Inspected for:
Zaphod Beeblebrox
3316 Golgafrincham Place
Margretha, CA

05/13/2021

Zaphod Beeblebrox

Re: 316 Golgafrincham Place
Margretha, CA

Dear Zaphod,

As requested, a visual inspection of the above referenced property was conducted on May/13/2021. 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 corrective work should be performed by licensed and qualified contractors.

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

Exterior Structures

Patio/Deck:

Railing:

Guardrail is inadequate.

Sunroom:

Windows:

Unable to determine if the windows have safety glass installed.

Electrical System

Electrical Service:

Type:

Insulation on overhead conductors is deteriorated.

Electrical Service Equipment:

General:

Dead-front is missing.

Electrical Fixtures:

Bathroom Fixtures:

A scorched receptacle outlet was found in the half bathroom.

Interior Rooms

Windows:

Windows in the bedrooms may be too high to serve as emergency egress.

Exterior Doors:

Glass in doors does not appear to be safety glass.

Alarms:

Smoke Alarm:

No operable smoke alarms found.

Garage

Interior:

Steps:

Step treads/risers are inconsistent.

Other Comments:

No guardrail present at the loft area.

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

General Conditions

Building Information

Inspection Address:

Modifications have been made since original construction, vent some of these modifications are nonstandard.

Exterior

Lot:

Retaining Walls:

The wood retaining walls are damaged/failing.

Other Comments:

A travel trailer is elevated a rather significant distance above the ground at the front of the property.

Manufactured Siding:

Plywood Siding:

Decayed/damaged sections of siding were observed at the front.

Exterior Structures

Patio/Deck:

Steps/Stairs:

Wood is decayed/damaged at the step framing, railings, and treads.

Sunroom:

Floor:

The floor is uneven and this structure may have been placed directly on the soil.

Frame:

Some of the wood is charred.

Roof

General:

Eaves:

Some decayed/damaged wood found at the eaves.

Flashings:

Through Penetrations:

No flashings present at the two sprinkler penetrations.

Asphalt patching compound (mastic) has been applied to some roof penetration flashings.

Chimney:

Asphalt patching compound (mastic) has been applied to the chimney flashings.

Shingle Roof:

Condition:

The "dish" antenna as well as the solar panel brackets have been attached to the roof through the shingles.

Roof shingles are at the end of their useful life.

Plumbing System

Supply:

Materials:

Several slow leaks were found at supply pipes and valves throughout the exterior.

Drain:

Material:

Leaking plumbing was found at the drain pipes under the half bathroom sink and hall bathroom shower.

Drain/waste piping in the foundation crawlspace area is not adequately supported.

The questionably parked travel trailer appears to have its own system and I am concerned that this is substandard.

Water Heater:

Type:

No water heater present.

Bathroom Fixtures:

Supply & Drain:

A flexible drain fitting has been used at the full/hall bathroom sink.

Toilet:

The hall bathroom toilet bowl is loose at the floor.

Electrical System

Interior Panel:

Over Current Protection:

The panel and circuit breakers are Federal Pacific Electric (FPE).

General Wiring:

Grounding & Bonding:

The ground rod extends above soil level.

Electrical Fixtures:

Exterior Fixtures:

Unprotected nonmetallic sheathed cable (romex) present.

Garage Fixtures:

Unprotected nonmetallic sheathed cable (romex) present.

Interior Rooms

Ceilings:

The ceiling is moisture stained at the family room.

Alarms:

Carbon Monoxide Alarm:

No carbon monoxide (CO) detector/alarm found.

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Report Contents

General Conditions

Client Information:

Client:

Zaphod Beeblebrox
Present for the inspection.

Building Information

Inspection Address:

3316 Golgafrincham Place
Margretha, CA

Modifications have been made since original construction, vent some of these modifications are nonstandard. In addition, this building suffers from deferred maintenance. Building modifications normally require local building department approval, which includes submitted plans and specifications of the work to be performed, city licenses, building permits, on-site progress inspections, and a final sign-off by a building inspector employed by the building department. Verification of permits is beyond the scope of this home inspection. The local building department should be contacted for information regarding the permit history for this property. If any work was done without permits from the local building department, permits should be obtained, the work inspected by a building inspector and any needed corrective work performed by licensed and qualified contractors.

Buildings constructed prior to approximately 1980 often used building materials containing greater amounts of materials such as asbestos and/or lead than are allowed today. This can be of particular concern if the materials are in deteriorated condition or if remodels/additions are planned. The Centers for Disease Control and Prevention (CDC) and the Environmental Protection Agency (EPA) has information regarding the potential hazards as well as ways to mitigate these hazards. As I am not qualified to verify the presence or absence of any toxic material, a qualified abatement contractor or risk assessor should be consulted for specific information. Additional information can be obtained from the following websites:
https://www.epa.gov/asbestos https://www.atsdr.cdc.gov/asbestos/ https://www.epa.gov/lead
https://www.cpsc.gov/s3fs-public/renovateright.pdf

Structure Type:

This is a wood-framed, one-story, single family residence
Perimeter foundation with a partial basement. For more information about this area, please refer to the foundation section.

Occupancy:

Partly furnished at time of inspection.

Utilities Status:

All utilities were on at time of inspection.

Heating System:

Heating for the interior of this home appears to be provided solely by a wood burning fireplace, two pellet stoves, and some portable electric plug-in heaters.

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/

General Information:

File Number:

0521-8081

Date & Time:

Inspection began at approximately 09:00 AM and finished at approximately 11:45 AM
05/13/2021

Inspector:

Gunnar Alquist

Weather:

The temperature was approximately 55° - 60° and the sky was partly cloudy at time of inspection.

Orientation:

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

Report Limitations:
This report is intended only as a general guide to help the client make their own evaluation of the overall condition of the structure, and is not intended to reflect the value of the premises, nor make any representation as to the advisability of purchase. The report expresses the professional observations made by the inspector, based 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:

Asphalt.

Steps :& Landing

Decayed/damaged wood found at framing and steps. These steps are potentially hazardous. Any damaged wood should be replaced to prevent injury.

Retaining Walls:

Walls consist of wood.

The wood retaining walls are damaged/failing. This wall should be replaced to properly hold back the soil as originally intended. A licensed foundation or masonry contractor should be consulted for further review and corrections, as needed.

No guardrail present along the top of the retaining walls. While not necessarily required, 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.

Grade at the right side slopes toward the foundation. As a general rule, a "negative grade" will direct water toward the foundation, contributing to water accumulation adjacent to, and under the building during and after periods of rain. Evidence of water penetration was found under the home and the client reported seeing some water at the uphill side of the home, I did not find any evidence of excessive water accumulation under the home. I recommend periodic inspection of the foundation crawlspace, particularly during periods of rain, by a licensed pest inspector for any evidence of excessive water accumulation that would require correction of the grading or installation of drainage. If needed, installation of a properly designed drainage system can help to intercept and redirect surface and subsurface water away from the foundation area. A landscape contractor, excavation contractor, or general engineering contractor are appropriate individuals to address and correct drainage problems.

Soil Conditions:

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 deteriorated lap pool is present. I did not inspect the pool.

Other Comments:

A travel trailer is elevated a rather significant distance above the ground at the front of the property. I am concerned about this installation/configuration, particularly in the event of an earthquake. My primary recommendation is to

Manufactured Siding:

Plywood Siding:

Decayed/damaged sections of siding were observed at the front. As this is not an inspection for wood destroying organisms (WDO) and other areas of damage may be present, I recommend review of this home by a California Structural Pest Control Board licensed "branch 3" inspector and corrections, treatment, or repairs made, as needed.

Surface of plywood siding is cracked, which indicates the paint is aged/deteriorating. These small voids in the protective layer of paint will allow moisture to soak into the siding, which will eventually cause the layers or "plys" of the veneer to delaminate and peel off. This type of damage usually takes years to occur and can be prevented by proper preparation and painting of siding. While painting is not immediately imperative, the paint will continue to deteriorate. The sooner the exterior is painted, the less weathering will have occurred and therefore less surface preparation will be required. Surface preparation should include scraping or pressure washing to remove loose paint, caulking or filling of voids and seams, and priming with a good quality primer/sealer.

Client is advised to have the paint tested for lead content prior to commencing preparation for painting. While evaluation for toxic materials is beyond the scope of a home inspection, many older paints are generally known to contain lead. If lead is found, old paint should be properly addressed by a qualified lead abatement contractor.

Trim & Windows:

Trim:

Wood.

Voids are present at sections of the trim. While installation should include priming/painting all sides/faces of the trim, in actual practice this is rarely done. As a result, moisture can penetrate into the cut ends of the wood, which will lead to damage over time. Sealing all cracks/voids between siding and trim is recommended to prevent moisture intrusion. The lower/underside seam of horizontal trim (such as under the window) should not be caulked to allow any water that might get behind the trim 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). Documentation on the manufacturers' websites should be reviewed for specific information.

Nails are loose at some areas. Trim should be renailed or replaced, as needed.

Windows:

Window frames are metal.

Windows are single glazed. Installation of newer double glazed windows can help to increase comfort by cutting heat loss through the older windows.

Exterior Structures

We do not verify soil stability or footing depth under the patio/deck. Decks and patios are often an afterthought and consideration is not given to the soil and footings during construction. If information about the foundation is desired, a licensed structural engineer or soils engineer should be consulted.

Patio/Deck:

Balcony:

Deck consists of a waterproof membrane installed over wood framing. This type of construction can be problematic, and, if not maintained, will result in leaks to the area below. This type of membrane typically requires reapplication every 4-6 years. Periodic review for cracks or deterioration is recommended. I recommend consulting with a licensed and qualified roofing contractor for more specific preventative maintenance/replacement information.

Deck:

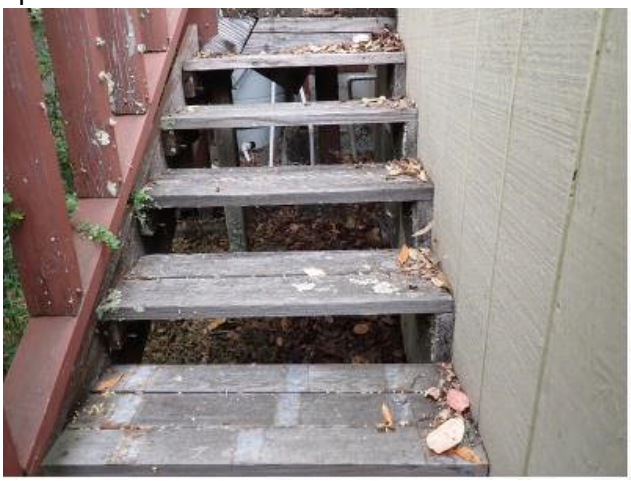
Wood deck supported on wood framing.

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

Railing:

Guardrail is inadequate. The guardrail is weak, spacing between members is excessive and the height is less than currently allowed. The spacing 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 and minimum height is 42 inches from the deck surface. My primary recommendation is to replace this guardrail.

Steps/Stairs:



Wood is decayed/damaged at the step framing, railings, and treads. Some of the steps are weak and potentially unsafe. I recommend replacement of any damaged stairs.

Sunroom:

Floor:

The floor is uneven and this structure may have been placed directly on the soil. As a result, this portion of the building was likely not permitted by the local building department.

Evidence of water penetration was found at the interior of the sunroom. Regrading and installation of drains may be necessary to divert water around this structure.

Frame:


Some of the wood is charred. This does not appear to have significantly compromised the structure.

Wood is in contact with soil, which will result in decayed/damaged wood to deteriorate. Wood members should be supported on concrete or otherwise isolated from contact with soil.

Windows:

Unable to determine if the windows have safety glass installed. No labels found at the corners of the glass panes. Typically, in modern construction, safety glass is required in glass that comes within 18 inches of the floor or 24 inches of an operable door. Annealed (untempered) glass can cause lacerations if broken. I recommend review by a licensed glazing contractor and corrections, if needed.

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:

Gable roof.

Roof Access:

Observed from the surface of the roof.

Limited review due to the presence of solar panels.
Viewed from accessible areas.

Eaves:

Some decayed/damaged wood found at the eaves. As this is not an inspection for wood destroying organisms (WDO) and other areas of damage may be present, I recommend review of this home by a California Structural Pest Control Board licensed "branch 3" inspector and corrections, treatment, or repairs made, as needed.

Eaves are enclosed with soffits. Soffits are loose at a few locations. I recommend renailing/corrections, as needed. Visual inspection of soffited eaves is restricted.

Flashings:

Roof/Wall:

Intact.

Through Penetrations:

No flashings present at the two sprinkler penetrations. This should be corrected by a licensed roofing contractor concurrently with roof replacement.

Asphalt patching compound (mastic) has been applied to some roof penetration flashings. This indicates an active or intermittent leak. While mastic can be useful as a temporary patch, it should not be relied upon as a permanent repair. My primary recommendation is to have a licensed roofing contractor properly reinstall the flashings.

Flashing is lifted. This can allow water to leak around the flashing and to areas below, particularly with wind blown rain. Corrections or repairs are suggested to prevent leaking.

Sealing the perimeter of the plumbing vent pipes at the point that they erupt through the flashings is recommended to prevent water from running down the pipe to the areas below. This is typically done with roof mastic (tar) or rubber grommets available from home improvement or roofing supply stores.

Skylight:

Asphalt patching compound has been used at the perimeter of the skylight. This may have been done as a preventative measure or may represent past leaking. I recommend any interested party consult with the current owner for any applicable information regarding the history of this roof. If no documentation can be provided, a licensed and qualified roofing contractor should be consulted to examine these areas and make corrections, if needed.

Chimney:

Asphalt patching compound (mastic) has been applied to the chimney flashings. This indicates an active or intermittent leak. While mastic can be useful as a temporary patch, it should not be relied upon as a permanent repair. My primary recommendation is to have a licensed roofing contractor install proper flashings and/or make the necessary corrections/repairs.

Shingle Roof:

Type:

Laminated composition (asphalt) shingle.

Branches are close to the roof. This can damage and abrade the roof as well as provide a path to the roof for rodents. Trees should be trimmed away from the structure and debris cleared off of the roof.

Condition:

The "dish" antenna as well as the solar panel brackets have been attached to the roof through the shingles. My primary recommendation is to remove or relocate the dish hardware and install properly flashed solar panel mounting hardware concurrently with roof replacement.

Roof shingles are at the end of their useful life. Granular loss observed throughout the roof. Shingles are worn, cracked, brittle and damaged and stains were found at the attic and interior of the home. A licensed roofing contractor should be hired to replace the roof. Any needed repairs or corrections related to effect a proper roof replacement should be made concurrently.

Roof Drainage:

Type:


Metal gutters.

A "gutter helmet" is present on top of the gutters. As a result I am unable to review the interior of the gutters.

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

Attic:

Access:

Access hatch is located at the hallway. Accessed at time of inspection. Limited review at low sections due to restricted clearance.

Framing:

Rafter framing with plywood over spaced sheathing.

Insulation:

Insulation consists of loose fill fiberglass and 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.

Leaks:

Moisture staining was found on the roof sheathing at various areas throughout the attic. While some of this likely represents previous leaking, I do not know if all of it is old or if some of this is more recent. As noted in the exterior section o the report, the roof is in poor condition and may be leaking. I recommend consulting with a licensed roofing contractor regarding installation of a new roof.

Ventilation:

Attic ventilation is provided by eave and gable vents.

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:

Interior access is located at the garage.

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.

Cripple walls are present at the perimeter foundation. 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. While the exterior siding does provide some shear value, it may not be as effective as an engineered "shear wall panel". Adding structural shear paneling to the interior surface of the cripple walls, particularly at the corners of the building, will help to increase the seismic resistance of this structure. In addition, installing appropriate seismic/framing anchors will more securely attach the floor framing to the top of the cripple walls as well as secure the walls to the foundation. "Retrofit" upgrades such as these should be overseen by a licensed general contractor. Client should review the state brochure "The Homeowners' Guide to Earthquake Safety". Simpson Strong-Tie maintains a website with useful information regarding seismic retrofitting. If more information regarding seismic upgrades is desired, a licensed structural engineer should be consulted. For more information, I suggest review documents at 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 dry at time of inspection.

Soil erosion and dry water channels were observed, indicating that water will flow through the foundation crawlspace during periods of rain. Erosion can usually be controlled by installing a drainage system uphill from the building and extenders on the roof gutter system. A licensed landscape contractor should be consulted regarding installation of drainage.

Other Observations:

Wood members are in contact with soil. Wood should be isolated from soil or corrections made to help prevent decay/damage.

Support System:

Floor System:

The floor support is provided by 2x10 wood joists with plywood sheathing.

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

Mid-Span Support:

Wood posts supported on concrete piers provide mid span support.

Ventilation & Insulation:

Insulation:

Fiberglass insulation is present under part of this building. This insulation restricts review of framing and subfloor sheathing. Completing insulation installation will help increase the efficiency of this home.

Ventilation:

Screened openings. Ventilation appeared adequate at time of inspection. Care should be taken to ensure that vent openings are not blocked as adequate air circulation in a foundation crawlspace area is important to prevent excess humidity/moisture from building up.

Plumbing System

All underground piping related to water supply, gas supply, sewer/drain, 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 supplying individual plumbing fixtures is advised to ensure proper operation. In my experience, 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 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:

The client reported that the domestic water supply is provided by both a shared well as well as public utility. I am unable to verify water source. A well 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.

A booster system, consisting of a storage tank, booster pump, and a pressure tank, is present under the rear deck. This is a specialized system and beyond the scope of this inspection. Water pressure, quality and flow rate are a function of the booster pump system. Review of this system by a qualified plumbing contractor is suggested.

Materials:

Where visible, distribution piping is copper and PVC.

PVC piping has been used in the attic as well as 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.

Several slow leaks were found at supply pipes and valves throughout the exterior. A licensed plumbing contractor should be hired to make repairs or corrections, as needed.

Drain:

Material:

Where visible, drain lines consist of ABS (plastic) piping. A cleanout fitting was located at the left side.

Leaking plumbing was found at the drain pipes under the half bathroom sink and hall bathroom shower. A licensed plumbing contractor should be hired to make repairs or corrections, as needed.

Drain/waste piping in the foundation crawlspace area is not adequately supported. Supports in the foundation crawlspace area are broken/damaged. While no evidence of excessive sagging was observed at time of inspection, pipes should be properly supported to prevent sagging and strain on the pipe and fittings. Maximum spacing between supports generally should not exceed 4 feet and any horizontal branch connections should also be supported.

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. The questionably parked travel trailer appears to have its own system and I am concerned that this is substandard. These are specialized systems and beyond the scope of this inspection. A qualified septic specialist should be consulted regarding the conditions as well as to design any needed corrections or repairs.

Water Heater:

Type:

No water heater present. The client reported that the previous water heater was removed because it was leaking. I recommend installation of a new water heater by a licensed plumbing contractor.

Bathroom Fixtures:

Supply & Drain:

A flexible drain fitting has been used at the full/hall bathroom sink. This type of material is more likely to clog and should be replaced with a smooth-walled fitting. I recommend replacement by a licensed plumbing contractor.

Older shutoff valves and drain fittings are present at interior plumbing fixtures. Client is advised that older valves often do not function properly and fittings are more prone to leaking due to aged washers and packing. Replacement of older fittings should be undertaken as a part of routine maintenance and repairs.

Toilet:

The hall 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.

Laundry:

Washer Hookup:

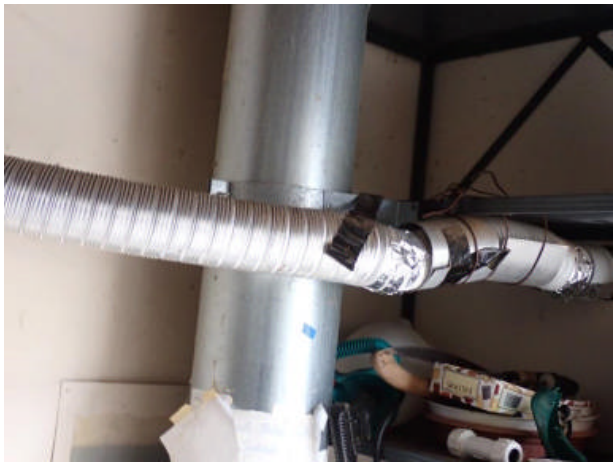
Inspector does not disconnect hoses or operate valves. No active leaks observed at time of inspection. Hoses can develop leaks at any time and should be inspected periodically as a part of routine maintenance. The drain lines also cannot be evaluated. Laundry appliances are not tested or moved during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

Dryer Hookup:

240 volt, electric.

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 dryer vent is nonstandard. Flexible ducting will collect lint and become clogged over time. I recommend replacement with a smooth-walled dryer duct.



Laundry Sink:

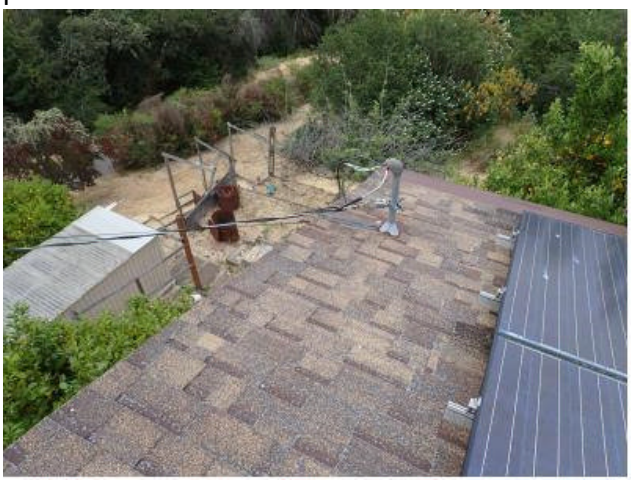
Serviceable.

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 any 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.

Service is 100 amperes, 240 volts.

<u>Insulation on overhead conductors is deteriorated.</u> In addition, the service drop is very close to the roof at the gable end. These cables should be replaced by a licensed electrical contractor.

Other Comments:

Solar photovoltaic panels are present on the roof. Evaluation of this system is beyond the scope of an inspection. I recommend review and any needed maintenance/service by a licensed and qualified solar or electrical contractor. The inverter system is located in the garage.

Electrical Service Equipment:

General:

Service equipment is located at the left side of the structure.

Dead-front is missing. The dead-front is a metal panel that allows access to the circuit breaker handles while it covers the electrical wiring and buss bars. Presently, the energized electrical circuits are exposed, which could allow an individual to come into contact with the energized circuits and be electrocuted. A new dead-front should be installed to prevent accidental contact with electrical wiring. Replacement screws should be the same as the screws originally supplied with the panel and should not be sharp/pointed.

Over Current Protection:

Over current protection is provided by circuit breakers.

Service disconnect (main) is present.

Panel make: Zinsco.

This type of panel often only allows for one double-pole circuit breaker, although two circuit breakers are present. I do not remove circuit breakers, but am concerned that this panel may have been modified to allow installation of the 60 amp double-pole breaker. I recommend review by a licensed electrical contractor and corrections, as needed.

Exterior Panel:

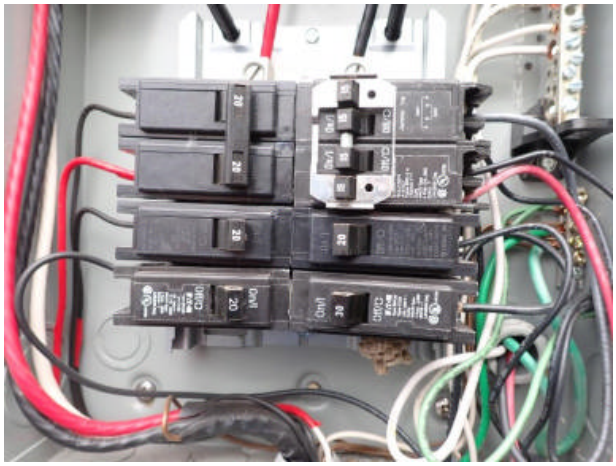
General:

Located at the exterior, adjacent to the service equipment.

Over Current Protection:

Over current protection is provided by circuit breakers.

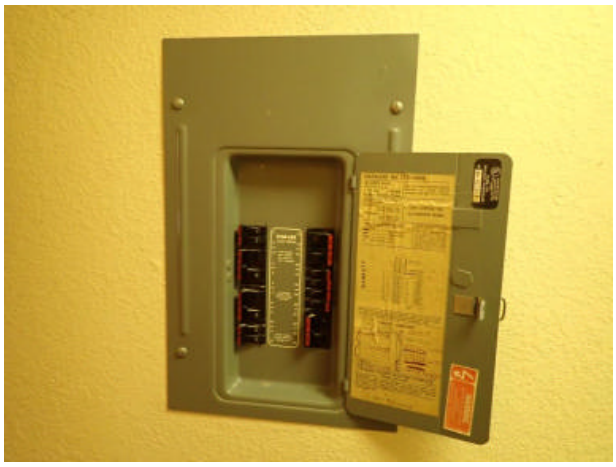
Panel make: Cutler-Hammer.



Interior Panel:

General:

Located at the laundry area.

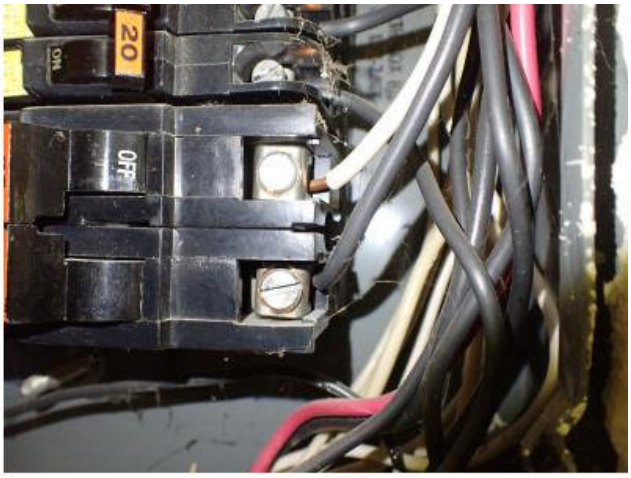


Over Current Protection:

Over current protection is provided by circuit breakers.

The panel and circuit breakers are Federal Pacific Electric (FPE). Some failure of this brand of circuit breaker (primarily failure of two pole breakers to trip) has been reported. As a result, many electrical contractors are unwilling to perform work on these panels, typically citing liability concerns and will advise replacement. In addition, these panels are no longer being manufactured and upgrade/replacement parts will be difficult and/or expensive to obtain. My primary recommendation for electrical systems with this brand of panel is replacement of the panel and evaluation of the wiring for any damage caused by overloaded circuits by a licensed electrical contractor. For relevant information regarding Federal Pacific Electric Panels, a search can be performed through the website maintained by Consumer Products Safety Commission (CPSC) at: http://cpsc.gov/

Conductors:



A white insulated 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. Corrections should be made by a licensed electrical contractor.

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:

Ground rod is present.

The ground rod extends above soil level. Current construction standards require that ground rods be in contact with the earth for a minimum of 8 feet. As most standard ground rods are 8 feet long, the top of the rod should be even with the soil level. Corrections will likely require driving the rod so the top of the rod is even with soil grade. The appropriate person to make corrections is a licensed electrical contractor.

No "bonding" jumper found between the hot and cold water supply pipes. Metal piping is currently required to be connected (bonded) to the electrical grounding system to ensure safety; although this may not have been required at time of construction. Should the metal piping become energized (through a lightning strike or other means) the bonding circuit is intended to conduct the electrical current to ground. While hot and cold water pipes are often connected together via plumbing fixtures, the use of nonmetallic and dielectric plumbing fixtures and fittings has prompted changes in bonding requirements. This generally includes installation of a bonding jumper between the hot and cold water supply pipes at the water heater to ensure that both the hot and cold water supply piping is properly bonded. While this does not necessarily indicate that the plumbing system is unsafe, bonding of the hot water piping could not be verified and installation of a bonding jumper is advised.

GFCI Protection:

This building does not have GFCI (ground fault circuit interrupter) devices installed at the bathroom, 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. Arc-fault circuit interrupters are a specific type of circuit breaker that will interrupt/shut-off power to a circuit if an electric arc occurs in the wiring or a device/appliance connected to it. If client is interested in upgrading the electrical circuits to increase safety, a licensed electrical contractor should review the system to determine if AFCI installation is practical and installation of upgrades, as needed.

Electrical Fixtures:

Exterior Fixtures:

Unprotected nonmetallic sheathed cable (romex) present. 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.

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

Garage Fixtures:

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

Kitchen Fixtures:

Receptacle outlets that serve the counter surfaces and appliances are not GFCI (ground fault circuit interrupter) protected. For more information, please refer to the GFCI notes above.

Bathroom Fixtures:

A scorched receptacle outlet was found in the half bathroom. As the contacts and wiring may be damaged as well, this outlet should be replaced and the feeding electrical wiring examined by a licensed electrical contractor. I recommend replacement with a GFCI device.

Interior Fixtures:

An unenclosed light bulb is present in the closet. Current construction standards do not allow light fixtures with bare bulbs in closets. Installation of a covered or recessed light fixture is advised.

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:


Masonry/steelform fireplace. This type of fireplace consists of a manufactured steel firebox around which is constructed a masonry shell. Concerns with this type of fireplace generally focus on the condition of the firebox and the connection of the chimney above the firebox. The metal firebox and tubing can corrode through or crack/split as a result of regular use and/or water flowing down the chimney during periods of rain. The chimney/firebox connection relies on mortar which will crack and degrade over time. 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 websites:
https://www.cpsc.gov/Newsroom/News-Releases/1975/CPSC-Issues-Fireplace-Safety-Tips
https://www.hpba.org/Consumer-Information/Hearth-Fireplace-Stove/Glass-Fronts-Safety/Safety-Tips

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

Exterior & Chimney:

Masonry chimney.

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.

Kitchen Pellet Stove:

Type:

Free-standing pellet stove.

I did not test this appliance. I recommend verification of operation.

Exterior & Chimney:

Exposed metal chimney flue pipe.

Family Room Pellet Stove:

Type:

Free-standing pellet stove.

I did not test this appliance. I recommend verification of operation.

Exterior & Chimney:

Exposed metal chimney flue pipe.

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 is a solid, manmade material.

The counter is cracked adjacent to the cooktop. I recommend patching/repair, as needed.

Walls & Ceilings:

Serviceable.

Windows:

Serviceable.

Plumbing:

Sink:

Sink bowl is integral with the counter surface.

Single lever faucet.

Appliances:

Ventilation:

Fan/Hood operated when tested.

Range:

Brand: Whirlpool, electric cook top.

Oven:

Brand: Whirlpool, electric wall oven.

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.

Hall/Full Bathroom:

Sink:

Serviceable.

Supply & Drain:

A flexible drain fitting has been used. Corrections should be made by a licensed plumbing contractor.

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.

Shower & Surround:

Solid-surface surround with a molded pan.

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

Shower enclosure will leak if sprayed directly. These are particularly vulnerable to leaking and this can allow moisture to damage the flooring. The enclosure should be resealed or reinstalled to stop the leaking and the shower head should be directed away from the door area.

Tub & Surround:


Fiberglass tub.

The mechanical drain stopper is inoperable. I suggest adjustment, repair or replacement.

Counter & Cabinets:

Serviceable.

Walls & Ceiling:

Serviceable.

Doors:

Serviceable.

Windows:

Serviceable.

Half Bathroom:

Sink:

Serviceable.

Supply & Drain:

Staining on the plumbing under the sink indicates past leaking. While no active leaks were found at time of inspection, I recommend tightening all fittings and/or replacement of any corroded fittings to ensure that leaking does not reoccur. This area should be monitored for any further leaking that would require repair.

Toilet:

Serviceable.

Counter & Cabinets:

Serviceable.

Floor:

Floor covering is resilient.

Walls & Ceiling:

Serviceable.

Doors:

Serviceable.

Interior Rooms

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

Interior Rooms:

Floors:

Carpet.

Walls:

Serviceable.

Ceilings:

The ceiling is moisture stained at the family room. I believe this is due to an active or intermittent roof leak. Client should consult with a licensed roofing contractor to review the roof and make corrections, as needed.

"Acoustic" ceiling material may contain asbestos. Positive determination can only be made by a qualified testing laboratory. If client has concerns regarding this possibility, a sample testing of this material should be made.

Windows:

Windows in the bedrooms may be too high to serve as emergency egress. Windows in sleeping areas (bedrooms) should allow an individual to exit/escape the building in the event of an emergency. Window openings in bedrooms should be no less than 20 inches wide and 24 inches high, with a net opening area of at least 5.7 square feet and the sill should be no greater than 44 inches above floor level. Windows that cannot be opened or that have an inadequate opening size can prevent emergency/fire personnel from entering and/or prevent an individual from exiting the home in the event of an emergency. Increasing the window opening size would make this room safer.

Exterior Doors:

Glass in doors does not appear to be safety glass. Tempered or laminated glass is required by current construction standards to be installed in doors. When broken, annealed (non-tempered) glass will break into large shards which can cause significant lacerations, while tempered glass will break into smaller pieces and typically cause less injury. While safety glass may not have been required in this door at time of original construction, this is potentially unsafe and I suggest replacing the doors or upgrading any nonconforming doors with safety glass.

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

Interior Doors:

Serviceable.

Alarms:

Smoke Alarm:

No operable smoke alarms found. A smoke alarm should be installed in the hallway prior to close of escrow. Ideally, each bedroom would have a smoke alarm for added safety. 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.

Garage

Interior:

Slab:

Concrete. Cracks are present in the slab surface. Concrete will crack for a variety of reasons, including expansion/contraction, settling and/or curing. Currently, the surface is not uneven. If the slab becomes uneven or displaced, repairs should be made.

Walls:

Separation wall between the garage and house is intact.

Roof Framing:

Truss framing with plywood over spaced sheathing.

Windows:

Serviceable.

Vehicle Door:

One metal sectional overhead door.

Door springs are "safety" type.

Garage door openers should reverse when obstructed while closing. This opener reversed when tested. This device should be tested by the property owner or resident on a monthly basis to ensure continued proper operation.

Steps:

Step treads/risers are inconsistent. Typically, the maximum difference in riser height or tread depth for any stairway is 3/8". Current construction standards require that risers should not exceed 7 3/4 inches in height and the minimum tread depth is 10 inches. This could cause an individual to trip/fall and should be corrected.

Other Comments:

No guardrail present at the loft area. The open side is a potential fall hazard. Installation of a guardrail is advised.

CALIBRATION AND CONDITION TESTS OF MOLDED CASE CIRCUIT BREAKERS

CPSC-C-81-1429 December 30, 1982
Final Report: Contract CPSC-C-81-1429
Date: December 30, 1982

Submitted by: Jesse Aronstein *(original contains signature)*

WRIGHTVM MALTA CORPORATION. Malta test station, Ballston Spa, New York 12020 518-899-2227

1.0 SUMMARY

Calibration tests have been performed on 122 two-pole Federal Pacific Electric circuit breakers. The calibration tests were performed -in accordance with UL Standard 489 except for or a difference in the sequence of calibrations. UL 489 is the applicable standard that the breakers are presumed to meet. In most cases, the calibration tests were repeated after 500 off-on mechanical operations of the toggle handle..

The circuit breakers tested were supplied by CPSC and came from several sources. Most were provided to CPSC by Federal Pacific Electric, some were purchased new by CPSC staff members at retail outlets, and a few were removed from existing installations. The breaker ratings tested were 30 A (30 two-pole breakers tested), 40A (35), 50A(20), 60A(7) and 80A (30). The tests include performance at 100%, 135%, and 200% of ratings, and dielectric tests.

A substantial number of breakers failed the calibrations testing, both before and after the mechanical toggle operations. Failures were evident with both poles carrying current as well as with one-pole operation. Specifically, the failures are summarized as follows:

FAILURE CONDITION	**FAILURES % (#failed/#tested)**	
	Before Mechanical Operations	**After Mechanical Operations**
No-trip: 200% of rating, both poles	0% (0/122)	1% (1/107)
No-trip: 200% of rating, individual poles	1% (3/244)	10% (21/214)
No-trip: 135% of rating, both poles*	25% (31/122)	36% (39/107)
No-trip: 135% of rating, individual poles	51% (125/244)	65% (144/220)
Trip: 100% of rating, both poles*	3% (4/122)	6% (7/111)
Dielectric Breakdown (short)*	0	1% (1/111)

TABLE 1 - SUMMARY OF FAILURES*UL 489 Test Conditions

The failures appeared. among breakers of all ratings, none were failure-free. Most of the "no-trip' conditions were sustained for four hours well beyond the UL specification. These were not marginal failures with respect to the failure criteria. The data suggests that, on the average, the mechanical operations result in increased failures. This was .'not strictly the case on a sample-to-sample basis.

The failures relate to hazardous conditions in at least two ways. First, a fault in the wiring or utilization equipment which causes excessive- current-can result in fire if the circuit is not opened by the breaker -- this is its principal functional requirement. Secondly, it was determined in these tests that some of the breakers overheat to hazardous levels when subjected to overcurrent conditions (due to their own failure to trip) for sustained periods of time. The overheating can result in incapacitation of the breaker (i.e.: it will no longer open under any condition), and the temperature can be high enough to ignite fire in the vicinity of the breaker, as evidenced by charring of the case on some samples.

NOTE: this text is quoted verbatim from pages 3-5 of "Calibration and Condition Tests of Molded Case Circuit Breakers, Final Report: Contract CPSC-C-81-1429 December 30, 1982," obtained from the US Consumer Product Safety Commission as a FOIA request.

NEWS from CPSC

U.S. Consumer Product Safety Commission

Commission Closes Investigation Of FPE Circuit Breakers And Provides Safety Information For Consumers

WASHINGTON, D.C. -- The Consumer Product Safety Commission announced today that it is closing its two year investigation into Federal Pacific Electric Stab-lok type residential circuit breakers. This action was taken because the data currently available to the Commission does not establish that the circuit breakers serious risk of injury to consumers.

The Commission investigation into Federal Pacific Electric (FPE) circuit breakers began in June, 1980, when Reliance Electric Co., a subsidiary of Exxon Corporation and the parent to FPE, reported to the Commission that many FPE circuit breakers did not fully comply with Underwriters Laboratories, Inc. (UL) requirements. Commission testing confirmed that these breakers fail certain UL calibration test requirements. The Commission investigation focused primarily on 2 pole residential circuit breakers manufactured before Reliance acquired FPE in 1979.

To meet UL standards, residential circuit breakers must pass a number of so-called "calibration tests." The purpose of these tests is to determine whether the circuit breakers will hold the current for which they are rated and also automatically open or "trip" (shut off the current) within specified time limits if over-loading of the circuit causes current levels in excess of the breaker's amperage rating. (Overloading can occur because a consumer plugs too many products into a circuit or due to the failure of a product or component connected to that circuit). While the Commission is concerned about the failure of these FPE breakers to meet UL calibration requirements, the Commission is unable at this time to link these failures to the development of a hazardous situation.

According to Reliance, failures of these FPE breakers to comply with certain UL calibration requirements do not create a hazard in the household environment. It is Reliance's position that FPE breakers will trip reliably at most overload levels unless the breakers have been operated in a repetitive, abusive manner that should not occur during residential use. Reliance maintains that, at those few overload levels where FPE breakers may fail to trip under realistic use conditions, currents will be too low to generate hazardous temperatures in household wiring. Reliance believes its position in this regard is supported by test data that it provided to the Commission.

The Commission staff believes that it currently has insufficient data to accept or refute Reliance's position. The Commission staff estimates that it would cost several million dollars to gather the data necessary to assess fully whether those circuit breakers which are installed in homes but which may fail UL calibration tests present a risk to the public. Based on the Commission's limited budget ($34 million for fiscal year 1983), the known hazards the Commission has identified and must address (involving products of other manufacturers) and the uncertainty of the results of such a costly investigation, the Commission has decided not to commit further resources to its investigation of FPE's circuit breakers. However, despite its decision to close this particular investigation, the Commission will continue its investigation of circuit breakers generally. The Commission can reopen its investigation of FPE circuit breakers if further information warrants.

The Commission advises consumers to take certain safety precautions with all circuit breakers and fuses.

Consumers should:

l Know your electrical circuit. Know which outlets and products are connected to each circuit.

l Never overload any electrical circuit by connecting too many products to the circuit. Be particularly careful not to connect several products that demand high current (such as heating appliances) to a low amperage circuit.

l Comply with local building codes in wiring or adding electrical circuits. Make sure the wiring and devices used in the circuit are connected to a circuit breaker or fuse of the proper size.

l Immediately disconnect any electrical product if problems develop. Have the product examined by a competent repair person.

l Investigate to determine why a fuse blows or circuit breaker trips. Do not simply replace the fuse or reset the breaker. If a fuse blows or breaker trips, it is often a warning that the circuit is overloaded. Check the circuit for causes of overloading (for example, too many appliances plugged in, a malfunctioning product, a short circuit). When in doubt, consult a licensed electrician.
Consumers who have questions concerning circuit breakers, or who wish to report information relating to their safety, may call the U.S. Consumer Product Safety Commission's toll-free safety hotline at 800-638-CPSC.

The U.S. Consumer Product Safety Commission protects the public from unreasonable risk of injury or death from 15,000 types of consumer products under the agency's jurisdiction. To report a dangerous product or a product-related injury and for information on CPSC's fax-on-demand service, call CPSC's hotline at (800) 638-2772 or CPSC's teletypewriter at (800) 638-8270. To order a press release through fax-on-demand, call (301) 504-0051 from the handset of your fax machine and enter the release number. Consumers can obtain this release and recall information or report product hazards to mailto:info@cpsc.gov

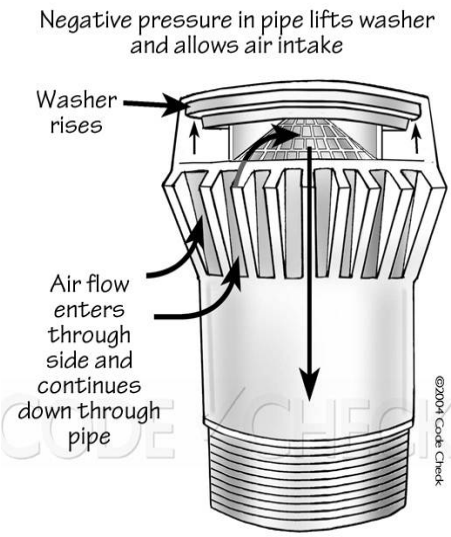
Glossary of Terms

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.

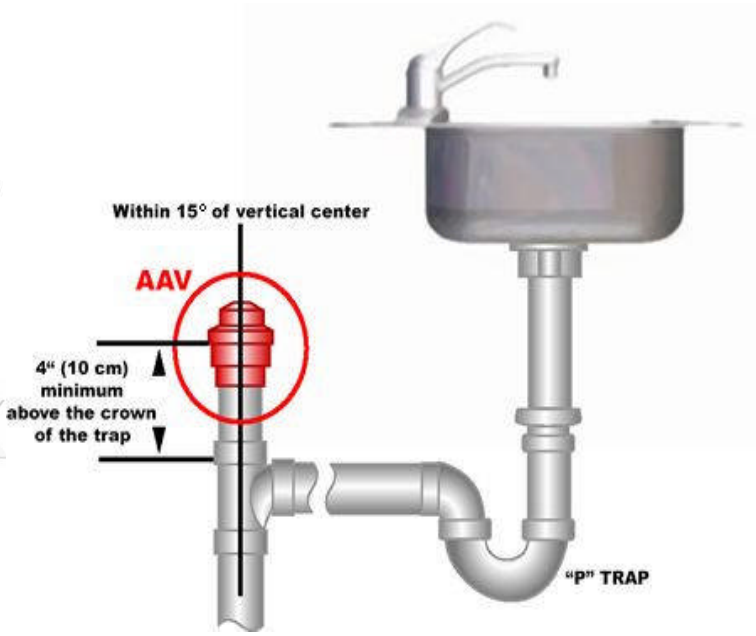
AFCI: Arc fault circuit interrupter. AFCIs are newly-developed electrical devices designed to protect against fires caused by damaged or deteriorated wiring or cords in the electrical wiring.

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.

Building Drain: That part of the lowest piping of a drainage system that receives the discharge from soil, waste, and other drainage pipes inside the walls of the building and coveys it to the building sewer beginning 2 feet (610 mm) outside the building wall.

Building Sewer: That part of the horizontal piping of a drainage system that extends from the end of the building drain (outside of the foundation) and that receives the discharge of the building drain and conveys it to a public sewer, private sewer, private sewage disposal system, or another point of disposal.

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.

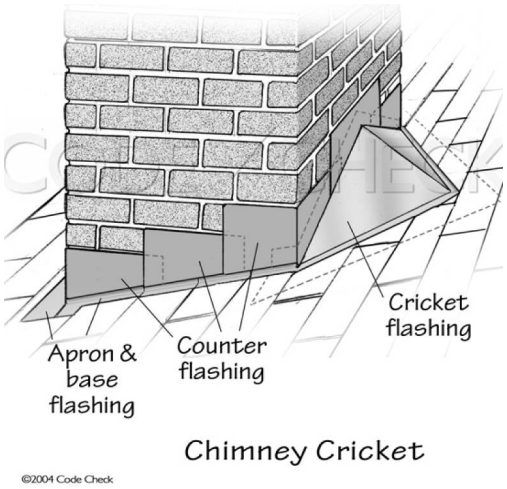
Conductor: A wire capable of carrying an electrical current. Generally, copper or aluminum.

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

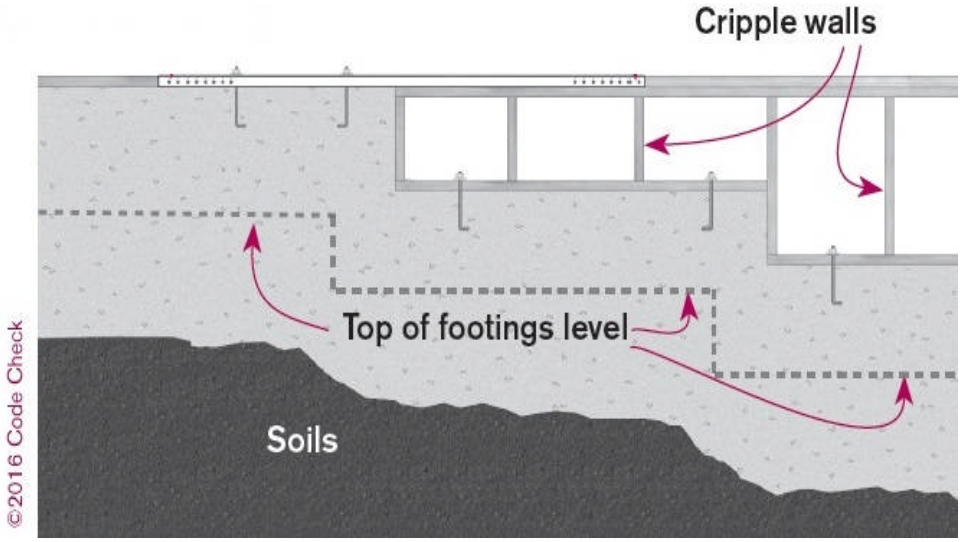
CPVC: (Chlorinated Polyvinyl Chloride) An off-white or buff colored piping. This material is commonly used as water supply piping in mobile and manufactured homes.

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.

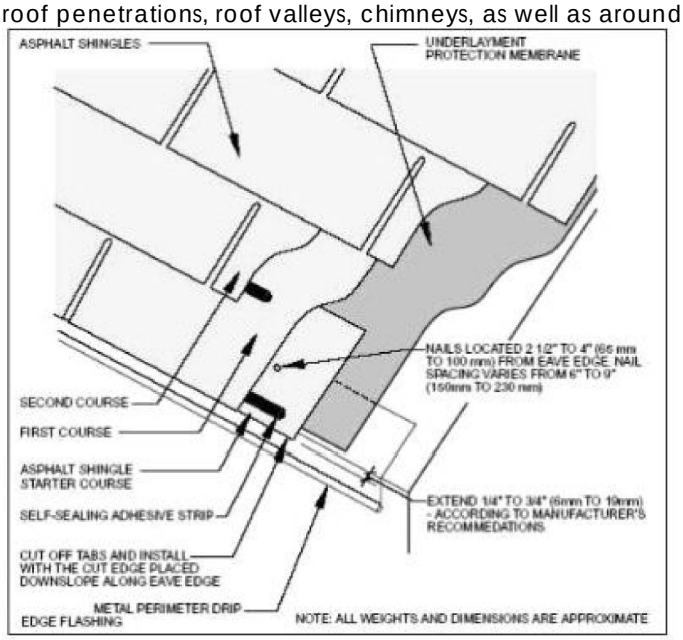
Efflorescence: White “fuzzy” mineral build-up, typically found on concrete, unglazed tile or masonry, caused by moisture leaching minerals out of the masonry.

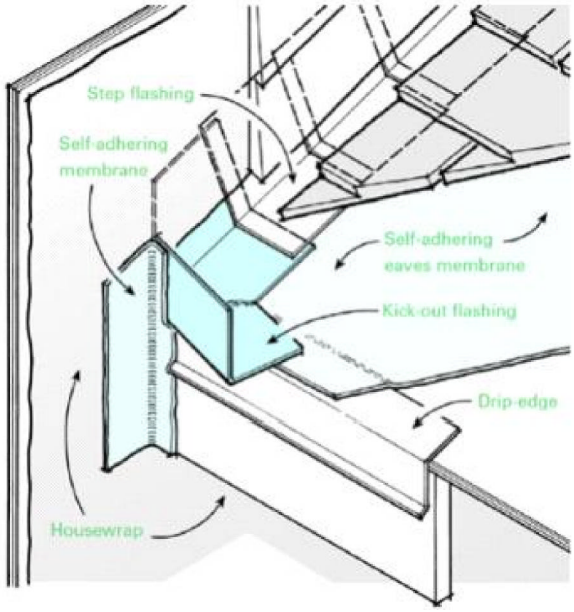
Eave: The bottom, horizontal edge of the roof.

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.

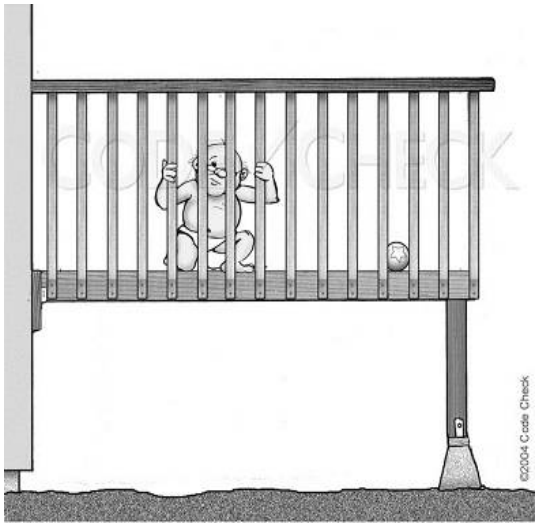
Grade: The top surface of the soil. Also may refer to the slope of the top surface of the soil.

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.

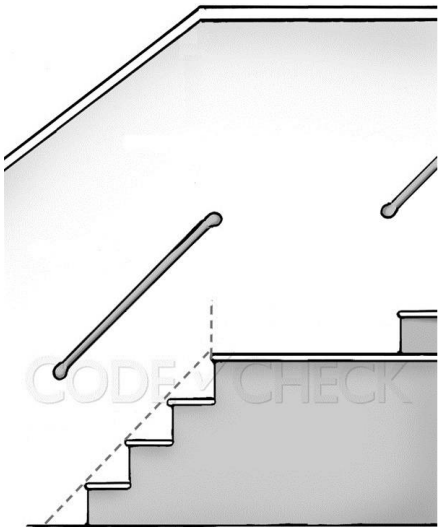
Guardrail: A barrier placed along the open side of a deck, stairway, or elevated walking surface that minimizes the possibility of a fall to the lower level. Also referred to as a guard.



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.

Handrail: A horizontal or sloping rail intended to be grasped by the hand for guidance or support when ascending a stairway or ramp.



Hardscape: Exterior walkways, pathways, driveways, patios, 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.

PEX: Cross-Linked Polyethylene. Commonly abbreviated PEX, XPE or XLPE, is used predominantly in building services pipework systems, hydronic radiant heating and cooling systems, and domestic water piping.

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.

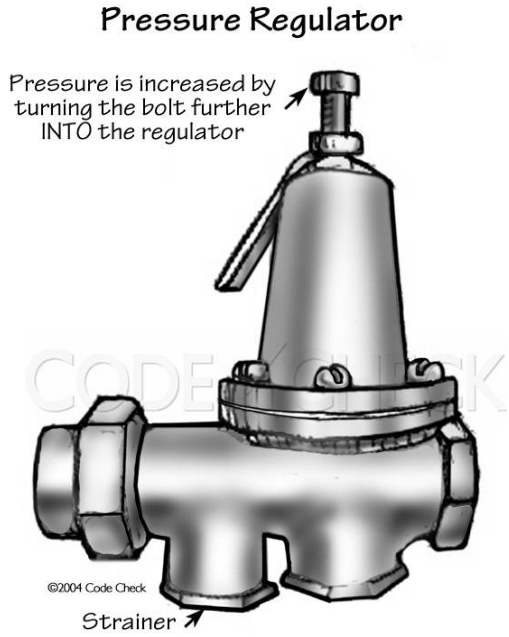
Platform Framing: Type of construction in which the wall studs for each story rest on the floor framing system (platform) and the wall studs are the height of each story. This type of construction is more common in the western half of the country.

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.

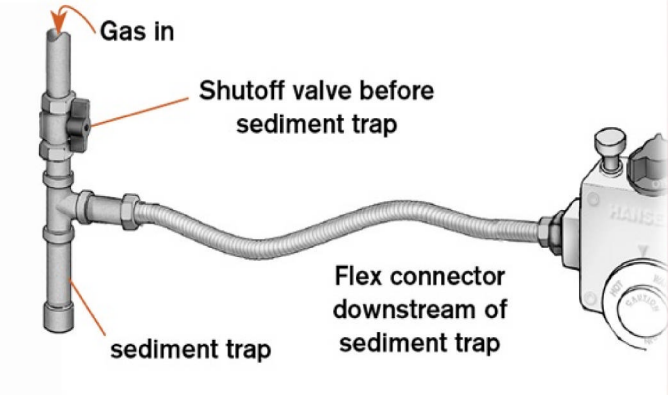
Roof: The structural, and rain proof cover of a building.

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.

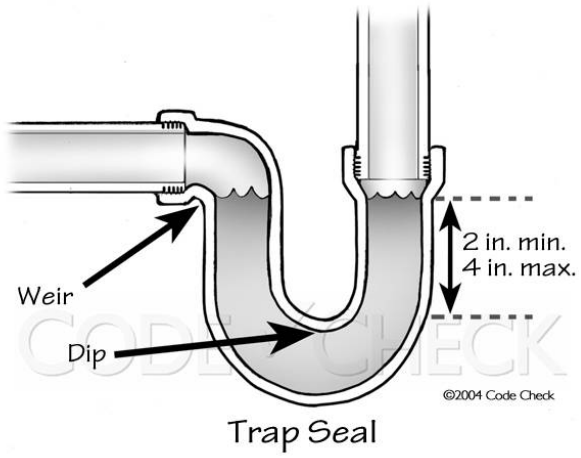
Volt: The potential of electricity. Analogous to pressure when measuring the potential of water.

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.



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