



Inspection Report

ABC Corporation

Property Address:
100 Crossroads Blvd.
Goodtown NY 11666



Suburban Consultants Ltd.

William Murphy NYS License # 16000009280
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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: 10/24/2013
Report ID: 102413J

Customer Info:	Inspection Property:
<p>ABC Corporation 100 W Main St Easton Lake NY 11555</p> <p>Customer's Real Estate Professional: Not Applicable</p>	<p>100 Crossroads Blvd. Goodtown NY 11666</p>

Inspection Fee:

Service	Price	Amount	Sub-Total
Inspection Report Fee	1550.00	1	1550.00
Wood Destroying Insect Report	200.00	1	200.00
			Tax \$0.00
			Total Price \$1750.00

Payment Method: Check
Payment Status: Invoice Sent
Note: Thank You

Date: 10/24/2013	Time: 10:00 AM	Report ID: 102413J
Property: 100 Crossroads Blvd. Goodtown NY 11666	Customer: ABC Corporation	Real Estate Professional: Not Applicable

Subject property is a two story wood frame structure estimated to be 40-45 years old. Building is a commercial property constructed to accommodate offices on first and second floors. Visible evidence indicates an acceptable level of construction. Subject property has been unoccupied/vacant for an unknown period of time.

Subject property adjoins a stream at east perimeter yard commonly resulting in high water table, possible flooding, and building water penetration.

Standards of Practice:
NYS & ASHI American Society of Home Inspectors

Type of building:
Commercial

Approximate age of building:
40-45 years

Building Faces:
South

Temperature:
53(F)

Weather:
Clear

Ground/Soil surface condition:
Dry

Fire Hydrant:
100 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:

Unmaintained/Poor Condition

Driveway:

Asphalt

Walkway:

Entry Porch:

Brick

Items

1.0 Landscaping

Comments: Inspected

North yard exterior landscaping is unmaintained and in poor condition. Perimeter trees and shrubs contact building at various locations (fig. 1). Remaining tree stumps and surface roots were noted. Aged/potentially diseased trees exist resending potential risk of property damage (fig. 2). Further evaluation and maintenance by a licensed tree/landscape specialist is advised. West yard wood perimeter fence appears well installed and in good condition (fig. 3).

1.1 Driveway/Parking Field

Comments: Inspected

Asphalt parking field surface appears in good condition (fig. 4), typical settlement and cracking noted at various locations, recommend routine future seal-coat applications. Routine maintenance of parking lot storm drains is advised to ensure proper drainage (fig. 5). Expansion to north yard will augment existing parking.

1.2 Entry Porches/Walkways

Comments: Inspected, Repair or Replace

Loose/unsecured paving bricks were noted at south main entry porch (fig. 6). Further inspection and repair by a licensed masonry contractor is advised to reduce risk of trip hazard and accidental personal injury.

Section Photos



fig. 1



fig. 2

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:
Concrete Block

Exterior Wall Siding:
Wood Siding

Exterior Windows:
Aluminum Frame

Items

2.0 Exterior Foundation Walls

Comments: Inspected

Visible exterior concrete block foundation walls appear in good condition. Minor settlement cracks were noted at various wall locations (fig. 7). This condition is considered common and typical.

2.1 Exterior Wall Siding

Comments: Inspected

Exterior wood wall siding materials appear well installed and in satisfactory condition (fig. 8a, 9a). Recommend routine future power-washing and wood preservative applications.

2.2 Windows

Comments: Inspected, Repair or Replace

Windows are estimated to be 20+ years old, are of builders grade quality, and typically develop failed thermal seals resulting in visible interior glass condensation stains (fig. 8b). Future replacement will be required. Failed thermal seals were noted at numerous windows repair or replacement is recommended. Remaining original wood/aluminum frame windows appear aged and in deteriorated condition (fig. 9b). Poor trim, wood rot, and deteriorated caulking joints are present. Advise scrape, sand, repair, re-caulking, and re-painting to reduce risk of moisture and cold air infiltration. Future installation of replacement windows is recommended.

2.3 Window Wells

Comments: Inspected

Sealed basement windows noted.

2.4 Exterior Entry Doors

Comments: Inspected, Repair or Replace

South exterior entry doors are operational and in good condition (fig. 8c). North exterior entry door is aged and not operational. Required building egress is obstructed (fig. 9c). Repair or replacement by a licensed specialist is advised to reduce potential security and safety risk due to present condition.

2.5 Exterior Lighting/Receptacles

Comments: Inspected

Exterior lighting is functional. Absence of exterior GFCI receptacles was noted. Installation by a licensed specialist is recommended for improved safety and convenience.

2.6 Exterior Basement Entry

Comments: Inspected

Basement walk-out area appears in good condition (fig. 10). Advise routine maintenance of floor drain to reduce risk of basement water penetration. Advise installation of stairway safety railing to reduce risk of trip hazard.

Section Photos

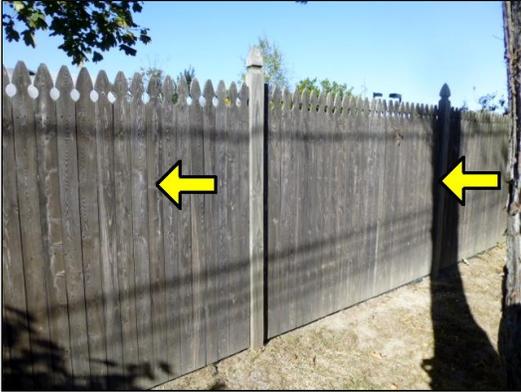


fig. 3

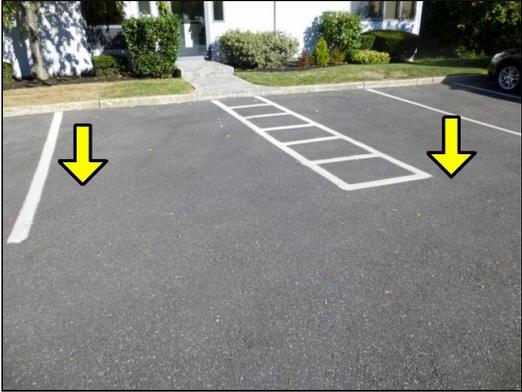


fig. 4



fig. 5

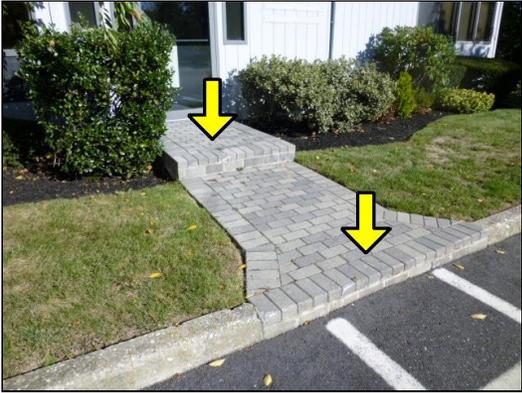


fig. 6



fig. 7

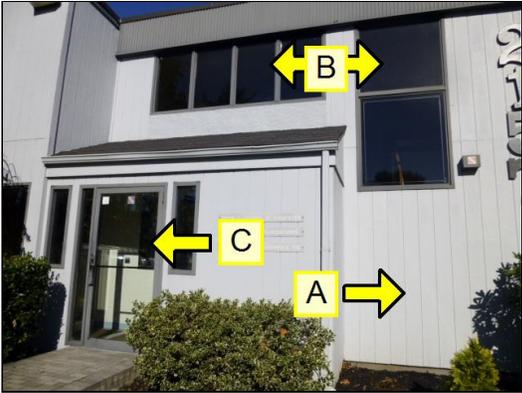


fig. 8

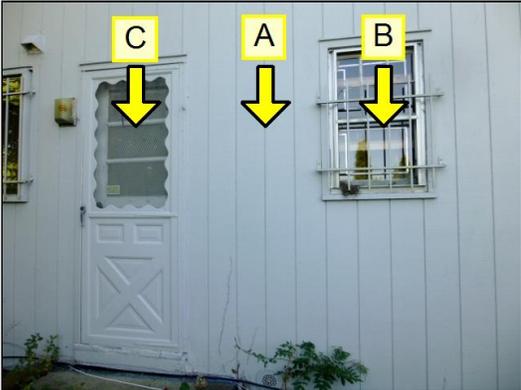


fig. 9



fig. 10

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: Flat	Inspected Roof From: Roof Edge	Gutter System: Aluminum
Roof Covering: Asphalt Roll	Roof Layers: 3	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. 11). 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 roll roof surface appears professionally installed, in good condition, and is estimated to be 5 years old (fig. 12, 13a). Typical life cycle is 12-15 years. Roof surface is covered with multiple layers of asphalt roofing materials meeting code compliant limit and will require complete tear-off when re-roofing. Any deteriorated or rotted wood sheathing sections found when re-roofing will require replacement. Replacement with rubber membrane roofing materials is recommended when re-roofing.

3.3 Roof Accessories & Flashings

Comments: Inspected

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

3.4 Chimney(s)

Comments: Inspected

Brick chimney vent structure appears in satisfactory condition but is currently not in use (fig. 14). Installation of exterior flue liner rain cap is recommended.

Section Photos

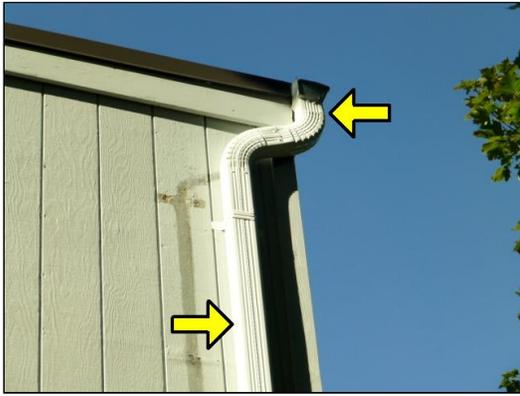


fig. 11



fig. 12

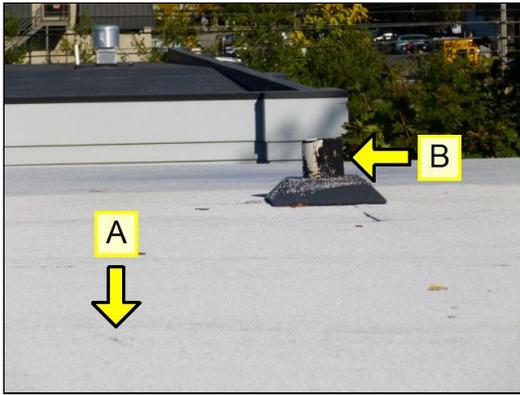


fig. 13



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. Electrical System



Phase 6: Electrical System

Includes Inspection of: 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:

225 Amps

Panel capacity:

225 AMP

Panel Type:

Circuit breakers

Electric Panel Manufacturer:

BRYANT

Branch wire 15 and 20 AMP:

Copper

Wiring Methods:

Romex

Grounding:

Water Main
Ground Rod

Items

4.0 Electrical Service

Comments: Inspected

Electrical components have been updated, appear professionally installed, and are in functional condition. Electrical service consists of one (1) 225 amp copper service entrance cable servicing one (1) 225 amp main distribution panel located in basement (fig. 15). Electrical system 225 amp main disconnect breaker is located at west exterior wall meter pan (fig. 16). Installation of a pad-lock is advised to reduce risk of tampering.

4.1 Service Panels

Comments: Inspected

Service panel is full with no available space for additional branch circuits. Future installation of an auxiliary sub-panel is recommended.

4.2 Wiring

Comments: Inspected

Section Photos

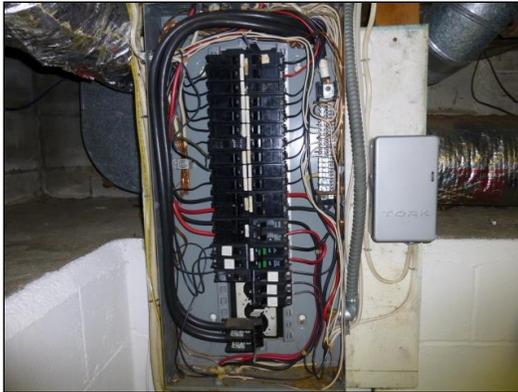


fig. 15

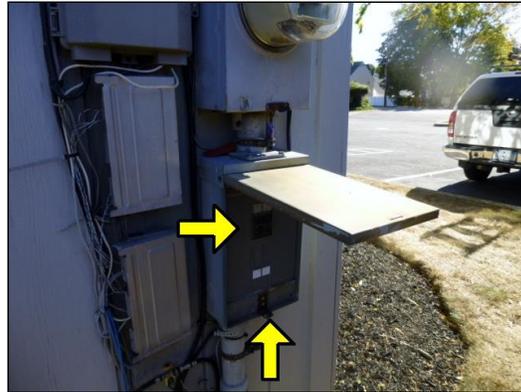


fig. 16

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.

5. 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:

Limited Access

Foundation:

Concrete block

Wood Framing Components:

Acceptable

Beams:

Wood

Support Columns:

Steel

Items

5.0 Floor

Comments: Inspected

Various cracks in concrete floor and wall surfaces are considered typical and common.

5.1 Walls

Comments: Inspected

Basement is constructed with concrete block foundation walls and standard wood framing components (fig. 17a). High moisture readings of up to 39.5% were present at perimeter wall locations tested. Visible evidence of regular moisture/ water penetration was observed. Absence of adequate water proofing on exterior foundation walls, local ground soil conditions, and a high water table are considered a contributing factors. Perimeter drainage system is serviced by northeast basement sump-pumps (2) (fig. 18). Future installation of battery back-up systems for sump-pumps is recommended. Routine maintenance of exterior roof gutter drainage systems and installation of a dehumidifier/air exchanger will reduce basement moisture levels. Visible construction and wood framing components appear in good condition. Perimeter crib walls have been constructed to reinforce original foundation walls, concrete floor was raised to accommodate drainage system. Absence of cross bridging between floor joist was observed, future blocking by a licensed specialist is recommended for improved structural support. No visible evidence of active wood destroying insect infestation is present, however, continued preventive maintenance coverage by a licensed pest control specialist is advised.

5.2 Ceiling

Comments: Inspected

5.3 Windows

Comments: Inspected

Basement windows are blocked/sealed off (fig. 17b).

5.4 Doors

Comments: Inspected

5.5 Lighting

Comments: Inspected
Basement lighting is functional.

5.6 Receptacles

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

5.7 Stairway/Railing

Comments: Inspected

5.8 Heating Source

Comments: Inspected

Section Photos

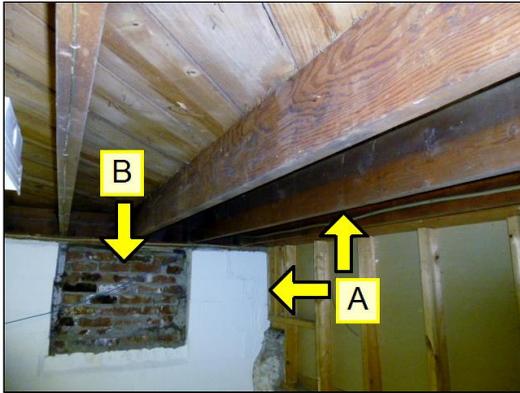


fig. 17

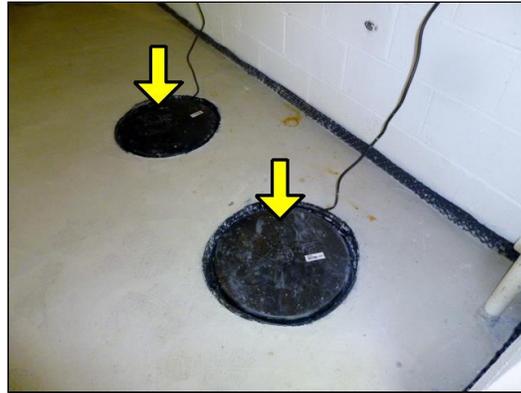


fig. 18

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.

6. 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:

Heat Pump Forced Air (also provides cool air)

Energy Source:

Electric

Heating System Age:

5-10 years

Life Expectancy:

Typical

Central Air Manufacturer:

LUXAIRE

Ductwork:

Partially insulated

A/C System Age(s):

5-10 years

Filter Type:

Disposable

Number of AC Only Units:

Two

Items

6.0 Smoke & CO Dectectors

Comments: Not Inspected

Installation and Routine Testing is Advised

6.1 Thermostat/Operating Controls

Comments: Inspected

6.2 HVAC Equipment

Comments: Inspected

Heating components consist of two electric fired forced hot air A/C-Heat-Pump systems estimated to be 5 years old (fig. 19). Systems are operational and appear in good condition. Advise continued maintenance coverage by a licensed HVAC contractor and installation of functional smoke and C/O detectors on all floors. Clear and maintain vegetation from exterior units to reduce interference with proper function.

6.3 Forced Air Components and Air Handler Equipment

Comments: Inspected

Forced air components (2 air handlers) are operational. Check filters monthly - service when dirty. **Basement area HVAC air handlers (2 units) pre-date exterior compressors and are estimated to be 20+ years old (fig. 20). Advise continued maintenance coverage by a licensed A/C contractor, anticipate future repairs and or replacement.** An ambient air test was performed by using thermometers on the air handler of central A/C system to determine if the difference in temperatures of the supply and return air are between 14 degrees and 22 degrees which indicates that the unit is cooling as intended. The supply and return air temperature on system conformed to these specifications. This indicates proper operation.

Section Photos



fig. 19



fig. 20

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.

7. 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: 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: Electric	Water Heater Capacity: 30 Gallon	Manufacturer: BRADFORD-WHITE

Items

7.0 Public Water Supply

Comments: Inspected, Repair or Replace

Water main shut off valve is located at southwest basement corner (fig. 21a). **Water main supply piping is insulated with asbestos like material. Insulation is deteriorated and friable (fig. 21b). Further evaluation and abatement or encapsulation by a licensed environmental specialist is advised.**

7.1 Distribution Piping

Comments: Inspected

Visible copper plumbing hot and cold water supply components appear professionally installed and in satisfactory condition (fig. 22).

7.2 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. 23). Periodic blockage from exterior yard tree root systems is suspected. Future treatment/service by a licensed cesspool and drain contractor will be required. Main waste trap in obstructed by HVAC ductwork, installation of improved access is advised to ensure sufficient service access. **Verifying that a waste line connection to municipal sewer system exists (if available) through municipal records or by a licensed sewer and drain contractor is advised.**

7.3 Venting

Comments: Inspected

7.4 Domestic Hot Water Delivery

Comments: Inspected

Electric fired hot water heater is operational and appears in good condition (fig. 24). Water heater is estimated to be 1 year old, typical life cycle is 12-15 years.

7.5 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.

Section Photos

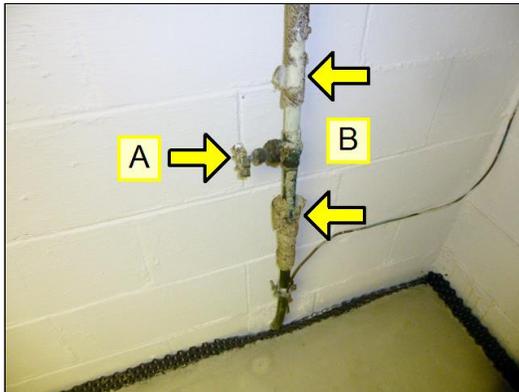


fig. 21



fig. 22

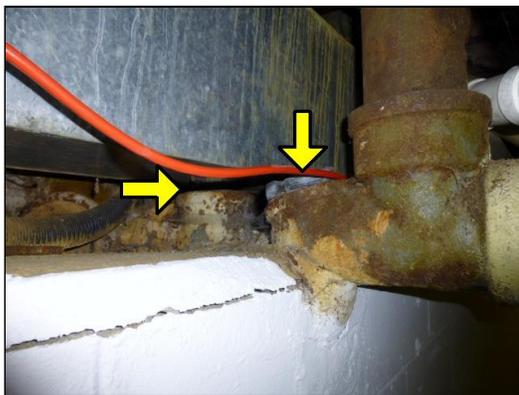


fig. 23



fig. 24

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.

8. 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: 1st Floor 2nd Floor	Number of Full Bathrooms: 2	Water Pressure: Normal
Heating Source: Forced Air	Visible Leaks: None	

Items

8.0 Bathrooms

Comments: Inspected

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

8.1 Water Pressure

Comments: Inspected

8.2 Floor

Comments: Inspected

8.3 Wall/Ceiling

Comments: Inspected

8.4 Window/Door

Comments: Inspected

8.5 Lighting/Receptacles/Exhaust Fans

Comments: Inspected

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

8.6 Sink/Faucet

Comments: Inspected

8.7 Vanity/Counter Top

Comments: Inspected

8.8 Toilet

Comments: Inspected

Toilets are operative.

8.9 Tub

Comments: Inspected

Ceramic fiberglass tub enclosures appear aged and in poor condition. Advise regROUT and recaulking to reduce risk of interior wall and floor water penetration and damage. Future replacement or removal is recommended.

8.10 Tub/Shower Faucet

Comments: Inspected

8.11 Heating

Comments: Inspected

9. 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
Vinyl

Wall Material:

Sheet Rock

Ceiling Materials:

Sheet Rock

Interior Doors:

Wood

Window Types:

Thermal/Insulated
Metal Frame

Heating:

Forced Air

Items

9.0 Interior Room Summary

Comments: Inspected

The general condition of interior rooms is satisfactory.

9.1 Flooring

Comments: Inspected

9.2 Walls & Ceilings

Comments: Inspected

9.3 Windows & Doors (representative number)

Comments: Inspected

9.4 Steps, Stairways, Balconies and Railings

Comments: Inspected

9.5 Lighting & Receptacles

Comments: Inspected

Lighting and receptacles are functional.

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.

10. 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
ABC Corporation

Address
100 Crossroads Blvd.
Goodtown NY 11666

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



1.2 Entry Porches/Walkways

Inspected, Repair or Replace

Loose/unsecured paving bricks were noted at south main entry porch (fig. 6). Further inspection and repair by a licensed masonry contractor is advised to reduce risk of trip hazard and accidental personal injury.

2. Exterior Building Envelope



2.2 Windows

Inspected, Repair or Replace

2. Exterior Building Envelope



Windows are estimated to be 20+ years old, are of builders grade quality, and typically develop failed thermal seals resulting in visible interior glass condensation stains (fig. 8b). Future replacement will be required. Failed thermal seals were noted at numerous windows repair or replacement is recommended. Remaining original wood/aluminum frame windows appear aged and in deteriorated condition (fig. 9b). Poor trim, wood rot, and deteriorated caulking joints are present. Advise scrape, sand, repair, re-caulking, and re-painting to reduce risk of moisture and cold air infiltration. Future installation of replacement windows is recommended.

2.4 Exterior Entry Doors

Inspected, Repair or Replace

South exterior entry doors are operational and in good condition (fig. 8c). North exterior entry door is aged and not operational. Required building egress is obstructed (fig. 9c). Repair or replacement by a licensed specialist is advised to reduce potential security and safety risk due to present condition.

7. Plumbing System



7.0 Public Water Supply

Inspected, Repair or Replace

Water main shut off valve is located at southwest basement corner (fig. 21a). Water main supply piping is insulated with asbestos like material. Insulation is deteriorated and friable (fig. 21b). Further evaluation and abatement or encapsulation by a licensed environmental 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

Ground Fault Circuit Interrupter

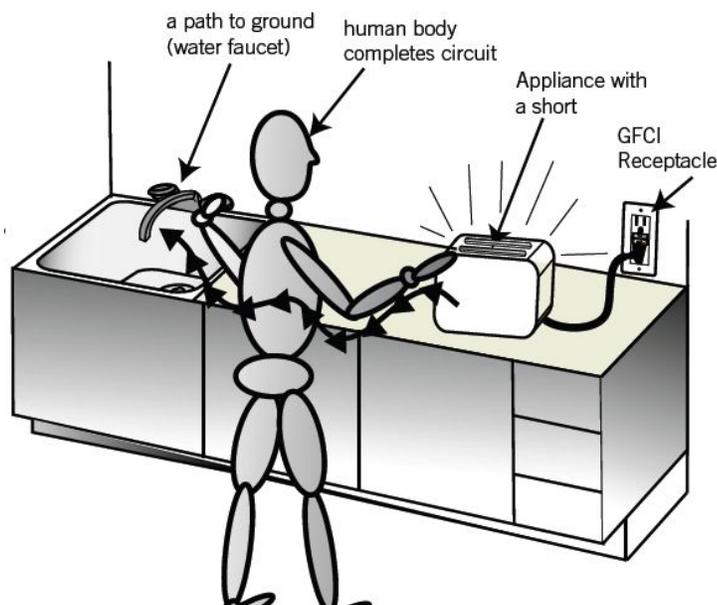
A ground fault circuit interrupter, or GFCI, is an inexpensive electrical safety device that can protect you and your family members from a serious electric shock. Have you ever had an electric shock? While it is an unpleasant experience, it is not usually fatal. However, given the right conditions, 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 with 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:

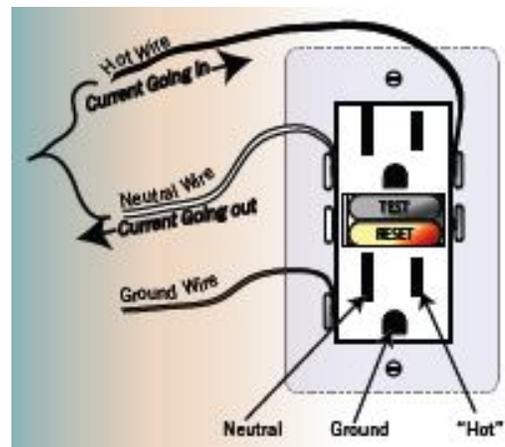
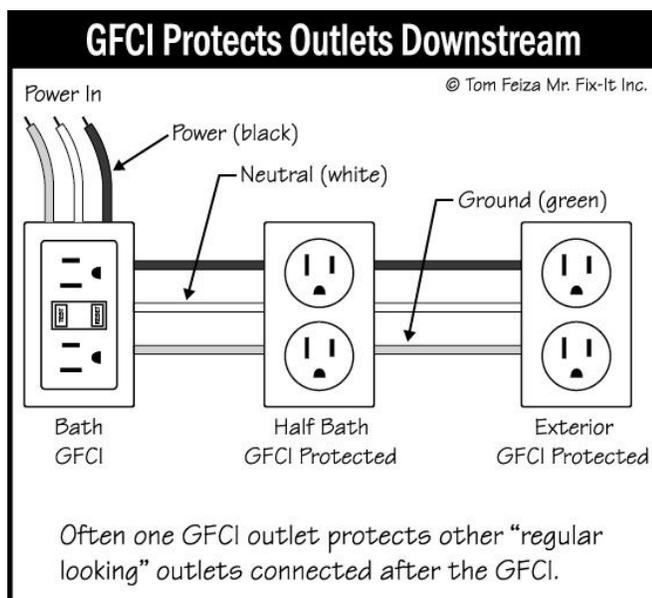
- A home owner thinks the bathroom does not have a GFCI because the outlet looks like a standard one. The standard outlet under the protection of a remote GFCI should have a sticker indicating its GFCI protection. The problem is, the sticker does not stick forever. A Suburban Consultants inspector can 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.





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.

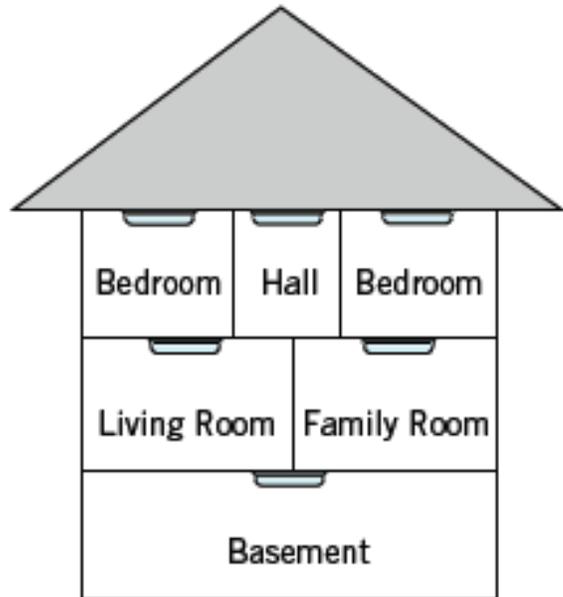
The two key goals of smoke alarms are –

- 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

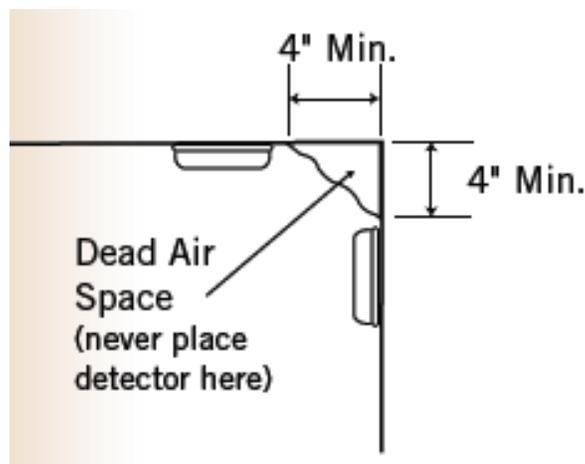
Nuisance tripping of your smoke alarm is bound to happen occasionally. Unfortunately, many people remove the battery to silence the alarm with the good intention of replacing it after the smoke clears. Here are some better ways to deal with nuisance tripping: Use an alarm with a 'hush button'. Move the 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.



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:

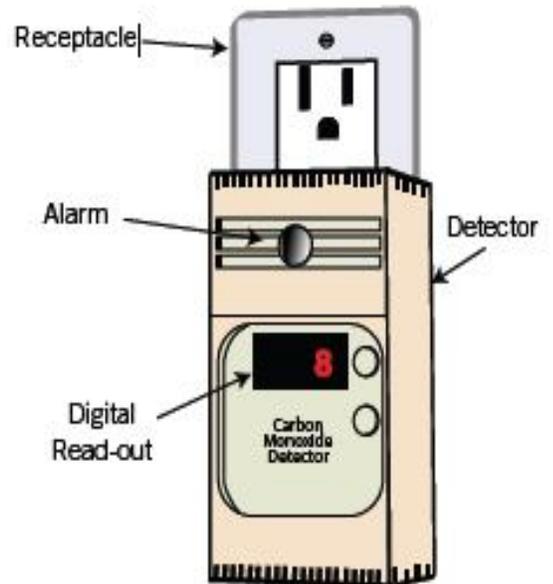
- Running an automobile or gas lawn mower inside the garage
- Operating a barbecue inside the home
- A gas or oil burning furnace with a blockage in the chimney
- Kerosene space heaters
- Operating a generator in the home during a power failure

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.

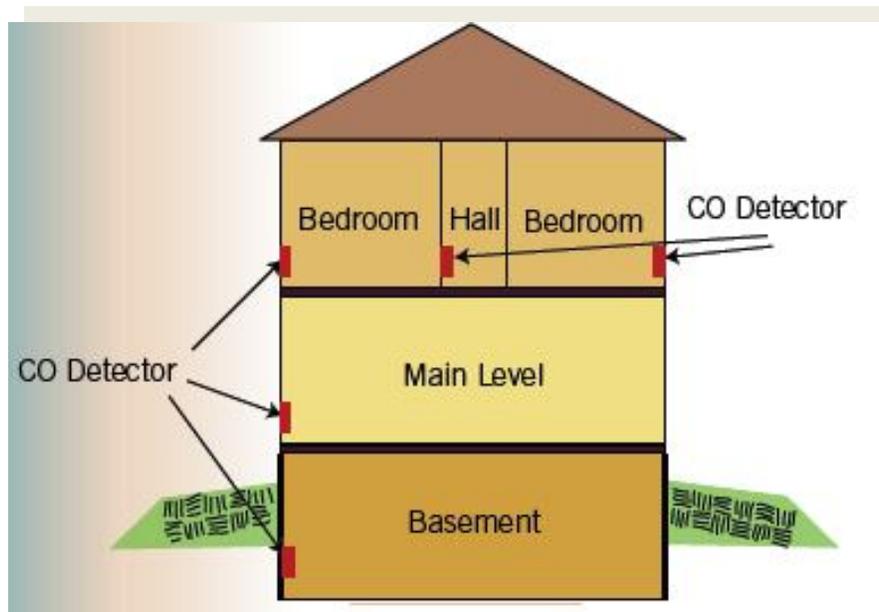


To avoid false alarms, do not install the detector next to heating and cooking appliances, vents, flues, or chimneys. Make sure you read and follow the operating, placement, and testing instructions that come with the detector.

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.

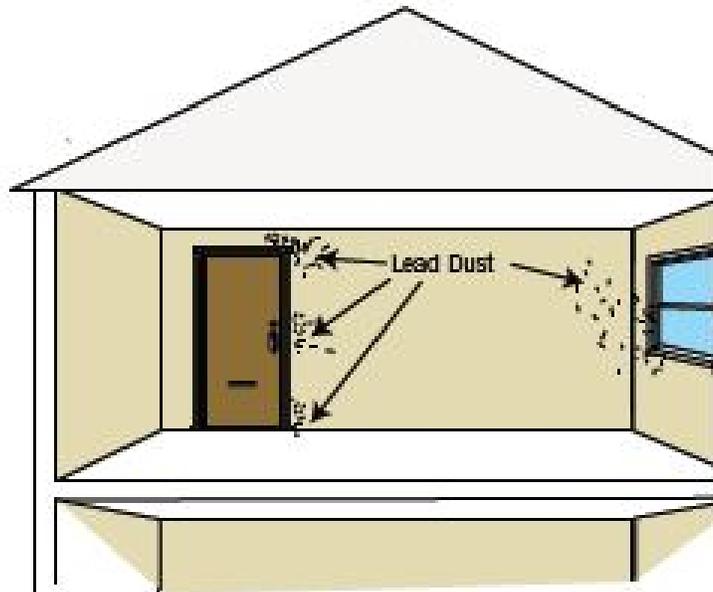


Lead Based Paint

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.

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.



Lead dust at wear surfaces.

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.

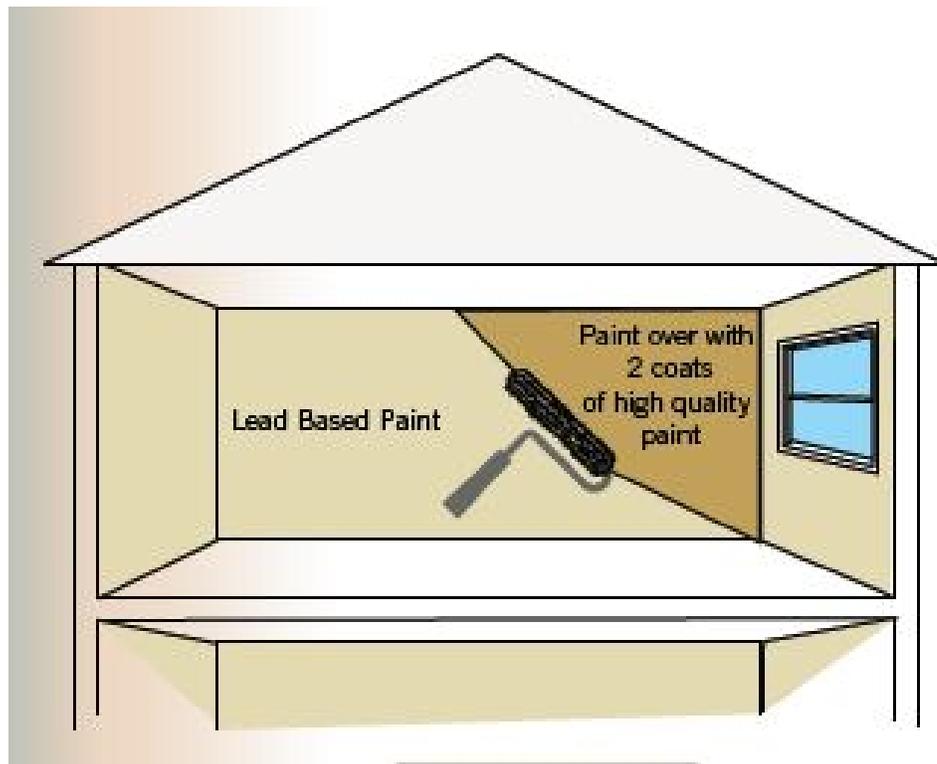
Encapsulate: The paint on the walls and ceilings are fairly safe because they are not wear surfaces. You can encapsulate these areas using modern paint applied over top.

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



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.

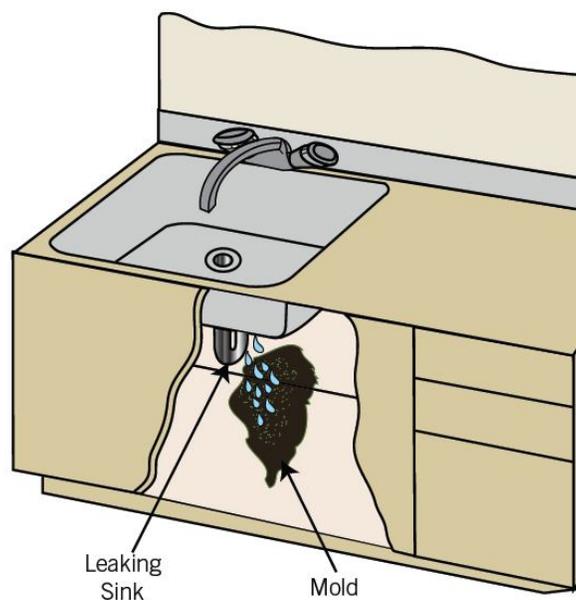
Mold has been with us since the beginning of time. Believe it or not, you already have mold in your house. Leave a loaf of bread on your counter for a couple of weeks and you will see it grow. All mold needs to thrive and multiply is a food source, a little water, and oxygen.

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.

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.



Repair Plumbing Leaks Promptly

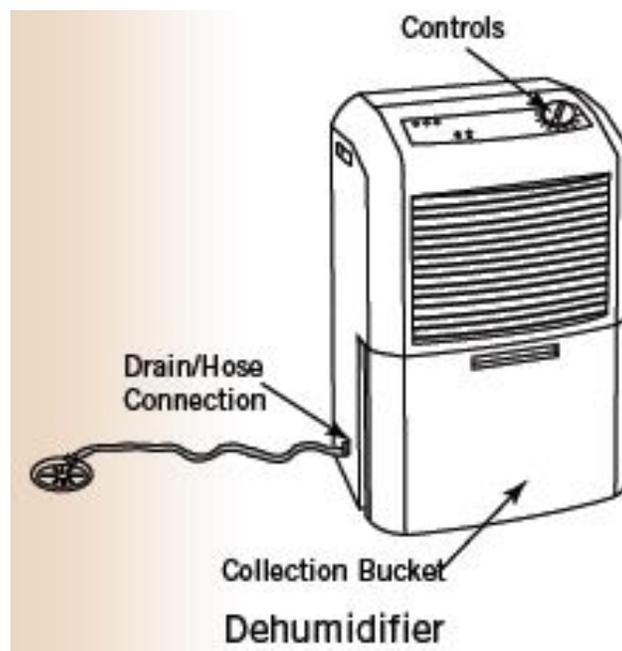
Government web sites offer free and detailed common sense guides on how to clean mold:

- 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





Upgrading Windows

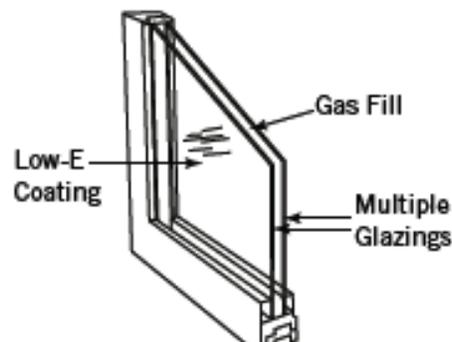
Clients often ask our inspectors about the value of upgrading windows. There are many good reasons to upgrade windows but it is often difficult to decide based solely on dollars and cents.

Save Energy

Replacing old drafty windows with modern windows will save energy, but the cost will not likely justify the energy savings. Break even will only occur after twenty to thirty years. Beware of claims such as 40% savings on your energy bills. Realistically, you may save 10% - 20%. If saving money is your only goal, consider weather stripping and repairing the windows you have. Still, you may have good reasons to upgrade your windows. The decision depends on the condition of your current windows and your desire for the benefits discussed below.

Benefits of Modern Windows

1. Modern windows are more energy efficient. Using less fuel preserves our environment.
2. New windows eliminate drafts and cold spots.
3. New windows look better, potentially increasing the value of your house.
4. New windows function better and are often easier to clean.
5. Modern windows block street sounds better.



Comparing Windows

U-Factor

The National Fenestration Rating Council (NFRC) has developed a standardized rating system called the "U-factor" which provides a single number with which to compare windows. The U-factor is a number between 0 and 1: the lower the number, the better. 0.35 is good. In cold climates, the U-factor is the most important factor for selecting a window.

Solar Heat Gain Coefficient (SHGC)

In climates where air conditioning is more important than heating, the SHGC is the most important factor for choosing a window. The SHGC represents how much heat from the sun penetrates the window. The SHGC is a number between 0 and 1. For air conditioning climates, a number less than 0.4 is good. For heating climates, a larger number, such as 0.6, is better.

Panels of Glass (glazing)

Single Pane

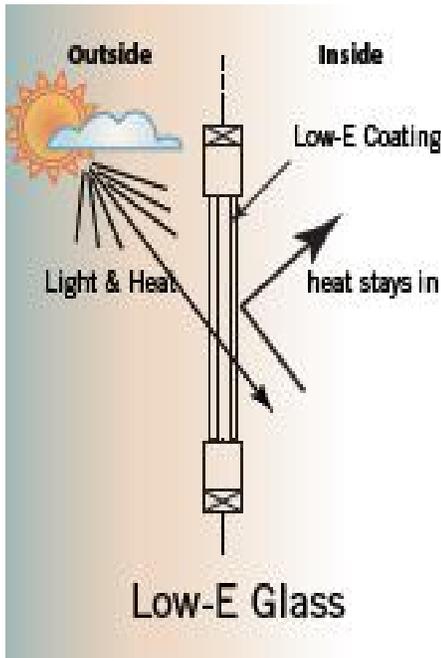
A single sheet of glass does not provide sufficient insulation in most climates. If you have single pane windows, consider some form of upgrade.

Single Pane with Storm Window

A storm window provides an additional pane of glass. Mounted over existing windows outside the house, storm windows significantly increase efficiency of the window.

Single Pane with Secondary Glazing

Secondary glazing just means adding a second pane of glass inside the home, such as a window pane with magnetic edges added to an existing window. This is a very clean and elegant way to increase the efficiency of existing windows. Secondary glazing makes sense when a home owner wants to keep the existing windows for historic or aesthetic reasons but would like to increase efficiency and comfort. These systems are expensive.

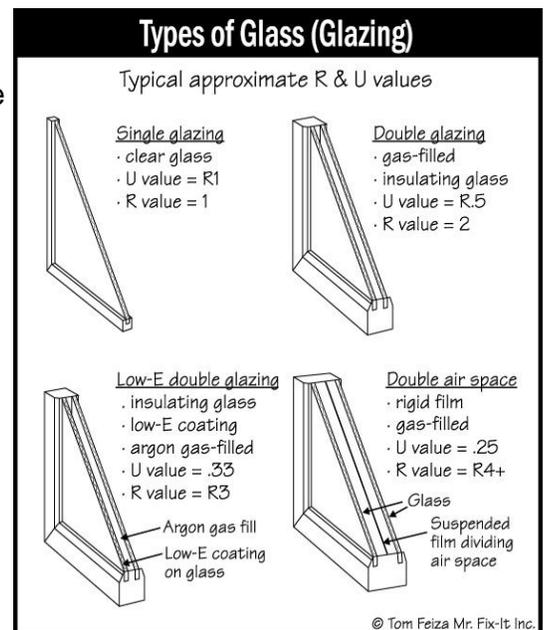


Double Glazed

The most common type of glazing used today is double glazed, involving two panes of glass hermetically sealed with a small air gap in between.

Triple Glazed

Three panes of glass hermetically sealed with a small air space in between each. More efficient than double glazed, triple glazing also effectively blocks sound. The extra expense may be worth it for the front of the house facing a busy or noisy street.



Advanced Technology

Argon Filled

Some manufacturers put argon gas, a better insulator than air, between the panes, resulting in a more efficient window. Most experts agree that the argon does not last forever.

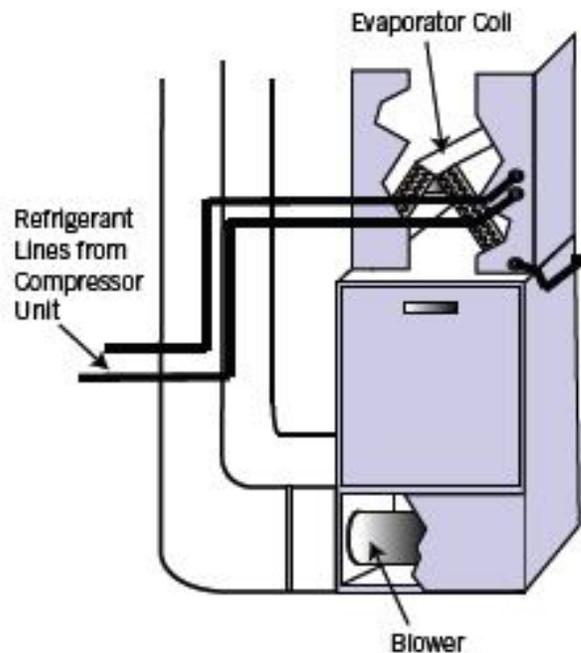
Glass Coatings

Coatings or films can dramatically improve the efficiency of a window. In a heating climate, low-E glass allows short wave solar radiation into the home for a heat gain, and prevents heat loss by reflecting the longer wave heat from inside your house back into the room. In hot climates, the window can be coated or tinted to reduce heat gain from the sun.

Ask a home inspector, or another impartial professional, whether you need to upgrade your windows. A window salesperson will likely give you only one answer: yes!

Central Air Conditioning

Central air conditioning systems are a luxury in some areas of North America and a basic necessity in others. Whatever your need may be, it is in your best interest to understand how to choose the right system for your home, and how to maintain it for optional use. Central air conditioning systems have become more sophisticated and more efficient in the last few years. The most common system is called a “split system” because part of it (the condenser) is located outside the house, and part (the evaporator) is located inside. The evaporator is mounted inside an air handler, a blower that circulates air throughout the house. For homes with forced-air heating, the furnace acts as the air handler. In these cases, the evaporator is simply mounted on top of the furnace.



SEER

SEER stands for Seasonal Energy Efficiency Ratio and designates the efficiency rating of air conditioning systems. A 14 SEER air conditioner is more efficient than a 10 SEER unit. As of January 2006, manufacturers are no longer permitted to manufacture air conditioning systems with a SEER less than 13. Prior to this date, the minimum SEER was 10.

The new 13 SEER regulation does, however, create challenges for some home owners. The system itself is physically much larger than older systems. Since the condenser sits outside, increased size does not matter here, but the evaporator is also much larger on the new systems. If you are replacing a failed older system, the new evaporator may not fit into the old air handler, or even into the space it once occupied. The ducting can be modified to fit the new evaporator, but in some cases the entire air handler (or furnace) may have to be replaced. Other work-arounds also exist, but they are beyond the scope of this discussion.

What Are the Capacity Issues?

Proper sizing or capacity of a system is important. Installers traditionally err on the side of over sizing a system to avoid client complaints on the hottest day of the summer, such as the system not keeping up with the heat, or the system running continuously.

A larger-than-necessary air conditioning system will not function optimally. It will cool the house off quickly and then shut off. These short on-cycles are not good for two reasons:

- Most air conditioning systems take about seven minutes of operation to reach peak efficiency. An oversized system will operate at a fraction of its rated efficiency, costing more to operate than it should.
- The central air conditioning system also dehumidifies the home. If the on-cycles are short, you get little dehumidification. The result is a cold and clammy home.

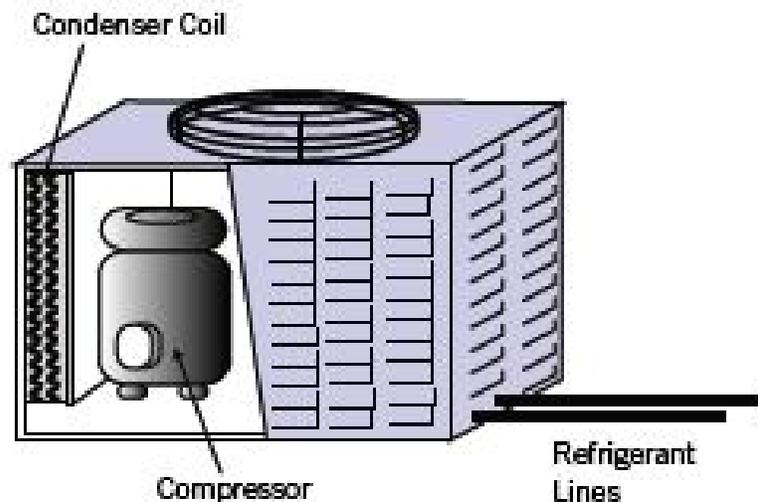
Choosing the appropriate capacity for the air conditioning system requires a skilled and experienced air conditioning contractor that can do a heat gain calculation for your home. Some of the newest and most expensive systems available are capable of operating at two different capacities. The system operates on low most of the time, with long on-cycles that generate lots of dehumidification. If the system cannot keep up with a heat gain, it switches into a higher gear.

Maintenance

A well-maintained air conditioning system will last longer and cool better than a neglected system.

- Clean or replace the filter in the air handler regularly, not just for clean air, but also because the filter protects your heating and cooling equipment. Dust can clog the evaporator coil, reducing the heat transfer, efficiency, and life of the system.
- Trim vegetation away from the condenser for free air flow. Do not enclose the condenser with trellis or anything else that might block air flow.
- Have the system serviced regularly. Servicing is inexpensive and will increase the life and efficiency of the system. A technician typically cleans the condenser coils and checks the refrigerant pressures, adjusting the refrigerant charge if needed.

Like any system in your home, a central air conditioner will work at its peak efficiency and performance when it is properly fitted for capacity and regularly maintained.



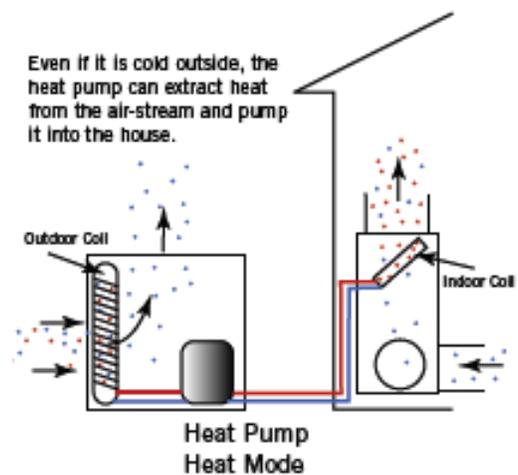
Heat Pump

A heat pump is a device that can gather heat from outside and bring it into the home to heat the home. While a heat pump uses electricity to gather heat, the energy consumption is only a small fraction of the energy it collects. This is the beauty of a heat pump. For every dollar of electrical energy you use, you may gain two dollars of heat energy. It's like getting something for nothing.

The colder it gets outside, the more electricity the heat pump uses. If it gets very cold, the heat pump uses more energy to collect heat than it is able to collect. At this point you would be better to shut the heat pump off and use your backup heating system. This break even point is somewhere around freezing point. This is why you don't see many heat pumps in northern climates. They do work very well in moderate climates though.

It's an Air Conditioner Too

Of course a heat pump can cool the house too. Collect heat from inside the house and pump it outside and the home gets cooler. This is in fact what an air conditioner does. An air conditioner is actually a heat pump that is only set up to work in one direction. A heat pump will pump heat in both directions.



Air-To-Air System

Most heat pump systems are the air to air type. Heat is collected from the air outside. These units look almost exactly like an air conditioning system. In fact, it may be hard to tell if you are looking an air conditioner or a heat pump. Here are a two giveaway clues –

1. The condenser cabinet outside may say in large letters “Heat Pump”. In this case it is likely a heat pump.
2. The thermostat will have a setting on it called “E.M. Heat”. This stands for emergency heat. In this setting the backup heat is activated. You will not have an E.M Heat setting on an air conditioning system thermostat.

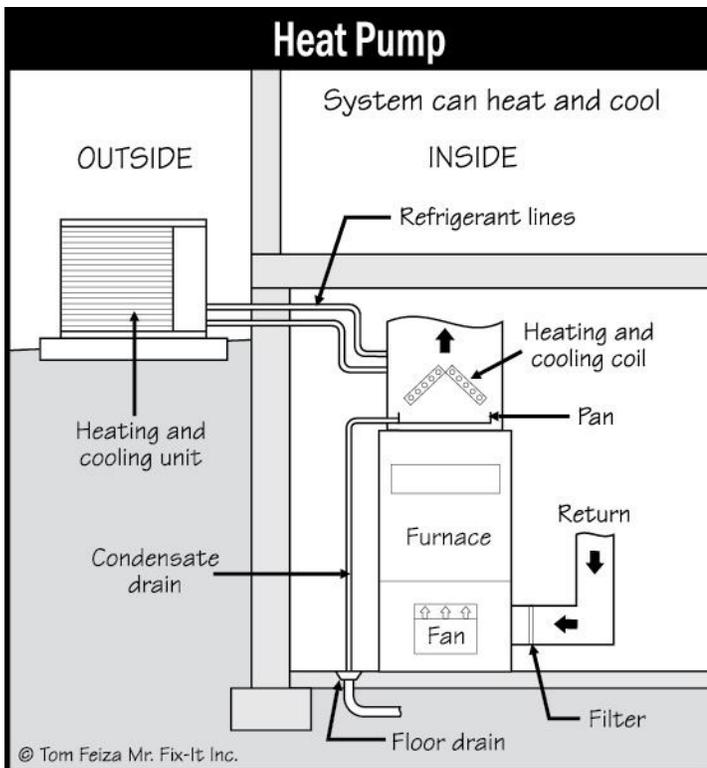
Geothermal System

The main downside to a heat pump is that it is not efficient when the outdoor temperature drops much below freezing. Once you dig down into the ground about six feet, the temperature is fairly stable year round, between 45°F and 75°F. A geothermal heat pump gathers heat from deep in the soil or from deep in a well or lake. With a geothermal heat pump you can gather heat in the winter much more efficiently than you can from the air for the simple reason that there is much more heat available. You can air condition much more efficiently too. The efficiency of an air conditioning system depends on the outdoor temperature. The hotter it is outside, the harder your air conditioner has to work to pump heat from your house to the outside. Since the temperature deep in the ground is not so hot, it is very easy to pump heat from your house into the ground.

The bottom line is that a geothermal heat pump costs very much less to operate. In fact the year round energy costs to heat and cool are very low. But, as with all good things, there is a catch. The installation cost is very high. This is why we don't see many geothermal heat pumps.

Maintenance

- Do not operate an air to air heat pump in cooling mode if the temperature is below 65°F outside. Do not operate an air to air heat pump in heating mode if the temperature outside is above 65°F. In other words, operate it only in the mode appropriate for the season otherwise damage to the system may result.
- Have the system inspected, cleaned and adjusted annually.
- Change filters at the air handler regularly to protect the equipment.



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