



# PROPERTY INSPECTION REPORT

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**Prepared for: Client's Name**

**Concerning: 123 Anystreet, Houston, TX**

**By: Steven Cochran, PI TREC # 6482**

**Date: 05/05/2006**

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The inspection of the property listed above must be performed in compliance with the rules of the Texas Real Estate Commission (TREC).

The inspection is of conditions which are present and visible at the time of the inspection, and all of the equipment is operated in normal modes. The inspector must indicate which items are in need of repair or are not functioning and will report on all applicable items required by TREC rules.

This report is intended to provide you with information concerning the condition of the property at the time of inspection. Please read the report carefully. If any item is unclear, you should request the inspector to provide clarification.

It is recommended that you obtain as much history as is available concerning this property. This historical information may include copies of any seller's disclosures, previous inspection or engineering reports, reports performed for or by relocation companies, municipal inspection departments, lenders, insurers, and appraisers. You should attempt to determine whether repairs, renovation, remodeling, additions or other such activities have taken place at this property.

Property conditions change with time and use. Since this report is provided for the specific benefit of the client(s), secondary readers of this information should hire a licensed inspector to perform an inspection to meet their specific needs and to obtain current information concerning this property.

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## ADDITIONAL INFORMATION PROVIDED BY INSPECTOR

-A maintenance guide is included as an addendum to this report. It contains valuable information and maintenance advice critical to understanding the report and the property. The maintenance guide should be attached at the end of this report. If you did not receive the maintenance guide addendum please contact our office to arrange delivery.

-If the property inspected is a condominium or townhouse; systems, components or aspects of the property may not be accessible and / or may be outside the scope of this inspection (i.e. common areas, attics, roofs, foundations, etc.).

Typically, a homeowners association is responsible for exterior repairs and maintenance. If problems are experienced with the roof, foundation, exterior wall coverings, common plumbing, et al., the association should be informed immediately.

-If the property is occupied at the time of inspection; personal belongings, stored items, furniture, etc. may prevent complete observation of some aspects, systems, components or appliances. It is beyond the scope of this inspection to move or disrupt any such items and further evaluation is recommended. A return visit is not included in the price of the initial inspection.

-We recommend that you get repair bids from at least three qualified service professionals for any system, component or appliance with the "in need of repair" box checked. Other problems may be discovered that were not noted during this limited visual evaluation.

Precipitation: Dry

Temperature: 80 - 90

Natural gas: On

Electric: On

Water: On

House faces: East

Occupied: Yes

App. age of Home: 19

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I=Inspected		NI=Not Inspected		NP=Not Present	R=Not Functioning or in Need of Repair
I	NI	NP	R	Inspection item	

## I. STRUCTURAL SYSTEMS

### A. Foundations

*NOTE:* FOUNDATION ON CLAY SOIL REQUIRES ADEQUATE AND EVEN MOISTURE AROUND PERIMETER OF THE FOUNDATION THE ENTIRE YEAR TO PREVENT MOVEMENT. TREES AND SHRUBS CAN CAUSE FOUNDATION DAMAGE WHEN GROWING TOO CLOSE. WATER SHOULD NOT BE PERMITTED TO POND OR ERODE UNDER OR ALONG SIDE ANY PART OF THE FOUNDATION. DEPENDING ON THE DESIGN AND METHOD OF ORIGINAL CONSTRUCTION OF A PIER AND BEAM FOUNDATION, THE FLOOR SYSTEM MAY NEED LEVELING PERIODICALLY.

*Comments:*

- Type: Slab on grade.
- Foundation: An informal elevation survey with a digital level as well as a visual examination of the visible exterior slab, framing connections, window and wall conditions indicated that the foundation appears to be performing within acceptable standards at the time of inspection. Some differential settlement and cracking is acceptable. The amount of movement does not appear to suggest a serious structural problem at this time- although no benchmark of the original foundation was given and/or most foundations are poured or built with some out-of-levelness. This area should, of course, be monitored and maintained with proper grading and moisture control. The purpose of the foundation is to provide a stable base for the building, which it appears to be doing. The need for foundation repair in some cases can be an aesthetic judgment that must be made by the homeowner or buyer. The rate of movement cannot be predicted during a one-time inspection and continual observation is recommended.
- Foundation: The following information is taken from the Post Tensioning Institute textbook describing the Design and Construction of Post Tensioned Slab-on-Ground foundation systems. The article refers to Post-Construction conditions. The information is also helpful in maintaining all residential foundations. Planting flower beds or shrubs next to the foundation and keeping these areas flooded will generally cause a net increase in soil moisture content and result in soil expansion around the foundation perimeter in that vicinity. Planting shade trees closer to the structure than a distance equal to half the mature height of the tree will allow the tree roots to penetrate beneath the foundation and withdraw moisture from the soil; the result will be soil shrinkage in the region of the roots. Redirecting surface runoff channels or swales by the owner can result in improper drainage as detailed above. To minimize movement in soils due to post construction factors that are not climate related, the following homeowners` maintenance procedures are recommended.
  - Initial landscaping should be done on all sides adjacent to the foundation and drainage away from the foundation should be provided and maintained.
  - Watering should be done in a uniform, systematic manner equally as possible on all sides of the foundation to keep the soil moist. Areas of soil that do not have ground cover may require more moisture, as they are more susceptible to evaporation. Ponding or trapping of water in localized areas adjacent to the foundations can cause differential moisture levels in subsurface soils.
  - Studies have shown that trees within 20 feet of foundations have caused differential movements in foundations. These areas will require more water in periods of drought and in some cases a root injection system may be required to maintain moisture equilibrium.
  - During extreme hot and dry periods, close observations should be made around foundations to insure that adequate watering is being provided to keep soil from separating and pulling back from the foundations.

*In need of repair:*

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- Foundation: Post tension cable or rebar ends were observed on the exterior of the foundation. If left unattended, the cable can rust and compromise foundation integrity. Minor repair(s) should be undertaken as necessary to prevent corrosion. NOTE: A non-shrink cement mix should be used.



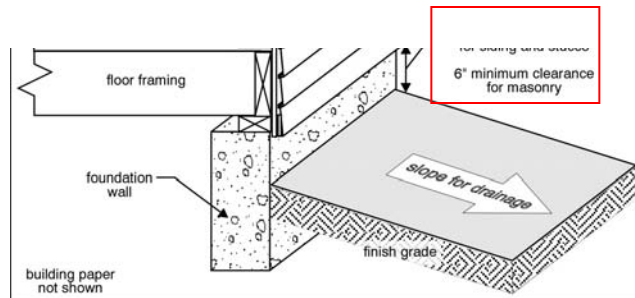
**B. Grading & Drainage**

**NOTE:** FOUNDATION AREA-SURFACE OR SUBSURFACE DRAINS ARE NOT TESTED. WATER SHOULD NOT POND WITHIN 10 FEET OF THE FOUNDATION. THE GROUND SHOULD SLOPE AWAY FROM THE FOUNDATION AT A RATE OF 1-INCH PER FOOT FOR 6 - 10 FEET. IF PROPER GRADING CANNOT BE REASONABLY ACCOMPLISHED, A DRAINAGE SWALE, SUBSURFACE DRAIN OR SIMILAR SYSTEM CAN TYPICALLY ACHIEVE THE DESIRED RESULT.

*Comments:*

*In need of repair:*

- Outside of Building: At least four (4) to eight (8) inches of clearance should be maintained between soil level and the top of the foundation walls.



**C. Roof Structure & Attic**

**NOTE:** ATTICS ARE NOT TOTALLY OBSERVABLE.

*Comments:*

- Attic: 12-inches + of blown fiberglass insulation.

*In need of repair:*

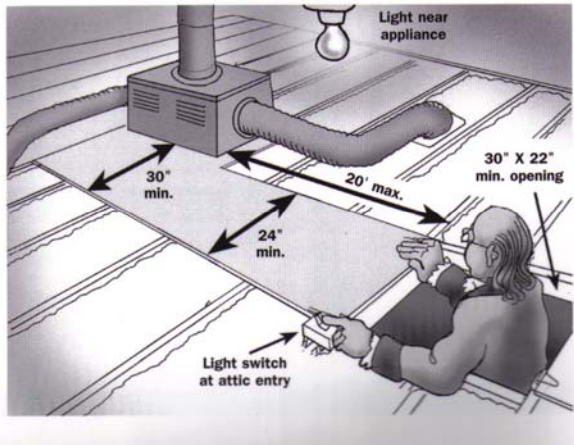
- Attic: Signs of water staining were noted on framing members or decking, indicating previous leakage (chimney). Further investigation as to whether the leaks are active and to the amount of damage may be necessary.

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- Attic: A minimum 2 feet wide pathway should be provided to appliances for servicing and removal.

Fig. 4 • Attic Furnace



- Attic: Spliced ridge at right rear attic should be supported.



- Attic: Spliced hip and rafters in the left rear attic should be supported by braces.



**D. Roof Covering**

**NOTE** WEATHER CONDITIONS, WIND, HAIL AND EXTREME TEMPERATURES AFFECT ALL ROOFING FROM DAY TO DAY. CONTINUAL OBSERVATION IS RECOMMENDED. MOST ROOF FASTENERS ARE NOT READILY ACCESSIBLE OR VISIBLE AND ARE BEYOND THE SCOPE OF THIS INSPECTION.

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- Type: Single layer composition shingles over OSB decking.

*In need of repair:*

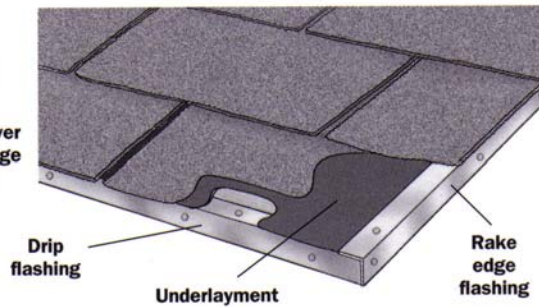
- Roof: Nail heads are exposed at various areas of the roof. They should be sealed to reduce risk of leaks.



- Roof: The underlayment (felt paper) of the roof covering is not properly installed. The felt should be installed over the drip edge (roof flashing) at the eaves with no nails penetrating the felt. It is standard and acceptable, however, to install felt under the drip edge at the rake (slope of roof). A qualified roofer should be consulted and improvements made as recommended by the manufacturers installation instructions and / or to the Asphalt Roofing Manufacture Associations` (ARMA) industry standards.

**Fig. 47**  
**Roof Edge Flashing**

Underlayment laps over drip flashing, rake edge flashing laps over underlayment



- Outside of Building: Loose or damaged gutters and downspouts should be repaired or replaced as necessary to avoid spilling roof runoff around the building - a potential source of water entry or water damage.



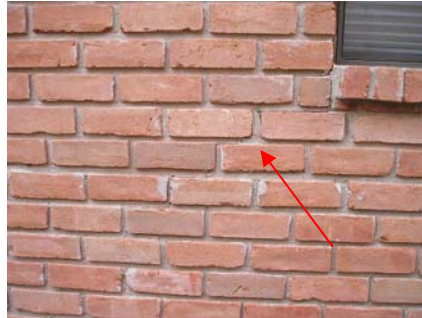
**E. Interior & Exterior Walls**

**NOTE:** CRACKS CAN BE EXPECTED TO DEVELOP AT OR AROUND DRYWALL JOINTS AND SEAMS OR IN BRICK MORTAR OVER TIME. THIS IS TYPICALLY DUE TO THE SETTLING OF THE FOUNDATION AND IS GENERALLY CONSIDERED NORMAL AND MAY CHANGE SEASONALLY. CRACKS ABOVE DOORS OR WINDOWS OR AT MORTAR JOINTS IN MASONRY VENEERS GREATER THAN 1/8-1/4 - INCH IN WIDTH CAN INDICATE GREATER THAN NORMAL AMOUNTS OF MOVEMENT WITHIN THE STRUCTURE AND MAY NEED FURTHER EVALUATION. PROPER WATER MAINTENANCE AND GRADING OF THE SOIL AROUND THE HOUSE WILL BE CRUCIAL IN THE FUTURE PERFORMANCE OF THE FOUNDATION.

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- Outside of Building: Observed a smaller diagonal crack in the left elevation brick (apparently caused from lack of expansion joint). This area should be monitored in the future.



*In need of repair:*

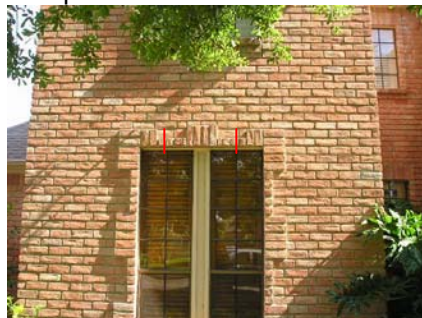
- Outside of Building: The brick mortar is in need of improvement at various locations. A qualified mason should be engaged.



- Outside of Building: Loose brick(s) at the front elevation should be re-secured.



- Outside of Building: LINTEL: Weep holes (openings in the mortar joints, typically found at foundation level and above doors and windows to allow trapped moisture to escape) were not found in the brick veneer wall above a lintel (in effect, a beam supporting the brickwork above an opening in the wall). Improvements are recommended.



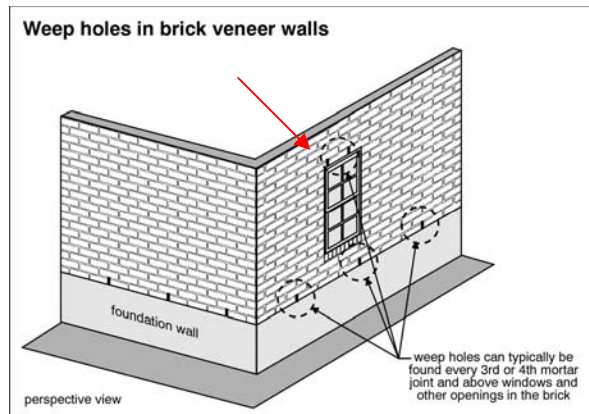
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- Outside of Building: Brick frieze at left rear elevation should be sealed against brick veneer.



- Outside of Building: Brick frieze should be sealed against brick veneer at right rear elevation.



- Outside of Building: A front gable louver has some wood rot that should be repaired.



- Outside of Building: Rotted or deteriorated wood trim at rear elevation outside breakfast nook should be repaired.



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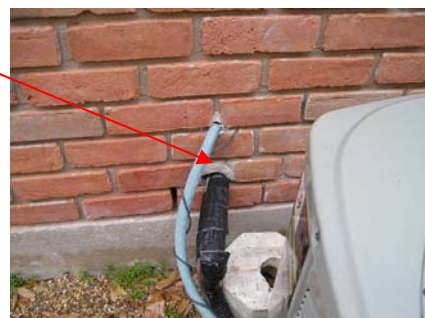
- Outside of Building: Chewed or damaged siding and trim above kitchen roof (right side of garage wall) should be repaired as needed.



- Outside of Building: This particular type of wood fiber or laminate siding may be prone premature decomposition due to moisture related problems. Further evaluation in to the brand and its current status is recommended. Decayed or deteriorated portions of siding should be replaced as necessary.



- Outside of Building: Any holes, gaps or other penetrations (i.e. where AC suction line(s) enter wall cavity, soffit / trim details, mortar joints in brick, et. al) should be repaired / sealed as necessary to prevent leaks, drafts or vermin entry. However, weep holes should be left open in the bottom row of brick in masonry veneer.



- Outside of Building: Brick supported by the roof at the front elevation does not appear to be properly supported. The lintel (in effect, a beam supporting the brickwork above an opening in the wall) and / or masonry veneer above do not appear to be properly installed and should be further investigated and repaired as necessary. Current standards suggest: A minimum 6 x 4 x 5/16 steel angle, with the long leg placed vertically, shall be anchored to double 2" x 4" wood studs at a maximum on center spacing of 16". Anchorage of the steel angle at every double stud spacing shall be a minimum of two 7/16"-diameter by 4-inches lag screws. The steel angle shall have a minimum clearance to underlying construction of 1/16 inch. A minimum of two-thirds the width of the masonry veneer thickness shall bear on the steel angle. Flashing and weep holes shall be located in the masonry veneer wythe. The maximum height above masonry veneer above the steel angle support shall be 12` 8".



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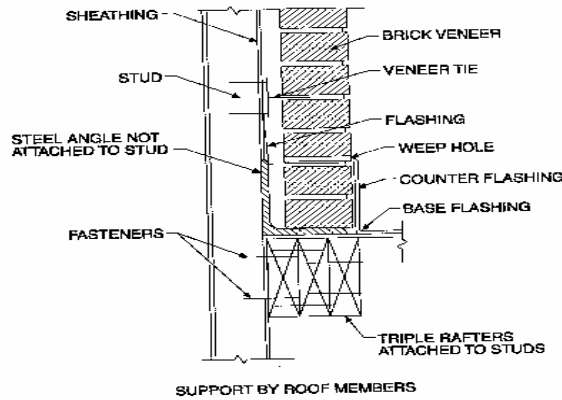


FIGURE R703.7.2.2  
EXTERIOR MASONRY VENEER SUPPORT BY ROOF MEMBERS

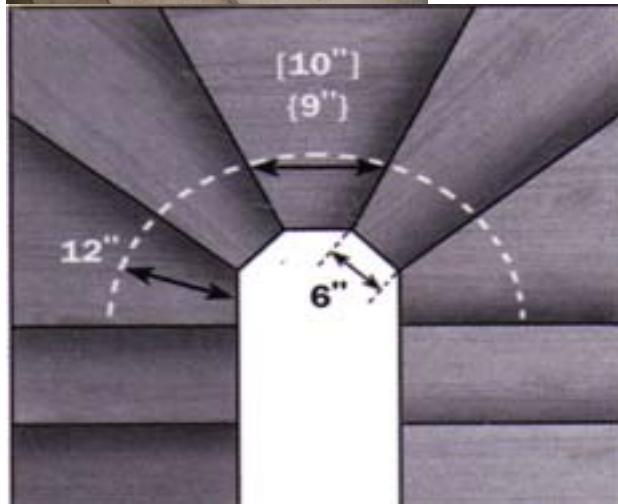
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**F. Ceilings & Floors**

*Comments:*

*In need of repair:*

- Interior: Floor squeaks were observed at various locations in the upstairs flooring that should be repaired as needed by a qualified contractor.
- Interior: The size and/or orientation of the stairway "treads" and / or "risers" may make the stairway difficult to negotiate. This condition should be altered for improved safety.



- Bathroom(s): Staining was noted in the upstairs right rear bathroom sink area (no active moisture). The cause for the staining should be determined and repairs undertaken, if necessary, to prevent structural damage.

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**G. Doors (Interior & Exterior)**

DOORS SHOULD BE TRIMMED, WEATHER STRIPPED OR ADJUSTED AS NECESSARY TO SEAL PROPERLY AND OPERATE SMOOTHLY. KEYLESS LOCKS SHOULD BE USED ON ALL EXTERIOR DOORS FOR ENHANCED SAFETY.

*Comments:*

- General: Doors that open to pool area require additional safety hardware such as auto-closing devices and alarms when opened. More information can be found at: [www.cpsc.gov/cpsc/pub/pubs/pool.pdf](http://www.cpsc.gov/cpsc/pub/pubs/pool.pdf)

*In need of repair:*

- General: Trim rot was noted around the breakfast nook door and should be repaired.



- General: The breakfast nook door should be weather stripped or adjusted as necessary to seal properly and operate smoothly.
- Interior: The rear living room door should be weather stripped or adjusted as necessary to seal properly and operate smoothly.

**H. Windows**

**NOTE:** ONLY A REPRESENTATIVE NUMBER OF ACCESSIBLE WINDOWS WERE CHECKED FOR OPERATION AT THIS INSPECTION. AS THERMALPANE WINDOWS LOSE THEIR VACUUM, MOISTURE MAY APPEAR, AND THEN DISAPPEAR, DEPENDING ON INSIDE AND OUTSIDE TEMPERATURE, BAROMETRIC PRESSURE AND THE HUMIDITY LEVEL. THEREFORE WINDOWS ARE LISTED AS OBSERVED AT TIME OF INSPECTION ONLY, AND NO WARRANTY IS IMPLIED.

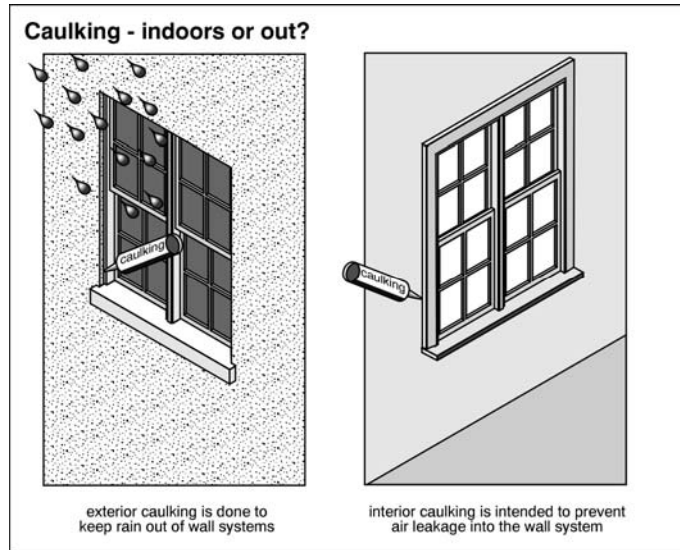
*Comments:*

*In need of repair:*

- Outside of Building: It may be desirable to replace window screens where missing. The owner should be consulted regarding any screens that may be in storage.
- Outside of Building: Windows should be caulked and or re-pointed (brick mortar patch) at various exterior locations where gaps or holes are present between window frame or trim and siding to prevent excess moisture and / or insect activity.

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- Outside of Building: An upstairs rear elevation window is broken and should be replaced.
- Outside of Building: Rotted or deteriorated window trim should be repaired.



- Outside of Building: The arch window and trim at rear elevation should have a metal flashing installed above to prevent moisture damage.



**I. Fireplace/Chimney**

NOTE: CHIMNEY FLASHINGS ARE NOT TOTALLY VISIBLE. OLDER MASONRY CHIMNEYS ARE PRONE TO LEAKAGE OR SEEPAGE THROUGH THE CAP AND/OR BRICKS AND MORTAR. WE DO NOT USE VIDEO OR SPECIALTY EQUIPMENT TO INSPECT FOR LEAKS, CRACKS, SEPERATIONS OR DAMAGE IN THE FLUE.

*Comments:*

- Type: Masonry firebox w/ gas lighter

*In need of repair:*

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- Roof: Cracked chimney capping should be repaired.



**J. Porches, Balconies**

*Comments:*

*In need of repair:*

**II. ELECTRICAL SYSTEMS**

*NOTE:* PROPER BONDING OF GAS AND WATER LINES IS BEYOND THE SCOPE OF THIS INSPECTION UNLESS OTHERWISE NOTED. A QUALIFIED, LICENSED ELECTRICIAN SHOULD BE ENGAGED TO VERIFY PROPER BONDING.

**A. Service Entrance and Panels**

*Comments:*

- Main Panel: 200-amp 120/240 volt below ground service.
- Main Panel: location(s): Interior laundry room

*In need of repair:*

- Main Panel: The main panel was not properly labeled at the time of inspection. A licensed electrician should be consulted and the panel circuits properly identified.
- Main Panel: An anti-oxidant compound should be used on all exposed aluminum feeder wire terminals. Periodic tightening of the lugs may be necessary due to the expansive nature of aluminum. A licensed electrician should be consulted.
- Unit 2: The over current protection (circuit breaker) for the air conditioning unit(s) appears to be oversized. The 50-amp breaker serving the unit exceeds the manufactures maximum requirements of 30-amps. If left unattended, components of the condenser unit could be damaged in an overload situation. The current breaker should be replaced with an appropriately sized breaker.
- Main Panel: A FPE or Federal Pacific Electric panel was observed. This panel, specifically its breakers, may represent a safety related defect. The breakers have been known to improperly function in overload situations, creating a potential fire hazard. It is our recommendation that these panels be replaced. Further investigation may be desirable to determine the status of this product. Some web sites that may be helpful: [www.codecheck.com/fpe\\_breakers.htm](http://www.codecheck.com/fpe_breakers.htm) and [www.myelectricianonline.com/faq\\_files/q17.htm](http://www.myelectricianonline.com/faq_files/q17.htm) .

**B. Branch Circuits - Connected Devices and Fixtures**

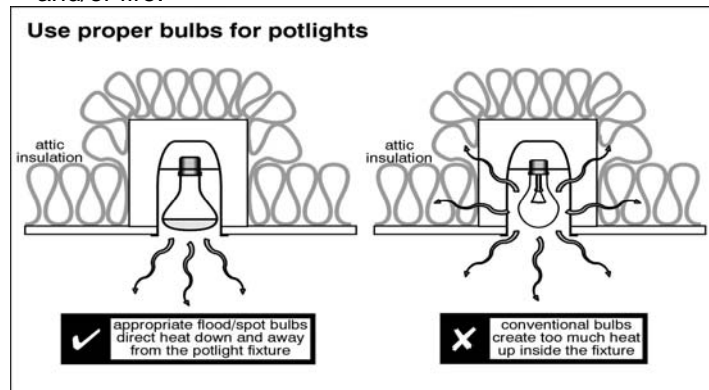
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**NOTE:** LIGHTS AND EQUIPMENT ACTIVATED BY PHOTOCELL SWITCHES WERE NOT CHECKED. ALSO, LANDSCAPE AND EXTERIOR GROUNDS LIGHTING IS NOT INCLUDED IN THIS INSPECTION. ANTIQUATED WIRING SHOULD BE UPDATED; IT CREATES A POSSIBLE HAZARD. ONLY A REPRESENTATIVE NUMBER OF ACCESSIBLE OUTLETS ARE CHECKED. SECURITY SYSTEMS ARE NOT INCLUDED IN THIS INSPECTION. SMOKE DETECTION DEVICES SHOULD BE INSTALLED IN ALL ROOMS. EXTENSION CORDS SHOULD NEVER BE USED AS PERMANENT WIRING.

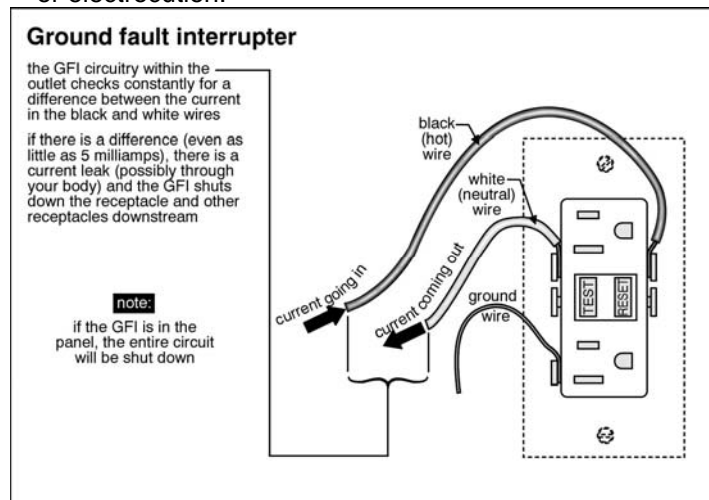
**Comments:**

- Type: Copper branch circuit wiring
- General: Current standards require closet lights to be protected by a globe (light cover).
- General: Recessed light fixtures that are installed in insulated ceilings can represent a fire hazard if they are not suitably rated for this application. Unfortunately, it is difficult to verify that the installation has been made safely, during a home inspection. It is recommended that a licensed electrician be engaged to verify the safety of the system. Recessed lights should be fitted with bulbs suitable to this application. Otherwise, there is a risk of overheating and/or fire.



**In need of repair:**

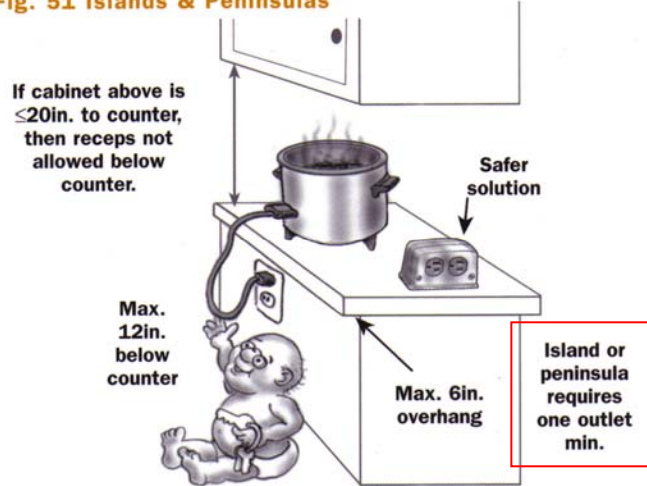
- General: Lights were found to be inoperative. If the bulbs are not blown, the circuit should be investigated.
- General: The upstairs game room ceiling fan is noisy and wobbles that should be corrected as needed by a qualified electrician.
- General: The wobble in the breakfast nook ceiling fan should be corrected.
- General: The installation of a ground fault circuit interrupter (GFCI) is recommended at all bathroom, all kitchen counter top locations, wet bars (counter tops within 6 feet of any sink) and outdoor (including garage) locations. A ground fault circuit interrupter (GFCI) offers protection from shock or electrocution.



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- Outside of Building: A ground fault circuit interrupter (GFCI) outlet did not respond correctly to testing during the inspection (left rear elevation). This receptacle should be replaced.
- Outside of Building: The front porch outlet has been wired backwards and will not respond correctly to GFCI test. Recommend further evaluation and repair by a qualified electrician.
- Interior: The 220v dryer outlet does not appear to have power. Recommend further evaluation by a qualified electrician.
- Kitchen: Kitchen island is required to have a minimum one GFCI electrical outlet. Recommend repair by a qualified electrician.

**Fig. 51 Islands & Peninsulas**



- Bedroom(s): Slight wobble in master bedroom ceiling fan should be corrected.

### III. HEATING, VENTILATION AND AIR CONDITIONING SYSTEMS

*NOTE:* IDEALLY, A WELL DESIGNED HVAC SYSTEM IN A WELL CONSTRUCTED HOME WILL MAINTAIN NOT MORE THAN A 3-4 DEGREE TEMPERATURE DIFFERENTIAL BETWEEN ROOMS AT ALL TIMES. THE PERFORMANCE OF THE SYSTEM VARIES WITH WEATHER CONDITIONS AND IT IS IMPORTANT TO NOTE THAT THE INSPECTION TAKES PLACE DURING A SHORT PERIOD OF TIME. IF THE CLIENT EXPERIENCES PROBLEMS, A QUALIFIED HVAC PROFESSIONAL SHOULD BE ENGAGED TO MAKE ADJUSTMENTS / IMPROVEMENTS AS NEEDED.

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#### A. Heating Equipment

*NOTE:* ONLY THE EMERGENCY HEAT MODE IS CHECKED ON HEAT PUMPS WHEN TEMPERATURE IS ABOVE 80 DEGREES. WE RECOMMEND THE HEATING SYSTEM BE COMPLETELY SERVICED BEFORE EACH HEATING SEASON. FILTERS SHOULD BE CHANGED AS NEEDED (AT LEAST EVERY 2 MONTHS). CHECKING HUMIDIFIERS, ELECTRIC AIR FILTERS AND PROPER AIRFLOW BALANCE IS NOT INCLUDED IN THIS INSPECTION.

Type of System(s): Central Forced Furnace  
 Energy Source: Natural Gas

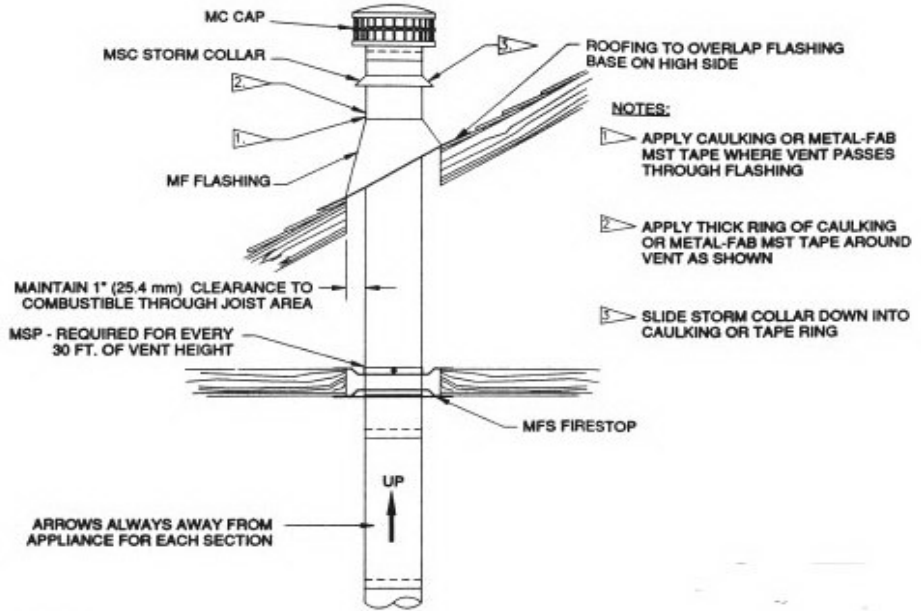
Comments:

*In need of repair:*

- Unit 1: The flame was observed to be slightly yellow in color. The flame should be sharp and blue. This is an indication of incomplete combustion. Further evaluation is recommended.
- Unit 1: Rust and/or debris were noted in the burner compartment. The unit should be serviced by a qualified HVAC professional. **Replacement may be necessary.**

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- Unit 2: The flame was observed to be slightly yellow in color. The flame should be sharp and blue. This is an indication of incomplete combustion. Further evaluation is recommended.
- Unit 2: Rust and/or debris were noted in the burner compartment. The unit should be serviced by a qualified HVAC professional. **Replacement may be necessary.**
- General: The current installation of the flue pipe is not acceptable by today's standards. The vent terminates inside the vent cap. The pipe should extend through the roof flashing, roof jack or thimble and terminate by a listed termination cap. This is a safety hazard and should be repaired.



**B. Cooling Equipment**

NOTE: AIR CONDITIONING UNITS ARE NOT CHECKED WHEN OUTSIDE TEMP. IS BELOW 60 DEGREES. WE RECOMMEND THE A.C. UNIT BE COMPLETELY SERVICED BEFORE EACH COOLING SEASON AND THE CONDENSATE DRAIN FLUSHED WITH A CHLORINE BLEACH EVERY 2 MONTHS DURING THE COOLING SEASON TO PREVENT CLOGGING. EVAPORATOR COILS ARE NOT OPENED WHEN SEALED.

Type of System(s): Central  
 Energy Source: Electricity

*Comments:*

- Unit 1: Condenser size: Trane 5 ton
- Unit 1: Max over current protection: 60-amps
- Unit 1: Actual over current protection: 60-amps
- Unit 1: The outdoor AC unit appears to be approximately 2 years old.
- Unit 1: Evaporator size: 5 ton
- Unit 1: The evaporator coil appears to be approximately 2 years old.
- Unit 1: Supply (out): 57°F. Return (in): 71°F. Differential: 14°F. Should be between 14-21
- Unit 2: Condenser size: Bryant 3 ton
- Unit 2: Max over current protection: 30-amps
- Unit 2: Actual over current protection: 50-amps
- Unit 2: The outdoor AC unit appears to be approximately 7 years old.
- Unit 2: Evaporator size: 3 ton
- Unit 2: Supply (out): 54°F. Return (in): 78°F. Differential: 16°F. Should be between 14-21

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- Interior: The temperature at the kitchen supply registers were approximately 6 degrees warmer than others. Ideally, a well designed HVAC system in a well constructed home will maintain not more than a 3-4 degree temperature differential between rooms at all times. The performance of the system varies with weather conditions and it is important to note that the inspection takes place during a short period of time. If the client experiences problems, a qualified HVAC professional should be engaged to make adjustments / improvements as needed.

*In need of repair:*

- Outside of Building: No electrical disconnect was provided for the outdoor cooling system(s). Current standards require a disconnect to be within sight of the unit. Improvements are recommended.
- Unit 2: Rust and/or debris were noted in the drain pan and should be cleaned.



**C. Ducts and Vents**

*Comments:*

*In need of repair:*

- General: Filter(s) dirty.
- General: Loose supply register in breakfast nook area should be re-secured.
- General: 120-volt electrical branch circuit wiring was noted in the return chase (upstairs). This is considered a safety hazard and improvement is recommended. NOTE: Sealing the return chase with drywall, plywood, etc. can easily resolve this issue in most cases.

**IV. PLUMBING SYSTEMS**

NOTE: PIPES AND PLUMBING IN WALLS, IN OR UNDER CONCRETE SLABS OR CONCEALED BY PERSONAL EFFECTS AND THEIR QUALITY, CONDITION OR PURIFICATION OF WATER IS NOT INCLUDED IN THIS INSPECTION. THE ONLY TRUE WAY TO TEST FOR PLUMBING LEAKS IS BY HYDRO-STATIC PRESSURE TEST WHICH IS BEYOND THE SCOPE OF THIS INSPECTION.

**A. Water Supply Systems and Fixtures**

NOTE: SUPPLY PLUMBING IN ATTICS OR CRAWL SPACES SHOULD BE INSULATED. LAUNDRY CONNECTIONS (INCLUDING DRAIN) ARE VISUALLY INSPECTED ONLY.

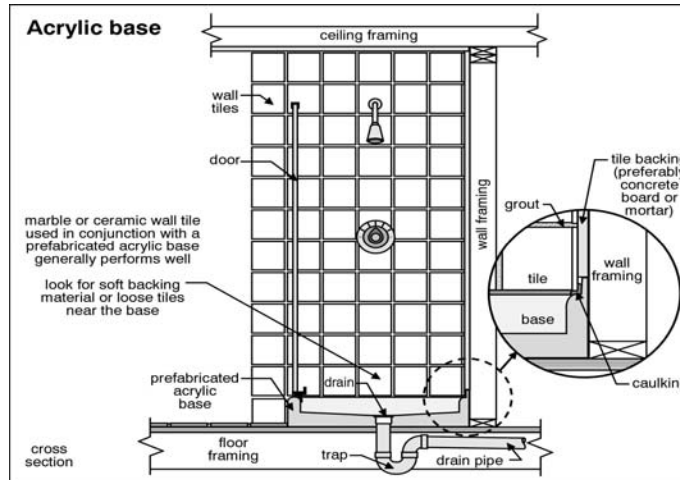
*Comments:*

- Type: Copper supply lines.
- Main shut off location: Left exterior elevation
- Bathroom(s): When not properly installed, shower stalls are vulnerable to leaks that can lead to costly repairs. The typical shower inspection is limited, proper installation is impossible to determine and is based on conditions observed during a short period. The shower is tested under normal operation for approximately 30 - 60 minutes. Adjacent walls and floors should be inspected regularly for evidence of leakage. If evidence of leakage is observed or suspected, a qualified professional should be engaged immediately. No evidence of leakage was observed at the time of inspection.



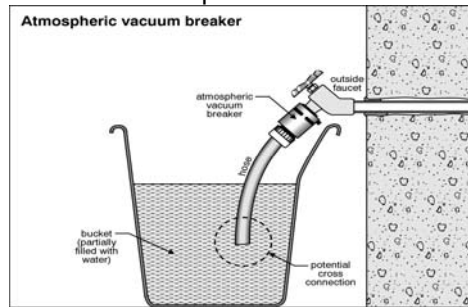
I=Inspected NI=Not Inspected NP=Not Present R=Not Functioning or in Need of Repair

I	NI	NP	R	Inspection item
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*In need of repair:*

- Outside of Building: It is recommended that an anti-siphon device be added to the hose bib(s). This is a small device that attaches to the outside hose connection to prevent water contamination.



- Interior: The bar sink was observed to drain slowly, suggesting that an obstruction may exist.
- Interior: Corroded plumbing connection at bar sink should be repaired by a qualified plumber.
- Bathroom(s): The upstairs right toilet is loose and should be re-secured / re-seated as needed.
- Bathroom(s): The upstairs left toilet is loose and should be re-secured / re-seated as needed.
- Bathroom(s): The master toilet flush mechanism is in need of replacement or repair.

**B. Drains, Wastes, Vents**

NOTE: IF BATH TRAPS ARE NOT PRESENT OR READILY ACCESSIBLE, THEY ARE NOT INSPECTED. BATH TRAPS WITH ACCESS DOORS ARE RECOMMENDED BEHIND ALL TUBS/SHOWERS TO ALLOW FOR INSPECTION OF LEAKS, PROPER PLUMBING CONFIGURATION, WOOD DESTROYING INSECT ACTIVITY, ETC. WE RECOMMEND OLDER DRAIN / WASTE PIPING BE VIDEO INSPECTED OR PRESSURE TESTED.

*Comments:*

*In need of repair:*

- Interior: An accessible p-trap should be installed at the bar sink drain piping.

**C. Water Heating Equipment**

TEMPERATURE PRESSURE RELIEF (TPR) VALVES MAY NOT BE TESTED DUE TO POTENTIAL LEAKAGE AND SHOULD BE REPLACED EVERY 2 YEARS.

*Comments:*

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- Unit 1: 40 gallon gas water heater appears to be approximately 9 years old (right side).
- Unit 2: 40 gallon gas water heater appears to be approximately 11 years old
- General: Water heaters have a typical life expectancy of 7 to 12 years. The existing unit is approaching this age range. One cannot predict with certainty when replacement will become necessary.

*In need of repair:*

- General: The current installation of the flue pipe is not acceptable by today's standards. The vent terminates inside the vent cap. The pipe should extend through the roof flashing, roof jack or thimble and terminate by a listed termination cap. This is a safety hazard and should be repaired.

**D. Hydro-Therapy Equipment**

*NOTE:* AN ANTI-VORTEX DRAIN GRATE SHOULD BE ADDED TO ALL WHIRLPOOL TUBS TO ENHANCE SAFETY.

*Comments:*

*In need of repair:*

- Bathroom(s): Access to the whirlpool motor (without removal of finish building materials as required by the NEC) should be provided (or its whereabouts should be verified with the current owner). Without adequate access the unit cannot be inspected for proper mounting of electrical connections, bonding of the pump, leaks, etc. Further evaluation is recommended.

**V. APPLIANCES**

*NOTE:* THE FOLLOWING IS NOT INCLUDED IN THIS INSPECTION: CLOCKS, TIMERS, AND AUTOMATIC COOKING OR CLEANING MODES OR INTERCOM COMMUNICATION MODES. MICROWAVES ARE NOT CHECKED FOR RADIATION LEAKAGE.

**A. Dishwasher**

*Comments:*

- Kitchen: Unit tested on normal mode with no visible leaks.

*In need of repair:*

**B. Food Waste Disposer**

*Comments:*

*In need of repair:*

- Kitchen: The splash guard for the food waste disposer is damaged and in need of repair.

**C. Range Hood**

*Comments:*

*In need of repair:*

- Kitchen: Missing control knob

**D. Ranges/Ovens/Cooktops**

*Comments:*

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I	NI	NP	R			

- Kitchen: Upper oven produced 350 degrees at 350 degree setting.
- Kitchen: Lower oven produced 350 degrees at 350 degree setting.

*In need of repair:*

- Kitchen: The front right element did not appear to heat when tested. Recommend further evaluation by a qualified contractor.

**E. Microwave Cooking Equipment**

*Comments:*

- Kitchen: Appears to be functioning as intended.

*In need of repair:*

**F. Trash Compactor**

*Comments:*

*In need of repair:*

**G. Bathroom Exhaust Fans and/or Heaters**

*NOTE:* BATHROOM EXHAUST FANS SHOULD TERMINATE DIRECTLY TO THE EXTERIOR. GAS WALL HEATERS SHOULD BE REMOVED OR REPLACED AS THEY ARE NO LONGER CONSIDERED SAFE.

*Comments:*

*In need of repair:*

- Attic: The bathroom exhaust fan should be repaired so as to discharge to the building exterior.
- Bathroom(s): The upstairs right bathroom fan is excessively noisy.
- Bathroom(s): Recommend installing an exhaust fan in the master bathroom.

**H. Whole House Vacuum Systems**

*Comments:*

*In need of repair:*

**I. Garage Door Operators**

Garage door operators should auto reverse under approximately 20-30 pounds of pressure and should be checked every 30 days. Garage door transmitters are not checked during the inspection.

*Comments:*

*In need of repair:*

- Garage: The electronic sensor for the garage door opener was found to be installed at an improper height from the garage floor (double car side). This should be repaired as it poses a safety concern.
- Garage: The single car garage door opener auto reverses when closing indicating an adjustment is required.
- Garage: Auto door reversing sensors should be installed (maximum 6 inches above ground) for added safety.

**J. Door Bell and Chimes**

*Comments:*

- General: Appears to be performing as intended.

*In need of repair:*

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**K. Dryer Vents**

NOTE: Dryer vents that vent up through the roof may require periodic cleaning and should terminate through a backdraft damper.

*Comments:*

*In need of repair:*

- Outside of Building: Damaged dryer vent at right elevation should be replaced to prevent insect/vermin entry.

**L. Other Built-in Appliances**

*Comments:*

*In need of repair:*

**VI. OPTIONAL SYSTEMS**

**A. Lawn Sprinklers**

*Comments:*

*In need of repair:*

- Outside of Building: Did not test due to backflow shut off valve being frozen at time of inspection. Recommend further evaluation by a qualified landscaping company.
- Outside of Building: The backflow prevention device does not appear to be properly configured. The vacuum breaker should be higher than the tallest sprinkler head to prevent cross contamination. A competent installer should be engaged to further evaluate and make improvements as necessary.

**B. Gas Lines**

NOTE: PRESSURE TESTING OF GAS LINES IS SPECIFICALLY EXCLUDED FORM THIS INSPECTION. A QUALIFIED PLUMBER OR LOCAL UTILITY REPRESENTATIVE SHOULD BE ENGAGED TO PERFORM SUCH TESTING.

*Comments:*

- General: No evidence of gas leaks observed at main meter or appliance connections.

*In need of repair:*

**C. Fire/smoke Protection Equipment**

NOTE: SMOKE ALARMS ARE CHECKED BY THE TEST BUTTON ONLY WHEN NOT PART OF THE SECURITY SYSTEM. THIS HOWEVER DOES NOT ENSURE PROPER OPERATION OR RELIABILITY OF THE SMOKE DETECTOR. AS AN INTERGRAL PART OF ANY LISTED REPAIRS, A LICENSED PROFESSIONAL MUST THOUROUGHLY EXAMINE THE ENTIRE SYSTEM FOR SAFETY, OPERATION, COMPLIANCE WITH ALL LOCAL CODES, AND BE APPROPRIATELY REPAIRED OR MODIFIED AS REQUIRED. FAILURE TO COMPLY MAY RESULT IN PERSONAL INJURY.

*Comments:*

*In need of repair:*

- General: Smoke detector locations do not appear to meet current standards (see fire safety addendum).

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I	NI	NP	R	Inspection item	

# REPORT CONCLUSION

## THE HOUSE IN PERSPECTIVE

As with all homes, ongoing maintenance is required and improvements to the systems of the home will be needed over time. *Please remember that there is no such thing as a perfect home.*

### THE SCOPE OF THE INSPECTION

All components designated for inspection in accordance with the rules of the TEXAS REAL ESTATE COMMISSION (TREC) are inspected, except as may be noted by the "Not Inspected" or "Not Present" check boxes. Explanations for items not inspected may be in the "TREC Limitations" sections within this report.

This inspection is visual only. A representative sample of building components are viewed in areas that are accessible at the time of the inspection. No destructive testing or dismantling of building components is performed.

It is the goal of the inspection to put a home buyer in a better position to make a buying decision. **Not all improvements will be identified during this inspection. Unexpected repairs should still be anticipated. The inspection should not be considered a guarantee or warranty of any kind.**

Please refer to the pre-inspection contract for a full explanation of the scope of the inspection.

### GENERAL RECOMMENDATIONS

It is our recommendation that all homes have pressure tests performed on plumbing system(s).

It is our recommendation that all homes be tested for mold, mildew or other pollutants.

It is our recommendation that all homes be equipped with fire / smoke detection and extinguishing devices in every room.

It is our recommendation that all homes be equipped with carbon monoxide detection device(s).

It is our recommendation that all homes be inspected for termites and other wood destroying pests by a competent certified professional.

It is our recommendation that a home warranty be purchased with all homes to help protect against major appliance failure.

Please visit our web site at [www.InspectHoustonHomes.com](http://www.InspectHoustonHomes.com) for more valuable information about your home.

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I	NI	NP	R	

## ADDENDUM: REPORT SUMMARY

*The following is a synopsis of the potentially significant improvements that should be budgeted for over the short term. Other significant improvements, outside the scope of this inspection, may also be necessary. Please refer to the body of this report for further details on these and other recommendations.*

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### STRUCTURAL SYSTEMS

#### Foundations

- Foundation: Post tension cable or rebar ends were observed on the exterior of the foundation. If left unattended, the cable can rust and compromise foundation integrity. Minor repair(s) should be undertaken as necessary to prevent corrosion. NOTE: A non-shrink cement mix should be used.

#### Grading & Drainage

- Outside of Building: At least four (4) to eight (8) inches of clearance should be maintained between soil level and the top of the foundation walls.

#### Roof Covering

- Roof: Nail heads are exposed at various areas of the roof. They should be sealed to reduce risk of leaks.
- Roof: The underlayment (felt paper) of the roof covering is not properly installed. The felt should be installed over the drip edge (roof flashing) at the eaves with no nails penetrating the felt. It is standard and acceptable, however, to install felt under the drip edge at the rake (slope of roof). A qualified roofer should be consulted and improvements made as recommended by the manufacturers installation instructions and / or to the Asphalt Roofing Manufacture Associations` (ARMA) industry standards.
- Outside of Building: Loose or damaged gutters and downspouts should be repaired or replaced as necessary to avoid spilling roof runoff around the building - a potential source of water entry or water damage.

#### Roof Structure & Attic

- Attic: A minimum 2 feet wide pathway should be provided to appliances for servicing and removal.
- Attic: Spliced ridge at right rear attic should be supported.
- Attic: Spliced hip and rafters in the left rear attic should be supported by braces.
- Attic: Signs of water staining were noted on framing members or decking, indicating previous leakage (chimney). Further investigation as to whether the leaks are active and to the amount of damage may be necessary.

#### Interior & Exterior Walls

- Outside of Building: LINTEL: Weep holes (openings in the mortar joints, typically found at foundation level and above doors and windows to allow trapped moisture to escape) were not found in the brick veneer wall above a lintel (in effect, a beam supporting the brickwork above an opening in the wall). Improvements are recommended.
- Outside of Building: This particular type of wood fiber or laminate siding may be prone premature decomposition due to moisture related problems. Further evaluation in to the brand and its current status is recommended. Decayed or deteriorated portions of siding should be replaced as necessary.
- Outside of Building: The brick mortar is in need of improvement at various locations. A qualified mason should be engaged.
- Outside of Building: Loose brick(s) at the front elevation should be re-secured.
- Outside of Building: Chewed or damaged siding and trim above kitchen roof (right side of garage wall) should be repaired as needed.
- Outside of Building: Brick frieze should be sealed against brick veneer at right rear elevation.
- Outside of Building: Rotted or deteriorated wood trim at rear elevation outside breakfast nook should be repaired.
- Outside of Building: Brick frieze at left rear elevation should be sealed against brick veneer.
- Outside of Building: A front gable louver has some wood rot that should be repaired.

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- Outside of Building: Brick supported by the roof at the front elevation does not appear to be properly supported. The lintel (in effect, a beam supporting the brickwork above an opening in the wall) and / or masonry veneer above do not appear to be properly installed and should be further investigated and repaired as necessary. Current standards suggest: A minimum 6 x 4 x 5/16 steel angle, with the long leg placed vertically, shall be anchored to double 2" x 4" wood studs at a maximum on center spacing of 16". Anchorage of the steel angle at every double stud spacing shall be a minimum of two 7/16"-diameter by 4-inches lag screws. The steel angle shall have a minimum clearance to underlying construction of 1/16 inch. A minimum of two-thirds the width of the masonry veneer thickness shall bear on the steel angle. Flashing and weep holes shall be located in the masonry veneer wythe. The maximum height above masonry veneer above the steel angle support shall be 12' 8".
- Outside of Building: Any holes, gaps or other penetrations (i.e. where AC suction line(s) enter wall cavity, soffit / trim details, mortar joints in brick, et. al) should be repaired / sealed as necessary to prevent leaks, drafts or vermin entry. However, weep holes should be left open in the bottom row of brick in masonry veneer.

**Ceilings & Floors**

- Interior: The size and/or orientation of the stairway "treads" and / or "risers" may make the stairway difficult to negotiate. This condition should be altered for improved safety.
- Bathroom(s): Staining was noted in the upstairs right rear bathroom sink area (no active moisture). The cause for the staining should be determined and repairs undertaken, if necessary, to prevent structural damage.
- Interior: Floor squeaks were observed at various locations in the upstairs flooring that should be repaired as needed by a qualified contractor.

**Doors (Interior & Exterior)**

- Interior: The rear living room door should be weather stripped or adjusted as necessary to seal properly and operate smoothly.
- General: Trim rot was noted around the breakfast nook door and should be repaired.
- General: The breakfast nook door should be weather stripped or adjusted as necessary to seal properly and operate smoothly.

**Windows**

- Outside of Building: Windows should be caulked and or re-pointed (brick mortar patch) at various exterior locations where gaps or holes are present between window frame or trim and siding to prevent excess moisture and / or insect activity.
- Outside of Building: It may be desirable to replace window screens where missing. The owner should be consulted regarding any screens that may be in storage.
- Outside of Building: The arch window and trim at rear elevation should have a metal flashing installed above to prevent moisture damage.
- Outside of Building: Rotted or deteriorated window trim should be repaired.
- Outside of Building: An upstairs rear elevation window is broken and should be replaced.

**Fireplace/Chimney**

- Roof: Cracked chimney capping should be repaired.

**ELECTRICAL SYSTEMS**

**Service Entrance and Panels**

- Main Panel: A FPE or Federal Pacific Electric panel was observed. This panel, specifically its breakers, may represent a safety related defect. The breakers have been known to improperly function in overload situations, creating a potential fire hazard. It is our recommendation that these panels be replaced. Further investigation may be desirable to determine the status of this product. Some web sites that may be helpful: [www.codecheck.com/fpe\\_breakers.htm](http://www.codecheck.com/fpe_breakers.htm) and [www.myelectricianonline.com/faq\\_files/q17.htm](http://www.myelectricianonline.com/faq_files/q17.htm) .
- Main Panel: An anti-oxidant compound should be used on all exposed aluminum feeder wire terminals. Periodic tightening of the lugs may be necessary due to the expansive nature of aluminum. A licensed electrician should be consulted.
- Main Panel: The main panel was not properly labeled at the time of inspection. A licensed electrician should be consulted and the panel circuits properly identified.

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- Unit 2: The over current protection (circuit breaker) for the air conditioning unit(s) appears to be oversized. The 50-amp breaker serving the unit exceeds the manufactures maximum requirements of 30-amps. If left unattended, components of the condenser unit could be damaged in an overload situation. The current breaker should be replaced with an appropriately sized breaker.

**Branch Circuits - Connected Devices and Fixtures**

- General: The installation of a ground fault circuit interrupter (GFCI) is recommended at all bathroom, all kitchen counter top locations, wet bars (counter tops within 6 feet of any sink) and outdoor (including garage) locations. A ground fault circuit interrupter (GFCI) offers protection from shock or electrocution.
- General: Lights were found to be inoperative. If the bulbs are not blown, the circuit should be investigated.
- General: The wobble in the breakfast nook ceiling fan should be corrected.
- Outside of Building: A ground fault circuit interrupter (GFCI) outlet did not respond correctly to testing during the inspection (left rear elevation). This receptacle should be replaced.
- Outside of Building: The front porch outlet has been wired backwards and will not respond correctly to GFCI test. Recommend further evaluation and repair by a qualified electrician.
- Interior: The 220v dryer outlet does not appear to have power. Recommend further evaluation by a qualified electrician.
- Kitchen: Kitchen island is required to have a minimum one GFCI electrical outlet. Recommend repair by a qualified electrician.
- Bedroom(s): Slight wobble in master bedroom ceiling fan should be corrected.
- General: The upstairs game room ceiling fan is noisy and wobbles that should be corrected as needed by a qualified electrician.

**HEATING, VENTILATION AND AIR CONDITIONING SYSTEMS**

**Heating Equipment**

- Unit 1: Rust and/or debris were noted in the burner compartment. The unit should be serviced by a qualified HVAC professional. Replacement may be necessary.
- Unit 2: The flame was observed to be slightly yellow in color. The flame should be sharp and blue. This is an indication of incomplete combustion. Further evaluation is recommended.
- Unit 1: The flame was observed to be slightly yellow in color. The flame should be sharp and blue. This is an indication of incomplete combustion. Further evaluation is recommended.
- General: The current installation of the flue pipe is not acceptable by today’s standards. The vent terminates inside the vent cap. The pipe should extend through the roof flashing, roof jack or thimble and terminate by a listed termination cap. This is a safety hazard and should be repaired.
- Unit 2: Rust and/or debris were noted in the burner compartment. The unit should be serviced by a qualified HVAC professional. Replacement may be necessary.

**Cooling Equipment**

- Outside of Building: No electrical disconnect was provided for the outdoor cooling system(s). Current standards require a disconnect to be within sight of the unit. Improvements are recommended.
- Unit 2: Rust and/or debris were noted in the drain pan and should be cleaned.

**Ducts and Vents**

- General: 120-volt electrical branch circuit wiring was noted in the return chase (upstairs). This is considered a safety hazard and improvement is recommended. NOTE: Sealing the return chase with drywall, plywood, etc. can easily resolve this issue in most cases.
- General: Filter(s) dirty.
- General: Loose supply register in breakfast nook area should be re-secured.

**PLUMBING SYSTEMS**

**Water Supply Systems and Fixtures**

- Interior: The bar sink was observed to drain slowly, suggesting that an obstruction may exist.



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- Bathroom(s): The upstairs left toilet is loose and should be re-secured / re-seated as needed.
- Bathroom(s): The master toilet flush mechanism is in need of replacement or repair.
- Outside of Building: It is recommended that an anti-siphon device be added to the hose bib(s). This is a small device that attaches to the outside hose connection to prevent water contamination.
- Interior: Corroded plumbing connection at bar sink should be repaired by a qualified plumber.
- Bathroom(s): The upstairs right toilet is loose and should be re-secured / re-seated as needed.

**Drains, Wastes, Vents**

- Interior: An accessible p-trap should be installed at the bar sink drain piping.

**Water Heating Equipment**

- General: The current installation of the flue pipe is not acceptable by today's standards. The vent terminates inside the vent cap. The pipe should extend through the roof flashing, roof jack or thimble and terminate by a listed termination cap. This is a safety hazard and should be repaired.

**Hydro-Therapy Equipment**

- Bathroom(s): Access to the whirlpool motor (without removal of finish building materials as required by the NEC) should be provided (or its whereabouts should be verified with the current owner). Without adequate access the unit cannot be inspected for proper mounting of electrical connections, bonding of the pump, leaks, etc. Further evaluation is recommended.

**APPLIANCES**

**Food Waste Disposer**

- Kitchen: The splash guard for the food waste disposer is damaged and in need of repair.

**Range Hood**

- Kitchen: Missing control knob

**Ranges/Ovens/Cooktops**

- Kitchen: The front right element did not appear to heat when tested. Recommend further evaluation by a qualified contractor.

**Bathroom Exhaust Fans and/or Heaters**

- Bathroom(s): Recommend installing an exhaust fan in the master bathroom.
- Attic: The bathroom exhaust fan should be repaired so as to discharge to the building exterior.
- Bathroom(s): The upstairs right bathroom fan is excessively noisy.

**Garage Door Operators**

- Garage: The electronic sensor for the garage door opener was found to be installed at an improper height from the garage floor (double car side). This should be repaired as it poses a safety concern.
- Garage: The single car garage door opener auto reverses when closing indicating an adjustment is required.
- Garage: Auto door reversing sensors should be installed (maximum 6 inches above ground) for added safety.

**Dryer Vents**

- Outside of Building: Damaged dryer vent at right elevation should be replaced to prevent insect/vermin entry.

**OPTIONAL SYSTEMS**

**Lawn Sprinklers**

- Outside of Building: Did not test due to backflow shut off valve being frozen at time of inspection. Recommend further evaluation by a qualified landscaping company.

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<b>I</b>	<b>NI</b>	<b>NP</b>	<b>R</b>	<b>Inspection item</b>
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- Outside of Building: The backflow prevention device does not appear to be properly configured. The vacuum breaker should be higher than the tallest sprinkler head to prevent cross contamination. A competent installer should be engaged to further evaluate and make improvements as necessary.

**Fire/smoke Protection Equipment**

- General: Smoke detector locations do not appear to meet current standards (see fire safety addendum).

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R=Not Functioning or in Need of Repair

I NI NP R

Inspection item

## ADDENDUM: MAINTENANCE ADVICE

### Upon Taking Ownership

*After taking possession of a new home, there are some maintenance and safety issues that should be addressed immediately. The following checklist should help you undertake these improvements:*

- Change the locks on all exterior entrances, for improved security.
- Check that all windows and doors are secure. Improve window hardware as necessary. Security rods can be added to sliding windows and doors. Consideration could also be given to a security system.
- Install smoke detectors on each level of the home. Ensure that there is a smoke detector outside all sleeping areas. Replace batteries on any existing smoke detectors and test them. Make a note to replace batteries again in one year.
- Create a plan of action in the event of a fire in your home. Ensure that there is an operable window or door in every room of the house. Consult with your local fire department regarding fire safety issues and what to do in the event of fire.
- Examine driveways and walkways for trip hazards. Undertake repairs where necessary.
- Examine the interior of the home for trip hazards. Loose or torn carpeting and flooring should be repaired.
- Undertake improvements to all stairways, decks, porches and landings where there is a risk of falling or stumbling.
- Review your home inspection report for any items that require immediate improvement or further investigation. Address these areas as required.
- Install rain caps and vermin screens on all chimney flues, as necessary.
- Investigate the location of the main shut-offs for the plumbing, heating and electrical systems. If you attended the home inspection, these items would have been pointed out to you.

### Regular Maintenance

#### EVERY MONTH

- Check that fire extinguisher(s) are fully charged. Re-charge if necessary.
- Examine heating/cooling air filters and replace or clean as necessary.
- Inspect and clean humidifiers and electronic air cleaners.
- If the house has hot water heating, bleed radiator valves.
- Clean gutters and downspouts. Ensure that downspouts are secure, and that the discharge of the downspouts is appropriate. Remove debris from window wells.
- Carefully inspect the condition of shower enclosures. Repair or replace deteriorated grout and caulk. Ensure that water is not escaping the enclosure during showering. Check below all plumbing fixtures for evidence of leakage.
- Repair or replace leaking faucets or shower heads.
- Secure loose toilets, or repair flush mechanisms that become troublesome.

#### SPRING AND FALL

- Examine the roof for evidence of damage to roof coverings, flashings and chimneys.
- Look in the attic (if accessible) to ensure that roof vents are not obstructed. Check for evidence of leakage, condensation or vermin activity. Level out insulation if needed.
- Trim back tree branches and shrubs to ensure that they are not in contact with the house.
- Inspect the exterior walls and foundation for evidence of damage, cracking or movement. Watch for bird nests or other vermin or insect activity.
- Survey the basement and/or crawl space walls for evidence of moisture seepage.

I=Inspected      NI=Not Inspected      NP=Not Present      R=Not Functioning or in Need of Repair

I	NI	NP	R	Inspection item
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- Look at overhead wires coming to the house. They should be secure and clear of trees or other obstructions.
- Ensure that the grade of the land around the house encourages water to flow away from the foundation.
- Inspect all driveways, walkways, decks, porches, and landscape components for evidence of deterioration, movement or safety hazards.
- Clean windows and test their operation. Improve caulking and weather-stripping as necessary. Watch for evidence of rot in wood window frames. Paint and repair window sills and frames as necessary.
- Test all ground fault circuit interrupter (GFCI) devices, as identified in the inspection report.
- Shut off isolating valves for exterior hose bibs in the fall, if below freezing temperatures are anticipated.
- Test the Temperature and Pressure Relief (TPR) Valve on water heaters.
- Inspect for evidence of wood boring insect activity. Eliminate any wood/soil contact around the perimeter of the home.
- Test the overhead garage door opener, to ensure that the auto-reverse mechanism is responding properly. Clean and lubricate hinges, rollers and tracks on overhead doors.
- Replace or clean exhaust hood filters.
- Clean, inspect and/or service all appliances as per the manufacturer's recommendations.

**ANNUALLY**

- Replace smoke detector batteries.
- Have the heating, cooling and water heater systems cleaned and serviced.
- Have chimneys inspected and cleaned. Ensure that rain caps and vermin screens are secure.
- Examine the electrical panels, wiring and electrical components for evidence of overheating. Ensure that all components are secure. Flip the breakers on and off to ensure that they are not sticky.
- If the house utilizes a well, check and service the pump and holding tank. Have the water quality tested. If the property has a septic system, have the tank inspected (and pumped as needed).
- If your home is in an area prone to wood destroying insects (termites, carpenter ants, etc.), have the home inspected by a licensed specialist. Preventative treatments may be recommended in some cases.

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**Prevention Is The Best Approach**

*Although we've heard it many times, nothing could be more true than the old cliché "an ounce of prevention is worth a pound of cure." Preventative maintenance is the best way to keep your house in great shape. It also reduces the risk of unexpected repairs and improves the odds of selling your house at fair market value, when the time comes.*

*Please feel free to contact our office should you have any questions regarding the operation or maintenance of your home. Enjoy your home!*

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## ADDENDUM: FIRE SAFETY

### Around the House

- Store combustible materials in appropriate containers well away from flame and heat.
- Do not store oily rags in a pile as spontaneous combustion can result. Use a sealed metal container.
- Store matches and lighters away from curious children, heat or flammable items and teach children that matches and tools are to be used only by adults.
- All bedrooms should have two exits.
- Doors and windows should open easily.
- Windows should not be painted shut or obstructed. Burglar bars not readily operable create a hazard.
- Rope ladders kept upstairs may provide safe exit from a second story.

### Kitchen

- Keep cooking areas clear of combustibles such as paper, hot pads, dish towels, etc.
- Avoid long or loose sleeve clothing around the stove.
- Turn pan handles inward to avoid accidental spilling.
- If grease catches fire, turn off all burners, carefully place a lid over the pan to smother flames, then remove pan from heat if over an electric element.

### Laundry

- Vent clothes dryers to the exterior in a metal duct, a lint trap is installed and lint trap is cleaned before each use.
- Do not operate dryer when no one is home.
- Keep area behind washer and dryer free of combustible lint, etc. by periodic cleaning.

### Space Heaters

- Unvented gas heaters create a fire and carbon monoxide hazard and should never be used in the home.
- Keep portable electric space heaters at least 3 feet from combustible materials such as drapes, walls and furniture.
- Never operate space heaters unattended. Keep children and pets away from space heaters.

### Fireplaces

- Wood-burning fireplaces should be inspected by a certified chimney sweep before each heating season.
- Do not store wood or kindling near fireplace openings, for example on a hearth extension.
- All fireplace flues should have approved rain caps and spark arrestor screens installed.
- Do not operate a fireplace with screens open.
- Always remove and store ashes in a sealed metal container.

### Grilling

- Never use a portable grill indoors because of dangerous combustion by-products and the high risk of fire.
- Keep BBQ grills well away from combustible materials such as siding on your home, cars, dry vegetation, etc., and do not use outdoor cooking equipment on wooden decks or under roof overhangs, carports or patio covers.
- Stay with the grill once it is lit; keep children and pets at a safe distance.
- Protect yourself by wearing an appropriate apron, long sleeves and a long oven mitt.

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### Electrical Safety

- Do not use extension cords as permanent wiring or run extension cords under carpeting or furniture.
- Do not overload extension cords or electrical outlets and replace frayed, damaged or cracked cords or cords warm to the touch.
- Place halogen lights well away from flammable drapes and low ceilings. Never leave them burning when leaving the house.
- Check maximum wattage rating of light fixtures and do not exceed manufacturer's recommendations.
- Always have an electrician investigate flickering lights, breakers that trip or outlets and switches not operable or warm to the touch.

### Fire Extinguishers

- **Install only extinguishers designed to fight all types of fires – (A B C).**
- Fire extinguishers should be located at every exit.
- Because fires quickly grow from small to large, The National Fire Protections Association (NFPA) cautions to realize one's limits in fighting fires. NFPA recommends fire extinguishers be used only when everyone is out of the house and the fire department is on the way
- Familiarize the family with the operation instructions and safety precautions located on the extinguisher and in the owner's manual.
- Follow maintenance directions on extinguishers and check pressure indicators monthly to assure proper operation.

### Smoke Detectors

- Current standards require smoke detectors be installed in each bedroom, adjacent hallways, each level of the house and where changes in ceiling elevation exceed two feet.
- Install smoke detectors within 12" of ceilings.
- If possible, hard wired smoke detectors should be interconnected so that if one detector sounds, all units will sound.
- Test alarms once a month, clean detectors and replace batteries according to manufacturer's directions.
- Replace smoke detectors older than 10 years.

### Home Fire Escape Planning and Practice

- React immediately to the sound of an alarm.
- In the Event of a Fire—Don't stop to call 911. Exit immediately and call from a neighbor's house.
- Prepare an emergency escape plan with the whole family and practice it twice a year.
- To create an escape route:
  - ❖ Draw a Floor Plan of your home and learn the landmarks of your house. A house looks much different when filled with smoke or when crawling to reach and exit.
  - ❖ Practice exiting your home, memorizing landmarks both standing and crawling on a regular basis.
  - ❖ Choose a meeting place outside for all family members to group after escape.

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## ADDENDUM: HOME MAINTENANCE GUIDE

*Although the information provided hereafter is based on the inspectors' extensive experience and knowledge of recognized home maintenance procedures, it is not intended to substitute for the services of qualified professionals with on-site knowledge. Before attempting any dangerous activities and to clarify any uncertainties, seek the advice of an appropriate local expert. Recognized safety procedures should be followed when performing any home maintenance tasks.*

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### IN THE YARD

#### Site Safety

Periodically walk around the yard with an eye to safety. Have dogs dug holes that might trip someone? Are sidewalks and driveways free of clutter and tripping hazards like raised edges? Are covers for water meters or lawn sprinkler control boxes properly installed? Look for low hanging branches, wires or other hazards.

Corrective action now may prevent grief later.

Gather old or unused paints, insecticides, toxic cleaners and depleted household batteries for hazardous waste pickup or delivery to an approved disposal site.

#### Site Drainage

Is your property on a hillside that directs water runoff towards the house, or is your lot basically flat? Your goal is to have rain drain off the lot promptly without ponding within ten feet of the house. Equally important, the soil should not be allowed to dry out and separate from the edges of the foundation. Resulting gaps between the soil and the slab indicate that the soil is too dry—water that foundation! Consider ringing your foundation with "soaker hoses" placed two feet away from it. The slow, steady watering provided by soaker hoses helps stabilize soil moisture, protecting the slab. Solutions to drainage problems are as varied as the terrain, and may include rain gutters and gutter extensions, French drains, swales and berms, retaining walls, catch basins and even sump pumps. With a little planning and some work, almost any yard can provide a healthy environment for a stable foundation, a dry house, and control of mosquitoes.

#### Trees and Shrubs

To minimize wood rot and insect damage in siding and trim, allow air to freely circulate next to the house. This is easily accomplished by locating decorative plants several feet away from exterior walls and keeping them trimmed. If siding is easily visible, maintenance problems will be detected early and unwanted guests won't have a place to hide. Vines growing on any exterior surface will cause serious damage over time and should not be permitted. Do not try to remove vines by pulling them off. Instead, sever them at the ground and wait until the plants have died before removing them.

Trees should be planted far enough away from the house that their canopy will not overhang the roof when they are fully mature (as in drawing below). A tree's root system mimics its canopy. Roots growing under a foundation can destabilize it in several ways—for instance, by removing moisture from the soil that a foundation needs for its structural support.

When trees are close to the house, their limbs should never touch the building, or serious damage can result. Be aware, too, that growing root systems can lift sidewalks, patios and driveways, causing damage and creating trip hazards.

### FOR A SOLID FOUNDATION

#### Concrete Slabs

Walk around the house studying the edges of the foundation. Look for cracks in the edges or soil separation from the edge of the slab (see "Site Drainage," above) and unusual discoloration or water stains, mud or mounded dirt piles on the slab edge.

Cracks in the foundation edge may indicate foundation movement or settling. Some cracks are not unusual and may not be structurally significant, but if in doubt, have a qualified structural engineer or other expert evaluate them. Discoloration and/or water stains can indicate a plumbing leak in the house and should be evaluated by a qualified plumber. Mud or mounded dirt piles on slab edges may indicate destructive or hazardous insects invading the house. Again, call an expert—a qualified pest control operator.

#### Pier and Beam

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Walk around the perimeter of the house looking for cracks or damage to the crawl space skirting and ventilation openings. Skirting and vent screens should be kept in good condition to prevent animal access and to maintain adequate ventilation year-round. Inadequate venting or blocked vents can lead to moisture build-up under the house, fostering wood rot and wood-destroying insects.

An annual inspection of the crawl space is best left to a qualified inspector. If you must do it yourself, follow these safety tips. Always let someone know where you will be, wear sturdy coveralls and a dust mask, carry a bright light and avoid contact with any electrical wiring. The crawl space should be clean and dry. Nothing should ever be stored in the crawl space. While under the house, look for evidence of animal infestation, leaking plumbing, foundation movement and anything else unusual like damp or rotted wood in bath and kitchen areas. After completing your inspection, be sure that the access hatch cover is in good repair, fits the opening properly and is securely closed.

**ON THE ROOF**

*NOTE: Falling from a roof can be hazardous to your health! Do not get on a roof unless you are completely comfortable, have the proper equipment for access, and wear appropriate clothing—including rubber-soled shoes. If you have any doubts, ask a qualified roofing contractor or inspector to check the roof. Most roof repairs are best left to a qualified roofing contractor.*

**Overhanging Trees**

Tree limbs rubbing on a roof can do serious damage. Overhanging branches should be kept trimmed to provide adequate clearance even in a high wind, and to prevent insect infestation. Trees can grow rapidly and should be inspected at least twice a year. Oak wilt is a serious problem in many areas of Texas and can best be prevented by trimming oaks during the coldest or hottest times of year. Sterilize pruning tools with bleach, and promptly cover cuts with wound paint. Major trimming is best left to a certified arborist.

**Chimneys and Metal Flashing**

Inspect the chimney crown for cracking (masonry) or rusting (metal). Cracking or rusting should be repaired to prevent water penetration and deterioration. The rain cover and spark arrestor screening should be in good condition. If none is present, after-market cap/screen units are available. After measuring the top flue tile for size, purchase and install one. If the chimney is wood, be sure that wood and trim are sound; if masonry, that bricks or stone are not loose or cracked, permitting water penetration.

Most roof leaks occur around flashings. Metal flashings at the chimney, in roof valleys, at sidewalls and vents should be in good condition, not rusted or bent. They should lay flat on the roofing surface, laced in the roof covering "shingle style." Do not nail down raised flashings. The nail puts a hole in the roof, allowing water penetration.

**Rain Gutters and Downspouts**

If you don't have rain gutters, consider adding them. Properly installed gutters can help solve drainage problems and promote foundation health.

Clean rain gutters and downspouts as needed to keep them flowing freely. In an area of heavy trees, cleaning may be required several times a year. Consider the addition of gutter guards to reduce maintenance. Inspect gutters for proper drainage (standing water can breed mosquitoes), leaks at seams or end caps, loose or missing gutter spikes and loose or missing downspouts. Look behind gutters for rotted fascia, and repair as needed. Splash blocks or downspout extensions should direct water into the yard well away from the foundation.

**Roof Surfaces**

On composition shingle roofs look for signs of damage or wear. Sweep off leaves and debris. Worn surfaces, missing granular coating, cracked, pitted, brittle or swollen shingles are signs that shingles maybe nearing the end of their useful life. Raised shingle tabs may indicate improperly seated fasteners that can be carefully reseated; take care not to tear the shingle or poke a hole in it. Split, torn or missing shingles may cause leaks and should be replaced immediately. While on the roof, also check the condition of sidewalls not visible from the ground.

Metal roofs are best observed from a ladder at the eaves. Walking on a metal roof can bend panels, creating leaks. Look for loose fasteners, rusted panels, open seams, bent flashing and deteriorated caulking. Leaves and debris should be removed from roof surfaces.



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Flat or built-up roofs may be surfaced with several different types of roofing materials. Generally, check for areas of water ponding, areas of missing aggregate coverings or gravel, tears or blisters in the surface and deep alligator cracking. Also check the condition of flashings at edges and vents. Flat roofs are prone to leak and require regular maintenance; therefore a qualified roofing contractor should further investigate any such problems. Leaves and debris left on the roof will hold water and speed deterioration.

Concrete and clay tile roofs are easily damaged, and a thorough inspection is best left to a qualified roofing contractor. Walking on a tile roof is not recommended. From the eaves you can check the general roof condition. Look for rotted fascia, loose or cracked tiles, deteriorated caulking and sealant.

### IN THE ATTIC

*NOTE: Attic inspections are best conducted during cool weather or early in the morning. If you expect to spend more than a few minutes in the attic, a dust mask is recommended. Exercise extreme care to step only on solid decking or framing members. Falling through the ceiling could ruin your day!*

#### Ventilation

Good ventilation removes moisture and heat from the attic, contributing to a healthy house. Check that your attic is adequately ventilated and that all vent screens are in good condition. To check soffit vents, stand in the center of a dark attic and look for light at the edges of the house. No visible light may indicate soffit vents are blocked by insulation. Torn or missing screens allow birds and other critters into the attic; they should be repaired or replaced. Consider calling an exterminator if you find rodent droppings, nesting materials or other evidence of critters. Be sure that attic vent pipes from bathrooms, the kitchen range hood and the clothes dryer are intact and direct moisture and fumes through the roof to the outside. In some older homes, bathroom vents and the kitchen range hood were terminated in the attic. This is unsafe and no longer considered acceptable. Consider extending these vents through the roof. A good time to do this is when the roof surface is replaced.

#### Insulation

Adequate attic insulation helps keep your home comfortable and lowers heating and cooling costs. Look at the insulation in your attic spaces and consider adding insulation if yours is skimpy, compacted or unevenly distributed. Consult an insulation specialist to determine what is recommended in your area.

#### Structure and Framing

Check roof framing for loose members and separation or gaps where rafters connect to ridge boards. Also be sure metal truss plates are not twisted or loose. Excessive evidence of movement could suggest foundation problems and should be inspected by a qualified structural engineer. The underside of roof decking should be dry and free of water stains and mildew caused by leaks. Valleys deserve special attention.

#### HVAC Ductwork

Significant amounts of conditioned air can be lost to the attic through leaky ducts. Inspect ductwork for leaks at connections and joints, proper support, tight bends and general condition. During the 1980s a flexible duct with a gray plastic covering was used extensively. This gray plastic covering deteriorates in attics. Damaged ductwork should be replaced.

### AROUND THE OUTSIDE

#### Foliage

Remove or thin dense foliage close to the house to allow for inspection of exterior surfaces and good air circulation. Vines should not be allowed to grow on or cover walls. The foliage holds moisture, promotes rot and damages all siding types.

#### Decks and Balconies

Inspect deck and balcony steps and surfaces for loose fasteners, "nail pops" (nails backing out), rotted wood and proper operation of gates and latches. Replace rotted boards and framing members. Loose fasteners should be removed and replaced with ring shank nails or decking screws for better holding power. Aluminum or stainless steel fasteners cost more but will not rust. Rebuild any loose, missing or rotted railings, benches or

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steps. Current safety standards require railing or baluster spacing to be four inches or less to prevent the passage of small children.

Dirt, mold and mildew can be removed from deck surfaces by power washing. Power washing equipment can be found at most rental centers. After the surface is clean, finish with a deck sealant or wood stain for a longer lasting, better looking deck.

**Exterior Walls**

Eight inches clearance from grade to bottom of sill plate is recommended to minimize moisture damage and insect infestation. If soil is graded to improve siding clearance, take care that water does not pond at the foundation edge (see "Site Drainage").

Exterior surfaces should be checked for fading, chalking, blistered or flaking paint; rusted fasteners and "nail pops"; loose or rotted wood, panels and trim; gaps between panels, and water damage. Masonite, hardboard and other composite panels are prone to "nail pops" and water damage at edges and bottoms, and should be kept well painted and dry. Remember to thoroughly paint the bottom edge of these panels, for greatest protection. Loose fasteners can be replaced with large-headed screws (with washers if necessary) for a more permanent repair. Gaps or cracks at trim or between panels should be sealed with a good quality exterior caulk. When repainting exterior surfaces, pay special attention to surface repair and preparation so your paint job will last.

Masonry walls should be inspected for soft or missing mortar, cracks or separations in mortar joints and cracked or loose bricks or stones. A competent mason can replace soft or missing mortar. Cracked masonry or mortar joints may indicate foundation distress and should be inspected by a qualified structural engineer who can recommend any needed repairs or remedial action. Weep holes are openings in the bottom of brick or stone walls and above window and door lintels designed to allow an escape route for moisture that enters the wall cavity. Weep holes are usually spaced about four feet apart and should not be obstructed.

Carefully inspect stucco surfaces for cracks and evidence of moisture penetration. Stucco is often installed without provision for moisture to escape from wall cavities. Moisture seeping through cracks can do serious damage before detection. Professional repairs are recommended. Stucco siding should terminate several inches above the soil.

**Outside Doors**

Check doors, door trim and thresholds for wood rot or water damage. Replace any deteriorated exterior caulking with a good quality latex caulk compatible with door and wall materials. Hinges should be secure, and knobs and locks functioning properly. Properly installed weather-stripping at exterior doors helps lower your energy bills, so keep it snug and in good condition.

Sliding glass doors let us view and access the outdoors but also bring their own set of problems. Worn rollers or a dirty track can make doors hard to operate. Most rollers can be adjusted, and replacement parts for many types of doors are available at home centers, glass shops and screen shops. Sliding door lock failure is a common problem; locks should be kept in good working order. Many types of supplementary locks are available for sliding doors and are a good investment in home security. Sliding door screens are often neglected. Keeping rollers working smoothly and replacing torn screens will pay dividends when you want to feel the breeze on a nice spring day.

Examine garage doors and the surrounding framing for evidence of wood rot and physical damage. Check doors for proper operation and balance. (Release the automatic operator if one is present with the door in the down position.) The door should easily open to its full height and close smoothly without crashing to the floor. A balanced door will stay in place when opened to a height of five or six feet. Rollers and hinges should not be loose and should operate smoothly. Regular servicing of rollers and tracks will help keep them working well. Since springs are under great tension and can cause serious injury or damage if mishandled, the adjustment of door springs is best left to a qualified contractor.

Reattach the automatic operator and test the safety reversing mechanism. Place a rolled up Sunday newspaper or a 2x4-inch board flat on the floor under the center brace in the garage door, and operate the door. A properly adjusted door will automatically reopen when striking the paper or board, without excessive pressure or jerking. (Note: lightweight metal doors can be damaged if the reverse mechanism does not function properly during this test). Adjustments at the operator motor can correct most malfunctions. Door operators manufactured after 1993 will also have optical sensors installed near the floor on each side of the door opening. If the beam between the sensors is broken while the door is closing, it should reverse directions and open. If the optical sensors are not properly aligned, the door will not function as intended. Do not attempt to circumvent these safety features. They are designed to minimize the risk of a large, heavy, moving object.

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**Windows and Screens**

Open and close all the windows in your house. Clean and lubricate any that stick, and straighten any bent tracks. Bedroom windows must open fully to allow for fire escape; any security bars must have safety release mechanisms that do not require a key and can be easily opened in an emergency. Be sure no glass is broken and that the window locks function properly. Lock replacement parts can be found in home centers and glass shops. Double pane windows fog when the sealed air space between the glass panes loses its seal, and moisture enters the cavity. Though these windows will still operate, they may become impossible to see through and should be replaced by a qualified glass company.

From the outside, inspect wood frames and sills for rot, and check the caulking around the frame. Any gaps or cracks should be sealed with a good quality exterior caulk. Repair or replace damaged or missing window screens.

**APPLIANCE MAINTENANCE**

**Refrigerator**

*Note: Refrigerators are not part of typical home inspections.*

Check door seals by closing the door on a dollar bill and trying to pull it out. Gaskets that seal properly will grip the bill, making it hard to remove. Periodically remove the kick plate from the front of the refrigerator, remove and clean the drip pan underneath, and vacuum dust bunnies from the cooling coils. If practical, pull the refrigerator away from the wall, clean behind it and check the icemaker valve for leaks.

**Range: Cooktop and Oven**

Illegible or broken control knobs should be replaced. Surface burners and heating elements should be inspected for proper operation on both high and low settings. Any "on" indicator lights should illuminate. Check heating accuracy by placing an oven thermometer in the oven and setting the temperature at 350 degrees. Let the oven heat for at least 25 minutes, then check the thermometer. If it reads within 25 degrees of 350, the oven is operating within normal limits. If not, most oven thermostats can be corrected (sometimes at the control knob).

New ranges are being installed with an "anti-tip device." This bracket type device at the back of the range prevents tipping if a child climbs onto the oven door to see what's in the soup pot. Most older ranges were installed without this device; consider having one installed if small children are around your house.

**Range Hood or Vent**

Most older range hoods have an exterior vent, while many newer models over electric ranges simply re-circulate the air through filters and back into the kitchen. Some cooktops are designed with a downdraft vent on the cooktop surface. All are acceptable. Many of the older exterior vents terminate in the attic, an unacceptable practice today. This arrangement blows grease into the attic creating a fire hazard. We recommend that the vent be extended to the outside.

Test the function of these vents by operating the fan and light. If the unit is very dirty, cleaning may be necessary. Be sure the power supply is shut off before using any cleaning fluids around the fan motor. Metal filters can be cleaned in the dishwasher. The charcoal filters in re-circulating range hoods have a life of only ten hours. If the light doesn't work, try replacing the bulb.

**Dishwasher**

Check the dishwasher for freely spinning washer arms, proper door spring operation and attachment to the counter. Close the soap dish and operate the unit in the normal cycle. During the rinse cycle, open the door (washing should stop) to see if the washer arms are turning and the soap dish has opened. Remove the kick plate from the bottom front of the unit to check underneath for leaks. If the dishwasher is an older model and needs several repairs, consider replacing it. Even a seemingly minor problem like rust on the baskets can cost \$200-300 to replace the offending parts.

Finally, check the drain hose to see if it has an anti-siphon loop. This loop, intended to help keep water and food in the sink or disposer from backing up into the dishwasher tub, will be looped up against the bottom of the countertop before it connects to the disposer or drain pipe under the kitchen sink.

**Food Disposer**

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Remember that the disposer is a vegetarian, especially if sewage disposal is through a septic system. Fats and grease can plug drainpipes and hinder bacteria in a septic system, and bones or other hard objects can damage or jam the grinding plate. If the unit jams, turn the power off and work out the jam using the allen wrench (supplied with a new disposer) in the slot at the bottom of the disposer. Press the red reset button on the bottom of the unit to reset the internal breaker, turn on the water and run the disposer. No response? Call a plumber. If the rubber splashguard is worn and allows garbage to splash out the top during operation, you may find a replacement splashguard or a strainer for the sink drain at most home centers. Excessive vibration and noise, or a unit that is rusted out means it's time for a new disposer.

**Laundry Connections and Dryer Vent**

Check laundry faucets and washer connections for leaks and corrosion. Corrosion at faucets indicates small leaks that can turn into big leaks. In hard water areas, periodically clean the screens in the hose at the washer connections. Consider replacing old worn hoses to prevent bursting and flooding. If a floor drain is present, pour a cup of water in it and check the exterior termination to be sure it is not clogged.

Annually check your dryer vent for excessive lint buildup and clean the vent. Cleaning the dryer's lint screen before each use prevents lint buildup and saves energy.

**Smoke, Heat and Carbon Monoxide Detectors**

Each month press the test button on your detectors to be sure they work, and at least once a year (the start of daylight savings time is a good reminder) change all batteries. Recycle the alarm batteries in entertainment remotes or kids' toys, where their possible failure isn't a life-or-death matter. If you don't have smoke detectors, install one in each bedroom and in bedroom halls. If you have gas appliances, consider installing carbon monoxide detectors near furnaces and water heaters. All of these alarms are a very minor expense weighed against their usefulness in an emergency.

**Fire Extinguishers**

You do have one, don't you? Be sure the fire extinguisher is suitable for all types of fires (it should be marked "A, B, and C" to indicate this) and is conveniently located. Make sure all family members know the location of the extinguisher, and how to operate it. Each month check that the fire extinguisher is fully charged and has not passed its expiration date.

**FIREPLACE AND CHIMNEY**

On the roof, check out the chimney crown as described in "Chimneys and Metal Flashing." When the weather begins to cool and leaves start to fall, it's time to check out the fireplace. Visually inspect the firebox, looking for loose or shifted bricks (if brick). If necessary, have a qualified chimney sweep replace them and re-point mortar cracks. Check the damper for proper operation and inspect the flue. Excessive soot or creosote buildup should be removed to prevent a chimney fire. Gas log lighter pipes should be free of excessive corrosion and should burn evenly along their entire length. Helpful hint: To help prevent ashes from clogging the gas holes in the lighter pipe, install the pipe with the holes pointed sideways or down.

**KEEPING COMFORTABLE**

*NOTE: A semi-annual service contract with a qualified HVAC contractor to inspect and service all types of heating and air conditioning equipment will keep yours operating efficiently and extend its life.*

**Return Air Filters**

The single most important thing a homeowner can do to keep the HVAC (heating, ventilation and air conditioning) system operating at peak efficiency is to keep the return air filters clean and properly secured in place. The filters should fit snugly. If they lift when the blower comes on, unfiltered air is bypassing the filter. Check filters monthly and clean or replace them when they start looking dirty.

**Thermostats and Controls**

Visually inspect the wall thermostat for any damage or missing parts, and repair as needed. Programmable thermostats have a battery that must be changed if the LCD readout indicates the battery is weak. There is also a "fan limit switch" that ensures greater energy efficiency. If the blower either runs continuously after turning off

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the heat or shuts off immediately, the fan limit switch may not be functioning properly; a qualified HVAC contractor should service the unit.

**Heating**

Inspect the combustion chamber in gas-fired furnaces to be sure a bright blue flame is visible along the entire length of burner pipes. A yellow flame or excessive rust or soot indicates improper combustion and/or a possible leak in the heat exchanger that could allow combustion gases and carbon monoxide to enter your living area. This potentially dangerous situation requires professional inspection and repair.

Electric heat requires little homeowner maintenance. Simply be observant, and if the unit does not seem to be heating adequately, call your HVAC contractor to evaluate it.

**Air Conditioning**

To kill fungus and keep your air conditioner running smoothly, pour one cup of a 50/50 solution of chlorine bleach and water into the opening at the condensate drain line where it exits the evaporator coil. Doing this in spring and fall will also prevent condensate from backing up into house and flooding the area. Check the flow of water through the condensate drain by observing flow at its termination or the flow of water in the pipe. If the drain does not flow freely, simply blowing it out may solve the problem. This drain line should terminate at least five feet from your home's foundation to prevent a wet area at the foundation edge.

Outside the house trim foliage back from condensing unit coil fins for proper air circulation and more efficient operation. Manufacturers recommend at least two feet clearance around and five feet above the unit. Listen for unusual fan or motor noise that might signal impending failure. Inspect coil fins for damage and make repairs if needed. HVAC contractors have special tools for straightening bent coil fins. Watch for fire ants that may invade the unit and cause serious problems. Use of an insecticide around the condensing unit to control fire ants is a wise preventive measure.

**Evaporative Coolers**

At the beginning of the cooling season, inspect the cooler for rust and other damage. Check the water pump and blower for proper operation, and make repairs as necessary. Evaporative pads should be rinsed clean or replaced to facilitate maximum evaporation and cooling.

**DON'T BE SHOCKED**

**Ground Fault Protection (GFCIs)**

Electric outlets called Ground Fault Circuit Interrupter receptacles save lives by cutting power to appliances that may short out and shock you. Current safety standards require ground fault protection at receptacles serving kitchen countertops, in bathrooms, within six feet of bar or laundry sinks, in the garage (if undedicated), and outdoors. Many older homes lack this protection. GFCI receptacles should be installed by a qualified electrician at all required locations. Periodically test GFCI receptacles by pressing the "test" button to interrupt power and the "reset" button to restore it. A lamp or other small device plugged into the receptacle should turn off and on accordingly. Inexpensive circuit testers with GFCI testing capability are available at most home centers and hardware stores. Defective GFCI receptacles should be replaced by a qualified electrician.

**Exterior Electrical Connections**

Electricity is supplied to houses through overhead power lines or underground cables. Visually inspect overhead lines for contact with trees or shrubs, and call your electric utility company to inform them of any such contact. Advise them also of the following: a power line less than 10 ft. above a yard or 12 ft. above a driveway; improper connection or anchoring at the service mast or building (check for signs that wires, cables and anchor bolts have pulled loose); and frayed or damaged wiring cables. For underground service, check for loose connections and damage to electrical conduit at the meter and main service panel. Remember that you cannot disconnect the power on the supplier side of the meter (from your meter to the pole), so all these conditions present a hazard and should be professionally repaired right away.

Inspect the main service panels to be sure that the inside cover is properly secured in place and there are no broken breaker handles, open breaker slots or missing knockouts in the inside cover or panel box. Blanks are available to fill open breaker slots to keep out nesting wasps and lizards, and to protect seven- year-old electricians with screwdrivers. Breakers that repeatedly trip indicate a serious problem and must be investigated by a qualified electrician. For your safety, do not remove the inside panel cover. Leave the inspection of panel interiors to professionals.

I=Inspected		NI=Not Inspected		NP=Not Present	R=Not Functioning or in Need of Repair
I	NI	NP	R	Inspection item	

Check exterior receptacles and switches for proper operation and damage. Replace broken or damaged outlets and missing or broken covers (for weather protection).

**Interior Electrical Service**

Interior service panels, or subpanels, require the same inspection recommended for main panels (above). Again, leave inspection of the panel interior to a qualified professional.

Check interior receptacles and switches for broken or missing wall covers, broken parts, and for those not working or hot to the touch. Dimmer switches or switches controlling multiple lighting fixtures may need lower wattage bulbs to prevent overheating. Carefully read and follow instructions when installing dimmer switches or rheostats on lights or ceiling fans. Before attempting any electrical repairs, be sure the power has been shut off at the appropriate breaker and that you are properly observing safety precautions. If you have any doubts or are not completely comfortable working with electrical wires or appliances, don't do it! Call a qualified electrician.

**FLOWING BUT NOT FLOODED**

**Exterior Plumbing**

Locate your homeowner's main water shut-off valve. Be sure it is not leaking and is easily accessible and operating in case of an emergency. Fire ants are a common problem. Keep the cover in place and the enclosure cleaned out.

Inspect all exterior faucets for leaks. A single dripping faucet can waste hundreds of gallons of water a year. Also inspect for broken handles and the presence of backflow (anti-siphon) protection on each faucet. Backflow protection devices for exterior faucets are readily available and are intended to prevent contamination of drinking water caused by back siphoning. Before cold weather comes, unscrew, drain and store garden hoses inside for the winter. Install insulated covers on outside faucets to protect them from freezing weather. It is also wise to visually examine the main meter for evidence of movement. This may indicate leakage that might otherwise go unnoticed until significant damage has occurred.

Lawn sprinkler systems require regular maintenance. Periodically run through the stations with the manual controls, checking each station for broken or misdirected sprinkler heads, broken pipes and surface leaks. A properly adjusted system will result in less water in the street and greener grass. All systems are required to have backflow protection to protect drinking water supplies from contamination. Requirements vary from city to city, but it is important to know where your backflow protection is located and how to shut off the water supply for repairs or freeze protection. Check these components regularly for operation and water leaks. A qualified lawn irrigation contractor can help you better understand your system and learn how to maintain it.

**Interior Plumbing**

Daily use of water faucets in the house should make it obvious when they are hard to turn off, start to drip or splatter water on countertops. Replacing faucet washers can usually repair dripping faucets. Sediment in many water systems can build up in faucet aerators, restricting water flow and spattering water. To solve this problem, unscrew the aerator from the faucet spout, disassemble it (keeping parts in proper order), rinse away sediment, reassemble and screw the aerator back on. Occasionally it may be necessary to replace the aerator to achieve proper performance.

Periodically inspect supply shut-off valves under sinks for proper operation, corrosion and leaks. A leaking or inoperable valve can create a lagoon of trouble if not caught and corrected early.

Occasionally fill sinks with water and watch them drain while the water continues to run. A properly draining sink will empty faster than it fills. At the same time, look under the sink (a good flashlight helps) for leaks in the drainpipes. Bathtubs should also drain faster than the water runs, so you're not standing in a lake while showering. Repairing these simple plumbing problems early can help avoid bigger problems later.

Another big water waster is a running toilet. Here's an easy test to see if you have a problem. Put a few drops of food coloring in your toilet tank—don't flush yet. If any color appears in the toilet bowl, you have a leak. Replacing the rubber flapper in your tank will cost only a few dollars and save hundreds of gallons of water a month. While the lid is off your toilet tank, check flush mechanisms, handles, chain flappers and ball cock valves. A poorly adjusted or worn ball cock valve (also called a fill valve) can also cause a toilet to run. Make sure your replacement ball cock valve is an anti-siphon type, where valve assembly is above the overflow tube in the toilet tank to avoid back siphoning and contamination of the drinking water supply. Check that the toilet bowl is firmly anchored to the floor, with no leaks between bowl and tank or at the water supply valve on the wall.

**I=Inspected      NI=Not Inspected      NP=Not Present      R=Not Functioning or in Need of Repair**

<b>I</b>	<b>NI</b>	<b>NP</b>	<b>R</b>	<b>Inspection item</b>
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Water heaters should be visually inspected for leaks or corrosion at supply pipe fittings at the top of the tank, and for rust or corrosion on the tank or at the drain valve at its bottom. The temperature/pressure (T&P) relief valve at the top or side of the tank should be tested monthly for proper operation; however, before testing check for proper connection of the drainpipe to the T&P valve. Have the T&P valve replaced if no water is released or if the valve does not re-seat after testing. Gas-fired water heaters should be checked for excessive rust and scale on the burner compartment and for a bright blue flame. Check the flue vent pipe for damage and continuity through the ceiling and roof, and for proper centering over the draft hood. To avoid scalding and for maximum economy, the temperature on both gas and electric water heaters should be at the lowest possible setting that still provides hot water. Many plumbers recommend 120°F as a maximum setting.

