Inspection Report

Mr. and Mrs. Edward Thomson

Property Address:
72 Pine Street
Springfield NY 11888

Suburban Consultants Ltd.

William Murphy NYS License # 16000009280
PO Box 270
East Norwich, NY 11732
(800) 848-6171

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INVOICE

Suburban Consultants Ltd.
PO Box 270
East Norwich, NY 11732
(800) 848-6171
Inspected By: William Murphy

Inspection Date: 11/21/2013
Report ID: 112113B2

Customer Info:	**Inspection Property:**
Mr. and Mrs. Edward Thomson 100 Kindle Rd Hicksville NY 11801 **Customer's Real Estate Professional:** Not Applicable	72 Pine Street Springfield NY 11888

Inspection Fee:

Service	Price	Amount	Sub-Total
Inspection Fee	375.00	1	375.00
Wood Destroying Insect Report	75.00	1	75.00

Tax $0.00
Total Price $450.00

Payment Method: Cash
Payment Status: Paid At Time Of Inspection
Note: Thank You

Date: 11/21/2013	**Time:** 01:00 PM	**Report ID:** 112113B2
Property: 72 Pine Street Springfield NY 11888	**Customer:** Mr. and Mrs. Edward Thomson	**Real Estate Professional:** Not Applicable

Subject property is a two story wood frame structure estimated to be 59 years old. Home is a one family dwelling constructed to accommodate year-round occupancy. Visible evidence indicates an acceptable level of construction. Building is considered in above average condition. Subject property has been unoccupied/vacant for an unknown period of time.

North second story roof dormer building extension appears professionally constructed and in good condition (fig. 1). Such improvements typically require municipal building permits and occupancy certificates to ensure building and safety code compliance.

Standards of Practice: NYS & ASHI American Society of Home Inspectors	**Type of building:** Single Family (2 story)	**Style of Home:** Cape
Approximate age of building: 59 Years	**Home Faces:** South	**Temperature:** 50(F)
Weather: Clear	**Ground/Soil surface condition:** Dry	**Fire Hydrant:** 50 feet

1. Exterior Grounds

Phase 1: Exterior Grounds

Includes Inspection of: **landscaping, driveways, walkways, entry porches, decks, patios, fences, sheds, pools, and retaining wall systems.**

Styles & Materials

Landscaping:
Good Condition

Driveway:
Asphalt

Walkway:
Concrete

Entry Porch:
Brick
Paving Stone

Deck/Patio:
Wood

Items

1.0 Landscaping

Comments: Inspected

Exterior landscaping appears well maintained and in good condition. Perimeter trees and shrubs contact building at various locations (fig. 2), advise routine future maintenance by a licensed tree/landscape specialist. North yard pvc perimeter fencing appears well installed and in good condition.

1.1 Driveway

Comments: Inspected

Asphalt driveway surface appears in good condition (fig. 3), typical settlement and cracking noted at various locations, recommend routine future seal-coat applications.

1.2 Walkway

Comments: Inspected

Concrete perimeter walkways appear professionally installed and in good condition (fig. 4). Typical surface settlement and cracking is present.

1.3 Entry Porches/Walkways

Comments: Inspected

South paving stone and brick main entry porch appears well installed and in good condition (fig. 5). Typical settlement and surface cracking was noted. Advise routine future power washing to remove moss growth and reduce risk of trip hazard.

1.4 Patio/Deck

Comments: Inspected, Repair or Replace

Visible evidence indicates that north yard wood deck pre-dates current local building code standards but typical of similarly aged decks 9fig. 6). Such structures typically require municipal building permits and occupancy certificates to ensure an acceptable level of construction. Ledger board is not lag bolted to building, absence of steel joist hangers, excessive span between floor joists, absence of concrete footings for wood support posts, and advanced wood rot was noted (fig. 7). Further inspection, reinforcement, repair, power wash, and wood preservative application by a licensed deck specialist is advised. Future demolition and replacement is recommended.

Section Photos

fig. 1

fig. 2

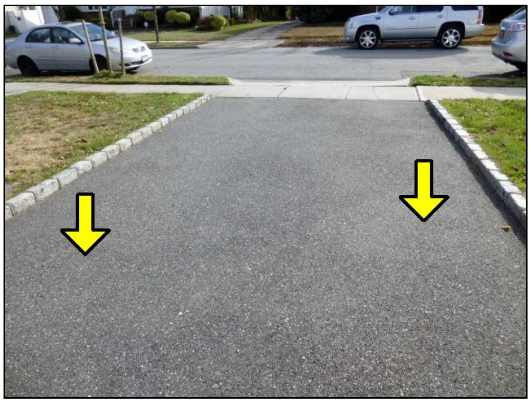


fig. 3

fig. 4

fig. 5

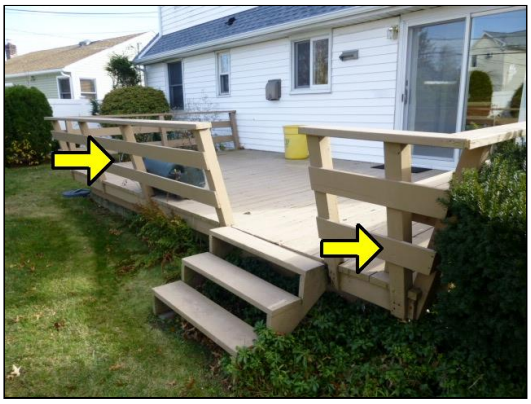


fig. 6

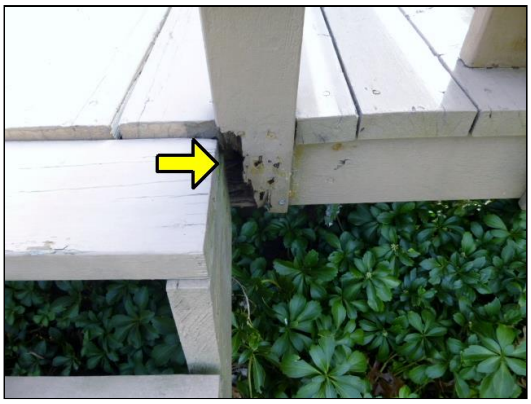


fig. 7

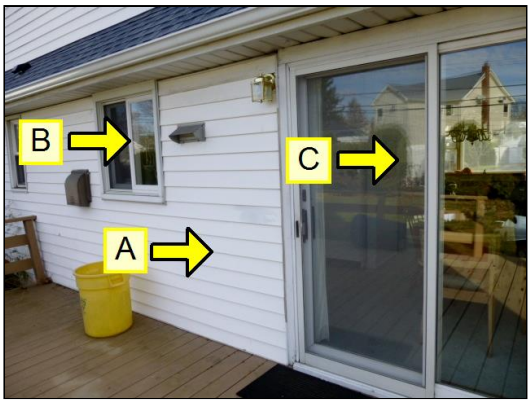


fig. 8

2. Exterior Building Envelope

Phase 2: Exterior Building Envelope

Includes Inspection of: **exterior foundations walls, exterior wall siding materials and finishes, windows, entry doors, exterior lighting & receptacles, and basement entry.**

Styles & Materials

Foundation Walls:
Poured Concrete

Exterior Wall Siding:
Vinyl
Aluminum

Exterior Windows:
Wood Frame Thermal
Vinyl Frame Thermal

Exterior Entry Doors:
Wood
Metal Clad

Items

2.0 Exterior Foundation Walls

Comments: Inspected

Visible exterior concrete foundation walls appear in good condition. Minor settlement cracks were noted at various wall locations. This condition is considered common and typical.

2.1 Exterior Wall Siding

Comments: Inspected

Exterior vinyl wall siding materials appear well installed and in good condition (fig. 9a). Recommend future power-washing to remove moss/mold growth. South exterior wall aluminum wall siding materials appear well installed but aged, worn, and in deteriorated condition (fig. 9a, 10a). Priming and repainting is advised to reduce risk of further deterioration. Future installation of replacement siding is recommended.

2.2 Windows

Comments: Inspected

Exterior windows have been updated with thermal insulated replacements and appear well trimmed and sealed (fig. 8b. 9b, 10b). Advise routine re-caulking of exterior window frames as needed to reduce risk of moisture and cold air infiltration.

2.3 Window Wells

Comments: Inspected

2.4 Exterior Entry Doors

Comments: Inspected

Exterior entry doors are operational and in good condition (fig. 8c, 9c).

2.5 Exterior Lighting/Receptacles

Comments: Inspected

Exterior lighting & receptacles are functional. Recommend future installation of added exterior GFCI receptacles for improved safety and convenience.

Section Photos

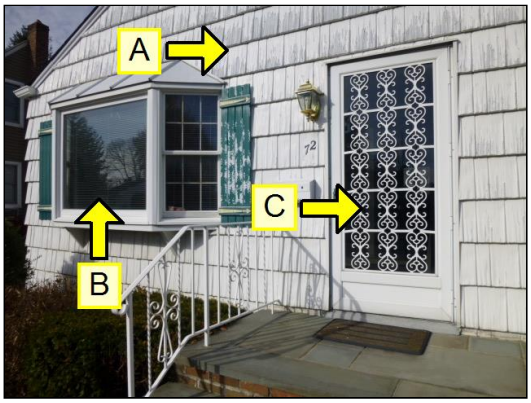


fig. 9

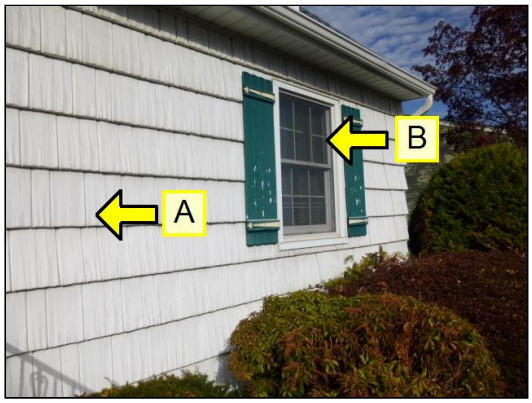


fig. 10

fig. 11

fig. 12

3. Roofing

Phase 4: Roofing System

Includes Inspection of: roof drainage systems, roof covering materials, signs of leakage, accessories & flashings, and chimney vent structures.

The home inspector is not required to: Walk on the roofing; or Observe attached accessories including but not limited to solar systems, antennae, and lightning arrestors.

Styles & Materials

Roof Type:
Gable

Inspected Roof From:
Roof Edge

Gutter System:
Aluminum

Roof Covering:
Aspahalt Shingle

Roof Layers:
1

Estimated Age:
0-5 years

Roof Accessories & Flashing:
Good Condition

Chimney (exterior):
Brick

Items

3.0 Roof Drainage Systems

Comments: Inspected

Aluminum gutter and downspout systems appear in good condition (fig. 11a). Advise installation of downspout extensions and routine removal of debris from gutter systems to ensure proper roof drainage.

3.1 Fascias & Soffits

Comments: Inspected

3.2 Roof Coverings

Comments: Inspected

Asphalt shingle roof surface appears professionally installed, in good condition, and is estimated to be 3 years old (fig. 11b, 12). Typical life cycle is 25-30 years.

3.3 Roof Accessories & Flashings

Comments: Inspected

Roof accessories and visible flashing appear in good condition (fig. 13).

3.4 Chimney(s)

Comments: Inspected, Repair or Replace

Brick chimney vent structure appears in satisfactory condition (fig. 14a). Installation of an exterior flue liner rain cap by a licensed chimney specialist is advised (fig. 14b).

Section Photos

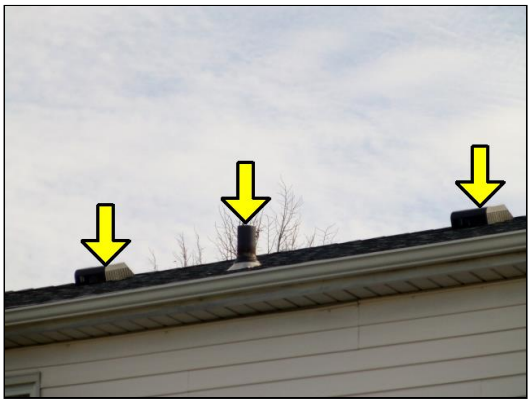


fig. 13

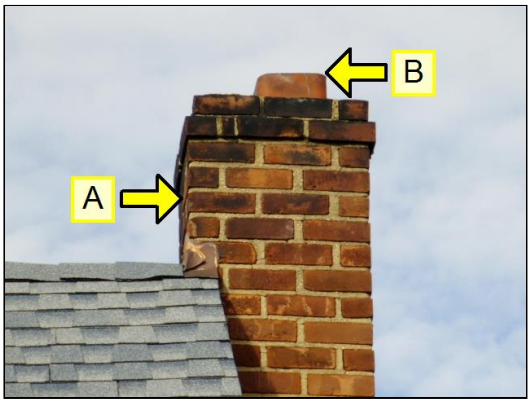


fig. 14

The roof of the home was inspected and reported on with the above information. While the inspector makes every effort to find all areas of concern, some areas can go unnoticed. Roof coverings and skylights can appear to be leak proof during inspection and weather conditions. Our inspection makes an attempt to find a leak but sometimes cannot. Please be aware that the inspector has your best interest in mind. Any repair items mentioned in this report should be considered before purchase. It is recommended that qualified contractors be used in your further inspection or repair issues as it relates to the comments in this inspection report.

4. Attic

Phase 5: Attic

Includes Inspection of: roof structure, roof rafters, roof sheathing materials, insulation, and ventilation.

Styles & Materials

Attic Access:	Attic Structure:	Roof Sheathing:
None	Rafter	Board

Items

4.0 Attic Structure

Comments: Not Inspected

No access or entry is available to attic area for inspection.

4.1 Insulation

Comments: Not Inspected

Attic insulation is concealed preventing visual inspection.

4.2 Ventilation

Comments: Not Inspected

Attic is ventilated at gable ends and roof vents. Recommend installation of attic exhaust fan to provide more attic ventilation and reduce attic moisture and temperature.

5. Electrical System

Phase 6: Electrical System

<u>Includes Inspection of:</u> entrance cable(s), entrance cable conduits, meter pans, amperage and voltage ratings of the service, main distribution panels, auxiliary sub-panels, service disconnects, visible branch circuit wiring, branch circuit conductors, their over current devices, and the compatibility of their ampacities and voltages, GFCI circuit receptacles, and electrical system grounding components.

The home inspector is not required to: Insert any tool, probe, or testing device inside the panels; Test or operate any over current device except ground fault circuit interrupters; Dismantle any electrical device or control other than to remove the covers of the main and auxiliary distribution panels; or Observe: Low voltage systems; Security system devices, heat detectors, or carbon monoxide detectors; Telephone, security, cable TV, intercoms, or other ancillary wiring that is not a part of the primary electrical distribution system; or Built-in vacuum equipment.

Styles & Materials

Electrical Service Conductors:
Overhead service
Copper

Service Amps:
100 amps

Panel capacity:
100 AMP

Panel Type:
Circuit breakers

Electric Panel Manufacturer:
CUTLER HAMMER

Branch wire 15 and 20 AMP:
Copper

Wiring Methods:
Romex

Grounding:
Water Main
Ground Rod

Items

5.0 Electrical Service

Comments: Inspected, Repair or Replace

Exterior electrical service entrance cable conduit is poorly secured to building wall presenting a potential electrical hazard (fig. 15). Further inspection and repair by a licensed electrical contractor is advised.

5.1 Service Panels

Comments: Inspected

Electrical components have been updated, appear professionally installed, and are in functional condition. Electrical service consists of one (1) 100 amp copper service entrance cable servicing one (1) 100 amp main distribution panel located in basement (fig. 16). Existing 100 amp service is sufficient but minimal for current electrical needs. Future upgrade to 150 amp or 200 amp service will be required if additional electrical amenities are installed.

5.2 Wiring

Comments: Inspected

Section Photos

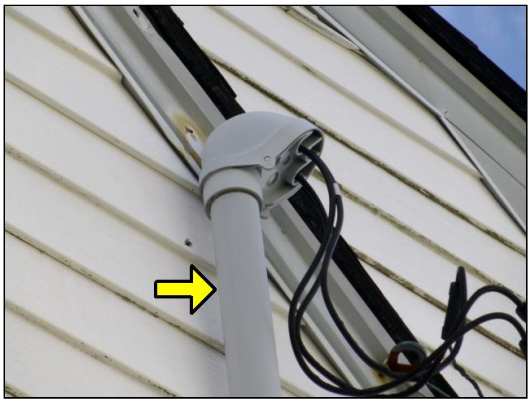


fig. 15

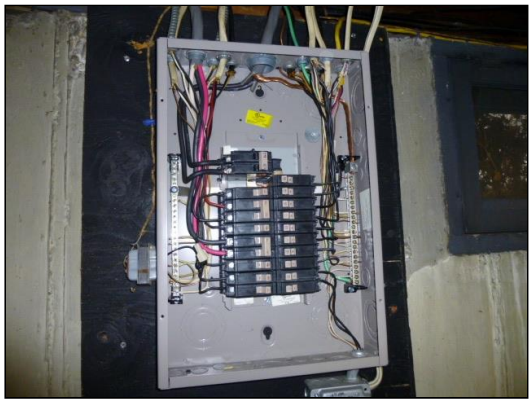


fig. 16

The electrical system of the home was inspected and reported on with the above information. While the inspector makes every effort to find all areas of concern, some areas can go unnoticed. Outlets were not removed and the inspection was only visual. Any outlet not accessible (behind the refrigerator for example) was not inspected or accessible. Please be aware that the inspector has your best interest in mind. Any repair items mentioned in this report should be considered before purchase. It is recommended that qualified contractors be used in your further inspection or repair issues as it relates to the comments in this inspection report.

6. Basement/Structural Components

Phase 7: Basement & Structural Components

Includes Inspection of visible: foundation walls, floor surfaces, wall surfaces, columns/piers, beams, floor joists, sill plates, ceilings, windows/doors, lighting & receptacles, and stairways.

The Home Inspector shall observe structural components including foundations, floors, walls, columns or piers, and ceilings. The home inspector shall describe the type of foundation, floor structure, wall structure, columns or piers, ceiling structure. The home inspector shall: Probe structural components where deterioration is suspected; Enter under floor crawl spaces and basements except when access is obstructed, when entry could damage the property, or when dangerous or adverse situations are suspected; Report the methods used to observe under floor crawl spaces and attics; and Report signs of abnormal or harmful water penetration into the building or signs of abnormal or harmful condensation on building components. The home inspector is not required to: Enter any area or perform any procedure that may damage the property or its components or be dangerous to or adversely effect the health of the home inspector or other persons.

Styles & Materials

Basement:
Partially Finished

Foundation:
Poured concrete

Wood Framing Components:
Acceptable

Beams:
Wood

Support Columns:
Steel

Limitations:
Fixed Ceiling Covers

Items

6.0 Floor

Comments: Inspected

Various cracks in concrete floor and wall surfaces are considered typical and common. Vinyl flooring tiles are aged and may contain asbestos (fig. 17). Installation of updated flooring materials are commonly installed directly over these flooring materials. Removal by a licensed specialist is advised if replacing.

6.1 Walls

Comments: Inspected

Basement is constructed with poured concrete foundation walls and standard wood framing components (fig. 18, 19). Basement area is partially finished with fixed floor, wall, and ceiling covers preventing complete inspection of construction components. Low moisture readings of up to 15.4% were present at perimeter wall locations tested. However, visible evidence of past moisture/water penetration and minor resulting mold/mildew condition was observed (fig. 20). Routine use of basement windows for improved ventilation, maintenance of exterior roof gutter drainage systems, and installation of a dehumidifier will reduce basement moisture levels. Visible construction and wood framing components appear in good condition. No visible evidence of active wood destroying insect infestation is present, however, continued preventive maintenance coverage by a licensed pest control specialist is advised.

6.2 Ceiling

Comments: Inspected

6.3 Windows

Comments: Inspected

Basement windows appear aged and in poor condition. Maintenance or replacement is advised to ensure satisfactory operation.

6.4 Doors

Comments: Inspected

6.5 Lighting

Comments: Inspected

Basement lighting is functional.

6.6 Receptacles

Comments: Inspected

Receptacles are functional. Recommend future installation of GFCI receptacles for improved safety and convenience.

6.7 Stairway/Railing

Comments: Inspected

6.8 Heating Source

Comments: Inspected

Section Photos

fig. 17

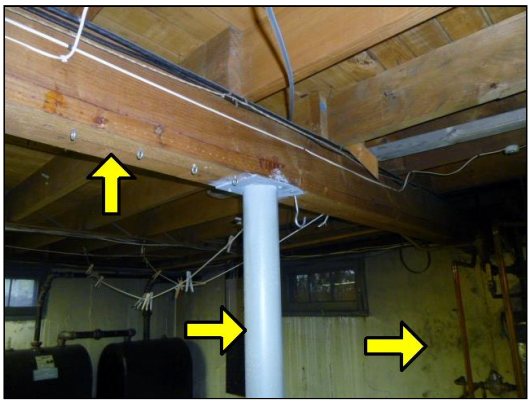


fig. 18

The structure of the home was inspected and reported on with the above information. While the inspector makes every effort to find all areas of concern, some areas can go unnoticed. Please be aware that the inspector has your best interest in mind. Any repair items mentioned in this report should be considered before purchase. It is recommended that qualified contractors be used in your further inspection or repair issues as it relates to the comments in this inspection report.

7. Heating/Central Air Conditioning

Phase 8: Heating & Cooling Systems

Includes Inspection of : energy source, permanently installed heating and cooling systems that are central to home; normal operating controls; automatic safety controls; chimneys, flues, and vents, where readily visible; solid fuel heating devices; heat distribution systems including fans, pumps, ducts and piping, with supports, insulation, air filters, registers, radiators, fan coil units, convectors; and the presence of an installed heat source in each room.

The home inspector is not required to: Operate heating or cooling systems when weather conditions or other circumstances may cause equipment damage; Operate automatic safety controls; Ignite or extinguish solid fuel fires; or Observe: The interior of flues; Fireplace insert flue connections; Humidifiers; Electronic air filters; or The uniformity or adequacy of heat supply to the various rooms.

Styles & Materials

Heat Type:	**Energy Source:**	**Fuel Tank:**
Circulating Hot Water	Oil	Basement
Heat System Brand:	**Heating System Age:**	**Life Expectancy:**
PEERLESS	20-25 years	Middle

Items

7.0 Smoke & CO Dectectors

Comments: Not Inspected

Installation and Routine Testing is Advised

7.1 Thermostat/Operating Controls

Comments: Inspected

Future installation of updated/programmable thermostats by a licensed heating contractor is recommended for improved accuracy and efficiency.

7.2 Heating Equipment

Comments: Inspected

Heating system is an oil fired circulating hot water system estimated to be 20-25 years old (fig. 21). System is supplied by two 120 gallon oil tanks (240 USG total) located in basement (fig. 22). System is operational, no C/O emission was detected. Advise continued maintenance coverage by a licensed heating contractor and installation of functional smoke and C/O detectors on all floors. Installation of fire proofing material above boiler unit is recommended.

7.3 Fuel Tank

Comments: Inspected

Original basement oil tank was recently replaced with existing tanks. Requesting production of all related replacement documentation issued by a licensed fuel tank specialist from current homeowner is advised.

7.4 Venting/Piping

Comments: Inspected, Repair or Replace

Advanced deterioration/corrosion of boiler emission vent stack connection to chimney was observed (fig. 23). This condition could deteriorate and result in CO leakage to building interior presenting a serious health and safety hazard. Further inspection and repair by a licensed heating specialist is advised.

Section Photos

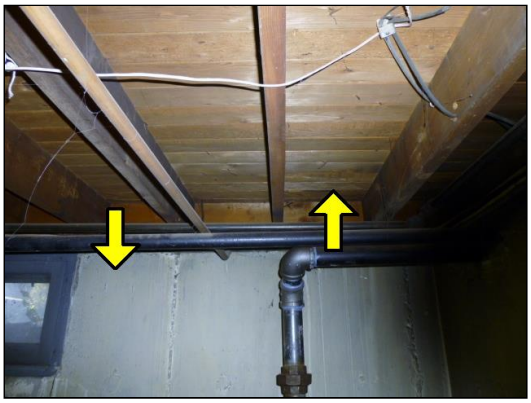


fig. 19

fig. 20

fig. 21

fig. 22

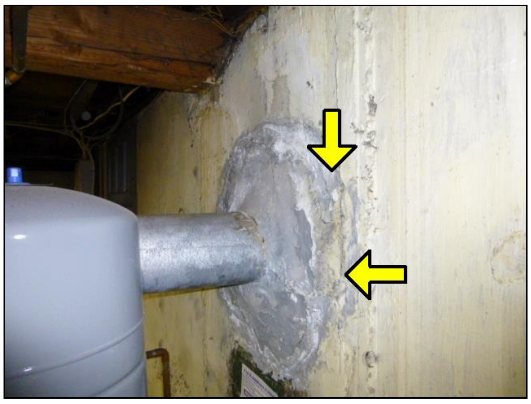


fig. 23

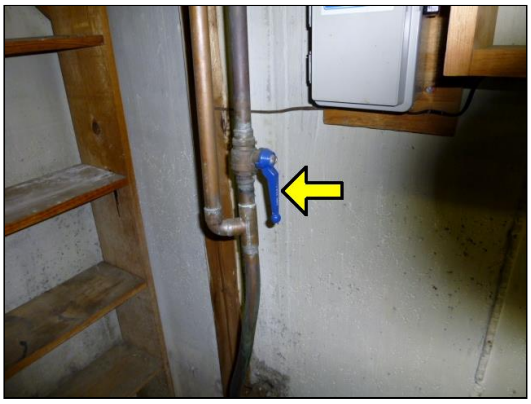


fig. 24

fig. 25

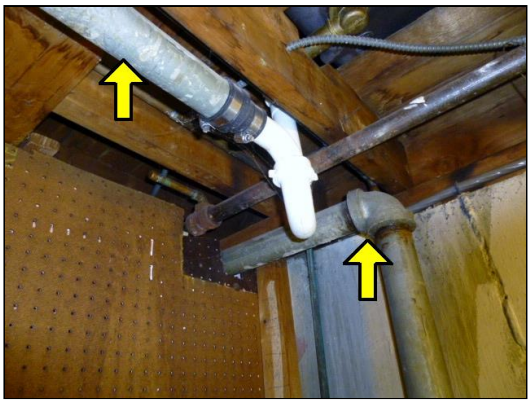


fig. 26

The heating and cooling system of this home was inspected and reported on with the above information. While the inspector makes every effort to find all areas of concern, some areas can go unnoticed. The inspection is not meant to be technically exhaustive. The inspection does not involve removal and inspection behind service door or dismantling that would otherwise reveal something only a licensed heat contractor would discover. Please be aware that the inspector has your best interest in mind. Any repair items mentioned in this report should be considered before purchase. It is recommended that qualified contractors be used in your further inspection or repair issues as it relates to the comments in this inspection report.

8. Plumbing System

Phase 9: Plumbing Components

Includes Inspection of : Interior water supply and distribution system, piping materials, fixtures and faucets; functional flow; leaks; and cross connections. Waste drainage, and vent system, including: traps; drain, waste, vent piping, and functional drainage. Hot water systems including: water heating equipment. Operation of all plumbing fixtures, and testing of sump pumps.

The home inspector is not required to: State the effectiveness of anti-siphon devices; Determine whether water supply and waste disposal systems are public or private; Operate automatic safety controls; Operate any valve except water closet flush valves, fixture faucets, and hose faucets; Observe: Water conditioning systems; Fire and lawn sprinkler systems; On-site water supply quantity and quality; On-site waste disposal systems; Foundation irrigation systems; Spas, except as to functional flow and functional drainage; Swimming pools; Solar water heating equipment; or Observe the system for proper sizing, design, or use of proper materials.

Styles & Materials

Limitations:
Finished Basement
Concealed Components

Water Source:
Public Supply

Water Pressure:
Typical

Plumbing Water Supply Main:
Copper

Plumbing Waste System:
Cast iron
Galvanized Steel

Waste Drainage Performance:
Normal

Water Heater Power Source:
None (Boiler only)

Items

8.0 Public Water Suppy

Comments: Inspected

Water main shut off valve is located at southeast basement corner (fig. 24). Absence of an approved back-flow preventer valve for in-ground irrigation system was noted. Installation by a licensed plumbing contractor is advised.

8.1 Distribution Piping

Comments: Inspected

Visible copper plumbing hot and cold water supply components appear professionally installed and in satisfactory condition.

8.2 Waste Drainage System

Comments: Inspected

Waste drainage performance was normal at time of inspection. Visible evidence of past treatment/service was noted at main waste drainage line access trap (fig. 25). Periodic blockage from exterior yard tree root systems is suspected. Future treatment/service by a licensed sewer and drain contractor will be required. Remaining galvanized steel waste drainage components are subject to higher failure rate and may require future service/replacement (fig. 26).

8.3 Venting

Comments: Inspected

8.4 Domestic Hot Water Delivery

Comments: Inspected

Hot water is supplied by internal boiler continuous hot water coil. Future installation of indirect fired hot water storage tank will augment available hot water supply.

8.5 Exterior Hose Bibbs

Comments: Inspected

Exterior hose bibbs are functional. Reminder: Hose bibbs require shut-off for cold weather season to reduce risk of freezing and resulting plumbing pipe damage.

The plumbing in the home was inspected and reported on with the above information. While the inspector makes every effort to find all areas of concern, some areas can go unnoticed. Washing machine drain line for example cannot be checked for leaks or the ability to handle the volume during drain cycle. Older homes with galvanized supply lines or cast iron drain lines can be obstructed and barely working during an inspection but then fails under heavy use. If the water is turned off or not used for periods of time (like a vacant home waiting for closing) rust or deposits within the pipes can further clog the piping system. Please be aware that the inspector has your best interest in mind. Any repair items mentioned in this report should be considered before purchase. It is recommended that qualified contractors be used in your further inspection or repair issues as it relates to the comments in this inspection report.

9. Bathrooms

Phase 10: Bathrooms

Includes Inspection of: Entry doors, windows, floor surfaces, wall & ceiling surfaces, lighting, electrical, and ventilation. Sinks, faucets, & drains. Vanities & counter tops. Toilets, tubs, showers, enclosures, tub/shower faucets. Heating source.

Styles & Materials

Locations:	Number of Full Bathrooms:	Water Pressure:
1st Floor 2nd Floor	2	Normal
Heating Source:	**Visible Leaks:**	
Radiator	None	

Items

9.0 Bathrooms

Comments: Inspected

Subject property has a total of 2 bathrooms. The general condition of bathrooms is satisfactory.

9.1 Water Pressure

Comments: Inspected

9.2 Floor

Comments: Inspected

9.3 Wall/Ceiling

Comments: Inspected

9.4 Window/Door

Comments: Inspected

9.5 Lighting/Receptacles/Exhaust Fans

Comments: Inspected

Bathroom lighting fixtures and receptacles are functional. Recommend future installation of grounded GFCI receptacles for improved safety and convenience. Future installation of exhaust fans is recommended.

9.6 Sink/Faucet

Comments: Inspected

9.7 Vanity/Counter Top

Comments: Inspected

9.8 Toilet

Comments: Inspected

Toilets are operative.

9.9 Tub

Comments: Inspected

Ceramic tub enclosures appear in satisfactory condition. Advise routine regrouting and recaulking to reduce risk of interior wall and floor water penetration and related damages.

9.10 Tub/Shower Faucet

Comments: Inspected

9.11 Heating

Comments: Inspected

10. Laundry

Phase 11: Laundry Appliances

Includes Inspection of: clothes washers, clothes dryers, hot & cold water supplies, drainage components, venting, power/fuel source, and laundry tub sinks.

Styles & Materials

Washer:	Dryer:	Tub Sink:
Maytag	Maytag	Concrete

Items

10.0 Laundry Appliances

Comments: Inspected

Laundry appliances are operational but appear aged and in poor condition. Anticipate future replacement. Clothes dryers require metal venting hose to building exterior and annual vent cleaning to reduce risk of safety hazard.

10.1 Laundry Tub Sink

Comments: Inspected

Tub sink faucet leaks under operation, further inspection and repair by a licensed plumbing contractor is advised.

11. Kitchen/Built-In Appliances

Phase 13: Kitchen

Includes Inspection of: floors surfaces, wall & ceiling surfaces, windows & doors, lighting & receptacles, sinks/faucets & drains, counter tops & cabinets, and basic operation of major appliances.

Styles & Materials

Cabinets:
Wood

Counter Tops:
Laminate

Dishwasher:
GENERAL ELECTRIC

Range/Oven:
GENERAL ELECTRIC

Built in Microwave:

Refrigerator:
GENERAL ELECTRIC

Heating Source:
Radiator

Items

11.0 Flooring
Comments: Inspected

11.1 Walls & Ceiling
Comments: Inspected

11.2 Windows & Doors
Comments: Inspected

11.3 Lighting & Receptacles
Comments: Inspected
Lighting and receptacles are functional. Recommend future installation of grounded GFCI receptacles for improved safety and convenience.

11.4 Sink, Faucet, & Drain
Comments: Inspected

11.5 Cabinets & Counter Tops
Comments: Inspected

11.6 Major Appliances
Comments: Inspected
Major appliances are operational and appear in fair condition.

11.7 Cook Top Exhaust Vent
Comments: Inspected
Cook-top exhaust fan is functional.

The built-in appliances of the home were inspected and reported on with the above information. While the inspector makes every effort to find all areas of concern, some areas can go unnoticed. Please be aware that the inspector has your best interest in mind. Any repair items mentioned in this report should be considered before purchase. It is recommended that qualified contractors be used in your further inspection or repair issues as it relates to the comments in this inspection report.

12. Interior Rooms

Phase 14: Interior Rooms

Includes Inspection of: floors surfaces, wall & ceiling surfaces, representative number of windows & doors, lighting fixtures & receptacles. Accessible closets

The home inspector shall observe: Walls, ceiling, and floors; Steps, stairways, balconies, and railings. A representative number of doors, windows, lighting fixtures, and receptacles. The home inspector shall: Operate a representative number of windows/interior doors and lighting fixtures/receptacles; and report signs of abnormal or harmful water penetration into the building or signs of abnormal or harmful condensation on building components. The home inspector is not required to observe: Paint, wallpaper, and other finish treatments on the interior walls, ceilings, and floors; Carpeting; or Draperies, blinds, or other window treatments.

Styles & Materials

Floor Covering(s):
Carpet
Wood

Wall Material:
Sheet Rock

Ceiling Materials:
Sheet Rock

Interior Doors:
Hollow core

Window Types:
Thermal/Insulated
Vinyl Frame
Wood Frame

# of Bedrooms:
4

Heating:
Baseboard

Items

12.0 Interior Room Summary

Comments: Inspected

Subject property has a total of 7 interior rooms including 4 bedrooms. The general condition of interior rooms is satisfactory.

12.1 Flooring

Comments: Inspected

12.2 Walls & Ceilings

Comments: Inspected

Evidence of past moisture/water stain was noted on bedroom and dining room ceilings. Previous roof/flashing leakage is suspected. No moisture reading was present at inspection, leak appears inactive. Advise routine future monitoring. Further evaluation and repair/maintenance by a qualified licensed roofing contractor is advised if leakage recurs.

Typical minor stress cracks and flaws were observed at various wall/ceiling locations, often the result of expansion, contraction, and building settlement. These were not critical in nature, and are considered commonplace in construction. Routine repair and re-painting will be required.

12.3 Windows & Doors (representative number)

Comments: Inspected

12.4 Steps, Stairways, Balconies and Railings

Comments: Inspected

12.5 Lighting & Receptacles

Comments: Inspected

The interior of the home was inspected and reported on with the above information. While the inspector makes every effort to find all areas of concern, some areas can go unnoticed. The inspection did not involve moving furniture and inspecting behind furniture, area rugs or areas obstructed from view. Please be aware that the inspector has your best interest in mind. Any repair items mentioned in this report should be considered before purchase. It is recommended that qualified contractors be used in your further inspection or repair issues as it relates to the comments in this inspection report.

13. Supplemental Comments

IMPORTANT - PLEASE READ

This report was conducted using the standards as required by the New York State as provided in Title 19NYCRR Subparts 197-4 and 197-5 et seq. in Article 12B of the real Property Law. The report emphasis is on identifying Material Defects as emphasized in the Report Commentary. A Material Defect is a condition, or functional aspect, of a structural component or system that is readily ascertainable during a home inspection that SUBSTANTIALLY AFFECTS the value, habitability or safety of the dwelling, but does not include decorative, cosmetic, or aesthetic aspects of the system, structure or component. We may list some minor items for repair. However, we are only looking for items that substantially affect the value, habitability or safety of the dwelling. All items listed in the Report Commentary should be evaluated and repaired by qualified contractors; and all receipts and necessary documentation should be obtained prior to settlement. If time does not permit completion of repairs prior to settlement, obtain repair cost estimates from qualified contractors. The report is based on a visual inspection of the structure, electrical, heating, air conditioning, ventilation, plumbing, roofing and exterior wall cladding systems, on a sampling basis. An all-inclusive list of minor building repairs will not be provided. Building code and compliance issues are not covered in the inspection.

LEAD BASED PAINT:

It has been determined that if this home was built before 1978 it stands a high risk of having lead based paint presence. Not only is lead not good for your health, under the EPA ruling 40 CFR Part 745 effective April 22, 2010, any renovation, remodeling or painting not performed by yourself must be done by a certified contractor following lead-safe practices and this could lead to higher prices than similar contracts performed on homes that do not have lead based paint present. It is recommended that a preliminary screening for lead based paint be conducted to determine the likelihood of the presence of lead before closing if this is a concern for you.

SERVICE RECORDS AND DOCUMENTATION:

It is recommended to obtain service, update and replacement records from the current owner prior to the close of escrow for any work performed in the home to help determine associated upkeep costs, age of related components and possible existence of warranty or guarantee from a manufacturer or service company.

FINAL WALK-THRU INSPECTION:

A final walk-thru inspection of the property by the purchaser is customary in real estate transactions and is normally conducted a day before closing of the transaction. At this time, all personal property and furnishings should have been removed and an unobstructed examination of the interior is possible. You are advised to walk through and carefully observe the condition of the property for any flaws or defects that may not have been visible during the home inspection or which may have occurred since then. You are especially urged to look for any signs of water leakage and physical damage. Since the condition of mechanical equipment can change over any given time period, it is your responsibility to verify the functional condition of the various components and systems prior to settlement. You are advised to operate all appliances, plumbing fixtures and faucets, heating and cooling systems (weather permitting) and all other equipment included in the sale of the property.

REPAIRS AND RENOVATIONS:

All updating, maintenance and repairs performed in the home whether recommended in the report or otherwise should be performed only by qualified and licensed individuals. This provides some assurances as to the quality of work and accountability for any work contracted. It is recommended to obtain multiple estimates and check references for all contractors hired to conduct work in a home.

CONSTRUCTION REGULATIONS / CODE COMPLIANCE:

A standard home inspection does not include evaluation of a property for compliance with building or health codes, zoning regulations or other local codes or ordinances. Such inspections, if required, are normally performed by local officials or private code inspection agencies at the time of the original construction or renovations. Codes are revised on a periodic basis; consequently, existing structures generally do not meet current code standards, nor is such compliance usually required. Any questions regarding code compliance should be addressed to the appropriate local officials.

General Summary

Suburban Consultants Ltd.

PO Box 270
East Norwich, NY 11732
(800) 848-6171

Customer
Mr. and Mrs. Edward Thomson

Address
72 Pine Street
Springfield NY 11888

The following items or discoveries indicate that these systems or components **do not function as intended** or **adversely affects the habitability of the dwelling;** or **warrants further investigation by a specialist,** or **requires subsequent observation.** This summary shall not contain recommendations for routine upkeep of a system or component to keep it in proper functioning condition or recommendations to upgrade or enhance the function or efficiency of the home. This Summary is not the entire report. The complete report may include additional information of concern to the customer. It is recommended that the customer read the complete report.

1. Exterior Grounds

1.4 Patio/Deck

Inspected, Repair or Replace

Visible evidence indicates that north yard wood deck pre-dates current local building code standards but typical of similarly aged decks 9fig. 6). Such structures typically require municipal building permits and occupancy certificates to ensure an acceptable level of construction. Ledger board is not lag bolted to building, absence of steel joist hangers, excessive span between floor joists, absence of concrete footings for wood support posts, and advanced wood rot was noted (fig. 7). Further inspection, reinforcement, repair, power wash, and wood preservative application by a licensed deck specialist is advised. Future demolition and replacement is recommended.

3. Roofing

3.4 **Chimney(s)**

Inspected, Repair or Replace

Brick chimney vent structure appears in satisfactory condition (fig. 14a). Installation of an exterior flue liner rain cap by a licensed chimney specialist is advised (fig. 14b).

5. Electrical System

5.0 **Electrical Service**

Inspected, Repair or Replace

Exterior electrical service entrance cable conduit is poorly secured to building wall presenting a potential electrical hazard (fig. 15). Further inspection and repair by a licensed electrical contractor is advised.

7. Heating/Central Air Conditioning

7.4 **Venting/Piping**

Inspected, Repair or Replace

Advanced deterioration/corrosion of boiler emission vent stack connection to chimney was observed (fig. 23). This condition could deteriorate and result in CO leakage to building interior presenting a serious health and safety hazard. Further inspection and repair by a licensed heating specialist is advised.

Home inspectors are not required to report on the following: Life expectancy of any component or system; The causes of the need for a repair; The methods, materials, and costs of corrections; The suitability of the property for any specialized use; Compliance or non-compliance with codes, ordinances, statutes, regulatory requirements or restrictions; The market value of the property or its marketability; The advisability or inadvisability of purchase of the property; Any component or system that was not observed; The presence or absence of pests such as wood damaging organisms, rodents, or insects; or Cosmetic items, underground items, or items not permanently installed. Home inspectors are not required to: Offer warranties or guarantees of any kind; Calculate the strength, adequacy, or efficiency of any system or component; Enter any area or perform any procedure that may damage the property or its components or be dangerous to the home inspector or other persons; Operate any system or component that is shut down or otherwise inoperable; Operate any system or component that does not respond to normal operating controls; Disturb insulation, move personal items, panels, furniture, equipment, plant life, soil, snow, ice, or debris that obstructs access or visibility; Determine the presence or absence of any suspected adverse environmental condition or hazardous substance, including but not limited to mold, toxins, carcinogens, noise, contaminants in the building or in soil, water, and air; Determine the effectiveness of any system installed to control or remove suspected hazardous substances; Predict future condition, including but not limited to failure of components; Since this report is provided for the specific benefit of the customer(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.

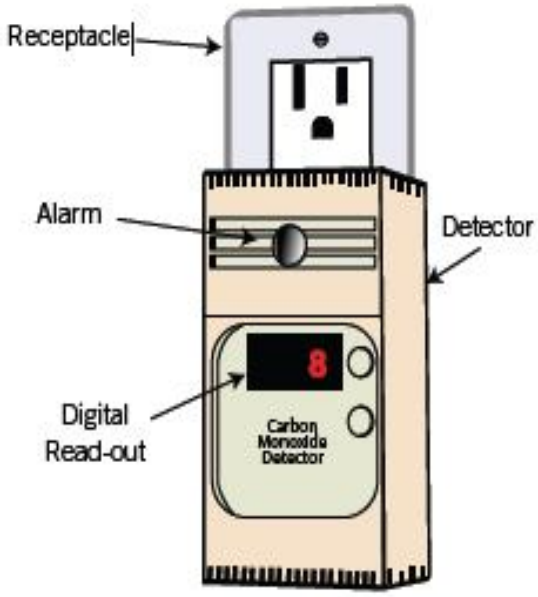
Prepared Using HomeGauge http://www.HomeGauge.com : Licensed To William Murphy

SUBURBAN CONSULTANTS
PROPERTY INSPECTIONS
HOME & BUILDING INSPECTION SERVICES

Carbon Monoxide

Carbon monoxide, or CO, a byproduct of incomplete combustion of fossil fuels, is a colorless, odorless gas. Breathing CO reduces the blood's ability to carry oxygen. In severe cases, CO can cause death.

Defective or malfunctioning fossil fuel appliances, or inappropriate use of appliances that burn fossil fuel close to or inside the home can pose a serious health hazard. Here are a few examples of dangerous operations:



- Running an automobile or gas lawn mower inside the garage
- Operating a barbeque inside the home
- A gas or oil burning furnace with a blockage in the chimney
- Kerosene space heaters
- Operating a generator in the home during a power failure

Symptoms of Carbon Monoxide Poisoning

Symptoms of carbon monoxide poisoning include headache, dizziness, nausea, vomiting, weakness, chest pain, confusion, and loss of consciousness. Carbon monoxide poisoning can lead to death. Low level poisoning may go unnoticed because it may be mistaken for the flu.

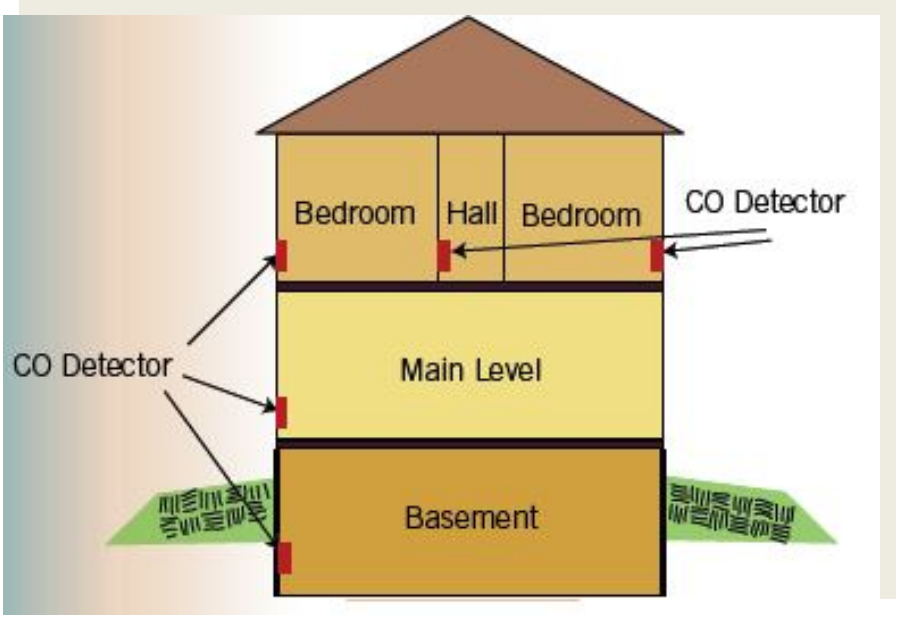
Carbon Monoxide Detector

You should have at least one carbon monoxide detector in your home. In some geographic areas, a CO detector is required by law. The CO detector should be placed where you can hear it if it goes off when you are asleep. A CO detector does not have to be placed on the ceiling, since unlike smoke, CO has approximately the same weight as air so it mixes uniformly throughout the room rather than floating up to the ceiling.

To avoid false alarms, do not install the detector next to heating and cooking appliances, vents, flues, or chimneys. Make sure you read and follow the operating, placement, and testing instructions that come with the detector.
If the carbon monoxide detector alarms, take it seriously.

Avoiding CO Poisoning

- Have your heating systems serviced every year by a qualified technician.
- Have your fireplace chimney cleaned and inspected every year.
- Install at least one CO detector in your home and replace the batteries twice per year.
- Open the garage door prior to starting your car; drive the car out promptly. Do not leave it idling in the garage. Do not use a remote car starter when the car is in the garage.
- Do not use a charcoal or propane barbeque in the home.



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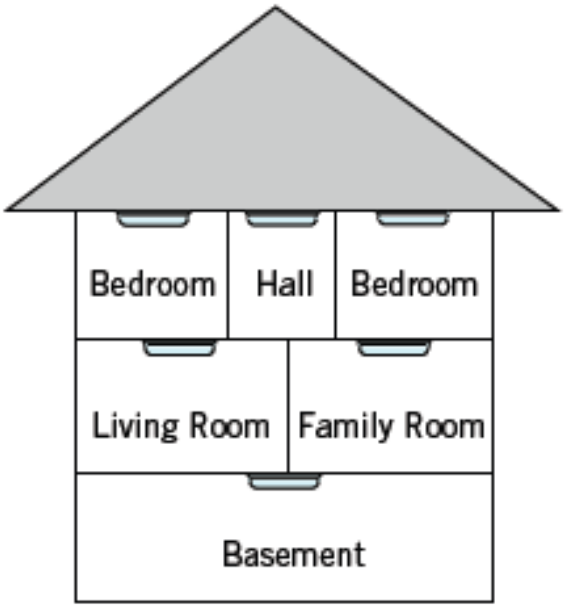
Smoke Alarms

Smoke alarms are an incredible success story. Once the concept took hold in the 1970s, it wasn't long before the fire death rate was cut in half! Now, more than three decades later, most homes have at least one smoke alarm but we still have a problem – the smoke alarms aren't working! In one quarter of the homes with smoke alarms, the smoke alarms don't work. The cause is missing, dead or disconnected batteries (National Fire Protection Association). Here we would like to encourage you to pay more attention to your smoke alarms.



The two key goals of smoke alarms are –

- To wake you up. You can't sense smoke and flame when you are asleep.
- Early warning. The sooner you know about a fire the better the possible outcome

Placement of Smoke Alarms

While you should consult the instructions provided with the smoke alarm, here are some general guidelines. We do not address local bylaws and codes here.

- There should be at least one smoke alarm per floor including the basement.
- Smoke alarms should be placed outside every separate sleeping area. Many authorities suggest an alarm inside each bedroom as well.
- The alarm can be placed on the ceiling or high up on the wall. If the alarm is on the ceiling, it should be at least four inches away from any walls. If the alarm is on the wall, it should be at least four inches but not more than twelve inches from the ceiling.
- Peaked ceilings have stagnant air at the top. The smoke alarm should be three feet from the highest point.
- Do not place the smoke alarm where it could be affected by drafts such as next to a window or air vent.

Maintaining

Test the smoke alarm once per month by pressing the test button until the alarm sounds then release the button. If the smoke alarm is battery operated, replace the battery every year. If you hear a chirping sound from the smoke alarm, change the batteries. Dust or vacuum the surface periodically. Replace the entire unit if it is older than 10 years or if you are not sure how old it is. Print the installation date inside the cover.

False Alarms

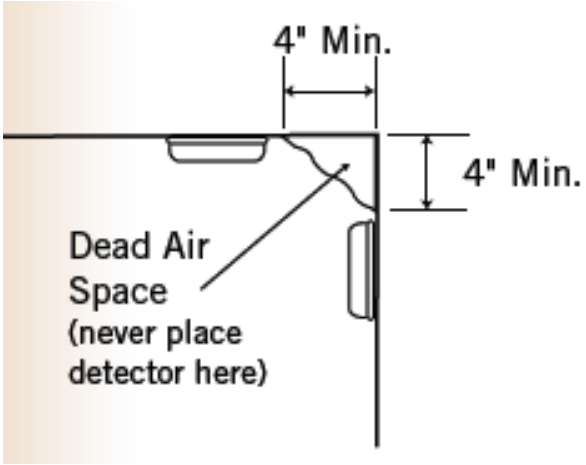
Nuisance tripping of your smoke alarm is bound to happen occasionally. Unfortunately, many people remove the battery to silence the alarm with the good intention of replacing it after the smoke clears. Here are some better ways to deal with nuisance tripping: Use an alarm with a 'hush button'. Move the smoke alarm a little further from the kitchen area. Try a different type of alarm. Some experts say that a photoelectric smoke alarm is a little less sensitive to common causes of false alarms.

Hard Wired Alarms

Many homes today have smoke alarms wired right into the household electrical system. In addition, some homes have interconnected smoke alarms. This means if one alarm in the home sounds then the others sound as well.

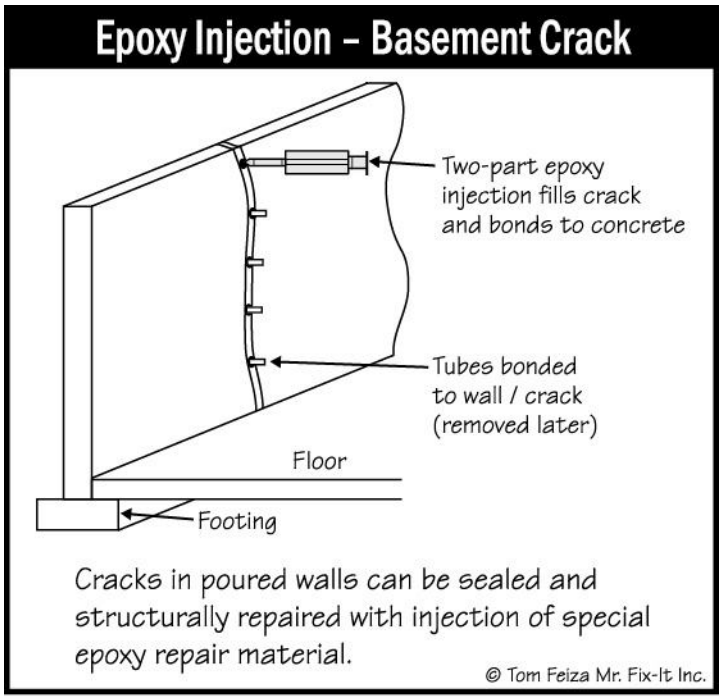
Escape Plan

Smoke and flame can spread quickly so you need to react quickly. It is vital that you and your family know what to do on hearing a smoke alarm. You should plan an escape route from every area of the home and identify a safe area to meet outside the home. You should rehearse the escape plan with your family. Walk through and identify obstacles that may slow you down such as windows that are jammed or exits that are crowded with storage etc.



Foundation Cracks

There are no perfect houses. Whether you have a new home or one that's a hundred years old, houses have cracks. Houses shift and settle into position after construction. Houses will have cracks in either the cosmetic finishes or structural components. Most of these cracks have no structural significance. Some are significant and home inspectors use every technique to help their clients figure out the difference.



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Shrinkage Cracks

A newly poured, concrete foundation may contain small cracks because concrete shrinks as it cures. Fortunately, a shrinkage crack in a foundation wall is not structurally significant. Here's how to recognize a shrinkage crack in a poured, concrete foundation:

- The crack will be small, less than 1/8th of an inch wide.
- The crack will be vertical.
- The crack will not extend up through the structure. The crack is in the foundation wall only.
- Shrinkage cracks usually occur in the middle third of the length of the foundation wall. If the crack is located towards the end of the length of the foundation wall, it's probably not a shrinkage crack.

Horizontal Cracks In A Basement Foundation Wall

This discussion relates to cracks in the concrete foundation wall for a house with a basement. This is not relevant to slabs on grade or to cracks in walls above grade level.

A horizontal crack in a foundation wall, below grade, which runs the length of the basement, is likely a sign that the foundation is failing under the weight of the surrounding soil. The soil outside the foundation wall exerts an enormous pressure on the foundation wall. Foundation walls are designed to be strong enough to resist this load. Occasionally, unanticipated, additional loads exert pressure and the foundation begins to fail, resulting in a horizontal crack in the foundation wall.

Settlement Cracks

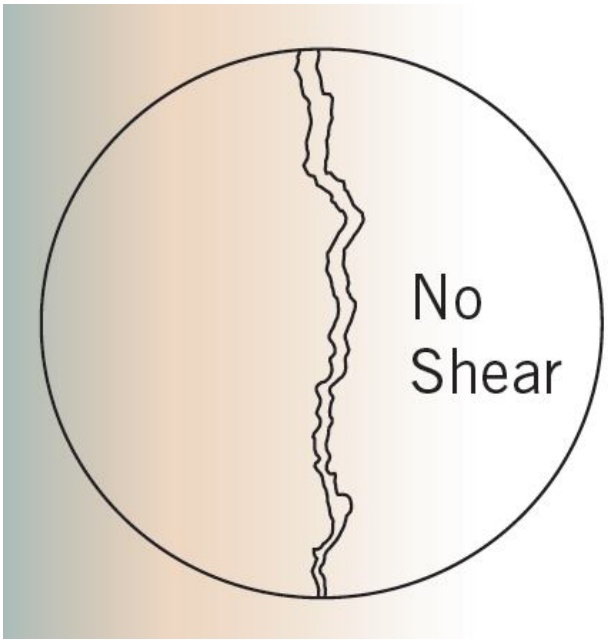
Foundation settlement cracks are vertical, extending up through the structure. For a brick home, you may see cracks following the mortar joints in the brick wall. In most cases, the settlement crack itself has no structural significance. Rather, we are concerned that the house could continue to settle over time.

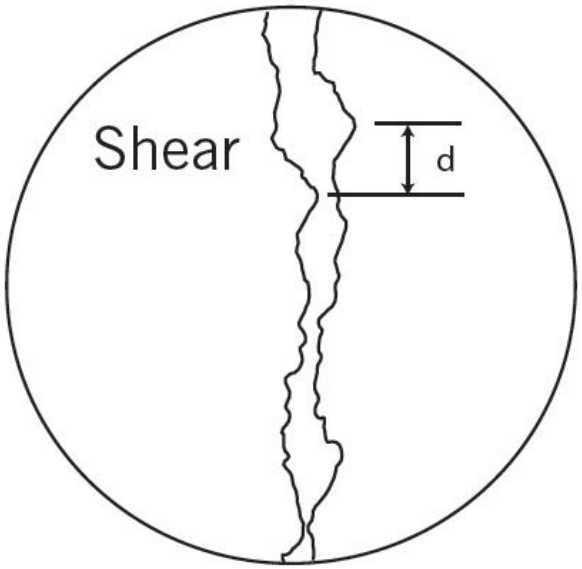
Most settlement cracks are the result of short-term settlement. Ongoing settlement is unlikely and uncommon. Unfortunately, it is very difficult to identify ongoing settlement from a one-time visit to the home. Since multiple visits to the home over a few years is not compatible with a real estate transaction, we have to use our experience to 'read the cracks' and take an educated guess as to whether ongoing settlement is likely.

Settlement crack size: A larger settlement crack is more likely to be due to ongoing movement than a smaller settlement crack. While there are no hard and fast rules, a settlement crack or series of settlement cracks that have a sum total opening of less than 1/4 inch are probably not due to ongoing settlement.

Direction of movement: A typical settlement crack is vertical, where the crack opens up. The bumps and crevices line up and fit together like the pieces of a puzzle. If the crack face has moved in any other directions, such as a shear crack, the quarter-inch rule described above does not apply. This can be a significant structural concern.

Repaired and re-cracked: A settlement crack that has been repaired and has re-cracked (not just a hairline crack) also could indicate ongoing movement.





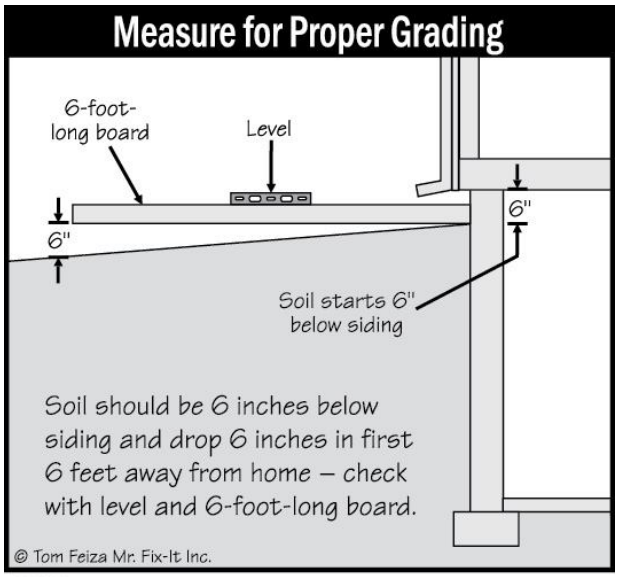
Damp Basements

Damp basements are one of the most common problems that plague homes. This includes old houses and new houses. Many damp basements can be improved simply and inexpensively. It is worth investigating a little yourself before calling in a basement expert.

Surface Water

The most common cause of damp basements is improper handling of exterior surface water (rain water). Surface water that saturates the soil immediately next to the home can make its way into the basement.

One good way to investigate this possibility is by walking around the home during a rain storm. Check the following –



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- Gutters should be clear and drain properly. Overflowing gutters are a common problem.
- Downspouts should not flood water next to the house. Add an extension (leader) to discharge the water well away from the home.
- Downspouts that discharge below grade should be checked very carefully. Make sure water is not leaking into the soil or backing up into the basement through the floor drain. In some cases it is prudent to disconnect downspouts that discharge below grade and redirect the water away from the house instead. Ask your inspector for advice on this.
- Land around the house should shed water away from the house for at least six feet.

Condensation

Condensation is a common problem in basements. Condensation looks and smells like basement leakage. It is sometimes difficult to distinguish between the two. There are a few things you can do to improve the situation. First, try reducing the sources of interior moisture. If there is a shower or bathtub in the basement that is used regularly, make sure there is an exhaust vent and that it gets used. Verify that the clothes dryer vents outside. If the basement is clearly colder than the rest of the house, warm it up. This will reduce the relative humidity and reduce the potential for condensation.

One of the most common scenarios is an air conditioned home where the basement is colder than the rest of the house. These basements often smell and feel damp. Reduce the flow of cold air to the basement by closing air registers. Consult with a Heating, Ventilation and Air Conditioning (HVAC) technician to investigate the possibility of adding return air registers to the basement.
If you see moisture on the surface of the foundation, you can test if it is water seeping through the foundation or if it is condensation. Tape a piece of clear plastic sheet, about one foot square, tight to the foundation wall. After a few days, see if moisture has formed on top or underneath the plastic. If the moisture is on top, you have a condensation problem.

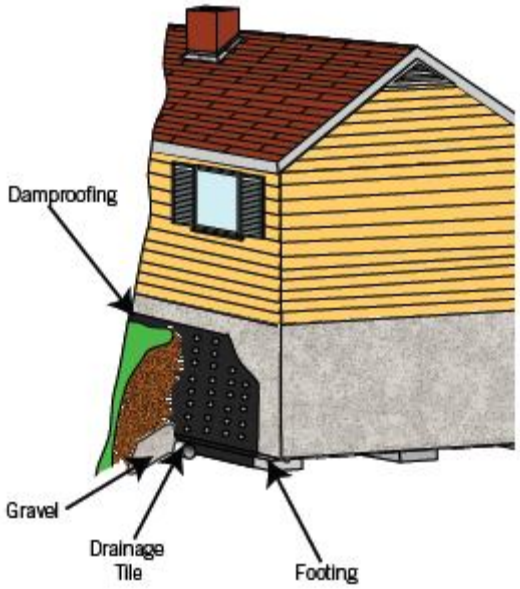
Dehumidifiers

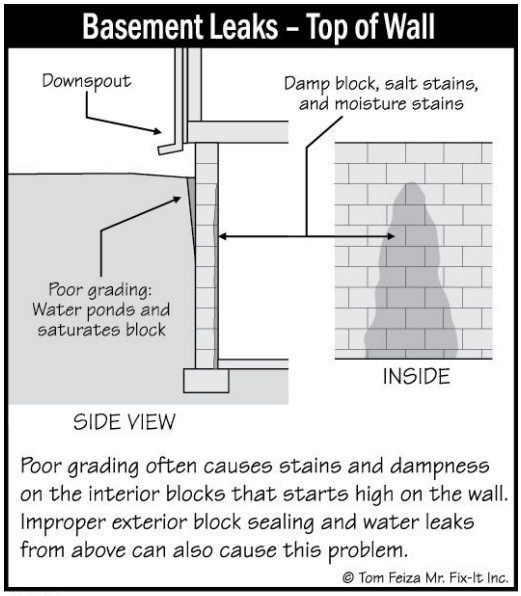
Dehumidifiers sure do work to reduce the moisture in the air and thus tend to dry the basement. However, dehumidifiers use a great deal of energy. Try to deal with the source of the moisture first. Many inspectors have reported seeing many homes with clothes dryers venting gallons of moisture into the basement with dehumidifiers running continuously along side. This is a huge waste of energy!

Basement Floor Drain

Basement floor drains should have water in them. This water is a vapor lock that prevents sewer smells from getting into the house. If your basement has a musty smell, check the floor drains. If the drain is dry, pour a bucket of water down the drain. Check it again an hour later to see if the drain keeps its prime.

While some basement dampness problems can be solved or at least improved with a little thoughtful sleuthing, some dampness problems are more serious. In these situations, an expert will be required.





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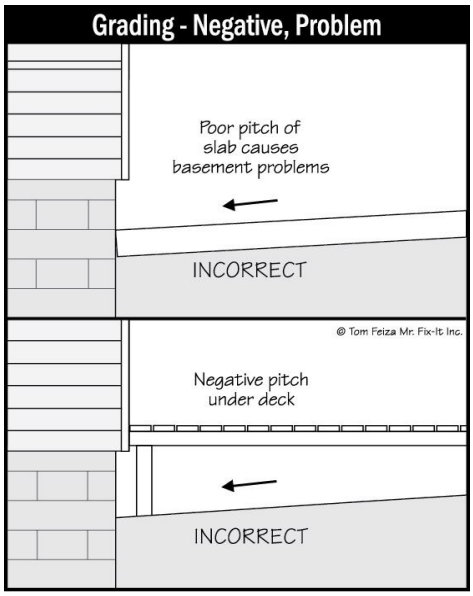

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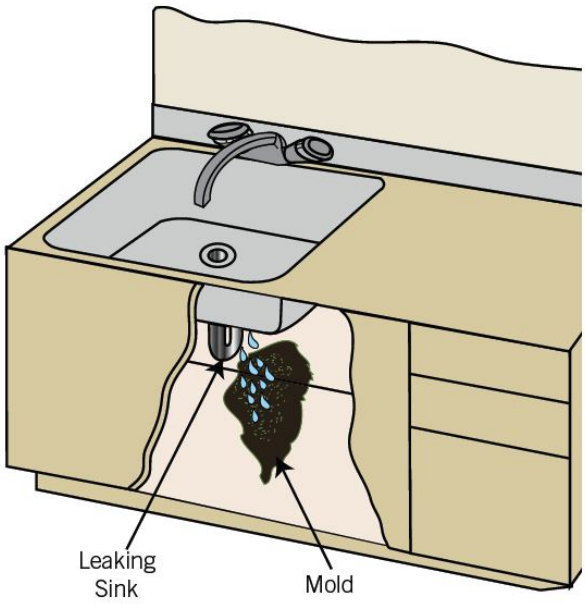
Mold in Your Home

With so much in the news about the dangers of mold in your home, and the associated health risks, it is easy to get carried away with fear. As with most things, however, a little knowledge goes a long way – getting a clearer picture of the issues and solutions will not only reduce fear, but will also arm you with preventative tools.

Mold has been with us since the beginning of time. Believe it or not, you already have mold in your house. Leave a loaf of bread on your counter for a couple of weeks and you will see it grow. All mold needs to thrive and multiply is a food source, a little water, and oxygen.

Building materials are good food source for mold spores. Add water (you do not need to add oxygen since it's everywhere) and you have a mold problem. Water is the key to understanding and controlling mold since it is the only mold-growth factor you can control.



Repair Plumbing Leaks Promptly

What To Do About Mold

You can clean mold yourself if it appears in small amounts. If you find a large amount of mold, or if you suffer from any kind of lung condition, you should get someone else to clean it for you.

You can scrub mold found on hard surfaces with water and detergent. Mold in absorbent materials, however, such as carpets, is more difficult to clean. Better to just throw the carpet out. If you have a flood in your home, it is critical to dry things up quickly. Call in an expert who specializes in flood clean-up.

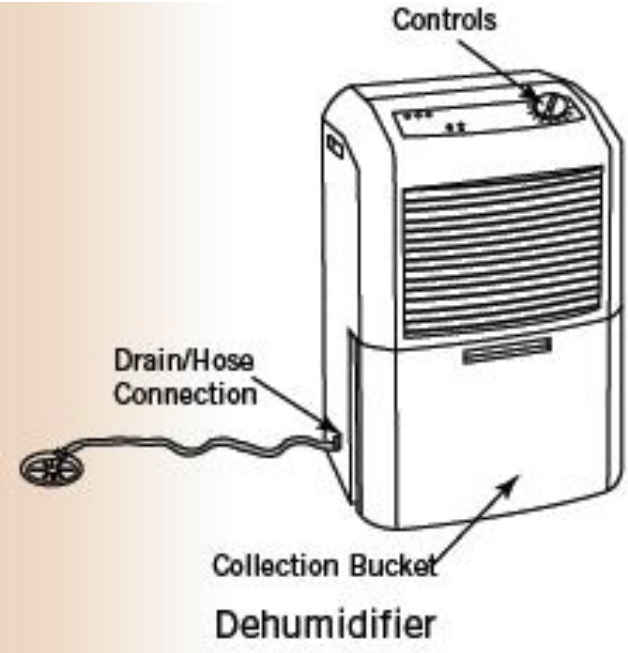
Government web sites offer free and detailed common sense guides on how to clean mold:

- Centers For Disease Control And Prevention: www.cdc.gov
- U.S. Environmental Protection Agency: www.epa.gov
- Canada Mortgage and Housing Corporation: www.cmhc-schl.gc.ca

Preventative measures

- Deal promptly with water leakage in areas such as the roof, plumbing, and basement.
- Keep indoor humidity levels at 50% or lower. In cold climates during winter, 50% is still too high. Condensation on the windows indicate that you have too much humidity. Check the chart on your humidifier.
- Make sure your clothes dryer vents to the outside rather than into the house. Check the discharge pipe, too, as these pipes often become disconnected.
- Use your bathroom ventilation fan when showering or bathing, and leave the fan running for about twenty minutes afterwards. Similarly, use your kitchen range hood to discharge steam outside when cooking.
- A central air-conditioning system effectively reduces humidity levels in warm weather. If areas of your home seem humid during air-conditioning season, you may develop a condensation problem. Sometimes adding a return air vent in the damp area, or adding a damper to the ducting that supplies the area, can improve humidity levels dramatically. Dehumidifiers also help, but be aware that they are expensive to run and do not condition the house. Ask an air-conditioning technician to look at the situation.
- Do not put carpets in damp or humid areas. Also, keep furniture and storage away from the wall to ensure good air circulation.

Mold may be here to stay but it can be controlled. Look for dampness in your home and deal with it promptly



SUBURBAN CONSULTANTS
PROPERTY INSPECTIONS
HOME & BUILDING INSPECTION SERVICES

ASPHALT SHINGLES

Asphalt shingles are the most common type of sloped roof covering in North America. They are easy to install, reliable and arguably the best bang for the buck.

Three layers of an asphalt shingle

Shingle Construction

While there are many types of asphalt shingles, the general construction is similar. There are

three distinct layers -

• A base material that gives the shingle strength and shape.

• An asphalt layer that forms a waterproof barrier.

• A granular surface that reflects the ultraviolet radiation and gives the shingle durability, color and texture.

Warranty

What's a 20 year shingle? 20 years is the manufacturer's limited warranty against defects. The number loosely represents the number of years the shingle could last in an ideal installation and ideal conditions. In practice, the reliable life is less than stated. Common shingle warranties are 15 to 50 years. The higher the warranty, the thicker the layer of asphalt and the thicker and heavier the shingle.

Fiberglass or Organic Based Asphalt Shingles

The two common base layer materials are paper saturated in asphalt and fiberglass. While they are both asphalt shingles, they are often referred to as organic and fiberglass respectively. Fiberglass base shingles were developed to use less of the expensive asphalt but still maintain the same shingle life. The main difference is that the fiberglass based shingle is thinner and lighter than the equivalent organic shingle, making it more desirable for installers. Organic shingles are thicker and heavier and are considered to have better durabilityand tear resistance. Fiberglass based shingles are more flexible in hot weather and may perform better in wind storms. Both types are used successfully in most climates. There have been problems reported with fiberglass based shingles involving cracking of the shingles due to thermal stress (large temperature fluctuations). These problems are less prevalent now as new standards for manufacturing these shingles have been adopted by most manufacturers.

Architectural / Laminated Shingles

The most common asphalt shingle is the three tab shingle shown in the illustrations. Instead of three tabs, the architectural shingle has pieces of shingle material stuck on to create a more interesting pattern. Because there are pieces stuck on, it's often called a *laminated shingle*. Since it's a premium product, it will have a 25 to 30 year warranty as a minimum. Many styles are available.

On The Roof

The illustration below shows a roof deck with the first few rows of shingles. The shingles are arranged so water sheds from one shingle to the next. The key point is that the system is not waterproof. It relies on gravity and the slope of the roof to shed water. Asphalt shingles are designed for a roof with a slope of 4 in 12 or greater. They can be used on low slope roofs as well but a special application technique is required.

Flashing: Asphalt shingles will shed water reliably. At roof penetrations or intersections, special treatment is required. For example, you can't reliably seal shingles to the edge of a skylight or chimney. Flashings are pieces of metal that are strategically placed to shed water over roof penetrations and onto the field of shingles without relying on sealants. Done properly, flashings will do the job for the life of the roof as they rely on nothing but gravity and slope. Flashings are often not done properly and are considered to be the weak point of any roof surface. Roofs rarely leak in the middle of a field of shingles, they leak at roof penetrations and intersections where flashing has been poorly installed or have become damaged.

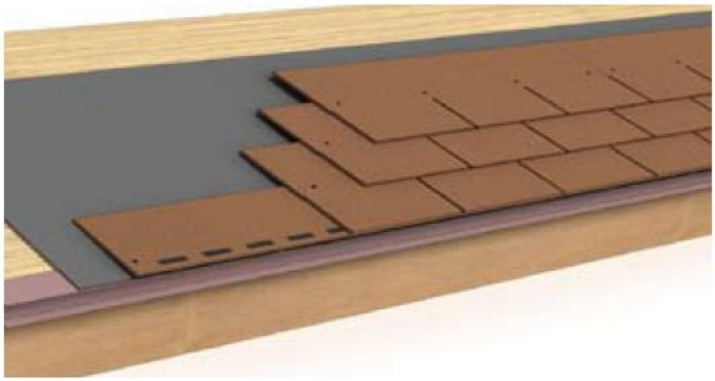
Life Cycle & Reliability

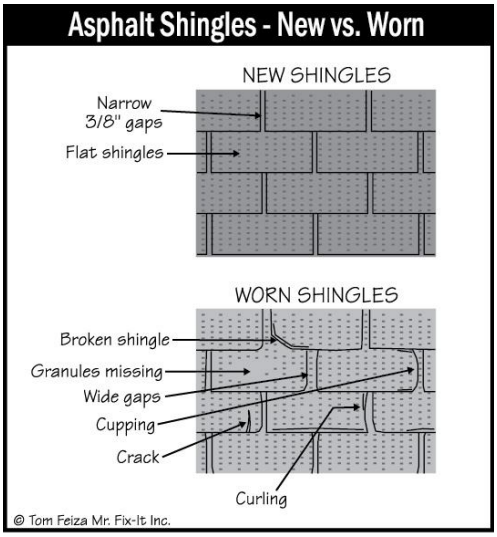
Asphalt shingles wear out. Imagine an asphalt shingle roof surface as a sacrificial wear surface. The life cycle of the surface is always less than the advertised warranty period of the shingle.

Wear: Asphalt shingles deteriorate from exposure to ultraviolet radiation. For this reason, south and west facing shingles wear out much more quickly than north and east facing. Other wear factors include heat, inadequate venting of the roof space underneath, roof slope, leaves and debris, snow and ice.

Reliability: When the surface is near the end of its service life, it becomes unreliable. We are often asked if an old roof could last another year or two. The answer is usually, "yes but". Either live with a reduced reliability (increased risk of leakage) or improve the reliability by giving the roof a "once over", focusing on repairing flashings. Depending on the roof, it may not make economic sense to spend money repairing flashings that will only be torn off when the roof is ultimately resurfaced. Furthermore, the surface is hard to work with because it becomes very brittle when it's old.

Multiple layers: When it's time to resurface the roof, it is possible to install new asphalt shingles directly over the old. This is less expensive than stripping the existing surface. The trade-off is that the roof may not last as long and may not be as reliable. This is because old flashings are often used and are often not done properly and because the shingles are laid upon an uneven base. Some areas allow up to three layers while other areas allow only two.





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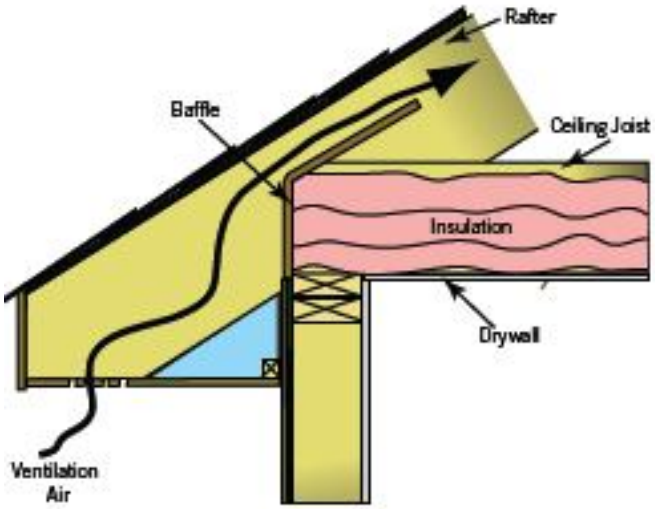
Attic Thermal Insulation

The attic accounts for a large percentage of a house's heat loss and heat gain. Attic insulation reduces heat loss in the cold months, and prevents heat build up in hotter months, making it a priority for insulation. In new construction, insulation levels for the attic are higher than all other areas. In an old home, the attic is the first place for insulation upgrades. The attic is comparatively easy to insulate since it usually presents no space constraint, making it easy to add a lot of insulation.



Ventilation

Critical to a healthy attic is good ventilation, with airflow circulating into and out of the attic. Circulation helps stabilize the attic temperature and remove moisture. Ideal ventilation has vent openings low on the roof and vents high on the roof to create draft. Air will flow naturally in the low openings and out the high openings. This is usually accomplished with soffit vents at the eaves and roof top vents (mushroom vents) on top of the roof. There are many other possibilities as well. Many homes in which the insulation has been upgraded does not have appropriate ventilation either because the insulation contractor did not add vents when insulating or because insulation now covers the soffit vents, restricting the air flow. To solve this problem, baffles can be added to create an air channel past the insulation at the soffit. Air can then flow freely into the attic and then out the vents on the roof top. If additional roof top vents are needed, it is a very easy and inexpensive upgrade.

Air Leakage

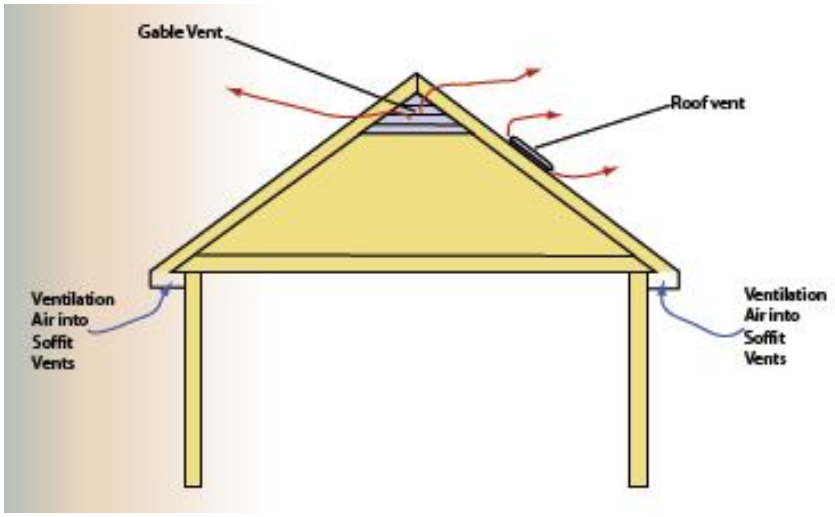
The thought behind current building science recognizes that while attic ventilation is important, equally important is sealing air leaks from the rest of the house to the attic, especially in cold climates. In a typical home, recessed light fixtures, bathroom vents, plumbing stacks, chimneys and wall cavities present numerous potential air leakage paths to the attic. Air leakage from the house causes many problems including condensation, , mildew and in cold climates – ice dams. Ducting that runs through the attic should be well sealed and properly insulated. There is no point heating and cooling your attic.

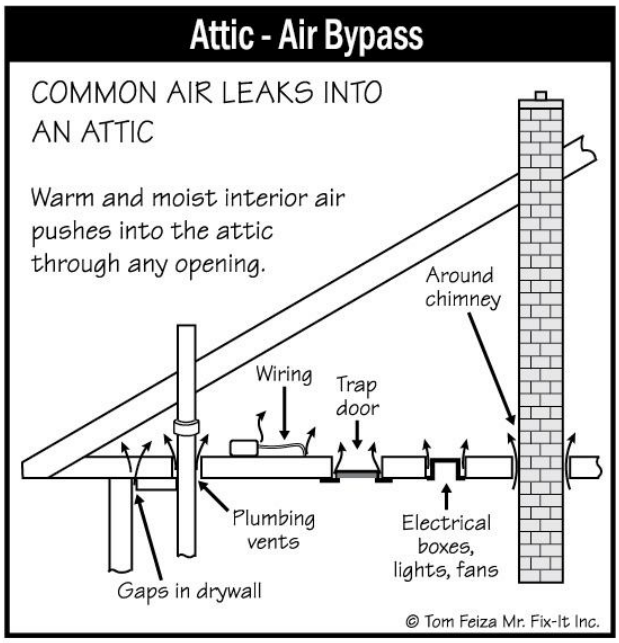
Do Not Disturb the Insulation

It's best not to disturb the insulation in the attic. Some attics have vermiculite insulation. Most vermiculite insulation contains small amounts of asbestos. Disturbing the insulation can cause a cloud of asbestos, a substance it is best to avoid or to which exposure should be limited. In some cases, the vermiculite lies under a layer of a different type of insulation. Visually, it may look like you have ten inches of fiberglass when, in fact, you may actually have four inches of vermiculite and six inches of fiberglass. If you have to disturb the insulation, check what kind of insulation you have first and take appropriate precautions. A standard dust mask is not good enough for asbestos.

Upgrading Attic Insulation

If you are upgrading your attic insulation, make sure you hire a contractor who is knowledgeable about the techniques and codes for your area. Good contractors will asses the insulation type and condition, as well as air leakage from the house and ventilation.





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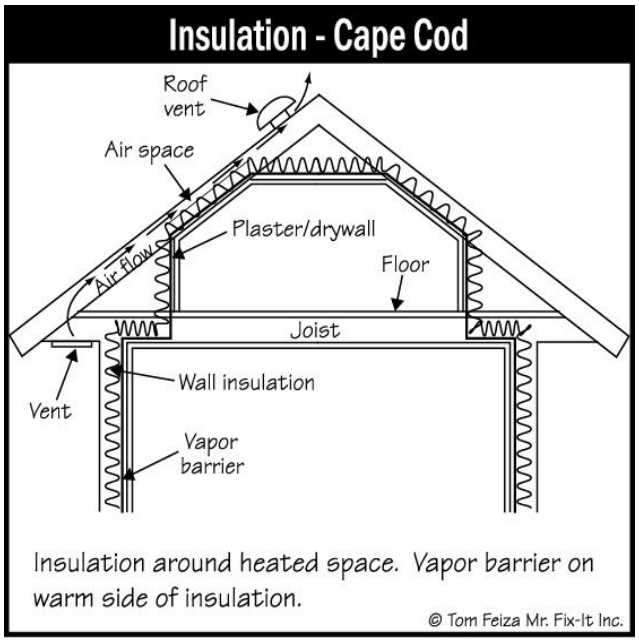

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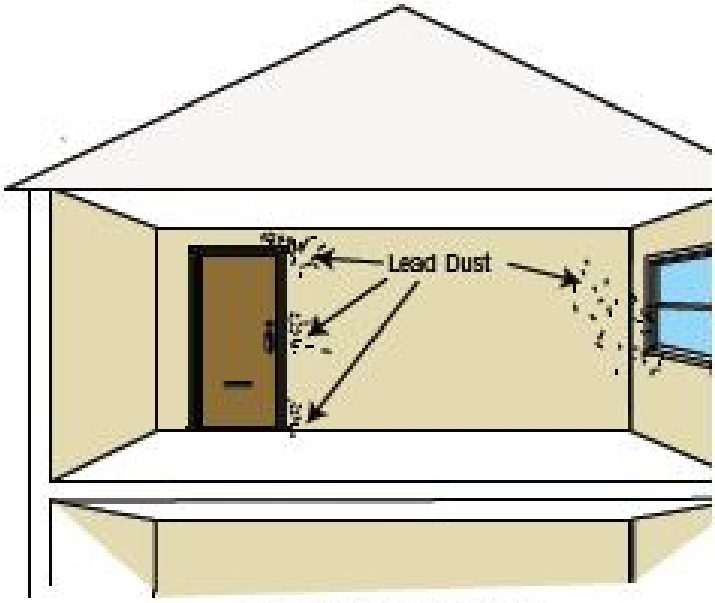
Lead Based Paint

Older paint contains lead. Over the years, governments have regulated the phasing out of lead in paint entirely. If your house was built before 1960, the paint used during construction would have contained a great deal of lead. Reduction started soon after, with complete elimination by the 1980s. If your house was built after 1978, the paint likely has no lead in it. So what's wrong with lead based paint? Lead is unhealthy if ingested. And it is surprisingly easy to ingest paint. It has a way of finding its way into our diets, particularly into the diets of toddlers. For instance, painted door jambs and window sashes create paint dust during use. For toddlers who spend a great deal of time on their hands and knees, and who 'test' the world through their mouths, this dust presents a serious health hazard if it contains lead.



Lead dust at wear surfaces.

Testing

Knowing if you have lead based paint is half the battle. The paint can be tested on site by a lead abatement contractor who has specialized testing equipment that can give you instant results. The alternative is to send a sample to a lab for testing. Contact the lab first to get directions for obtaining and packaging the sample.

Dealing with Lead Based Paint

Keep it clean: Lead dust is the problem.
Wet mop floors weekly and wipe surfaces to remove the lead dust. Some suggest using special detergents and discarding the mop after use. Information on detergents and cleaning protocols are readily available on the internet.

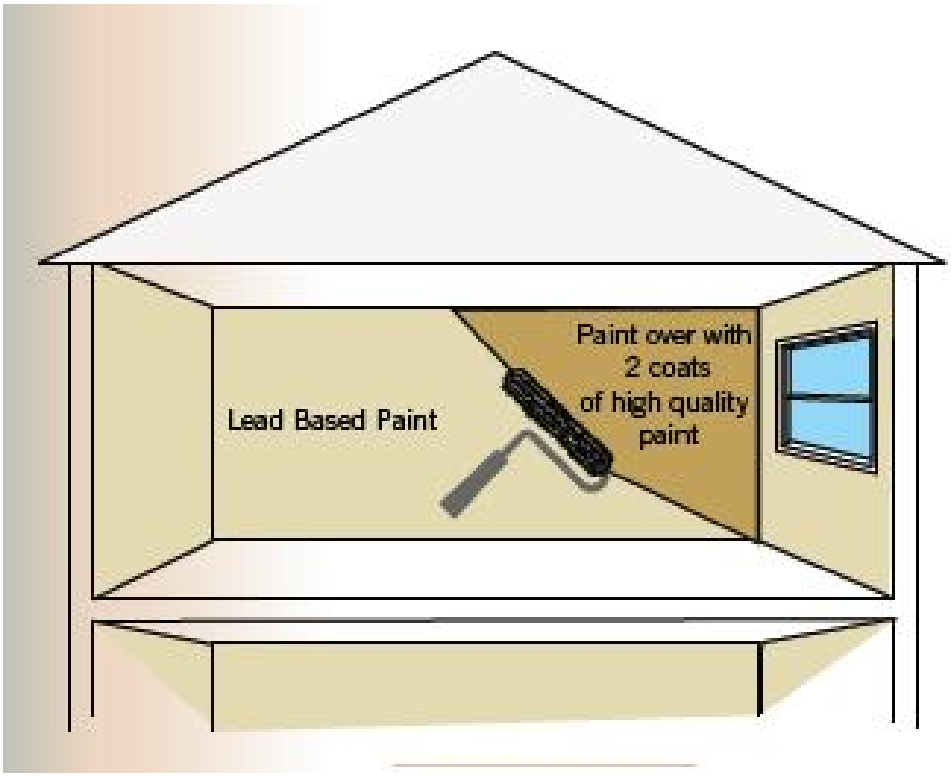
Encapsulate: The paint on the walls and ceilings are fairly safe because they are not wear surfaces. You can encapsulate these areas using modern paint applied over top.

Replace: Wear surfaces can be replaced rather than encapsulated. For example, you can remove and replace door jams with new wood.

Remove: Where encapsulation or wood replacement is not practical, you can remove the paint using chemical strippers. This task is time consuming and expensive and should only be done by an expert lead abatement contractor since proper containment is essential.

A Few Tips

- Lead poisoning does not happen overnight so do not panic
- For peace of mind, you can test your children for lead poisoning with a simple blood test done by your family physician
- Wash children's toys often. Toys may collect dust
- Wet mop floors and wipe surfaces weekly to minimize the amount of lead dust
- Have children wash their hands often, especially before meals.
- Do not attempt to remove lead based paint yourself as you may create a much bigger problem by spreading lead dust around your house



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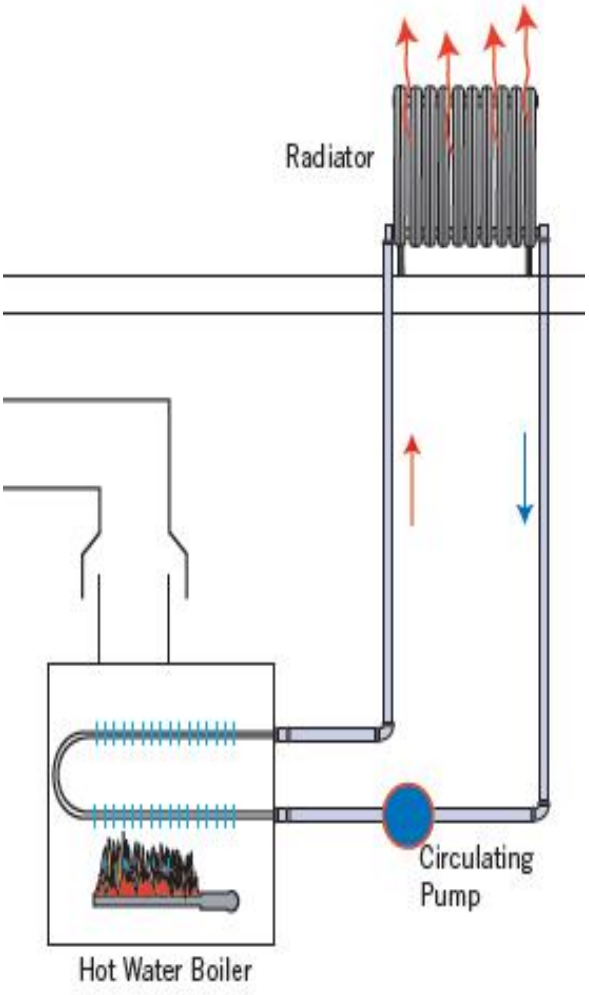
Hot Water Heat



A heating system that heats the home by circulating hot water is called a hydronic heating system. The device that does the heating is called a boiler even though it does not actually boil the water. Water picks up heat as it flows through the boiler. Heat is released at the radiators in each room. Cool water flows back to the boiler. A circulating pump keeps things moving. The same water circulates through the system over and over again.

Radiators and Convectors

Usually a home will have either radiators or baseboard convectors, not both. The traditional radiator is made of cast iron and stands on the floor against a wall. If you have ever lived in an old home in a cold climate, the radiators are what you put your socks, hat and mitts on to dry them out and keep them warm and ready. Since radiators are massive, they heat up slowly and ooze heat into the room over a long period of time. This makes for very even heating, a benefit of hot water heat. Hot water baseboard convectors look like electric baseboard heaters. They don't take up as much space as radiators. Modern radiators and convectors come in all shapes and sizes including decorative wall panels and even heated towel racks for the bathroom.

Radiant Heating

In-floor hot water radiant heat is an alternative to radiators and convectors. Pipes are embedded in the floor and heat energy is radiated into the room. This kind of heat is getting more popular in North America.

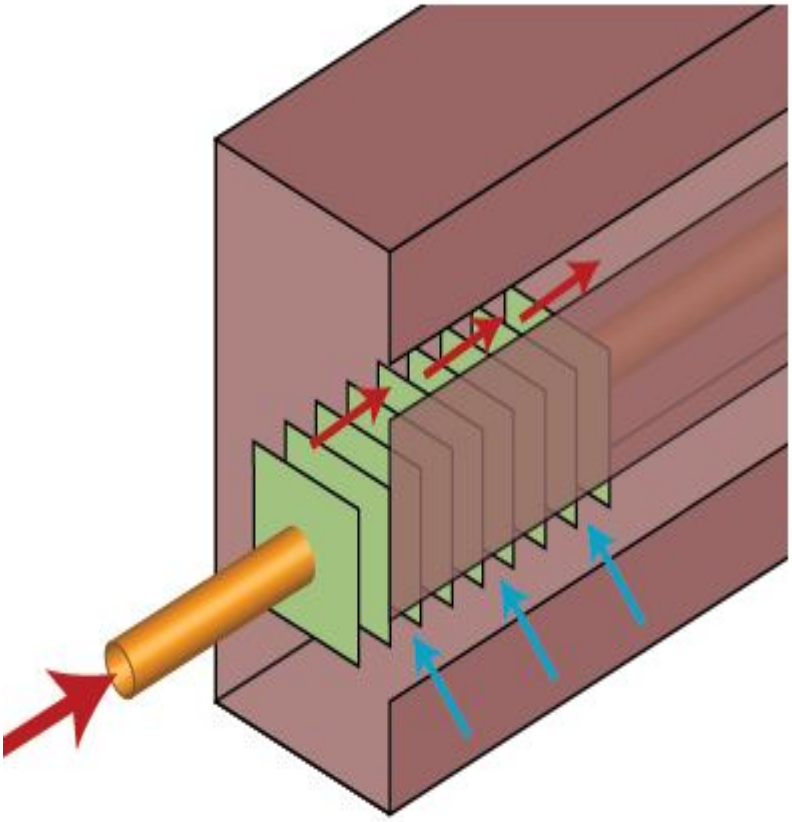
Benefits of Hot Water Heating

There are many benefits to hot water heating. Here are a few:
Silent: A properly installed hydronic heating system should be nearly silent throughout the home.
Even heat: Since the system heats up slowly and cools slowly, the heating is very even.

Doesn't circulate dust: Hydronic heating systems do not stir up dust and blow it around the house. This is healthier and there's no filter to change.
Doesn't circulate odors: Hot water does not circulate odors like forced air heating does. Easy to create separate zones: Piping is easier to control than air ducting. It is easy to create separate heating zones in the house with separate thermostats.

What's the Downside?

Cooling: One reason hot water heating is not more popular in North America is that air conditioning cannot piggyback on it. The air ducting and blower of a forced air heating system can be used for cooling by adding the cooling components into the forced air heating system. If you have hot water heating, you will have to add independent ducting throughout the home to provide cooling.
More expensive: There are fewer options when it comes to hot water heating. Boilers tend to be more expensive than forced air furnaces. Repairs, modifications and extensions to the system are more expensive too.



Hot Water Baseboard Convector

Maintenance Tips

- Leaks should be dealt with promptly.
- Look for two common leakage points:
  - Radiator control valves on old cast iron radiators - look where the pipes go into the base of the radiator
  - Pressure relief valve on the boiler – this could indicate a 'water-logged' expansion tank or simply a defective valve.
- Air gets trapped in the radiators, reducing the amount of heat given off. Most radiators have a bleed valve at the top. Open the valve and let the air hiss out. When you see some water come out, close the valve.
- Yearly service on any heating system is a good idea.

Hot water heating accounts for a small percentage of the residential heating systems in North America while the experience is exactly the opposite in Europe. With modern features and people seeking healthier alternatives, hot water heating is now becoming more popular in North America.

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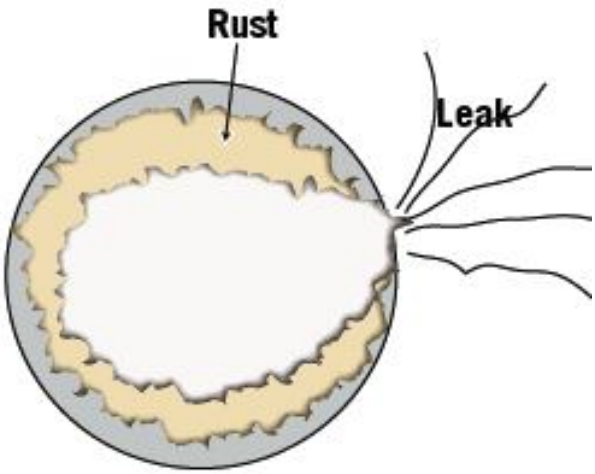
Galvanized Steel Water Pipes

What is Galvanized Steel Pipe?
Galvanized refers to a zinc coating added to steel pipes to protect them from rust. Galvanized steel was used for residential supply plumbing until around 1950. Although it was considered an effective resistant to corrosion at the time, it proved to have a limited service life of approximately 50 years. Over time, water passing through the pipes literally consumes the zinc. Once the zinc is gone, the exposed steel will then start to rust.

The Problems
Galvanized steel pipe has not been used in residential homes since around 1950. Any galvanized steel found in homes today, therefore, will generally be well past its shelf date. If you have galvanized steel pipes, consider replacing them, especially since rust is not the only problem you will face. Other problems include:



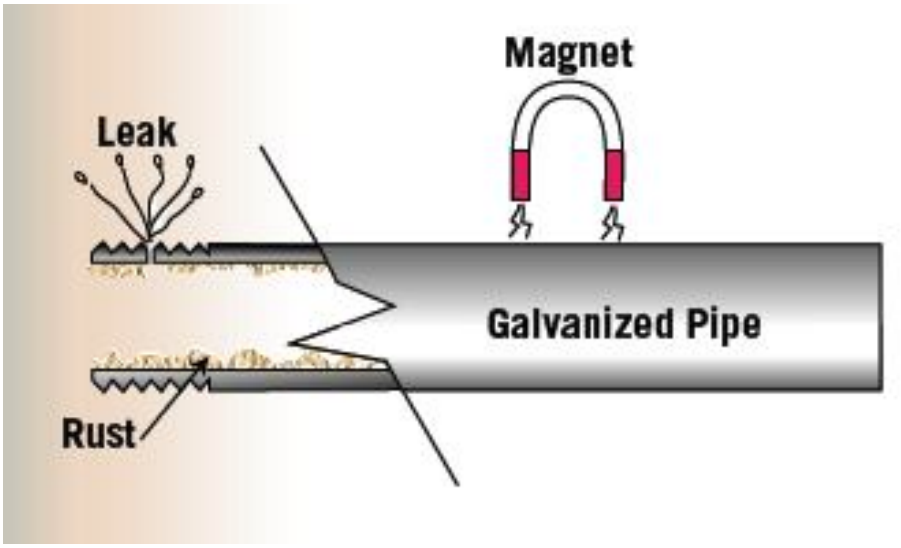
- **Poor water flow** – galvanized steel pipe rusts from the inside out, diminishing the effective cross-sectional area. Any pipe found today will likely have an interior comprised mostly of rust.
- **Rust in the water** – you may see rust in the water when you first turn on the taps. It will, however, quickly clear as you run the water, but unsightly stains may develop on plumbing fixtures.
- **Leaks** – the pipe eventually rusts right through, usually at the threaded joints where the steel is the thinnest, causing leaks.
- **Home insurance** – many insurance companies will not insure homes with galvanized steel pipe because of the risk of major leaks.

Recognizing Galvanized Steel Pipe

- A silvery grey color indicates weathered galvanized steel pipe
- The pipe connections are often threaded
- A magnet will stick to galvanized steel pipe but not to copper, lead, or plastic
- The flow from the hot tap is distinctly different than the flow from the cold
- Rust stains can be found near the drain in a sink

Recognizing galvanized steel is easy, but *finding* it can be a challenge. If the plumbing in your home has been upgraded at some point, galvanized steel pipe may be located in areas difficult and/or disruptive to access. For instance, a past upgrade might have involved replacing the horizontal runs of pipe, which tend to corrode faster than the vertical runs (risers), leaving the latter, therefore, in place. Risers inside walls are often difficult or impossible to see. Furthermore, hot water pipes often get replaced while cold are left behind since the hot corrode faster than the cold. Galvanized steel pipes, therefore, tend to go undetected until a leak appears, or until the walls are opened during a renovation.

Although galvanized steel does not present a health hazard, you should still consider replacing it since you run the risk of major leaks that may cause serious damage to your house, resulting in expensive repairs. Replacement will also clear up minor problems, such as poor water flow. If you find galvanized steel in your home, contact a plumber to have it replaced. Do not wait for a leak!



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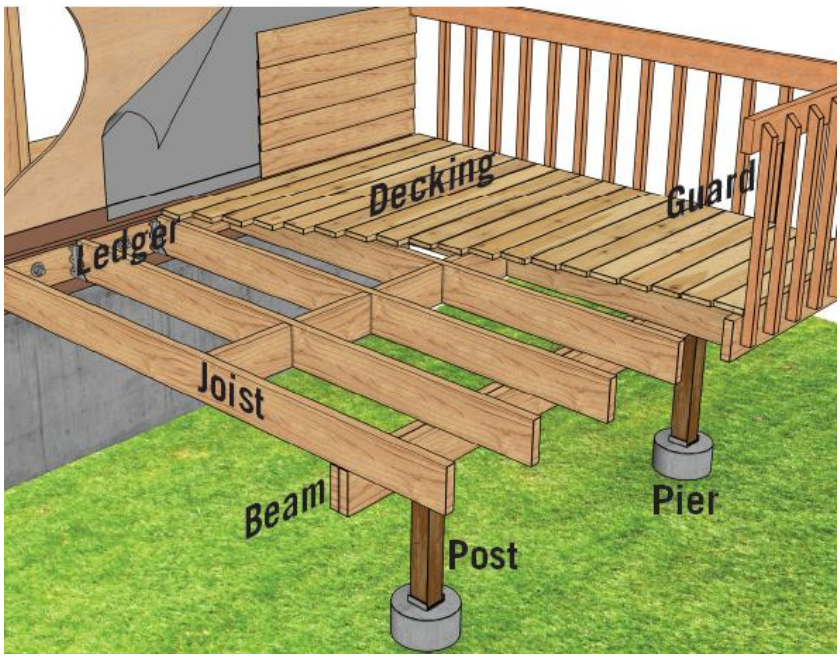
SPOTLIGHT ON DECKS

For many, a deck is an extension of the home. It brings indoor life to the great outdoors. With a little care, a deck can last for many years. Neglected, it can become an eyesore or worse, unsafe! This spotlight on decks provides a few tips to help keep your deck safe and in good condition.



Permit

Is a permit required to build a deck? Most municipalities require a permit to build a deck. The permit process helps to ensure that the deck is safe and sound through verification of the design and inspections of the deck at various phases of construction. Unfortunately, many decks get built without a permit. The result is that many decks are poorly constructed and some are unsafe.

Deck Materials

Pressure Treated Wood: The most common deck building material is pressure treated wood. Properly maintained, a pressure treated wood deck can last 20 years. Pressure treated wood comes in construction grade and premium grade. Construction grade pressure treated wood tends to warp and split as it dries and shrinks. This is fine for the deck structure but the decking calls for a higher quality material. Premium pressure treated deck boards are cut from better stock and are treated and dried to a higher standard. The deck boards are more dimensionally stable and look better both immediately after construction and in the long term.

Cedar: Cedar is a premium deck building material with a rich look and feel. It is more expensive than pressure treated wood but it has many desirable properties. It is naturally more dimensionally stable than pressure treated wood so it does not shrink and split. A well maintained cedar deck can last 20 years.

Synthetic: Synthetic decking is the most expensive decking material but it requires little to no maintenance beyond cleaning and should last many years. There are many different types and styles. For example, Weyerheuser makes a product called ChoiceDeck® that is made of wood fibers encapsulated in polyethylene.

Wood Sealer

The secret to a deck that looks good over the years is wood sealer. Unsealed wood will absorb water and expand and then dry out and shrink. Over time the wood splits and deteriorates. Here's a test to see if your deck needs sealer. Pour a cup of water onto the wood, if the water beads up and runs off, the deck is in good shape. Otherwise it needs sealer.

Guard Rails

Guard rails keep you safe on your deck. The point is to keep people including young children from falling from the deck. Guards are required for decks higher than 30 inches from the ground. In some municipalities, a guard is required for a deck that is 24 inches from the ground. The specifics of a quality guard-rail are spelled out in local building codes but this list will get you started -

The guard rail should be 36 inches high (a deck over 6 feet high requires a 42 inch guard) •

There should be no openings larger than 4 inches so nobody can fall through •

It should be strong enough to hold a person that falls heavily into the rail or balusters •

It should not be easily climbable - no footholds. •

Deck Collapse

"Except for hurricanes and tornadoes, more injuries may be connected to deck failures than all other wood building components and loading cases combined." - Wood Materials and Engineering Laboratory at Washington State University. Many decks fail because they are old, worn and rotted. Others fail because they were not built properly in the first place. The most critical connection is the deck to house connection. The illustration below shows a good deck to house connection including -

A ledger that is attached securely to the house structure. •

Flashing to keep water from leaking behind the ledger.

Water is directed over the ledger. •

Joist hangers attach joists to the ledger. •

Check Your Deck

Look for these signs of trouble -

Wood rot: • If you see wood rot it could be worse than you think. Rotted connections such as the ledger board to house connection could lead to deck collapse.

Good connections: • Check points of connection of major components such as the deck to house, guard-rail to deck, beam to post, post to pier etc. You should see plenty of metal brackets and bolts not nails.

If in doubt, have an expert look at your deck. For example, it is very difficult to inspect the deck to house connection because it is not easily accessible. Of course, it helps if you know what you are looking for. There are over 40 million decks in North America with over 1 million being built or re-built each year. With care, a deck can last many years and provide a safe place to enjoy the great outdoors.

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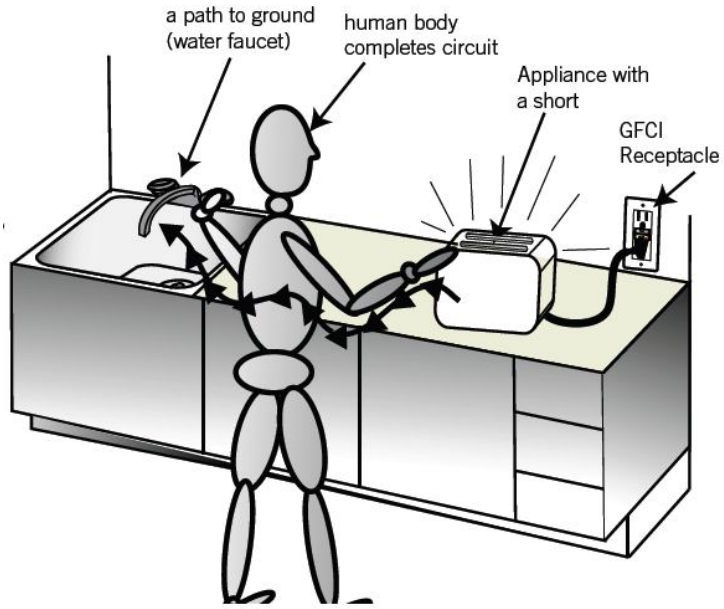
Ground Fault Circuit Interrupter

A ground fault circuit interrupter, or GFCI, is an inexpensive electrical safety device that can protect you and your family members from a serious electric shock. Have you ever had an electric shock? While it is an unpleasant experience, it is not usually fatal. However, given the right conditions, the same shock could be fatal! If your body makes a solid connection to the ground, the shock could easily kill you. Here are two examples of a solid ground connection:

- If you are physically standing or touching the ground outside
- If you touch something conductive, such as any part of the plumbing system in your house, that is also touching the ground outside



In other words, if you decide to operate your hedge trimmer in your bare feet and you get a shock, you may not survive it.

How Can a GFCI Help?

A GFCI is a special electrical outlet that prevents electric shocks in situations such as the ones described above. The GFCI monitors the electrical current leaving from and returning to the outlet. The current leaving the outlet should be the same amount as the returning current. If the current returning is less than that which leaves, the missing current could be passing through somebody's body to the ground. The GFCI detects the mismatch and shuts off the electrical outlet in a split second.

Where Should GFCI Outlets Be Located?

GFCI outlets should be installed in any area that presents a risk of an electric shock withg a direct path to the ground. In other words, anywhere you might directly touch the ground outside or anywhere where you might touch a part of the plumbing system. Some smart GFCIs locations are:

- Exterior outlets
- Kitchen counter outlets (not common in Canada)
- Bathroom outlets
- Garage outlets
- Outlets in unfinished basements

This is not a complete list. Areas near swimming pools, hot tubs, and so on should also include this type of outlet. GFCIs are not perfect, however, and have been known to “nuisance trip” when connected to certain types of electrical equipment. For this reason, exceptions to the suggested (or required) locations for GFCIs exist. For example, a regular outlet would be a better choice for a freezer in your garage since the potential for nuisance tripping of the GCFI is high and might go undetected for days, leading to spoiled food in the shut-off freezer.

Remote GFCI

Several electrical outlets usually connect to a single circuit in an average home. A single GFCI outlet will protect all of the outlets in the circuit, even if the other outlets are not GFCIs. But the GFCI outlet must be the first outlet in the string in order for it to properly protect the other outlets, and, of course the connections have to be properly made.

Remote GFCIs sometimes cause confusion for home owners in the following ways:

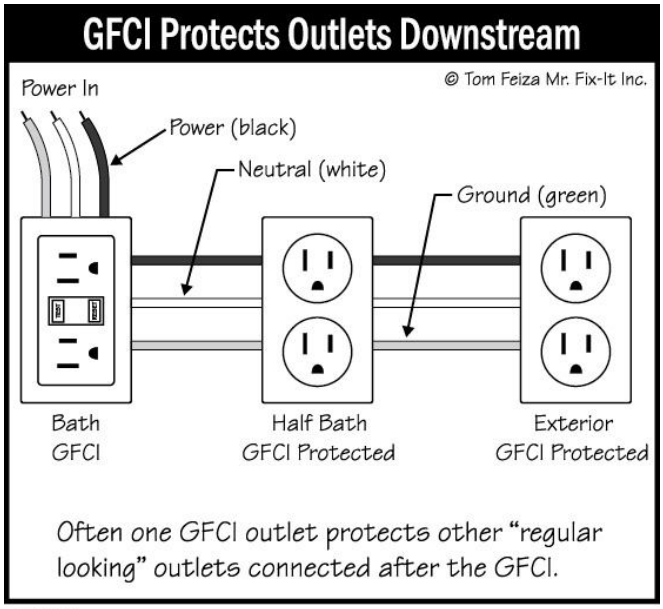
- A home owner thinks the bathroom does not have a GFCI because the outlet looks like a standard one. The standard outlet under the protection of a remote GFCI should have a sticker indicating its GFCI protection. The problem is, the sticker does not stick forever. A Suburban Consultants inspector can test this for you.
- A standard outlet that does not appear to work in a bathroom or kitchen may actually be attached to a remote GFCI outlet that has nuisance tripped. Before calling an electrician, check the GFCI outlets in other bathrooms and in other locations around the house.

Testing

GFCIs are easy to test and should be tested every month. Simply press the test button on the outlet. You should hear a pop as the reset button pops out a little. To reset, just press the reset button. If the GFCI fails to trip, or if you are unable to reset it, it is time for an electrician to replace it.

Special breakers also provide GFCI protection to the entire circuit. These breakers can be installed instead of GFCI outlets. The GFCI breaker should also be tested monthly. You will recognize this breaker from the test and reset button.

GFCIs can help prevent injury and death from electric shock. It is a small device worth having to ensure the safety of your family members.



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