

HOME INSPECTION

REPORT

123 Any Street
City, ST Zip

Prepared for:

Our Client

Prepared by:

Criterion Engineers
22 Monument Square
Portland, ME 04101
(800) 828-1969

Date

Inspection: 11-XXXX

Date of Inspection:

Engineer:



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EXECUTIVE SUMMARY OF FINDINGS

To help provide a perspective for the work that we have recommended be complete before moving into this home, we offer the following list of suggested repairs. **This list should not be considered all-inclusive since there will surely be other things you will want to make part of this list.** Please use this list in conjunction with this Report and the Maintenance Plan provided at the end of this report in Appendix A.

Items to be addressed before moving in:

- Repair dryer and laundry room vent outlets (Photos 37, 39, 41, & 42)
- Repair plumbing fixtures
 - The reverse osmosis system was not operating properly and the filter housing should be secured in place (Photo 21).
 - Various drain stopper repairs are needed (Photo 28).
 - The evaporative cooler water line is plumbed into the main check valve and there was evidence of previous leakage. This should be investigated further, and repaired as needed (Photo 7).
 - The hall bathtub faucet handle turns 360°. This should be repaired (Photo 27).
 - The hall bathroom showerhead mount was cracked (Photo 25).
 - Some evidence of leakage was noted under the kitchen sink. This typically suggests some plumbing leakage from a fixture above. It was not possible to know if this leakage was current at the time of the inspection. We suggest further investigation to determine the exact extent of this condition (Photo 21).
 - The laundry room faucet leaks at the swivel (Photo 31).
- Repair electrical system
 - The main panel box is not readily accessible. Quick, unobstructed access needs to be provided. The cabinet needs to be modified and storage items moved to provide easy access to the panel (Photo 9).
 - The electrical splices in the evaporative cooler should be put in junction boxes. This is a hazard that needs to be corrected (Photo 10).

- All extension cord wiring should be removed and replaced with permanent wiring for the evaporative cooler and patio lighting (Photos 8 & 16).
 - The pool equipment should be bonded (Photo 17).
 - Noisy and wobbling ceiling fans should be repaired in the kitchen (Photo 22).
 - The main panel conduit clamp is missing (Photo 4).
 - Missing switch cover plates should be installed in the attic (Photo 45).
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- Maintain/repair the swimming pool equipment
 - As mentioned in the Electrical section, the pump motor bond wire should be attached (Photo 17).
 - The pump was leaking (Photo 18).
 - There was a minor leak at the filter (Photo 19).
 - The remainder of the pool fence should be removed and the deck holes repaired (Photo 20).
 - The soil should be removed from in front of the heater access panel.



22 Monument Square
Portland, ME 04101

Date

Our Client
789 House Drive
Las Vegas, NV 89134

Re: Home Inspection – 11-0237
123 Any Street, Las Vegas, NV 89134

Dear Our Client:

At your request, a structural, electrical, and mechanical inspection of the above property was performed on DATE. The report that follows has been prepared based on that inspection. This inspection was performed by and report written by Charles E. McWilliam, P.E., Master Inspector, of Criterium Engineers. For your interest, a copy of Mr. McWilliam's resume is attached.

The report that follows has been prepared from the perspective of what an owner of this property would benefit from knowing. Thus, it discusses many things beyond those which are of immediate concern. Therefore, the report needs to be read in its entirety to understand fully all the information that has been obtained.

For your convenience, we have prepared the following summary of the condition of the major systems of the house. Please refer to the appropriate section of this report for a more detailed discussion of these systems.



SUMMARY

The structural system is in good condition.

The heating/air conditioning system is operational.

The plumbing system is serviceable.

The electrical system is in good condition, but in need of minor repair.

The exterior is in good condition.

The roofing is in good condition, but in need of regular maintenance.

The swimming pool and equipment are serviceable.

This is a relatively new home that has been built using standard quality workmanship and materials. It is generally in good condition at this time and, with attention to the items noted in our report, should offer many years of trouble-free occupancy.

INTRODUCTION

Our primary purpose is to provide an understanding of the house. We do, of course, look for problems, particularly those we would consider major deficiencies. Please keep in mind that we generally define a major deficiency as one that would cost approximately \$1,000.00 or more to correct. Any house will have minor items deserving attention. Often these are matters of personal preference. It is not the intent of our inspection to detail every minor defect we might find.

Our inspection and report **do not include** code compliance, mold investigations, indoor air quality analysis, municipal regulatory compliance, subsurface investigation, verification of prior uses, or records research related to this building.

This inspection report is limited to observations made from visual evidence. No destructive or invasive testing was performed. The report is not to be considered a guarantee of condition and no warranty is implied.

Criterion Engineers, LLC, offers two types of residential inspections; the standard inspection and the comprehensive inspection. Essentially, the standard inspection relies on visual evidence available at the time of the inspection, while the comprehensive inspection relies on visual evidence plus analysis, invasive testing, and extended, on-site evaluation to reach

its conclusions. Further detail regarding these two types of inspections can be found in the Agreement for Services in Appendix D of this report.

Based on discussions prior to our inspection, you have chosen the standard visual inspection. Our inspection and the report that follows were conducted in accordance with the standards for this type of inspection.

For your reference while reading the report that follows, the following definitions may be helpful:

- Excellent* - Component or system is in "as new" condition requiring no rehabilitation and should perform in full accordance with expected performance.
- Good* - Component or system is sound and performing its function. Although it may show signs of normal wear and tear, some minor rehabilitation work may be required.
- Fair* - Component or system falls into one or more of the following categories:
a) Evidence of previous repairs not in compliance with commonly accepted practice, b) Workmanship not in compliance with commonly accepted standards, c) Component or system is obsolete, d) Component or system approaching end of expected performance. Repair or replacement is required to prevent further deterioration or to prolong expected life.
- Poor* - Component or system has either failed or cannot be relied upon to continue performing its original function as a result of having exceeded its expected performance, excessive deferred maintenance, or state of disrepair. Present condition could contribute to or cause the deterioration of other adjoining elements or systems. Repair or replacement is required.

All ratings are determined by comparison to other buildings of similar age and construction type. Further, some details of workmanship and materials will be examined more closely in higher quality homes where such details of workmanship and materials typically become more relevant.

Attached are the actual inspection check sheets which contain additional information. These should be considered part of the overall evaluation and report.

In addition to our discussions about the condition of the various systems and components, this report covers repairs and maintenance. To help provide a perspective for the work we have suggested for this home, a **Maintenance Plan** has been included in the Appendix A to this report.

This report is based on an examination of the major systems in this building; specifically the heating, plumbing, electrical, and structural systems. This report is an opinion about the condition of this building. It is based on visual evidence available during a diligent inspection of all reasonably accessible areas. No surface materials were removed, no destructive testing undertaken, nor furnishings moved. This report is **not** an exhaustive technical evaluation. Such an evaluation would cost many times more.

This evaluation is not a geological inspection of the site. No subsurface investigation was made and this inspection is not what might be referred to as a "soils report." We can make no determination of the prior grading activity that may or may not have occurred without more extensive research of public records or subsurface investigation. If you desire a geotechnical evaluation we can provide these services at an added fee.

Owning any building involves some risk. Even the most comprehensive inspection cannot be expected to reveal every condition you may consider relevant to your ownership. Further, without disassembling the building, not everything can be known.

You, as a responsible buyer, should examine the portions of this building for which you are most able to judge acceptability. This includes such things as floor coverings, interior wall finishes, appliances, etc.

It is our responsibility to evaluate available evidence relevant to the major systems in this building. We are not, however, responsible for conditions that could not be seen or were not within the scope of our service at the time of the inspection.

This inspection and report have been conducted in compliance with the standards of practice of the National Academy of Building Inspection Engineers.

No home is perfect. We will be discussing many different subjects in this report as well as offering suggestions for changes and improvements to this home. As you read the report, pay particular attention to our notes regarding the fact that many of our observations and suggestions are typical of many homes we look at. Thus, while it may seem that there is some work to do during the next five to ten years, keep in mind that no home is perfect and all deserve some care, attention and upgrading.

DESCRIPTION

This home is a one-story, single family, residence with stucco on the exterior walls, and light-weight concrete Spanish tile roof surfacing (Photo 1). The house is built on a nearly level building pad on a lot that slopes to the front street and to the right. The home was apparently

built in 1995. The house is assumed to face south. In addition, there was an attached two-car garage which was included in this evaluation.

For purposes of this report, all directions (left, right, rear, etc.) are taken from the viewpoint of an observer standing in front of the building and facing it.

STRUCTURE

The house is of the concrete slab foundation type. The roof framing is supported by interior and exterior bearing walls and beams. This is a standard method of construction. We inspected the walls, door casings, and the fit of the doors and windows for any indication that there was movement ongoing with respect to the foundation. None was noted.

Where visible, the footers are generally in good condition. There are a few cracks, which is typical for this type of foundation wall. Within the garage, there has been some minor shrinkage cracking of the concrete slab. This is common and to be expected. There is no apparent structural deficiency related to this condition

When floor coverings are changed in this home, expect to find minor cracking of the concrete floor of the house, similar to that noted in the garage floor. This is common and not considered structurally significant.

We did note some problems in the drainage pattern in the vicinity of the home itself. We mention this because poor drainage is a frequent contributor to differential movement in the Las Vegas area. Regrading to eliminate low areas around the left side of the garage and ground sloping toward the house may be needed if you note runoff against the foundation. In addition, regrading is needed on the rear of the house to lower the soil grade and eliminate soil/stucco contact. There should be at least 2 inches of exposed foundation between the bottom of the stucco and the soil (Photos 5 & 14).

The low, overhead areas of the attic were inaccessible, and this limited the extent of our structural inspection.

The roof framing was inspected by entering the attic via the access panel in the ceiling of the hall bathroom. Where visible, the basic framing members are in good condition. The roof framing in this home consists of prefabricated wood trusses, a common building component; however, these trusses cannot be easily modified if you are considering renovations to this home.

Our evaluation of much of the structure is derived from many indirect inspection observations. Since we rarely see the wall framing, we look for cracks and bulges in the finish of the walls to determine condition. It is possible that there are shortcomings with the structure of this home that will not be indicated from a visual inspection.

This home has been constructed using a non-structural sheathing on the exterior walls. This is applied for its insulation value. As a result, structural attachments to the outside of the house must extend to the underlying studs.

While the house is quite new and has not had time to develop problems with rot, there are several areas where rot could develop. Proper maintenance includes painting or staining any exposed wood to prevent moisture penetration, caulking at joints between different materials, and providing or maintaining good ventilation. Even with these precautions, rot may still develop in these or other areas. The important thing to remember is that any damaged wood needs to be replaced as soon as possible to prevent any damage from spreading to other wood framing. At the time of any repair work, areas normally hidden from view can be inspected for signs of deterioration.

For all practical purposes, there has been little or no settlement or movement of the house, and it can be described as structurally sound. The overall structural stability of these premises can be described as good.

Based on visible evidence, no major structural problems are expected in this building well into the foreseeable future. This, of course, assumes proper maintenance and regular inspections.

WOOD-DESTROYING INSECTS

We are not providing a structural pest control inspection. However, as we discussed, there are areas in and around the house that can permit easy entry for wood destroying organisms. These include:

- Exterior wall surfacing in close/direct contact with the ground
- Soil above sill level

WATER

We found no evidence of moisture or seepage on the concrete slab. You should not assume, however, that water seepage problems cannot and will never occur. Water problems result from a number of sources under a variety of conditions.

VENTILATION

Ventilation is very important for all buildings. Attic ventilation will reduce the amount of heat and moisture that can develop in insulated attics and can increase roof life by reducing heat and condensation. Good ventilation yields a healthier living environment as well, as it reduces the accumulation of offensive and/or toxic fumes and improves energy efficiency.

Attic ventilation is provided by soffit, gable, and roof vents. The amount of ventilation appears to be adequate, and we found no evidence of excessive moisture in the attic. It is important that the attic ventilation be kept open and clear year-round.

As we discussed, the dryer is vented into the attic. This adds damaging moisture to the air, and the lint represents a fire hazard. The dryer should be vented to outside air.

The laundry room fan is also vented into the attic. This can lead to excessive moisture build-up in the attic. This fan should be ducted to outside air. This can be accomplished by reconnecting the ductwork.

Indoor air quality is a growing concern. Mold and mildew, fostered by moisture accumulation, can lead to respiratory discomfort and aggravate allergies and other respiratory conditions for some people. While we may comment on readily visible evidence of mold infestations (refer to the “Environmental Scan” section) this inspection and report should not be considered a mold investigation of any kind. If that type of investigation is desired, individuals specifically trained and qualified for such work should undertake it.

We noted the following deficiencies in the ventilation system (Photos 37, 39, 41 & 42):

- Clean and repair dryer vent.
- Reconnect laundry room duct.

HEATING AND AIR CONDITIONING

Heating and cooling for these premises is provided by a split system air conditioner and gas furnace. A split system air conditioning/heating system consists of two basic elements: the compressor/condensing unit, which is located in the right side yard, and the air handler/evaporator coil/gas furnace unit, which is located in the attic.

During the hot summer months, the compressor/condensing unit, in conjunction with the evaporator coil, removes heat from the house and rejects it to the outside. During the cooler winter months, the furnace heats the inside air. For both the heating and cooling processes the air handler circulates air through the house.

Due to the high ambient temperature, the heating/cooling system was operated only in the cooling mode during the inspection. The cooling system is in operating condition, and ran satisfactorily with conditioned air reaching the various outlets uniformly.

Our visual inspection of the air conditioning system does not check for proper refrigerant charge or test for leaks in the system. The evaporator coil needs cleaning and maintenance

periodically. The coil should be cleaned, serviced and inspected if the owner's records do not indicate that this service has been performed within the last year.

In the cooling mode, this system, when operating properly, can produce approximately 5 tons of cooling. This should be adequate for this size house.

Keep in mind that the average life of the air conditioner compressor is approximately 12 to 15 years. The air conditioner compressor/condenser units were manufactured in 1995. You should determine from the present owner if any compressor system components have been recently repaired or replaced.

According to the heating equipment's nameplate, it is rated at 115,000 B.T.U.H. This should also be adequate for this home.

Please be aware that the heat exchanger could only be viewed to a limited extent. Those areas which were visible appeared to be serviceable. You should understand that this is a very limited examination and not a conclusive evaluation of the heat exchanger. A conclusive evaluation can only be done either visually by at least a partial dismantling of the furnace, or by a smoke test or other tests that would identify combustion products in the heated air.

This heating and cooling equipment should be cleaned, serviced and adjusted each year prior to the start of the heating and cooling seasons. This servicing should include the compressor, burners, motor-blower units, filters, and all electrical controls and devices for starting and operating, etc.

The cleaning and/or changing of filters at least every 3 to 4 weeks in the heating and cooling seasons is strongly recommended. This will go a long way towards keeping the units running efficiently. Filters are located at the return air vents in the hallway ceiling.

We noted the following specific deficiencies in the heating and air conditioning system:

- The air handler operated noisily. This should be investigated further, and repaired as needed (Photo 44).
- A minor air leak was noted at the attic air handler at the refrigerant line penetrations. This is an easily accomplished repair (Photo 44).
- In the attic, various portions of the ductwork are leaking conditioned air. Repairing these ducts will help to reduce energy consumption and to provide more efficient operation (Photo 32).
- The ductwork used in this house is primarily the vinyl, flexible type. While serviceable, this type of ductwork is subject to mechanical damage, premature deterioration, and buckling. Buckling of the ductwork will cause

a reduction of airflow, reducing the performance of the heating/air conditioning system (Photo 43).

- Complete disconnect/repair of evaporative cooler (Photos 11, 12, & 13).

This house has an evaporative cooler mounted on the left garage wall. This unit was not in operable condition and should be investigated further to ensure that proper repairs are made.

Evaporative coolers are common in this part of the country. Because of their simple design they are much less costly to operate than air conditioners or heat pumps for purposes of cooling. They can only be comfortably used, however, during certain periods of the year, usually early summer and late fall, when the relative humidity of the ambient air is quite low.

Their operation is simple: hot and dry outside air is drawn through a wetted pad or similar media, usually cedar shavings or artificial fibers. This process of introducing moisture into the hot, dry air has the effect of lowering the temperature and raising the relative humidity.

Unlike an air conditioner, which recycles interior air over and over again, an evaporative cooler pumps cooled outside air through the house and out opened windows or other ventilation systems.

ENERGY EFFICIENCY

In any home in this climate, the three most important areas for enabling optimum energy efficiency are conduction, solar heat gain, and infiltration gains and losses. Conduction (or direct heat gain or loss through the walls and ceiling) is primarily controlled by insulation. Infiltration loss or gain (drafts or air leakage) is controlled by caulking and weatherstripping. Solar heat gain is controlled by the external shading of windows exposed to the sun or reflected sun.

In this house, the infiltration, solar heat gain, and conduction losses and gains are reasonably well controlled. We do not recommend major additional work at this time.

Where visible, the attic insulation consisted of 9 to 10 inches of fiberglass batt insulation. There are apparently 4-1/2 inches of wall insulation. This essentially conforms to present standards of heat conservation practice. The out-of-position insulation noted in the attic should be properly reinstalled.

Generally, the windows in this home are good quality "thermal pane" (double glazed) windows. If kept well maintained and tightly closed in the winter and summer, these windows should serve you well. The seal was checked in these windows and no problems were noted. Such defects are not always visible, however, because of varying temperature and humidity conditions.

Most of the exterior doors were equipped with weather-stripping, which is generally in serviceable condition. As it ages, however, it will wear and deteriorate. As this occurs, or if the weather-stripping becomes damaged, you should replace it.

We recommend the following cost effective improvements to this home to improve energy efficiency:

- Replace missing/out of-place attic insulation (Photos 36, 38, & 40).
- Insulate hot water piping
- You will realize a savings in the operating costs of the water heater if you insulate it. The investment is small enough that it will typically pay itself off within the first year or two, provided your hot water demand is about average for a single family home.
- Solar screens are recommended on the east and west windows.

PLUMBING

A plumbing system consists of three major components, the supply piping, the waste or drain piping, and the fixtures. The distribution piping brings the water to the fixture from a public water main, and the waste piping carries the water from the fixture to a public sewer line.

The distribution piping is smaller diameter piping that operates under pressure. These pipes must be water-tight. The drain or waste piping does not operate under pressure, instead typically uses gravity to drain the water from the fixture to the sewer. Thus, these pipes must slope in order to work properly.

As we understand it, this house is served by both municipal water and municipal sewer and, therefore, little problem need be anticipated in either of those areas. You should confirm these connections with the local water and sewer authorities.

You also should be aware that you are typically responsible for the cost of any repairs related to the portions of that system contained within your property lines. Clarification of this responsibility can be obtained through your local code enforcement official. You should also be aware that there may be roots or partial restrictions in the drain lines that allow water to flow freely during our limited performance test, but may back up with paper or other solids.

As we discussed, most of the plumbing system in this home uses polybutylene (PB) piping. Early versions of this piping were not dependable and required upgrading, especially in the connections and joints. The piping in this home appears to have been upgraded.

This home has a central manifold block for the valves to shut off the water supply to each fixture in the house. This manifold is located in the laundry room. We recommend that you familiarize yourself with its operation (Photo 30).

Except as noted on the inspection field notes, water pressure in the various plumbing fixtures was normal. Most fixtures were tested and found to be in working order. There is a drop in water pressure in the bathrooms when more than one plumbing fixture is in use at the same time. With coordination, this condition should not be a serious problem.

The water supply system included water softening equipment. This equipment appeared to be operational at the time of our inspection. This equipment normally serves to reduce the mineral content in the water making it "softer"; more compatible with normal, residential needs. However, we do not water test this equipment to evaluate its capability to soften the water. We suggest you discuss the proper operation and maintenance of this equipment with the current owner and obtain any maintenance records and manufacturer's information that might be available.

The drain lines in this home consisted of ABS piping. Where visible, this system was in good condition at the time of the inspection.

Domestic hot water is provided by a gas water heater. It was in operation at the time of the inspection. According to the nameplate, the water heater has a capacity of 50 gallons. Its size appears adequate for the normal needs of this size house. It appears to be quite new and, with proper maintenance, should provide 5 to 10 years of dependable service.

The water heater should be flushed every six months or as recommended by the manufacturer to remove sediments that collect at the bottom of the tank. This is done by attaching a hose to the drain valve at the bottom of the heater and turning the valve on. When the water coming out of the hose turns clear, then the process is complete.

The underground lawn sprinkler/irrigation system was operating at the time of inspection. It should be realized that no excavations or diggings were made as part of this inspection; therefore, no comment can be made on the condition of buried pipes.

The following specific deficiencies were noted in the fixtures and related piping:

- The reverse osmosis system was not operating properly and the filter housing should be secured in place (Photo 21).
- Various drain stopper repairs are needed (Photo 28).
- The evaporative cooler water line is plumbed into the main check valve and there was evidence of previous leakage. This should be investigated further, and repaired as needed (Photo 7).

- The hall bathtub faucet handle turns 360°. This should be repaired (Photo 27).
- The hall bathroom showerhead mount was cracked (Photo 25).
- Some evidence of leakage was noted under the kitchen sink. This typically suggests some plumbing leakage from a fixture above. It was not possible to know if this leakage was current at the time of the inspection. We suggest further investigation to determine the exact extent of this condition (Photo 21).
- The laundry room faucet leaks at the swivel (Photo 31).

ELECTRICAL

Our investigation of the electrical system is limited to the visible components, the entrance cable, meter box, service panel, outlets and switches, and the visible portions of the wiring. A larger portion of the electrical system is hidden behind walls and ceilings, and, obviously, all the conditions relating to these unseen areas cannot be known. Where possible, the cover of the service panel is removed to investigate the conditions in it.

While some deficiencies in the system are readily discernible, not all conditions that can lead to the interruption of electrical service, or that are hazardous, can be identified.

A typical electrical system consists of two distinct components: (1) the electric service entrance, and (2) the electric circuits. The service entrance determines the capacity of the electric power available to the home. The electric circuits distribute the power through the home.

Electrical devices in a home typically use either 120 or 240 voltage electricity. The major appliances such as clothes dryers, kitchen ranges, water heaters, air conditioners, and electric heating units require 240 volts. General-purpose circuits (lighting, outlets, etc.) require 120 volts.

Where visible, the general condition of the wiring and fixtures is good. We tested the accessible outlets for polarity and grounding. We did not disconnect appliances or move furniture to reach outlets. We found those we tested to be wired properly except as described at the end of this section.

The main electric service cable comes to the house underground. This cable should be checked periodically by an electrician to be sure it is sound and in good condition. No excavation on or near the property should be done unless the electric utility has been consulted.

The main electrical panel is located in the left exterior garage wall. There is also a sub-panel located near the pool equipment. This sub-panel is controlled by a breaker in the main panel.

The main panel was blocked, and the panel cover could not be removed for inspection of the internal wiring. We are unable to comment on the type and condition of wiring within the panel.

This house is equipped with ground fault circuit interrupters (GFCIs) in the bathrooms, garage, kitchen, exterior, and for the pool light. The purpose of a GFCI is to provide positive protection against a shock hazard since it will “trip” almost instantaneously, thus protecting you. Should a GFCI trip, simply reset it to continue operation. Periodically, you should test the GFCI for proper operation. There are test buttons at the GFCI outlets in the garage, kitchen, and pool sub-panel. When you push the test button, the GFCI should trip to the *off* position.

Effective January 1, 2002, NFPA 70, the National Electrical Code (NEC), Section 210-12, requires that all branch circuits supplying 125V, single phase, 15- and 20- ampere outlets installed in dwelling unit bedrooms be protected by an arc fault circuit interrupter (AFCI). The 2008 edition of the NEC expanded the AFCI requirements to include essentially all branch circuits in a home. This requirement applies to new homes and major renovations. The purpose of an AFCI circuit is to detect arc faults (essentially loose wires) in electrical circuits that could cause a fire.

For improved safety, we suggest the installation of AFCI protection on the branch circuits in this home. Once installed, the operation of the AFCIs should be tested monthly, using the test button on the devices.

The following repairs to the electrical system are needed:

- The main panel box is not readily accessible. Quick, unobstructed access needs to be provided. The cabinet needs to be modified and storage items moved to provide easy access to the panel (Photo 9).
- The electrical splices in the evaporative cooler should be put in junction boxes. This is a hazard that needs to be corrected (Photo 10).
- All extension cord wiring should be removed and replaced with permanent wiring for the evaporative cooler and patio lighting (Photos 8 & 16).
- The pool equipment should be bonded (Photo 17).
- Noisy and wobbling ceiling fans should be repaired in the kitchen (Photo 22).
- The main panel conduit clamp is missing (Photo 4).
- Missing switch cover plates should be installed in the attic (Photo 45).

INTERIOR

As a responsible owner, you are best able to judge the condition of the interior finish of the rooms. In this section of the report, we are concerned with those things that are technically and

financially significant. For example, stains which might indicate roof or plumbing leaks, older wall or ceiling material which may require repair/replacement; the use of substandard materials on interior walls or ceilings; or the quality and condition of such items as the doors, windows, and cabinetry are those things which can affect the overall quality and condition of a home.

Generally, the interior walls and ceilings of this home are finished with drywall. Most of the cracks noted in the interior drywall appear to be the result of continued drying and shrinkage of the wood framing. This is common and to be expected in the dry desert environment of southern Nevada. Interior cracking can typically be taken care of when redecorating.

Overall, the quality of the materials used throughout this home is standard. The doors, windows, cabinetry, hardware, molding, etc. are serviceable and should not present any major problems during the next five to ten years. However, you should expect normal maintenance, normal wear and tear, etc.

The interior appears to have been recently painted. This could cover up evidence of latent defects such as roof or plumbing leaks, etc.

The stove, ovens, exhaust fan, garbage disposal, dishwasher, and refrigerator were in operating condition at the time of the inspection. Unless otherwise noted, none of the other appliances and/or equipment in and about these premises was tested. All that remain should be in operating condition when this property is taken over. Since the condition of this equipment can change unexpectedly, we suggest that you visit this home at least one more time before taking ownership to confirm that everything is operating properly. We have included a ***Pre-Title Checklist*** for your use during this final visit.

Our "test" is not an evaluation of performance but is only to verify that they "work". It is possible that timers may be defective, garbage disposals may be ineffective, thermostats may be out of calibration, and the appliance can still "pass" our abbreviated test. Appliances can fail at any time without warning. There are insurance policies available to you that may provide some protection. Your agent can supply information on this subject.

We noted the following specific deficiencies in the interior finish:

- Complete baseboard repairs.
- Some caulking is needed in the tub/shower area of the hall bathroom. This work should be inspected regularly and kept in good condition since water leaks can lead to other structural deterioration. Particularly important and often overlooked, is the joint between the tub/shower pan and ceramic tile which also needs caulking.
- The tile work in the shower area of the master bathroom is in good condition. Some cement grout is needed, however, in the open tile joints to

help prevent moisture seepage into the wall framing. Such leakage can result in more serious problems (Photo 29).

- The rear patio screen door latch is damaged (Photo 24).

EXTERIOR

The exterior walls are surfaced with stucco and are in good condition. Most of the cracks noted in the exterior stucco appear to be the result of continued drying and shrinkage of the wood framing, and seasonal temperature changes. This is common and to be expected in dry desert environments like Southern Nevada. All cracks need to be patched and sealed to prevent moisture entry when the house is next repainted.

The exterior of this house appears to have been recently painted. This could cover up evidence of latent defects such as structural problems, roof leaks, water damage, etc.

The caulking compound around the window and door frames is generally serviceable. It should be regularly inspected and replaced when necessary.

The paint on the exterior of this house is in good condition. Repainting is typically needed every five to ten years. This can vary depending on the type of walls or siding, the quality of the paint used, how well the walls were prepared for repainting, the exposure to direct sunlight, the closeness of trees and bushes to the side walls, etc.

The windows in this house are aluminum framed, slider and fixed windows, with dual glass pane. They are of good quality, and are generally in good operating order. While some maintenance and repairs will always be needed, these should be serviceable for many years to come.

Seals in thermal pane windows can break down within ten to fifteen years of their installation. Condensation developing between the panes of such a glass unit is indicative of a broken seal. These conditions are not always visible, however, depending on temperature and humidity conditions. In general, repair of broken seals requires the replacement of the damaged glass unit.

Some of the door and window screens were damaged or missing at the time of our inspection. They should be installed if desired (Photo 26).

ROOF

The roof is a system that must work well together to provide weather protection for the house. The major elements in this system include the roofing or roof covering (shingles, tile, membrane), the underlayment (impregnated felt or paper, ice and water shield), metal flashing

(lead, copper, aluminum, galvanized steel), sheathing (plywood, waferboard, dimensional lumber boards), and the roof rafters themselves.

Due to the brittle nature of tile roofs, we examined the roof from the ground using binoculars.

The roof is surfaced with light-weight concrete Spanish tile and is in good condition. It appears to be 16 years old and you can expect another 4 to 9 years or so before any major resurfacing needs to be considered. However, a few of the tile are loose, slipped out of place, or cracked and these should be repaired (Photo 2).

The ridge tiles are not sealed or packed with mortar. This is an area that allows the rain to get under the tile and a source of possible leaks. We recommend that this area be kept under observation and at the first sign of leakage, the voids under the ridge tile be sealed.

At the chimney, the flashing appears to be in good condition. This is typically a weak point in a roof system and you should anticipate periodic leaks and maintenance.

We recommend that every 5 years tile roofs be inspected and maintained by a licensed roofing contractor. The inspection should include all flashing, including any skylights, chimneys, roof vents, or other penetrations, as well as the ridges, valleys, and any wall-to-roof joints. The inspection should also look for any cracked, broken, slipped, or missing tiles; damaged mortar packed at hip points or ridges; and dried or cracked roofing cement. Any needed maintenance should be performed in conjunction with the routine roofing inspection.

This building is equipped with a relatively new, good quality skylight. Although there was no evidence of leakage at the time of inspection, you should keep in mind that skylights are vulnerable to leakage and should be inspected and maintained regularly.

With any roof, regardless of age, you should expect slight leakage from time to time. This can occur along the edges of the roof, at joints between different roof surfaces, and around penetrations through the roof. Normally, repairs to correct this leakage are easily accomplished.

ENVIRONMENTAL SCAN

While some references to hazardous materials may be made, our report is not a complete investigation for toxic wastes in the building or adjacent soils, hazardous materials, or public records affecting this property. Such an investigation would be much more costly and is beyond the scope of this inspection.

Essentially, there is no evidence of any hazardous construction materials in this building. This, of course, cannot be guaranteed based on visible evidence alone.

Mold is a growing concern. For some individuals, the presence of mold may aggravate certain respiratory conditions, and, for still a smaller group, may actually be toxic. Organizations like the Environmental Protection Agency (EPA) and the Centers for Disease Control (CDC) have not established any levels considered to be safe or unsafe for mold. This is not for lack of trying; it is a matter of complexity. If you find mold, it often can be removed effectively using a chlorine solution (e.g. diluted Clorox) and then monitoring the area to determine if it returns. Mold is usually the result of moisture. Controlling moisture penetration will typically eliminate the opportunity for mold to survive. For more information about mold, you might want to consider visiting one or more of the following websites:

- www.iaqa.com
- www.epa.gov/iaw/mold/index.html
- www.cdc.gov (search on mold)

We found no readily visible evidence of mold during our inspection. Further, we noted no visible evidence of significant moisture accumulation or penetration. However, this inspection should not be considered a specific mold investigation.

Our inspection does not make any attempt to know or verify the prior uses of this property and cannot determine whether or not illegal activities have been engaged in, on, or near the property, including but not limited to, the use or manufacture of illegal substances, criminal events, or the presence of substances banned or controlled by federal, state, or local law. If this is of concern to you, we recommend that you make appropriate inquiries into past uses to resolve your concerns.

LIFE AND FIRE SAFETY

While some references to code compliance may be made, our report is not a code compliance investigation. Such an investigation is beyond the scope of this inspection.

Where visible, the metal chimney appears to be in good condition and structurally stable. Where possible, the interior of this chimney was examined and found to be sound. You should be aware, however, that our interior examination of the flue is very limited, and that a comprehensive examination can only be made by a qualified and fully-equipped chimney sweep.

This home is equipped with a gas log fireplace located in the family room. This fireplace is designed only to burn natural gas, and is ventilated by ductwork through the roof. It has a mechanical gas valve operated by a key, and an automatic ignition operated by an electric switch. A limited investigation of the fireplace was undertaken. To the extent visible, the fireplace appeared to be in satisfactory condition. However, the pilot igniter was not operational at the time of our inspection. It should be made operational and tested on your final walk-through (Photo 23).

This home is equipped with smoke detectors that are "hard wired" (connected directly to the electrical system). A spot check of the detectors revealed no problems. We recommend that you test them monthly for proper operation.

GENERAL

The following are a few additional comments that may be of interest to you regarding this home:

In concrete slab homes, condensation on the floors sometimes occurs, particularly in the summer. This is quite common and to be expected. Further, it must be remembered that without heat in the floor, concrete slabs will be cold.

The porches and patio were generally in good condition with no serious structural problems indicated. Although there has been some cracking of the patio and porch slabs, these cracks appear to be cosmetic in nature.

The garage portion of the structure is generally sound. It appears to be built to the same standards as the house and is in good condition. If properly maintained, this portion of the building should remain serviceable for many years to come.

The overhead garage door is equipped with an electric door operator which operated satisfactorily at the inspection. The operator is equipped with a mechanism to reverse the travel of the door if an object is struck by the door. Despite the presence of this feature, we recommend that you only operate the door when you have it in full view and all children and pets are a safe distance away.

The trees and shrubs around this house are too close. This can cause premature deterioration of the roof, paint, and stucco. These should be trimmed to provide several inches clearance from the roof and sidewalls (Photos 3 & 15).

As we discussed, there are vines growing on the side of this house. This can lead to damage of the house as well as rot and insect infestation. If such plants are desirable, a trellis can be used to support them well away from the house (Photo 35).

The land around this home is extensively landscaped. We did not evaluate the health and condition of any plantings. You may want to obtain the services of a professional landscaper or nurseryman to determine the condition and maintenance required to protect these plantings.

We noted evidence of rodent activity at the time of our inspection. While this did not appear serious or extensive, we suggest you discuss this with the current owners to determine if

they have had any problems in the past. Furthermore, if continued activity persists, we recommend appropriate extermination treatment. We noted the activity in the attic (Photos 33 & 34).

SWIMMING POOL

You should realize that no excavations or diggings were made as part of this inspection; therefore, no comment can be made on the condition of buried pipes or other portions of the system that were not visible. This should not be considered a certification of the pool. We conducted the pool inspection from above the waterline to detect possible evidences of cracks or other structural problems within the pool.

Our "test" is not an evaluation of performance but is only to verify that the equipment "works." It is possible that time clocks may be defective, thermostats may be out of calibration, etc., and the equipment can still "pass" our abbreviated test. Equipment can fail at any time without warning. There are insurance policies available to you that may provide some protection. Your agent can supply information on this subject.

The swimming pool consists of an in-ground, concrete/plaster pool surrounded by a concrete Kool deck. It is served by a cartridge filtering system. In addition, it has the following equipment:

- A separate spa
- A gas-fired heater, which was operating
- Spa and pool lights which were operating.
- Pool sweep, which was operating
- Skimmer basket and weir door, which were functional
- Automatic leveling device, which was operating
- Time clock, which was operational

The spa equipment is integrated with the pool equipment.

The swimming pool and its related equipment were in operation and appear to be in serviceable condition. The exceptions to this are:

- As mentioned in the Electrical section, the pump motor bond wire should be attached (Photo 17).
- The pump was leaking (Photo 18).
- There was a minor leak at the filter (Photo 19).
- The remainder of the pool fence should be removed and the deck holes repaired (Photo 20).
- The soil should be removed from in front of the heater access panel.

The cartridge filter and pump motor appeared to be in operating order.

The pool plaster was visible during the inspection from above the water line and appears to be in good to fair condition. The plaster surface was etched and very rough, either due to age, being previously acid washed, or a combination of both. An immediate need for replastering is not indicated, however, this procedure may be required in the near future and should be planned for.

The waterline tile was intact and in good condition except for a liming condition (white scale) above and along the waterline. The pool decking appeared to be in good condition except for a few hairline cracks, which are to be expected.

You should note that while there is a fence surrounding the backyard there is no fence around the pool area itself. This allows for unwanted entry into the pool by individuals who need close supervision, especially small children.

The doors to the back yard/pool area are not equipped with alarms to limit the possibility of unwanted entry into the pool by individuals who require close supervision, especially small children. We recommend the installation of safety alarms for these doors.

CONCLUSION

In summary, we consider this home to be in good condition in comparison to others of similar age and construction type. While there is work to do, most of it is maintenance related and, thus, is common for most homes.

In general, keep in mind that many of the suggestions we make in this report represent improvements to this home rather than deficiencies. Thus, much of the work we suggest can be handled as time, finances and personal preference dictate. Owning any home can be overwhelming. Thus, keep in mind that not all of the things we recommend must be done immediately.

There is no one way to build, renovate or remodel a home. As a result, you may encounter contractors whose opinions about the condition of this home will differ from ours. We cannot be responsible for any action you may take based on those opinions unless we have the opportunity to review the situation and examine the relevant conditions before any repairs and/or modifications are made.

Additional data concerning this home are noted on the enclosed individual field notes. To aid in your understanding of these sheets, we have enclosed a listing of the standard abbreviations that we have used.

This report has been prepared in strict confidence with you as our client. This report is valid for the real estate transaction between Our Client and The Current Owner. No reproduction or re-

use of this report for the benefit of others is permitted without expressed written consent. As you requested, we have provided a copy of this report to your agent, Judie Woods. We will not release this report to anyone else without your permission.

We have also enclosed a **Glossary** to help you understand some of the technical terms that are used in this report or in discussions about homes and their component parts.

As noted, the inspection represented by our report focuses on the major systems in this home. While a spot check of things like electrical switches, outlets, appliances and other equipment was made, the condition of these things can change unexpectedly. Therefore, we recommend that you visit this home at least one more time before taking ownership to confirm that everything is in operating order. Enclosed is a **Pre-Title Checklist** we have developed for your use during this final visit.

If you have any questions about this report or inspection, please feel free to call our engineer for clarification. There is no additional charge for a reasonable number of phone consultations. Should an additional visit to the home be necessary, however, an additional fee will be charged.

Thank you for the opportunity to be of assistance to you.

Sincerely,



Charles "Chay" McWilliam, P.E.
Master Inspector

CEM/eas
Enclosures

PROFESSIONAL QUALIFICATIONS AND EXPERIENCE

CHARLES "CHAY" MCWILLIAM, P.E.

Area of Expertise

Chay McWilliam is the principal engineer and President of Criterium - McWilliam Engineers, LLC. He has extensive experience in the construction industry, having been involved in engineering and construction activities since 1974. His primary responsibility is the evaluation of residences and commercial buildings.

Qualifications

Chay has been a Registered, Professional Engineer in the State of Nevada since 1982. He is one of the first members of the Nevada Inspector of Structures program and holds a Nevada certified Master Inspector of Structures license #00003-M. He began his professional career in 1974 performing engineering design, construction management, and project development. He has conducted or reviewed over 21,000 property inspections, and is a NABIE Certified Building Inspection Engineer.

Mr. McWilliam actively participated in the writing of Nevada Administrative Code 645D, for the Inspector of Structures program.

Chay is familiar with all phases of building and construction, having worked closely with architects, contractors, and other building consultants for over 30 years in his practice in Southern Nevada. While much of his experience centers around multi-story, high tech buildings and heavy industrial apparatus, he has also designed and supervised the construction of residential and light commercial buildings. His design work includes experience with wood, steel, concrete, and masonry structures.

Education

Born and raised in southern California, Chay is a graduate of Don Bosco Technical Institute and the California State University at Fullerton where he received a Bachelor of Science Degree in Engineering. Upon moving to Las Vegas in 1974, Chay continued his education at the University of Nevada, Las Vegas (UNLV), where he received a Masters Degree in 1978.

Chay is the instructor of two State of Nevada approved real estate continuing education courses which cover the construction of homes from the ground up.



APPENDIX A

MAINTENANCE PLAN AND PHOTOS

Prepared for: Our Client
Property: 123 Any Street, City, ST Zip (Photo 1)

To help provide a perspective for the work that we have recommended for this home, the following schematic maintenance plan is offered. This list should not be considered all-inclusive since there will surely be other things you will want to make part of this list. Our purpose in providing this list is to help you organize some of the work that we have recommended, with particular emphasis on those things that need attention within the next year or so.

Items to be addressed before moving in:

- Repair dryer and laundry room vent outlets (Photos 37, 39, 41, & 42)
- Repair plumbing fixtures
 - The reverse osmosis system was not operating properly and the filter housing should be secured in place (Photo 21).
 - Various drain stopper repairs are needed (Photo 28).
 - The evaporative cooler water line is plumbed into the main check valve and there was evidence of previous leakage. This should be investigated further, and repaired as needed (Photo 7).
 - The hall bathtub faucet handle turns 360°. This should be repaired (Photo 27).
 - The hall bathroom showerhead mount was cracked (Photo 25).
 - Some evidence of leakage was noted under the kitchen sink. This typically suggests some plumbing leakage from a fixture above. It was not possible to know if this leakage was current at the time of the inspection. We suggest further investigation to determine the exact extent of this condition (Photo 21).
 - The laundry room faucet leaks at the swivel (Photo 31).
- Repair electrical system
 - The main panel box is not readily accessible. Quick, unobstructed access needs to be provided. The cabinet needs to be modified and storage items moved to provide easy access to the panel (Photo 9).
 - The electrical splices in the evaporative cooler should be put in junction boxes. This is a hazard that needs to be corrected (Photo 10).

- All extension cord wiring should be removed and replaced with permanent wiring for the evaporative cooler and patio lighting (Photos 8 & 16).
 - The pool equipment should be bonded (Photo 17).
 - Noisy and wobbling ceiling fans should be repaired in the kitchen (Photo 22).
 - The main panel conduit clamp is missing (Photo 4).
 - Missing switch cover plates should be installed in the attic (Photo 45).
- Maintain/repair the swimming pool equipment
 - As mentioned in the Electrical section, the pump motor bond wire should be attached (Photo 17).
 - The pump was leaking (Photo 18).
 - There was a minor leak at the filter (Photo 19).
 - The remainder of the pool fence should be removed and the deck holes repaired (Photo 20).
 - The soil should be removed from in front of the heater access panel.

Routine maintenance/improvement items:

Within the first few months:

- Maintain heating/air conditioning equipment
 - The air handler operated noisily. This should be investigated further, and repaired as needed (Photo 44).
 - A minor air leak was noted at the attic air handler at the refrigerant line penetrations. This is an easily accomplished repair (Photo 44).
 - In the attic, various portions of the ductwork are leaking conditioned air. Repairing these ducts will help to reduce energy consumption and to provide more efficient operation (Photo 32).
 - The ductwork used in this house is primarily the vinyl, flexible type. While serviceable, this type of ductwork is subject to mechanical damage, premature deterioration, and buckling. Buckling of the ductwork will cause a reduction of airflow, reducing the performance of the heating/air conditioning system (Photo 43).

- Complete disconnect/repair of evaporative cooler (Photos 11, 12, & 13).
- Lower soil level at sill plates/footer (Photo 14)
- Make energy efficiency improvements
 - Replace missing/out of-place attic insulation (Photos 36, 38, & 40).
 - Insulate hot water piping
 - You will realize a savings in the operating costs of the water heater if you insulate it. The investment is small enough that it will typically pay itself off within the first year or two, provided your hot water demand is about average for a single family home.
 - Solar screens are recommended on the east and west windows.
- Make interior repairs
 - Complete baseboard repairs.
 - Some caulking is needed in the tub/shower area of the hall bathroom. This work should be inspected regularly and kept in good condition since water leaks can lead to other structural deterioration. Particularly important and often overlooked, is the joint between the tub/shower pan and ceramic tile which also needs caulking.
 - The tile work in the shower area of the master bathroom is in good condition. Some cement grout is needed, however, in the open tile joints to help prevent moisture seepage into the wall framing. Such leakage can result in more serious problems (Photo 29).
 - The rear patio screen door latch is damaged (Photo 24).
- Repair fireplace pilot igniter (Photo 23)
- Trim vines, trees and shrubs (Photos 3, 15, & 35)
- Rodent control or extermination (Photos 33 & 34)
- Replace damaged window screens, if desired (Photo 26)

Within the first year of ownership:

- Monitor, and possibly improve, drainage (Photo 5)

- Maintain roofing
 - A few of the tile are loose, slipped out of place, or cracked and these should be repaired (Photo 2).

Within the first five years of ownership:

- Possibly replace water heater
- Install AFCIs
- Install caulking at the exterior
- Paint the exterior trim
- Maintain/repair the swimming pool

Within the first ten years of ownership:

- Possibly replace heating/air conditioning equipment
- Paint the exterior sidewall and trim
- Maintain roofing

Annual maintenance requirements:

- Continue annual heating/air conditioning equipment maintenance
- Maintain irrigation system
- Test GFCIs
- Continue spa/swimming pool maintenance
- Test smoke alarms
- Test garage door opener regularly
- Continue general maintenance

Location:
123 Any St.
City, ST Zip

Photo Taken by:
Chay McWilliam, P.E. Date

Date:



Photo Number
1



Photo Number
2

Location:
123 Any St.
Las Vegas, NV 89134

Photo Taken by:
Chay McWilliam, P.E.

Date:
June 17, 2011



Photo Number
3



Photo Number
4

Location:
123 Any St.
Las Vegas, NV 89134

Photo Taken by:
Chay McWilliam, P.E.

Date:
June 17, 2011



Photo Number
5



Photo Number
6

Location:
123 Any St.
Las Vegas, NV 89134

Photo Taken by:
Chay McWilliam, P.E.

Date:
June 17, 2011



Photo Number
7



Photo Number
8

Location:
123 Any St.
Las Vegas, NV 89134

Photo Taken by:
Chay McWilliam, P.E.

Date:
June 17, 2011



Photo Number
9



Photo Number
10

Location:
123 Any St.
Las Vegas, NV 89134

Photo Taken by:
Chay McWilliam, P.E.

Date:
June 17, 2011



Photo Number
11

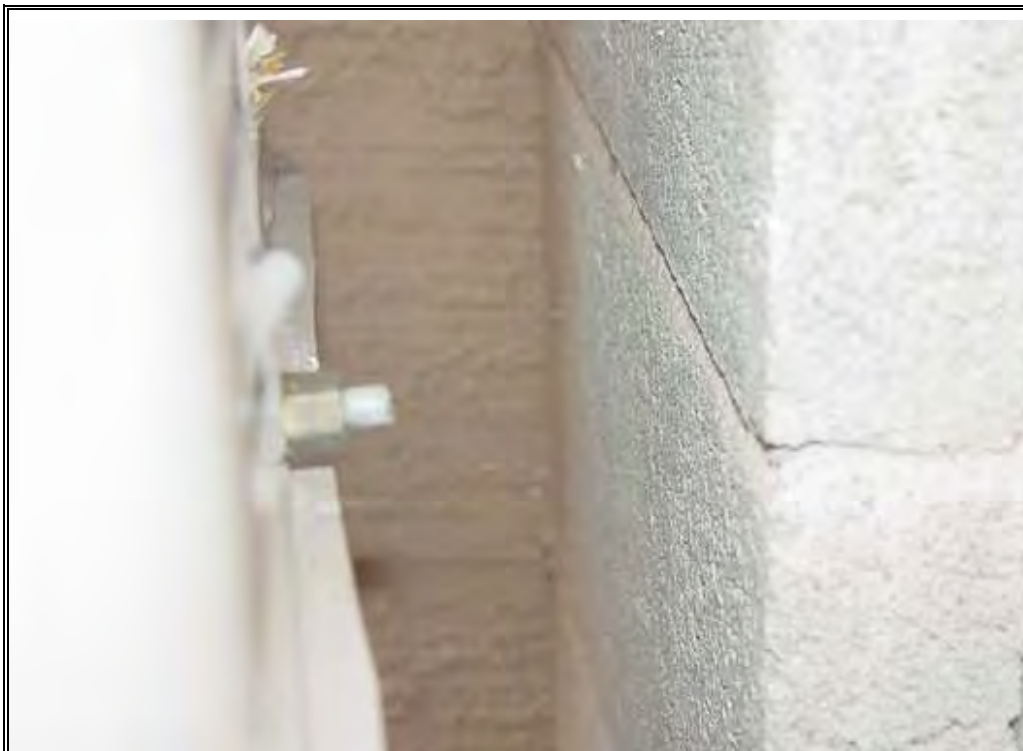


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12

Location:
123 Any St.
Las Vegas, NV 89134

Photo Taken by:
Chay McWilliam, P.E.

Date:
June 17, 2011

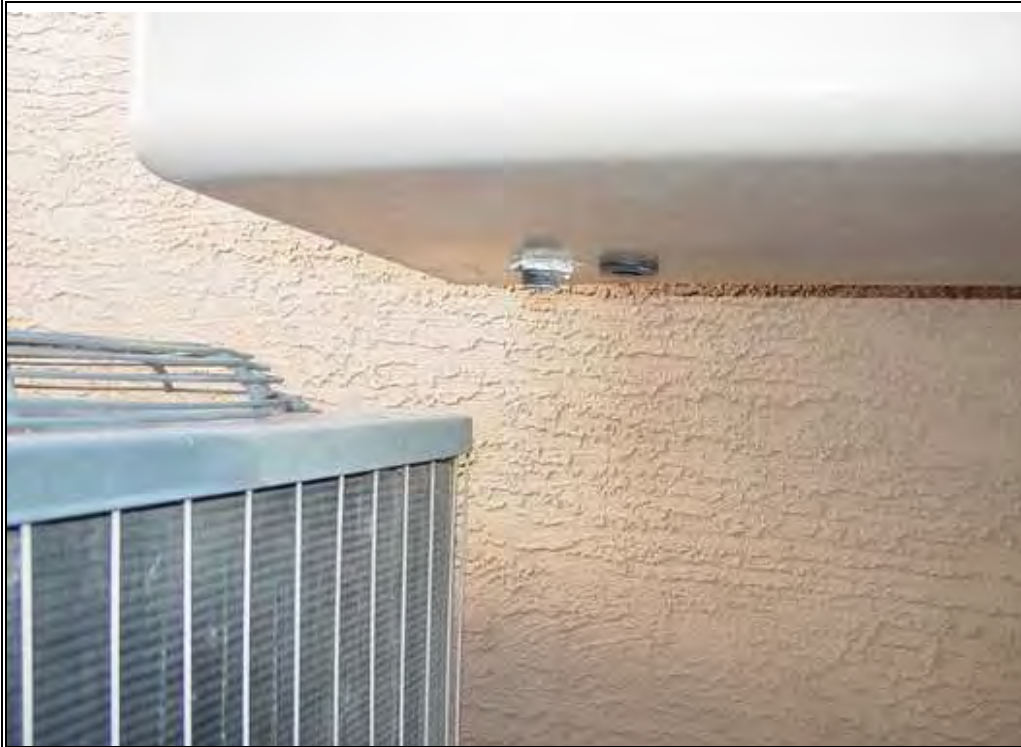


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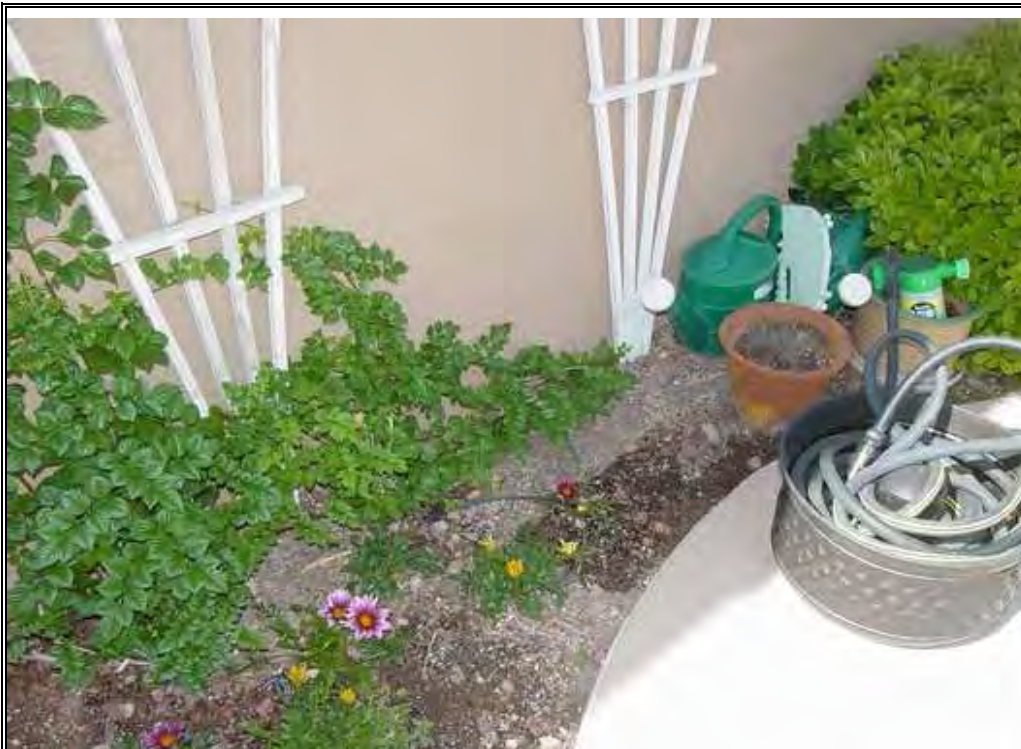


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Location:
123 Any St.
Las Vegas, NV 89134

Photo Taken by:
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Photo Number
15



Photo Number
16

Location:
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Photo Taken by:
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Date:
June 17, 2011



Photo Number
17



Photo Number
18

Location:
123 Any St.
Las Vegas, NV 89134

Photo Taken by:
Chay McWilliam, P.E.

Date:
June 17, 2011



Photo Number
19

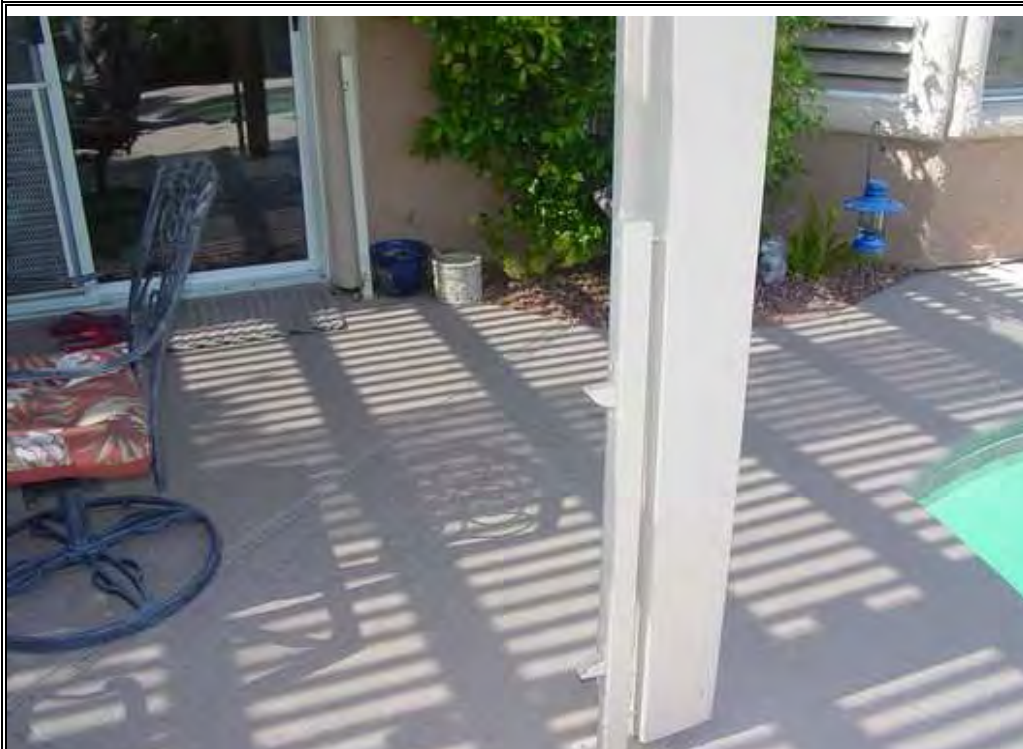


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Location:
123 Any St.
Las Vegas, NV 89134

Photo Taken by:
Chay McWilliam, P.E.

Date:
June 17, 2011



Photo Number
21



Photo Number
22

Location:
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Las Vegas, NV 89134

Photo Taken by:
Chay McWilliam, P.E.

Date:
June 17, 2011



Photo Number
23



Photo Number
24

Location:
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Photo Taken by:
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Date:
June 17, 2011



Photo Number
25



Photo Number
26

Location:
123 Any St.
Las Vegas, NV 89134

Photo Taken by:
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Date:
June 17, 2011



Photo Number
27



Photo Number
28

Location:
123 Any St.
Las Vegas, NV 89134

Photo Taken by:
Chay McWilliam, P.E.

Date:
June 17, 2011



Photo Number
29

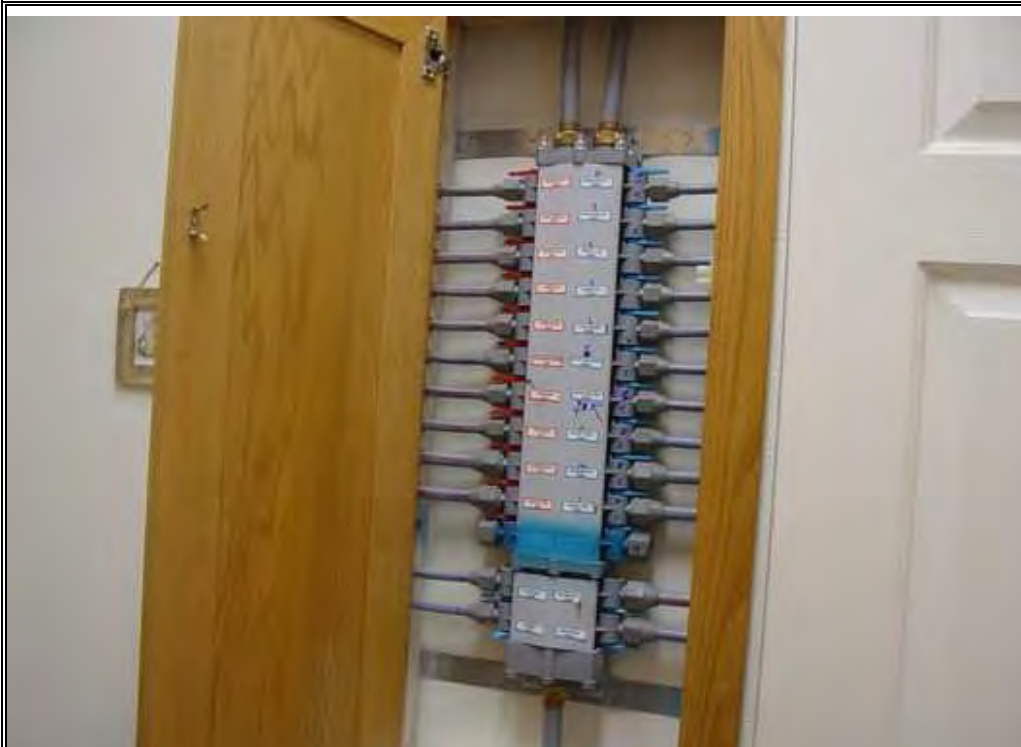


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Location:
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Photo Number
31



Photo Number
32

Location:
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Date:
June 17, 2011



Photo Number
33



Photo Number
34

Location:
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Photo Taken by:
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Date:
June 17, 2011



Photo Number
35



Photo Number
36

Location:
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Photo Taken by:
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Date:
June 17, 2011



Photo Number
37



Photo Number
38

Location:
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Las Vegas, NV 89134

Photo Taken by:
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Date:
June 17, 2011



Photo Number
39



Photo Number
40

Location:
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Las Vegas, NV 89134

Photo Taken by:
Chay McWilliam, P.E.

Date:
June 17, 2011



Photo Number
41

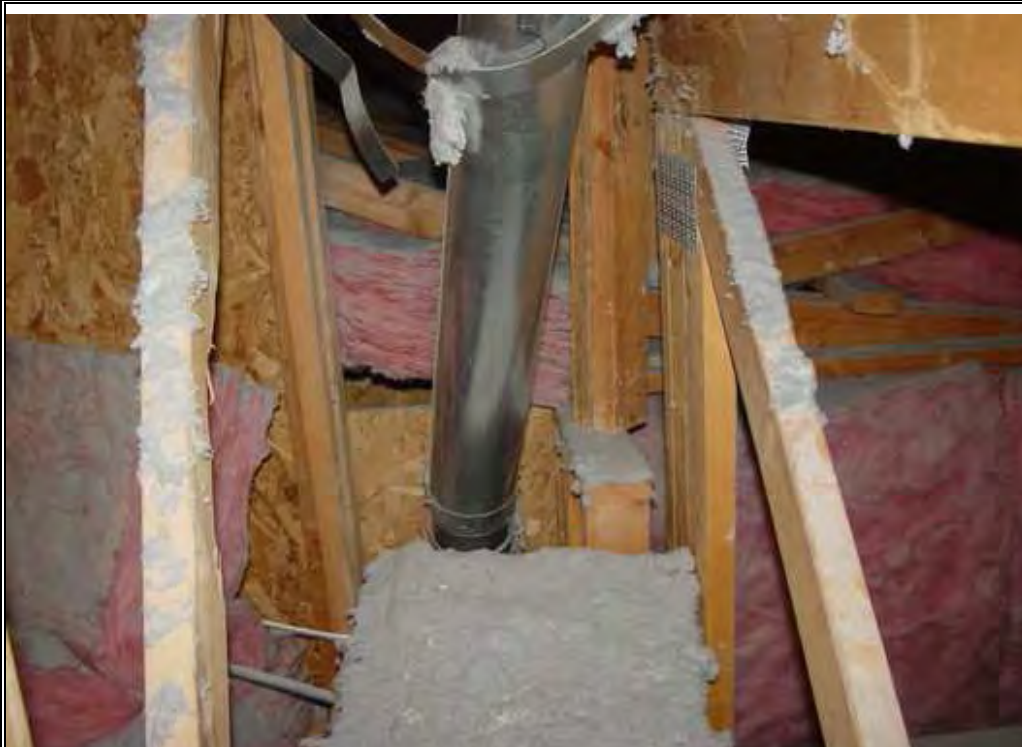


Photo Number
42

Location:
123 Any St.
Las Vegas, NV 89134

Photo Taken by:
Chay McWilliam, P.E.

Date:
June 17, 2011



Photo Number
43



Photo Number
44

Location:
123 Any St.
Las Vegas, NV 89134

Photo Taken by:
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Date:
June 17, 2011



Photo Number
45

APPENDIX B

ABBREVIATIONS USED IN THE FIELD NOTES

WALLS

WS	Wood siding
CLAP	Clapboard
CS	Cedar shingle
ASB	Asbestos
STCO	Stucco
ST	Stone
AL	Aluminum
YNL	Vinyl
BLK	Block
BRK	Brick
SB	Slump block
VN	Veneer
PLY	Plywood
T111	Texture 1-11
HB	Hardboard

ROOF

A/F	Asphalt/fiberglass
CS	Cedar shakes/shingles
SL	Slate
ASB	Asbestos
T&G	Tar and gravel
BF	Bituminous felt
RR	Roll roofing
MTL	Metal
SS	Standing seam
BU	Built-up
MB	Modified bitumen
TD	Torched down
MEMB	Membrane

GUTTERS/LEADERS

CPR	Copper
AL	Aluminum
GALV	Galvanized steel
WD	Wood
YNL	Vinyl

HEATING

O	Oil
G	Gas
E	Electric resistance
HP	Heat Pump
HW	Hot water
HA	Hot Air
ST	Steam
F	Forced
G	Gravity
RAD	Radiator
CONV	Convactor
GR	Grill
BB	Baseboard
RH	Radiant heat
PR	Pipe riser
RA	Return air

PMP

FAN	Pump
TPRV	Blower/fan
	Temperature/pressure relief valve
PRV	Pressure relief valve
ASV	Automatic shutoff valve

COOLING

EVAP	Evaporative coil/cooler
COND	Condensing unit
REF	Refrigerant
RL	Refrigerant line
AH	Air handler
FAN	Blower/fan

PIPING

CPR	Copper
CU	Copper
GALV	Galvanized steel
CI	Iron
BR	Brass
LD	Lead
PB	Lead
PVC	Polyvinyl Chloride
CPVC	Chlorinated polyvinyl chloride
PBS	Polybutylene styrene
ABS	Acrylonitrile butadiene styrene

ELECTRICAL

GFCI	Ground fault circuit interrupter
GFI	Ground fault interrupter
V	Voltage, volts
A	Amperage, amps
CPR	Copper
CU	Copper
AL	Aluminum
R	Receptacle, outlet
SW	Switch
KAT	Knob and tube
BX	BX (metal-clad) wiring

INTERIOR WALLS

PL	Plaster
DW	Drywall, gypsum board, sheetrock
PT	Painted
PP	Papered
WP	Wall paper
PAN	Panelled
WD	Wood
TL	Tile

CEILINGS

PL	Plaster
DW	Drywall, gypsum board, sheetrock
PT	Painted
PP	Papered
WP	Wall paper
AC	Acoustic tile
AT	Acoustic tile
PAN	Panelled
WD	Wood
TL	Tile

WINDOWS

SP	Single pane
1P	Single pane
DB	Double (thermal) pane
2P	Double (thermal) pane
IG	Insulating glass
DH	Double hung
CSMT	Casement
SL	Slider
F	Fixed
AWN	Awning
JAL	Jalousie

DOORS

HC	Hollow core
SC	Solid core
WD	Wood
INSUL	Insulated
PAN	Panel
SGD	Sliding glass door
PATIO	Patio/atrium door
LUAN	Luan mahogany bc door
W/GL	With glass
BI-F	BI-fold
SL	Sliding doors

APPENDIX C

Field Notes

INSPECTION FIELD NOTES

Client Our Client Date 6/17/11 Location Las Vegas NV 89134
 Address 123 Any Street Along N
Las Vegas NV 89134 Weather hot Type/Stories one
 Engineer Choy McWilliam Approximate Age 1995
South

KEY

E = Excellent, G = Good, F = Fair, P = Poor, S = Serviceable, NS = Not Serviceable, NA = Not Applicable
 NV = Not Visible, O = Operating, NO = Not Operating, A = Average, BA = Below Average, AA = Above Average
 UK = Unknown, NI = Needs Investigation, (*) = See Report for More Detail

CONDITION

1.0 EXTERIOR

- G 1.1 Exterior Walls: Material/Type Stucco
 Trim rough sand hd
 Caulking gd Pointing NA Other M
 Paint/Stain: Walls gd Trim gd
- G 1.2 Roof: Material/Type LT NT conc Spanish Tile Exp. Life 4-9
 Flashing gp ridge tile not sealed
 Eaves/Soffits/Fascias gp
 Penetrations/Skylights Sonata tab rigid door
 Gutters/Leaders/Downspouts: NA
- G 1.3 Windows: Material/Type Alum dual slider, Fixed Milgard
 Stormsash: None X Not All Material/Type None also seen on north side
- G 1.4 Doors: Material/Type Metal Panel & patio slab
 Storm Doors: None X Not All Material/Type
- G 1.5 Grounds: Slope To Street & RT Low Spots Left & right
 Drainage Systems gd high at bottom
 Sprinkler Systems/Hose Bibbs 1
 Retaining Walls left & right
 Driveways/Walkways/Entryway conc
 Fences/Gates Black / Iron
 Shrubs/Plantings Mature - Tree overhanging door View on view
raft
- G 1.6 Decks/Porches/Balconies/Patios:
 Type front porch no patio
 Material conc/ epoxy potted/stone conc/Kool/ + wood tile
 Condition gd gd
 Railings & Safety Iron NA
- G 1.7 Chimney: No./Location Center
 Material/Type/Use Metal
 Clearance/Height gd
 Weathertightness 1
 Lining: Metal
- G 1.8 Utilities: Gas Meter/Piping Left ground
 Elec. Entrance Over/Under Ground Left ground Ext. Wiring Conduit - (No) name

NOTE: These inspection field notes are used to collect field data and should be considered only in conjunction with your narrative report.

2.0 STRUCTURAL

CONDITION

NA 2.1 Basement/Crawl Space:

Accessible Y N Partial NA

Basement Finished Y N Partial 1

G Walls/Footings/Piers: Material/Type CONC Cracks (Y) N NV TYP

Bulging/Distortion: Y N (NV)

1 Floor/Slab: Material CONC Cracks (Y) N NV TYP

NA Columns: Material/Type NA

1 Girders: Material/Type 1

1 Floor Joists: Material/Type 1

G Vapor Barrier Y N (NV)

1 Moisture/Water: Y N (NV)

NA Sump Pump Y N Number NA Discharge NA

1 Doors/Access 1

1 Windows/Vents 1

G 2.2 Attic: Accessible Y N (Partial)

Roof Rafters: Material/Type Trusses 2x4 + OSB

Floor Joists: Material/Type NA

Flooring 1

Leaks/Weathertightness NV

degrees north into other rooms

leaky on subfloor into other rooms

G 2.3 Other Framing:

Walls NV 2x4

Special Structural Systems: STYRO

G 2.4 Ventilation

Basement/Crawl Space NA

Attic ROOF, gable & soffit vents

Mechanical Ventilation NA

G 2.5 Energy Efficiency

Basement Insulation Y N NV Material/Type NA Approx. Amt. NA

Floor/Slab Insulation Y N NV Material/Type 1 Approx. Amt. 1

Wall Insulation (Y) N NV Material/Type built w STYRO Approx. Amt. 4 1/2

Attic Insulation (Y) N NV Material/Type built Approx. Amt. 9-10

Caulking/Weatherstripping (Y) N NV Material/Type cut off plus

G 2.6 Wood Boring Insects and Rot:

Evidence of Rot or Other Problems Y (NV)

Evidence of Termites or Other insects Y (NV)

CONDITION

3.0 AIR CONDITIONING & HEATING SYSTEMS

6 3.1 System: A/C: yes Furnace: gas Heat Pump: NA
 Mfr: Carrier Model No. 5CK15060 Capacity 5 Ton Location RT side yd
 Mfr: Il Model No. 0895E 11540 Capacity 115,000 Location attic
 Operating: Y N

NA 3.2 System: A/C: _____ Furnace: _____ Heat Pump: _____
 Mfr: _____ Model No. _____ Capacity _____ Location _____
 Mfr: _____ Model No. _____ Capacity _____ Location _____
 Operating: Y N

6 Heat Exchangers: Gas gd Air Handler gd
 Condenser Pad _____ Air Handler Platform noisy
 Refrigerant Line Insulation _____ Condition _____
 Ducts return flex return flex Combustion Air _____
 Air Filters _____ Location hill entry
 Air Flow _____ Temperature gd
 Gas Line _____ Vent Pipe _____
 Condensate Line gd Pump NA Secondary Sump NA

UK 3.3 Evaporative Cooler: Location garage RT wall Sump/Panel Condition gd
 Media replace Recirculating Pump gd Fan gd
 Electrical Wiring/Ground UK Damper: Manual Barometric NA
open discharge water heater supply on floor entry
HVAC unit

water meter NO issue 4.0 PLUMBING SYSTEM

6 4.1 Water Supply: public Pump Type NA Controls/Backflow NA
 Piping gd Pressure gd Water Treatment gd
Kinetic water softener common

4.2 Supply Piping: polybutylene Support gd Installation gd
 Conditions gd

4.3 Waste Disposal: public Septic Tank NA Absorption Field NA
 Drain/Waste Lines AAS Installation/Venting gd
 Conditions gd

6 4.4 Water Heater: Separate Unit - Integral Heat Exchanger - Separate Heat Exchanger NA
 Electric / Oil / Solar / Gas Insulation/Timer NA Load Controller _____
 Pressure Relief Valve/Drain OK Mixing Valve _____
GE 50 gal 36,000 BTU/H 5# 6ELAD 411208109
pan under heater old tank 09/2011

5.0 ELECTRICAL SYSTEM

UK 5.1 Electric Service: Amps 200 Voltage 120/240 Load Controller NA
 Entrance Panel left page Main Y N Grounding UK Y N Fuses _____
 No. Circuits UK Circuits I.D. UK Circuits Overfused _____
 Wiring: 1, 11 Alum Y Y N UK
no apt - cabinet & stuff

6.0 SECURITY

6.1 Alarm System Y N NV used for entry door
 Window Locks Y N Partial _____ Door Locks Y N Partial _____

CONDITION

7.0 ENVIRONMENTAL SCAN

NOTE: Limited Scan, Based on Available Visual Evidence Only, of Certain Known Hazardous Materials

6 7.1 Hazardous Materials:

Evidence of Asbestos Y NV Location/Condition _____

Evidence of UFFI Y NV _____

Evidence of UST Y NV _____

Other _____

Further Investigation Required Y OPTIONAL _____

8.0 SAFETY

6 8.1 Smoke Alarms: Type Hard Operating N _____

Location: Hall

8.2 Other: Glass nd

Woodstoves/Fireplaces nd

Fire Sprinkler NA

Emergency Egress nd

Handrails/Stairs NA

Evidence of animal/rodent infestations Mice in attic

Site Hazards nd

9.0 POOLS AND WHIRLPOOL BATHS (Supplementary Check Sheet May Apply)

~~NA~~ 9.1 Swimming Pools: Lining _____ Filters & Equipment _____

Decking/Apron _____ Safety _____

9.2 Whirlpool Baths: Location/Type _____

Installation/Ventilation _____

10.0 GARAGES & OUTBUILDINGS

6 10.1 Garages & Outbuildings:

Type 2 car attached

Foundation CONC

Walls DN Full of stuff

Roof DN

Rot or Insect Activity Y NV

Elec. Gar. Dr. Opener N With Auto Rev. N Metal Panel

GFLY Evap cooler no access to run

extension cord across platin with water water with relief old air

OPTIONAL SECTION

SUMMARY

PRIORITY ITEMS

- | | |
|--|----------|
| 1. Overall Current Condition is : _____ | 1. _____ |
| 2. Overall Maintenance Has Been: _____ | 2. _____ |
| 3. General Quality: _____ | 3. _____ |
| 4. Restrictions or Obstructions to Inspection: Y N _____ | 4. _____ |
| 5. Investigate Inaccessible Areas: _____ | 5. _____ |

CONDITION

11.0 ROOMS WITH PLUMBING

6 11.1 Kitchen: 4 NOOK

Ceiling: Material DN Finish PT Cracks Typ Leaks M
 Walls: Material " Finish PT Cracks Typ Leaks I
 Floor: Material CONC Finish Ceramic/Glaze Slope /
 Windows: Material/Type Alum dual Fixed Slids Operation gd W'Strip gd
 Cords/Panes/Seals/Screens gc
 Doors: Material/Type ld
 Hardware: Door gc Window gd
 Trim: Material/Type wd
 Heat/AC gd T'stat Hall
 Elec. Outlets gd **GFCI** 1 gd Polarity gd Grounded gd
 Plumbing Fixtures gd Leaks/Pressure old under sink
 Drains ABS Disposal (Y) N Operating gd
 Cabinets wd/wood Hardware gd
 Appliances: Stove GE/gas Refrigerator GE Dishwasher GE Other NO
 Exhaust Fan: Type Fogher Vented to outside? yes ceiling in room
Secure Filter to cabinet change filter 2 GE outlets left in

6 11.2 Bathroom: Location Hall

Cabinets/Hardware wd/wood uk
 Ceiling: Material DN Finish PT Cracks ultra Leaks NY
 Walls: Material " Finish PT Cracks Typ Leaks NY
 Floor: Material CONC Finish wood Slope /
 Windows: Material/Type ty Operation gc W'Strip gc
 Cords/Panes/Seals/Screens gc
 Doors: Material/Type wd Fixed Total lock down 360°
 Hardware: Door gc Window M
 Trim: Material/Type wd
 Heat/AC gc T'stat Hall
 Elec. Outlets gd **GFCI** gd Polarity gd Grounded gd
 Fixtures: Type Delta & Mo Toilet Seal gd Faucets/Valves Leaking gc
 Tub/Shower Enclosure Material/Type stiff w Leaks/Grout/Caulking check
 Water Pressure gc
 Exhaust Fan: (Y) N Vented to Outside gc
shower flap holds cabinet

6 11.3 Bathroom: Location Plaster

Cabinets/Hardware wd/wood
 Ceiling: Material DN Finish PT Cracks Typ Leaks NY
 Walls: Material " Finish PT Cracks Typ Leaks NY
 Floor: Material CONC Finish wood Slope /
 Windows: Material/Type Fixed dual Alc Operation gd W'Strip gc
 Cords/Panes/Seals/Screens gc
 Doors: Material/Type wd F-in w/ 4 bar
 Hardware: Door gc Window gd
 Trim: Material/Type wd
 Heat/AC gc T'stat Hall
 Elec. Outlets gc **GFCI** gd Polarity gd Grounded gd
 Fixtures: Type Mo Toilet Seal gc Faucets/Valves Leaking gc
 Tub/Shower Enclosure Material/Type tub/pan/lin Leaks/Grout/Caulking gc
 Water Pressure gc
 Exhaust Fan: (Y) N Vented to Outside X 2 gd
RT under steps NO

11A ROOMS WITH PLUMBING

CONDITION

6 11A Room: Location W/dry R Cabinets/Hardware w d/cn

Ceiling: Material Da Finish pb Cracks Typ Leaks no

Walls: Material " Finish pr Cracks / Leaks /

Floor: Material conc Finish cn Slope /

Windows: Material/Type h Operation NA W'Strip NA

Cords/Panes/Seals/Screens /

Doors: Material/Type w d Fiberglass & solid roll door green

Hardware: Door gc Window NA

Trim: Material/Type wd

Heat/AC g baseboard T'stat Hall

Elec. Outlets gc GFCI NA Polarity gc Grounded gc

Fixtures: Type Delta Toilet Seal h Faucets/Valves Leaking /

Tub/Shower Enclosure Material/Type h Leaks/Grout/Caulking /

Water Pressure gc

Exhaust Fan (Y) Vented to Outside gc
you design only *Max. block useful for polyethylene*

12A INTERIOR - ROOM BY ROOM

CONDITION

6 12A Room: Location Family Room

Ceiling: Material Da Finish pt Cracks Typ Leaks no

Walls: Material " Finish pt Cracks / Leaks /

Floor: Material conc Finish pr Slope /

Windows: Material/Type Alum dual slide & Fixed Operation gc W'Strip gc

Cords/Panes/Seals/Screens gc (check plan notes)

Doors: Material/Type partic slide patch

Hardware: Door solid slide door Window gc NO up to 10

Trim: Material/Type wd

Heat/AC gc FP/Stove auto gas light T'stat Hall

Elec. Outlets gc GFCI NA Polarity gc Grounded gc

6 12A Room: Location Dining Room

Ceiling: Material Da Finish pt Cracks Typ Leaks no

Walls: Material " Finish pt Cracks / Leaks /

Floor: Material conc Finish pr Slope /

Windows: Material/Type Alum dual slide Operation gc W'Strip gc

Cords/Panes/Seals/Screens gc

Doors: Material/Type NA

Hardware: Door / Window gc

Trim: Material/Type wd

Heat/AC gc FP/Stove NA T'stat Hall

Elec. Outlets gc GFCI NA Polarity gc Grounded gc

CONDITION **12.0 INTERIOR - ROOM BY ROOM**

6 12.X Room: Location Living Room / Eastern Hall

Ceiling: Material DN Finish pt Cracks Typ Leaks nu

Walls: Material " Finish pt Cracks / Leaks /

Floor: Material CONC Finish nd/om Slope /

Windows: Material/Type Alum d w/ stone Operation gd W'Strip gd

Cords/Panes/Seals/Screens gc

Doors: Material/Type metal & wd wd

Hardware: Door Window gd

Trim: Material/Type nd replace panel to match look

Heat/AC gc FP/Stove NA T'stat Hall

Elec. Outlets gc GFCI NA Polarity gd Grounded gc

6 12.X Room: Location Master Bedroom

Ceiling: Material DN Finish pt Cracks Typ Leaks nu

Walls: Material " Finish pt Cracks / Leaks /

Floor: Material CONC Finish nd Slope /

Windows: Material/Type Alum d w/ stone Operation gd W'Strip gd

Cords/Panes/Seals/Screens gc

Doors: Material/Type wd wd Fin wd

Hardware: Door gc Window gd

Trim: Material/Type nd

Heat/AC gc FP/Stove NA T'stat Hall

Elec. Outlets gc GFCI NA Polarity gd Grounded gc

west to balcony

6 12.X Room: Location CR Bedrm

Ceiling: Material DN Finish pt Cracks Typ Leaks nu

Walls: Material " Finish pt Cracks / Leaks /

Floor: Material CONC Finish nd Slope /

Windows: Material/Type Alum d w/ stone Operation nd/om W'Strip gd

Cords/Panes/Seals/Screens gc

Doors: Material/Type nd Fin wd

Hardware: Door gc Window gc

Trim: Material/Type nd

Heat/AC gc FP/Stove gc T'stat Hall

Elec. Outlets gc GFCI NA Polarity gd Grounded gc

6 12.X Room: Location LF Bedrm

Ceiling: Material DN Finish pt Cracks Typ Leaks nu

Walls: Material " Finish pt Cracks / Leaks /

Floor: Material CONC Finish nd Slope /

Windows: Material/Type stone wd stone Operation gd W'Strip gd

Cords/Panes/Seals/Screens gc

Doors: Material/Type nd Fin wd

Hardware: Door gc Window gd

Trim: Material/Type nd

Heat/AC gc FP/Stove gc T'stat Hall

Elec. Outlets gc GFCI gc Polarity gc Grounded gc

INSPECTION FIELD NOTES

Supplemental: Swimming Pools

Page 8 of 8

Client Our client Date 6/17/11 Location rear yd In/Outside (Outside)
 Address 123 Any street Along (S) N Weather hot
LV NV 89134 Property Address _____, _____
 _____ Engineer Chay

KEY

E = Excellent, G = Good, F = Fair, P = Poor, S = Serviceable, NA = Not Applicable
 NV = Not Visible, O = Operating, NO = Not Operating, A = Average, BA = Below Average, AA = Above Average
 UK = Unknown, NI = Needs Investigation, (*) = See Report for More Detail

P.1 POOL/SPA EQUIPMENT

G Filter Hayward catalog 400 ft 2 15 psi Task @ Pump
 Pump Hayward Motor 2 HP Perd not actual
 Pump Seal/Gasket NA Pump Basket g
 Back Wash Valve NA Air Relief Valve g
 Pool Sweep Pump/Motor NA
 Plumbing Header PVC
 Gate Valves g
 Whip Filter/Pressure Gauges g
 Gyro/Turbo Water Valve g
 Gyro/Turbo Heads 1
g Heater Raypak 399,000 BTU/H Temp/Pressure Valve NA Fuel g
NA Anode NA remove soil in/out of tank
GFCIs g
subpanel 2 con g, g I X

P.2 POOL/SPA

G Plaster/Vinyl/Other Fair Rough
 Stains NA
 Tile g NA
 Liner g
 Light pool & spa g
 Diving Board NA
 Pool Sweep Head or Hoses g
 Skimmer Float or Basket g
 Skimmer Weir Door g
 Auto Leveler g
 Whip Hoses NA
 Time Clock g
 Chlorinator/Blower NA
 Cover NA

P.3 SURROUNDING AREA, ENCLOSURES, AND SECURITY

G Decking/Apron Kool - repair
 Fences @ yard
 Gates at - poles Rimmed poles
 Lighting _____
 Pool Alarms _____
 Ventilation _____

APPENDIX D

Agreement for Services

AGREEMENT FOR SERVICES
Residential Inspection Agreement

This is the complete agreement regarding inspection services to be provided by Criterium-McWilliam Engineers, LLC (CME) related to the property described below. This is intended to be a legally binding agreement between the client and CME. Please read it carefully.

CLIENT: Our Client
 DATE OF INSPECTION: Wednesday, June 17, 2011, 1:00 PM
 LOCATION OF PROPERTY: 123 Any Street, Las Vegas, NV 89124

The fee is based on the following information:

Approx Sq. Ft.	<u>1838</u>	Travel	<u>No</u>
Year Built	<u>1995</u>	Crawlspace	<u>No</u>
Add'l Buildings	<u>No</u>	Moisture	<u>No</u>
Pool	<u>Yes</u>	Photos	<u>Yes</u>

The fee for this XX Standard Inspection or Exhaustive Inspection (choose one; described below) is \$390.00 to be paid at or before the inspection. A \$50.00 fee will be added for any payment past due over days. A 24-hour notice of cancellation is requested. Otherwise, a \$50.00 cancellation fee may apply. All inspections are performed in accordance with established standards of the National Academy of Building Inspection Engineers.

After reviewing the descriptions below, both the client and CME should initial where noted, to indicate the type of inspection chosen. As our client, you are making a choice of services to be provided. If you have any questions, please contact us immediately.

_____ Client (int'l) _____ CME (int'l)	<p>A standard, visual inspection to identify significant deficiencies and/or repairs needed in the major systems (structural, heating, air conditioning, plumbing, electrical, roof, exterior), as well as provide a general understanding of the property. This is a limited inspection based on visual evidence readily available during the inspection (without moving furnishings, etc.), and is the opinion of the engineer performing the inspection. It is not a code, mold, environmental, radon, or pest inspection. Typical report preparation time is 1 to 2 business days.</p>
_____ Client (int'l) _____ CME (int'l)	<p>An exhaustive inspection to identify significant deficiencies and/or repairs needed as well as provide a general understanding of the property. This inspection is specifically not limited to readily visible evidence and requires invasive testing which may include moving furnishings, removing wall coverings and/or drilling into wall cavities (to check for structural damage, for example), and requires the current owner's written permission. Unlike the Standard or Limited Inspection, our maximum liability for loss suffered by the CLIENT due to any cause is limited to our inspection fee or \$10,000.00, whichever is greater. Typical report preparation time is 7 to 10 business days.</p>

AGREEMENT FOR SERVICES (continued)
Residential Inspection

MOLD EXCLUSION: This inspection is not for the specific purpose of determining the presence of organic substances in the building. If, however, during the inspection, we knowingly encounter such substances, we will notify you of the presence of these substances without accepting any liability whatsoever for any damage or harm caused by the substances. It is your responsibility to determine if further testing is required and to retain an independent, qualified professional to perform such tests.

You are encouraged to be at the inspection to discuss your questions and concerns. However, **the written report is the exclusive source of information regarding our observations and conclusions.** All discussions that occur at the inspection are preliminary in nature and should not be the basis for any final decisions regarding this property. Further, owning any property involves some risk. Please understand that no inspection can reveal everything that might be of interest or significance to you regarding this property.

Our inspections are not a guarantee or warranty regarding the condition of this building. Except as otherwise noted herein, our maximum liability relating to services rendered under this agreement for loss suffered by the client due to any cause is limited to our inspection fee. If you bring an action against CME and CME prevails, CME shall be entitled to recover costs and expenses, including reasonable attorney fees.

The above is understood and accepted. (Your agent may not sign for you unless s/he has Power of Attorney.)

Client Signature (one signature binds all parties)

(Date)

Criterion-McWilliam Engineers, LLC

(Date)

CRITERIUM®

GLOSSARY

ALLIGATORING: Square-patterned grain cracking of paint surface often caused by too many layers.

AMPERAGE: An ampere is a measure of the "volume" of electrical current available. The more amperage available, the more electrical devices can be connected to the system.

ANCHOR BOLT: L-shaped bolt with threaded end that connects the wooden sill to the top of the foundation wall.

AQUASTAT: A device to regulate the hot water temperature.

ARMORED CABLE: Commonly called BX; a moderately flexible metal sheathed cable.

ARTESIAN WELL: A well that penetrates a confined subsurface water source that is under sufficient pressure to cause the water to rise in the well casing itself.

BACKFILL: Loose fill graded against masonry walls in an open excavation, covered with top-soil.

BEARING WALL: Walls that transfer structural loads from building components above them.

BLEEDING: 1) Removing trapped air from radiators, convectors, or 2) the appearance of discoloration or stains under a finished, surface coat.

BLISTERING: Bubbles in paint. These are often caused by excessive moisture working through the wall from the inside.

BLOCK: Generally, any masonry unit larger than a brick; usually set in mortar as in a block wall.

BOILER: A heating unit in which hot water or steam is produced.

BOWED: Unsatisfactory timber (specifically framing members) that has been stored or dried unevenly, resulting in a natural curve along its length.

BRIDGING: Stiffeners fitted between floor joists; common bridging is an X-pattern, solid bridging is a short length of same-size floor joist timber.

BROWN COAT: The rough coat of plaster or stucco.

BTU: British Thermal Unit: a heat measurement.

BUILDING PAPER: Thick, pinkish paper used between plywood subfloor and finished flooring.

BUILT-UP ROOFING: Layers of asphalt-based roofing overlapped, sealed and bonded with hot tar; applied to flat roof decks.

BX: Common term for semi-flexible, metal-encased electrical wiring. (See Armored Cable.)

CESSPOOL: A subsurface wastewater disposal chamber with no attached drainage field (leach bed).

CHECKING: A short, narrow crack along the grain of structural timbers. Different from a split that goes through the full thickness of the wood.

CHECK VALVE: Fitting that prevents the reverse flow of water in piping; commonly used on sump pump installations or floor drains.

CHLORDANE: Poisonous chemical used for eradicating termites.

CIRCUIT BREAKER: Switches mounted in the main electrical panel that trip automatically to prevent overloading the circuit.

CIRCULATOR: Pump and motor mounted on hot water furnace that pushes heated water through the piping system.

CLEAR LUMBER: The highest grades of lumber; free from visible defects and knots.

CLOSED VALLEY: Pattern of overlapping, inter-laced shingles across the intersection of two sloping roofs. An open valley uses metal flashing.

COMBUSTION EFFICIENCY: A measure of the amount of fuel burned that actually produces heat. For example, 75% combustion efficiency means 75% of the fuel burned is producing heat.

COMPACTNESS: As it relates to energy efficiency and interior traffic flow, compactness suggests the maximum amount of interior space for the minimum amount of exterior wall area. A sphere (while impractical) would represent the most compact shape and floor plan a home could have.

COMPRESSOR: Mechanical heart of a cooling system that forces refrigerant through the system.

COUNTER FLASHING: A metal strip that covers the top edge of conventional flashing (frequently used around chimneys); allows for expansion and contraction between different building materials without breaking the flashing seal against the weather.

COURSE: One row of shingles, bricks or masonry block placed horizontally.

CRAWL SPACE: Area between the floor joists and the ground surrounded by the foundation wall.

CREOSOTE: Liquid chemical applied to raw timber that protects it from the weather.

CRICKET: Metal flashing placed on the "up-roof" side of the chimney to deflect roof water to either side of the chimney.

DEFLECTION: Downward force on rafters, joists and girders, causing the center of the timber to bow downward over the center of the span.

DRIP BEAD: Common form of capillary break groove cut under window sills.

DRIP EDGE: Lengths of L-shaped metal flashing placed along the edges of a roof to seal the space between the shingles and the roof deck from the weather.

DRY ROT: Timber decay characterized by sponginess and crumbling; caused by dampness and spread by a bacteria.

DRYWALL: Common form for paper-finished gypsum wallboard; also called sheetrock.

DRY WELL: Rock-filled hole in the ground to collect and distribute roof water or excessive ground water.

DUG WELL: A dug well is usually not more than ten or twenty feet deep and penetrates a subsurface water source (ground water) close to the surface.

EAVES: The overhanging section of a sloping roof.

EFFLORESCENCE: White powder residue on concrete masonry, usually indicates moisture migration through concrete.

FASCIA: A wide vertical board running horizontally across the ends of the rafters.

FELT PAPER: Common term for asphalt-impregnated building paper applied between wood roof decking and shingles.

FLASHING: Metal stripping to seal seams between sections of roofing or between roofing and other materials or metal caps sealing the joint between upper door and window frames and exterior siding.

FLOOR ZONES: Areas of a floor plan that can be distinguished by their function. For example, garage, workshop, hobby area, kitchen, family area, etc.

FOOTING: Enlargement at the base of a foundation wall to support and distribute the load.

FORCED AIR: An air conditioning or heating system that relies on a motor-driven fan for distribution.

FOUNDATION: Lower part of the building that supports the superstructure.

FRAME: The skeleton of a home including the major framing members such as rafters, studs and joists.

FURNACE: A heating unit in which hot air is produced.

GABLE: Triangular section of the end wall of a building with a sloping roof.

G.F.C.I. (or G.F.I.): Ground Fault Circuit Interrupter, a quick-tripping circuit breaker that can cut off power 25 milliseconds after detecting current leakage. NOTE: The National Electrical Code requires these circuit breakers in all newly built bathrooms, exterior outlets and kitchens.

GHOSTING: Darkening and discoloration of wallboard nailheads and compound-filled wallboard joints caused by unequal temperature and moisture transmission through the wall.

GIRDER: Timber (sometimes a steel I-beam) that supports beams and floor joists.

GRAVITY DISTRIBUTED: In heating systems, hot water and hot air are sometimes distributed by the natural thermal currents within the air or water. This is referred to as gravity distribution.



GRAVITY DRAIN: A drain which slopes from the house to any ground level nearby which is lower, allowing for the natural or "gravity" downward flow of water.

GROUND WIRE: Electrical wire that protects against shock hazards by transferring leaking or abnormal current back through the grounding system into the earth.

HARD WATER: Water with a high mineral content.

HEADER: Timber across an opening in the framing system that supports framing members interrupted by the opening.

HEAT PUMP: A year-round heating and cooling plant best suited to moderate climates; technically a compressor-driven, refrigerant cooling system that functions as a heater when the cooling cycle is reversed.

HEAVING: Upward pressure of earth caused by frost action.

INSULATION: Any material that effectively restricts the flow of heat (thermal transmission) through it. Fiber-glass, cellulose, foam, etc. are common examples.

JACK STUD: Part-height support stud placed beneath the ends of a header across an opening, nailed to a full-length stud that extends above the header.

JOIST: Wood or steel framing member directly supporting a floor or ceiling.

K.D.: Short for kiln-dried, signifying lumber with extreme dimensional stability due to low moisture content.

LEACHING FIELD: Elongated, buried piping or chamber system placed beyond the septic tank in a waste disposal system which gradually filters liquid wastes into the earth.

LEADER: Vertical pipe running between the gutter and the ground or an underground piping system.

LEDGER: Timber nailed flush with the bottom of a beam or joist, used to support a timber butting at right angles.

LIGHT: Individual panel of glass; describing the design of a double-hung window as in 8 over 8 lights.

LINTEL: Structural member across the top of an opening; commonly a stone or masonry equivalent to a wood frame header.

LOOP: Self-contained circuit of a hot water heating system.

MITERING: Joining two boards by cutting an equal angle at the end of each one.

NOSING: Rounded extension of a stair tread that projects beyond the vertical riser.

PVC: Polyvinylchloride - a type of "plastic" pipe used commonly for drain lines and less commonly for water distribution lines.

PENTACHLOROPHENAL: Chemical impregnated into timbers under pressure to protect them from deterioration.

PERIMETER DRAIN: A common reference for a system of drain pipes located at the base of the foundation wall to collect and carry water away from a basement space.

PERMEABILITY: A measure of the ability for vapor (moisture, air, etc.) to pass through a substance. For example, a window pane is less permeable than a screen.

PIER: Masonry load-bearing support independent of the main foundation.

PITCH: Commonly the angle of a sloping roof; the ratio of height to the span (as in 4 on 12).

PLATE: Single or double layer of 2 x 4 or 2 x 6 along the top of a stud wall.

PLENUM: Enclosed air chamber.

PLUMB: Perfectly vertical; at right angles to a perfectly level line.

POINTING: Cleaning loose mortar from joints between masonry (also called raking the joints) and refilling with fresh mortar.

POST FOUNDATION: A system of posts (most commonly concrete or wood) set into the ground at regular intervals to support the frame of a home above it.

PRESSURE-TREATED: Wood timbers treated with chemical preservatives under enough pressure to force the treatment deeply into the wood. The purpose is to prevent deterioration.

RAFTERS: Sloping timbers extending from the eaves to the roof ridge.

RECOVERY RATE: The rate at which a water heater will recover from the use of hot water by producing more.

R FACTOR: Measurement of a material's resistance to heat transmission; displayed on insulation; higher numbers give more insulating protection.

RIDGE: The horizontal line along the highest part of the roof.

RISER: Vertical board set between stair treads.

ROLL ROOFING: Continuous strips of asphalt roofing applied with an overlap along the horizontal seam, particularly on low roofs.

ROMEX: Plastic-sheathed, flexible wire cable.

ROOF CEMENT: Heavy, pudding-consistency asphalt tar used to seal roll roofing seams, embed flashing and make repairs.

ROUGH LUMBER: Unfinished, untrimmed raw lumber.

SASH: Framework that supports glass in a window.

SEPTIC TANK: A subsurface tank (most commonly of concrete) which allows solids to settle out of wastewater before the water flows to a drainage bed or leaching field.

SERVICE ENTRANCE: The point where the utility company's line enters the main electrical fuse or breaker box.

SHEATHING: Primary covering over framing.

SHIM: Small piece of material used to support adjustments in materials to achieve level or plumb surfaces.

SITE: The lot (property, land, ground, etc.) on which a home or building is located.

SLAB-ON-GRADE: A concrete floor slab placed directly on the ground.

SLEEPERS: Timbers usually laid flat, resting on the ground or concrete slab to support flooring.

SLOPE: A steep or gradual change (up or down) in the ground level.

SOFFIT: Surface under roof eaves overhanging an exterior wall.

STUD: Vertical, structural timber used to frame a wall.

SUBFLOOR: Structural flooring laid directly over the floor joists; covered by finished flooring or underlayment.

SUMP: A chamber (most typically a hole in the basement floor) into which water (from perimeter drain, etc.) can flow from which it is discharged either by a sump pump or a gravity drain.

SWALE: Shallow depression to collect and transfer water. A type of surface drainage.

TAPING: Process of applying joint compound, perforated tape and successive coats of joint compound to conceal the seams between gypsum wallboard panels.

TERMITE SHIELD: Metal strip fastened over the top of the foundation and angled a short distance down each side or a barrier to separate masonry and wood components of the structure.

THERMAL BUFFER ZONE: A space (not heated or air conditioned) that separates a heated or air-conditioned space from the outside (ambient) climate. Garages, enclosed porches and breezeways are examples of thermal buffer zones.

T AND G: Short form for tongue and groove pattern; a ridge extending along one edge of a board that fits into a matching groove of another.

TOENAILING: Practice of driving nails at an angle through the sides of a stud or other timber near the end where it butts another timber.

TO THE WEATHER: Describes the portion of a material, usually siding, exposed to the elements.

TRAP: U- or S-shaped pipe fitted beneath fixtures so that a water seal prevents septic odor from entering the house.

TREAD: Flat, horizontal stair step.

TRUSS: Triangular, reinforced rafter.

UNDERLAYMENT: Thin, smooth plywood or particle board applied over a rough sub-floor; covered with carpeting, vinyl tile or other material requiring a smooth base.

VALLEY: Intersection created by two sloping roofs, generally meeting at right angles.

VAPOR BARRIER: Thin sheathing to prevent the transmission of moisture through a wall; typically overlapped sheets of polyethylene film.

VENTILATION: Air flow through basements, wall cavities, attics, etc. to prevent accumulation of moisture.

VENTS: The openings (typically louvered or weather-proof) to allow ventilation.

VOLTAGE: (official) One volt is the voltage between two points of a conducting wire carrying a constant current of 1 ampere, when the power dissipated between these two points is 1 watt. (unofficial) A volt is a measure of the "pressure" of an electrical service.

WALLBOARD: Commonly, paper-covered gypsum panels.

WARP: Bending along the flat, wide surface of a board or door.

WEEP HOLES: Small holes drilled in sills or window frames through which condensation escapes; also short sections of pipe placed at the base of retaining walls to release hydrostatic pressure and groundwater.

WET ROT: Timber decay characterized by a charred appearance; caused by a fungus that flourishes in dark, wet areas.

WRINKLING: Ridges and furrows that develop in paint that is applied too thickly.

ZONE: Independently controlled section of a heating system (typically hot water).

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PRE-TITLE CHECKLIST

The attached report is intended to focus on the major engineering systems (structure, heating, plumbing and electric) in the building you're considering. While spot checks of many components (such as switches, outlets, fixtures, etc.) were made during the inspection and any significant deficiencies noted in this report, it's important to understand that the condition of these components can change at any time. Therefore, we highly recommend at least one more visit to these premises be made before taking title. This checklist is offered as a guide for this final visit.

Allow sufficient time to comfortably complete this list. Please note that not all of these items will apply to every building.

Property Address _____ Date Completed _____
 _____ By _____

	<i>OK</i>	<i>Not OK</i>		<i>OK</i>	<i>Not OK</i>
DISHWASHER	___	___	WINDOW LOCKS	___	___
GARBAGE DISPOSER	___	___	LAWN SPRINKLER SYSTEM	___	___
KITCHEN STOVE	___	___	SWIMMING POOL EQUIPMENT	___	___
REFRIGERATOR	___	___	SIDEWALKS	___	___
CLOTHES WASHER	___	___	DRIVEWAY	___	___
CLOTHES DRYER	___	___	SEPTIC / WASTE SYSTEM	___	___
WATER PUMP	___	___	AIR CONDITIONING	___	___
WATER HEATER	___	___	GARAGE DOOR OPENER	___	___
LIGHT FIXTURES	___	___	ELECTRICAL OUTLETS	___	___
PLUMBING FIXTURES	___	___	SUMP PUMP	___	___
FIREPLACE/WOODSTOVE	___	___	HEATING SYSTEM	___	___
ALL WINDOW SCREENS	___	___	DOOR LOCKS & LATCHES	___	___
AVAILABLE	___	___	(ALL KEYS AVAILABLE)	___	___

MISCELLANEOUS ITEMS AND NOTES _____

Often weeks and months pass between our initial inspection and your closing on the property. Your involvement in making this final inspection will help assure you of the home your deserve.

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