## BLOCK ENVIRONMENTAL SERVICES

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### John W. McComas

Building Inspection Service Contractor's License: #540953



2943 Russell Street Berkeley, California March 28, 2003 – 9:00 A.M. Report Number P0320

This Report Prepared For:
The Livingston Survivors' Trust

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It is prepared for the above-named and is not intended for use by any other person.

Inspected by John McComas
Certified Member: American Society of Home Inspectors®

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If you are not the named person or persons above and wish to rely upon this report, we require that you retain John McComas Building Inspection Service for a review of this building and report. Any interested party must read our contract, agree to the terms contained within the contract, and sign and return the contract prior to relying upon this report. This report is based on information obtained on this date, at the property. Overnight, conditions can change and the information may no longer be accurate. Further explanation of items within this report may be presented to you by the inspector, and is not included in this report. We will return and review the building and report with any interested party for an amount equal to 75% of the total fee paid for this inspection. This offer is good for 6 months from the date of inspection, after which a complete reinspection should be performed.

This inspection and report was performed according to the limitations and exclusions specified in the enclosed contract. In this contract our liability for the inspection is limited. John McComas Building Inspection Service will, upon request, perform an inspection without this limit on liability for an additional fee.

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### INTRODUCTION

**Property Description** 

This building is a three-story, single-family residence. The interior is mostly unfurnished.

This report describes the building as viewed from the street. The main entry is at the left side. The building site slopes moderately down to the front left. The sky was clear at the time of our inspection.

Several modifications have been made to the building, and there is an addition 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 properly finalized permits.

The gas supply to the building was shut off and we did not perform an operational examination of the water heater. We will return and inspect this item for an additional fee upon request.

We are often asked to make subjective evaluations or comparisons between this building and other, similarly constructed buildings. While such statements do not fall within the scope of a typical building inspection, we are sensitive to the reason for the question. With this in mind, we found this building to be in a general condition that shows average maintenance and condition, with typical projected maintenance consistent with its age.

### **General Comments**

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, specialists in the relevant fields should 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. A qualified pest control firm should be contacted with any questions concerning the presence or treatment of these organisms. We are not qualified in this field. A licensed pest control firm should make periodic examinations 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, the local building department should be consulted.

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, outlet, water valve, etc., was not made.

We will make recommendations we believe to be most important throughout the report. These recommendations should not be considered the only significant items. You should establish your own priorities after thoroughly studying this report, reviewing all the recommendations and suggestions within the report, and consulting experts or specialists as desired.

### **EXTERIOR**

Siding

This building has stucco siding that shows minor wear, and we observed normal stucco cracking in several places. Periodic repair of stucco cracking should be expected as part of routine maintenance.

The stucco appears to have a newer "skim" coating of stucco applied over the original stucco siding. While not uncommon in older buildings that show typical wear, the skim coating can hide or mask larger cracks or crack patterns that may indicate settlement or movement in the building.

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 "drip screed". The soil surface should be maintained below this edge to prevent moisture and termite entry behind the stucco. In older buildings, the bottom of the stucco often extends below soil level and may conceal moisture or termite entry. These areas should be inspected regularly by a pest control firm.

There are areas of stucco at the left side that appear to have been repaired in the past. This likely indicates that the framing beneath the stucco was removed for repairs due to moisture or wood pests, or for foundation repair. We recommend a history of these repairs be obtained to determine the extent of the repairs, and for information about the repairing contractor.

### **Paint**

The exterior paint is peeling at the window frames and sills at the front and left side. We recommend these areas be scraped, sanded, caulked, primed and painted as needed by a qualified painting contractor.

In older buildings, paint can contain high levels of lead. We have enclosed an article concerning possible lead sources within and around the home, and appropriate agencies to contact for further information. We do not make an assessment or inspection for lead as part of this general inspection.

### Trim

There is moisture related damage to a small area of window casing at the left rear. We recommend the damaged trim be repaired or replaced as needed, and this area be examined by a qualified pest control firm.

### Windows

The exterior glazing putty is worn or missing in several places. We recommend new putty be installed as needed to protect the windows from moisture intrusion.

### Faves

The front left roof eave boards are loose or damaged. We recommend the eave areas be examined and repaired as necessary by a qualified contractor.



Front Left Porch and Landing

There is a concrete porch, landing, and stairs at the front left. Much of the concrete is supported by wood framing, some of which is newer. There also is newer supporting concrete beneath the stairs.

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 should be checked regularly for signs of water penetration. Any cracks or openings in these surfaces should be caulked or filled to prevent water entry.

There are cracks in the concrete surfaces, and there are gaps that can allow water to penetrate to the wood framing beneath. We recommend all gaps and openings be kept well sealed against water entry, and these areas be periodically examined for damage.

The steps are not even in height and are a potential hazard to pedestrian traffic. We recommend the inconsistent steps be modified or rebuilt for safe usage. The difference in height between individual steps should not be more than 3/8 inch.

### Middle Rear Stairs

There are both concrete and wooden stairs at the middle rear.

### Hand and Guard Ralls

Handrails are not provided for the front left (main) entry and lower middle rear staircases. We recommend proper handrails be installed as needed for safety.

The middle rear stairway handrails do not have proper hand grip railings according to modern safety standards. We recommend proper hand rails be installed as needed for safer stairway usage. We have provided an enclosure at the end of this report describing proper handrail and guardrail design.

Staircases with four or more steps should have handrails that are between 1 1/2 and 2 inches wide. Handrails should be placed and shaped so they can be readily grasped for safety. Handrails should be 34 to 38 inches above the leading edge of the stairway treads. Handrails should return to the railing or post or to the ground. Handrails should not end in a projection that could be hooked by clothing.

**Grading and Drainage** 

There is an area drain at the rear right concrete patio that apparently leads to a subsurface drainage system.

Drains can be effective in reducing ponding and controlling surface water around the building. The 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 discharge location of the drains, if known.

Driveway, Walkways, and Patios

There is a concrete driveway at the left side that shows moderate wear. There are several typical cracks in this surface.

There are concrete walkways at the front and rear that show minor wear. There is a concrete patio at the rear and a flagstone patio at the upper rear, both relatively new. There also is a ceramic tile over concrete patio at the rear left that shows minor wear.

**Retaining Walls** 

There is a relatively new concrete retaining wall at the rear right. The top of this wall is not provided with sufficient barriers or guardrails to prevent a fall. We recommend adequate safety barriers be installed.

There are wooden retaining walls at the middle rear stairs.

Wood retaining walls are subject to deterioration from moisture or wood-destroying insects.

Modern wood retaining walls are typically constructed with pressure-treated lumber that is decay resistant. Redwood, though naturally decay-resistant, eventually deteriorates.

Fencing

There is iron fencing at the front that shows minor wear, and wooden fencing at the rear yard.

The wooden fencing at the rear yard is leaning and may fall unless reinforced. The fencing is damaged at the rear of the garage roof. We recommend the fencing be repaired or replaced.

### Trellis

There is a wooden trellis at the rear right that shows moderate wear.

There are several large beams and wood framing that composes this trellis. The exposed wood is especially vulnerable to the weather and potential damage. We recommend the upper surfaces of the beams be protected from moisture entry by sealing or painting.

Rafters, ridge beams, trellises, and decorative beams that are exposed to the weather need to be kept well painted to prevent moisture entry and decay. The upper surfaces are not normally visible and are often unpainted. The ends of exposed beams may need to be covered with sheet metal caps in some locations.

# See 1999 Central By Roofing Contract

### ROOF

We examined most of the accessible roof area surfaces and components after obtaining access with a ladder.

Most of this building has a relatively new composition shingle roof. We recommend the installing contractor be contacted for information on this installation and any applicable guarantees or warranties. There is an older section of composition shingle roof at the rear addition that shows moderate wear.

The main portion of this roof has the minimum slope allowed for this roofing material. Adequate pitch, or roof slope, is necessary for adequate drainage to avoid roof leaks in shingle or shake roofing materials. Roofing that slopes less than 4 inches vertically for each 12 inches horizontally typically requires special double underlayments to prevent leakage. The lowest possible proper slope is 2 inches rise per 12 inches horizontal. This roof has approximately 2-1/2 inches rise per 12 inches horizontal, and there are two layers of roofing underlayments visible at the edge.

There is an accumulation of debris on the rear roof surface. We recommend debris be removed periodically as part of routine maintenance.

There is a section of gravel surfaced built-up roof at the right side bay that is in an older condition and shows moderate wear. We examined this roof from the adjacent roof surface and from a window. No repairs were found to be necessary at this time.

A built-up roof or "BUR" (multiple layers of asphalt and felt) may have a gravel covering to protect the roof surface from the sun. These surfaces should be examined periodically to be sure the membrane is covered. It may be necessary to occasionally add gravel or redistribute existing gravel to maintain protection of the surface. Perimeter areas may be exposed and may wear out sooner than the covered portions. Exposed areas can be recoated every few years with hot or cold asphalt or other suitable coatings to extend the life of the roof surface.

Worn Roofing: Roof surfaces that are in worn or in poor condition may need replacement even if no leakage has occurred. Several factors should be considered when deciding if a roof surface needs replacement. A qualified roofing contractor should be consulted to determine if a roof is repairable, and if so at what cost. Will the roofer guarantee any proposed repairs? How long will the repairs extend the roof life? Could roof leakage cause significant interior damage? It is usually best to replace roof surfaces that show substantial wear.

There is a modified bitumen roof at the garage that shows moderate wear. We examined this roof surface after obtaining access through the rear gate. Repairs to the parapet cap are recommended (see Roof Flashing).

There is an accumulation of debris on the garage roof surface. Again, we recommend debris be removed periodically as part of routine maintenance.

Roof Flashings

The roof flashings are primarily sheet metal. Mastic also was used at several of the roof flashing connections.



Sheet metal, rolled roofing materials or sealing compounds, such as mastic, are the typical flashing materials used to prevent water penetration at roof surface connections and penetrations. Flashings need periodic maintenance and should be inspected annually.

Mastic is the general name for a thick roof patching compound or cement. It is considered a temporary method to seal connections. Mastic dries out and cracks, typically requiring a new application every 2 to 4 years. Painting the mastic can help protect it from the sun and give a better appearance. The best procedure is to replace old metal flashings when a new roof is installed. It is common practice in some areas to leave old flashings in place and to cover them with mastic when applying new roofing over an existing roof surface.

The upper surfaces of the parapet walls at the garage, which extend above the roof are worn. We recommend they be properly recoated or repaired as necessary by a qualified contractor.

Skylights

There are several site-constructed skylights at the rear addition. Skylights that are not factory manufactured may have a greater potential for leakage and should be monitored carefully in rainy weather. The owner's representative indicated there has been leakage in the past (see Interior).

**Roof Drainage** 

Most of this roof has relatively new aluminum rain gutters. These gutters have debris screens installed. There also are sections of older wooden rain gutters at the rear that are generally worn. The wooden gutters may soon require replacement. We recommend the wooden gutters be monitored in wet weather and repaired or replaced as needed to function properly.

Most rain gutter downspouts are directed into subsurface drain lines.

Rain gutter downspouts are sometimes connected to underground drainage systems to prevent water from ponding adjacent to the foundation where it could adversely affect the soils supporting the building. Catch basins or surface mounted drains may also be connected to this piping. Subsurface drain piping can become clogged with debris and should be checked periodically in rainy weather or by using water from a garden hose to be sure the drains are free flowing.

### General

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

Roof surfaces, rain gutters, downspouts, and subsurface drain lines should be checked regularly. Leaves and other debris should be removed as needed. Gutter corner joints and connections may need periodic caulking or sealing. Screens can be put at the downspout gutter connections to keep debris from blocking the downspouts. To check for adequate drainage walk around the building during or shortly after a heavy rain and observe the adequacy of the roof and area drainage systems.

### **ATTIC**

### Attic Access

There is an attic access opening in the ceiling of the left rear bedroom closet. Our inspection of the attic was limited to a visual examination from the access opening to prevent damage to ceilings below.

Attic Framing

The attic is framed with 2x6 rafters. The ceilings are framed with 2x4 ceiling joists. The rafters are overlaid with board sheathing.

There are several stains on the roof framing. Stains are common in attic areas and do not necessarily indicate active leakage.

Several aspects of the attic framing are outdated and the framing appears undersized by modern standards. The attic framing should be examined and reinforced as needed by a qualified contractor before new roofing or other weight is placed on the framing.

The ridge beam that provides the upper surface to which the rafters are secured is smaller in depth than generally allowed. While not unusual in older construction, this can weaken the attic framing during seismic activity, and may lead to damage. Before additional weight is added to the roof, or modifications are made to the framing, the framing should be reviewed by a qualified engineer and reinforced as necessary to insure structural adequacy.

### **Attic Ventilation**

The attic ventilation appears sufficient.

### Insulation

The attic is insulated with loose cellulose that is approximately four to five inches thick. We suggest additional insulation be installed to reduce energy costs and to increase comfort. The standard for new construction is eight to ten inches insulation to achieve a value of R-30.

The insulation has been installed over knob and tube electrical wiring.

Special procedures should be followed prior to insulating an attic with 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. Buried wiring is inaccessible to our inspection.



### **FOUNDATION**

### Structure

This building is a wood framed structure and has a raised perimeter concrete foundation. We obtained access to the subfloor areas through the basement and inspected the subfloor areas by walking and crawling beneath the accessible portions of the building floors.

Our ability to fully examine the foundation and substructure framing was limited by storage, insufficient clearance, and other obstructions to our view, and portions of the foundation were not accessible to our inspection. We recommend the soil at the rear right be excavated beneath the wood framing as necessary to provide full substructure access.

Substructure access is often obstructed by insufficient clearance beneath the floor framing, by ducting, pipes, stored items, finished wall surfaces, or other obstructions to 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.

### Concrete

The foundation beneath this building appears to consist of both relatively modern, steel reinforced concrete and older outdated portions. A section of foundation at the left rear, and most all beneath the rear addition appears to be newer concrete. The older, original concrete does not appear to be steel reinforced and probably does not have footings that extend deeply into the soil. Foundations of this type are typically more susceptible to cracking, settlement, deterioration from moisture entry, and earthquake damage. For information as to the structural adequacy of concrete foundations, a qualified engineer should be consulted.

Concrete caps have been installed on top of sections of the middle, front, and right and left side foundation walls.

Concrete foundation caps or curb walls are typically installed on top of, or against an existing foundation wall by pest control companies to prevent moisture entry and damage to the wood framing above the foundation. Foundation caps are often steel reinforced and should improve the strength of the foundation system. They should not, however, be considered as strong as a new foundation.

There are several small cracks in the foundation walls that appear typical for a building of this type and age. There also are moderate cracks at the left rear and right front.

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

Sections of the foundation appear constructed of a poor quality concrete, and we observed concrete deterioration in several places.

Concrete is a mixture of sand, cement, and rocks (aggregate). Too much rock was used in many older foundations, making it porous and weak. Round beach sand was often used instead of sharp



sand from a quarry. Old, poor quality concrete is susceptible to moisture entry and will often crumble and deteriorate with age, causing settlement. Some building departments will not permit the installation of earthquake bolts into poor quality concrete. In order to adequately reinforce these buildings against seismic activity it may be necessary to install new concrete foundation walls.

Concrete deterioration and spalling are usually the result of prolonged moisture penetration. As moisture moves through the concrete and dries on the surface, mineral salts dissolved in the water form crystals that expand and cause surface crumbling (spalling). Minor surface deterioration is common in older foundations. With continued moisture penetration over many years, the concrete may deteriorate to the point where replacement becomes necessary.

We observed tilting or "rotation" at the front foundation wall.

Rotation or foundation leaning is not unusual in older foundations. The weight of the building on the outer portion of foundation wall causes the concrete foundation to lean or rotate. The amount of leaning can be influenced by damp soil beneath the foundation walls from poor drainage. Foundation movement may continue until repair, reinforcement, or replacement becomes necessary.

We observed efflorescence on several of the foundation walls.

Efflorescence is a white powdery deposit that occurs on masonry or concrete. Efflorescence 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 drainage condition.

This foundation shows indications of substantial previous movement toward the front and at the left side. Future movement in the foundation and structure should be expected until repairs are performed.

There is a gap beneath the foundation sill plate at the right rear, with no concrete supporting most of the sill. This can substantially weaken the foundation support, especially if the exterior drainage or soil conditions are poor. Due to these and other conditions noted within this report, we recommend this foundation be examined by a qualified engineer and modified as needed by a qualified contractor, sufficient to provide adequate structural support for the building.

### **Basement**

This building has a partial basement at the middle. Basement access was limited by stored personal items and cabinetry, and portions of the basement were not accessible to inspection.

There are concrete floors that are below the exterior soil level. The floors were damp at the time of our inspection, and there are indications of previous moisture in the basement.

Floors, which are below the exterior soil level, may be subject to water or moisture entry, especially in very rainy weather. Valuable items should be stored on boards or pallets to prevent moisture damage. If carpeting is used, we suggest it be loosely installed so it can be easily pulled back for drying. It is not unusual to find occasional or unexpected water entry in below grade areas that have been dry for years.

There is a drain in the left side basement floor. We do not test floor drains, and recommend they be tested for blockage. If a floor drain emits an odor of sewer gas, it may be connected to plumbing

drains and the drain trap may have dried out. The drain trap may be primed by pouring water into the drain, and the trap seal maintained by pouring a small amount of mineral oil into the trap on top of the water to prevent evaporation.

### Substructure Framing

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The primary floor framing consists of 1-inch thick (nominal) decking boards diagonally installed over 2 inch thick (nominal) joisting, and supported by intermediate concrete piers and walls.

Several of the piers beneath the wooden posts that support the floor framing are brick. While they may have supported the wood framing in the past, they are inadequate by modern standards and we recommend they be replaced with newer concrete piers and footings. Newer piers will also provide improved resistance to earthquake movement.

Several original concrete piers beneath the posts and floor support beams are not set on concrete footings, and are installed directly on the ground. We recommend installing proper concrete footings beneath each of the piers as needed to stabilize the piers and prevent movement.

Some of the framing at the right rear is embedded in concrete or in close proximity to damp soil. There appears to be moisture related activity. We recommend this area be examined by a qualified pest control firm, and any damaged wood be replaced.

Wood can be damaged by wood-destroying insects or from prolonged contact with moisture. A qualified pest control firm should be consulted to determine the presence of pest damage, decay, or other wood-destroying organisms.

We observed indications of previous wood destroying insect pest activity at the front right. We recommend the subfloor area framing be carefully examined by a qualified pest control firm and appropriate remedial measures be taken.

Several modifications have been made to the substructure framing. We recommend a history of the modifications be obtained. This should include, if possible, the date repairs were made, the contractor's name, a description of changes made, and any available plans and permits.

Portions of the floor framing at the right rear are too close to the subfloor soil. Proper clearance, necessary to provide for ventilation and to reduce the potential for decay, is 18 inches below the floor joists and 12 inches clearance below the beams that support the floor framing. We recommend adequate clearance be provided below the floor framing.

One floor support girder at the front left and one at the middle right side do not have support posts beneath the ends of the girder. Other sections of girders appear over spanned, according to modern standards. We recommend they be further evaluated by a qualified engineer for specific repair recommendations. The best time to modify this framing might be when seismic retrofit upgrades are performed.

Diagonal blocking has been used for bracing. These blocks are not considered adequate according to modern construction practice. Modern buildings typically utilize panels (plywood or OSB) for bracing.

Plywood bracing panels have been installed in several places. We recommend additional bracing or shear paneling be installed by a qualified contractor to improve the building's resistance to earthquake forces.

The installation of bracing panels (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 panels. Minimum nail spacing is usually 6 inches and engineers often recommend nailing at 3 or 4 inches for greater strength. Ventilation should be provided in each stud space when shear paneling is added to the inside of exterior subarea walls. Ventilation is usually provided by drilling 2-inch diameter holes in the panels at the top and bottom of each stud

The foundation is equipped with anchor bolts, hold-downs and other seismic reinforcements. Small diameter bolts also have been added to the foundation in several places. We recommend a qualified engineer be retained to review the current upgrades and to design or specify any additional seismic improvements appropriate for this building.

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 is for bolting at least every six feet (four feet in seismic zone four), and with bolts within the last 12 inches of each piece of sill plate. Buildings greater than one story or on hillsides may require additional bolts and other seismic devices.

The attachment between the building and the foundation does not meet the latest seismic specifications required by many engineers and building departments. New specifications typically require nominal 3x6 (2½ x 5½) sill plates to be secured to the top of the foundation walls with 5/8 inch diameter bolts secured with nuts placed over 1/4 thick square bearing plates instead of washers. It may be possible to remove many of the existing nuts and install the newer type bearing plates to provide a more secure connection.

### **Substructure Ventilation**

The subarea ventilation is minimal. We recommend adequate subarea ventilation be provided.

Under-floor areas should be provided with ventilation openings that have an area not less than 1 square foot for each 150 square feet of under-floor area. Openings should be provided close to the corners and should provide cross ventilation. The vent openings should be distributed equally along the length of at least two opposite sides and should be covered with 1/4-inch wire mesh. Four-byfourteen inch vents are typically installed every 6-8 feet. There are many ways to provide ventilation and the best method should be decided after consulting a qualified contractor or the local building department. If natural cross-circulation is not obtainable with vent openings, it may be necessary to install a mechanical venting system with fans and ducts.

### Soll

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The subfloor area soil is generally dry. However, the soil at the rear right is wet. We recommend the substructure area be monitored in wet weather and that the drainage be improved if necessary.

Minor periodic moisture beneath many structures is common and should be expected. Substantial or continuous water entry can damage the concrete or cause wood decay or soil erosion and should be eliminated. It may be necessary to install a drainage system to correct a significant moisture problem.

Soil has accumulated against the framing at the left and right rear crawlspace areas, and at the right side basement. We recommend the soil be cleared away from the framing, eliminating all wood-soil contact and that regular examinations be made to prevent future wood-soil contact.

There is a steep cut in the soil level beneath the building, behind the furnace and staircase wall. Cut slopes are not uncommon beneath hillside buildings. We recommend a qualified contractor or engineer review the substructure soils and that adequate retaining walls be installed as needed to support the soils and prevent soil from falling against the nearby wood framing or the furnace.

The soil in a crawlspace is often cut back, forming a wall or "cut" in the soil surface that is steeper than the original slope. With many types of soil it is necessary to support these cuts with a retaining wall to hold the soil in place. In newer construction the local building department will often specify which cuts require retaining wall support or will require a qualified engineer to make the decision. Older cuts should be examined periodically for indications of erosion or soil slippage.

### **Foundation General**

The adequacy and condition of area soils, footings, foundations, and structural framing can only be determined after a detailed analysis by a soils, geotechnical, or structural engineer. This type of analysis and these determinations are beyond the scope of this inspection.

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John W. McComes Building Inspection Service

ELECTRICAL - See Power & L Proposa

Service Wiring

The main service wires are directed overhead above ground to the building at the rear left.

The service entry conductor wiring metal is not accessible and we were not able to determine whether these wires are copper or aluminum (either is acceptable).

The overhead wiring is too close to the rear left window opening. We recommend it be properly relocated away from the window for safety.

Exterior overhead wiring should be at least 10 feet above a pedestrian walkway, 12 feet above a driveway, and 18 feet above a swimming pool or street. Overhead electrical wires should also be no closer than 3 feet from the side or bottom of any operable window. Wires passing over a low to medium slope roof should clear the roof by 8 feet. There are some exceptions to these rules, and the utility provider typically has jurisdiction in such matters.

### Main Panel

The main breaker panel is at the left rear exterior. We estimate the capacity of this system to be 100-amps, with both 120 and 240-volt service provided. This capacity should be considered minimal according to modern standards. If greater electrical usage is anticipated, or the installation of additional circuits is desired, it will be necessary to install a larger panel. We have enclosed an article that explains the relationship between electrical capacity and usage.

Modern single-family residences typically have an electrical capacity of 125 to 200 amps. The minimum capacity allowed for a detached dwelling since 1960 is 100 amps. In older buildings it is not uncommon to find a 30-amp or 60-amp service. Sixty amp services are generally considered to be minimal but may suffice if there is no air conditioning and if gas is used for the major appliances. A 30-amp main capacity is not adequate and should be upgraded.

This panel has a 100-amp main circuit breaker disconnect and has two circuits.

There is an oversized 30-amp breaker in this panel. We recommend a qualified electrician install a properly sized breaker.

Fuses and circuit breakers are rated to allow a specific amount of current in the circuit before tripping or burning out. When the wrong size breaker or fuse is used, there is a potential for the wiring to overheat, creating a fire hazard. For example, a 14-gauge wire is rated to safely draw 15 amps and a 15-amp fuse or circuit breaker on this circuit will blow when overloaded. Using a larger breaker or fuse, such as rated 20 or 30 amps, will not provide adequate protection.

This panel is an outdated Federal Pacific Stab-Lok type. There has been some recent concern that panels of this type and other discontinued brands may not operate safely in some conditions. The installation of a new panel may be the only way to eliminate potential risks associated with outdated panels. We recommend a qualified electrical contractor be retained to examine and further evaluate this panel to insure safety. Replacement of this panel may be necessary.

Not all the panel circuits are labeled. We suggest the panel be labeled to identify areas served by each of the individual circuits, for safer and easier system repair.

There are indications of excessive heat (arcing and scorching) at the energized main buss bar within this panel. This condition indicates a potentially hazardous defect requiring immediate correction.



We recommend this panel be examined and repaired or replaced as necessary by a qualified electrician.

**Electrical Grounding & Bonding** 

The main electrical panel is not properly grounded, due to the lack of bonding at the main water pipe connection (see **Plumbing**). We recommend a qualified electrician install a proper grounding system.

The grounding system appears outdated and may not function effectively in some situations. We also recommend a driven grounding rod be installed to upgrade the main panel grounding.

Modern electrical services are typically grounded to the water piping within five feet of where it enters the building, a driven rod in the earth, and/or steel rods embedded in the foundation. Older electrical services are typically grounded only to the water piping. A grounding conductor is often visible at the main panel, but it is not possible to locate the grounding connection. The gas piping and other metallic interior piping should be bonded to the grounding system.

### Right Side Basement Circuit Breaker Subpanel

This panel has 20 circuits.

This panel is also an outdated Federal Pacific Stab-Lok type (see previous information).

Not all the panel circuits are labeled. Again, we suggest the panel be labeled to identify areas served by each of the individual circuits, for safer and easier system repair.

There is an opening or missing "knock-out" in the panel box. We recommend the panel box opening be properly covered.

Wiring

This building is wired with nonmetallic-sheathed cable (NMC or Romex) wiring, armored cable (BX, MC or AC), wiring in conduit, and older knob and tube wiring.

Most buildings prior to the 1950's were wired with knob and tube systems. In some building jurisdictions, knob and tube wiring with plastic insulation was used until the 1960's. Over time, the brittle insulation on older wire breaks down, especially at ceiling mounted light fixtures as these lights expose the wiring to heat over a long period of time. The splices in knob and tube systems are soldered, and overloads can melt the solder, causing loose connections and a possible fire hazard. Using only 15-amp fuses or breakers can reduce the potential for overloading.

Several wires located on the soil in the rear right crawlspace are not properly supported. The general rule calls for staples or supports every four and one-half feet. The wires are corroded, and we recommend the loose wiring be examined and repaired or replaced and properly secured as needed.

Extension cord wiring has been installed through a wall at the upper staircase landing, from the adjacent bedroom closet. This wiring is not suitable for permanent installations. We recommend the improper extension cord wiring be removed or replaced with properly installed wiring.

An electrical junction box in the rear crawlspace is uncovered. We recommend all uncovered boxes be properly covered.

**Light Fixtures** 

There is a pull-chain light fixture above the left side bedroom closet sink and we recommend it be replaced with a safer fixture. Pull-chain switches are generally not approved for use within six feet of a water source.

Several closets have exposed bulb light fixtures. Incandescent light fixtures should be used in closets only when located over the door or on the ceiling and at least 12 inches from storage areas. Exposed bulbs and pendant lights should not be used. We suggest fluorescent lights be used in closets as they are cooler and require less clearance from storage areas.

The pendant light fixture in the upper hall closet should be replaced with a newer fixture, for safety.

All older light fixture wiring should be examined by a qualified contractor and repaired or replaced as necessary to insure safety. Excessive wattage light bulbs allow higher temperatures, and may deteriorate older wiring and increase the possibility of electrical fires.

### Door Bell

The doorbell functioned properly.

Receptacles and Switches

There are both 2-hole and 3-hole type receptacle outlets in this building. We tested a representative number of the outlets and switches. An examination of each is beyond the scope of our inspection.

We observed several ungrounded 3-hole outlets in the living room and throughout the building. We recommend each 3-hole outlet be examined by a qualified electrician and properly grounded, or replaced with two-hole outlets or GFCI's, as needed.

Ungrounded 3-hole outlets, also known as an "open ground," are common in older buildings and typically occurs when 2-hole outlets are replaced with 3-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 2-hole receptacle; installation of a proper grounding wire to the outlet; or replacement with a GFCI receptacle.

The number of outlets or receptacles available for use is less than required in new construction. We suggest additional outlets be added as needed for convenience and safety.

**Ground Fault Circuit Interrupters** 

There is one GFCI-protected outlet at the rear exterior. This GFCI outlet does not disconnect properly when tested and we recommend it be repaired or replaced. This outlet should be tested periodically by pressing the test and reset button on the outlet face to ensure proper functioning.

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 also require GFCI breakers for kitchen countertop outlets within 6 feet of a sink and for wet bars. 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 assure the devices are functioning properly.

### **Exterior Electrical**

As is common in older buildings, the exterior receptacle at the front was not GFCI protected. GFCI protection is relatively inexpensive and provides an important margin of safety. We strongly recommend it be installed.

### **PLUMBING**

### Main Water Supply

The main shutoff valve for the water supply is at the front right exterior. The supply piping leading to the building main valve is 3/4-inch copper. It appears supply piping from the street to the building has been upgraded and the original piping has been replaced.

We measured the water pressure at 70 pounds (PSI). Pressures between 30 and 80 pounds are considered to be in the normal range.

### Interior Water Piping

Both copper and galvanized steel piping are used in the water supply piping system. Mineral deposits and rust tends to accumulate in galvanized piping, resulting in reduced water flow. The extent to which this occurs depends on the type 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.

Unbonded dielectric unions have been used at the main water pipe connection at the shut off valve, and beneath the building in several places, to connect portions of the copper and galvanized piping in the underfloor 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.

There is a leak in the water supply piping at one fitting in the middle rear crawlspace. There is rust at several other piping connections, which is not unusual in galvanized piping. The rusty connections should be checked periodically for indications of leakage. We recommend the leaking pipe be repaired by a qualified plumber.

There is a noticeable drop in the water flow at some plumbing fixtures when several valves are operated at the same time, and a significant drop in water flow at the upper bedroom closet sink. This may be inconvenient until plumbing repairs are made. We recommend a qualified plumber review the water flow and that the system be modified as needed to provide adequate flow at the fixtures.

### Stop Valves

Angle and straight stops are shutoff valves normally found beneath sinks and toilets in modern construction to provide a convenient disconnect in case of leakage, or to facilitate repairs. These shutoff valves are rarely used, and may "freeze" in place or leak when operated. Stop valves should 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.



**Exterior Piping** 

The hose faucets we observed functioned properly. The hose faucets are not equipped with anti-siphon valves as is required in new construction. We suggest anti-siphon devices be installed to prevent the accidental flow of waste water into the water supply piping.

Garden and lawn sprinkler systems, if present, are beyond the scope of our inspection. These systems should be checked periodically for leaks and for proper functioning.

**Waste Piping System** 

The waste piping system has cast iron, galvanized steel, ABS plastic, and copper piping. We observed no leaks in the waste piping system.

A waste pipe cleanout is located at the right side exterior. We recommend a history of any previous waste pipe blockage and/or repairs be obtained.

The fixture drains appear to have adequate waste water flow.

Many buildings, especially those 50 years and older, have partially blocked, damaged, or worn out main sewer piping. Older sewer pipes often require annual cleaning and clearing of roots or other obstructions, as part of routine maintenance. Clay tile piping was used in many older waste systems between the building and main sewer. Clay pipes are easily damaged and can be blocked by tree roots, or may crack from soil movement, causing sewage to back up into interior plumbing fixtures. If possible, determine any history of clogged drains. Eventual replacement of old sewer piping should be anticipated.

Many local jurisdictions are now requiring the sewer lateral be examined or tested to determine if there are any breaks or openings in the piping. (The sewer lateral is the underground piping that connects the building wastelines to the sanitary district's sewer lines, generally located in the street.) This examination is well advised for buildings constructed before 1950, or when blockage has been disclosed or is known, and when recent repairs or replacement cannot be documented.

### Gas

The gas meter is beneath the building at the right front. The gas shutoff valve is outside near the meter at the right front. To shut off the gas, turn the valve 90° so the handle is at a right angle to the pipe. We suggest storing a large wrench near the valve so the gas can be shut off quickly in an emergency. We also recommend that a PG&E service technician be contacted periodically, to operate the gas shutoff valve and insure its proper function. This valve is the property of the utility, and it can become more difficult to operate with the passage of time.

We suggest an automatic seismic gas shutoff valve be provided, which is designed to be triggered by seismic movement, and to disconnect the gas supply to the building in an earthquake. A qualified plumbing contractor should be consulted for further information and cost estimates.

### General

Waste piping should be cleaned out periodically to remove any accumulation of grease, hair, and dirt and to help prevent future debris blockage and subsequent drainage failure.

The gas and water piping was not fully accessible and an examination of each connection was not made. The standard test for 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.

## Les Lippinion Heating & Plemby

### WATER HEATER

There is a gas-fired water heater in the basement that is older and worn and apparently the original water heater for this house. It is a Ruud Brand Instantaneous water heater that supplies an unlimited amount of hot water at reduced volume. Replacement of this water heater, or complete examination, servicing and repair should be considered. The gas to the water heater is turned off and we did not perform an operational examination of this equipment.

The water temperature control should be adjusted to the lowest setting that provides sufficient hot water at showers and bathtubs. This is usually recommended to be no greater than 120 degrees, for safety. Water temperatures above this can cause 2<sup>nd</sup> and 3<sup>rd</sup> degree burns on adults very quickly: 130F in about 30 seconds; 150F in about 1-1/2 seconds. Children and the elderly can be burned more quickly.

The water piping above the water heater is not bonded as is typically required in new installations. We suggest proper bonding clamps and wiring be installed for electrical safety (see Electrical).

This unit is equipped with a rigid gas supply connection. Flexible connectors are now typically required in new installations as they are less likely to leak if the equipment moves during seismic activity. We recommend upgrading with modern flexible gas connectors.

This water heater does not have a temperature and pressure relief (TPR) valve. We recommend a TPR valve be installed.

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, 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.

Adequate water heater strapping or bracing can significantly reduce damage that can occur from water heater movement. The best braces are rigid and support the water heater both at the top and bottom. "Plumber's tape" alone is no longer considered an adequate restraint according to the guidelines of the California Seismic Safety Commission. As of January 1, 1997, home sellers in California are required to certify that their water heater complies with current guidelines upon transfer of the property.

The vent piping is very deteriorated and has holes in the piping. Also, the blue metal (stove pipe) vent piping is not an approved gas appliance vent piping material when installed in unconditioned spaces. Replacement with listed galvanized vent piping is recommended, and is required in most jurisdictions.

The single wall vent piping is too close to, and in some areas is in contact with, wood framing, which is a potential fire hazard. We recommend adequate vent pipe clearance be provided. Single wall vents need at least six inches clearance from combustibles. The installation of double wall Type B vent piping should be considered, as it requires only one-inch clearance to combustibles.

The top of the vent pipe does not extend above the roof level and we recommend the vent piping be repaired or replaced, and properly extended to terminate properly by a qualified contractor.



The end of a gas appliance flue should terminate at least 4 feet below, 4 feet horizontally from, or at least 1 foot above an operable window, and at least 1 foot above a roof surface.

### **General**

The temperature adjustment control should be kept in the middle range; the water temperature should never be set hot enough to scald someone accidentally.

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

### HEATING

There is a gas-fired forced air furnace in the basement that shows minor wear. We did turn on the gas supply to the building to check the operation of this appliance, only.

The BTU input capacity is rated at 110,000 BTU's. We operated the heating system and it appeared to function properly.

We did not locate the furnace installation manual. The standard requirement is for these manuals to be attached to all new equipment. We recommend the furnace operating manual be obtained and properly secured to the furnace.

This furnace is equipped with a newer, flexible type gas connector that allows some movement as required for earthquake protection.

The heat exchanger in this furnace is not readily accessible to inspection.

A 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 flame may flow through the exchanger wall and enter the living area. Heat exchangers should be carefully examined as part of routine servicing. Only a small portion of the heat exchanger is accessible during a typical home inspection.

### Venting

This furnace is an induced draft, high efficiency, condensing type and is considered to have efficiencies greater than 90%. The increased efficiency creates lower flue temperatures and allows plastic piping to be used in the venting system. There is a condensate pump, with a drainline to the exterior, or an approved location, that removes excessive moisture from the furnace vent pipe, due to condensation of combustion products in the vent pipe system. ABS piping is used for the vent piping. A qualified contractor, as part of routine maintenance, and to insure its proper operation, must periodically examine this pump and drainline.

### Distribution

This system uses ducting to distribute warm air to the conditioned spaces. The airflow appears uneven at some supply registers. We recommend a qualified heating contractor examine the ducting system airflow. A determination as to whether adequate heating is provided to all the rooms is beyond the scope of this inspection.

The reusable furnace filter is at the base of the furnace. The filter is not clean and we recommend it be cleaned, then checked monthly and washed or vacuumed at least twice a year for efficient furnace operation.

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 air flow over a furnace heat exchanger, resulting in premature heat exchanger cracking or failure.

**Central Heating General** 

Special care should be taken to avoid storing combustible materials (clothing or other items which could burn) near gas-fired heating equipment to prevent a potential fire hazard.



### INTERIOR

Walls and Ceilings

The interior wall and ceiling surfaces are primarily plaster, with wallpaper on many of the interior walls. Some portions of the dining room walls are covered with paneling that appears to be installed directly over the stud framing.

There are several cracks in the interior surfaces. Surface cracking is common and periodic repair should be expected as part of routine maintenance.

There are stains on the ceilings in the upper hall in several places, in the closet in the left side bedroom, and beneath the addition skylights. The roof surfaces are mostly newer, and these areas appeared dry. We recommend the stained areas be monitored periodically for leakage in the future and that repairs be made if new leakage occurs.

There is a laundry chute opening located in the upper hall closet. This opening is a potential child safety concern, and we recommend a child proof lock or other means be provided to help eliminate this potential hazard.

### Floors

We observed sloping or unevenness in several of the building floors, especially at the middle, and left side. We do not perform a detailed survey of the floors for slope or uniform elevation as part of our standard inspection. We can return with special equipment and provide a floor level survey to determine the extent of floor slope for an additional fee upon request.

**Stairways** 

The basement stairs are unusually steep and narrow and would not be allowed in new construction. The standard requirement for width in new construction is 36 inches. The overhead clearance above the basement stairway also is not sufficient and could cause injury. The minimum overhead clearance in modern construction is 6 feet 8 inches above a line drawn along the leading edge of the steps. Persons using the stairs should be warned to be especially careful.

Raliings

The handrails on the interior main stairs are not designed properly for safe usage. We recommend proper hand grip railings be provided for safer stairway use.

The upper hall banister is too low by modern standards, which require guardrails to be at least 36 inches high. We suggest upgrading the banister height for greater safety.

Railing Safety: Staircases with 4 or more steps should have handrails which are between 1 1/2 inches and 2 inches wide and which are shaped so that the handrail can be grasped. This requirement, while often ignored, is important for safe stairway usage, particularly for the young and elderly. Handrails should be installed so that they are 34 to 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 be hooked by clothing or other items. Large rail openings that may allow a child to fall through should be modified for safety. Modern standards call for openings to be less than 4 inches in diameter. The standard has been recently changed to 4 inches as it is found that many children can easily slip through a 5 inch opening.



### **Smoke Detectors**

This building has several smoke detectors. We suggest the installation of carbon monoxide detectors also be considered as a safety improvement.

Smoke detectors should be installed on every floor and in hallways near sleeping areas. Most jurisdictions now require that smoke detectors also be installed in each bedroom in new construction or when modifications exceeding \$1000 in value are made. Direct wired smoke detectors should also have backup batteries so they will function in a power outage. Smoke detectors should be tested routinely by following the instructions in the detector operating manual. Fire extinguishers should be provided in kitchens and garages for emergency use. We also suggest CO or carbon monoxide detectors be installed in buildings with gas-fired heating systems.

### Interior Miscellaneous

This building is equipped with a security system. We suggest the system installer or a security company be consulted as to proper operation of this system. An examination of this system is beyond the scope of this inspection.

### Windows

This building has wood framed double hung and casement type windows. The windows we operated functioned properly.

There also are two jalousie type windows at the right side, which are prone to wind and air infiltration. Consideration should be given to replacing these windows with more modern, energy efficient types.

The paint is peeling on the insides of several wood window sashes (or frames) in the living room, and we recommend these be scraped, sanded, primed, and painted where needed.

In older homes, paint can contain high levels of lead. We have enclosed an article concerning possible lead sources within the home, and appropriate agencies to contact for further information. We do not make an assessment or inspection for lead as part of this general home inspection.

Several living room window sash cords are broken. We recommend new cords be installed as needed for safer window operation.

We operated a representative sampling of the windows. All windows were not checked 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.

### Doors

There are French doors at the rear. These doors are prone to water leakage around the frame and at the door sill due to their design. We suggest such doors be periodically examined during periods of rain to determine if leakage is occurring. Any detected leakage should be further evaluated and repaired by a qualified contractor.

There is moisture related damage to the rear French door and we recommend it be repaired or replaced, and this area be examined by a qualified pest control firm.

Several interior doors have inside key locks. Deadbolts and other locks with removable inside keys can prevent escape in a fire emergency and are prohibited in many jurisdictions. Always leave inside

keys in the locks when the building is occupied. Thumb latches are safer and lock replacement should be considered.

Several door frames are noticeably unsquare. Out of square door frames are usually caused by foundation settling or movement.

There is a greater than one inch height difference between floor levels at the front hall bathroom threshold. This generally would not be allowed in newer construction, and is a potential trip hazard. We recommend it be modified for safety.

### FIREPLACE AND CHIMNEY

There are masonry fireplaces in the living and dining rooms. The brick firebox in the living room shows moderate wear and the brick firebox in the dining room is generally worn. The mortar between the firebox bricks is soft or missing in several places. There is looseness in the dining room firebox brickwork. We recommend these fireplaces be examined and repaired as needed 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.

There are stains on the ceiling and wall area above the living room fireplace that may be related to past leakage from the roof area above. This may be due to openings in the flashings or mastic that seal the joint between the chimney and roof surface. We recommend these stains be monitored in the future for signs of leakage, and the roof flashings be repaired by a qualified roofing contractor if leakage occurs.

The living room fireplace has a damper and the dining room fireplace does not. We recommend a damper be provided in the dining room fireplace.

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.

The living room fireplace has a stucco sided brick chimney at the right side, and the dining room fireplace has a stucco sided brick chimney at the middle rear. The interior of both flues is mostly inaccessible to our inspection.

Modern brick or concrete block chimneys are 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 that can break the mortar, bricks, or liner. A qualified chimney contractor should carefully check all older chimneys 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.

The right side chimney extends well above the roof surface and may need bracing to prevent damage or failure in an earthquake. The installation of steel bracing can reduce the potential for property damage or injury. Such bracing should be designed to prevent movement in all directions. Modern chimneys are typically tied to the ceiling framing. These connections are usually not visually accessible.

Both chimney flues have a rain cap and spark arrester screen.



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.

Due to the interior location and age of the dining room chimney, we recommend a qualified fireplace contractor be retained to perform a safety inspection of the fireplace and chimney.

### Stove

There is a freestanding, wood pellet burning stove in the rear addition that shows minor wear. The stove was covered and was not operated or inspected. We recommend the manual for the stove be obtained to learn proper operating and maintenance procedures.

This stove has a sheet metal chimney. The ceiling collar does not appear properly centered around the flue pipe. We recommend it be further evaluated by a qualified contractor.

### General

Fireplaces should be checked periodically by a licensed chimney sweep or qualified chimney contractor. This should be done annually if they are used regularly (once a week or more). They 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.

### **BATHROOMS**

### Kitchen Bath

This bathroom has a shower with ceramic tile shower walls that show moderate wear.

The shower door is wire glass, and does not have a clearly visible safety glass label. We assume it is not tempered glass, and we recommend a tempered glass shower door be installed for increased safety.

The cabinet has a cast polymer top and sink that show moderate wear. The cabinet shows minor wear.

Cast polymer sinks, countertops, and shower wall materials are becoming more prevalent in new construction. These materials include cultured marble, cultured onyx, cultured granite, and solid surfacing materials such as Corian or Silverstone.

The wood flooring shows minor wear. There are minor stains and discoloration in the flooring around the base of the toilet, which may indicate previous leakage. While we saw no indications of significant moisture-related damage, this area should be kept well sealed and monitored in the future for damage. A current pest control report should be consulted.

A window and a fan provide ventilation.

This bathroom has 3-hole receptacles. We suggest upgrading to provide GFCI safety protection.

There is an older type, metal covered, wall mounted electric heater in the bathroom. We recommend the heater be removed or replaced. The grill on the front does not adequately cover the heating elements, which could be hazardous.

Outdated bathroom electric wall heaters may not meet modern safety standards. Many are not electrically grounded and many old heaters have exposed heating elements which can be a fire hazard. We suggest old outdated electric heaters be disconnected, replaced or removed. Heating is commonly provided for bathrooms in new construction, but it is not required by many building jurisdictions.

**Upper Hall Front Bath** 

This bathroom has a combination bathtub and shower. The bathtub is porcelain enamel steel.

The cast polymer shower walls show minor wear (see previous information).

The shower enclosure and door have clearly visible safety glass labels.

The cabinet has a cast polymer top and sink that shows moderate wear (see previous information).

The cabinet and ceramic tile flooring show minor wear.

A window and a fan provide ventilation.

This bathroom has 3-hole receptacles. We suggest upgrading to provide GFCI safety protection.

There also is an older type, wall mounted electric heater in the bathroom. Again, we recommend the heater be removed or replaced (see previous information).



**Upper Hall Rear Bath** 

This bathroom has a shower with ceramic tile shower walls that are generally worn. The shower pan has several cracked tiles and may leak. We recommend this area be examined by a qualified pest control firm.

The shower enclosure door has a clearly visible safety glass label.

The sink is enameled steel. The plastic laminate countertop is in an older condition and shows moderate wear.

The cabinet shows moderate wear.

The owner informed us that the toilet flapper valve leaked and was to be replaced. The water supply to the toilet was off and we did not operate this toilet. We recommend it be repaired.

Angle stops are shutoff valves normally found beneath sinks and toilets in modern construction to provide a convenient disconnect in case of leakage, or to facilitate repairs. These shutoff valves are rarely used, and may "freeze" in place or leak when operated. Angle stops should 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.

The ceramic tile flooring shows minor wear.

This bathroom has a ceiling mounted combination electric heat, vent, fan, and light fixture.

This bathroom has 3-hole receptacles. We suggest upgrading to provide GFCI safety protection.

### **Closet Sink**

There also is a wall mounted cast iron sink in the closet of the left side bedroom. There is very low water flow at this sink (see **Plumbing**). Also, there are separate hot and cold water faucets, and a scald potential exists at the hot water valve. We recommend caution be used until a new mixing type faucet is installed.

### General

Caulked joints should be checked frequently and recaulked 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 bathroom caulk, such as silicone, should be used. Bathrooms 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.

### **KITCHEN**

The plastic laminate countertops are in an older condition and show moderate wear. The one-basin sink is stainless steel and is equipped with a disposer that shows moderate wear.

The dishwasher is in an older condition and shows moderate wear. We did not test the dishwasher.

The dishwasher drain does not have an air gap (or anti-siphon device) and we recommend one be installed. The purpose of an air gap is to keep sink waste water from flowing into the dishwasher. This device is required in new installations.

This kitchen has two electric wall ovens that show moderate wear and are functional.

The relatively new cooktop is electric. The metal electrical conduit below the electric cooktop is loose at the junction box, and we recommend it be properly secured.

Outlets in the kitchen are not GFCI protected. We suggest Ground-Fault-Circuit-Interrupter protection be provided as an upgrade.

Several counter spaces are not provided with outlet receptacles necessary for safety and convenience. We recommend adequate outlets be installed as needed for safety.

Appliances, such as refrigerators, computers, microwave ovens, and clothes washers typically have three-prong plugs and need conveniently placed three-hole grounded outlets. Modern kitchens require receptacles every 4 feet along countertops and within 24 inches of the kitchen sink. Each individual countertop area should have at least one receptacle.

The cabinets are in an older condition and show moderate wear.

The exhaust fan and cabinets above the cooktop are not 30 vertical inches above the surface, as is now required both for fire safety and convenience. We suggest this be modified for safety and convenience.

The ceramic tile flooring shows minor wear.

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### LAUNDRY

There is a laundry area near the kitchen. Operation and inspection of laundry equipment is beyond the scope of our inspection.

We suggest a catch pan and drain be installed beneath the washer to prevent damage that could occur should the washer leak or drain overflow.

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

The electrical for the clothes washer and dryer was not accessible to inspection.

Gas piping is provided for the clothes dryer. An operational examination of the gas supply was not made.

The flooring is wood. The flooring below the appliances is not accessible to inspection.



### **ENVIRONMENTAL**

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, lead paint, electromagnetic radiation and radon. Buried fuel tanks may pose an environmental hazard. Hazardous materials, product liability, and environmental hazards including mold and mildew are not included in the scope of our inspection. For information on hazardous materials, call the Environmental Protection Agency in San Francisco at 415-744-1500.

### **GARAGE**

There is a detached garage at the rear left. Much of the garage interior is not accessible to inspection due to stored personal belongings.

This garage has a wooden, roll-up style vehicle door. The garage door has an automatic opener that did reverse when an object interrupted the light beam sensor at the base of the door opening. This is a child safety feature of newer door openers.

The accessible areas of the concrete floor show typical minor cracking.

### Framing

Several aspects of the garage framing are substandard, and we observed moisture-related damage to the garage framing at the rear and sides. We recommend the garage framing be repaired and reinforced as needed by a qualified contractor.

The rear wall behind the damaged wood framing is concrete and appears to be a retaining wall. We recommend it be further evaluated by a qualified engineer to determine its adequacy.

### **Exterior Walls**

The left side portions of the garage exterior were not accessible to inspection.

### Electrical

We did not locate a GFCI protected receptacle, which is now required in garage areas for safety. If not installed, we recommend one be installed as a safety upgrade.

Wiring is exposed to damage on the interior walls. Some jurisdictions allow unprotected wiring in garage areas. For increased safety, we recommend all exposed wiring be properly installed. The local building department should be contacted for their requirements.

Wiring in living areas, storage areas, or accessible exterior locations should be protected from damage. Protection is typically achieved by enclosure within wall cavities surfaced with gypsum board (sheet rock) or paneling, or by placing the wiring in rigid or flexible metal conduit. Metalsheathed cable (BX) or flexible metal conduit can be used in dry areas. Moisture-tight conduit should be used at exterior locations.

### **ENCLOSURES**

The following is a list of articles that have been enclosed to provide additional information. Please read them carefully.

- Lead Paint Information
- Handrails and Guardrails
- Electrical Capacity

Thank you for choosing John McComas Building Inspection Service. If you have any questions or if we can be of further assistance, please do not hesitate to call (510) 525-7173.



### John W. McComas Building Inspection Service

PMB 466, 1563 Solano Ave. Contractor's Lic. #540953 Berkeley, CA 94707 510.525.7173

### THIS CONTRACT LIGHTS FUR LIASELY ... PLEASE BEAD CARSOLLY

Inspection Address 2943 Russell Street, Berkeley, CA

P0320

Client(s) Ann Livingston

A Company

Agent Pater Damm

- 1. Client requests a limited visual inspection of the structure identified at of emergency conditions, before Client's agents, employees or the above address by John McComes of John McComes Building independent contractors repairs, raplaces, siters or modifies the claimed inspection Service, hereinafter referred to as the "Company" and Client hereby represents and warrants that all approvals necessary have been secured for Company's entrance onto the property.
- 2. C liest warrant that (a) alient has read this Agreement carefully; (b) Client understands Client is bound by all the terms of this Agreement; and (c) Client will read the antire inspection Raport when received and promptly call company with any questions Client may have.
- 3. Client understands that the Inspection and Inspection Report are performed and prepared for Client's sole confidential and exclusive p Client agrees that Client will not transfer, disserningte, or otherwise disclose say part of the Inspection Report to say other persons without the express written permission of the Company. The only exceptions to this son-disclosure are as follows: (a) one copy may be provided to the prospective Buyer of this property or to the Buyer's real estate agent, but only upon the express condition that the Client covenants to use the inspection report only in connection with Client's transaction; and (b) one copy may be provided to the real setzer agent representing Client for us copy may be provided to use run seems agree to indemnify, defend and hold horniless Company from any third party claims relating to this inspection or
- Company agrees to perform a limited visual inspection of the structure at the above address and to provide Client with a written opinion as to the apparent general condition of the structure's compressets and systems including identification of significant observable deficiencies as they exist at the time of impection. The Impection will be performed in a manner consistent with the Standards of Practice of The American Society of Home inspectors® (ABHI®). A copy of these Standards is available upon request with the inspection Report, or will be made available to the client at any earlier time if advance notice is given to Company.
- 5. The inspection only includes those systems and components expressly and specifically identified in the inspection Report. Any area that is not exposed to view, is concealed, is inaccessible because of soil, walls, floors, corpets, cellings, firelishing or any other thing, or those areas/items that have been excluded by the ASHI standards and/or by agreement of the parties is not included in this Inspection. The Inspection does not include any destructive testing or dismenting. In addition to the other limitation provisions in this agreement, Client agrees to assume all the risk for all conditions that are concealed from view at the time of the impection or exist in any area excluded from inspection by the terms of this agreement Maintenance and other learns may be discussed but will NOT form a part of the Inspection Report. The aroun/forms, systems and comp ents that are among these not included in the Impection are listed in Attachment
- 6. Client understands that the inspection and inspection Report do not in any way, constitute a'es: (1) generantee, (2) warranty of merchantability or fitness for a particular purpose, (3) express or implied warranty, or (4) insurance policy. Additionally, neither the Inspection nor inspection Report in suitable for any real estate transfer disclosures that may be required by
- 7. The written report to be proposed by Company shall be considered the final and exchains findings of the Company about the structure. Client understands and agrees that Client will not rely on any oral statements made by the Inspector prior or subsequent to the I sounce of the written Inspection report. Client further understands and agrees Company reserves the right to modify the inspection Report for a period of time that shall not exceed fixty eight (41) hours after the Inspection Report has first been
- 8. Client understands and agrees that any claim arising out of or related to any act or emission of Company in connection with the Inspection of the structure, as limited herein, shall be made in writing and reported to Company within ten (10) working days of discovery. Client forther agrees to allow company to re-inspect the claimed discrepancy with the exception whatsoever.

- discrepancy. Client understands and agrees that any failure to notify Company as stated above shall constitute a waiver of any and all claims Client may have against Company.
- Any dispute, controversy, interpretation or claim including claims for, but not limited to, breach of contract, any form of negligence, fixed or misrepresentation or any other theory of liability arising out of, from, or related to this contract, or arising out of, from, or related to the inspection or inspection Report shall be submitted to final and binding arbitration under the Rules and Procedures of the Baredised Arbitration of Home inspection Disputes of Construction Arbitration Services, Inc. The decision of the Arbitrator appointed thersunder shall be finel and bloding and digeneration the Award may be seatered in any court of comp jurisdiction. Client understands and agrees that in any such arbitration, all of the limitation provisions of this agreement shall apply.
- 10. To the extent allowed by law, it is understood and agreed by and between the parties hereto that Company is not an insurer, that the payment for the subject inspection is based solely on the value of the service provided by Company in the performance of a limited visual Inspection of the general condition of the structure's systems and components as cribed in Pungraph 4 and production of a written report; that because of the limited nature of this inspection, the inspection cannot be expected to success all defects or deficiencies within the structure and that it is impracticable and extremely difficult to fix the actual damages, if any, which may result from a failure to perform such services. Thes, Client and Company agree that to the event that Company breaches its obligation or duty to perform such services, and Client is damaged, then the liability of Company (including its o filters, a pents and employees) shall be fixed at the total sum of \$1000.00 and this liability shall be exclusive.

The five for the Limited Visual Impection is \$ 815.00 Hul

Client's Initials (if choosing this Inspection)

Client understands that an Inspection and Inspection Report without this LIMITATION OF LIABILITY is recommended by Company and will include inspection of the property by the following specialists: Roof, Electrical, Heating and Air Conditioning, Phanhing, Foundation, Fireplace and Pool/Sps (as applicable) Contractors, and Geotechnical and Structural Engineers in addition to the Inspector.

The Fee for the Specialists Inspection is \$ 5000.00

Client's initials (if choosing this inspection)

- Any legal action, including the arbitration proceeding more specifically described above, including but not limited to those proceedings involving claims in bort or commet, against Company or its officers, agents, or amployees, must be brought within one (!) year from the date of the Inspection, or same will be waived and forever barred. Time is expressly of the suspect herein.
- 12. Client understands and agrees that if Client is not present at the time of the inspection and therefore does not sign this Agreement, that this greenest will form a part of the Inspection Report and that acceptance of the Inspection Report and payment therefore by client, shall constitute acceptance of the terms and conditions of this agreement.
- 13. If any portion of this agreement is found to be invalid or unenforceable by mry court or arbitrator the remaining terms shall remain in force between too pertical
- 14. This agreement represents the entire agreement between the parties. No oral agreements, understandings, or representations shall change, modify or amend any part of this agreement. No change or modification shall be enforceable against any party unless such changes or modifications are in writing and signed by the parties. This Agreement shall be binding upon and loure to the parties hereto and their spouses, heirs, successors, administrators, successors, assigns and representatives of any kind

Dated 3/28/03 For the Company   Jedus 1) Me Coma	ons of this contract and to pay the fee fixed above.
Dated 72000 Signature of Client(s) Mula 198501 -	(one signature binds all)
Detect 3/28/03 For the Company 10 Lu h) Me ( 15 ma	<b>75.</b> ±35 ± 35 ± 35 ± 35 ± 35 ± 35 ± 35 ± 35

### ATTACHMENT "A"

### Whether or not they are concealed, the following are outside the scope of this inspection:

- Code or zoning violations
- System or component installation
- Permit research

A Property of the second

- Structural, geological, soil, wave action or hydrological stability, survey, engineering, analysis or testing
- Termites or other wood destroying insects, rodents or other pests, dry rot or fungus
- Latent or concealed defects
- Asbestos, radon gas, lead paint, urea formaldehyde, toxic or flammable chemicals, water or air quality, PCB's or other toxins, electromagnetic fields, underground storage tanks, proximity to toxic waste sites or other environmental or health hazards
- Private water or sewage systems
- · Pools, spas, spa bodies, hot tubs, saunas, steam baths, fountains or other types of related systems and components
- Repair cost estimates
- Building value appraisal
- Radio controlled devices
- Automatic gates
- Elevators, lifts, dumbwaiters
- Thermostatic or time clock controls
- Water softener or purifiers
- Radiant heat systems
- Furnace heat exchanger
- Solar heating systems
- Gas appliances such as fire pits, barbecues, heaters and lamps
- Main gas shut off valve, and any gas leaks
- Odors, noise and environmental hazards of any nature including mold and mildew
- Seismic safety
- Freestanding appliances
- Security or fire safety systems
- Personal property
- Any adverse condition that may affect the desirability of the property
- Proximity to railroad tracks or airplane routes
- Boundaries, easements or rights of way
- Unique/technically complex systems or components
- System or component life expectancy
- a Adequacy or efficiency of any system or component
- Items specifically noted as excluded in the inspection report.

If Inspection of any of the areas/items, systems or components listed above is desired, then Client shall contact the appropriate professionals.



### ROOFING

RECEIVED AND READ

June 16, 1999

Mr. Emest Livingston 2943 Russell Street Berkeley, CA 94705

	NUMBER OF PAGES
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The following are the specifications to be completed on the upper main house roof and the garage roof ONLY. The rear addition and driveway side being currently connected with composition shingles and the small east side lower tar and gravel section are EXCLUDED.

### PREPARATION WORK:

- Tear off all layers of existing built up roofing and shingles. Pull out or nail down all nails so
  that the new materials can be installed properly. Dispose of all old materials at a proper
  dumping facility.
- Remove or cut down curb boards at perimeter of the main roof to establish a drip edge.

### INSTALLATION OF MATERIALS: HOUSE

- Apply one layer of 15 lb. asphalt saturated felt over the entire roof surface.
- Install new 25 year 3-tab fiberglass shingles according to manufacturer's specifications.
- At all valley areas, shingles will be woven with the singles on the adjacent slope. This is
  done to achieve a double thickness at this important junction.
- Install new hip and ridge shingles at 5" exposures.

### FLASHING: HOUSE

- Install new sheetmetal plumbing vent flashings and heat vent flashings. New flashings will be painted with a rust resistant paint.
- Install new galvanized sheetmetal chimney flashing.
- Install new 5" O.G. prepainted (Spanish green) aluminum gutters at the perimeter.

- Install new 2"x3" prepainted (Spanish green) aluminum downspouts in same locations as those attached to the old outlets being eliminated.
- Install new sheetmetal counter flashing under the shingles and over the back edge of the gutter.
- Install new clip in vinyl gutter screens.

### INSTALLATION OF MATERIALS: GARAGE

- Install cant strip in all angels if none exists or replace where existing is damaged.
- Install 28 LB fiberglass base sheet with 2" side laps and 4" end laps nailed using large head simplex nails or other approved fasteners. Fasteners will be placed approximately 12" on center on the side laps and two rows in the center of the sheet placed at approximately 18" on the center.
- Install Mineral Surfaced APP modified bitumen torched to the base sheet. All seams will be heat fused to form a water tight system.
- On vertical parapets walls torch on APP modified bitumen membrane.

### FLASHING : GARAGE

Around outside perimeter install new galvanized sheetmetal nosing, nailed in place on 12"

### CLEAN UP:

Broom clean exterior of the job site of debris generated by this work. During the course of the work some debris may fall into the attic or dust from cathedral ceiling may fall. Unless otherwise noted no provisions have been made to cover or clean the attic or interior of the building.

### **OUALITY ASSURANCE:**

- Your job will be covered by a 5 year workmanship warranty to keep the roof watertight.
- Manufacturer's Warranty: 25 years on composition shingles.

Mr. Emest Livingston 06/16/99 Page 3

### **GENERAL NOTES:**

After removal of the roof, the existing sheathing will be inspected. Any dry rot repairs will be done on a time and materials basis. If the repairs are extensive Central Bay Roofing will give the owner an estimate of the costs, or the owner has the option to have others do the work. However, Central Bay Roofing will not be responsible for delays caused by others.

The cost of the work as outlined will be.....\$11,938.00

The quote also does not include installing smoke detectors or chimney spark arrestors that some cities are now requiring.

NOTE: The above price is based upon owner assurance that there is only one built up roof currently on the house. Should a test cut indicate that there is a second roof layer the price would have to be adjusted for additional labor and disposal charges.

Thank you for allowing Central Bay Roofing to quote your project. If you have any questions please do not hesitate to call me.

Sincerely

Don M. Savage

### Aarvaks Heating Appliance Corp. 1919 5th St. Berkeley, Ca. 94710 848-5010

Mr. Ernest Livingston 2943 Russell St. Berkeley, Ca.

Date. 10-21-87 Phone 974-2796

Invoice

Install one new Payne heating system consisting of the following.

- 1. One new Payne model 398-048-100 Plus 90 furnace.
- 2. Install new ductwork to replace existing ductwork.
- 3. One new return air intake.
- 4. New Honeywell T8200 clock thermostat.

This includes all labor and materials needed to complete this installation.

Aarvaks will provide service [parts & labor] in case of failure of this equipment for a period of one year at no cost to owner. In case of abuse, fire, flood, or other acts of God this does not apply. Manufacturers warranty is packed with the appliance and will be left on jobsite.

Total cost for this installation.

\$3500.00

Terms; cash on completion.

Thank you

1 1/2% per month will be charged on all balances after 30days.

RECEIV	ED AND READ NUMBER OF PAGES
NAME	DATE:
NAME	DATE