

Property Inspection Report

3999 Chelsea Ln. Marietta, GA 30062

Inspection Date:

01/22/2015

Prepared For:

Mr. John Doe



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Report Overview

THE HOUSE IN PERSPECTIVE

This appears to be a well constructed and maintained 34 year old home (according to tax records) that has undergone renovations which updated the kitchen and added a sunroom. The workmanship appears to be of reasonably good quality. The maintenance of the components of the home appears to have been good. No major repair recommendations or safety issues were identified. Several repairs are needed, however, to bring the home to within acceptable standards. As with all homes, ongoing maintenance is also required and improvements to the systems of the home will be needed over time. The improvements that are recommended in this report are not considered unusual for a home of this age and location.

CONVENTIONS USED IN THIS REPORT

For your convenience, the following conventions have been used in this report.

Concern: *a system or component which is considered significantly deficient or is unsafe. Significant deficiencies need to be corrected and, except for some safety items, are likely to involve significant expense.*

Safety Issue: *denotes a condition that is unsafe and in need of prompt attention.*

Repair: *denotes a system or component which is missing or which needs corrective action to assure proper and reliable function.*

Improve: *denotes improvements which are recommended but not required.*

Monitor: *denotes a system or component needing further investigation and/or monitoring in order to determine if repairs are necessary.*

Please note that those observations listed under “Discretionary Improvements” are not essential repairs, but represent logical long term improvements.

IMPROVEMENT RECOMMENDATION HIGHLIGHTS / 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.

CONCERNS

- **Concern:** Given the age of the furnace, it may be near the end of its useful life. You should reserve funds to be ready to purchase a new furnace.
- **Concern:** As is not uncommon for homes of this age and location, the air conditioning system is relatively old. It will require a higher level of maintenance, and may be more prone to major component breakdown. Predicting the frequency or time frame for repairs on any mechanical device is virtually impossible. If the compressor fails, or if breakdowns become chronic, replacing the entire system may be more cost-effective than continuing to undertake repairs.
- **Concern:** The water heater is an old unit that may be approaching the end of its useful life. It would be wise to budget for a new unit. One cannot predict with certainty when replacement will become necessary.

SAFETY ISSUES

- **Improve, Safety Issue:** Recommend a handrail for the stone steps at the rear of the home.
- **Improve, Safety Issue:** Blunt screws should be used to secure the service panel to the wall. Additionally, only two screws are holding the panel in place. Recommend adding the requisite number of screws.
- **Repair, Safety Issue:** The installation of ground fault circuit interrupters (GFCI) is recommended for the kitchen and bathrooms. A GFCI offers increased protection from shock or electrocution.
- **Repair, Safety Issue:** No working smoke detectors were observed in the home. Recommend adding detectors outside all bedrooms, the kitchen, and inside the garage for maximum protection.
- **Repair, Safety Issue:** The heating system requires service and cleaning by a qualified HVAC service company due to rust in the burner chamber area, which can indicate corrosion and damage to the heat exchanger. The heat exchanger should be checked for cracks, which can allow carbon monoxide poisoning to infiltrate the supply air. The air filters should be replaced. At the time of inspection the furnace was short cycling. Repair is necessary.

- **Repair, Safety Issue:** The wood stove chimney should be inspected and cleaned prior to operation.

REPAIR ITEMS

- **Repair:** All potential vermin entry points to the crawl space should be sealed to reduce risk of pest activity or damage.
- **Repair, Monitor:** The left rear corner of the structure at the garage has settled somewhat resulting in brick separation from the framing and a crack below the right side of the window. Recommend repointing all gaps with mortar. Since additional movement could lead to need for repairs, this area should be monitored.
- **Repair:** Sealant should be used in the gap between the garage window and the brick veneer.
- **Repair:** All debris should be removed from the roof in order to prevent the accumulation of moisture and further damage to the shingles.
- **Repair:** Nail heads are exposed at some of the ridge vents. They should be sealed to reduce risk of leaks.
- **Repair:** The downspouts should discharge water at least five (5) feet from the house. Storm water should be encouraged to flow away from the building at the point of discharge. Recommend a downspout extension be installed at the front right downspout.
- **Repair:** The wood siding around the bottom of the sunroom should be painted or stained to protect the wood from further damage.
- **Repair:** Localized deterioration was observed in the fascia (the wooden board to which the gutter is typically fastened). Repair should be undertaken to prevent further damage.
- **Repair:** Some of the windows at the front of the home require caulking to prevent the possibility of moisture intrusion.
- **Repair:** Localized evidence of deterioration was visible at the front window sills. Repairs should be undertaken when painting.
- **Repair:** The interior cover plate for the main panel is on the floor and needs to be installed.
- **Repair:** All open junction boxes as noted in the attic and basement should be fitted with cover plates in order to protect the wiring and reduce the risk of potential fires that may be caused by poor connections.
- **Repair:** Loose wiring is hanging from the basement ceiling which should be installed inside conduit and junction boxes.
- **Repair:** The outlet to the right of the basement stairs on the main level, and the outlet in the hallway of the spare bedrooms are inoperative. These outlets and circuits should be investigated.
- **Repair:** The track lighting in the kitchen and the track lighting at the right side of the family room were inoperable. The lighting in these areas needs to be evaluated and repaired.
- **Repair:** The dirty furnace air filters should be replaced.
- **Repair:** Supply air flow is less than ideal at many of the home's registers. Rebalancing the ductwork, blower cleaning or repairs, filter replacement, or additional duct work may be needed to obtain good air flow.
- **Repair:** The register needs to be re-installed in the wall at the front right bedroom.
- **Repair:** Damaged and or missing insulation on refrigerant lines should be repaired. These outside lines should be insulated all the way to the compressor unit to prevent loss of temperature in the lines.
- **Repair:** There is evidence of past rodent activity in the attic. All outside openings into the attic should be covered with screen wire or otherwise sealed. If infestations persist, a pest control specialist should be consulted to eliminate future activity. Rodents can damage electrical wiring and other building components and can create unhealthy conditions within the home.
- **Repair:** There is evidence of vermin activity in the basement. A pest control specialist should be consulted for treatment and control advice.
- **Repair:** The faucet is broken in the basement bathroom. Repair or replacement is necessary.
- **Repair:** The toilet is loose as noted in the master water closet. Have the toilet properly bolted to the floor.
- **Repair:** Cracked, deteriorated and/or missing bathtub enclosure grout in the master bath should be replaced.
- **Repair:** The drain plugs for the master and spare bathtubs are damaged and should be replaced.
- **Repair:** The laundry tub should be properly secured to the floor to prevent loosening of plumbing connections.
- **Repair:** The window in the back basement bedroom has a broken spring which means that the window will not stay open without the means of artificial support. Repair may be desirable.
- **Repair:** The back bedroom door should be adjusted as necessary to latch properly.
- **Repair:** The closet door does not close properly in the front basement bedroom.
- **Repair:** The linen closet at the back spare bedroom hallway needs to be trimmed in order to close properly.
- **Repair:** The interior finishes below the sunroom skylights show evidence of water damage. The infrared camera suggests moisture is present. The skylights should be repaired as necessary.

- **Repair:** The top step of the basement stairway needs to be fastened to the floor.
- **Repair:** Loose treads on the basement stairway should be securely installed to the frame.
- **Repair:** The cooktop under cabinet exhaust fan should discharge to the building exterior rather than into the basement.
- **Repair:** The mantle for the wood burning stove is missing and should be replaced.

IMPROVEMENT ITEMS

- **Improve:** The proximity of the trees in the backyard pose a threat to the home. Recommend removal of selected trees to prevent potential damage to the home.
- **Improve:** The grading should be improved at the front and left sides of the home to promote the flow of storm water away from the house. This can often be accomplished by the addition or re-grading of top soil. The ground should slope away from the house at a rate of one inch per foot for at least the first ten feet. At least eight (8) inches of clearance should be maintained between soil level and the bottom of exterior wall siding.
- **Improve:** The installation of “arc fault” breakers for the bedrooms is now required by present day codes, which provides added protection against faulty wiring. Consult with an electrician concerning the installation of these for enhanced safety of these circuits.
- **Improve:** The covers for the pot lights above the master vanity need to be flush mounted to the ceiling.
- **Improve:** The attic insulation should be improved to R30, which is the present day standard. Any missing attic insulation such as noted throughout the attic should be added for proper protection against loss of conditioned air into the attic. The pull-down attic access door should be insulated with foam board and weather stripped to limit unconditioned air infiltration into finished areas.
- **Improve:** Insulation improvements to the floor above the crawl space may be desirable, depending on the anticipated term of ownership.
- **Improve:** There is a flexible drain pipe located under the laundry tub which is prone to clogging. Recommend replacing with rigid smooth walled pipe per proper plumbing technique.
- **Improve:** The floor underneath the center island in the kitchen is not finished. Improvement is optional.
- **Improve:** Several of the windows have lost their seals. This has resulted in condensation developing between the panes of glass. This “fogging” of the glass is primarily a cosmetic concern, but may need to be replaced because it has lost its insulating value.

ITEMS TO MONITOR

- **Monitor:** Liberties have been taken with good framing techniques as noted in the crawl space where vertical lumber has been installed to help support the floor. The supports are loose and have not been properly anchored to the joists. Recommend consulting with a framing contractor to determine the adequacy and durability of the framing installation.
- **Monitor:** Efflorescence (white salt deposits) and moisture were observed in the front block foundation wall where the furnace is located. Active leaking was not observed at the time of inspection. Recommend monitoring for any visible signs of water. In the absence of an active water leak, repair should not be necessary.
- **Monitor:** The roofing shingles lack flexibility (tear easily when gently bent) which is a sign of older material nearing the end of its life expectancy. While there is no evidence of moisture in the attic, periodic inspection of the shingles and the decking material in the attic is recommended to identify any leaks before significant water damage can occur.
- **Monitor:** A previous repair was noted at the back of the home to the right of the sliding glass door. This appears to have been patched due to possible water infiltration. This patch was likely to have been made prior to the sunroom addition. The inside of the home was dry at the time of inspection.
- **Monitor:** The soil below the driveway has settled and/or heaved in certain areas. Persisting movement may result in the need for resurfacing.
- **Monitor:** The concrete retaining wall in the back yard below the driveway shows evidence of cracking and decay. This condition should be monitored. It is impossible to determine the rate of movement during a one time visit to the house.
- **Monitor:** The block retaining wall at the backyard shows signs of movement. Recommend this be monitored for further movement at which time replacement may become necessary.
- **Monitor:** The thermostat is old and may be temperamental. Replacement is a minor job.
- **Monitor:** Recommend the air conditioning unit be evaluated by a heating and air contractor prior to closing.
- **Monitor:** The windows are old and in mild disrepair. This is a common condition that does not necessitate immediate major repair. The most important factor is that the window exteriors are well-maintained to avoid rot or water infiltration.

- **Monitor:** It may be desirable to replace window screens where missing. The owner should be consulted regarding any screens that may be in storage.
- **Monitor:** The basement shows evidence of moisture penetration at the front foundation wall. *It should be understood that it is impossible to predict the severity or frequency of moisture penetration on a one-time visit to a home.* Virtually all block basements exhibit signs of moisture penetration and virtually all basements will indeed leak at some point in time. The visible moisture inside the blocks is not unusual for a home of this age, construction and location. Further monitoring of the foundation will be required to determine what improvements, if any, will be required. Basement leakage rarely affects the structural integrity of a home.
The vast majority of basement leakage problems are the result of insufficient control of storm water at the surface. The ground around the house should be sloped to encourage water to flow away from the foundations. Gutters and downspouts should act to collect roof water and drain the water at least five (5) feet from the foundation or into a functional storm sewer. Downspouts that are clogged or broken below grade level, or that discharge too close to the foundation are the most common source of basement leakage. Please refer to the Roofing and Exterior sections of the report for more information.
In the event that basement leakage problems are experienced, lot and roof drainage improvements should be undertaken as a first step. Please beware of contractors who recommend expensive solutions. Excavation, damp-proofing and/or the installation of drainage tiles should be a last resort. In some cases, however, it is necessary. Your plans for using the basement may also influence the approach taken to curing any dampness that is experienced.
- **Monitor:** Radon gas is a naturally occurring gas that is invisible, odorless and tasteless. A danger exists when the gas percolates through the ground and enters a tightly enclosed structure (such as a home). Long term exposure to high levels of radon gas can cause cancer. *The Environmental Protection Agency (E.P.A.) states that a radon reading of more than 4.0 picocuries per liter of air represents a health hazard.* A three hour radon test resulted in a reading of 1.76. A 48 hour radon evaluation is beyond the scope of this inspection (unless specifically requested). For more information, consult the Environmental Protection Agency (E.P.A.) for further guidance and a list of testing labs in your area.

THE SCOPE OF THE INSPECTION

All components designated for inspection in the ASHI® Standards of Practice are inspected, except as may be noted in the "Limitations of Inspection" sections within this report.

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.

Structure

DESCRIPTION OF STRUCTURE

Foundation:	•Concrete Block •Basement and Crawl Space Configuration
Columns:	•Steel •Concrete Block
Floor Structure:	•Wood Joist
Wall Structure:	•Wood Frame •Wood Frame, Brick Veneer
Ceiling Structure:	•Joist
Roof Structure:	•Rafters •Plywood Sheathing

STRUCTURE OBSERVATIONS

The framed construction of the home is of good quality. The materials and workmanship, where visible, are within acceptable standards. The inspection did not discover evidence of substantial structural movement in the floors or walls, however previous settlement was noted at the exterior rear left corner of the home (see comments below).

RECOMMENDATIONS / OBSERVATIONS

Crawl Space

- **Repair:** All potential vermin entry points to the crawl space should be sealed to reduce risk of pest activity or damage.



Floors

- **Monitor:** Liberties have been taken with good framing techniques as noted in the crawl space where vertical lumber has been installed to help support the floor. The supports are loose and have not been properly anchored to the joists. Recommend consulting with a framing contractor to determine the adequacy and durability of the framing installation (See Photos).



Exterior Walls

- **Repair, Monitor:** The left rear corner of the structure at the garage has settled somewhat resulting in brick separation from the framing and a crack below the right side of the window. Recommend repointing all gaps with mortar. Since additional movement could lead to need for repairs, this area should be monitored (See Photos).
- **Repair:** Sealant should be used in the gap between the garage window and the brick veneer (See Photo).



- **Monitor:** Efflorescence (white salt deposits) and moisture were observed in the front block foundation wall where the furnace is located. Active leaking was not observed at the time of inspection. Recommend monitoring for any visible signs of water. In the absence of an active water leak, repair should not be necessary (See Photos).



LIMITATIONS OF STRUCTURE INSPECTION

As we have discussed and as described in your inspection contract, this is a visual inspection limited in scope by (but not restricted to) the following conditions:

- Structural components concealed behind finished surfaces could not be inspected.
- Only a representative sampling of visible structural components were inspected.
- Furniture and/or storage restricted access to some structural components.

- Engineering or architectural services such as calculation of structural capacities, adequacy, or integrity are not part of a home inspection.

Please also refer to the pre-inspection contract for a detailed explanation of the scope of this inspection.

Roofing

DESCRIPTION OF ROOFING

Roof Covering:	•Asphalt Shingle
Roof Flashings:	•Metal
Chimneys:	•Masonry
Roof Drainage System:	•Aluminum •Downspouts discharge above & below grade
Skylights:	•Curb-Type
Method of Inspection:	•Walked on roof

ROOFING OBSERVATIONS

The roofing is somewhat older material (reported age is ten to fifteen years) and is in fair condition. The typical life for this material is 20-25 years. In all, the shingles show evidence of normal wear and tear for a roof of this age. Keep in mind that these life expectancies are approximations only and other factors such as extreme weather conditions can result in a shorter life.



RECOMMENDATIONS / OBSERVATIONS

Sloped Roofing

- **Monitor:** The roofing shingles lack flexibility (tear easily when gently bent) which is a sign of older material nearing the end of its life expectancy. While there is no evidence of moisture in the attic, periodic inspection of the shingles and the decking material in the attic is recommended to identify any leaks before significant water damage can occur.
- **Repair:** All debris should be removed from the roof in order to prevent the accumulation of moisture and further damage to the shingles (See Photos).



- **Repair:** Nail heads are exposed at some of the ridge vents. They should be sealed to reduce risk of leaks (See Photos).



Gutters & Downspouts

- **Repair:** The downspouts should discharge water at least five (5) feet from the house. Storm water should be encouraged to flow away from the building at the point of discharge. Recommend a downspout extension be installed at the front right downspout (See Photo).



LIMITATIONS OF ROOFING INSPECTION

As we have discussed and as described in your inspection contract, this is a visual inspection limited in scope by (but not restricted to) the following conditions:

- Not all of the underside of the roof sheathing is inspected for evidence of leaks.
- Evidence of prior leaks may be disguised by interior finishes.
- Estimates of remaining roof life are approximations only and do not preclude the possibility of leakage. Leakage can develop at any time and may depend on rain intensity, wind direction, ice build up, and other factors.
- Antennae, chimney/flue interiors which are not readily accessible are not inspected and could require repair.
- Roof inspection may be limited by access, condition, weather, or other safety concerns.

Please also refer to the pre-inspection contract for a detailed explanation of the scope of this inspection.

Exterior

DESCRIPTION OF EXTERIOR

Wall Covering:	•Brick •Wood Siding •Stone
Eaves, Soffits, And Fascias:	•Wood
Exterior Doors:	•Solid Wood •Sliding Glass
Window/Door Frames and Trim:	•Wood •Metal-Covered
Entry Driveways:	•Concrete
Entry Walkways And Patios:	•Concrete
Overhead Garage Door(s):	•Wood •Automatic Opener Installed
Surface Drainage:	•Graded Away From House •Graded Towards House at Front and Left Sides
Retaining Walls:	•Concrete •Block
Fencing:	•None

EXTERIOR OBSERVATIONS

The house has all brick constructed exterior walls which is a low maintenance material. The exterior of the home is in generally good condition.



RECOMMENDATIONS / OBSERVATIONS

Exterior Walls

- **Repair:** The wood siding around the bottom of the sunroom should be painted or stained to protect the wood from further damage (See Photos).
- **Monitor:** A previous repair was noted at the back of the home to the right of the sliding glass door. This appears to have been patched due to possible water infiltration. This patch was likely to have been made prior to the sunroom addition. The inside of the home was dry at the time of inspection (See Photo).



Exterior Eaves / Landscaping

- **Repair:** Localized deterioration was observed in the fascia (the wooden board to which the gutter is typically fastened). Repair should be undertaken to prevent further damage (See Photos).



- **Improve:** The proximity of the trees in the backyard pose a threat to the home. Recommend removal of selected trees to prevent potential damage to the home (See Photos).



Windows

- **Repair:** Some of the windows at the front of the home require caulking to prevent the possibility of moisture intrusion (See Photos).



- **Repair:** Localized evidence of deterioration was visible at the front window sills. Repairs should be undertaken when painting (See Photos).



Lot Drainage

- **Improve:** The grading should be improved at the front and left sides of the home to promote the flow of storm water away from the house. This can often be accomplished by the addition or re-grading of top soil. The ground should slope away from the house at a rate of one inch per foot for at least the first ten feet. At least eight (8) inches of clearance should be maintained between soil level and the bottom of exterior wall siding (See Photos).



Grade Sloped Towards The Home

Steps / Driveways

- **Improve, Safety Issue:** Recommend a handrail for the stone steps at the rear of the home (See Photo).



- **Monitor:** The soil below the driveway has settled and/or heaved in certain areas. Persisting movement may result in the need for resurfacing (See Photos).



Retaining Walls

- **Monitor:** The concrete retaining wall in the back yard below the driveway shows evidence of cracking and decay. This condition should be monitored. It is impossible to determine the rate of movement during a one time visit to the house (See Photo).
- **Monitor:** The block retaining wall at the backyard shows signs of movement. Recommend this be monitored for further movement at which time replacement may become necessary (See Photo).



LIMITATIONS OF EXTERIOR INSPECTION

As we have discussed and as described in your inspection contract, this is a visual inspection limited in scope by (but not restricted to) the following conditions:

- A representative sample of exterior components was inspected rather than every occurrence of components.
- The inspection does not include an assessment of geological, geotechnical, or hydrological conditions, or environmental hazards.

- Screening, shutters, awnings, or similar seasonal accessories, fences, recreational facilities, outbuildings, seawalls, break-walls, docks, erosion control and earth stabilization measures are not inspected unless specifically agreed-upon and documented in this report.

Please also refer to the pre-inspection contract for a detailed explanation of the scope of this inspection.

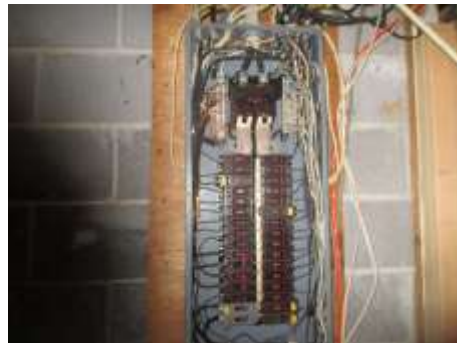
Electrical

DESCRIPTION OF ELECTRICAL

Size of Electrical Service:	•120/240 Volt Main Service - Service Size: 200 Amps
Service Drop:	•Underground
Service Entrance Conductors:	•Aluminum
Service Equipment & Main Disconnects:	•Main Service Rating 200 Amps •Breakers •Located: Basement Wall
Service Grounding:	•Ground Connection Not Visible
Sub-Panel(s):	•Panel Rating: 100 Amp •Breakers •Located: Below Main Panel
Distribution Wiring:	•Copper
Wiring Method:	•Non-Metallic Cable "Romex"
Switches & Receptacles:	•Grounded
Ground Fault Circuit Interrupters:	•None Found
Smoke Detectors:	•None Found

ELECTRICAL OBSERVATIONS

The size of the service (200 amps) appears to be sufficient for typical electrical requirements of a home this size. Inspection of the electrical system did reveal the need for typical, minor repairs. A licensed electrician should be consulted to undertake the repairs recommended below and to evaluate the entire system for further repairs that may be needed.



RECOMMENDATIONS / OBSERVATIONS

Main Panel

- **Improve, Safety Issue:** Blunt screws should be used to secure the service panel to the wall. Additionally, only two screws are holding the panel in place. Recommend adding the requisite number of screws.
- **Repair:** The interior cover plate for the main panel is on the floor and needs to be installed (See Photo).



Distribution Wiring

- **Repair:** All open junction boxes as noted in the attic and basement should be fitted with cover plates in order to protect the wiring and reduce the risk of potential fires that may be caused by poor connections (See Photos).



- **Repair:** Loose wiring is hanging from the basement ceiling which should be installed inside conduit and junction boxes (See Photos).



Outlets

- **Repair:** The outlet to the right of the basement stairs on the main level, and the outlet in the hallway of the spare bedrooms are inoperative. These outlets and circuits should be investigated.
- **Repair, Safety Issue:** The installation of ground fault circuit interrupters (GFCI) is recommended for the kitchen and bathrooms. A GFCI offers increased protection from shock or electrocution.
- **Improve:** The installation of “arc fault” breakers for the bedrooms is now required by present day codes, which provides added protection against faulty wiring. Consult with an electrician concerning the installation of these for enhanced safety of these circuits.

Lights

- **Repair:** The track lighting in the kitchen and the track lighting at the right side of the family room were inoperable. The lighting in these areas needs to be evaluated and repaired.
- **Improve:** The covers for the pot lights above the master vanity need to be flush mounted to the ceiling (See Photo).



Smoke Detectors

- **Repair, Safety Issue:** No working smoke detectors were observed in the home. Recommend adding detectors outside all bedrooms, the kitchen, and inside the garage for maximum protection.

LIMITATIONS OF ELECTRICAL INSPECTION

As we have discussed and as described in your inspection contract, this is a visual inspection limited in scope by (but not restricted to) the following conditions:

- Electrical components concealed behind finished surfaces are not inspected.
- Only a representative sampling of outlets and light fixtures were tested.
- Furniture and/or storage restricted access to some electrical components which may not be inspected.
- The inspection does not include remote control devices, alarm systems and components, low voltage wiring, systems, and components, ancillary wiring, systems, and other components which are not part of the primary electrical power distribution system.

Please also refer to the pre-inspection contract for a detailed explanation of the scope of this inspection.

Heating

DESCRIPTION OF HEATING

Energy Source:	•Gas
Heating System Type:	•Forced Air Furnace •Manufacturer/Age: Fridgeking / 1981
Vents, Flues, Chimneys:	•Metal-Single Wall
Heat Distribution Methods:	•Ductwork

HEATING OBSERVATIONS

The furnace appears to be approximately 34 years old based on the serial number. The typical life for such a unit is 20-25 years based upon proper maintenance scheduling. The furnace did not respond to normal operating controls at the time of inspection.



RECOMMENDATIONS / OBSERVATIONS

Furnace

- **Repair, Safety Issue:** The heating system requires service and cleaning by a qualified HVAC service company due to rust in the burner chamber area, which can indicate corrosion and damage to the heat exchanger. The heat exchanger should be checked for cracks, which can allow carbon monoxide poisoning to infiltrate the supply air. The air filters should be replaced. At the time of inspection the furnace was short cycling. Repair is necessary.
- **Concern:** Given the age of the furnace, it may be near the end of its useful life. You should reserve funds to be ready to purchase a new furnace.
- **Repair:** The dirty furnace air filters should be replaced (See Photos).



Supply Air Ductwork

- **Repair:** Supply air flow is less than ideal at many of the home's registers. Rebalancing the ductwork, blower cleaning or repairs, filter replacement, or additional duct work may be needed to obtain good air flow.
- **Repair:** The register needs to be re-installed in the wall at the front right bedroom.

Thermostat

- **Monitor:** The thermostat is old and may be temperamental. Replacement is a minor job (See Photo).



LIMITATIONS OF HEATING INSPECTION

As we have discussed and as described in your inspection contract, this is a visual inspection limited in scope by (but not restricted to) the following conditions:

- The adequacy of heat supply or distribution balance is not inspected.
- The interior of flues or chimneys which are not readily accessible are not inspected.
- The furnace heat exchanger, humidifier, or dehumidifier, and electronic air filters are not inspected.
- Solar space heating equipment/systems are not inspected.

Please also refer to the pre-inspection contract for a detailed explanation of the scope of this inspection.

Cooling / Heat Pumps

DESCRIPTION OF COOLING / HEAT PUMPS

Energy Source:	•Electricity
Central System Type:	•Air Cooled Central Air Conditioning Capacity in Tons: 3.5 (1 Ton serves approx 500-600 sf); Manufacturer/Age: Amana / 1995
Through-Wall Equipment:	•Present At Right Rear of Home
Other Components:	•Condensate Pump •House Fan

COOLING / HEAT PUMPS OBSERVATIONS

The outdoor unit appears to be approximately 20 years old based on the serial number. The typical life for such components is 12-15 years based on proper maintenance scheduling. Operation of the cooling systems when overnight temperatures have been below 60 degrees may cause damage to the equipment. Cooling systems are not tested under these conditions. The AC was not operated or tested.



RECOMMENDATIONS / OBSERVATIONS

Central Air Conditioning

- **Concern:** As is not uncommon for homes of this age and location, the air conditioning system is relatively old. It will require a higher level of maintenance, and may be more prone to major component breakdown. Predicting the frequency or time frame for repairs on any mechanical device is virtually impossible. If the compressor fails, or if breakdowns become chronic, replacing the entire system may be more cost-effective than continuing to undertake repairs.
- **Repair:** Damaged and or missing insulation on refrigerant lines should be repaired. These outside lines should be insulated all the way to the compressor unit to prevent loss of temperature in the lines (See Photo).



- **Monitor:** Recommend the air conditioning unit be evaluated by a heating and air contractor prior to closing.

LIMITATIONS OF COOLING / HEAT PUMPS INSPECTION

As we have discussed and as described in your inspection contract, this is a visual inspection limited in scope by (but not restricted to) the following conditions:

- Window mounted air conditioning units are not inspected.
- The cooling supply adequacy or distribution balance are not inspected.

Please also refer to the pre-inspection contract for a detailed explanation of the scope of this inspection.

Insulation / Ventilation

DESCRIPTION OF INSULATION / VENTILATION

Attic Insulation:	•R20 Fiberglass in Main Attic
Exterior Wall Insulation:	•Not Visible
Basement Wall Insulation:	•Not Visible
Crawl Space Insulation:	•Not Visible
Vapor Retarders:	•Plastic
Roof Ventilation:	•Ridge Vents •Gable Vents •Soffit Vents
Crawl Space Ventilation:	•Exterior Wall Vents
Exhaust Fan/vent Locations:	•Bathroom •Kitchen •Dryer

INSULATION / VENTILATION OBSERVATIONS

Insulation levels are typical for a home of this age and construction. Any further insulation improvements will help to reduce utility costs.



RECOMMENDATIONS / ENERGY SAVING SUGGESTIONS

Attic / Roof

- **Improve:** The attic insulation should be improved to R30, which is the present day standard. Any missing attic insulation such as noted throughout the attic should be added for proper protection against loss of conditioned air into the attic. The pull-down attic access door should be insulated with foam board and weather stripped to limit unconditioned air infiltration into finished areas (See Photo).



- **Repair:** There is evidence of past rodent activity in the attic. All outside openings into the attic should be covered with screen wire or otherwise sealed. If infestations persist, a pest control specialist should be consulted to eliminate future activity. Rodents can damage electrical wiring and other building components and can create unhealthy conditions within the home.

Basement / Crawl Space

- **Improve:** Insulation improvements to the floor above the crawl space may be desirable, depending on the anticipated term of ownership.
- **Repair:** There is evidence of vermin activity in the basement. A pest control specialist should be consulted for treatment and control advice.

LIMITATIONS OF INSULATION / VENTILATION INSPECTION

As we have discussed and as described in your inspection contract, this is a visual inspection limited in scope by (but not restricted to) the following conditions:

- Insulation/ventilation type and levels in concealed areas are not inspected. Insulation and vapor barriers are not disturbed and no destructive tests (such as cutting openings in walls to look for insulation) are performed.
- Potentially hazardous materials such as Asbestos and Urea Formaldehyde Foam Insulation (UFFI) cannot be positively identified without a detailed inspection and laboratory analysis. This is beyond the scope of the inspection.
- An analysis of indoor air quality is not part of our inspection unless explicitly contracted-for and discussed in this or a separate report.
- Any estimates of insulation R values or depths are rough average values.

Please also refer to the pre-inspection contract for a detailed explanation of the scope of this inspection.

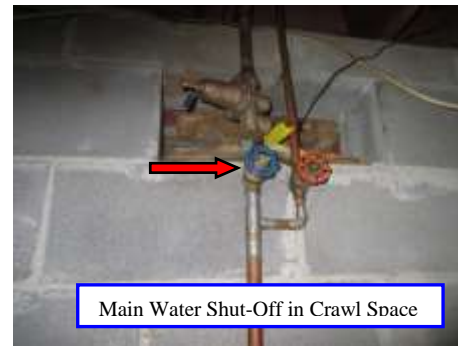
Plumbing

DESCRIPTION OF PLUMBING

Water Supply Source:	•Public Water Supply
Service Pipe to House:	•Copper
Main Water Valve Location:	•Crawl Space
Interior Supply Piping:	•Copper •Plastic
Waste System:	•Private Sewage System
Drain, Waste, & Vent Piping:	•Plastic
Water Heater:	•Gas •Approximate Capacity (in gallons): 65 •Age: 2001 (typical life is 10-12 years) •Manufacturer: Kenmore
Fuel Shut-Off Valves:	•Natural Gas Main Valve Could Not Be Located
Other Components:	•Pressure Regulator on Main Line

PLUMBING OBSERVATIONS

The water pressure could not be checked due to a stripped fitting at the water heater. Overall, the plumbing system is in generally good condition with only minor repairs or improvements recommended.



RECOMMENDATIONS / OBSERVATIONS

Water Heater

- **Concern:** The water heater is an old unit that may be approaching the end of its useful life. It would be wise to budget for a new unit. One cannot predict with certainty when replacement will become necessary.

Waste / Vent

- **Improve:** There is a flexible drain pipe located under the laundry tub which is prone to clogging. Recommend replacing with rigid smooth walled pipe per proper plumbing technique (See Photo).



Fixtures

- **Repair:** The faucet is broken in the basement bathroom. Repair or replacement is necessary (See Photo).
- **Repair:** The toilet is loose as noted in the master water closet. Have the toilet properly bolted to the floor.
- **Repair:** Cracked, deteriorated and/or missing bathtub enclosure grout in the master bath should be replaced (See Photo).
- **Repair:** The drain plugs for the master and spare bathtubs are damaged and should be replaced.
- **Repair:** The laundry tub should be properly secured to the floor to prevent loosening of plumbing connections.



LIMITATIONS OF PLUMBING INSPECTION

As we have discussed and as described in your inspection contract, this is a visual inspection limited in scope by (but not restricted to) the following conditions:

- Portions of the plumbing system concealed by finishes and/or storage (below sinks, etc.), below the structure, or beneath the ground surface are not inspected.
- Water quantity and water quality are not tested unless explicitly contracted-for and discussed in this or a separate report.
- Clothes washing machine connections are not inspected.
- Interiors of flues or chimneys which are not readily accessible are not inspected.
- Water conditioning systems, solar water heaters, fire and lawn sprinkler systems, and private waste disposal systems are not inspected unless explicitly contracted-for and discussed in this or a separate report.

Please also refer to the pre-inspection contract for a detailed explanation of the scope of this inspection.

Interior

DESCRIPTION OF INTERIOR

Wall And Ceiling Materials:	•Drywall •Paneling
Floor Surfaces:	•Carpet •Tile •Vinyl/Resilient •Wood •Concrete
Window Type(s) & Glazing:	•Casement •Double/Single Hung •Fixed Pane •Double Glazed
Doors:	•Wood-Hollow Core

INTERIOR OBSERVATIONS

General Condition of Interior Finishes

On the whole, the interior finishes of the home are considered to be in above average condition. Typical flaws were observed in some areas.

General Condition of Windows and Doors

The majority of the doors and windows are modest quality. While there is no rush to substantially improve these doors and windows, replacement units would be a logical long term improvement.

General Condition of Floors

The flooring system shows evidence of typical minor sags and unevenness.

RECOMMENDATIONS / OBSERVATIONS

Floors

- **Improve:** The floor underneath the center island in the kitchen is not finished. Improvement is optional (See Photo).



Windows

- **Monitor:** The windows are old and in mild disrepair. This is a common condition that does not necessitate immediate major repair. The most important factor is that the window exteriors are well-maintained to avoid rot or water infiltration.
- **Repair:** The window in the back basement bedroom has a broken spring which means that the window will not stay open without the means of artificial support. Repair may be desirable.
- **Improve:** Several of the windows have lost their seals. This has resulted in condensation developing between the panes of glass. This “fogging” of the glass is primarily a cosmetic concern, but may need to be replaced because it has lost its insulating value (See Photos).



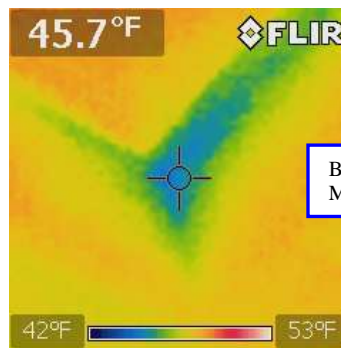
- **Monitor:** It may be desirable to replace window screens where missing. The owner should be consulted regarding any screens that may be in storage.

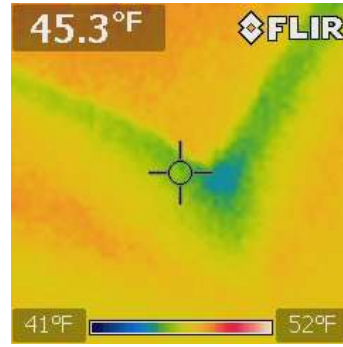
Doors

- **Repair:** The back bedroom door should be adjusted as necessary to latch properly.
- **Repair:** The closet door does not close properly in the front basement bedroom.
- **Repair:** The linen closet at the back spare bedroom hallway needs to be trimmed in order to close properly.

Skylights

- **Repair:** The interior finishes below the sunroom skylights show evidence of water damage. The infrared camera suggests moisture is present. The skylights should be repaired as necessary (See Photos).





Stairways

- **Repair:** The top step of the basement stairway needs to be fastened to the floor (See Photo).
- **Repair:** Loose treads on the basement stairway should be securely installed to the frame (See Photo).



Basement Leakage

- **Monitor:** The basement shows evidence of moisture penetration at the front foundation wall. *It should be understood that it is impossible to predict the severity or frequency of moisture penetration on a one-time visit to a home.* Virtually all block basements exhibit signs of moisture penetration and virtually all basements will indeed leak at some point in time. The visible moisture inside the blocks is not unusual for a home of this age, construction and location. Further monitoring of the foundation will be required to determine what improvements, if any, will be required. Basement leakage rarely affects the structural integrity of a home.

The vast majority of basement leakage problems are the result of insufficient control of storm water at the surface. The ground around the house should be sloped to encourage water to flow away from the foundations. Gutters and downspouts should act to collect roof water and drain the water at least five (5) feet from the foundation or into a functional storm sewer. Downspouts that are clogged or broken below grade level, or that discharge too close to the foundation are the most common source of basement leakage. Please refer to the Roofing and Exterior sections of the report for more information.

In the event that basement leakage problems are experienced, lot and roof drainage improvements should be undertaken as a first step. Please beware of contractors who recommend expensive solutions. Excavation, damp-proofing and/or the installation of drainage tiles should be a last resort. In some cases, however, it is necessary. Your plans for using the basement may also influence the approach taken to curing any dampness that is experienced.

Environmental Issues

- **Monitor:** Radon gas is a naturally occurring gas that is invisible, odorless and tasteless. A danger exists when the gas percolates through the ground and enters a tightly enclosed structure (such as a home). Long term exposure to high levels of radon gas can cause cancer. *The Environmental Protection Agency (E.P.A.) states that a radon reading of more than 4.0 picocuries per liter of air represents a health hazard.* A three hour radon test resulted in a reading of 1.76. A 48 hour radon evaluation is beyond the scope of this inspection (unless specifically requested). For more information, consult the Environmental Protection Agency (E.P.A.) for further guidance and a list of testing labs in your area.

LIMITATIONS OF INTERIOR INSPECTION

As we have discussed and as described in your inspection contract, this is a visual inspection limited in scope by (but not restricted to) the following conditions

- Furniture, storage, appliances and/or wall hangings are not moved to permit inspection and may block defects.
- Carpeting, window treatments, central vacuum systems, household appliances, recreational facilities, paint, wallpaper, and other finish treatments are not inspected.

Please also refer to the pre-inspection contract for a detailed explanation of the scope of this inspection.

Appliances

DESCRIPTION OF APPLIANCES

Appliances Tested:

Laundry Facility:

Other Components Tested:

- Built-in Electric Oven •Electric Cooktop •Dishwasher •Waste Disposer
- Dryer Vented to Building Exterior •Hot and Cold Water Supply for Washer
- Waste Standpipe for Washer
- Cooktop Exhaust Vent/Fan •Door Bell

APPLIANCES OBSERVATIONS

All appliances that were tested responded satisfactorily.



RECOMMENDATIONS / OBSERVATIONS

Cooktop Exhaust

- **Repair:** The cooktop under cabinet exhaust fan should discharge to the building exterior rather than into the basement (See Photo).



LIMITATIONS OF APPLIANCES INSPECTION

As we have discussed and as described in your inspection contract, this is a visual inspection limited in scope by (but not restricted to) the following conditions

- Thermostats, timers and other specialized features and controls are not tested.
- The temperature calibration, functionality of timers, effectiveness, efficiency and overall performance of appliances is outside the scope of this inspection.

Please also refer to the pre-inspection contract for a detailed explanation of the scope of this inspection.

Fireplaces / Wood Stoves

DESCRIPTION OF FIREPLACES / WOOD STOVES

Wood/Coal Stoves:

•Wood Stove

Vents, Flues, Chimneys:

•Not Visible

FIREPLACES / WOOD STOVES OBSERVATIONS



RECOMMENDATIONS / OBSERVATIONS

Wood Stove

- **Repair, Safety Issue:** The wood stove chimney should be inspected and cleaned prior to operation.
- **Repair:** The mantle for the wood burning stove is missing and should be replaced.

LIMITATIONS OF FIREPLACES / WOOD STOVES INSPECTION

As we have discussed and as described in your inspection contract, this is a visual inspection limited in scope by (but not restricted to) the following conditions

- The interiors of flues or chimneys are not inspected.
- Firescreens, fireplace doors, appliance gaskets and seals, automatic fuel feed devices, mantles and fireplace surrounds, combustion make-up air devices, and heat distribution assists (gravity or fan-assisted) are not inspected.
- The inspection does not involve igniting or extinguishing fires nor the determination of draft.
- Fireplace inserts, stoves, or firebox contents are not moved.

Please also refer to the pre-inspection contract for a detailed explanation of the scope of this inspection.

Appendix A-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 should 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 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.
- Install carbon monoxide detectors near all furnaces, water heaters, gas ovens, and any other gas appliances to warn occupants of possible carbon monoxide emissions.
- 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 risk of falling or stumbling.
- Label all furnace shut-off switches (switch closest to the furnace) to prevent someone from shutting off the furnace by accident. Label all plumbing shut-off valves for proper identification (consult with seller for exact locations).
- Install rain caps and vermin screens on all chimney flues, as necessary.
- Check all dryer flue vents for lint build-up in the line, which can cause damage and possible fires at the dryer element. Flexible piping should be replaced with rigid smooth wall piping, which is less prone to blockages.
- 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. If you are leaving the home for extended periods of time (i.e. during vacations), it is recommended that the water to the house be shut off to prevent damage to interior finishes from possible plumbing leaks.

REGULAR MAINTENANCE

EVERY MONTH

- Check that fire extinguishers 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 present.
- Clean gutters and downspouts. Ensure that downspouts are secure, and that the discharge of the downspouts is appropriate (i.e. ten feet away from the foundation). Remove debris from window wells if present.
- Carefully inspect the condition of shower enclosures. Repair or replace deteriorated grout and caulk. Ensure that water is not escaping the enclosure during showering.
- Clean and sanitize all whirlpool jet tub supply piping to reduce the chance of bacteria growth in the lines, which can cause infections. This can be achieved by running bleach through the system (refer to manufacturer recommendations).
- 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

- Have the heating and/or cooling and water heater systems cleaned and serviced. Have all furnace heat exchangers checked for cracks and damage. Consider having the ductwork cleaned and sanitized for better air quality.
- 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 in vents and flues and other signs of vermin or insect activity within the attic, crawlspace, or basement. Survey the basement and/or crawlspace walls for evidence of moisture seepage.
- Look for overhead wires coming to the house. They should be secure and clear of trees or other obstructions.
- Ensure that the grade of 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 and window frames. Paint and repair window sills and frames as necessary.
- Test all ground fault circuit interrupters (GFCI) 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 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 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. Put in place a "Structural Repair" bond on the home, which will cover any structural damage caused by wood destroying insects.

PREVENTION IS THE BEST APPROACH

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 any components within the home. We at Probe Home Inspections hope you enjoy your home!

Appendix B-Cost Summary

INTRODUCTION

The following cost figures are order of magnitude estimates only. They pertain to some of the observations made in this report. This is not an all-inclusive list of future repair costs, nor does it address general annual maintenance. It is recommended that a budget of roughly one percent of the value of the home be set aside annually to cover unexpected repairs and annual maintenance.

It is further recommended that qualified, reputable contractors be consulted for specific quotations. You may find that contractor estimates vary dramatically from these figures, and from each other. Contractors may also uncover defects not apparent at the time of the inspection, resulting in additional costs. Please proceed cautiously.

Should you have any questions regarding contractor opinions or quotations, please contact our office. Any work performed by the homeowner will dramatically reduce costs.

These approximate costs are not intended to represent or influence, in any way, the value of a property.

APPROXIMATE IMPROVEMENT COSTS

Roofing/Flashings/Chimneys

Install conventional asphalt shingles over existing shingles	\$1. ⁵⁰ -\$2. ⁵⁰ per ft ²
Strip and re-roof with conventional asphalt shingles	\$2. ⁵⁰ -\$4. ⁵⁰ per ft ²
Strip and re-roof with top-quality asphalt shingles	\$4. ⁰⁰ -\$8. ⁰⁰ per ft ²
Strip and re-roof with low-slope asphalt shingles	\$3. ⁰⁰ -\$5. ⁰⁰ per ft ²
Strip and re-roof with cedar shingles	\$8. ⁰⁰ -\$10. ⁰⁰ per ft ²
Strip and re-roof with cedar shakes	\$10. ⁰⁰ -\$18. ⁰⁰ per ft ²
Strip and re-roof with steel shingles	\$6. ⁰⁰ -\$8. ⁰⁰ per ft ²
Strip and re-roof with aluminum shingles	\$5. ⁵⁰ -\$7. ²⁵ per ft ²
Strip and re-roof with plastic shakes	\$5. ⁵⁰ -\$7. ²⁵ per ft ²
Install concrete tile roofing (assuming no structural reinforcement)	\$8. ⁰⁰ -\$16. ⁰⁰ per ft ²
Steel sheet roofing	\$6. ⁰⁰ -\$10. ⁰⁰ and up per ft ²
Install new slate roof	\$12. ⁰⁰ -\$24. ⁰⁰ per ft ²
Repair loose slates or tiles	\$30. ⁰⁰ per slate/tiles
Install asphalt roll roofing	\$2. ¹⁰ -\$4. ²⁰ per ft ²
Strip and replace built-up tar and gravel roof	\$10. ⁰⁰ -\$20. ⁰⁰ per ft ² (min. \$1500)
Strip and install modified bitumen roof membrane	\$8. ⁰⁰ -\$16. ⁰⁰ per ft ² (min. \$1500)
Synthetic rubber membrane	\$12. ⁰⁰ -\$16. ⁰⁰ per ft ²
Improve flat roof drainage prior to installation of new membrane	\$2. ⁰⁰ -\$4. ⁰⁰ per ft ²
Paint modified bitumen membrane	\$0. ⁵⁰ -\$1. ⁵⁰ per ft ² (min \$200)
Install sheet metal on small roof surfaces	\$10. ⁰⁰ -\$20. ⁰⁰ per ft ² (min \$500)
Re-flash typical skylight or chimney on asphalt roof	\$500. ⁰⁰ -\$800. ⁰⁰
Re-flash skylight or chimney on built-up or bitumen roof	\$600. ⁰⁰ -\$900. ⁰⁰
Install metal cricket for wide chimney	\$400. ⁰⁰ -\$800. ⁰⁰
Repair valley flashings on existing roof	\$25. ⁰⁰ -\$50. ⁰⁰ per ft ² (min \$500)
Replace parapet wall flashing	\$30. ⁰⁰ -\$50. ⁰⁰ per ft ² (min \$500)
Rebuild typical single-flue chimney above roof line	\$150. ⁰⁰ -\$300. ⁰⁰ per ft ² (min \$500)
Rebuild typical double-flue chimney above roof line	\$200. ⁰⁰ -\$400. ⁰⁰ per ft ² (min \$500)
Repoint typical single-flue chimney above roof line	\$20. ⁰⁰ -\$30. ⁰⁰ per row (min \$350)
Repoint typical double-flue chimney above roof line	\$25. ⁰⁰ -\$40. ⁰⁰ per row (min \$350)

Install concrete cap on typical single-flue chimney	\$250. ⁰⁰ -\$500. ⁰⁰
Install concrete cap on typical double-flue chimney	\$500. ⁰⁰ -\$700. ⁰⁰
Install rain cap on typical chimney	\$150. ⁰⁰ -\$200. ⁰⁰ each
Replace roof sheathing (plywood or waferboard)	\$1. ⁵⁰ -\$2. ⁰⁰ per ft ²

Exterior

Install galvanized or aluminum gutters and downspouts	\$4. ⁰⁰ -\$5. ⁰⁰ per ft ² (min. \$500)
Provide downspout extensions	\$15. ⁰⁰ -\$25. ⁰⁰ each
Clean gutters in fall or spring	\$50. ⁰⁰ -\$150. ⁰⁰
Install copper gutters and downspouts	\$15. ⁰⁰ -\$30. ⁰⁰ per lin. ft.
Install aluminum soffit and fascia	\$8. ⁰⁰ -\$16. ⁰⁰ per lin. ft.
Install aluminum siding	\$5. ⁰⁰ -\$8. ⁰⁰ per sq. ft.
Install vinyl siding	\$6. ⁵⁰ -\$12. ⁰⁰ per sq. ft.
install cedar siding	\$8. ⁰⁰ -\$16. ⁰⁰ per sq. ft.
Install paint grade siding	\$6. ⁰⁰ -\$12. ⁵⁰ per sq. ft.
Install stucco	\$8. ⁰⁰ -\$12. ⁰⁰ per sq. ft.
Re-point exterior wall (soft mortar)	\$3. ⁰⁰ -6. ⁵⁰ per ft ² (min \$500)
Re-point exterior wall (hard mortar)	\$6. ⁰⁰ -\$10. ⁰⁰ per ft ² (min \$500)
Replace deteriorated bricks	\$25. ⁰⁰ -\$50. ⁰⁰ per ft ²
Rebuild parapet wall	\$25. ⁰⁰ -\$50. ⁰⁰ per ft ²
Chemical cleaning of unpainted brick	\$2. ⁰⁰ -\$3. ⁰⁰ per ft ² (min \$1000)
Chemical cleaning of painted brick	\$4. ⁰⁰ -\$6. ⁰⁰ per ft ² (min \$1000)
Sealing of brickwork	\$0. ⁷⁵ -\$1. ⁰⁰ per ft ²
Paint exterior trim (not including any repairs)	\$1500. ⁰⁰ -\$2500. ⁰⁰ and up
Paint trim and wall surfaces (not including any repairs)	\$3000. ⁰⁰ and up
Parge foundation walls	\$3. ⁰⁰ -\$4. ⁰⁰ per ft ²
Damp-proof foundation walls and install weeping tile	\$150. ⁰⁰ -\$200. ⁰⁰ /ft ² (min \$1000)
Install a deck	\$12. ⁰⁰ -\$25. ⁰⁰ per ft ²
Install deck on a flat roof	\$25. ⁰⁰ -\$40. ⁰⁰ per ft ²
Resurface existing asphalt driveway	\$2. ⁵⁰ -\$4. ⁰⁰ per ft ²
Seal asphalt driveway	\$50. ⁰⁰ and up
Install interlocking brick driveway	\$6. ⁰⁰ -\$8. ⁰⁰ per ft ²
Install a concrete driveway	\$6. ⁰⁰ -\$10. ⁰⁰ per lin. ft.
Install drain at bottom of sloped driveway	\$1000. ⁰⁰ -\$1500. ⁰⁰
Install concrete slab patio	\$5. ⁰⁰ -\$8. ⁰⁰ per ft ²
Install concrete patio stones	\$2. ⁰⁰ -\$5. ⁰⁰ per ft ²
Rebuild exterior basement stairwell	\$3500. ⁰⁰ -\$5000. ⁰⁰
Install drain at existing basement stairwell	\$500. ⁰⁰ -\$800. ⁰⁰
Build detached garage (single)	\$8000. ⁰⁰ and up
Build detached garage (double)	\$12000. ⁰⁰ and up
Break wood-soil contact at detached garage	\$25. ⁰⁰ -\$40. ⁰⁰ /lin. ft. (min \$500)
Demolish and remove detached garage (dependent on dumping costs)	\$1500. ⁰⁰ and up
Install garage door (single, metal, one-piece)	\$600. ⁰⁰ -\$800. ⁰⁰
Install garage door (single, wood, sectional)	\$800. ⁰⁰ -\$1000. ⁰⁰
Install garage door (double, wood, sectional)	\$1200. ⁰⁰ -\$1500. ⁰⁰
Install garage door opener	\$300. ⁰⁰ -\$450. ⁰⁰
Build retaining wall (wood)	\$20. ⁰⁰ -\$25. ⁰⁰ per ft ² (min \$500)
Build retaining wall (concrete)	\$30. ⁰⁰ -\$40. ⁰⁰ per ft ² (min \$500)
Replace porch steps (wood)	\$200. ⁰⁰ -\$300. ⁰⁰
Replace porch steps (concrete)	\$300. ⁰⁰ -\$500. ⁰⁰
Replace porch flooring	\$4. ⁰⁰ -\$6. ⁰⁰ per ft ²

Replace porch skirting	\$10. ⁰⁰ -\$15. ⁰⁰ per lin. ft.
Replace step railing	\$100. ⁰⁰ -\$200. ⁰⁰
Install wooden fencing	\$16. ⁰⁰ -\$50. ⁰⁰ per lin. ft.
Install chain link fencing	\$7. ⁰⁰ -\$12. ⁰⁰ per lin. ft.
Lay sod	\$1. ⁰⁰ -\$2. ⁰⁰ per ft ²
Install lawn sprinkler system	\$1000. ⁰⁰ and up

Structure

Underpin one corner of house	\$3500. ⁰⁰ and up
Underpin or add foundations	\$300. ⁰⁰ and up/lin. ft. (min \$3000)
Lower basement floor by underpinning and/or bench footings	\$150. ⁰⁰ -\$300. ⁰⁰ /lin.ft. (min \$5000)
Replace deteriorating sill beam with concrete	\$60. ⁰⁰ and up/lin. ft. (min. \$500)
Replace main beam in (unfinished) basement	\$1000. ⁰⁰ -\$2000. ⁰⁰
Re-support (sister) a floor joist	\$100. ⁰⁰ -\$300. ⁰⁰ (unobstructed)
Install basement support post with proper foundation	\$300. ⁰⁰ -\$500. ⁰⁰
Perform chemical treatment for wood-boring insects	\$1700. ⁰⁰ and up
Pest inspection performed by licensed specialist	\$150. ⁰⁰ -\$300. ⁰⁰
Remove or open load-bearing wall	\$2000. ⁰⁰ and up (excluding decorating)
Remove partition wall	\$500. ⁰⁰ -\$1500. ⁰⁰ (excluding decorating)
Install door opening in interior wall	\$500. ⁰⁰ -\$1000. ⁰⁰
Rebuild arch above window or door opening	\$800. ⁰⁰ and up
Install lintel above opening in masonry wall	\$500. ⁰⁰ and up
Install exterior basement stairwell	\$5000. ⁰⁰ and up
Repair minor crack in poured concrete foundation	\$400. ⁰⁰ -\$800. ⁰⁰
Build an addition, foundation to roof	\$150. ⁰⁰ -\$300. ⁰⁰ per sq. ft.
Build an additional storey	\$100. ⁰⁰ -\$300. ⁰⁰ per sq. ft.
Install collar ties	\$30. ⁰⁰ -\$50. ⁰⁰ each
Install lateral bracing on collar ties	\$100. ⁰⁰ -\$200. ⁰⁰
Replace roof sheathing	\$4. ⁰⁰ -\$6. ⁰⁰ per sq. ft.

Electrical

Upgrade electrical service to 100 amps (including new panel)	\$1000. ⁰⁰ -\$1300. ⁰⁰
Upgrade electrical service to 100 amps (if new panel not required)	\$500. ⁰⁰ -\$800. ⁰⁰
Upgrade electrical service to 200 amps	\$1800. ⁰⁰ -\$2200. ⁰⁰
Replace main ground (grounded to conductive water main)	\$100. ⁰⁰ -\$150. ⁰⁰
Replace main ground (rural, install ground rods)	\$250. ⁰⁰ -\$450. ⁰⁰
Install new circuit breaker panel	\$500. ⁰⁰ -\$900. ⁰⁰
Install auxiliary breaker panel	\$200. ⁰⁰ -\$400. ⁰⁰
Replace circuit breaker (20 amp or less)	\$50. ⁰⁰ -\$100. ⁰⁰
Add 120 volt circuit	\$150. ⁰⁰ -\$300. ⁰⁰
Add 240 volt circuit	\$250. ⁰⁰ -\$400. ⁰⁰
Add exterior outlet with waterproof cover	\$200. ⁰⁰ -\$300. ⁰⁰
Add conventional receptacle	\$150. ⁰⁰ -\$300. ⁰⁰
Add kitchen split receptacle	\$150. ⁰⁰ -\$250. ⁰⁰
Provide ground for conventional receptacle	\$75. ⁰⁰ -\$100. ⁰⁰
Replace conventional receptacle with ground fault circuit receptacle	\$60. ⁰⁰ -\$90. ⁰⁰
Replace conventional receptacle with aluminum compatible type (CO/ALR)(assuming several are required)	\$10. ⁰⁰ -\$15. ⁰⁰ ea.
Upgrade entire house with aluminum compatible receptacles, connectors, etc.	\$500. ⁰⁰ -\$1000. ⁰⁰
Rewire outlet with reversed polarity (assuming electrician already there)	\$5. ⁰⁰ -\$10. ⁰⁰ each
Install switches (assuming electrician already there)	\$10. ⁰⁰ -\$20. ⁰⁰ each

Install standard light fixture	\$100. ⁰⁰ -\$200. ⁰⁰
Install exterior light fixture	\$150. ⁰⁰ -\$250. ⁰⁰
Install fluorescent light fixture	\$150. ⁰⁰ -\$250. ⁰⁰
Rewire entire house during gut or renovations	\$3000. ⁰⁰ and up

Heating

Install mid-efficiency forced-air furnace	\$2000. ⁰⁰ -\$4000. ⁰⁰
Install high-efficiency forced-air furnace	\$3500. ⁰⁰ -\$6000. ⁰⁰
Annual service by heating contractor	\$100. ⁰⁰ -\$150. ⁰⁰ minimum
Replace blower or motor	\$400. ⁰⁰ -\$600. ⁰⁰
Install humidifier	\$200. ⁰⁰ -\$400. ⁰⁰
Install electronic air filter	\$500. ⁰⁰ -\$800. ⁰⁰
Install mid-efficiency boiler	\$2500. ⁰⁰ -\$5000. ⁰⁰
Install high-efficiency boiler	\$5000. ⁰⁰ -\$9000. ⁰⁰
Rebuild fire pot (refractory) on boiler	\$500. ⁰⁰ -\$800. ⁰⁰
Install circulating pump	\$400. ⁰⁰ -\$600. ⁰⁰
Install expansion tank	\$250. ⁰⁰ -\$300. ⁰⁰
Install backflow preventer	\$100. ⁰⁰ -\$150. ⁰⁰
Install chimney liner for gas appliance	\$400. ⁰⁰ -\$800. ⁰⁰
Install chimney liner for oil appliance	\$700. ⁰⁰ -\$1800. ⁰⁰
Install programmable thermostat	\$200. ⁰⁰ -\$300. ⁰⁰
Replace indoor fuel oil storage tank	\$1200. ⁰⁰ -\$1500. ⁰⁰
Remove indoor fuel oil storage tank	\$400. ⁰⁰ and up
Remove abandoned underground fuel oil storage tank	\$3000. ⁰⁰ and up
Replace radiator valve	\$250. ⁰⁰ -\$500. ⁰⁰
Replace radiator	\$500. ⁰⁰ -\$900. ⁰⁰
Add electric baseboard heater	\$250. ⁰⁰ -\$400. ⁰⁰
Convert from hot water heating to forced-air (bungalow)	\$8000. ⁰⁰ -\$10000. ⁰⁰
Convert from hot water heating to forced-air (two story)	\$15000. ⁰⁰ -\$20000. ⁰⁰
Clean ductwork	\$250. ⁰⁰ -\$500. ⁰⁰
Duct conversion from gravity to forced-air furnace	\$1000. ⁰⁰ -\$1500. ⁰⁰
After-warranty parts and service plans	\$150. ⁰⁰ -\$400. ⁰⁰ per year

Cooling/Heat Pumps

Add central air conditioning to existing forced-air system	\$2000. ⁰⁰ -\$3000. ⁰⁰
Add heat pump to existing forced-air system	\$4000. ⁰⁰ -\$7000. ⁰⁰
Replace heat pump or air conditioning condenser	\$1200. ⁰⁰ -\$2500. ⁰⁰
Install independent air conditioning system	\$8000. ⁰⁰ -\$15000. ⁰⁰
Install ductless split-system air conditioning	\$3000. ⁰⁰ and up

Insulation

Insulate open attic area to modern standards	\$0. ⁵⁰ -\$1. ²⁵ per sq. ft.
Blow insulation into flat roof, cathedral ceiling or wall cavity	\$2. ⁰⁰ -\$3. ⁵⁰ per sq. ft.
Improve attic ventilation	\$40. ⁰⁰ -\$50. ⁰⁰ per vent
Remove UFFI in wood-frame walls	\$20. ⁰⁰ -\$35. ⁵⁰ per sq. ft.
Remedial approach to UFFI (caulking, heat-recovery ventilator)	\$3000. ⁰⁰ -\$5000. ⁰⁰
Insulate exterior walls with rigid foam board, prior to re-siding	\$1. ⁰⁰ -\$2. ⁰⁰ per sq. ft.
Insulate basement from interior	\$2. ⁰⁰ per sq. ft. and up

Plumbing

Replace galvanized piping (varies w/fixtures, storeys, sq. footage & finishes)	\$500. ⁰⁰ -\$3500. ⁰⁰
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Replace water line to house	\$150. ⁰⁰ -\$200. ⁰⁰ /lin.ft. (min \$2000)
Replace main water shut-off valve	\$150. ⁰⁰ -\$300. ⁰⁰
Install new water heater	\$600. ⁰⁰ -\$800. ⁰⁰
Water heater rent or lease	\$10. ⁰⁰ -\$20. ⁰⁰ monthly
Replace toilet	\$400. ⁰⁰ and up
Replace toilet flush mechanism	\$100. ⁰⁰ -\$150. ⁰⁰
Unclogging toilet	\$100. ⁰⁰ -\$200. ⁰⁰
Replace toilet seal	\$150. ⁰⁰ -\$250. ⁰⁰
Install bidet	\$500. ⁰⁰ and up
Replace vanity basin	\$200. ⁰⁰ and up
Replace pedestal basin	\$350. ⁰⁰ and up
Replace faucet set	\$150. ⁰⁰ and up
Replace bathtub, including ceramic tile	\$1500. ⁰⁰ and up
Replace bath or shower faucet set	\$300. ⁰⁰ and up
Install refinished claw foot bathtub	\$1800. ⁰⁰ and up
Install whirlpool bath	\$3000. ⁰⁰ and up
Retile bathtub enclosure	\$800. ⁰⁰ -\$1200. ⁰⁰
Install plastic bathtub enclosure (tub-surround)	\$200. ⁰⁰ -\$400. ⁰⁰
Rebuild tile shower stall	\$1500. ⁰⁰ -\$2500. ⁰⁰
Replace leaking shower stall pan	\$1000. ⁰⁰ -\$1600. ⁰⁰
Install plastic shower stall	\$600. ⁰⁰ -\$2000. ⁰⁰
Install bathroom exhaust fan	\$250. ⁰⁰ -\$500. ⁰⁰
Remodel four-piece bathroom completely	\$6000. ⁰⁰ and up
Install modest basement bathroom	\$4000. ⁰⁰ and up
Replace laundry tubs	\$250. ⁰⁰ -\$500. ⁰⁰
Install laundry facilities	\$900. ⁰⁰ and up
Install single kitchen sink	\$300. ⁰⁰ and up
Install double kitchen sink	\$400. ⁰⁰ and up
Install dishwasher	\$600. ⁰⁰ -\$1000. ⁰⁰
Install garbage disposal	\$400. ⁰⁰ -\$600. ⁰⁰
Install kitchen range hood	\$250. ⁰⁰ -\$500. ⁰⁰ and up
Install solid waste pump	\$1200. ⁰⁰ -\$1800. ⁰⁰
Connect waste plumbing system to municipal sewers	\$3000. ⁰⁰ and up
Clear obstruction in main sewer line (to street or septic tank)	\$200. ⁰⁰ -\$400. ⁰⁰ and up
Repair collapsed or damaged section of sewer line	\$1000. ⁰⁰ and up
Install submersible well pump	\$800. ⁰⁰ and up
Install suction or jet pump	\$400. ⁰⁰ -\$800. ⁰⁰
Replace pressure system tank	\$250. ⁰⁰ -\$500. ⁰⁰
Install water softener	\$1000. ⁰⁰ and up
Install outdoor faucet	\$150. ⁰⁰ -\$250. ⁰⁰
Replace sump pump	\$150. ⁰⁰ -\$250. ⁰⁰
Install sauna	\$3000. ⁰⁰ and up

Interior

Add drywall over plaster	\$1. ⁵⁰ -\$3. ⁰⁰ per sq. ft.
Remove old plaster and install drywall	\$3. ⁵⁰ -\$4. ⁵⁰ per sq. ft.
Add wire lath and new plaster over existing plaster	\$3. ⁰⁰ -\$4. ⁰⁰ per sq. ft.
Spray stipple on existing ceiling	\$1. ⁰⁰ -\$1. ⁵⁰ per sq. ft.
Install suspended tile ceiling	\$3. ⁰⁰ -\$5. ⁰⁰ per sq. ft.
Install acoustic tile ceiling	\$1. ⁵⁰ -\$2. ⁰⁰ per sq. ft.
Sand and refinish hardwood floors	\$1. ⁵⁰ -\$3. ⁰⁰ per sq. ft.

Install 3/8" thick hardwood strip flooring	\$6. ⁰⁰ -\$8. ⁰⁰ per sq. ft.
Install 3/4" thick hardwood strip flooring	\$10. ⁰⁰ -\$12. ⁰⁰ per sq. ft.
Install hardwood parquet flooring	\$5. ⁰⁰ -\$7. ⁰⁰ per sq. ft.
Install ceramic floor tiles	\$10. ⁰⁰ and up per sq. ft.
Install vinyl floor tiles	\$3. ⁰⁰ and up per sq. ft.
Install vinyl roll flooring	\$7. ⁰⁰ and up per sq. yd.
Install synthetic wall-to-wall carpet	\$20. ⁰⁰ and up per sq. yd.
Install wool wall-to-wall carpet	\$50. ⁰⁰ and up per sq. yd.
Install carpet underpad	\$5. ⁰⁰ per sq. yd.
Professional carpet cleaning	\$30. ⁰⁰ per room
Install replacement (sliding) windows	\$35. ⁰⁰ -\$45. ⁰⁰ per sq. ft.
Install replacement (casement) windows	\$50. ⁰⁰ and up per sq. ft.
Install replacement (awning) windows	\$50. ⁰⁰ and up per sq. ft.
Install replacement (double-hung) windows	\$40. ⁰⁰ -\$45. ⁰⁰ per sq. ft.
Install replacement (fixed)windows	\$30. ⁰⁰ -\$40. ⁰⁰ per sq. ft.
Install replacement (bay) windows	\$40. ⁰⁰ -\$65. ⁰⁰ per sq. ft.
Install storm window	\$100. ⁰⁰ -\$300. ⁰⁰ each
Convert coal-burning fireplace to wood-burning unit (not including chimney relining or replacement)	\$2000. ⁰⁰ and up
Install masonry fireplace (if flue already roughed-in)	\$2000. ⁰⁰ and up
Install masonry fireplace with single-flue chimney	\$6000. ⁰⁰ and up
Install zero-clearance fireplace (including chimney)	\$3000. ⁰⁰ and up
Install gas fireplace	\$2500. ⁰⁰ and up
Install glass doors on fireplace	\$300. ⁰⁰ and up
Chimney cleaning	\$100. ⁰⁰ -\$175. ⁰⁰ each
Install fireplace damper	\$200. ⁰⁰ and up
Install interior hollow core door	\$150. ⁰⁰ -\$200. ⁰⁰
Install interior custom wood door (including casing and hardware)	\$450. ⁰⁰ and up
Install interior French doors	\$700. ⁰⁰ and up
Install louvre doors on closet	\$150. ⁰⁰ -\$250. ⁰⁰
Install sliding mirror doors on closet	\$350. ⁰⁰ and up
Install exterior solid wood door	\$700. ⁰⁰ and up
Install exterior insulated metal door	\$500. ⁰⁰ and up
Install closer on garage man door	\$150. ⁰⁰ -\$250. ⁰⁰
Install metal storm door	\$350. ⁰⁰ and up
Replace hardware on metal storm door	\$100. ⁰⁰ -\$150. ⁰⁰
Install sliding glass door (brick wall)	\$2500. ⁰⁰ -\$3500. ⁰⁰
Install sliding glass door (wood frame wall)	\$2000. ⁰⁰ -\$2500. ⁰⁰
Replace sliding glass door	\$1000. ⁰⁰ -\$1700. ⁰⁰
Install basic skylight	\$1000. ⁰⁰ and up
Install roof window or ventilating skylight	\$1500. ⁰⁰ and up
Remodel kitchen completely	\$10,000. ⁰⁰ and up
Install kitchen cabinets	\$200. ⁰⁰ and up per lin. ft.
Install kitchen counter	\$20. ⁰⁰ and up per lin. ft.
Install ceiling fan	\$200. ⁰⁰ and up
Install conventional alarm system	\$1000. ⁰⁰ and up
Install central vacuum system	\$800. ⁰⁰ -\$2000. ⁰⁰
Install central vacuum canister only	\$500. ⁰⁰ -\$1000. ⁰⁰
Paint interior (walls, ceilings, door, trim) of entire house	\$1500. ⁰⁰ and up
Hang wallpaper	\$2. ⁰⁰ and up per sq. ft.
Urethane injection of leaking basement cracks	\$350. ⁰⁰ -\$500. ⁰⁰ each

Damp-proof foundation walls and install perimeter drains