Inspected for:
Paula Skinner
Karen Pearlman
5820 Enterprise Road
Glen Ellen, CA

09/03/2020

Paula Skinner
Karen Pearlman

Re: 5820 Enterprise Road
Glen Ellen, CA

Dear Paula & Karen,

As requested, a visual inspection of the above referenced property was conducted on September/03/2020. 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.

As this type of inspection is essentially a negative process, I only focus on problematic conditions that I believe should be corrected and generally do not make positive comments. Consequently, the inspection report might be considered by some to be alarming. While I provide a "highlights" section for your convenience, you should not rely on it in place of the full report. The report should be read in its entirety to ensure that all findings are thoroughly understood. I advise you to obtain competitive estimates from licensed and qualified contractors for correction of any items noted in the report, that are disclosed to you, or that you find independently. Also, please be aware that failure to correct any preexisting/known conditions could adversely affect home warranty coverage. The warranty policy should be thoroughly reviewed should you choose to purchase one.

Thank you for choosing me to perform your inspection. If you have any questions regarding the inspection report or the conditions noted, the best way to contact me is by email.

Sincerely,

Gunnar Alquist
Full Circle Inspections, Inc.
122 Calistoga Rd. #196
Santa Rosa, CA 95409
707 528-7010
Gunnar@FullCircleInspect.com

Report Highlights

The information briefly listed in this section of the report is limited, has been 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. Any hazardous, problematic, or unsatisfactory conditions noted within the report should be brought to the attention of licensed and qualified contractors to provide an in-depth evaluation, written cost, and time estimates for corrective work. Any repairs should be performed by licensed and qualified contractors.

The items listed below are hazardous or potentially unsafe and should be corrected by the appropriately licensed contractor. Other improper conditions may also be present and more specific information can be found in the narrative portion of this report.

Exterior

Lot:

Walkways:
The concrete walkway is cracked and uneven.

Pool/Spa:
A built-in pool is present. Pools, spas and ponds are a drowning hazard, particularly with children. No safety measures were in place.

Exterior Structures

Right Side Deck:

Railing:
Spacing between railing members is greater than currently allowed.

Master Bedroom Balcony:

Railing:
Spacing between railing members is greater than currently allowed.

Left/Front Bedroom Balcony:

Railing:
Spacing between railing members is greater than currently allowed.

Plumbing System

Water Heater:

Location:
Water heater is resting directly on the garage floor.

Electrical System

Pool Panel:

Over Current Protection:
Not all of the pool circuits are GFCI protected.

Interior Rooms

Stairs:
Steps do not have a proper handrail. Spacing between railing members is greater than currently allowed.

Ladder:
The ladder to the loft is steep and does not have a guardrail.

The items listed below are of concern or in need of correction or repair. Other unsatisfactory conditions may also be present and more specific information can be found in the narrative portion of this report.

Exterior

Wood Siding:

Lap Siding:

A pet door has been installed through the exterior wall and siding.

Trim & Windows:

Trim:

Trim is missing under the left side deck.

Exterior Structures

Right Side Patios/Deck:

Pool Patio:

The surface is uneven.

Right Side Deck:

Railing:

Wood is decayed/damaged.

Left Side Deck:

Structure:

Not all of the deck framing connections have been made with hardware.

Steps/Stairs:

The stairway framing is not adequately attached to the deck framing and the treads are sloped.

Master Bedroom Balcony:

Structure:

Decayed/damaged lumber was found at a support girder at the rear.

Left/Front Bedroom Balcony:

Structure:

The deck tiles are buckled and loose, and a void was found at the right side wall adjacent to the deck surface.

Foundation Area

Foundation & Grade:

Other Observations:

Animal trails and feces/droppings were found.

Heating System

Wall Heater:

Condition:

The heater did not function.

Plumbing System

Water Heater:

Safety Valve:
Oxidation observed at the temperature pressure relief valve.

Condition:
While remaining life cannot be positively determined, this is an older water heater and likely beyond its expected life.

Water Heater:

Location:
The "smitty" pan drain pipe does not slope properly.

Gas Venting:
Mineral deposits were found adjacent to connections on the gas vent pipe.

Seismic Bracing:
While two straps are present, they do not appear to have been installed as specified and may not perform as intended.

Water Heater:

Condition:
The gas was off at time of inspection.

Bathroom Fixtures:

Supply & Drain:
A leak was observed at the upstairs hall bathroom sink drain.

Toilet:
The half bathroom toilet bowl is loose at the floor.

Tub:
The detached cottage tub faucet does not operate.

Electrical System

Electrical Service Equipment:

General:
Knockouts are missing at the dead-front as well as the panel enclosure wall.
Debris is present in the interior of this panel.

Conductors:
Multiple wires are connected to a single lug on the neutral terminal bar where only one wire should be connected.

Pool Panel:

Conductors:
A conduit is separated from an elbow.

General Wiring:

Grounding & Bonding:
The bonding clamp adjacent to the water heater is loose.
No bonding found for the CSST gas piping system.

Foundation Area Wiring:
An section of electrical cable under the approximate area of the bathroom has been wrapped with electrical tape. A separated conduit was found.

Electrical Fixtures:

Exterior Fixtures:
Unprotected nonmetallic sheathed cable (romex) present at the exterior of the cottage/garage.
GFCI receptacle outlet at the right side of the house did not interrupt power when tested.

Kitchen Fixtures:
Open/uncovered junction box present under the dishwasher and the electrical splices are exposed.

Bathroom Fixtures:
Individual conductors have been used at the steam generator in the master bathroom.

Interior Fixtures:
Unprotected electrical splices present adjacent to the laundry area water heater.

Fireplace

Den Fireplace:

Type:
A flexible gas line has been run to the front of the firebox and is providing gas to the burner.

Master Bedroom Fireplace:

Type:
I could not get the fireplace burner to ignite.

Bathrooms

Master Bathroom:

Shower & Surround:
Stains were observed under the shower adjacent to the steam generator.

Interior Rooms

Interior Rooms:

Floors:
Interior floors are sloped/uneven at various areas.

Windows:
Indications of "failed seals" were observed between the glass panes.

Exterior Doors:
The left/front bedroom door is misaligned.

Cottage Exterior

Trim & Windows:

Trim:
Trim is missing at the left/rear.

Cottage Roof

Tile Roof:

Condition:
Damaged/displaced tiles were observed at the left side of the roof.

Cottage Fireplace

Fireplace:

Type:
Two flexible gas connectors have been connected in tandem.

Cottage Kitchen

Appliances:

Range:

The burner at the left/front did not ignite automatically when operated.

Cottage Interior

Interior Rooms:

Exterior Doors:

Daylight could be seen at the base of the door.

Alarms:

Carbon Monoxide Alarm:

No carbon monoxide (CO) detector/alarm found.

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General Conditions

Client Information:

Client:

Paula Skinner
Karen Pearlman
Present for the beginning and end of the inspection.

Agent:

Doug Swanson. Present for the beginning and end of the inspection.

Building Information

Inspection Address:

5820 Enterprise Road
Glen Ellen, CA

Structure Type:

This is a wood-framed, two-story, single family residence single family residence with a living unit located adjacent to the garage

Occupancy:

Occupied at time of inspection. The presence of furniture and personal property will restrict review. Furniture and personal property is not moved as a part of the inspection.

Utilities Status:

All utilities were on at time of inspection.

Wood Destroying Organisms:

Damaged or potentially infested wood conditions that are specifically described in the California Business & Professions Code §8505-8698.5 as wood destroying organisms are the responsibility of a pest inspector licensed by the California Structural Pest Control Board. Discovery, diagnosis and treatment of conditions including, but not limited to fungus, dry rot, termites, beetles and other wood destroying organisms is the specific responsibility of a pest inspector. If an inspection for wood destroying organisms (pest inspection) has already been performed, the report should be reviewed and treatment or repairs made, as needed. If no inspection for wood destroying organisms has been performed one should be arranged and repairs or treatment made, as needed. A permit should be filed with the local building department for any work done and any repairs should conform to current building codes. http://www.pestboard.ca.gov/

Miscellaneous Comments:

This home is likely located in a "Wildland/Urban Interface" (WUI) and is potentially subject to wildfires. Homes in WUI areas have specific requirements from the State of California, among other things, to maintain a "defensible space" to reduce the risk of wildfire to people and structures. Information resources are available to homeowners through many websites such as CalFire, Fire Safe Sonoma, and Fire Safe Marin. You should obtain a current Natural Hazards Disclosure Report for any property, learn about state requirements, evaluate your risks, make emergency plans, and ensure that you have appropriate insurance coverage in addition to taking measures to protect your home from wildfire. Other useful sources are included below, but I also recommend further independent research.
https://www.fire.ca.gov/
http://www.firesafesonoma.org/
https://www.firesafemarin.org/
https://ucanr.edu/sites/fire/
https://www.fire.ca.gov/programs/communications/defensible-space-prc-4291/

General Information:

File Number:

0920-7757

Date & Time:

Inspection began at approximately 09:15 AM and finished at approximately 1:30 PM
09/03/2020

Inspector:

Gunnar Alquist

Weather:

The temperature was approximately 55° - 65° and the sky was overcast at time of inspection.

Orientation:

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

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 on the California Real Estate Inspection Association Standards of Practice and the California Business & Professions Code §7195-7199 and is not a criticism of the current owner, building, or maintenance. The inspection and report are not intended to verify code compliance, 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. A full description of the scope of this inspection and report is listed in the Inspection Agreement. This report is provided for the named client only and is not transferable. If you are not the named client, I recommend you obtain an inspection from an independent inspector to ensure your interests are best represented. As verification of product or appliance recalls is beyond the scope of this type of inspection, I recommend documenting all appliance serial numbers and searching the Consumer Products Safety Commission website for any known conditions/problems at http://www.recalls.gov/

Any comments made about systems/conditions that are excluded in the Inspection Agreement are provided for convenience only and do not represent an inspection. Any opinions expressed regarding adequacy, capacity, or expected life of components are general estimates based on the inspector's experience with similar components and variations are to be expected between estimates and your actual experience. Any included photographs or digital images are only intended to help provide clarification for specific items and will not include all problem areas or conditions noted in, nor are they intended to substitute for, the written report. Any problematic conditions or systems described in this report should fully be reviewed (within any applicable contractual time constraints, including - but not limited to - a real estate contingency period), and corrected and certified by a licensed contractor or professional qualified in that particular trade or area of expertise, and any other problems or conditions discovered or created during the process of repairs corrected by licensed contractors as well. I do not provide work estimates as costs can fluctuate widely and I recommend that any bids for corrective work be obtained, within any applicable time constraints, to provide a more complete idea as to actual costs. Documentation of properly completed repair work should be provided in the form of a completed building permit, contract, work order and/or receipt. To the best of my knowledge and belief, all statements and information in this report are true and correct. If the report is resold, given, transferred, or otherwise allowed to be used by another person, the client agrees that Full Circle Inspections, Inc. will be held harmless. This report is covered by the Inspection Agreement. If litigation consultation services are desired, an additional contract for litigation consultation will be necessary.

Environmental & Toxic Concerns:
The identification of toxic materials, asbestos, formaldehyde, lead, "Chinese" drywall, mold or other environmental hazards or conditions is beyond the scope of a home inspection and can only be made in a laboratory. If concerned, a qualified industrial hygienist or testing laboratory should be consulted. Many products used in construction may contain materials that can be toxic/hazardous. While the use of some of these materials has decreased since the late 1970s; they are still found to varying degrees, particularly in products imported from overseas. Further evaluation by sampling of suspect material for undesirable or toxic substances by a qualified testing laboratory would be prudent.

Exterior

The noninvasive inspection of the exterior of the home is intended to determine general conditions of soil slope/grade in the area adjacent to the home as well as the exterior conditions of the home. Siding, trim, windows, and other exterior items on the house are evaluated for obvious defects and no destructive testing is performed. It would be best to have a licensed contractor fully investigate any listed recommendations for corrective work prior to the end of the inspection contingency period. Any corrective work, whether discovered during this inspection or discovered or created while performing repairs, should be completed, documented and certified by a licensed and qualified contractor.

Lot:

Driveway:

Driveway consists of asphalt and poured concrete. Cracks are present in the driveway. Cracks of this type are not uncommon and typically due to expansion/contraction and/or soil movement/settling.

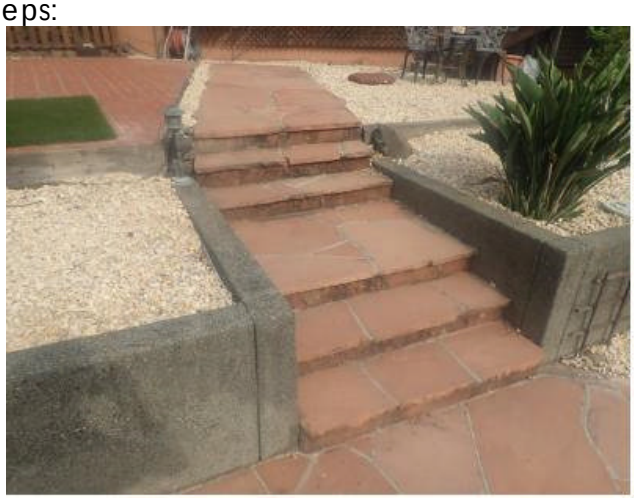
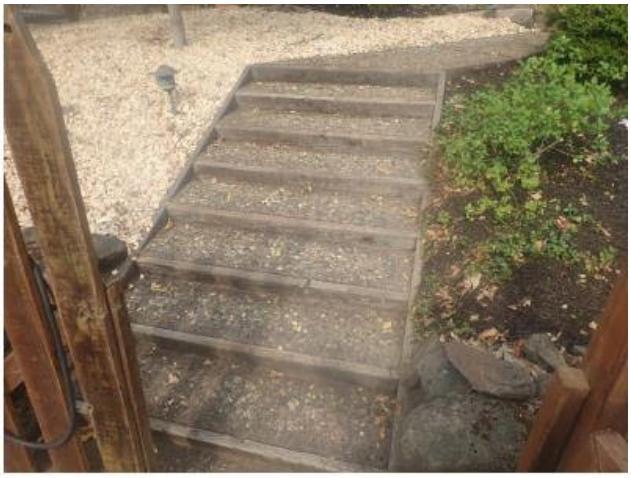
Walkways:

Tile pavers, concrete pavers, and poured concrete.

<u>The concrete walkway is cracked and uneven.</u> In addition, some of the tile pavers are cracked/damaged. Displaced/uneven surfaces can cause an individual to trip/fall and I recommend patching or repair, as needed.

Walkway slopes toward the structure. Improperly sloped walkways will direct water against the foundation. Corrections will require installation of a channel/slot drain or removal and replacement with properly sloped walkways.

Steps:

Steps do not have a handrail. While likely not required by the local building department, I suggest installation of an easily gripped handrail as many people need some assistance, even with a single step. Handrails are intended to help prevent an individual from falling when ascending or descending and should conform to current construction standards. Specific information can be obtained through the local building department.

Retaining Walls:

Walls consist of poured concrete.

No guardrail present along the top of the retaining wall. While this may not be a requirement, an individual could fall from the top of the wall, resulting in injury. Installation of a guardrail would increase safety.

Grade & Drainage:

Structure is on a sloped/terraced lot. I suggest diverting water away from the house, as practical.

Soil Conditions:

As this home is located on a hill/slope, I suggest review of any available geologic and/or soils reports for this property. Geotechnical and soils engineering is beyond the scope of this inspection and report and stability of soils cannot be determined through a home inspection. Client should consult with a soils engineer if information regarding geologic or soils conditions is desired.

Pool/Spa:

A built-in pool is present. Pools, spas and ponds are a drowning hazard, particularly with children. Homeowners may be held personally liable for injury or death caused by drowning in a pool, pond or spa. Pools, spas, ponds, piping, pumps, timers, and ancillary equipment are not a part of a home inspection and were not reviewed as a part of this inspection. I recommend having a qualified contractor or technician inspect and verify safety and proper operation. Efforts should be taken to provide any needed effective barriers, fences, covers and alarms to prevent unsupervised individuals, particularly children and anyone temporarily or permanently incapacitated or inebriated, from accessing the pool and to help prevent drowning. Safety upgrades including, but not limited to, installation of anti-entrapment drain covers should be addressed before this pool is used.

No safety measures were in place. Corrections should be made to increase the safety of this pool. Ideally, all available efforts would be made to reduce the risk of drowning.
(1) An enclosure that meets the requirements of Section 115923 and isolates the swimming pool or spa from the private single-family home. None present.
(2) Removable mesh fencing that meets American Society for Testing and Materials (ASTM) Specifications F2286 standards in conjunction with a gate that is self-closing and self-latching and can accommodate a key lockable device. None present.
(3) An approved safety pool cover, as defined in subdivision (d) of Section 115921. None present.
(4) Exit alarms on the private single-family homes doors that provide direct access to the swimming pool or spa. The exit alarm may cause either an alarm noise or a verbal warning, such as a repeating notification that "the door to the pool is open." None present.
(5) A self-closing, self-latching device with a release mechanism placed no lower than 54 inches above the floor on the private single-family homes doors providing direct access to the swimming pool or spa. None present.
(6) An alarm that, when placed in a swimming pool or spa, will sound upon detection of accidental or unauthorized entrance into the water. The alarm shall meet and be independently certified to the ASTM Standard F2208 "Standard Safety Specification for Residential Pool Alarms," which includes surface motion, pressure, sonar, laser, and infrared type alarms. A swimming protection alarm feature designed for individual use, including an alarm attached to a child that sounds when the child exceeds a certain distance or becomes submerged in water, is not a qualifying drowning prevention safety feature. None present.
(7) Other means of protection, if the degree of protection afforded is equal to or greater than that afforded by any of the devices set forth above, and have been independently verified by an approved testing laboratory as meeting standards for those devices established by the ASTM or the American Society of Mechanical Engineers (ASME). None found.

Current California Business & Professions Code §7195 requires a home inspector (1) notify the client if at least two of the above noted safety devices are not present and (2) verification of ASTM standards. However, no documentation was available at the inspection and ASTM standards could not be verified. The pool, equipment and surrounding area should be reviewed by a qualified contractor or technician and corrections, upgrades or repairs made, as needed. As the only likely way to ensure ASTM compliance of any of these safety measures would be to install new equipment, I recommend installation of new pool safety measures and/or equipment, as needed, by licensed and qualified contractors to make this pool as safe as practical. In my opinion, the most effective of these safety devices is a permanent fence/enclosure that isolates the pool from the house and remainder of the yard. While the Consumer Products Safety Commission document "Safety Barrier Guidelines for Residential Pools" does not meet the current California standards, it is still a useful reference tool. More information can be obtained at the following websites.
http://leginfo.legislature.ca.gov/faces/codes_displaySection.xhtml?sectionNum=115922&lawCode=HSC
https://www.cpsc.gov/s3fs-public/362%20safety%20barrier%20guidelines%20for%20pools.pdf
https://www.cpsc.gov/s3fs-public/359.pdf
https://www.cpsc.gov/s3fs-public/5005.pdf
https://www.nspf.org/sites/default/files/sitefinity/Files/nspfpreventingentrapment.pdf

Wood Siding:

Lap Siding:

A pet door has been installed through the exterior wall and siding. This can allow water to penetrate into the interior and the wall cavities as well as allow unwanted animals access to the interior. My primary recommendation is to remove the pet door and repair/replace the siding. Any work should be done by a licensed and qualified contractor.

Cracks observed in wood siding. Cracks and voids in siding can allow moisture to intrude into the interior surfaces of the wall. Patching or any necessary repairs are advised, to prevent damage to wood framing.

Siding is in contact with soil at at the front. Soil should be cleared away from siding and examined for damage. Soil should be kept a minimum of 6 inches away from the siding to prevent moisture damage.

Manufactured Siding:

Vinyl Siding:

Voids were observed between the siding and the master bathroom balcony railing. This will allow rain to penetrate beind the vinyl siding. I recommend installation of flashing or corrections, as needed.

This siding has been installed over the original siding. Unable to determine the type or condition of the concealed siding. Client is advised to consult with the seller regarding the condition of the original siding prior to installation of the present material.

Trim & Windows:

Trim:

Wood.

Trim is missing under the left side deck. Foam has been sprayed into gaps/voids. Trim should be installed to help prevent water from gaining entry to areas behind the siding.

Windows:

Window frames are metal, vinyl, and wood.

Caulking at the edges where the glass corner windows meet is aged and voids were observed between the panes. I recommend recaulking to prevent leaking. (Upper photos)

Loose/damaged plastic window stops were observed at some of the metal windows. I recommend replacement of damaged or loose stops, as needed. (Lower photos)

Dual-glazing is present in some of the windows. Installation of new double-glazed windows at the remaining areas can help to increase comfort by cutting heat loss through the older windows. Some glazing showed evidence of failed seals (moisture between the panes). This is primarily a visual defect which is typically determined by the presence of discoloration or moisture between the panes of glass (however, some loss of insulation value is possible). This condition can be difficult to identify and weather, dirt, or lighting conditions can impede identification of affected windows. I recommend review by a licensed glazing contractor to verify the number and cost of corrections. Corrections typically require replacement of problematic glazing. The glazing contractor may find additional windows that require replacement as well.

Exterior Structures

Right Side Patios/Deck:

Pool Patio:

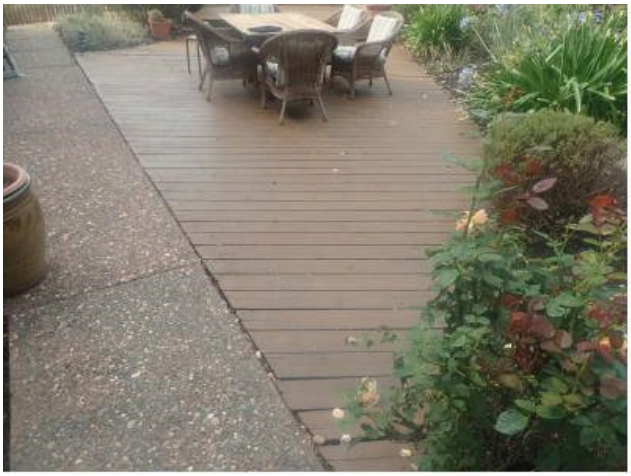

Stone pavers.

The surface is uneven. This indicates inadequate site preparation prior to installation of the patio surface. An uneven surface could cause an individual to trip/fall. I recommend corrections to prevent injury.

Patio:

Brick pavers.

Structure:




Wood deck supported on wood framing.

Much of the wood deck is sitting directly on the soil and some boards are loose. Contact with soil will accelerate decay/deterioration of the wood.

Right Side Deck:

Structure:

Wood deck supported on wood framing.

Railing:

Spacing between railing members is greater than currently allowed. This was likely acceptable at time of construction and is not required to be corrected; however, it could allow small children to fall through the openings. Current construction standards require that spacing between guardrail members be constructed to prevent a 4 inch diameter sphere from passing through. My primary recommendation is to upgrade, correct, or replace this guardrail. At a minimum, client is advised to take precautions, as needed.

Wood is decayed/damaged. Damage may extend into inaccessible areas. 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.

Left Side Deck:

Structure:

Wood deck supported on wood framing.

We do not verify soil stability or footing depth under the deck supports. If information about the foundation is desired, a licensed structural engineer or soils engineer should be consulted.

Deck framing consists of pressure treated lumber which is more resistant to deterioration than untreated framing lumber.

Not all of the deck framing connections have been made with hardware. As decks are subject to many of the same forces that an interior floor is subject to, as well as some forces that interior floors are not subject to, I recommend installation of additional framing hardware to properly secure the guardrails, joists, girders, posts and piers together as well as securing the overall deck structure to the building. Specific information can be obtained through a hardware manufacturer, such as the Simpson Strong-Tie website at http://www.strongtie.com/, https://www.strongtie.com/products/deckcenter, or an equivalent manufacturer. Any corrective work should be performed by a licensed and qualified contractor.

Railing:

Some loose/elevated screws were found at the rail cap.

Steps/Stairs:

The stairway framing is not adequately attached to the deck framing and the treads are sloped. The metal hardware at the top of the stairway is not securely attached and nails are pulling-out. I was unable to determine why the treads are sloped. My primary recommendation is to replace this stairway with one that conforms to current construction standards, including having a handrail that is easily grasped. Any corrective work should be performed by a licensed and qualified general or carpentry contractor.

Master Bedroom Balcony:

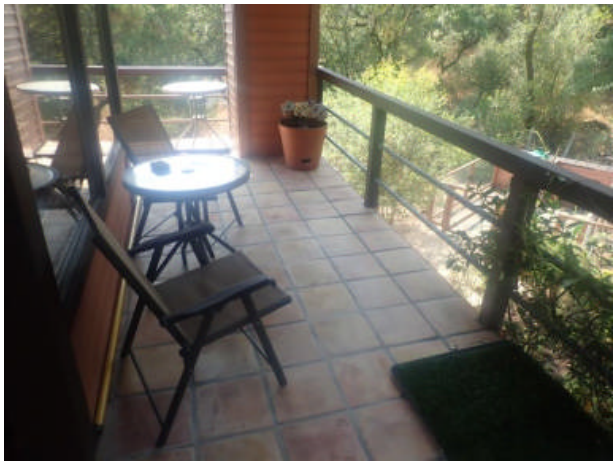
Structure:

Deck consists of tile installed over wood framing. Presumably, a waterproof membrane is present under the tile; however, as the membrane was not visible, no direct review could be made. Periodic review for damage or evidence of leaking is recommended.

Decayed/damaged lumber was found at a support girder at the rear. This could be seen from the lower deck outside of the kitchen. Exterior decks are subject to the weather and therefore have a limited life. Decay/damage of this type is specifically described as having been caused by a wood destroying pest or organism in the California Business & Professions Code §8505 and is the responsibility of a pest inspector licensed by the California Structural Pest Control Board. This should be inspected for wood-destroying organisms and damage by a licensed branch 3 inspector and any damaged or infected lumber replaced with new material or treatment made, as needed. I recommend the use of pressure treated lumber for exterior structures as it is more resistant to this type of damage than untreated lumber.
http://www.leginfo.ca.gov/cgi-bin/displaycode?section=bpc&group=08001-09000&file=8500-8519.

Railing:

Spacing between railing members is greater than currently allowed. Please refer to the Right Side Deck notes for related information.



Left/Front Bedroom Balcony:

Structure:


Deck consists of tile installed over wood framing.

The deck tiles are buckled and loose, and a void was found at the right side wall adjacent to the deck surface. I am concerned that water has gained entry to the wood framing below and adjacent to the balcony. Further review and repairs will likely require removal of the tile surface. If any damaged floor sheathing or framing are found at that time, repairs should include replacement of damaged lumber.

Railing:

Spacing between railing members is greater than currently allowed. Please refer to the Right Side Deck notes for related information.

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. It would be best to have a licensed roofing contractor fully investigate any listed recommendations for corrective work prior to the end of the inspection contingency period. Any corrective work, whether discovered during this inspection or discovered or created while performing repairs, should be completed, documented and certified by a licensed and qualified roofing contractor.

General:

Style:

Combination hip and low pitch roof.

Roof Access:

Roof was viewed from the ground as the material can be damaged if walked on. I suspect a low-sloped membrane on the top portion of the roof and recommend review of the roof by a licensed roofing contractor concurrently with repairs described in the detached cottage section of this report.

Eaves:

Moisture stains were found at the left side eaves. The location leads me to think that this is leaking from the roof gutter. I recommend review of the gutters concurrently with review of the roof and corrections, as needed.

Tile Roof:

Type:

Terra cotta tile.

Tile roofs have several advantages and a few disadvantages when compared to the more common composition (asphalt) shingle roofs. The obvious advantages include life expectancy and fire resistance. The disadvantages include a need for periodic maintenance and the potential to break tiles. Tiles will occasionally slip down (particularly at changes in the roof plane) and/or crack for no apparent reason. Maintenance usually involves periodically checking for loose or cracked tiles and replacement or repairs, as needed. Debris can also dam water at valleys and roof/wall connections which can lead to roof leaks. Client is advised that this type of roof can be damaged by being walked on. Roof should be walked on only by trained personnel.

Condition:

I was unable to inspect the house roof. I recommend review of the house roof by a licensed roofing contractor concurrently with repairs to the garage/cottage roof.

Roof Drainage:

Type:


Gutters are integral with the roof. Integral gutters will require periodic maintenance and cleaning. Gutters should be inspected annually and seams should be sealed with a good grade of caulk or mastic to prevent leaking to the eaves and causing moisture damage to the wood framing.

Stains under the enclosed soffit at the left side indicate that gutters will leak at connections. Corrections are advised.

Debris is present in the gutters. Debris should be routinely cleaned from the gutters. Debris build up can cause overflows and damage to gutters.

A downspout discharges under the left side deck. I recommend extending this away from the house. An extender system is connected to some gutter downspouts to aid in lot drainage. As this system is buried, an evaluation is limited to the visible areas. The gutters should be cleared periodically as a part of routine maintenance.

Attic:

Access:

Access hatch is located at the loft.

Framing:

Rafter framing with plywood sheathing.

Insulation:

Insulation consists of fiberglass batts. The presence of this insulation limits review of the attic. Insulation is not moved or disturbed to allow inspection and it is possible that the insulation is concealing damage or other problems.

Ventilation:

A crushed exhaust duct was found. I recommend replacement.

Foundation Area

Inspection of the foundation area is limited to those areas that are accessible. Inspection for wood destroying pests/organisms (WDO) is beyond the scope of a home inspection and should be performed by a licensed and qualified WDO pest inspector. Verification of engineering, load calculations, footing depth, or stability of the foundation system is beyond the scope of a home inspection. It would be best to have a licensed contractor fully investigate any listed defects and recommendations for corrective work prior to the end of the inspection contingency period. Most construction and repair work does require permits and inspections by the local building department. Any corrective work, whether discovered during this inspection or discovered or created while performing repairs, should be completed, documented and certified by a qualified and licensed contractor.

Foundation & Grade:

Access Location:

Exterior access is located at the left/rear of the structure. Foundation area was accessed as a part of this inspection.

Foundation:

Poured concrete. Cracks are present in the concrete. These types of cracks can be due to expansion and contraction of the concrete, settling and/or often occur during curing immediately after the concrete is poured. No evidence of excessive cracking was found at time of inspection.

Plywood sheathing is present at some sections of the cripple walls and anchor bolts are present. Cripple walls are short framed walls constructed between the foundation and the floor system and are commonly found on older buildings and structures built on sloped lots. This type of construction is more susceptible to lateral movement in an earthquake than a building in which the floor system is directly supported by the foundation. The sheathing and bolts are both intended to provide resistance to earthquake movement. However, this sheathing is not continuous throughout the foundation. As structural engineering is beyond the scope of this inspection; the adequacy of this sheathing and whether or not it conforms to the specifications of an engineered "shear wall panel" could not be determined. Specific engineering information can be obtained from a licensed structural engineer. More general information can be obtained on the following websites.
www.seismic.ca.gov/pub/CSSC_2005_HOGreduced.pdf
http://www.strongtie.com/
http://www.strongtie.com/ftp/fliers/F-SEISRETRGD12R.pdf

Grade & Drainage:

Soil was damp at time of inspection. Moisture penetration into the crawlspace is common under buildings in this area and is not normally of concern as long as ventilation is adequate. Periodic inspection of crawlspace for excess moisture is advised.

Other Observations:

Animal trails and feces/droppings were found. Vermin/animals will damage wiring, ducting and piping by gnawing on the materials, gain access to wall cavities, foul these areas with feces and may pose a health risk. As inspections for wood-destroying organisms are covered by a "branch 3" license through the Structural Pest Control Board, "termite" inspectors generally do not comment on the presence of rodents or other animals. I recommend consulting the current owner for information regarding any past infestations and corrections. As the above noted conditions may represent an active infestation, I recommend consulting with a California Structural Pest Control Board licensed "branch 2" pest control company for clean-up, control/eradication, or corrections, as needed.

Support System:

Floor System:

The floor support is provided by 2x12 wood joists with plywood sheathing.

Mid-Span Support:

Concrete foundation walls provide mid span support.

Ventilation & Insulation:

Insulation:

Fiberglass insulation is present. Insulation was briefly pulled back by the inspector beneath plumbing fixtures to inspect for active drain leaks. However, client is advised that this insulation restricts review of framing and sub floor sheathing and could conceal damage and/or other problems.

Ventilation:

Ventilation of the foundation crawlspace area is limited. A moisture/vapor retarder is present on the soil of the crawlspace. Vapor/moisture retarders typically consist of plastic sheeting loosely placed directly on the soil and are intended to help the present ventilation to operate more efficiently by trapping much of the moisture in the soil. I recommend regular inspections of the crawlspace by a licensed "branch 3" wood destroying pest inspection company to ensure that the moisture/vapor retarder is serving its purpose.

The plastic has been wrapped around the base of posts. This will direct moisture to the wood, which can lead to decay/damage of the wood post. I recommend sealing the plastic to the concrete pier.

Heating System

The heater is operated and visually reviewed. As the furnace is not dismantled as a part of the inspection, examination of the heat exchanger is limited to those areas that are readily visible, and condition of other inaccessible items/components cannot be evaluated. Thermostats are tested for basic operation only and accuracy or timer operation is not verified. Determining the proper sizing of heating units and ducting is beyond the scope of this inspection. Adequacy, efficiency or the even distribution of air throughout a building cannot be addressed as a part of a home inspection, however a subjective evaluation is made. I suggest consulting with the seller for information regarding past maintenance as well as any known or noticed deficiencies in the heating system. It would be best to have a licensed contractor address any recommendations for corrective work prior to the end of the inspection contingency period. Any corrective work, whether discovered during this inspection or discovered or created while performing repairs, should be completed, documented and certified by a licensed and qualified contractor.

Furnace/Heater:

Type:

Brand: Bryant.

Gas-fired forced air furnace. Input: 80,000 BTU per hour.

Location:

Foundation crawlspace area.

Condition:

Gas shutoff valve and electric disconnect present.

This appliance was operated at time of inspection. Regular maintenance is recommended to ensure continued operation.

Gas Venting:

Intact.

Filters:

Filter is located at the return air grill.

I recommend replacement of filters or cleaning (if reusable filters are present) every three months or as recommended by the furnace manufacturer. Please refer to the manufacturer's operation instructions for specific information.

Thermostat:

Setback type thermostat present. Basic functions were operable. Accuracy, calibration and/or timer functions of the thermostat were not verified.

Distribution:

Where visible, the distribution method consists of flexible plastic sheathed ducting.

A nonstandard duct connection was observed. One duct was directly connected to another without the use of a wye fitting. This intersecting duct will have limited airflow. I recommend review by a licensed and qualified heating contractor and corrections, as needed.

Furnace/Heater:

Type:

Brand: Trane.

Gas-fired forced air furnace.

Location:

Foundation crawlspace area.

Condition:

Gas shutoff valve and electric disconnect present.

This appliance was operated at time of inspection. Regular maintenance is recommended to ensure continued operation.

Gas Venting:
I was unable to view the sections of the gas vent pipe that are enclosed within finished walls.

Filters:
Filter is located at the return air grill.

I recommend replacement of filters or cleaning (if reusable filters are present) every three months or as recommended by the furnace manufacturer. Please refer to the manufacturer's operation instructions for specific information.

Thermostat:
Operable. Accuracy and/or calibration of the thermostat were not verified.

Distribution:
Where visible, the distribution method consists of flexible plastic sheathed ducting.

Wall Heater:
Type:
Cozy.

Gas-fired wall heater.

Location:
Cottage

Condition:
Gas shutoff valve present.

The heater did not function. The current owner reported that this heater does not function and heat for this living space is provided by the gas-fired fireplace. I recommend review by a licensed and qualified heating contractor and corrections, as needed.

Gas Venting:

This is a direct venting gas fired appliance. The vent should be monitored for signs of black/soot that would indicate the need for service/adjustment. The metal vent and adjacent parts can become very hot. Ideally, a protective cage would be installed over the vent to prevent burns.

Air Conditioning:

Make:

Brand: Carrier.

Condenser is located at the left side of the house.

Electric disconnect present within sight of unit.

As most manufacturers warn against operating the air conditioner when the weather is cool, this unit was only briefly operated to check operation of the fan and compressor, both of which functioned. An evaluation of cooling capacity could not be made. More information would require consulting with a licensed heating contractor who can perform a pressure test and verify temperature differentials.

Plumbing System

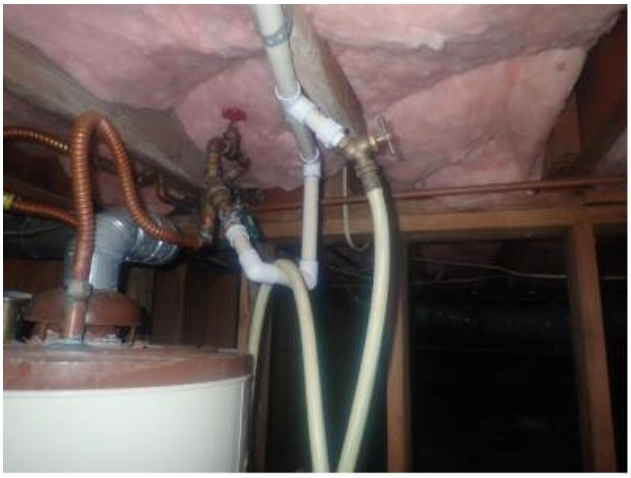
All underground piping related to water supply, gas supply, drain/waste, or sprinkler uses are excluded from this inspection. Evaluation of the water meter is not included and inspection of the plumbing system begins at the building. Evaluation of water flow from faucets is subjective and judged by operating fixtures and visual observations of flow. Plumbing fixtures are operated, however minor items such as a dripping faucet may not be noted as these are considered routine maintenance. Main and branch shutoff valves are not operated as this can result in leaking around the valve stems. Periodic operation of shutoff valves at the main and individual plumbing fixtures is advised to ensure proper operation. Quarter-turn ball valves tend to be less problematic than gate and globe valves. Plumbing fixtures were not evaluated for current California water-savings compliance requirements; however, I do suggest upgrading any non-compliant fixtures to meet current standards. Unless otherwise noted, I run hot and cold water at sinks, showers and tubs to check drainage flow; however, the condition of the interior and buried sections of the water supply and sewer/drain pipes cannot be evaluated. If the home was constructed prior to circa 1970, buried clay, Transite, or Orangeburg sewer drain piping may be present between the house and city sewer piping. Having a licensed plumbing contractor conduct a video "sewer lateral" inspection is the only way to discover damage or any failure in this portion of the system. It would be best to have a licensed plumbing contractor address any recommendations for corrective work prior to the end of the inspection contingency period. Any corrective work, whether discovered during this inspection or discovered or created while performing repairs, should be completed, documented and certified by a licensed and qualified plumbing contractor.

Supply:

Main Shutoff:

Water is likely 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. I recommend review of this system by a qualified well specialist.

Materials:




Where visible, distribution piping is copper and PVC.

PVC piping has been used in the foundation crawlspace area. PVC (polyvinyl chloride) piping is not approved for use as distribution piping. While this piping appears to be for the exterior irrigation and not for interior domestic use, PVC should not be used within the building envelope as it has a greater tendency to break/fail which can lead to significant amounts of water in the foundation crawlspace area. My recommendation is to replace this piping with a material that is approved for distribution piping.

A copper pipe terminates in the foundation crawlspace under the approximate area of the laundry. I was unable to determine the function/purpose for this pipe.

Drain:

Material:

Where visible, drain lines consist of cast iron piping.

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 sewage 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 a propane tank. The tank is located at the right side. Evaluation of fuel tanks is beyond the scope of this inspection. Location, placement, sizing and maintenance is the responsibility of the propane supply company. The supplier should be consulted for information regarding the condition of this tank as well as verification of proper sizing. LP gas is odorized with an odor that is distinct and different from natural gas. As the fuel becomes low in the tank, this odor can become more noticeable. If you notice a gas odor, I recommend consulting with the gas supplier for review and any needed corrections.

Any gas fired appliances installed or used should be approved for use with propane gas.

Some of the gas supply piping is a corrugated stainless steel tubing (CSST). Current standards for this type of gas tubing requires bonding of the gas tubing/piping to the grounding electrode system. I recommend consulting with a licensed electrical contractor to ensure the metal piping of this home is properly bonded. The following statement is now required by California Business & Professions Code §7196.2. "Manufacturers of yellow corrugated stainless steel tubing believe that yellow corrugated stainless steel tubing is safer if properly bonded and grounded as required by the manufacturers installation instructions. Proper bonding and grounding of this product can only be determined by a licensed electrical contractor." No bonding conductors/clamps were observed. I recommend consulting with a licensed electrical contractor to bond the metal piping of this home. Please refer to the electrical section of this report for related information.

No sediment trap found adjacent to the gas-fired appliances. Often confused with "drip legs" (used when the gas has a high moisture content), sediment traps are typically required to be installed immediately adjacent to specific gas-fired appliances (generally furnaces and water heaters), and are intended to prevent debris within the pipe from entering and obstructing the orifice or control valve of the appliance. I recommend review of the installation instructions for each gas fired appliance and installation of sediment traps, as needed.

Water Heater:

Type:

Brand: A.O.Smith.

50 gallon gas-fired water heater.

Location:

Laundry area.

No drain pan present under this appliance. If a leak were to develop, the water would flood the floor in this area. A properly sized pan should be installed with an adequately sized drain pipe that discharges at the exterior of the building, preferably to a location that is readily visible so that any leaking will be easily noticed.

Gas Venting:

Intact.

Safety Valve:

Oxidation observed at the temperature pressure relief valve. This indicates a leak at the valve. I recommend review by a licensed and qualified plumbing contractor and corrections, as needed.

Seismic Bracing:

Seismic/earthquake bracing for the water heater is inadequate. While two straps are present, they do not appear to have been installed as specified and may not perform as intended. The intent of seismic bracing is to restrict the water heater from falling over in the event of an earthquake. The distance from the tank to the wall is greater than 1 inch, which will allow the tank to move laterally during an earthquake. Most manufacturers' instructions require this space be filled with a bracket or a framework installed to limit movement. Complete instructions can be obtained from the manufacturer of the kit. These should be reviewed and corrections made, as needed. More information can be obtained from the Division of the State Architect or from the pamphlet titled The Homeowners' Guide to Earthquake Safety. www.seismic.ca.gov/pub/CSSC_2005_HOGreduced.pdf

Condition:

Gas and cold water shutoff valves present.

Manufacture year, according to the data plate is 2001. Typical tank life is 10-15 years.

While remaining life cannot be positively determined, this is an older water heater and likely beyond its expected life. 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:

Brand: A.O.Smith.

40 gallon gas-fired water heater.

Location:

Foundation crawlspace area.

The "smitty" pan drain pipe does not slope properly. This should slope to the exerior to provide a path for any propane gas that might leak from the water heater burner or gas line. Corrections are advised.

Gas Venting:

Mineral deposits were found adjacent to connections on the gas vent pipe. This indicates moisture has condensed on the interior of the gas vent pipe and may be due to the single-walled gas vent pipe or possibly improper venting of combustion gases. As this can result in corrosion/damage of the gas vent pipe and unsafe operation of the water heater, this system should be reviewed and corrections made by a licensed plumbing contractor.

Safety Valve:

A temperature/pressure (T/P) relief valve with a discharge line is present. The T/P valve is a safety device that will release water from the tank should the pressure or temperature raise to a level that is too high. High temperature can cause scalding/injury and high pressure can result in rupture/explosion of the tank or plumbing. The valve was not tested at time of inspection as it is designed as a safety valve only and may leak after testing. I recommend review of the manufacturer's operation instructions.

Seismic Bracing:

Seismic/earthquake bracing for the water heater is inadequate. While two straps are present, they do not appear to have been installed as specified and may not perform as intended. The distance from the tank to the wall is greater than 1 inch, which will allow the tank to move laterally during an earthquake. Most manufacturers' instructions require this space be filled with a bracket or a framework installed to limit movement. Complete instructions can be obtained from the manufacturer of the kit. These should be reviewed and corrections made, as needed. More information can be obtained from the Division of the State Architect or from the pamphlet titled The Homeowners' Guide to Earthquake Safety. www.seismic.ca.gov/pub/CSSC_2005_HOGreduced.pdf

Condition:
Gas and cold water shutoff valves present.

Water heater operated at time of inspection.

Water Heater:

Type:
Unable to determine the make, capacity, and age due to the insulation blanket present.

Location:
Garage.

<u>Water heater is resting directly on the garage floor.</u> Typically, a water heater is required to be a minimum of 18 inches above the garage floor. This is intended to raise the flame to prevent ignition of any gas fumes which can collect in the garage. This indicates that this water heater was not installed by a licensed plumbing contractor. This water heater should be raised to conform to current safety requirements.

Gas Venting:
Intact.

Safety Valve:
A temperature/pressure (T/P) relief valve with a discharge line is present. The T/P valve is a safety device that will release water from the tank should the pressure or temperature raise to a level that is too high. High temperature can cause scalding/injury and high pressure can result in rupture/explosion of the tank or plumbing. The valve was not tested at time of inspection as it is designed as a safety valve only and may leak after testing. I recommend review of the manufacturer's operation instructions.

Seismic Bracing:
Earthquake straps are present. I recommend review of the state pamphlet titled The Homeowners' Guide to Earthquake Safety. http://ssc.ca.gov/

Condition:
Gas and cold water shutoff valves present.

The gas was off at time of inspection. I was unable to operate the water heater. A visual inspection of this appliance was made and no adverse conditions were noted. The water heater and the plumbing fixtures should be operated once the gas supply has been restored to ensure proper operation of the water heater as well as correct hot/cold orientation at faucets. The gas supplier should be contacted to check for gas leaks, relight the pilot, verify proper operation of the burner.

Bathroom Fixtures:

Supply & Drain:

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

Toilet:

The half bathroom toilet bowl 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 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.

Tub:

The detached cottage tub faucet does not operate. This is often caused by an aged cartridge or valve stem assembly and can usually be corrected by replacement. While replacement is generally straightforward, I recommend corrections be made by a licensed plumbing contractor.

Laundry:

Location:

No drip pan present. A leak at a clothes washer could result in damage to the floor. I suggest installation of a drip pan under the laundry appliances with a drain pipe that discharges to the exterior.

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.

Dryer Hookup:

Both gas and 240 volt electric are available.

I recommend cleaning the dryer exhaust duct. Lint is flammable and an excessive build-up of lint can result in fire. This should be cleaned annually.

The gas valve should be capped when the current dryer is removed. The current dryer is using the gas supply; however, if this appliance does not remain with the property, the gas valve should be capped to help prevent a gas leak.

Unable to test the 240 volt receptacle as the dryer blocked access. Proper operation should be verified once the dryer has been removed.

Electrical System

The noninvasive Inspection of the electrical system is a combination of a visual evaluation of accessible panels, wiring, receptacle outlets, switches, and basic operation of accessible switches, light fixtures and receptacle outlets. Condition of inaccessible, concealed, and buried items cannot be evaluated. It would be best to have a licensed electrical contractor fully investigate any listed recommendations for corrective work prior to the end of the inspection contingency period. Any corrective work, whether discovered during this inspection or discovered or created while corrective work is performed, should be completed, documented and certified by a licensed and qualified electrical contractor.

Electrical Service:

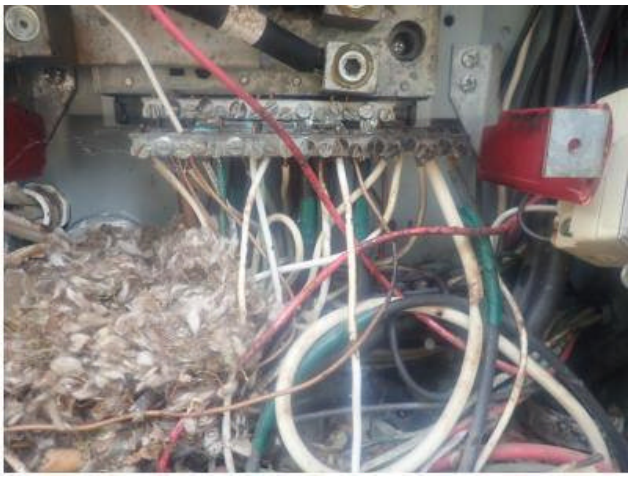
Type:

Service wires are overhead to the pole near the driveway and underground from the pole to the garage, and from the garage to the house.

Service is 200 amperes, 240 volts.

Electrical Service Equipment:

General:

Service equipment is located at the right side of the garage.

Knockouts are missing at the dead-front as well as the panel enclosure wall. The openings in the dead-front present a potential safety hazard as they provide access to the energized electrical wiring and buss bars of the panel. The interior openings has allowed small animals access to the interior of the panel. This is typically corrected by inserting snap-in covers; tape is not an acceptable substitute. Corrections are advised.

Debris is present in the interior of this panel. It looks as though rodents have nested in the interior. I recommend cleaning/servicing this panel. Any corrective work should be performed by a licensed electrical contractor.

Over Current Protection:

Over current protection is provided by circuit breakers.

Panel make: Crouse-Hinds.

Service disconnect (main) is present.

Some of the circuit breakers are a different brand from the panel. While this is a "universal" panel and circuit breakers from several different manufacturers will fit, only specific brands/types of circuit breakers are approved by the manufacturer to be used in their panels. Manufacturers test panels under controlled conditions and with specific circuit breakers. When circuit breakers are used that are not manufactured by the same company as the panel, compatibility must be verified from the manufacturer. As I do not have lists of approved circuit breakers for all manufacturers, I am unable to verify if these breakers are approved for use in this brand of panel. I suggest verification of breaker/panel compatibility by a licensed electrical contractor concurrently with other work noted in this report.

Conductors:

Multiple wires are connected to a single lug on the neutral terminal bar where only one wire should be connected. This can prevent the wires from having positive contact with the connector which could lead to arcing or other problems with the electrical system and is normally corrected by moving wires so that only one neutral (white) wire is attached at each terminal connection. While this is a straightforward correction, any modification of the electrical system should be done by a licensed electrical contractor.

A white wire has been connected to a circuit breaker. Current construction standards generally reserve white for the "neutral" conductor. When a white wire is used for a 240 volt circuit, the wire is typically wrapped with another color, such as black, to properly identify it as a voltage carrying conductor.

Exterior Panel:

General:

Located at the right side of the house.

I was unable to determine what this panel serves. Most of the circuit breakers have been disconnected from the outgoing wiring.

Over Current Protection:

Over current protection is provided by circuit breakers.

A single-pole, 30 ampere circuit breaker is present in this panel. While not necessarily improper, a 120 volt, 30 amp circuit is unusual in residential construction. I was unable to determine what this circuit serves. I suggest consulting with the current owner for more information. If no documentation or further review is desired, a licensed electrical contractor should be consulted.

Pool Panel:

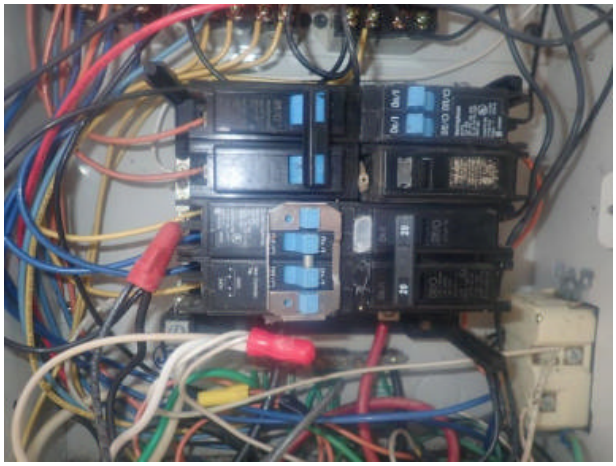
General:

Located adjacent to the pool equipment.

Over Current Protection:

Over current protection is provided by circuit breakers.

<u>Not all of the pool circuits are GFCI protected.</u> Current construction standards require all electrical for new pools and related equipment to be GFCI protected. While this may not be required by the local building department, having a licensed electrical contractor upgrade any needed electrical with GFCI protection is advised to help increase safety.



Conductors:

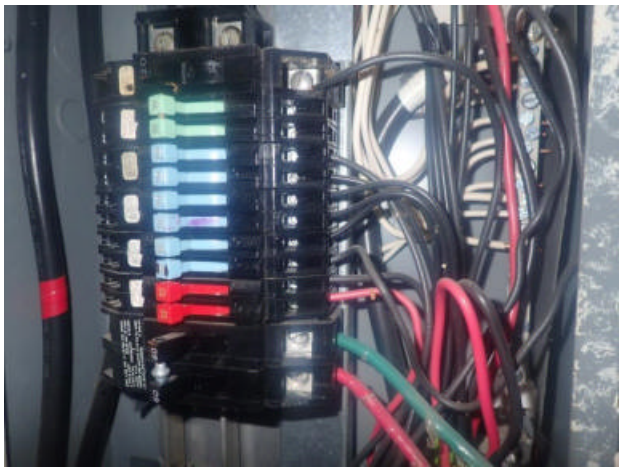
A conduit is separated from an elbow. The insulated conductors are exposed and subject to damage. Corrections/repairs should be made by a licensed electrical contractor.

Interior Panel A:

General:

Located at the laundry area.

Over Current Protection:



Over current protection is provided by circuit breakers.

Panel make: Sylvania.

Conditions have been reported with this brand of electrical panel (Zinsco/Sylvania) that include arcing at the circuit breaker/buss bar connections. This condition is largely due to the method of attachment between the circuit breakers and the buss bars. As a result of this design, this panel is more likely to fail than a modern panel. To the best of my knowledge, there is no governmental or officially recognized agency currently tracking failures from these circuit breakers or panels and any information that I have been able to find regarding failures is anecdotal. This brand of panel was very commonly used in structures built between the early 1960s through the late 1980s. Consequently, I find this brand of panel in the vast majority of buildings constructed during that time period. Some electrical contractors are reluctant to perform work on these panels, typically citing liability concerns regarding failure. 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 of the breaker/buss bar connection can only be made by having an electrician remove the circuit breakers in order to inspect the buss bars. However, removing and replacing circuit breakers to examine the buss bar could loosen a connection that had acceptable contact before it was disturbed. As a result, the most prudent course would be to replace this existing panel with a new panel equipped with modern circuit breakers. A licensed electrical contractor can provide more information, costs and any upgrades.

Interior Panel B:

General:

Located at the laundry area.

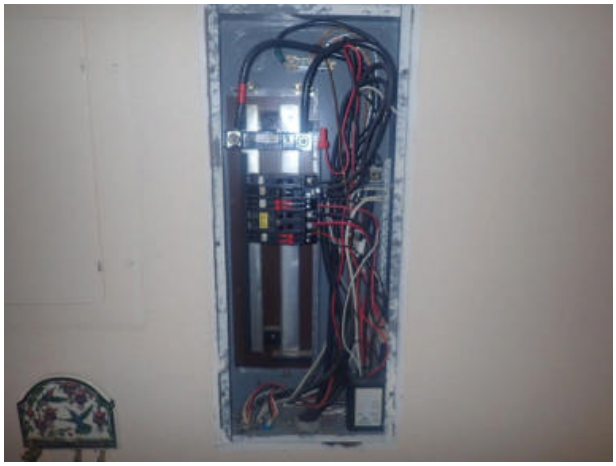
Knockouts are missing at the panel enclosure wall. This is typically corrected by inserting covers specifically designed to close these openings.

Over Current Protection:

Over current protection is provided by circuit breakers.

Panel make: Sylvania.

Circuit breaker panel is the same brand as the service equipment panel. Please refer to the previous panel notes for related information.

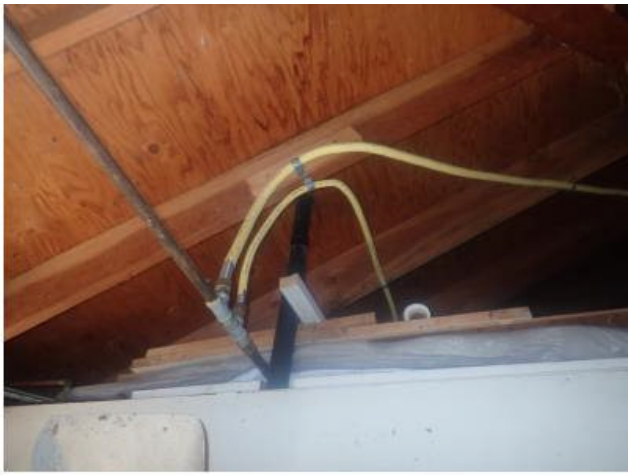


General Wiring:

Conductor Type:

Branch circuit conductors are copper. Stranded conductors to 240 volt circuits are aluminum. This material is acceptable for this use.

Grounding & Bonding:

Grounding system has likely been provided by a concrete encased electrode or "ufer" ground. A "ufer" utilizes the foundation system for grounding and is not visible. Grounding is checked at receptacle outlets and visually at the panel.

The bonding clamp adjacent to the water heater is loose. Clamps should be properly secured or replaced, as needed, to ensure proper bonding of the metal pipe.

No "bonding" jumper found on the water heater supply piping or the gas supply piping. Metal piping is currently required to be connected (bonded) to the electrical grounding system. This may not have been required at time of construction. Should the metal piping become energized (through a short-circuit or other means), the bonding circuit is intended to conduct the electrical current to ground. Normally, a bonding jumper is provided between the inlet and outlet water supply pipes at the water heater, at any dielectric plumbing fittings as well as on a rigid section of the gas supply line to ensure that all of the metal supply piping is properly bonded. While this does not necessarily indicate that the plumbing system is unsafe, bonding of the hot water piping or the gas supply piping could not be verified and installation of bonding jumpers is advised.

Corrugated stainless steel tubing (CSST) is present in this home. Current standards for this type of gas tubing require bonding of the CSST to the grounding electrode system of the electrical system. The following statement is now required by California Business & Professions Code §7196.2. "Manufacturers of yellow corrugated stainless steel tubing believe that yellow corrugated stainless steel tubing is safer if properly bonded and grounded as required by the manufacturers installation instructions. Proper bonding and grounding of this product can only be determined by a licensed electrical contractor." More information is available at
http://csstsafety.com/CSST-FAQs.html
http://csstsafety.com/CSST-solution.html

No bonding found for the CSST gas piping system. I recommend consulting with a licensed electrical contractor to bond the metal piping of this home, with particular attention paid to the gas (CSST) piping.

GFCI Protection:

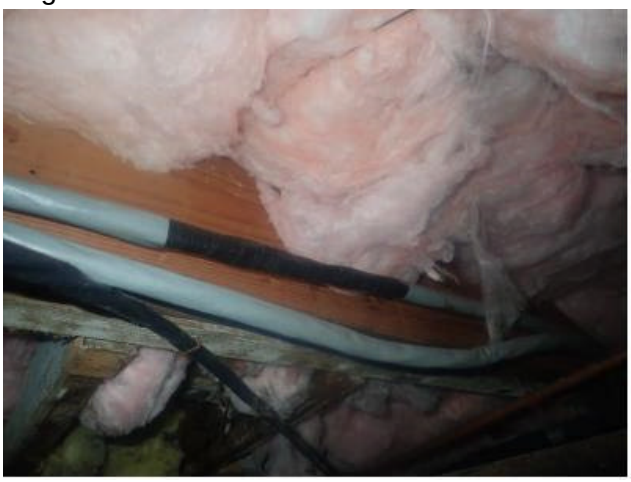
This building does not have GFCI (ground fault circuit interrupter) devices installed at the kitchen, garage, laundry, or exterior 120 volt receptacle outlets. GFCI devices will interrupt (turn off) power to specific protected receptacle outlets if an imbalance occurs. These devices increase the safety of the electrical system when properly installed and installation should be considered as a safety 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.

AFCI Protection:

No arc-fault circuit interrupters (AFCI) present. This electrical system predates the requirement for AFCI protection. If client is interested in upgrading the electrical circuits, a licensed electrical contractor should review the system to determine if AFCI installation is practical and installation of upgrades, as needed.

Foundation Area

Wiring:




An section of electrical cable under the approximate area of the bathroom has been wrapped with electrical tape. I suspect the cable has been damaged by animals and the cable taped as a temporary patch. If the cable is damaged, this should not be relied upon as a permanent repair. I recommend review by a licensed and qualified electrical contractor and corrections, as needed.

A separated conduit was found. The connection has been wrapped with electrical tape. Corrections/repairs should be made by a licensed electrical contractor.

Electrical Fixtures:

Exterior Fixtures:


Unprotected nonmetallic sheathed cable (romex) present at the exterior of the cottage/garage. Electrical cable is subject to physical damage and is typically installed in attics and inside wall cavities. In addition, this type of cable is not approved for use in damp locations and does not have the UV protection necessary for exterior installation. Corrections should be made by a licensed electrical contractor.

GFCI receptacle outlet at the right side of the house did not interrupt power when tested. This is commonly due to an improperly installed or defective device. This safety device is not functioning as intended and will not provide the intended protection. Replacement or corrections should be made by a licensed electrical contractor to allow proper operation of the GFCI device.

Kitchen Fixtures:

Open/uncovered junction box present under the dishwasher and the electrical splices are exposed. I recommend that any debris be cleaned out of the interior of the box, wire connections checked to ensure a good/tight connection and cover plates installed to enclose electrical splices. If larger boxes are needed, these should be installed concurrently. Any electrical work should be performed by a licensed electrical contractor.

Receptacle outlets that serve the counter surfaces and appliances are not GFCI (ground fault circuit interrupter) protected. Installation of GFCI (ground fault circuit interrupter) devices at all receptacle outlets that serve the counter surfaces, disposal, and dishwasher is advised.

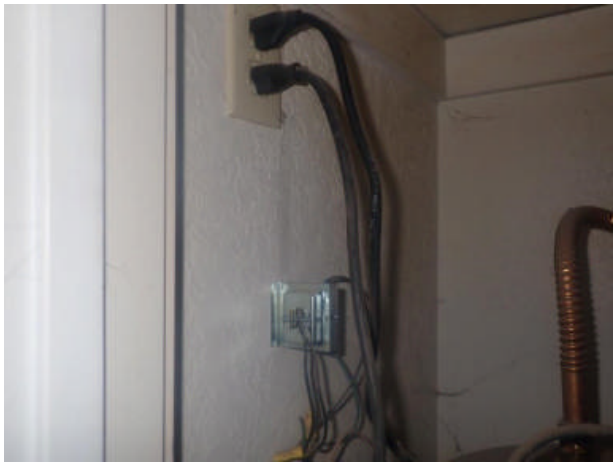
Bathroom Fixtures:

Individual conductors have been used at the steam generator in the master bathroom. In addition, the cover plate for the junction box is not properly installed. Typically, a manufactured nonmetallic sheathed cable is used for electrical wiring in residences. When individual conductors are used, they are enclosed in a conduit for protection. Corrections/repairs should be made by a licensed electrical contractor.

Receptacle outlets are GFCI protected.

Interior Fixtures:

Unprotected electrical splices present adjacent to the laundry area water heater. Electrical splices should be enclosed in a covered junction box to help prevent separation of the splices. Corrections should be made by a licensed electrical contractor.



Fireplace

The fireplace inspection is limited to readily accessible components of the fireplace and chimney only. As a home inspection does not include an inspection of the inaccessible portions, particularly the interior of the chimney, now would be a good time to have the chimey and fireplace cleaned and a thorough evaluation of the fireplace system to determine if any upgrades or corrections are needed.

Living Room Fireplace:

Type:


Manufactured, "zero clearance" fireplace unit.

A visual review was conducted of the readily accessible areas; however, portions (particularly sections of the chimney) are not fully accessible. If this fireplace has not been cleaned and inspected within the last year, I recommend cleaning and a more complete inspection conforming to NFPA 211 (14.4) "Level II" (or comparable) by a qualified chimney sweep or fireplace specialist. The period of time around transfer of ownership is an excellent chance to have this done. I also advise annual cleaning and inspection to allow continued safe operation.

Fireplaces are a common source of burns, particularly with children. The areas in front of the fireplace, in particular, can become very hot when in use and remain hot for extended periods of time afterwards. Caution is advised and efforts should be taken to maintain a safe distance from a fireplace that is in use or has recently been used. For more information, please review information at the following website: https://www.cpsc.gov/newsroom/news-releases/1975/cpsc-issues-fireplace-safety-tips

This fireplace has two opening sides. This type of fireplace has been know to have drafting problems. Verification of proper drafting is beyond the scope of this inspection.

Soot/creosote build up observed. Routine cleaning by a qualified chimney sweep is recommended to ensure safe and efficient operation.

No throat damper present. If I recommend replacement of the damper or corrections, as needed.

Den Fireplace:

Type:

Manufactured, "zero clearance" fireplace unit.

Fireplaces are a common source of burns, particularly with children. Please refer to the living room fireplace notes for related information.

A flexible gas line has been run to the front of the firebox and is providing gas to the burner. I am concerned that this is not a proper installation. I could not find the gas shutoff valve. Flexible gas connectors are allowed for use between the gas shutoff valve and the appliance, as long as both the valve and appliance are in the same room. In addition, the sharp metal edges of the hole could damage the thin metal of the connector. I recommend review by a licensed and qualified plumbing contractor or gas fireplace technician and corrections, if needed.

Kitchen Fireplace:

Type:

This is a gas-fired fireplace. The control switch is installed upside-down. Flame control is automatic and operated at time of inspection.

Glass at the front of the fireplace is discolored. This occurs as a byproduct of the gas combustion. Usually, this can be cleaned off with a vinegar/water solution or glass cleaner (the glass will need to be removed in order to access the interior surface). However, occasionally, this film can become etched into the surface of the glass. This should be cleaned on an annual basis or as recommended by the manufacturer.

Fireplaces are a common source of burns, particularly with children. Please refer to the living room fireplace notes for related information.

Master Bedroom Fireplace:

Type:

Manufactured, "zero clearance" fireplace unit.

I could not get the fireplace burner to ignite. In addition, something in the fireplace was beeping during this inspection. If battery replacement does not allow this to function, I recommend review by a qualified gas fireplace technician and corrections, as needed.

Kitchen

The kitchen review is a combination of a visual inspection and basic functional operation of built-in appliances, and plumbing fixtures. To ensure safety, you should review the operation instructions for each appliance prior to use. Many modern appliance manufacturers now have installation instructions available online. Stand alone refrigerators/freezers, if present, are typically considered personal property and are outside the scope of the inspection; and, in any case, 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. Some household appliances have been recalled for defects over the years. I do not verify recalls and recommend that you visit the Consumer Products Safety Commission Website and perform a search for the model numbers of the appliances in this home. http://www.cpsc.gov/

Fixtures:

Counter & Cabinets:

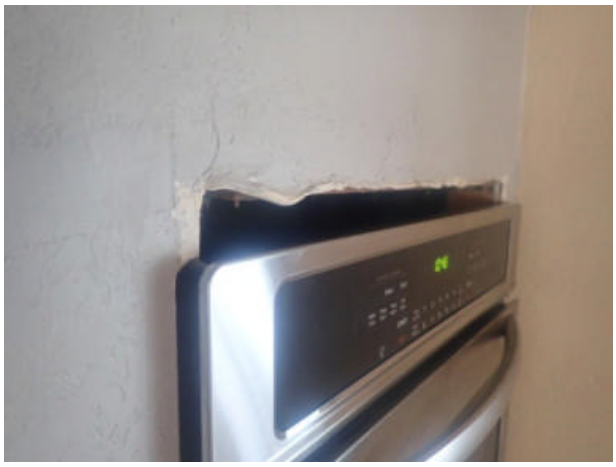
Counter surface appears to be stone.

Floor:

Floor covering is tile.

Walls & Ceilings:

The opening in the wall at the oven is rough and oversized. I recommend corrections.



Windows:

This window is unusual. The deep frame indicates to me that the glazing was originally double-pane, but currently the glazing is single-pane. if more information or corrections are desired, a licensed glazing contractor should be consulted.

Doors:

Serviceable.

Plumbing:

Sink:


Two sinks present.

Stainless steel bowls.

Supply & Drain:

No airgap present on the dishwasher drain line. Installation of an airgap is advised.

Disposal:

Make: In Sink Erator.

Appliances:

Ventilation:

Down draft type fan.

Range:

Brand: Thermador, gas cook top.

Oven:

Brand: Frigidaire, electric wall oven.

Basic functions of this appliance were operated.

Dishwasher:

Brand: Kitchen-Aid.

Bathrooms

Bathrooms are visually inspected for signs of moisture and leaking. Plumbing fixtures are operated to check for water flow. Minor items such as a dripping faucet are not always noted as they are considered a part of routine maintenance.

Master Bathroom:

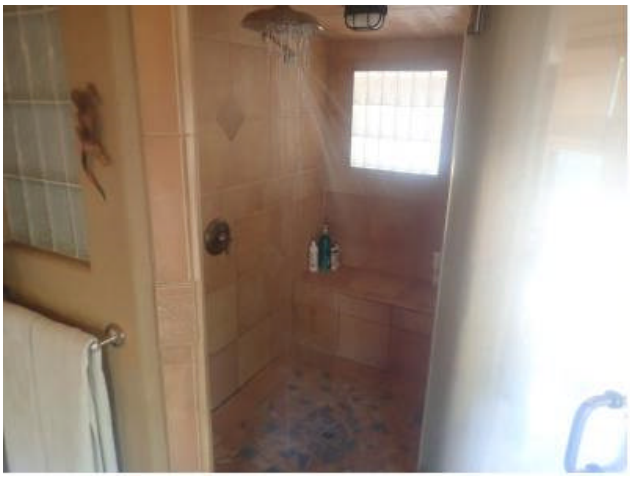
Sink:

Two sinks present.

Toilet:

Serviceable.

Shower & Surround:



Tile surround walls and pan.

Labels in the corner of the shower enclosure doors identify the presence of safety glass.

Stains were observed under the shower adjacent to the steam generator. A pipe extends through the shower wall to the steam generator area. I do not know the reason for this pipe, other than to possibly cause leak problems. I do not know if this pipe can be effectively plugged/capped. I recommend review by a licensed tile contractor for corrections.

Ventilation:

No mechanical ventilation provided. As a window is present, a ventilation/exhaust fan may not have originally been required. However, many people will not open a window when showering if the weather is cold, which can contribute to excess moisture/humidity in the bathroom. I suggest installation of an exhaust fan to discharge humid air to the exterior.

Counter & Cabinets:
Serviceable.

Floor:
Floor covering is tile.

The floor is sloped/uneven. Please refer to the Interior/Floors comments later in this report for related information.

Walls & Ceiling:
Serviceable.

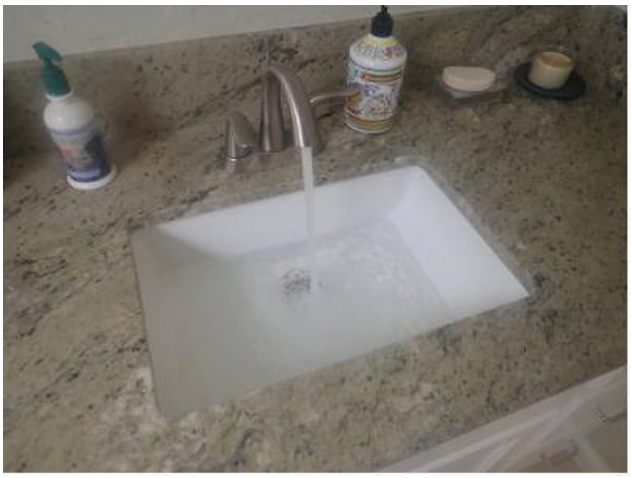
Doors:
Serviceable.

Windows:
Serviceable.

Other Comments:
A steam system is a part of the shower. This unit was briefly operated at time of inspection; however a prolonged test was not performed.

Upstairs Hall Bathroom:

Sink:




Two sinks present.

Supply & Drain:

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

Toilet:

The toilet rocks somewhat. This is typically due to an uneven floor surface. Caulking around the base of the toilet can help to support the base and help to prevent movement and possible leaking.

Tub & Surround:

Tile surround walls

Tile has likely been installed directly over wall board or a moisture resistant material. While this cannot be determined with absolute certainty, the flush installation details, such as use of "bullnose" tile instead of "quarter round" tile indicates that this is not a "mortar bed" installation. In a traditional mortar bed installation, felt (tar) paper is installed under the mortar to act as a secondary layer to seal moisture away from the walls. The substrate material may not be waterproof, which would mean the current installation in this surround likely relies entirely on the tile and grout to seal water away from the walls. Although no evidence of damage was found at time of inspection, review is limited due to the presence of the tile. Surround should be periodically checked for loose tiles and cracked grout, which can allow moisture to gain entry to the interior surfaces of the walls. Any loose tiles should be resecured and cracked or missing grout should be reapplied or caulked. This is necessary as a part of regular maintenance.

Labels in the corner of the tub enclosure doors identify the presence of safety glass.

Single lever faucet.

Ventilation:

Unit is unplugged. Fan was briefly plugged in to test for operation and then unplugged. Suggest plugging in and using to prevent excess moisture from collecting in this area.

Counter & Cabinets:

Serviceable.

Floor:
Floor covering is tile.

Walls & Ceiling:
Serviceable.

Doors:
Serviceable.

Windows:
Serviceable.

Skylights:
Serviceable.

Half Bathroom:

Sink:
Serviceable.

Toilet:
The toilet bowl 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 remedy this condition. The closet flange should be inspected for damage and to ensure it is 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.

Ventilation:
Unit is unplugged. Fan was briefly plugged in to test for operation and then unplugged. Suggest plugging in and using to prevent excess moisture from collecting in this area.

Counter & Cabinets:
Serviceable.

Floor:
Floor covering is tile.

Walls & Ceiling:
Serviceable.

Doors:
No privacy lock present.

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:

Interior floors are sloped/uneven at various areas. Noticeably sloped floors were found in the master bedroom, left/front bedroom, upstairs hallway, and downstairs sitting area. Sloped floors were observed at other areas as well. The current owner indicated that this was a result of inadequate foundation support that has been corrected. I recommend review of the engineering documentation for specific information.

Walls:

Cracks were observed in the wall surfaces. Cracking in walls and ceilings may be related to the sloped floors described above.

Ceilings:

"Vaulted" ceilings are present. Review of attic areas above this type of ceiling are limited due to the type of construction. Verification of proper construction or ventilation is impractical without destructive testing.

Windows:

Indications of "failed seals" were observed between the glass panes. This discoloration was rather faint and was difficult to see. Please refer to the window notes at the exterior section of this report for more information.

Skylights:

Serviceable.

Exterior Doors:

The left/front bedroom door is misaligned. I was unable to determine if this is related to the uneven interior floors and their related support issues or if this is related to damage at the adjacent exterior balcony. I recommend review by a licensed general or carpentry contractor concurrently with corrections described in the balcony notes earlier in this report.

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

Interior Doors:

Serviceable.

Stairs:

<u>Steps do not have a proper handrail.</u> Typically, when more than three risers are present, a stairway should have a guardrail with a continuous handrail that can be easily gripped; however, I am of the opinion that even a single step should be provided with a handrail as many people need some assistance to negotiate a stairway. Handrails should have a minimum clearance from the wall or guardrail of no less than 1½ inches, should not project into the stairway more than 4½ inches, should be between 34 and 38 inches above the nosing and the ends of the handrail should "return" back to the wall or newel post to help prevent catching/hooking loose clothing or belongings on the projecting end. The diameter of a circular handrail should be between 1¼ and 2 inches. Handrails are intended to help prevent an individual from falling when ascending or descending a stairway.

<u>Spacing between railing members is greater than currently allowed.</u> This was likely acceptable at time of construction and is not required to be corrected, however it could allow small children to fall through the openings or become stuck. Current construction standards require that guard rails should not allow a 4 inch diameter sphere to pass through. My primary recommendation is to upgrade or replace this railing. At a minimum, client is advised to take precautions, as needed.

Ladder:

The ladder to the loft is steep and does not have a guardrail. This ladder is difficult and potentially hazardous to ascend/decscend. Caution is advised.

Alarms:

Smoke Alarm:

Located at the bedrooms and hallway. Smoke alarms should be tested on a monthly basis to ensure proper operation. The National Fire Protection Association advises that all smoke alarms be replaced every 10 years. Replacing smoke alarms when the home changes ownership helps to ensure that the smoke alarms are current. The National Fire Protection Association and the Consumer Products Safety Commission recommend use of both ionization and photoelectric, or combination-type smoke alarms to protect against the widest range of fire types. More information regarding smoke alarms can be found at:
https://www.cpsc.gov/s3fs-public/559.pdf
https://www.usfa.fema.gov/prevention/outreach/smoke_alarms.html
https://www.nfpa.org/Public-Education/By-topic/Smoke-alarms
https://www.nfpa.org/Public-Education/By-topic/Smoke-alarms/Ionization-vs-photoelectric

Carbon Monoxide Alarm:

Located at the hallways. Manufacturers recommend that all carbon monoxide alarms be replaced every 10 years. Replacing CO alarms when the home changes ownership helps to ensure that the alarms are current.

Cottage Exterior

Lot:

Walkways:

Wood walkway is in direct contact with soil. In addition, the walkway is sloped/canted. Contact with soil will cause the wood to decay.

Grade & Drainage:

The floor level of the right side rooms is below exterior soil grade. No evidence of moisture penetration was observed at the interior of this room at time of inspection. I recommend consulting with the seller for information regarding this area and any indications of past water penetration, mold or mildew. If information indicates water penetration, I recommend review by a qualified drainage specialist or landscape contractor and corrections, as needed. Further review would require excavation of soil.

Slab Foundation:

Slabs are primarily viewed from the exterior perimeter. Interior floor coverings restrict review of the condition of the concrete slab. If the floor coverings are removed, it is likely that cracks will be found in the concrete. I recommend periodic sealing of cracks with epoxy or caulking. I was unable to visually verify if the structure is properly anchored to the slab foundation as the sill plates are enclosed within the finished walls. Further review would require opening walls to look for anchor bolts.

Wood Siding:

Lap Siding:

Voids/gaps were found at various areas. I recommend sealing all cracks/voids between siding and trim as well as at plumbing penetrations to prevent moisture intrusion to the interior surfaces of the wall. Old caulking should be removed prior to application of new material. The lower/underside seam of siding should not be caulked to allow any water that might get behind a path out. I also suggest the use of a flexible and paintable caulking that conforms to or exceeds ASTM C920 Grade NS, Class 25 (such as Sikaflex 1a or equivalent).

Manufactured Siding:

Vinyl Siding:

This siding appears to have been installed over the original siding. Please refer to the main house siding comments for related information.

Trim & Windows:

Trim:

Wood.

Trim is missing at the left/rear. Trim should be installed to help prevent water from gaining entry to areas behind the siding.

Windows:

Dual-glazing is present in the windows. No evidence of failed seals were found at time of inspection. As determination of failed seals can be difficult to see and identification can be affected by light conditions, weather, dirty glass, etc., I recommend that the current owner disclose any known discolored or "fogged" windows that may have occurred or become apparent at other times or under different conditions.

Cottage Roof

General:

Style:
Hip roof.

Roof Access:
Roof was viewed from the eaves as the material can be damaged if walked on. Review is limited to areas visible from a ladder.

Flashings:

Perimeter:
Perimeter flashing is corroding. This may actually be the gutter, but I was unable to positively determine due to the debris and construction design. Cleaning these gutters will be difficult.

Roof/Wall:
Intact, where visible.

Through Penetrations:
Intact, where visible.

Chimney:
Intact, where visible.

Tile Roof:

Type:
Terra cotta tile.

Tile roofs have several advantages and a few disadvantages when compared to the more common composition (asphalt) shingle roofs. The obvious advantages include life expectancy and fire resistance. The disadvantages include a need for periodic maintenance and the potential to break tiles. Tiles will occasionally slip down (particularly at changes in the roof plane) and/or crack for no apparent reason. Maintenance usually involves periodically checking for loose or cracked tiles and replacement or repairs, as needed. Debris can also dam water at valleys and roof/wall connections which can lead to roof leaks. Client is advised that this type of roof can be damaged by being walked on. Roof should be walked on only by trained personnel.

Condition:

Damaged/displaced tiles were observed at the left side of the roof. Damaged tiles should be replaced by a licensed roofing contractor to prevent leaks and subsequent moisture damage.

Roof Drainage:

Type:

Gutters are integral with the roof.

Debris is present in the gutters. Debris should be routinely cleaned from the gutters. Debris build up can cause overflows and damage to gutters.

Integral gutters will require periodic maintenance and cleaning. Gutters should be inspected annually and seams should be sealed with a good grade of caulk or mastic to prevent leaking to the eaves and causing moisture damage to the wood framing.

Cottage Fireplace

Fireplace:

Type:

Gas-fired fireplace. These units are designed for gas only and solid fuel should not be used.

Two flexible gas connectors have been connected in tandem. These gas connectors are only approved to be connected to each other. I recommend replacement with a single gas connector of an appropriate length or moving the rigid gas pipe so it is close enough that the shorter flexible connector can reach. Corrections should be made by a licensed plumbing or heating contractor.

Exterior & Chimney:

Metal chimney flue pipe in a wood-framed chase with

A spark arrestor is present. Review of chimney is limited due to the length of the flue and the presence of the spark arrester. The spark arrester was not removed as a part of this inspection. siding.

Cottage Kitchen

Fixtures:

Counter & Cabinets:

Counter surface is tile.

Cracks/voids present in grout. Regrouting is suggested to prevent water from penetrating below the tile.

Plumbing:

Sink:

Stainless steel bowl.

Appliances:

Ventilation:

This is a recirculating fan and does not vent to the exterior. While likely not required, many range manufacturers do advise that a range hood be vented to the exterior. Cooking will tend to aerosolize moisture and fat droplets that would be better exhausted to the outdoors. The duct serving the hood should have a smooth interior surface, should be airtight and be equipped with a back-draft damper. If installation of a vented hood is not practical, the filter should be kept clean to ensure proper operation.

Range:

Brand: Magic Chef, gas range.

The burner at the left/front did not ignite automatically when operated. Cleaning, adjustment or repairs are needed to restore proper operation.

Cottage Bathroom

Bathroom:

Sink:

Serviceable.

Toilet:

The toilet rocks somewhat. This is typically due to an uneven floor surface. Caulking around the base of the toilet can help to support the base and help to prevent movement and possible leaking.

Tub & Surround:

Fiberglass tub and surround.

Single lever faucet.

The faucet does not operate. This is often caused by an aged cartridge or valve stem assembly and can usually be corrected by replacement. While replacement is generally straightforward, I recommend corrections be made by a licensed plumbing contractor.

Ventilation:

No mechanical ventilation provided. As a window is present, a ventilation/exhaust fan may not have originally been required. However, many people will not open a window when showering if the weather is cold, which can contribute to excess moisture/humidity in the bathroom. I suggest installation of an exhaust fan to discharge humid air to the exterior.

Counter & Cabinets:

Serviceable.

Floor:

Floor covering is tile.

Walls & Ceiling:

Serviceable.

Doors & Windows:

Serviceable.

Cottage Interior

Interior Rooms:

Floors:

Floor coverings consist of tile.

Tile is cracked and chipped. Any loose or damaged tile should be replaced by a licensed tile contractor.

Walls:

Serviceable.

Ceilings:

"Vaulted" ceilings are present. Review of attic areas above this type of ceiling are limited due to the type of construction. Verification of proper construction or ventilation is impractical without destructive testing.

Windows:

Serviceable.

Skylights:

Serviceable.

Exterior Doors:

Daylight could be seen at the base of the door. No threshold present and debris/air will tend to enter along the underside of the door. Installation of a threshold and door shoe on the exterior door will help to direct water away, protect the base of the door and help to deter rodents from accessing the interior of the garage.

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

Interior Doors:

Serviceable.

Alarms:

Smoke Alarm:

Located at the main room. Smoke alarms should be tested on a monthly basis to ensure proper operation. The National Fire Protection Association advises that all smoke alarms be replaced every 10 years. Replacing smoke alarms when the home changes ownership helps to ensure that the smoke alarms are current. The National Fire Protection Association and the Consumer Products Safety Commission recommend use of both ionization and photoelectric, or combination-type smoke alarms to protect against the widest range of fire types. More information regarding smoke alarms can be found at:
https://www.cpsc.gov/s3fs-public/559.pdf
https://www.usfa.fema.gov/prevention/outreach/smoke_alarms.html
https://www.nfpa.org/Public-Education/By-topic/Smoke-alarms
https://www.nfpa.org/Public-Education/By-topic/Smoke-alarms/Ionization-vs-photoelectric

Carbon Monoxide Alarm:

No carbon monoxide (CO) detector/alarm found. Carbon monoxide alarms are required in all residential construction. I recommend installation of carbon monoxide alarms on each floor/level, near the bedrooms and as noted in the manufacturer's installation instructions.

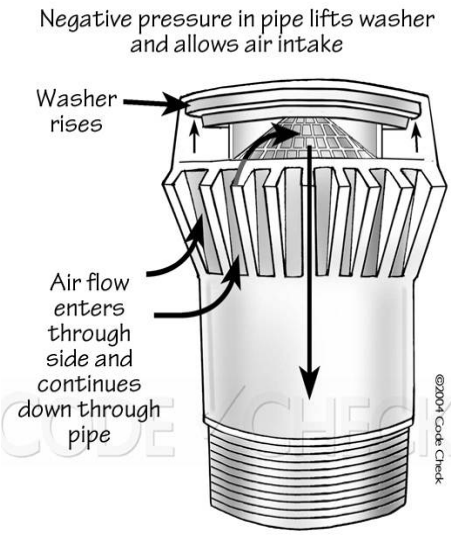
Glossary of Terms

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.

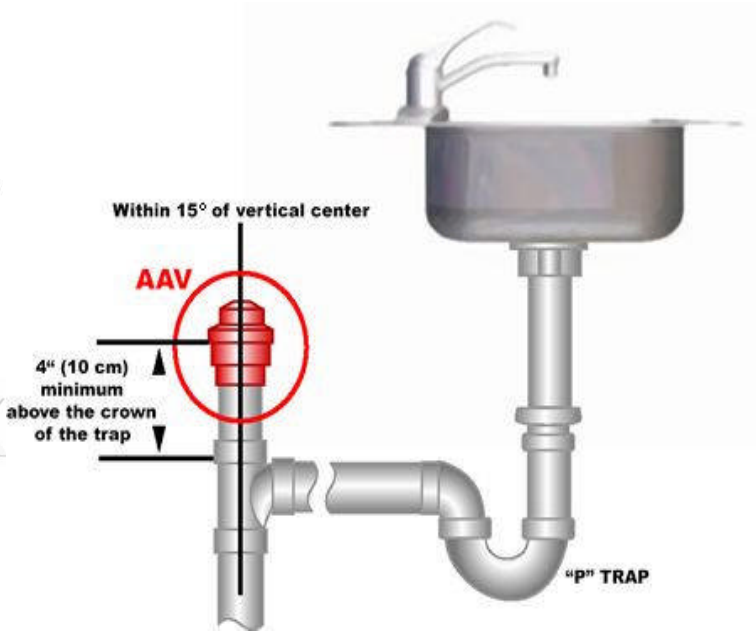
AFCI: Arc fault circuit interrupter. AFCIs are newly-developed electrical devices designed to protect against fires caused by damaged or deteriorated wiring or cords in the electrical wiring.

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 Admittance Valve in Operation



Air Gap: An intentional separation of air between the water supply and the drain receptor (sink, tub, shower pan, etc.). This separation can also be provided by 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 no bolting is present, 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.

Blocking: Wood members typically installed between wood members (such as floor or ceiling joists) to provide support by transferring the load to adjacent framing members.

Bonding: Connecting together non current-carrying electrically conductive components. Metal piping, in particular, should be connected to the electrical grounding system to help prevent electrical shock/electrocution.

Branch Circuit: The electrical circuit used for receptacle outlets, lights, and appliances.

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 (typically copper or aluminum) in an electrical circuit panel box, which are used to distribute the electrical voltage/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.

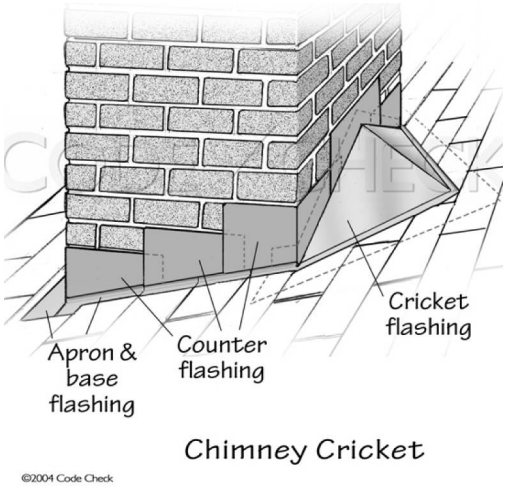
Conductor: A wire capable of carrying an electrical current. Generally, copper or aluminum.

Conduit: A pipe or raceway, constructed of metal or plastic, used to enclose and protect the conductors/wires from damage.

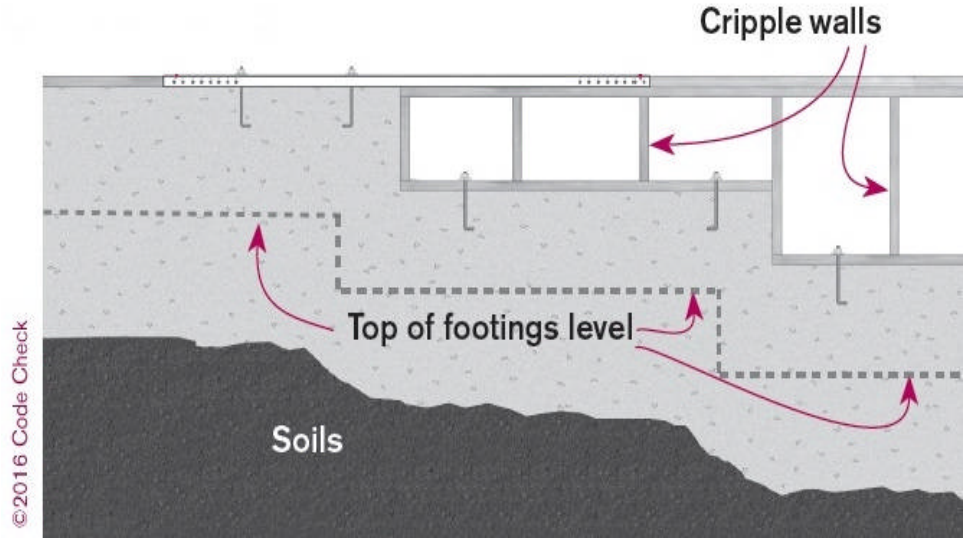
CPVC: (Chlorinated Polyvinyl Chloride) An off-white or buff colored piping. This material is commonly used as water supply piping in mobile and manufactured homes.

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.

Cricket: A small roof, which can be installed uphill of a chimney, but is often located at other areas as well, such as where the roof slopes toward a perpindicular wall. The peak of the cricket is oriented perpendicular to the primary slope of the roof and the intent is to direct water around the obstacle. The lack of a cricket will allow debris to build up and could result in leaks.



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: 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.

Drip Leg: A drip leg or drip, if present, may be found at the lowest point of the gas supply piping where any condensed moisture is likely to collect. Different from a Sediment Trap, the gas flow does not change direction as it does in a sediment trap and drips are used in gas piping systems when moisture is present in the gas supplied by the gas utility supplier. Any requirement for drip legs would originate from the gas utility supplier or the local building department.

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

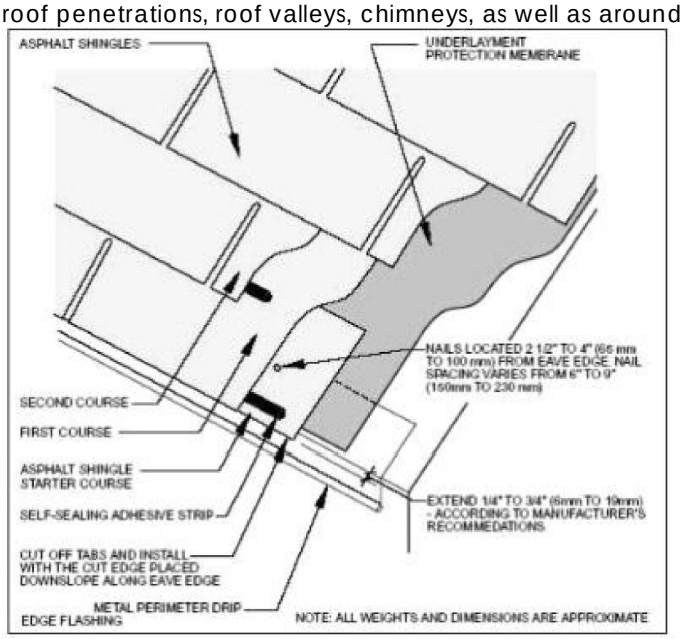
Efflorescence: White “fuzzy” mineral build-up, typically found on concrete, unglazed tile or masonry, caused by moisture leaching minerals out of the masonry.

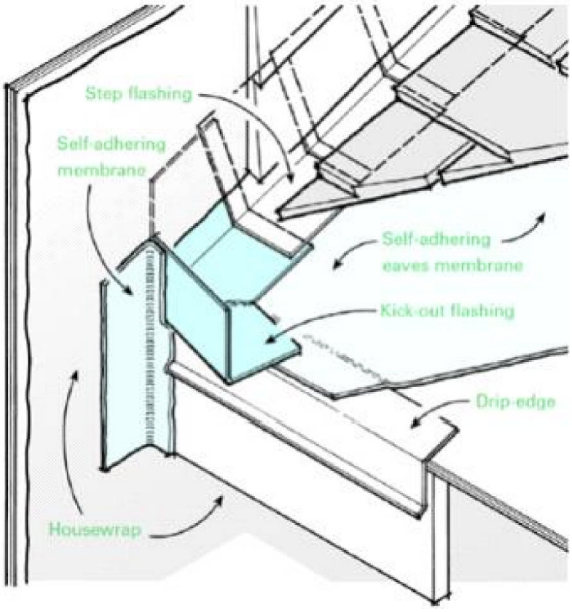
Eave: The bottom, horizontal edge of the roof.

Equipment Grounding Conductor: The grounding conductor/wire that attaches a device (such as a receptacle outlet, light fixture or other electrical device) to the grounding terminal block in the circuit breaker or fuse panel.

Fire Wall: A wall designed to slow the spread of a fire from one area to another. Modern multi family dwellings such as apartments and condominiums should have a firewall between residential units. This usually consists of layers 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 and fitted with a device that will automatically close the door to maintain the integrity of the fire wall.

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 light frame 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 (GFI/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: Connecting the electrical system to the earth. In modern residential construction, a wire/conductor is embedded in the concrete foundation or attached to the steel reinforcing of the foundation at the time of construction which provides grounding for the electrical system. This "ufer" ground is then connected to the ground attachment in the service equipment. As the conductor is encased in concrete, this type of ground is not visible for inspection. Ground can also be provided by driving an approved "made rod" into the earth. The metal water and gas supply pipes are also bonded (connected) to the grounding system to provide a direct path to earth for any electrical current that might be present in the metal piping. While using the metal supply piping was an acceptable method of grounding an electrical system at one time, the use of plastic piping in the past few decades has rendered this method obsolete and a separate grounding system is necessary.

Grounding Electrode: The point at which the electrical system is attached to the earth (grounded). Typically provided by a ground rod or concrete encased electrode (Ufer).

Grounding Electrode Conductor: The conductor/wire that attaches the electrical service equipment to the grounding electrode.

Gutter: A trough installed at the eaves to intercept and redirect 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.

Hardscape: Exterior walkways, pathways, driveways, etc.

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.

HVAC: 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: (LVL) Similar to plywood except that the layers of veneer are generally parallel to each other instead of perpendicular.

Main Disconnect: The primary means of disconnecting electrical power to a building or a branch circuit distribution panel. Also known as main switch or main breaker.

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.

MDF: Medium Density Fiberboard. Similar in manufacture to particleboard, but made with smaller particles. Used in interior finish materials, such as molding and cabinetry. This material is susceptible to swelling from moisture.

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. Generally used to reinforce openings against earthquake damage.

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.

Overcurrent Protection Device: A device that prevents excessive amperage from running through an electrical circuit. Most common are circuit breakers, but fuses are also an effective means to protect circuit wiring from high current.

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.

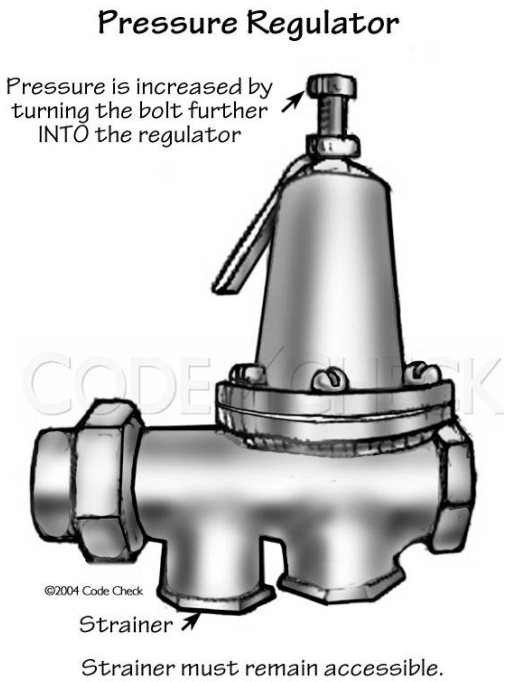
Platform Framing: Type of construction in which the wall studs for each story rest on the floor framing system (platform) and the wall studs are the height of each story. This type of construction is more common in the western half of the country.

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

Plywood: Manufactured wood construction material consisting of layers of wood 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".

Potable: Water intended for consumption.

Pressure Reducing Valve: Generally located adjacent to the main water supply shutoff valve, these are typically used when the water utility pressure is excessive and will reduce water pressure to acceptable levels. These should only be adjusted by a licensed plumbing contractor.



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.

Receptacle Outlet: A point on the household electrical system to which the plug/cord of an appliance or light fixture can be connected and is not intended for a specific (permanent or semi permanent) appliance.

Return Air: A furnace duct through with 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.

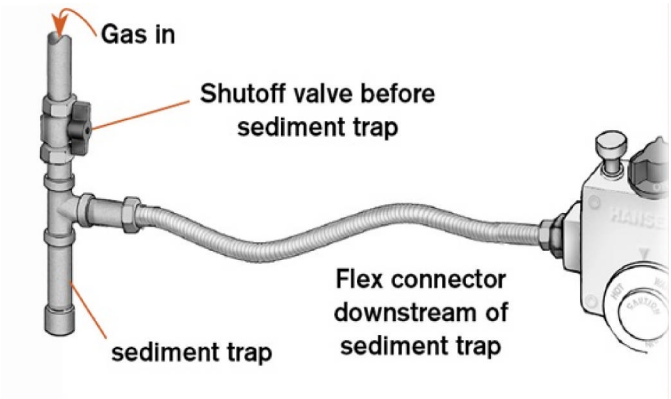
Roof: The structural, and rain proof cover of a building.

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 that should be located adjacent to a gas fired appliance, typically just before the gas shutoff valve and the flexible gas connector to the appliance. Often incorrectly referred to as a "drip" or "drip-leg", the gas flow must change direction and 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, 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.

Separation Wall: A separation between two areas that serve different uses/functions. In residential construction, the wall between the garage and the house is not a fire wall, but does provide a separation between living space and vehicle storage. While not a rated fire assembly, it is generally accepted that the intent is to slow the spread of a fire from the garage to the house.

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

Service Equipment: The necessary electrical equipment, usually consisting of circuit breakers or fuses 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 for the electrical service. Often colloquially referred to as the “main electrical panel”, this is where the power conductors entering the building can be switched-off to disconnect the premises' wiring from the power source. Usually located at or adjacent to the electric meter.

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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 regular maintenance.

Shear: In construction, this refers to a sideways or lateral force. i.e., A shear wall or shear panel is designed to resist sideways movement. This movement can be applied by earthquakes or wind.

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: 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); however, solid wood sheathing was commonly used prior to the 1960s and is used in decorative applications, as well.

Siding: Exterior wall covering. Can consist of a variety of materials such as wood, plastic, metal, cement 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 lenght measures 1½” x 3½” x 92¼".

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

Switched Outlet: A receptacle outlet that is connected to a toggle switch. Typically intended for table or floor lamps; however, can operate an appliance.

Transfer Switch: Used in conjunction with a backup generator, a transfer switch is required to isolate the household electrical system from the electrical utility. Transfer switches can be manual, which require an individual to start the generator and "throw" the switch; or automatic, which will turn-on the generator and "throw" the switch when power from the utility is interrupted.

Truss: Engineered and manufactured support members typically used for roof systems instead of rafters and ceiling joists; however, some are designed to 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.

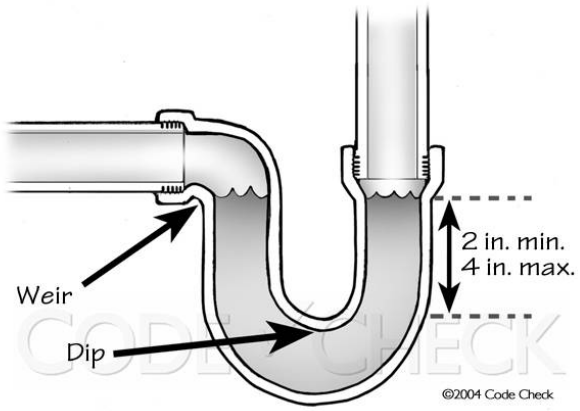
Volt: The potential of electricity. Analogous to pressure when measuring the potential of water.

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.



Trap Seal

Additional construction related definitions can be obtained at: http://www.builderspace.com/glossary.html