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415 Village Drive  
El Cerrito, California  
May 7, 2014 - 9:00 a.m.  
Report Number 52169

This Report Prepared for  
**Jeanne Hazemoto Trust**

Inspected by Brian Rood  
Member: American Society of Home Inspectors (ASHI)

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*The terms "not accessible" and "inaccessible" when used in this report indicate uninspected components that may have hidden defects not observed or noted in this report. These areas are beyond the scope of this inspection and should be inspected after access is provided.*

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## INTRODUCTION

### Property Description

We inspected the two-story, single-family residence at 415 Village Drive in El Cerrito, California on May 7 2014. This report describes the house as viewed from the street. The building site slopes gradually down to the rear. The sky was clear at the time of our inspection.

We were informed the building was constructed in 1943. Modifications have been made to the building since its original construction, including additions at the rear. We recommend a permit history be obtained from the local building department to determine if modifications to the building were made with proper permits.



The house was furnished at the time of our inspection, and areas obscured by furnishings were not accessible to our inspection. We recommend these areas be examined after the furnishings have been removed.

### General Comments

*This report lists the apparent conditions of items subject to wear from normal use. We typically use five terms to report these conditions: new or relatively new, minor wear, moderate wear, generally worn, and poor.*

*A new or relatively new item usually shows no signs of wear. An item reported as showing moderate wear appears to be in the mid-range of its anticipated lifespan. The term poor condition indicates a system or component that is at, or near, the end of its useful life span. Between these three basic levels we add two intermediate conditions: minor wear, which is not quite new; and generally worn, indicating a component nearing the end of its useful life.*

*This report is a general overview of the structural components and major systems. It is not intended to be technically exhaustive in any one field. If further information is desired, we recommend specialists in the relevant fields be retained to perform additional inspections.*

*A determination as to the presence of animal pests, rodents, termites, decay, or other wood destroying organisms is beyond the scope of this inspection. We recommend a qualified pest control firm be contacted with any questions concerning the presence or treatment of these organisms. We are not qualified in these fields. We recommend periodic examinations be made by a licensed pest control firm as part of routine property maintenance.*

*We may make recommendations or suggestions in this report that differ from requirements by the local building department. For determinations as to what is permitted in this jurisdiction, we recommend the local building department be consulted.*

## INTRODUCTION (continued)

*This report includes only those areas that are visually accessible and not areas that are made inaccessible by walls, concrete, earth, or any other obstacle to physical access or visual inspection, such as furniture or stored items. Defects in mechanical equipment not disclosed by our functional operation or visual inspection are not included. Items or conditions not mentioned in this report are not within the scope of this inspection. An examination of every window, door, light switch, receptacle, water valve, etc., was not made.*

*The photos included in this report are for illustrative purposes only. Not every condition or observation will have an associated photo. There is absolutely no relationship between the presence or absence of a photograph and the relative importance of each condition represented. Significant findings may or may not include an accompanying photo.*

*At the end of this report, we will list the recommendations we believe to be the most important. These recommendations may not be considered the only significant items. You may establish your own priorities after thoroughly studying this report, reviewing all the recommendations in the report, and consulting experts or specialists as desired.*

## EXTERIOR

### Stucco Siding

There is stucco siding at the upper front and at the sides of the original building. We observed stucco cracking; we recommend anticipating the need for periodic repair of stucco cracking as part of routine maintenance.

There is “straight-line” stucco cracking at the rear left, which is an indication that the stucco has been cut and patched without the proper lapping of wire lath necessary for strength. Future cracking in this area should be expected. We recommend this area be monitored and kept sealed or caulked as needed to prevent moisture entry. Modifications to stucco may include lapping the newer, added wire mesh (or lath) over the older existing wire, before applying the new stucco.

*Stucco consists of cement and sand plaster, reinforced with wire mesh and installed over a water-resistant membrane. New stucco is typically pigmented rather than painted, and the surface may show absorption of moisture from rains. Stucco cracking is common and may be caused by movement in the wall framing, foundation settling, seismic activity, or stucco shrinkage. Minor cracks usually do not need repair and are normally filled when the stucco is painted. Cracks large enough to allow water entry should be caulked or patched. In relatively new construction, the bottom of the stucco typically has a metal edge called a weep screed. The soil surface should be maintained below this edge to prevent moisture and unseen termite entry behind the stucco.*

*We do not perform destructive testing and in most cases cannot observe or determine the condition of wood (framing, sheathing, etc.) covered by stucco. There may be hidden damage behind the stucco, which is beyond the scope of this inspection. For more information, we recommend a qualified structural pest control firm be consulted.*

*In older buildings, the bottom of the stucco typically extends below soil level and may conceal damaged framing or termite entry. These areas should be inspected regularly by a structural pest control firm. There is a potential for damaged wood framing and sheathing behind older stucco surfaces, especially in areas where water from the roof or downspouts flows over the wall surfaces. We recommend periodic inspections be made by a qualified pest control firm. It may be necessary to make openings in the stucco to determine the condition of the wood framing behind the stucco.*

### Plywood Siding

There is plywood siding at the right rear addition, which shows moderate wear.

### Brick Siding

There is brick siding at the lower front, which shows minor wear.

### Exterior Conditions

There are holes in the siding at the left and we recommend all openings in the building exterior be repaired to prevent water and/or animal entry.

There are gaps in the siding at the rear corner where the stucco and plywood walls meet and we recommend all openings in the building exterior be repaired to prevent water and/or animal entry.

### Exterior Finish

The paint on the plywood siding is peeling and we recommend the peeling surfaces be scraped, sanded, caulked, primed, and painted as needed.

## EXTERIOR (continued)

### Front Porch

There is a concrete porch supported by wooden framing at the front. The concrete is cracked, and we recommend the concrete cracks be properly routed, or enlarged sufficiently to hold a good caulking bead, and a high quality sealant be applied as needed to prevent water entry.

We observed stains below this area, possibly indicating membrane failure. We recommend the exposed surfaces be kept well-sealed to prevent future water entry and damage.

The concrete is supported by framing that is not decay-resistant. The proper procedure is to use pressure-treated, decay-resistant lumber in areas potentially subject to dampness, especially where in contact with masonry or concrete. We recommend the framing be monitored for damage or decay and the exterior surfaces be kept well sealed.



Stains on framing below porch

Post connections do not appear adequately secured, and we recommend all post-beam and post-pier connections be reviewed by a qualified contractor and strapped, or otherwise reinforced, as needed.

*Concrete, brick, tile, and other masonry stairs, landings, and decks are often supported by wood framing. A membrane is typically placed over the framing to prevent moisture entry and damage. The framing beneath the membrane should be regularly checked for signs of water penetration. Any cracks or openings in these surfaces should be caulked or filled in order to prevent water entry.*

### Front Staircase

There is an on-grade, concrete staircase at the right front. The concrete is cracked and damaged at the top step where the steel handrail is anchored and we recommend repairs be made as needed.

### Exterior Railings

The front porch staircase does not have handrails.

The openings in the front porch guardrails are too large and the railings are too low according to modern safety standards, which require guardrails to be at least 42 inches high. The standard for railing height was recently changed from 36 to 42 inches in height.

We recommend proper railings be installed as needed for safety. We have provided an enclosure at the end of this report describing proper handrail and guardrail design.

*Modern building standards call for guardrails at least 42 inches high. Most jurisdictions now require 42-inch guardrails in new construction at every deck, stair, or landing more than 30 inches above an adjacent surface, and require railing openings less than four inches in diameter. Large railing openings that may allow a child to fall through should be modified for safety. This standard was recently changed from six inches to four inches, as it has been found that small children can slip through a six-inch opening.*



## EXTERIOR (continued)

*For maximum safety, staircases with three or more risers should have handrails that are between one-and-one-half and two inches wide and shaped so that the handrail can be readily grasped. Handrails should be installed 34-38 inches above the leading edge of the stairway treads. Handrails should return to the railing, post, or to the floor. They should not end in a projection that could hook clothing or other items. Large railing openings that could allow a small child to fall through should be modified for safety. Modern standards call for openings to be less than four inches wide.*

### **Walkways**

The walkways show typical surface cracking. The concrete patio at the left rear has settled, creating several potential trip hazards, and we recommend repair or replacement as needed to provide for safe foot traffic.

### **Driveway**

There is a concrete driveway at the front left, which shows minor wear.

The driveway slopes down toward the garage. There is a drain opening in the driveway. We did not observe any indications of water entry. We did not determine the effectiveness of the driveway drain system. Rainwater may flow onto the garage floor in heavy storms and this area should be reviewed periodically in wet weather.

*Drains can be effective in reducing ponding and controlling surface water around the building. Drains can be clogged with debris, and care should be taken to prevent obstruction of the drain openings. All surface drains should be tested periodically by using a garden hose and observing the drain discharge location. Testing drainage systems is beyond the scope of this inspection.*

### **Grading and Drainage**

There is a negative slope at the front which can direct the flow of surface water toward the foundation and could contribute to a defective drainage condition. For proper drainage, surfaces should slope away from the foundation. We recommend this area be monitored and the grading be corrected if needed.

There appears to be an underground drainage system. We recommend any available information on the drainage system design be obtained for future reference.

### **Landscaping**

Plants are growing against the exterior and we recommend they be trimmed away from the building or removed to prevent damage and insect entry.

*Vines, shrubs, or trees that touch the building should be removed or trimmed back periodically to prevent damage to the siding, eaves, or roof surfaces. Tree branches can damage the siding or roof, especially in high winds or stormy weather. Trees may also deposit substantial leaves and debris on the roof surface, resulting in poor drainage and roof damage.*

EXTERIOR (continued)

**Fencing**

There is wood fencing at the sides and rear. The fencing is loose, leaning, and damaged in a few places. We recommend the fencing be repaired or replaced as needed.

The left and right gates are difficult to operate and we recommend they be repaired or adjusted as needed for convenient operation.

**Exterior Structures**

There are detached sheds at the right, which we did not inspect.



## ROOFING

### Roof Access

We inspected the roofing systems after obtaining access with a ladder.

### Composition Shingle Roofing

The original structure has composition shingle roofing, which shows moderate wear.

The roofing has been patched near the skylights, possibly indicating previous roof leakage and subsequent repairs. We recommend a history of patching and other roof repairs be obtained, including the name of the repair contractor and the extent of any leaks and related damage.

### Modified Bitumen Roofing

There is modified bitumen roofing at rear addition, which shows minor wear.



Patched roofing

### Roof Flashings

The roof flashings primarily are sheet metal.

Proper step flashings were not installed at the roof-to-wall connections.

*Sheet metal, membrane roofing materials, and sealing compounds such as mastic, are often used to prevent water entry at roofing connections and penetrations. Flashings need periodic maintenance and should be inspected annually.*

There are parapet walls at the rear roof perimeter.

*Parapets are short walls that extend above the roof. Horizontal surfaces at the tops of the parapets may not shed water adequately and can allow water entry at cracks or connections. Sheet metal caps are typically used in commercial construction to prevent water entry. These areas can also be protected by applying a roofing material or by sealing with a waterproof coating.*

### Roof Drainage

The sheet metal rain gutters show minor wear. We did not observe any indications of significant previous standing water and the roof areas appear to drain properly. We recommend the roof surfaces be reviewed periodically in wet weather to ensure that they drain adequately.

Drainage at the rear addition is provided by surface-mounted roof drains at the left and right rear corners. The roof drains may be too small to provide effective drainage. We recommend these drains be reviewed periodically and adequate roof drains be installed if needed.

We recommend large box-shaped screens with quarter-inch mesh be installed at the roof drains to reduce the potential for clogging.

### Downspouts

The downspouts empty near the foundation walls. We recommend the foundation area be monitored for signs of water entry and the downspouts be modified to direct rainwater away from the foundation if needed.

## ROOFING (continued)

*Substantial water will flow from a roof and enter the foundation area unless it is directed away from the building perimeter, which is usually done by installing extensions or splash blocks for the downspouts. Subsurface drain piping may be needed in some areas to provide adequate drainage.*

### **Roofing General**

*Roof surfaces, rain gutters, downspouts, and subsurface drain lines should be reviewed regularly. Leaves and other debris should be removed as needed. Gutter joints and connections may need periodic caulking or sealing. Screens can be installed at downspout gutter connections to keep debris from blocking the downspouts. We recommend periodic inspections be performed to be sure the roof drainage systems function properly. Observing roof and foundation areas during or shortly after heavy rains is a good way to find deficiencies in the roof and area drainage systems.*

*This inspection addresses only the apparent visual condition of roofing materials, and does not include invasive testing or guarantee against present or future leakage. We recommend annual examinations be made by a qualified roofer for needed periodic maintenance and repair.*

## ATTIC

### **Attic**

Access to the attic is through the rear bedroom closet ceiling. There is an additional attic access opening through the ceiling at the lower level staircase. Our inspection of the attic framing and other items was limited to a visual examination from the access openings to prevent damage to the ceilings below.

The attic is framed with 2x (two-inch nominal dimension) rafters and ceiling joists. The rafters have both “skip,” or spaced, board sheathing, and plywood sheathing. Aspects of the attic framing are outdated and the framing appears undersized by modern standards. We recommend the attic framing be examined and reinforced as needed by a qualified contractor before new roofing or other weight is placed on the framing.

The attic ventilation appears sufficient.

The attic is insulated with loose rock wool, which appears to vary in thickness from approximately eight to ten inches.

*Special procedures should be followed prior to insulating an attic that has knob and tube wiring, including an inspection of the wiring by a qualified electrician who can certify it as safe. A warning notice should be posted stating that live wiring is present beneath the insulation. One method to reduce the risk of wire overheating is to lower the amperage carried by the wiring. This can be done by installing 15-amp fuses or breakers to protect the circuits with knob and tube wiring.*

## STRUCTURE

### Substructure Access

We accessed the subfloor area from the left exterior. There are subfloor area access openings in the basement.

Portions of the foundation were not accessible to our inspection. Our ability to fully examine the foundation and substructure framing was limited by wall surfaces, flooring, and other obstructions to our view.

*Access is often restricted by obstructions to a visual examination. Wherever possible, access should be provided to these areas so that an inspection can be made. With access and opportunity for inspection, defects may be found in the inaccessible areas.*

The subfloor area access door is loose from its hinges and we recommend it be repaired or replaced.

### Building Type and Foundation

The house is a wood-framed structure with a raised perimeter concrete foundation, intermediate foundation walls, and intermediate pier supports. The lower level has a concrete slab floor. The foundation appears constructed of modern steel-reinforced concrete. A determination as to the presence or extent of steel reinforcing is beyond the scope of this inspection.

Structural modifications have been made to this foundation. We recommend a history of structural modifications be obtained. We recommend any building permits, plans, and specifications be obtained if possible.

We observed efflorescence on the foundation in a few places.

*Efflorescence is a white powdery deposit that occurs on masonry or concrete and indicates the presence of moisture in contact with the masonry or concrete. Minor efflorescence is common even in new construction. Substantial efflorescence indicates a defective moisture entry condition.*

### Framing

The house has a wood-framed flooring system, which consists of one-inch thick (nominal) decking boards installed over two-inch thick (nominal) joisting. Plywood decking has been installed at the left lower level. Aspects of the substructure framing are outdated and would be considered substandard according to modern construction practice. This framing may need modification during future seismic upgrading.

Solid blocking has not been used between the joists, as is typically required in new construction. The purpose of blocking is to stiffen and reinforce the floor framing.

The floor framing is not provided with insulation, as is typical in buildings of this age and type. We suggest insulation be added to reduce energy costs and to increase comfort.

### Seismic

Plywood bracing panels have been installed. These panels may help provide additional resistance to movement during an earthquake. Any determination as to whether the panel installation meets modern engineering requirements is beyond the scope of this inspection.

## STRUCTURE (continued)

*The installation of plywood bracing (often referred to as “shear paneling”) on wall framing provides earthquake and wind resistance. It is typically used on the walls between the foundation and floor framing and around garage door openings. The panels should be nailed at all edges and at the intermediate members. It may be necessary to add blocks between the vertical studs to get bearing on all edges of the plywood. Minimum nail spacing is usually six inches, and engineers often recommend nailing every three or four inches for greater strength. Ventilation should be provided in each stud space when shear paneling is added to the inside of exterior subfloor area walls. Ventilation is usually provided by drilling two-inch diameter holes in the plywood at the top and bottom of each stud bay.*

Some of the plywood panels on the exterior walls are not provided with ventilation openings and we recommend ventilation holes be added as needed to reduce the potential for moisture accumulation and decay.

We observed anchor bolts under the front porch and at one of the intermediate walls. The foundation-to-wall connections were largely inaccessible to our inspection and we were unable to determine the type or extent of bolting.

The foundation has been upgraded for seismic movement by the addition of new bracing panels, bolts, and connectors. We recommend a history of these improvements be obtained for future reference.

Small bolts have been added that appear undersized according to modern seismic requirements. These bolts are not likely to provide substantial resistance to seismic forces.

*Anchor bolts and other devices are used to secure the framing to the foundation to resist displacement during earthquakes or high winds. The modern standard calls for bolting at least every six feet, with bolts within the last twelve inches of each piece of sill plate. Buildings greater than one story or on hillsides may require additional bolts and other seismic devices. For more information on seismic bolting and bracing, we suggest you visit:*

*www.abag.ca.gov/bayarea/eqmaps/fixit/fixit.html, www.strongtie.com/about-connectors.html and the Simpson Seismic Retrofit Guide at <http://www.strongtie.com/ftp/fliers/F-SEISRETRGD12.pdf>.*

The large garage door opening in the lower portion of the building might place it in a category of “soft story” structures, which are more vulnerable to earthquakes than buildings with more solid lower walls and fewer windows, doors, and other similar openings. We recommend the potential soft story areas be reviewed by a qualified engineer for seismic upgrading.

### **Subfloor Area**

Ventilation provided to the areas beneath the building appears adequate. The subfloor area soils were dry at the time of our inspection.

*The soil below homes in California is typically exposed to the air to help it dry out when it gets wet or moist. Subfloor areas subject to periodic dampness and less-than-perfect ventilation are subject to excessive humidity, musty odors, and other potential mold-producing conditions at various times during the year. Some experts are now of the opinion that covering the soils with plastic sheeting, and possibly poured concrete, can substantially reduce these potentially problematic conditions.*

## STRUCTURE (continued)

### **Lower Level Areas**

The house has a full basement. The basement area is partially finished with interior wall surfaces. The flooring was dry at the time of our inspection and we saw no indications of significant previous water entry.

*Floors that are below or near the exterior soil level may be subject to water or moisture entry, especially in very rainy weather. It is not unusual to find occasional or unexpected water entry in below-grade areas that have been dry for years. We recommend precautions be taken when storing items that may be damaged by moisture.*

Some of the concrete slab flooring is covered with carpet.

*Concrete slab floors tend to absorb moisture from damp soils below the concrete. Carpeting, especially wall-to-wall, placed on the slab floor will restrict evaporation and create a potentially attractive place for mold growth. These areas should be checked regularly for dampness, stains, visible mold, or musty odors. Applying a waterproof coating to the concrete can prevent or reduce moisture entry. Carpet removal is sometimes the most effective solution. One alternative is to have the concrete painted and to use loose area rugs, which can be easily lifted and dried should moisture entry occur.*

### **Structure General**

We did not observe any indications of unusual settlement or movement in the building foundation or structure.

# ELECTRICAL

## Electrical Service

The main service panel is fed by overhead wiring, which is typically owned and maintained by the local utility provider.

## Main Electrical Panel

The main breaker panel is at the left exterior. The panel enclosure is rated by the manufacturer at 200 amps, 120/240 volts and has a 200-amp breaker disconnect. This capacity should be adequate for normal electrical use. This panel is relatively new and the wiring appears properly installed.

The electrical system has been substantially upgraded.

The circuits are not protected by arc fault circuit interrupter (AFCI) breakers and we suggest they be installed by a qualified electrician to meet modern safety standards.

*Arc fault circuit interrupter (AFCI) breakers are relatively new safety devices, required in circuits in new construction. AFCI breakers are designed to prevent fires by detecting an electrical arc and disconnecting the power before the arc starts a fire. An AFCI breaker should not trip during normal arcing conditions, which can occur when a switch is opened or a plug is pulled from a receptacle. AFCIs have a test button that should be operated periodically to ensure the device is working properly. To reset an AFCI breaker, push the switch to the "off" position and then push the switch to the "on" position.*



Main panel

## Wiring

The house is wired with Romex (nonmetallic-sheathed cable or NMC) wiring.

Portions of the wiring in the attic are not properly secured and staples are missing, and we recommend the loose wiring be properly secured as needed. The general rule calls for staples or supports every four and one-half feet, and within twelve inches of each electrical box.

## Fixtures

The representative light fixtures we observed functioned properly and appeared properly installed.

A ceiling fan has been installed in the living room. Ceiling paddle fans typically require special boxes for support and should not be supported solely by a lighting receptacle box. In most installations, an inspector cannot directly view the box supporting the fan. To determine if a paddle fan is properly supported, it may be necessary to consult a qualified electrician.

The living room ceiling fan is out of balance and wobbles, and we recommend this fan be properly balanced or a new fixture installed.



## ELECTRICAL (continued)

### Receptacles and Switches

We observed both two-hole and three-hole receptacles.

*The two-hole receptacles are not grounded and most surge protectors will not function to protect electronic equipment when plugged into a two-hole receptacle. We suggest consulting with an electrician about adding grounds or adding new grounded receptacles when expensive or important equipment is at stake.*

The number of receptacles available for use is fewer than is required in new construction, which encourages the use of extension cords and can result in hazardous conditions. We recommend additional receptacles be added as needed for convenience and safety.

We observed ungrounded three-hole receptacles and we recommend each three-hole receptacle be examined by a qualified electrician and properly grounded as needed.

*Ungrounded three-hole outlets, also known as “open grounds,” are common in older buildings and typically occur when two-hole outlets are replaced with three-hole types without adding a grounding wire. Properly installed three-hole outlets have a third grounding wire and are necessary for appliances with three-prong plugs. Using a three-prong plug in an ungrounded three-hole outlet is potentially hazardous. The accepted means of correcting this condition include replacement with a two-hole receptacle, installation of a proper grounding wire to the outlet, or replacement with a GFCI receptacle.*

*Most surge protectors require a properly-grounded receptacle to protect electronic equipment and we recommend each receptacle be checked for proper grounding before using a surge suppresser device. A GFCI-type receptacle will not substitute for proper grounding.*

A receptacle in the lower level bathroom is wired in reverse polarity and we recommend the reverse polarity be corrected.

*Reverse polarity is a defect where the hot and neutral wires to an outlet are reversed (or cross wired). This is a potential safety hazard, but is usually easily corrected. The smaller outlet slot (brass terminal) should be connected to the hot wire (black), and the large slot (silver terminal) to the neutral wire (white). The standard since 1948 has been to provide electrical equipment with polarized plugs.*

We observed only a few GFCI-protected receptacles, as is common in older buildings. GFCIs are relatively inexpensive and provide an important margin of safety. We recommend ground fault circuit interrupter protection be added as needed to meet modern safety standards.

*Ground fault circuit interrupters are breakers or receptacle outlets designed to protect against electrical shocks. In recent years, most jurisdictions have required ground fault protection for outlets in bathrooms, exteriors, basements, and garages (except those in a designated appliance location such as for laundry equipment). Recent regulations require GFCI protection at all kitchen countertop and wet bar receptacles. A single GFCI receptacle may be used to protect other outlets downstream from it on the same circuit. GFCI outlets and breakers have test buttons that should be operated periodically to ensure that the devices are functioning properly.*



## ELECTRICAL (continued)

### **Electrical General**

The number of circuits and receptacles in this system is fewer than required in newer construction and we recommend an electrician be retained to analyze the system and determine how it needs to be upgraded in order to comply with modern safety standards. Insufficient circuits and receptacles often lead to overloading and excessive use of extension cords.

# PLUMBING

## Water Supply

There is a main valve in the meter box at the street which requires a special wrench to operate. The underground main supply piping was not accessible to our inspection and we could not determine the material or piping size.

We measured the water pressure at 70 pounds (PSI). Pressures between 40 and 80 pounds are considered to be in the normal range.

Both copper and galvanized steel piping have been used in the visible interior water supply piping system. The galvanized steel portions of the water supply piping are in generally worn condition. We recommend the need to replace the steel portions of the water supply piping in the near future be anticipated.

*Copper piping is considered superior to galvanized steel, as it is less susceptible to the accumulation of mineral and rust deposits, which can reduce water flow. The extent to which this occurs depends on the kind of water and the age of the piping. In the course of remodeling, it is generally best to replace older galvanized piping with copper, at least in the portions that are modified.*

We observed a noticeable drop in the water flow at the plumbing fixtures when two or more faucets or valves were operated at the same time.

Unbonded dielectric unions have been used to connect copper and galvanized piping in the basement area. We recommend proper bonding be installed on all dielectric unions as needed for electrical system safety.

*Dielectric fittings have plastic or rubber washers to prevent direct contact between copper and galvanized supply piping, which can cause the galvanized steel piping to rust. Water supply piping is often used to provide electric grounding for appliances, and the plastic washer in the union breaks the continuous connection necessary for an effective connection. Copper jumper wires should be secured to clamps placed on both sides of the fittings to provide grounding or bonding of the system. The copper jumper wire may still contribute to galvanized pipe corrosion, but is advised for greater electrical safety. The only way to completely eliminate the corrosion potential is to eliminate the galvanized piping.*

## Waste Piping

The visible drain, waste, and vent system has primarily cast iron and galvanized steel piping. ABS plastic piping has been added. There is a cleanout for the waste piping system at the left exterior.

*Cast iron and steel waste piping deteriorates with age, and will develop small pinhole leaks, which will rust and temporarily repair themselves. Eventually all old piping will fail, requiring replacement. We recommend periodic monitoring and replacement by a qualified contractor as needed.*

There is a leak in the laundry area waste piping and we recommend repair by a qualified plumber.

The underground waste piping that runs from the building to the main sewer may be original, and piping of this age is often worn or damaged in the underground portions. Old sewer piping is often blocked or damaged by roots and other obstructions. We recommend a history of any previous drain blockages be obtained. We recommend the sewer laterals be examined for defects by a qualified plumber using special video equipment designed for this purpose.

## PLUMBING (continued)

Many East Bay property owners are now required to obtain a certificate indicating that their private sewer laterals (PSL) are without defects and have proper connections prior to the sale of the property. We recommend it be determined if the sewer lateral has been tested for compliance with Regional Private Sewer Lateral Program regulations and the certificate of compliance be obtained.

*The United States Environmental Protection Agency (EPA) in collaboration with the California Regional Water Quality Control Board is spearheading an effort to keep San Francisco Bay clean. These agencies are requiring EBMUD, several East Bay cities, and one sewer district to fix, old, cracked sewer pipes to ensure they do not allow the infiltration of rain or ground water, which can overwhelm water treatment facilities, resulting in the release of partially treated sewage into the Bay. For more information, see [www.ebmud.com/psl](http://www.ebmud.com/psl).*

### **Gas Piping**

The gas meter is located beneath the building at the left. The gas shutoff valve is outside near the meter. The gas piping is not provided with an automatic seismic gas shutoff valve, which is now required by many local jurisdictions and some insurance companies. Some shutoffs are triggered by movement, which is preferred by most professionals, and others are triggered by variations in gas flow. We recommend an automatic seismic shutoff valve be installed as a safety upgrade.

### **Plumbing General**

*Angle stops are shutoff valves normally found beneath sinks and toilets in modern construction. They provide a convenient disconnect in case of leakage and facilitate repairs. These shutoff valves are rarely used, and may “freeze” in place or leak when operated. We recommend angle stops be operated periodically to keep the valves functional. We do not normally turn these valves during an inspection as this may cause them to leak.*

*We recommend waste piping be cleaned out periodically to remove any accumulation of grease, hair, or dirt, and to help prevent future debris blockage and subsequent drainage failure. We do not inspect buried, or otherwise inaccessible, supply or waste piping.*

*The gas and water piping was not fully accessible, and an examination of each connection was not made. The standard test for gas leakage is to have the piping pressure tested. This is sometimes required before the gas can be turned on after it has been disconnected. With testing and a close examination of all the piping, leaking or other defects may be found.*

*We recommend storing a large wrench near the main gas valve so the gas can be shut off quickly in an emergency. To shut off the gas, turn the valve 90 degrees so the handle is at a right angle to the pipe. Gas valves are often difficult to turn and the small earthquake wrenches sold at hardware stores may be too small to operate these valves easily. We recommend testing the valve periodically by turning it slightly to see if it moves. A plumber or the local utility company could adjust or lubricate this valve if needed to allow for easy operation.*

## WATER HEATING

### Water Heater

There is a 40-gallon, gas-fired water heater in the basement. The water heater was manufactured in 2002; it shows minor wear.

We recommend a catch pan with a moisture alarm and drain piping be installed beneath the water heater to prevent damage and to warn occupants should the water heater leak.

*If the location of the water heater makes the installation of a properly sloped drain difficult or impossible, installing a catch pan with a moisture alarm will alert occupants before a water heater leak can cause damage or waste water and energy.*

The water piping at the water heater does not appear fully bonded as is typically required in new installations. We recommend proper bonding clamps and wiring be installed for electrical safety.

The water heater has a temperature and pressure relief (TPR) valve.

*A temperature and pressure relief (TPR) valve is a safety valve that releases excess pressure from the water heater in the event the regulator fails. It is an important safety device that can prevent a dangerous explosion. Hot water may occasionally drip or spray from the valve discharge pipe when it is triggered by changes in water pressure. Leaky valves may fail from encrusted mineral residue, and should be replaced. Most TPR valve manufacturers recommend the valve be tested once a year.*

The water heater is equipped with seismic restraints to prevent movement during an earthquake. The stand-off blocks, or supports, are missing and we recommend they be installed at each strap to keep the water heater firmly in place when the straps are tightened. We are enclosing a diagram at the end of this report that shows modern seismic strapping techniques.

*Adequate water heater strapping, or bracing, can significantly reduce damage that can occur from water heater movement. As of January 1, 1997, sellers in California are required to certify their water heater complies with current guidelines upon transfer of the property.*

### Water Heater Maintenance

*It is important to avoid storing combustible items near water heaters and other gas-fired appliances.*

*The life of a water heater may be extended by periodically removing the sediment that builds up in the tank. Attach a garden hose to the drain valve at the bottom and open the valve until the water runs clear. Drain valves commonly drip, and can be repaired by installing a plastic cap. We recommend the temperature adjustment control be kept in the middle range and the water temperature never be set hot enough to scald someone accidentally. The life of a water heater may also be extended by replacement of the sacrificial anode. These are generally designed to last only five years. Replacement anodes can be obtained at plumbing supply stores.*

## HEATING

### Furnace

There is a gas-fired furnace in the basement. This is a forced-air unit with a blower to distribute conditioned air through a ducting system. The input capacity is rated at 80,000 BTUs. The furnace was manufactured in 2002; it shows moderate wear. We operated the heating system, which appeared to function properly.

The heat exchanger in the furnace was not accessible to visual inspection.

*The heat exchanger is a metal chamber that encloses the flame and transmits heat to the circulating air. With age and use, cracks or rust holes can develop in heat exchangers. Fumes from the burners may flow through the exchanger wall and enter the living area. We advise installing carbon monoxide detectors in several interior rooms to warn occupants if the exchanger produces hazardous gases. Heat exchangers should be carefully examined as part of routine servicing. Only a small portion of a typical heat exchanger is accessible to visual inspection and unobserved holes or cracks may be present.*

The furnace is an induced-draft, high efficiency, condensing type. The increased efficiency creates lower flue temperatures and allows plastic piping to be used in the venting system.

*Induced-draft furnaces of this kind are typically rated in the plus 90% efficiency range, and are often referred to as "Plus-90" systems. The heat from burning natural gas and the noncombusted gases or fumes are drawn through tube-like or serpentine heat exchangers that have a large surface area. Furnaces that are more efficient tend to operate at higher internal temperatures and the heat exchangers are exposed to moisture created by natural gas combustion. These conditions have led to premature heat exchanger failure in some furnaces after only five or ten years of use. These heat exchangers are almost completely inaccessible to inspection without furnace disassembly. We recommend annual inspections of these furnaces be made by a qualified heating contractor. Some manufacturers are covering the cost of heat exchanger replacement and we suggest copies of any warranties be obtained for future reference.*

A condensate lift pump has been provided to pump the condensate moisture through a plastic tube. We recommend the reservoir and pump be reviewed periodically for overflow or leakage.

The disposable filter is at the left of the furnace.

*Air filters prevent the accumulation of dust and dirt on the blower fan blades, which can significantly reduce efficiency. Air filters should be checked monthly and changed or cleaned, depending on type, as necessary. A clogged air filter can lead to reduced airflow over a furnace heat exchanger, resulting in premature heat exchanger cracking or failure.*

Warm air is distributed to the conditioned spaces through the ducting system. The older ducting is the rigid type, which is wrapped with an apparent asbestos material. Modern, flexible ducting has also been installed.

A determination as to whether adequate heating is provided to all the interior spaces is beyond the scope of this inspection.

The heating equipment does not appear to have been recently serviced, and we recommend a qualified firm be retained to examine and service this equipment and make any needed repairs. We recommend servicing be performed annually as part of routine maintenance. Significant defects may be found in this equipment during proper servicing.

## FIREPLACE AND CHIMNEY

### Fireplace

There is a masonry fireplace in the living room. The brick firebox is in generally worn condition. The mortar between the firebox bricks is soft in places. Portions of the firebox mortar are missing. We recommend the firebox be repaired by a qualified contractor.

*Soft mortar is typically caused by moisture in the brickwork and is common in older fireboxes. As the mortar weakens it becomes less able to hold the bricks in place. Large gaps in the mortar should be repaired to safely contain the fire in the firebox. A common repair method for deteriorated mortar is to “repoint” the brickwork by removing the soft mortar and replacing it with fire clay mortar. Small mortar cracks can be patched with silicate cement formulated especially for fireplace repairs. A qualified contractor should be retained to determine the appropriate repair method.*



Efflorescence and damage

We observed efflorescence in the firebox, apparently caused by moisture rising up from below or entering from the chimney above.

The throat area above the firebox was not accessible to our inspection and we recommend this area be carefully examined by a qualified chimney repair contractor.

The fireplace has a damper. The damper is stuck and damaged, and we recommend it be replaced.

*The purpose of a damper is to block the flow of warm room air up the chimney when the fireplace is not in use. An open flue is comparable to an open window and will substantially reduce heating system efficiency. Dampers should be kept closed when fireplaces are not in use. Glass doors can also be used to serve the same function.*

### Chimney

The fireplace has a brick chimney. The flue does not have a spark screen or rain cap and we recommend a proper screen and cap be installed.

*A proper rain cap and spark arrester screen should be provided for each fireplace flue to prevent water entry. Water entry can damage the fireplace or chimney masonry. A screen will prevent the escape of flaming embers, which can be a fire hazard. Manufactured rain cap spark arresters are available in building supply stores or can be installed by a qualified chimney sweep.*

We applied moderate horizontal pressure to the chimney and observed no indications of significant looseness or movement in the portion that extends above the roof.

*Fireplace and chimney repair contractors may choose to apply strong pressure on chimneys to see if they are “broken”. Excessive pressure, especially against older unreinforced brick chimneys can damage or even break them at the roof line. We suggest chimney/fireplace contractors/inspectors be advised to use reasonable caution when pushing on chimneys while checking them for looseness or damage.*



## FIREPLACE AND CHIMNEY (continued)

*Modern brick or concrete block chimneys or flues are typically lined with clay tile or concrete sections mortared together. The purpose of the liner is to contain a potential chimney fire. Liners and the mortar that join them together may deteriorate with age and use, reducing their effectiveness. Flue liners are not typically accessible to visual examination. Tall chimneys that extend above the roofline may need to be braced to prevent movement, which can break the mortar, bricks, or liner. All older chimneys should be carefully checked by a qualified chimney contractor before building a fire (or before the close of escrow). Any flue that is inaccessible may contain a defective flue liner or the liner may have been omitted.*

*Most older masonry fireplaces, chimneys, and flues, installed before 1970 do not have steel reinforcing and do not have the same strength or resistance to earthquakes, as do modern masonry or prefabricated chimneys. Older chimneys may have been subject to multiple seismic events and often have hidden cracks, breaks, damaged flue tiles, and other weaknesses not apparent during a general home inspection. The only way to determine if a fireplace and chimney are safe to use is to have a detailed inspection of the chimney and flue interior by a qualified specialist.*

### **Fireplace and Chimney General**

We recommend a certified “level 2” fireplace contractor be retained to perform a safety inspection of the fireplace and chimney and make any needed repairs.

We recommend the fireplace not be used for burning until repairs have been made.

*Fireplaces that are used regularly should be reviewed annually by a licensed chimney sweep or qualified chimney contractor. Fireplaces and chimneys should also be inspected after any indications of movement from settling or earthquake activity. Determinations as to whether fireplaces or chimneys have adequate draw, or are subject to smoking, or as to the soundness of chimney flue tiles, brickwork, or sheet metal are beyond the scope of our inspection.*

*The National Fire Protection Agency recommends a “level 2” inspection by a certified chimney sweep whenever a building is sold. The “level 2” inspection should include examination of the flue interior and other aspect of solid fuel appliances that we are not qualified to evaluate and comment upon. For more information, please see the Chimney Safety Institute of America’s website: [http://www.csia.org/homeowner-resources/chimney\\_inspections.aspx](http://www.csia.org/homeowner-resources/chimney_inspections.aspx).*



## INTERIOR

### **Walls, Ceilings, and Flooring**

The interior wall and ceiling surfaces are primarily plaster. There are large cracks in the living room and rear bedroom ceilings and in the stairway ceiling and we recommend they be repaired for a better appearance.

Several of the interior walls are covered with paneling. The rear addition has open beam ceilings with exposed wooden decking.

*Exposed wood is flammable and will allow a fire to spread more quickly. We suggest the surfaces be upgraded with drywall or other more fire-resistant materials. We recommend special care be taken to maintain smoke alarms and a fully charged fire extinguisher be kept in a readily accessible location.*

The kitchen ceilings are damaged and we recommend they be repaired.

The floor surfaces, in general, show minor wear. We did not observe any unusual sloping in the building flooring.

### **Windows**

The house has vinyl plastic-framed sliding-glass windows. There is also one jalousie window in the lower level bathroom. The windows we operated functioned properly.

The windows are the dual-glazed or double-pane, energy-efficient type.

*Dual-glazed windows reduce energy loss and noise transmission. A common problem with dual-glazed windows is a failure in the seals, which allows moisture to enter and form condensation or fog between the panes of glass. This condition is often not visible during our inspection and can occur at different times due to changes in temperature.*

The glass pane in the lower level door at the left is apparently untempered.

We recommend the glass in areas of potential impact be replaced with safety glass or protective safety films be applied.

*The general rule for new construction is that glass that is less than 24 inches from the floor (and larger than nine square feet); glass that is within 24 inches of the edge of a swinging door; or glass in a door (unless smaller than three inches in diameter) must be the tempered safety type. While there is no requirement to change existing glass, safety glass is usually required when new glass is installed. Special care should be taken in these areas until safety glass is installed. Furniture can often be arranged to direct traffic away from non-safety glass windows. Applying decals to glass doors and large windows can help prevent accidents caused by persons who may think they are walking through an open door. Special plastic films are available that can be applied to the glass to reduce the likelihood of injury should the glass break.*

### **Doors**

The rear bedroom door sticks and we recommend it be repaired to operate properly.

The lower level exterior wooden door shows minor damage from weather exposure, and we recommend this door be repaired, sealed, and painted as needed.

INTERIOR (continued)

### **Stairways and Railings**

The rear addition stair grab railings do not terminate against the wall or a post as required in new construction and can catch clothing, creating a falling hazard.

We recommend proper railings be installed as needed for safety. We have provided an enclosure at the end of this report describing proper handrail and guardrail design.

### **Carbon Monoxide and Fire Safety**

We did not observe any carbon monoxide detectors and we recommend carbon monoxide detectors be installed as required by California law.

*The Carbon Monoxide Poisoning Prevention Act requires all single-family homes and apartment buildings with an attached garage or a fossil fuel source to install carbon monoxide alarms. This law applies to dwellings having at least one of the following: a fossil-fuel burning appliance or heater (wood, gas, oil, or coal), an attached garage, and/or a fireplace. Carbon monoxide detectors are required to be installed outside of each separate sleeping area in the immediate vicinity of the bedroom(s), and on every level of the home (including basements). For further information about these detectors, please see the California State Fire Marshal enclosure at the end of this report.*

We did not locate any smoke detectors and we recommend photoelectric-type smoke alarms be installed as needed to comply with modern fire safety standards. We have enclosed more information about smoke detectors at the end of this report.

### **Interior General**

*We operated a representative sampling of the windows. All windows were not reviewed for proper functioning, cracked or broken glass, or for the presence or condition of screens. This inspection does not include areas that are obscured by furniture, carpets, coverings, or any other items.*

*We do not perform a survey of the flooring for slope or uniform elevation as part of our standard inspection.*

## KITCHEN AND LAUNDRY

### Kitchen

The kitchen has wood laminate flooring, plastic laminate countertops, a cast iron sink equipped with a disposer, a gas range, and a dishwasher. The fixtures and surfaces show moderate wear.

The cabinet drawers are difficult to operate and we recommend they be repaired to operate freely.

Access to the area below the sink cabinet was very limited due to stored items and defects may be present that we were unable to observe.

Shutoff valves are not installed below the sink, which is not unusual in buildings of this age. These valves allow easy emergency shutoff. We suggest shutoff valves (or “angle stops”) be installed as part of future kitchen upgrading.

The exhaust fan is an unducted type that is not connected to the exterior and returns the filtered air back into the living space. We recommend a fan ducted to the exterior be installed as desired or as part of any future remodeling.

Receptacles near the sink are not GFCI-protected and we recommend ground fault circuit interrupter protection be provided as an upgrade.

The kitchen is not provided with sufficient receptacles by modern safety standards and we recommend adequate GFCI-protected receptacles be installed as needed.

*Modern kitchens require receptacles every four feet along countertops and within 24 inches of the sink or the end of the countertop. Each individual countertop area should have at least one receptacle.*

There are ungrounded two-hole receptacles and we recommend they be replaced with properly grounded GFCI-protected receptacles.

### Laundry

There is a laundry area in the basement. The laundry area has connections for a clothes washer only; it is not provided with power or venting for a clothes dryer. The laundry area has carpet flooring, which shows moderate wear.

The washing machine does not have a catch pan. We recommend a catch pan equipped with a moisture alarm be installed to prevent damage to building flooring and furnishings if the washer leaks.

*The location of the washer makes the installation of a properly sloped drain difficult or impossible. Installing a catch pan with a moisture alarm that will alert occupants before a washing machine leak can damage floors or furnishings is an alternative.*

We suggest the clothes washer hose connectors be upgraded with metal-sheathed “no-burst” types to reduce the potential for hose failure.

The one-and-one-half-inch clothes washer drain line can only carry nine gallons per minute maximum. Some new washers discharge up to thirteen gallons per minute. If a new washer is installed, it may be necessary to install a two-inch drain line with a fifteen-gallon per minute capacity. A determination of waste piping adequacy is beyond the scope of this inspection.

# BATHROOMS

## Hall Bathroom

This bathroom has vinyl flooring, a window and an exhaust fan for ventilation, a cast polymer countertop and sink, and a shower with ceramic tile walls over a cast iron bathtub. The fixtures and surfaces mostly show moderate wear.

There is a noticeable drop in water flow at the shower when more than one valve is operated at a time.

We recommend the shower wall connections be cleaned and caulked as needed.

There are gaps at the bathtub fill spout and at the shower valves, and we recommend these gaps be caulked to prevent water entry.

The water flow is very low at the sink hot water faucet and we recommend repair by a qualified plumber.

Access to the areas below the cabinet was very limited due to stored items and there may be unobserved defects.

The toilet is loose from the floor and we recommend it be properly secured by a qualified plumber.

*A loose toilet can cause water leakage and damage to the flooring. The seal at the base of the toilet also prevents entry of sewer gas (methane) into the living area. To reset a loose toilet, first disconnect the water supply, flush the toilet, and then remove the nuts from the bolts at the toilet base. Tilt the toilet and pour the water trapped in the toilet into a bucket, turn the toilet over and expose the wax seal at its base. Remove the old wax seal and install a new one. Before resetting the toilet, the flooring should be examined for damage and repaired if needed. Then, firmly reset the toilet on the bolts and tighten them carefully to avoid cracking the base. The toilet base and floor connection should be caulked with a bathroom grade sealant.*

## Half Bath

The half bath has carpet flooring, a window and an exhaust fan for ventilation, a cast polymer countertop and sink, and a toilet.

The water flow is very low at the sink hot water faucet and we recommend repair by a qualified plumber.

The toilet is loose from the flooring and we recommend it be properly secured by a qualified plumber.

This bathroom has a three-hole receptacle. We recommend GFCI protection be added for greater electrical safety.

## Bathrooms General

*Caulked joints should be reviewed frequently and re-caulked as necessary. Proper caulking prevents water penetration and damage to walls and floors. Before caulk is applied, the surfaces should be cleaned carefully and any loose caulk should be removed. A good quality restroom caulk, such as acrylic latex with silicone, should be used. Restrooms are areas of high humidity and special care should be exercised to keep them well ventilated. Windows should be left open when showering or bathing, and fan-powered vents should be used when available.*

## GARAGE

### Garage

The garage is beneath the house at the left. The garage has a roll-up style vehicle door with an automatic opener that reversed automatically when we tested it.

*We recommend the opener be tested periodically as part of routine safety maintenance. We recommend the manufacturer be consulted as to the proper test procedure to ensure the door stops and returns automatically.*

The electric eye for the safety auto-reverse mechanism is too low for safe operation and we recommend it be relocated to between four and six inches above the floor.

The concrete floor shows typical cracking.

We did not locate any GFCI-protected receptacles in the garage as required in new construction. We recommend GFCI protection be added for greater electrical safety.

There are openings in the fire separation surfaces, and we recommend all firewall openings be properly sealed.

*The surfaces between the garage and the dwelling, and on any structural walls that support rooms above, should be covered with five-eighths-inch-thick, fire-rated gypsum drywall or an equivalent. The joints between sections of drywall should be taped unless the joints are over framing. Any holes or openings in firewalls should be repaired. Plastic piping should not be installed through a firewall as it can melt from high heat and allow fire entry. Fire-rated surfaces might not be present between the dwelling and garage in older construction. Garages that are attached to residences and do not have adequate firewall protection should not be used for storing flammable liquids or vehicles. Fires often start in garages due to the storage of flammable liquids such as paint, solvents, or gasoline.*

The door between the interior and the garage is not fire-rated and we recommend a proper, solid-core, fire-rated, self-closing door be installed.

*There should be a fire-rated, solid-core, self-closing door installed on any passageway between the garage and the house, attic, or subfloor area crawlspaces. Such doors should not have windows or pet doors.*

*Sheet metal covered doors, which have been used to provide fire resistant protection in the past, are no longer considered adequate by modern standards.*

## ENVIRONMENTAL

### **Asbestos**

We observed apparent asbestos materials on the furnace ducting. We recommend the apparent asbestos materials be examined and properly abated (sealed, painted, wrapped, or removed) as needed by a qualified contractor if it is to be disturbed, modified, repaired, or replaced.

*Asbestos is found on most gas heating systems installed before 1978; in older vinyl tile flooring; in some acoustic ceiling tiles; in sprayed acoustic ceilings; and in various other locations. Exposure to asbestos may be a health hazard and should be avoided. It may be possible to significantly reduce or eliminate the dispersal of asbestos fibers by painting the material. Removal or containment of these materials should only be done by properly trained and equipped professionals. Contractors in various trades such as flooring, roofing, heating, plumbing, or electrical may require asbestos abatement at additional expense prior to performing repairs, replacements, or modifications. For a determination as to the need for or cost of abatement, a qualified asbestos abatement contractor should be retained. The presence of asbestos can only be determined by laboratory analysis, which is beyond the scope of our inspection.*

### **Hazardous Materials**

*Various potentially hazardous materials have been used in the construction of buildings over the years. Many naturally occurring materials and man-made building materials have been found to be hazardous or to have adverse environmental impact. These include but are not limited to asbestos, formaldehyde, molds, lead paint, electromagnetic radiation, and radon. Buried fuel tanks may pose an environmental hazard. Hazardous materials, product liability, and environmental hazards are not included in the scope of our inspection. For information about hazardous materials, call the Environmental Protection Agency in San Francisco at (415)744-1500.*

## PRIMARY RECOMMENDATIONS

### Property General

1. We recommend a permit history be obtained from the local building department to determine if modifications to the building were made with proper permits.

### Exterior Conditions

2. There are holes in the siding at the left as well as gaps in the siding at the rear corner where the stucco and plywood walls meet; we recommend all openings in the building exterior be repaired to prevent water and/or animal entry.

### Exterior Finish

3. The paint on the plywood siding is peeling and we recommend the peeling surfaces be scraped, sanded, caulked, primed, and painted as needed.

### Front Porch

4. The concrete is cracked , and we recommend the concrete cracks be properly routed, or enlarged sufficiently to hold a good caulking bead, and a high quality sealant be applied as needed to prevent water entry.

5. Post connections do not appear adequately secured, and we recommend all post-beam and post-pier connections be reviewed by a qualified contractor and strapped, or otherwise reinforced, as needed.

### Exterior Railings

6. We recommend proper railings be installed as needed for safety.

### Walkways

7. The concrete patio at the left rear has settled, creating several potential trip hazards, and we recommend repair or replacement as needed to provide for safe foot traffic.

### Landscaping

8. Plants are growing against the exterior and we recommend they be trimmed away from the building or removed to prevent damage and insect entry.

### Fencing

9. We recommend the fencing and gates be repaired or replaced as needed.

### Roof Drainage

10. We recommend large box-shaped screens with quarter-inch mesh be installed at the roof drains to reduce the potential for clogging.

### Substructure Access

11. The subfloor area access door is loose from its hinges and we recommend it be repaired or replaced.

### Seismic

12. Some of the plywood panels on the exterior walls are not provided with ventilation openings and we recommend ventilation holes be added as needed to reduce the potential for moisture accumulation and decay.

13. We recommend the potential soft story areas be reviewed by a qualified engineer for seismic upgrading.



## PRIMARY RECOMMENDATIONS (continued)

### **Wiring**

14. Portions of the wiring in the attic are not properly secured and staples are missing, and we recommend the loose wiring be properly secured as needed.

### **Fixtures**

15. The living room ceiling fan is out of balance and wobbles, and we recommend this fan be properly balanced or a new fixture installed.

### **Receptacles and Switches**

16. We recommend additional receptacles be added as needed for convenience and safety.

17. We observed ungrounded three-hole receptacles and we recommend each three-hole receptacle be examined by a qualified electrician and properly grounded as needed.

18. A receptacle in the lower level bathroom is wired in reverse polarity and we recommend the reverse polarity be corrected.

### **Electrical General**

19. The number of circuits and receptacles in this system is fewer than required in newer construction and we recommend an electrician be retained to analyze the system and determine how it needs to be upgraded in order to comply with modern safety standards.

### **Water Supply**

20. We recommend proper bonding be installed on all dielectric unions as needed for electrical system safety.

### **Waste Piping**

21. There is a leak in the laundry area waste piping and we recommend repair by a qualified plumber.

22. We recommend the sewer laterals be examined for defects by a qualified plumber using special video equipment designed for this purpose.

23. We recommend it be determined if the sewer lateral has been tested for compliance with Regional Private Sewer Lateral Program regulations and the certificate of compliance be obtained.

### **Gas Piping**

24. We recommend an automatic seismic shutoff valve be installed as a safety upgrade.

### **Water Heater**

25. The stand-off blocks, or supports, are missing and we recommend they be installed at each strap to keep the water heater firmly in place when the straps are tightened.

### **Furnace**

26. The heating equipment does not appear to have been recently serviced, and we recommend a qualified firm be retained to examine and service this equipment and make any needed repairs.

### **Fireplace and Chimney General**

27. We recommend a certified "level 2" fireplace contractor be retained to perform a safety inspection of the fireplace and chimney and make any needed repairs.

28. We recommend the fireplace not be used for burning until repairs have been made.

## PRIMARY RECOMMENDATIONS (continued)

### **Walls, Ceilings, and Flooring**

29. There are large cracks in the living room and rear bedroom ceilings and in the stairway ceiling and we recommend they be repaired for a better appearance.
30. The kitchen ceilings are damaged and we recommend they be repaired.

### **Windows**

31. We recommend the glass in areas of potential impact be replaced with safety glass or protective safety films be applied.

### **Doors**

32. The rear bedroom door sticks and we recommend it be repaired to operate properly.
33. The lower level exterior wooden door shows minor damage from weather exposure, and we recommend this door be repaired, sealed, and painted as needed.

### **Stairways and Railings**

34. We recommend proper railings be installed as needed for safety.

### **Carbon Monoxide and Fire Safety**

35. We did not observe any carbon monoxide detectors and we recommend carbon monoxide detectors be installed as required by California law.
36. We did not locate any smoke detectors and we recommend photoelectric-type smoke alarms be installed as needed to comply with modern fire safety standards.

### **Kitchen**

37. The cabinet drawers are difficult to operate and we recommend they be repaired to operate freely.
38. Receptacles near the sink are not GFCI-protected and we recommend ground fault circuit interrupter protection be provided as an upgrade.

### **Hall Bathroom**

39. We recommend the shower wall connections be cleaned and caulked as needed.
40. There are gaps at the bathtub fill spout and at the shower valves, and we recommend these gaps be caulked to prevent water entry.
41. The water flow is very low at the sink hot water faucet and we recommend repair by a qualified plumber.
42. The toilet is loose from the floor and we recommend it be properly secured by a qualified plumber.

### **Half Bath**

43. The water flow is very low at the sink hot water faucet and we recommend repair by a qualified plumber.
44. The toilet is loose from the flooring and we recommend it be properly secured by a qualified plumber.
45. The receptacle is wired in reverse polarity and we recommend this receptacle be properly wired by a qualified electrician.

## PRIMARY RECOMMENDATIONS (continued)

### **Garage**

46. The electric eye for the safety auto-reverse mechanism is too low for safe operation and we recommend it be relocated to between four and six inches above the floor.

47. There are openings in the fire separation surfaces, and we recommend all firewall openings be properly sealed.

48. The door between the interior and the garage is not fire-rated and we recommend a proper, solid-core, fire-rated, self-closing door be installed.

### **Asbestos**

49. We recommend the apparent asbestos materials be examined and properly abated (sealed, painted, wrapped, or removed) as needed by a qualified contractor if it is to be disturbed, modified, repaired, or replaced.

## ENCLOSURES

We have enclosed the following additional information. Please read carefully.

- Railing Safety
- Water Heater Seismic Strapping
- Carbon Monoxide Detectors
- Smoke Detectors
- Inspection Contract
- 

**Thank you for using Star Inspection Group, Inc. If you have any questions or if we can be of further assistance, please do not hesitate to call us at (510) 482-8016 or (800) 698-0292.**

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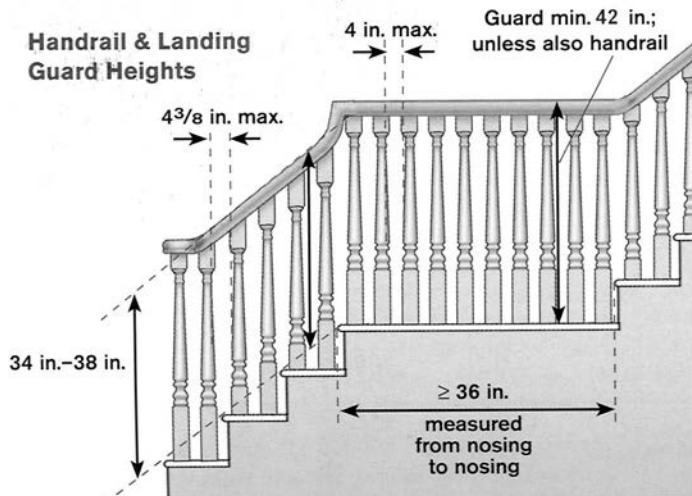
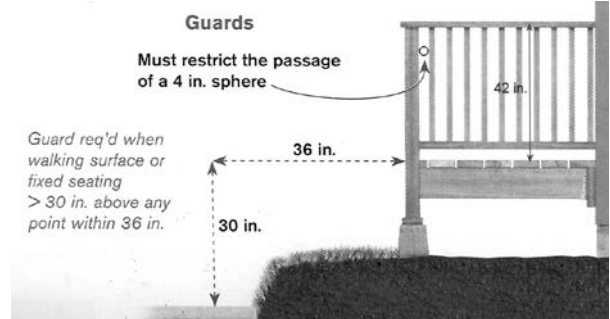
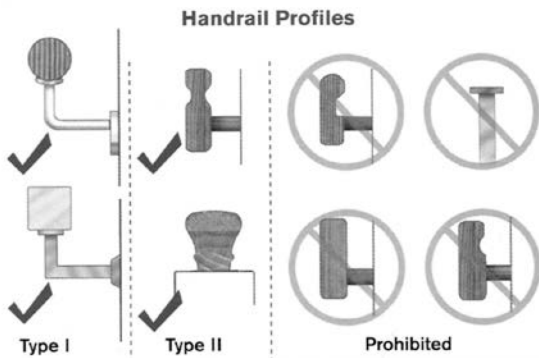
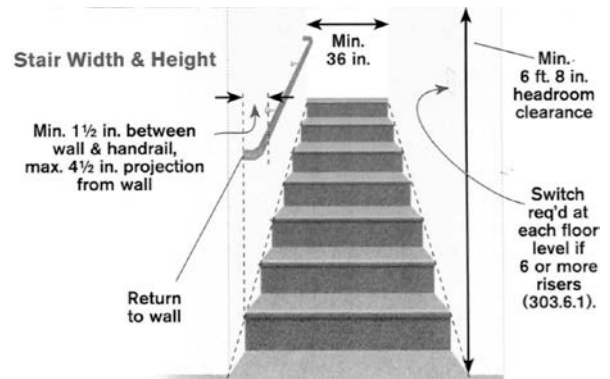
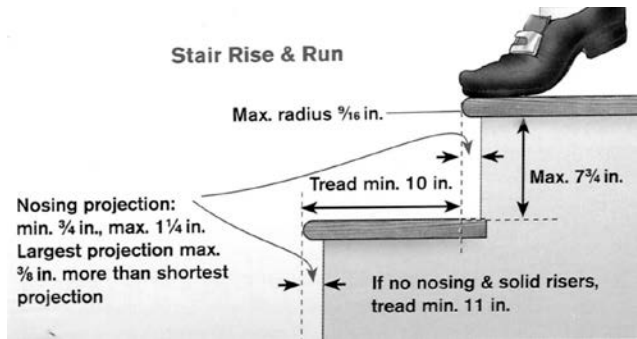
# Stairways, Handrails, and Guardrails

## General New Construction Requirements

For maximum safety, staircases with four or more steps (or risers) should have handrails that are between one and a quarter and two inches wide and shaped so the handrail can be readily grasped. Handrails should be 34 to 38 inches above the leading edge of the stairway tread and should return to the railing, post, or floor without open ends, which could catch clothing.

Modern standards call for openings fewer than four inches in diameter as it has been found that any young children can easily slip through larger openings. Guardrails should be at least 42 inches high at every deck, stair, or landing more than 30 inches above an adjacent surface.

Individual steps in staircases should have a consistent height and depth for safe use. The difference between one step and any other step in the same staircase should not be more than three-eighths inch. Uneven steps are a potential trip hazard and should be corrected.



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Consult your local building department for current requirements.

Illustrations courtesy of CodeCheck©. See more at [www.codecheck.com](http://www.codecheck.com)

# Water Heater Installation Requirements

There are many rules for the proper installation of water heaters—probably more than almost any other single building component. Water heaters are very heavy and can be thrown for many feet during an earthquake, across a room, or even through a wall. Movement can break gas and water lines, causing a fire or substantial damage from water leakage. A temperature pressure relief (TPR) valve is required to prevent an explosion that could occur if the valve that controls the gas flow sticks in the open position. Hot water may occasionally drip or spray from the TPR valve discharge pipe, triggered by changes in water pressure. Leaky valves may fail from encrusted mineral residue, and should be replaced. Most TPR valve manufacturers recommend the valve be tested once a year.

Water heaters should be elevated at least 18 inches above the floor of a garage or attached room. The bottom 18 inches of a garage is considered a "hazardous zone." Any source of combustion, such as an open flame or electrical switch, is prohibited in this area, as gasoline, paints, and other flammable materials are often stored in garages. The 18-inch rule allows fumes from a spilled fluid to dilute with air. Water heaters, furnaces, clothes dryers, and other such appliances should be installed on platforms of sufficient height to provide adequate clearance.

Most water heater manufacturers now recommend blankets not be installed on new water heaters, because they are already insulated internally.

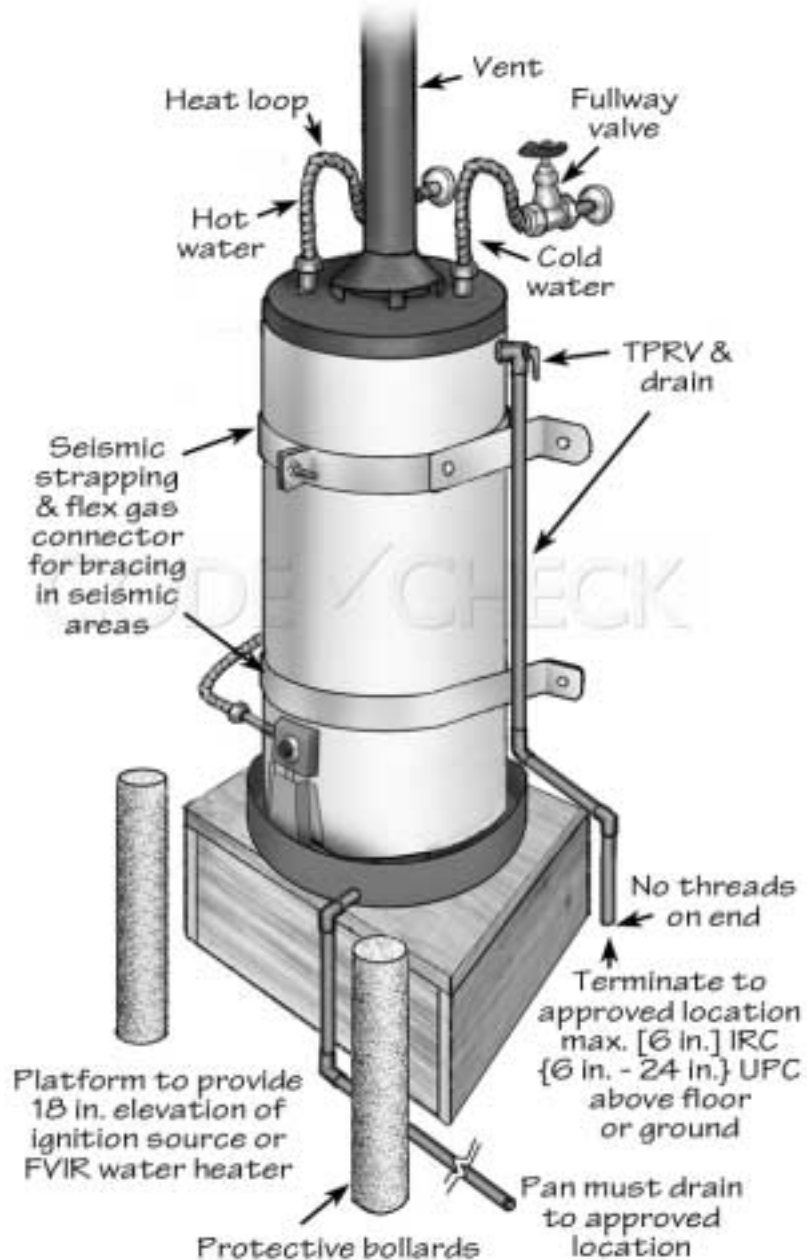
The best braces are rigid and support the water heater at both the top and bottom. "Plumber's tape" alone is no longer considered an adequate restraint

It is important to avoid storing combustible items near water heaters and other gas-fired appliances.

Vent piping in unconditioned spaces, such as garages and subfloor areas, should be a cooler, special, Type-B piping.

Bollards are now required by many jurisdictions to prevent damage from vehicle impact in a garage.

## Water Heater in Garage



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Provided for general information only. Home inspectors are not code officials. Consult your local building department for current requirements. UBC & UPC = Historical Codes in Western states. IRC = International Residential Code, new codes not yet widely adopted in California

Illustration courtesy of Code Check. For more information visit [www.codecheck.com](http://www.codecheck.com)

## Frequently Asked Questions (FAQ) on Carbon Monoxide (CO) Devices

*As of July 1, 2011, the Carbon Monoxide Poisoning Prevention Act (Senate Bill – SB 183) will require all single-family homes with an attached garage or a fossil fuel source to install carbon monoxide alarms within the home by July 1, 2011. Owners of multi-family leased or rental dwellings, such as apartment buildings, have until January 1, 2013 to comply with the law.*

*The California State Fire Marshal has created this Frequently Asked Questions (FAQ) on carbon monoxide devices to provide the citizens of California with information on this important matter.*

### **1. What is Senate Bill No. 183 (SB-183)?**

SB-183 is also known as the “Carbon Monoxide Poisoning Prevention Act” This senate bill requires that a carbon monoxide (CO) detector be installed in all dwelling units intended for human occupancy.

### **2. What is Carbon Monoxide?**

Carbon Monoxide is a colorless, odorless gas that is produced from heaters, fireplaces, furnaces, and many types of appliances and cooking devices. It can also be produced by vehicles that are idling.

### **3. What is the effective date for installing a CO device?**

For a single-family dwelling, the effective date is July 1, 2011. For all other dwelling units, the effective date is January 1, 2013.

### **4. Where can I find a list of all CSFM listed carbon monoxide devices?**

Click on the link titled “List of Approved Devices”.

[http://osfm.fire.ca.gov/strucfireengineer/strucfireengineer\\_bml.php](http://osfm.fire.ca.gov/strucfireengineer/strucfireengineer_bml.php)

### **5. What is the definition of a dwelling unit?**

A dwelling unit is defined as a single-family dwelling, duplex, lodging house, dormitory, hotel, motel, condominium, time-share project, or dwelling unit in a multiple-unit dwelling unit building.

### **6. Where should CO devices be installed in homes?**

They should be installed outside each sleeping areas of the home including the basement. The manufacturer’s installation instruction should also be followed.

### **7. Are CO devices that are required by SB-183 to be installed in each room?**

No. They are required by SB-183 to be installed outside of each sleeping area. For maximum protection against CO gas, it is *recommended* that a CO device be installed in each sleeping room.

**8. How many types of CO devices are available?**

There are three types. 1) Carbon Monoxide alarms (CSFM category # 5276), 2) Carbon Monoxide detectors (CSFM category # 5278), and 3) combination smoke/Carbon Monoxide alarm (CSFM category # 7256 or 7257).

**9. What is the difference between a carbon monoxide alarm and a carbon monoxide detector?**

A carbon monoxide alarm is a standalone unit which is tested to Underwriters Laboratory (UL) Standard 2034 and has its own built-in power supply and audible device. These units are typically installed in your single family dwelling. A carbon monoxide detector is a system unit which is tested to UL Standard 2075 and is designed to be used with a fire alarm system and receives its power from the fire alarm panel.

**10. Are CO devices required to be approved by the State Fire Marshal?**

Yes. SB-183 prohibits the marketing, distribution, or sale of devices unless it is approved and listed by the State Fire Marshal.

**11. If someone has a CO device that is *not* listed by the State Fire Marshal prior to the law, can they maintain it or does it have to be replaced?**

The law requires that CO devices to be approved and listed by the State Fire Marshal prior to sale, marketing, or distribution. Existing CO devices installed prior to July 1, 2011 may continue to be utilized.

**12. Where does one obtain a copy of a California State Fire Marshal (CSFM) listing of CO device?**

Copies of CSFM listing of CO devices can be found on the State Fire Marshal website by logging on the following:

[http://osfm.fire.ca.gov/licensinglistings/licenselisting\\_bml\\_searchcotest.php](http://osfm.fire.ca.gov/licensinglistings/licenselisting_bml_searchcotest.php)

Under “Category”, click on the sort by “Number” button, then go to the drop down menu (right down arrow) to select “5276-CARBON MONOXIDE ALARMS” or “5278-CARBON MONOXIDE DETECTORS”. Then Click on “*Search*” and it will list all CO alarms or detectors that are currently approved and listed by the OSFM.

**13. Where can I go to receive further information on Carbon Monoxide?**

You may go the California Department of Forestry and Fire Protection (CAL-FIRE) web site at <http://www.fire.ca.gov> and click on Carbon Monoxide under “Hot Topics”.

**14. Who can we contact at CAL-FIRE/CSFM for additional information?**

Questions regarding carbon monoxide devices may be addressed to Deputy Mike Tanaka at (916)445-8533 or [mike.tanaka@fire.ca.gov](mailto:mike.tanaka@fire.ca.gov)



# Smoke Alarms

## Protect: Yourself, Your Family, and Property

In the event of a fire, properly installed and maintained smoke alarms will provide an early warning alarm to your household. This alarm could save lives by providing the chance to escape.



Since hazardous smoke and deadly gases rise during a fire, installing smoke alarms at the proper level will provide the earliest warning possible. Always follow the manufacturer's installation instructions, which generally specify installation of the unit on a ceiling.

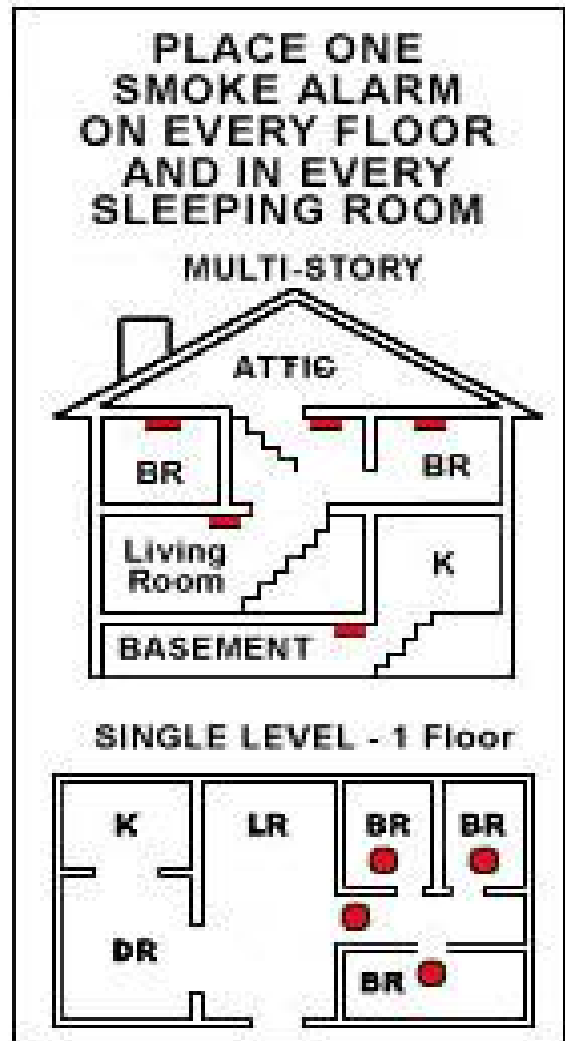
There are two primary types of smoke alarms: ionization and photoelectric. Ionization alarms have a higher rate of nuisance alarms because they are more sensitive to small smoke particles. Photoelectric alarms are quicker at sensing smoldering, smoky fires.

There are also alarms made to meet the needs of the hearing impaired. These alarms may use strobe lights that flash and/or vibrate to assist in alerting those who are unable to hear standard smoke alarms. There is another type of alarm known as a heat detector, which responds to heat rather than smoke or fumes. Heat detectors are most often employed in kitchen areas in order to minimize "false alarms."

**Most experts recommend photoelectric smoke alarms for the greatest safety and we strongly recommend each alarm device be checked and replaced as needed.**

### Installation and Maintenance

The USFA recommends fire alarms be installed on every level of your home including the basement and attic. Many fatal fires begin late at night or early morning. They should be kept at least 20 feet from furnaces and ovens, which produce combustion particles, at least ten feet from high humidity areas such as showers and laundry rooms, and at least three feet from heat/cooling registers whenever possible to reduce "unwanted" alarms. We recommend that any smoke alarms installed within 20 feet of a cooking area be the photoelectric type or have a silencing button.



### Additional Comments

**We strongly advise against removing the battery or otherwise disabling a smoke detector to stop nuisance alarms.** Statistics clearly show that the vast majority of fire-related fatalities occur in homes where the smoke detector batteries had been removed and not replaced, or where smoke detectors were not present or were otherwise non-functional.

## SMOKE DETECTORS (continued)

If your smoke alarm activates while you are cooking, do not disable nor remove the batteries from the detector. Instead clear the air by opening windows and doors, while waving a towel, magazine or newspaper near the detector. The alarm may need to be moved to a new location with fresher air, until the alarm deactivates. Some models have a silencing button which will end the alarm when pressed. Consider replacing the easily trigger smoke detector with an alternate type or locating it in an area less susceptible to cooking smoke.

Test every smoke alarm monthly and replace batteries at least once per year. Plan and practice escape routes several times a year. Obtain and learn how to utilize a fire extinguisher. The USFA recommends, and California requires, the installation of carbon monoxide detectors in homes with gas-fire appliances or an attached garage.

Furnace ducting often contains dirt, drywall dust, and construction debris, especially after remodeling. First use of a furnace after a remodel can result in nuisance alarms caused by fine particles blown through the house. Dust covers should be installed or the alarms should be removed entirely to keep them clean during remodeling. Alarms may look clean, but dust can accumulate inside the cover. Gently vacuum smoke alarms regularly using a soft brush attachment.



If you have questions about fire safety in your home, contact your local fire department on their non-emergency phone number. Or for more information visit the USFA website at [www.usfa.dhs.gov/citizens/](http://www.usfa.dhs.gov/citizens/)



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THIS IS INTENDED TO BE A LEGALLY BINDING AGREEMENT AND CONTRACT

**SAMPLE CONTRACT – THIS COPY OF OUR CONTRACT IS PROVIDED FOR YOUR REFERENCE.**

**A SIGNED COPY IS ON FILE IN OUR OFFICE**

I (Client) hereby request a limited visual inspection of the structure at the above address, for my sole use and benefit. I will read the following carefully and I understand that I am bound by all the terms of this contract. I understand that I have a choice of inspections and services:

**NARRATIVE (word-processed) REPORT:** \$ \_\_\_\_\_ Initials: \_\_\_\_\_

*There is a \$50 handling fee for payment not made at the time of the inspection and a \$100 cancellation fee for inspections canceled within 24 hours of the scheduled appointment.*

*I agree to pay the legal interest rate (1.5% per month), reasonable attorney's fees and collection costs incurred should payment not be made within 30 days of the inspection.*

**SCOPE OF INSPECTION:** The scope of the inspection and report is limited to a visual inspection of the general systems and components to identify general features and major deficiencies. Any area not exposed to view (concealed or inaccessible) is not included in this inspection. The inspection does not include any destructive testing or dismantling. The undersigned agrees to assume all the risk for all conditions concealed from view at the time of the inspection. This is not a home warranty, guarantee, or insurance policy. Conditions of title, boundaries and easements, code compliance, ordinances or regulations, and location in earthquake, landslide, or hazard zones are not addressed. The undersigned agrees to inspect public records and inquire into all such matters prior to the sale or purchase of the property inspected.

**EXCLUSIONS:** The following are outside the scope of this inspection: geological inspection, soils or structural stability, engineering analysis, termites or dry rot, rodents or other animal or insect pests, asbestos, radon, lead, formaldehyde, ADA compliance, environmental hazards, building value appraisal, cost estimates, detached buildings or pools (unless included for an additional fee), items excluded in the inspection report, landscape lighting and watering systems, fountains, ponds, etc., vacuum systems, furnace heat exchangers, intercoms, fire alarms, fire sprinklers, security systems, private water systems, wells and equipment, private sewage and waste systems, spas, hot tubs, saunas, appliances, radio-controlled devices, automatic gates, elevators, lifts or dumbwaiters, and thermostats and time clock controls.

**CHINESE DRYWALL EXCLUSIONS:** The Client specifically acknowledges that the Property Inspection will not and is not intended to detect, identify, disclose, or report on the presence of Chinese Drywall products or the actual or potential environmental concerns or hazards arising out of the existence of these products. The Client agrees to hold Star Inspection Group and the Inspector harmless of any injury, health risk, or damages of any nature caused or contributed to by these products.

Furthermore, the Client acknowledges that any discussions regarding the actual or potential presence of Chinese Drywall are informative in nature

only and that Star Inspection Group and/or the Inspector do not hold the Company or themselves to be experts pertaining to the potential concerns associated with Chinese Drywall.

**LIMITATIONS ON LIABILITY:** The liability of the inspector, Star Inspection Group, and agents and employees of either, for mistakes or omissions in this inspection and report is limited to a refund of twice the fee paid for this inspection and report. This liability limitation is binding on me, my spouse, my heirs, my principals, my assigns, and anyone else who may otherwise claim through me. I assume the risk of all losses greater than twice the fee paid for the inspection.

**DISPUTES:** Any dispute, controversy, interpretation, or claim, including claims for, but not limited to, breach of contract, any form of negligence, fraud, or misrepresentation arising out of, from, or related to this contract or arising out of, from, or related to this inspection or report shall be submitted first to a Non-Binding Mediation conference and, absent a voluntary settlement through Non-Binding Mediation, to be followed by final and Binding Arbitration, if necessary, as conducted by Construction Dispute Resolution Services, LLC or Resolute Systems, Inc. utilizing their respective Rules and Procedures. If you would like to utilize the Mediation or Arbitration services of a dispute resolution provider other than one of those so stated, please submit your recommendation to us for our consideration. If the dispute is submitted to Binding Arbitration, the decision of the Arbitrator appointed thereunder shall be final and binding and the enforcement of the Arbitration Award may be entered in any Court or administrative tribunal having jurisdiction thereof.

**NOTICE:** You and we would have a right or opportunity to litigate disputes through a court and have a judge or jury decide the disputes, but have agreed instead to resolve disputes through mediation and binding arbitration.

**SEVERABILITY:** If any tribunal determines that any portion of this contract is unenforceable, that tribunal shall enforce the remainder of the contract as though the unenforceable portion did not exist.

I have read this contract and I understand and agree to the **Scope of Inspection, Exclusions, Chinese Drywall Exclusions, Limitations on Liability, Disputes, Notice, and Severability** sections. I am aware that this agreement is a limitation of liability and a contract between me, the inspector, and Star Inspection Group. I understand the inspection report will not be released without a signed contract.