault circuit interrupter) devices installed at the bathroom, kitchen, garage or exterior receptacle outlets.** GFCI devices will interrupt (turn off) power to specific protected receptacle outlets if an imbalance occurs. While not required at time of construction, these devices do increase the safety of the electrical system and installation should be considered as an upgrade. Although this is a straightforward job and installation instructions are included with the device, any modifications to the electrical system should be made by a licensed electrical contractor.



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**Attic Area Conditions:**

**Unprotected electrical splices present.** Electrical splices should be enclosed in a covered junction box to help prevent separation of the splices.

**Unprotected/individual conductors/wires present.** Individual wires should be enclosed in a conduit. Wiring that is not in a conduit should be a part of a manufactured cable. Corrections should be made by a licensed electrical contractor.

**Open junction boxes present.** Cover plates should be installed to enclose electrical splices.

**Some cables are run directly through openings in junction boxes without a bushing or strain relief clamp.** The sharp metal edge can damage wire insulation and expose the conductor. Installation of a strain relief clamp is advised.

**The recessed "can" lights in the attic do not appear to be designed for direct contact with building insulation.** Insulation should be kept away from the lights.

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**Foundation Area****Conditions:**

**Open junction boxes present.** Junction boxes should have cover plates to properly enclose and protect the splices.

**Electrical Fixtures:****Exterior Fixtures:**

**A disconnected conduit was found at the right side adjacent to the water heater closet.** The conductors are exposed. This should be reconnected/repaired.

**Receptacle outlets are not grounded.** When grounding is not available, installation of GFCI (ground fault circuit interrupter) devices is advised.

Waterproof covers are present on exterior receptacle outlets.

**Receptacle outlet is being used for a semipermanent application.** The cord is holding the cover open which can allow water to come in contact with electrical circuitry. A shielding cover should be installed to protect the receptacle while an appliance is plugged in.

Motion detector light present. This type of fixture is designed to operate at night and was not tested as a part of this inspection.

Landscape lighting is present. This is a non permanent, low voltage system and not reviewed as a part of this inspection. Suggest consulting with the seller regarding operation of the timer and confirming proper operation prior to close of escrow.



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**Garage Fixtures:**

**Terminated electrical cable with exposed leads observed.** Although these wires were not "live" when tested, no determination could be made as to whether these wires have been permanently disconnected. Ends of wire should be properly capped and enclosed in a covered junction box for safety. Unable to determine the purpose for these wires.



**Unprotected nonmetallic sheathed cable (romex) present.** Electrical cables can be damaged by metal tools or other stored items. Electrical cabling that is lower than 7 feet from the floor should be protected from damage by enclosing in a conduit or behind wall material such as drywall.

**Receptacle outlets are the older, two pin, non-grounded type.** When grounding is not available, installation of GFCI (ground fault circuit interrupter) devices is advised.

**Kitchen Fixtures:**

**Wiring at the base of the dishwasher is improper.** Spliced wires should be enclosed in a junction box and the cord should be secured with a strain relief clamp attached to the junction box to prevent separation of the splices.



**Receptacle outlets are the older, two pin, non-grounded type.** Receptacle outlets that serve major appliances with a metal chassis (refrigerators, dishwashers, ranges, etc.) should be grounded. When grounding is not available for receptacle outlets that serve the counter surfaces, installation of GFCI (ground fault circuit interrupter) devices is advised. Please refer to the "Grounding System" and GFCI notes earlier in this section for more information.

**Bathroom Fixtures:**

**The electrical cable sheathing for the hall bathroom whirlpool tub has been stripped and the receptacle outlet is loose.** The cable sheathing should be intact until it enters the junction box and the box should be secured to wood framing. Corrections should be made by a licensed electrical contractor.

**Receptacle outlets are not GFCI (ground fault circuit interrupter) protected.** For more information, please refer to the GFCI notes above.

**Interior Fixtures:**

**A damaged receptacle outlet with exposed contacts was found in the living room.** This should be replaced for safety.

**As this is an older home, a limited number of receptacle outlets are available in the interior rooms.** If desired, an electrical contractor can be hired to add additional receptacles, as needed.

**Other Comments:**

**Due to the items noted in this section, the electrical system should be reviewed by a licensed electrical contractor and repairs or corrections made, as needed.** Other incorrect and/or unsafe electrical conditions are likely to be discovered during the course of correction/repairs.

## Fireplace

The fireplace inspection is limited to readily accessible components of the fireplace and chimney only.

### Fireplace:

#### Type:



Masonry fireplace.

**Cracks are present in the brick face of the fireplace.** Unable to determine the condition of the firebox due to the presence of the insert.

A fireplace insert is present. Client is advised that the throat and damper of the fireplace are sometimes dismantled or damaged during installation of the insert. Review of the fireplace and flue is restricted due to the presence of the insert. Cleaning and review of the flue and firebox by a qualified chimney sweep is advised.

Client is advised that many wood burning appliances are coming under increased scrutiny by local municipalities in regard to air pollution. Unable to determine if this unit meets the current EPA standards. In addition, wood burning is restricted or banned during "Spare the Air" days. The Bay Area Air Quality Management District should be consulted for more information. I also advise consulting with the local building department for information regarding any new regulations on existing wood stoves.

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**Exterior:**

Masonry chimney.

**Sloped mortar crown on the top of the chimney is cracked/deteriorated.** The intent of the crown is to help prevent water from soaking into the brick and mortar which can cause efflorescence (a white powdery substance) to accumulate on the surface of the brick. Removal of the deteriorated mortar and remortaring is advised to direct water away from the masonry. The "Brick Institute of America" recommends that the crown project past the face of the chimney to prevent water from flowing down the brick face.





## Kitchen

The kitchen review is a combination of a visual inspection and basic functional test of built-in appliances. Stand alone refrigerators/freezers, if present, are typically considered personal property and are outside the scope of the inspection. No opinion is offered as to the adequacy or accuracy of operation. Clocks, timing devices and thermostat accuracy are not tested and appliances are not moved during the inspection.

### Fixtures:

#### Counter & Cabinets:

Counter surface is tile.

#### Floor:

Tile.

#### Walls & Ceilings:

Walls are papered.

#### Windows:

Serviceable.

#### Doors:

Serviceable.

### Plumbing:

#### Sink:

Cast iron.

Single lever faucet.

**The faucet will leak at the base of the valve handle when the faucet is operated.** This is typical of this design/brand. Please refer to the plumbing section of this report for related information.



#### Supply & Drain:

**A slow leak was observed at the sink drain.** Please refer to the plumbing section of this report for related information.

#### Disposal:

Make: In Sink Erator.

**This is an older model disposal.** The mounting ring at the underside of the sink is corroded as is the housing of the disposal. Unable to determine remaining life, however unit is likely to be near or at the end of its expected life.



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**Instant Hot Water:**

Make: Kitchen Aid.

**Stains were found on the exterior housing.** This area was dry at time of inspection, but should be monitored for any reappearance of leaking that would require repair.

**Unable to test as the water was off.** I recommend verification of proper operation once the water service has been restored.

**Appliances:****Ventilation:**

**Exhaust ducts are nonstandard.** Typically, one 8 or 10 inch diameter duct is used. These two small ducts will not be able to exhaust as much air as a single large duct. I suggest replacement of these ducts with a standard single exhaust duct.

**Range:**

Make: Kitchen-Aid, gas cook top with an electric griddle/grill.



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**Oven:**

Make: Whirlpool, electric wall oven.

Basic functions of this appliance were tested.

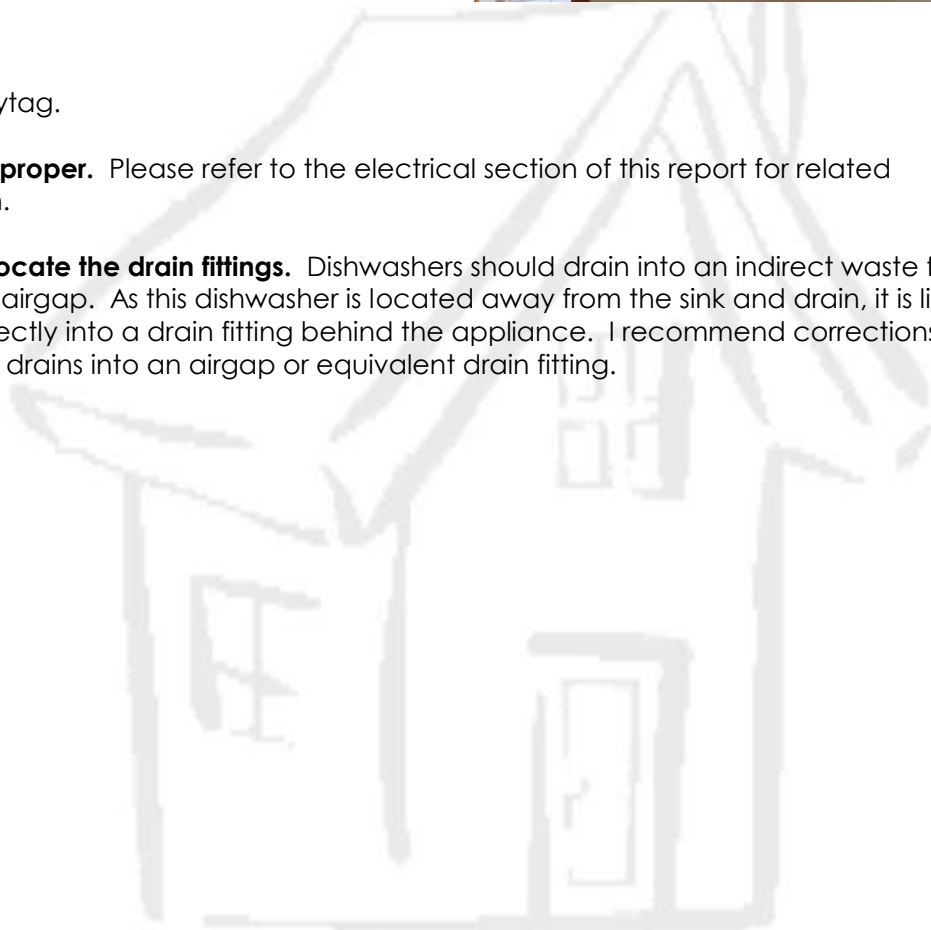
Testing of the "self cleaning" feature is beyond the scope of this inspection. Confirming proper operation prior to close of escrow is advised.

**Dishwasher:**

Make: Maytag.

**Wiring is improper.** Please refer to the electrical section of this report for related information.

**Unable to locate the drain fittings.** Dishwashers should drain into an indirect waste fitting, such as an airgap. As this dishwasher is located away from the sink and drain, it is likely that it drains directly into a drain fitting behind the appliance. I recommend corrections so the dishwasher drains into an airgap or equivalent drain fitting.



## Bathrooms

Bathrooms are visually inspected for signs of moisture and leaking. Minor items such as a dripping faucet are not always noted as they are considered a part of routine maintenance.

### Master Bathroom:

#### Sink:

Two sinks present, both were serviceable.



#### Toilet:

**The toilet bowl is loose at the floor.** Please refer to the plumbing section of this report for related information.

#### Shower & Surround:



Tile surround walls.

**Cracks/voids present in grout.** While missing grout is common and often recurs, this should be patched or regouted, as needed.

Two single lever faucets.

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**Ventilation:**

Operable.

**Counter & Cabinets:**

Serviceable.

**Floor:**

Tile.

**Loose tiles and cracked grout were found.** Resealing any loose tiles and regrouting mortar is advised. All loose and damaged ceramic floor tile should be replaced by a licensed tile contractor. Replacement of any damaged sub floor and or other framing should be made before replacing ceramic floor tile.

**Walls & Ceilings:**

Serviceable.

**Doors:**

Serviceable.

**Windows:**

Serviceable.





## Hall Bathroom:

### Sink:

Serviceable.

### Toilet:

**There is a leak at the toilet flush valve.** Water sprayed to lid and/or top of the tank and leaked out of the tank while testing. Adjustment or repair of the valve is advised to restore proper operation.

### Tub & Surround:

Fiberglass tub with a tile surround.

"Whirlpool" type tub did not function when tested. The line for the air switch was disconnected. Unable to determine if reconnecting/repair of the air switch will allow operation. I recommend repair of the air switch to allow testing. If this does not allow operation, further repairs may be necessary. As not all of the plumbing lines were completely visible this review is limited. Regular maintenance of the tub is recommended. The manufacturer's operation, maintenance and safety instructions should be obtained from the seller. If no documentation is provided, a copy should be obtained from the manufacturer and read prior to use.



### Ventilation:

**Exhaust fan did not operate.** Repair or replacement is advised.

### Counter & Cabinets:

Serviceable.

### Floor:

Tile.

### Walls & Ceilings:

Serviceable.

### Doors:

**The pocket door is misaligned or off-track and the door is damaged/abraded.** I recommend replacement of the door and hardware.

### Skylights:

Serviceable.

## Laundry Area Bathroom:

### Sink:

Sink is located at the laundry area.

### Toilet:

Serviceable.

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**Shower & Surround:**

Tile surround walls.

Single lever faucet.

**Floor:**

Serviceable.

**Walls & Ceilings:**

Serviceable.

**Doors:**

Serviceable.

**Windows:**

Serviceable.



## Interior Rooms

The condition of walls behind wall coverings and furnishings cannot be judged. Only the general condition of visible portions of floors is included in this inspection. As a general rule, cosmetic deficiencies are considered normal wear and tear and are not reported. Determining the source of odors or like conditions is not a part of this inspection. The condition of floors underlying floor coverings is not inspected. As minor flaws such as a torn screen or cracked window can be overlooked, client should review these items personally.

### Interior Rooms:

#### Floors:

Carpet and tile.

**Tile at the foyer is cracked and chipped.**

**Vinyl flooring was found in the master bathroom closet.** Some vinyl tiles contain asbestos. Identification/verification of asbestos can only be made in a laboratory.



#### Walls:

**Cracks observed in wall surface.** Cracking in walls and ceilings is often due to shrinkage/ twisting of wood framing members or the soil conditions noted earlier in this report.

#### Ceilings:

Serviceable.

#### Windows:

**Windows in the front bedrooms are not an adequate size for emergency egress.** Windows in sleeping areas (bedrooms) should allow for exit in the event of an emergency. Window openings in bedrooms should be no less than 20" wide by 24" high and the sill should be no greater than 44" above floor level. This is a potentially unsafe condition. Corrections should be made to allow for emergency egress. This typically requires replacement of the window.



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**Skylights:**

Serviceable.

**Exterior Doors:**

**Glass in the entry door does not appear to be safety glass.** While possibly not required at time of original construction, upgrading glazed doors is advised to increase safety.

As a general rule, having a qualified locksmith re-key or change any exterior locks is advised.

**Interior Doors:**

Serviceable.

**Closets:**

**Closet doors are misaligned.**

**Smoke Alarm:****Located:**

**Adding smoke alarms in all bedrooms is advised for safety.**





# Glossary of Terms

**ABS Pipe:** (Acrylonitrile Butadiene Styrene) Black plastic pipe used for sewer and drainage. This product has been commonly used in residential and light commercial construction throughout most of California since the late 1960s. This material is subject to ultraviolet breakdown unless inhibitors are mixed into the material during fabrication. Painting the material can slow damage when it is exposed to the sun.

**AFCI:** Arc fault circuit interrupter. AFCIs are newly-developed electrical devices designed to protect against fires caused by damaged or deteriorated wiring or cords in the home electrical wiring.

**Air Conditioner:** An electrical appliance used to cool the interior of a building by means of a refrigeration condenser. The condenser is typically located outdoors and consists of a compressor, a fan and "finned" radiator coils. This is normally connected to an evaporator unit located in the coil box on the forced air heating system with piping and charged with a refrigerant gas. The refrigerant is then pumped from the condenser unit to the evaporator unit and the blower for the heating unit circulates the air throughout the interior.

**Air Admittance Valve:** Pressure-activated, one-way mechanical valves that are used in a plumbing drain, waste, and vent (DWV) system in place of conventional, through-the-roof, pipe venting. Normally closed, AAVs open when wastewater discharges, allowing air to circulate for proper drainage. When closed, AAVs prevent the escape of sewer gas and maintain the trap seal.

**Air Gap:** An anti siphon device typically installed on a dishwasher drain to prevent sink drain water from contaminating the dishwasher. The air gap is usually a vented cap located adjacent the sink faucet, and is connected in-line between the dishwasher and the sink drain or garbage disposal.

**Amp:** Abbreviation for Ampere. The base unit of electric current. The rate at which electricity is used.

**Anchor Bolt:** A bolt used to secure the mudsill to the foundation. Modern anchor bolts are "L" or "J" shaped rods, which are threaded on one end. During construction, these bolts are inserted into the top of the foundation as the concrete is poured. The mudsill is secured to the foundation with washers and nuts after the concrete has partially cured. When a home does not have bolts, anchors can be "retrofitted" into existing foundations as a part of seismic upgrading, with mechanical or epoxied anchors, as long as the concrete is in good condition. The primary intent of seismic upgrading is to prevent the wood frame of the structure from moving off of the foundation and to limit the structural damage caused by an earthquake.

**Angle Stop:** A valve used to shut off the flow of water to a plumbing fixture such as a sink or toilet. Older angle stops often have aged washers and packing, and can leak around the valve stem. These valves should be opened and closed annually to keep the valve stem and packing in good condition. Valves should be reviewed periodically for leaking. Leaking valves can be re packed or replaced.

**Anti Siphon Device:** A valve installed on piping designed to prevent cross contamination of the potable water by providing a separation in the system. These devices are typically installed on exterior hose and irrigation plumbing. In residential construction, these valves are integral with commercially available sprinkler valves and are also installed on exterior hose bibs.

**Balloon Framing:** Type of construction in which the studs are continuous from the foundation to the roof. Mid level floors are inserted after the exterior walls are raised. This type of construction is more common to the eastern half of the United States.

**Barge Rafter:** The exposed (sometimes decorative) rafter at a gable end.

**BTU:** (British Thermal Unit) Amount of heat energy needed to raise one pound of water one degree Fahrenheit. The more heat energy needed, the higher the BTU input rating. Most household gas fired heating appliances, such as furnaces and water heaters are designed for input ratings in the tens of thousands of BTUs per hour.

**Buss Bar:** Metal bars in an electrical circuit panel box, which are used to distribute the electrical current from the mains to the circuit breakers or fuses.

**Check Valve:** A one-way valve installed to prevent water from flowing the wrong way through a pipe.

**Circuit:** Electrical conductors and components through which current from a power source flows.

**Circuit Breaker:** An electrical device used to protect electrical conductors and equipment from damage should the current exceed a maximum value (measured in Amperes). The circuit breaker interrupts the circuit by means of an electromagnet that separates contacts if the current reaches, or exceeds, a specific value. The major advantage of circuit breakers over fuses is the ability to be reset should the breaker "trip". As springs can become worn in older circuit breakers, this value can decrease and "tripping" becomes more frequent. Replacement of older circuit breakers eventually becomes necessary.

**Conductor:** A wire capable of carrying an electrical current. Generally, copper or aluminum.

**Conduit:** A metal or plastic pipe, which is used to enclose and protect the conductors from damage.

**Convenience Receptacle Outlet:** A receptacle outlet that is not intended for a specific (permanent or semi permanent) appliance.

**CPVC:** (Chlorinated Polyvinyl Chloride) An off-white or buff colored piping. This material is commonly used as water supply piping in mobile and manufactured homes.

**Creosote:** A by-product given off when wood burns. Creosote collects on the walls of the chimney flue. This material is combustible and, if sufficient amounts build up, can ignite in the flue. Wood burning fireplaces, or stoves, and flues should be periodically cleaned by a qualified chimney sweep. Frequency of cleaning depends on the type of wood burned and how often the fireplace is used. If a wood-burning stove is used as a primary source of heat, the flue and appliance should be cleaned and inspected annually.

**Cripple Wall:** Short wood framed walls constructed between the foundation and the floor system, sometimes referred to as a "pony" wall. Commonly found in structures built on sloped lots and in older buildings.

**Dead Front Panel:** A metal panel, installed at the front of an electrical circuit breaker or fuse panel box. This panel covers the electrical buss bars, wiring and connections inside the panel box to prevent accidental contact with energized electrical systems.

**Dedicated Outlet:** An electrical outlet that has a specific use or is connected to a specific appliance. Furnaces, dishwashers and electric dryers, along with other major appliances, are typically connected to dedicated outlets.

**Ducting:** A tube, typically fabricated of metal or plastic, through which air is distributed to heat or cool a building.

**Efflorescence:** White "fuzzy" mineral build-up, typically found on unglazed tile or masonry, caused by moisture leaching minerals out of the masonry.

**Eave:** The bottom, horizontal edge of the roof.

**Fire Wall:** A wall designed to slow the spread of a fire from one area to another. In residential construction, the wall between the garage and the house is technically not a fire wall, but is generally accepted that the intent is to slow the spread of a fire from the house to the garage. Modern multi family dwellings such as apartments and condominiums will also have a firewall between residential units. This usually consists of 5/8", type "X" wallboard with all seams and openings sealed. Commercial buildings have much more stringent standards for fire walls. Doors through firewalls are fire rated or solid core with a device that will automatically close the door.

**Flashing:** A sheet metal or waterproof membrane used to direct water away from vulnerable areas such as roof penetrations, roof valleys, chimneys, as well as around windows and doors in walls.

**Footing:** The lowest part of the foundation. Has the sole purpose of transmitting the structural loads of the structure to the earth. "Spread" footings resemble an inverted "T" and distribute the loads over a larger area of soil. Other types of footings will provide support for retaining walls, bridges, etc.

**Foundation:** Provides the support for the structure. Foundations are typically masonry and can be block or poured concrete

**Framing:** The structural "skeleton" of a building. Typically wood lumber is used in most residential construction. However, metal is also used occasionally in home construction.

**Fuse:** An electrical device used to protect electrical conductors and equipment from damage should the current exceed a maximum value (measured in Amperes). When excessive current is run through a fuse, the metal conductor in the fuse melts and opens the circuit. Unlike circuit breakers, fuses cannot be reset. Care should be taken not to install a fuse with an amperage rating higher than the one being replaced.

**Gable:** The vertical triangular end of a roof from eaves to ridge. Also, the type or design of a roof that has gable ends.

**Gambrel:** Type of roof with two slopes. The steeper slope is found above the eaves and the shallower slope is found below the ridge. This type of roof is most commonly associated with barns, but is also found in residential construction.

**GFCI Device:** Also known as a Ground Fault Interrupter or Ground Fault Circuit Interrupter (GFCI). GFCI devices are required for convenience outlets in new residential construction at locations that are near water sources. These areas include kitchens, bathrooms, near sinks, in garages and at exterior locations, as well as to whirlpool tubs and pools. GFCI devices are designed to interrupt (turn off) power to specific protected outlets if an imbalance or short circuit occurs. One device will often be wired so that it protects more than one outlet in a given circuit. The reset will be located either at the device or at the circuit breaker in the electrical panel. If an outlet in one of these areas does not function, the cause can often be traced to a "tripped" GFCI device. Resetting the device should restore power to the affected outlet. If this does not, the problem may be a defective appliance or GFCI device.

**Girder:** A beam used in the support of a floor. Sizes typically range from 4x6 to 6x12, depending on the load and span of the girder. However, the most common sizes used are 4x6 and 4x8. Some types of construction utilize girders as the primary floor support with thick (1 1/16" - 1 1/2") sub floor sheathing. Girders can be solid wood, laminated wood or metal.

**Glazing Compound:** Soft, putty-like material used to hold a glass pane in a wood window sash. This material hardens over time and will fall out, necessitating periodic re-glazing.

**Grade:** The top surface of the soil. Also may refer to the slope of the top surface of the soil.

**Ground:** A conductor that attaches the electrical system to the earth. In modern residential construction, a wire that is embedded in the concrete foundation at the time of construction provides ground. This "ufer" ground is then attached to the ground attachment in the main electrical panel. As this wire is encased in concrete, this type of ground is not visible for inspection. Ground can also be provided by driving an approved "ground rod" into the earth. The metal water and gas supply pipes are also "bonded" to the ground system to provide a direct path to earth for any electrical current.

**Gutter:** A trough installed at the eaves to intercept and re direct rainwater.

**Half Hot Outlet:** One of the receptacles in a "half hot" outlet is wired to a switch and the other is always "hot" allowing two different appliances to be plugged in.

**Hip:** The diagonal intersection between two connecting planes of a roof that extends from the ridge to an outside corner of an exterior wall. Also, the type or design of a roof that has hips instead of gables at outside corners.



**Heat Pump:** This is an electrically powered appliance used to heat or cool the interior of a building. A refrigerant gas is distributed through a closed loop between a compressor and an evaporator. Heat is generated during the compression cycle and the gas is distributed to a finned radiator. The gas then is allowed to expand in the evaporator. This part of the process significantly cools down the gas and it is distributed to another finned radiator where it can absorb heat energy. The direction of the gas is determined by the need for heating or cooling of the interior.

**HVA/C:** Heating, Ventilation and Air Conditioning.

**I Joist:** Manufactured wood joist that resembles a capital "I" in cross section. Using principles similar to "I-Beams", this structural member can be constructed of a combination of solid wood, plywood and/or wafer board, and is marketed by a variety of manufacturers.

**Jamb:** The frame that encloses a window or door.

**Joist:** Structural framing member installed horizontally on edge and used to support floors and/or ceilings.

**Laminated Veneer Lumber:** Similar to plywood except that the layers of veneer are generally parallel to each other instead of perpendicular.

**Mansard:** Type or design of a roof with two slopes and usually two types of roof membrane. A steeply sloped section (often nearly vertical) of roof is located at the perimeter of the structure that is primarily decorative, and a low-sloped (often nearly flat) section that typically provides the roof for the majority of the building. Most commonly found on commercial buildings, but also associated with some types of Victorian architecture.

**Moment Frame:** Steel moment frames generally consist of beams and columns joined by a combination of welding and bolting. They are designed to resist lateral loads through bending of the frame elements.

**Mud Sill:** Typically, a 2x4 or 2x6 pressure treated or redwood board which is installed between the foundation and the wood frame of the structure.

**P-Trap:** "U" shaped drain fitting found under a sink, shower or bathtub. The p-trap for a toilet is formed into the porcelain bowl. This provides a water "weir" that prevents sewer gases from venting into the interior of the building.

**Parging:** A sand and cement mortar plaster coating typically applied to masonry.

**Particleboard:** Manufactured wood construction material consisting of small chunks of wood glued together to form a solid sheet. Typically used in cabinets and as a base for resilient flooring.

**Pilot Light:** Also known as a "standing pilot". A continuously burning gas flame used to ignite a burner on a gas appliance, such as a water heater, furnace or range/oven.

**Platform Framing:** Type of construction in which the wall studs for each story rest on the floor framing system (platform) and the wall studs are the height of each story. This type of construction is more common in the western half of the country.

**Plenum:** A large metal box connected to the heater to which the ducting is attached.

**Plywood:** Manufactured wood construction material consisting of layers of veneer glued together with adjacent layers alternating at right angles in relation to each other to form a solid sheet. Commonly used for structural floor, roof and wall sheathing. Common thickness ranges from 1/8" to 1 1/4".

**PVC Piping:** (Polyvinyl Chloride) Plastic pipe used for water supply, sewer and electrical conduit. The most common use for this piping in residential construction in the western part of the country is sprinkler piping. Also used for main municipal water supply and private well installations. This material is subject to ultraviolet breakdown unless inhibitors are mixed into the material during fabrication. Painting the material can slow damage from the sun.

**Rafter:** Structural roof framing member typically installed at an incline to provide the slope for the roof.

**Rafter Tail:** The projecting section of a rafter between the exterior wall and the eave.

**Return Air:** A furnace duct through which the interior air is returned to the furnace to be heated (or cooled) and then distributed to the interior through the distribution ducting.

**Ridge:** The horizontal line of intersection at the peak connecting two planes of a roof.

**Romex:** A brand name for a non-metallic sheathed electrical cable. This is a plastic sheathed electrical cable used in residential construction to provide electrical power to outlets, switches and appliances.

**Roof:** The structural, and rain proof cover of a building.

**Roof Pitch:** The incline slope of a roof or the ratio of the total rise to the total width of a house, i.e., a 6-foot rise and 24-foot width is a one-fourth pitch roof.

**Roof Slope:** The incline slope of a roof. Usually defined in number of inches of rise (vertical) per foot (12 inches) of run (horizontal). i.e., a 4 in 12 slope rises 4 inches per 1 foot of horizontal run.

**Sash:** The part of a window frame that holds the glass.

**Sediment Trap:** A short, downward projecting, capped section of pipe usually located adjacent to the shutoff valve for a gas fired appliance. The intent is to provide a depository for any loose particles or debris that might be present in the gas piping system before the debris has a chance to clog or foul the gas fired appliance.

**Seismic Upgrades:** Retrofitted metal hardware and lumber materials added to the structure of a home, typically in and around the foundation area. These can include, but are not limited to: Anchor bolts, used to secure the mud sill to the foundation; framing anchors (such as A-35s), used to secure a wood floor framing system to the mud sill; and shear wall panels (typically plywood or wafer board) which add lateral strength to stud framed walls.

**Service Entrance Conductors:** The portion of the overhead service conductors which connect the service drop to the service equipment. Typically the responsibility of the homeowner.

**Service Equipment:** The necessary equipment, usually consisting of a circuit breaker(s) or switch(es) and fuse(s) and their accessories, connected to the load end of service conductors to a building or other structure, or an otherwise designated area, and intended to constitute the main control and cutoff of the supply. Often referred to as the "main electrical panel", this is where the main disconnect can be found as well as where the grounding occurs. It is usually located at or adjacent to the meter.

**Service Drop:** The portion of overhead service conductors between the pole and the first point of attachment to the building. Typically the property of the utility company.

**Shake:** Similar to a wood shingle except that shakes are split while shingles are cut. Splitting results in a non-uniform wedge. However, shakes are typically thicker than wood shingles and therefore tend to last longer as a roofing material. Shakes are installed in a manner similar to wood shingles with successive courses overlapping the seams between the previous shakes. Due to the nature of the material, uneven wear of a shake roof is common. Periodic replacement of damaged or worn shakes is a necessary part of home maintenance.

**Shear:** In construction, this refers to a sideways or lateral movement. i.e., A shear wall or shear panel is designed to resist sideways movement.

**Shear Wall:** Also known as a shear panel. An engineered wall designed to resist lateral movement caused by earthquakes and/or high winds. Typically, a wood framed wall is sheathed with plywood or wafer board and nailed with a specific nail spacing to provide this strength. Manufactured shear wall systems are also available. A shear wall is usually connected to the foundation with special "hold down" anchors that are embedded in the foundation.

**Sheathing:** Wood member used to cover a floor, wall or roof surface. The most common materials used for sheathing in modern construction are plywood and wafer board (OSB).

**Siding:** Exterior wall covering. Can consist of a variety of materials such as wood, plastic, metal or masonry.

**Shingle:** Thin, tapered pieces of overlapping building material used to cover a roof or a wall. Shingles are installed in rows or "courses" and overlapped so that vertical seams are covered by successive rows of shingles. The most common type of roofing shingle in residential construction is the composition shingle, also called the asphalt shingle. Wood shingles are more common as an exterior wall siding material but are sometimes still found on roofs. Wood shakes which are thicker and more irregular than shingles are also used as a roofing material.

**Stain:** A pigmented finish applied to wood siding and trim to help protect it from the weather while still allowing the character of the wood to be seen. Stains applied to exterior woodwork typically do not last as long as paint and, therefore, require more frequent application. Stains come in "transparent" and "full bodied", with the latter having more pigment and binders.

**Stop:** The raised section of a jamb against which a door or window closes.

**Stud:** Structural framing member installed vertically to form interior and exterior walls. A typical 2x4 stud measures 1½" x 3½" x 92¼".

**Swale:** A trench or gutter typically installed at grade level to intercept surface water runoff from a hill.

**Truss:** Engineered and manufactured support members typically used for roof systems instead of rafters and ceiling joists; however, they can be used as floor joists. The long, outer perimeter sections of lumber are referred to as "chord" members while the shorter interior sections are referred to as "web" members.

**Valley:** The diagonal intersection between two connecting planes of a roof that extends from the ridge to an inside corner of an exterior wall.

**Valve:** A mechanical device used to start, stop or regulate the flow of gas or water.

**Volt:** The "potential" of electricity. Analogous to pressure when measuring the potential of water.

**Wafer board:** Manufactured wood construction material consisting of wood chips that are glued together to form a solid sheet. Also known as "oriented strand board" (OSB). Commonly used for structural floor, roof and wall sheathing as well as exterior siding.

**Wall Board:** Also known by the trade names "Drywall" and "Sheetrock", this is a gypsum material sandwiched between paper skins to form an interior wall surface that is affixed to the wall studs and ceiling joists with the use of screws or nails. The seams are then covered with a paper or fiberglass reinforcing tape and smoothed with vinyl joint compound.

**Watt:** The amount of electricity used. Voltage multiplied by amperage equals wattage.

**Weir:** The water seal that remains in the bend of a p-trap. The intent of the weir is to prevent sewer gases from venting into the interior of the house.

Additional construction related definitions can be obtained at:  
<http://www.constructioninfoexchange.com/constructiondictionary.aspx>