

# Alpha Home & Commercial Building Inspections

## Property Inspection Report



Sample 85 year old 2 Family, NH 03064  
Inspection prepared for: Sample Client  
Real Estate Agent: -

Date of Inspection: 9/30/2015 Time: 1:00 PM  
Age of Home: 85 years Size: 2090 sf  
Order ID: 2941

Inspector: Steve Mangekian  
License # 0054  
PO Box 594 , 465 Daniel Webster Highway, Merrimack, NH 03054  
Phone: 603-816-1014  
Email: [steve@AlphaBuildingInspections.com](mailto:steve@AlphaBuildingInspections.com)  
[AlphaBuildingInspections.com](http://AlphaBuildingInspections.com)



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This Inspection Report is supplemental to the Property Disclosure Statement. It is the responsibility of the Client to obtain any and all disclosure forms relative to this real estate transaction. This inspection does not include testing for radon in air, pest, private septic systems, lawn irrigation, portable hot tubs, swimming pools, fire suppression, low voltage systems, alarm systems or home automation, central vacuum systems, laundry equipment, water quality, mold or other hazardous materials unless specifically requested. The client may wish to have additional testing or inspections performed by a qualified professional on these or other items that are not covered by this inspection as outlined by the State of NH Standards of Practice. This report supercedes any alleged verbal comments. The investigation and service recommendations that we make in this report should be completed DURING YOUR INSPECTION CONTINGENCY PERIOD by qualified, licensed specialists, who may well identify additional defects or recommend some upgrades that could affect your evaluation of the property.

**COMPONENT LIFE EXPECTANCIES:** Although a home inspection cannot determine how long any particular system will last we have provided information regarding the Estimated Life Expectancies of Home Systems at:

<http://www.nhinspector.com/NH-Home-Inspector-Life-expectancy-of-home-components>

#### USE OF PHOTOS AND VIDEO:

Your report includes many photographs which help to clarify where the inspector went, what was looked at, and the condition of a system or component at the time of the inspection. Some of the pictures may be of deficiencies or problem areas, these are to help you better understand what is documented in this report and may allow you see areas or items that you normally would not see. A pictured issue does not necessarily mean that the issue was limited to that area only, but may be a representation of a condition that is in multiple places. Not all areas of deficiencies or conditions will be supported with photos. To view videos in the report the PDF needs to be downloaded and viewed with a full PDF reader such as Adobe.

This report is based on the State of NH Home Inspection Standards of Practice.

Click below to view

<http://www.nhinspector.com/NH-Home-Inspector-Sandards-of-Practice>

A home inspection:

is intended to assist in evaluation of the overall condition of the dwelling. The inspection is based on observation of the visible and apparent condition of the structure and its components on the date of the inspection and not the prediction of future conditions. Material defects that are hidden or located at inaccessible areas or non observable areas are excluded.

A home inspection will not reveal every concern that exists or ever could exist, but only those material defects observed on the day of the inspection. Conditions in the home can change from the time of inspection to the time of closing. A home inspection is not an insurance policy protecting against all present or future deficiencies that may or may not have been observable at the time of inspection. The client may wish to buy a home warranty.

See link for warranty providers

<http://www.nhinspector.com/NH-Home-Inspector-HomeWarrantyCompanys>

A material defect:

is a condition with a residential real property or any portion of it that would have a significant adverse impact on the value of the real property or that involves an unreasonable risk to people on the property. The fact that a structural element, system or subsystem is near, at or beyond the end of the normal useful life of such a structural element, system or subsystem is not by itself a material defect.

#### Note:

Comments in **BLUE** below, indicate a condition that should either be monitored closely, assessed or be repaired by a qualified contractor .

Comments highlighted in **YELLOW** can be hovered on for additional information found in report glossary.

## Report Summary

The summary below consists of potentially significant findings. These findings can be a safety hazard, a deficiency requiring a major expenses to correct or items I would like to draw extra attention to. The summary is not a complete listing of all the findings in the report, and reflects the opinion of the inspector. Please review all of the pages of the report as the summary alone does not explain all the issues. All repairs should be done by a licensed & bonded trade or professional. I recommend obtaining a copy of all receipts, warranties and permits for the work done.

You can always call us after you have reviewed your report, so we can go over any questions you may have. Remember, when the inspection is completed and the report is delivered, we are still available to you for any questions you may have, throughout the entire closing process.

Grounds		
Page 10 Item: 1	Driveway and Walkway Condition	1.1. Excessive deterioration and cracking was observed at the asphalt surfaces. Recommend assessment and repairs by a qualified asphalt contractor.
Page 10 Item: 2	Grading	2.2. There is a depression in grading at one or more exterior area of foundation wall. This is conducive to ponding and possible water intrusion into house, recommend filling or re grading any depressions and taking measures to divert water away from this area and monitor for proper drainage.  2.3. Areas of erosion to grounds , recommend repairs, re grading if needed and adding plantings as needed to maintain integrity of grounds,
Page 11 Item: 3	Vegetation Observations	3.1. Vegetation such as trees, shrubs and/or vines are in contact with or less than one foot from the structures exterior. Vegetation can serve as a <b>conduit</b> for wood destroying insects and fungal growth and may retain moisture against the exterior after it rains. Vegetation should be pruned and/or removed as necessary to maintain a one foot clearance between it and the structures exterior.
Page 12 Item: 4	Retaining Wall / Fence Condition	4.1. There are cracks, damage or evidence of movement in retaining walls. Recommend further investigation and repair as needed by a qualified masonry contractor.
Exterior Areas		
Page 13 Item: 1	Doors	1.2. One or more exterior door has damage of door, frame, or trim, recommend further investigation of all doors and repairs by a qualified tradesman as needed.
Page 13 Item: 2	Siding Condition	2.1. Noted stains/ discoloration mainly at north and east walls. Recommend cleaning and monitoring area for further staining.  2.2. Siding is in contact with finish grade at one or more area of building, this is conducive to moisture and insect intrusion, recommend monitor area and have repaired as needed by a qualified contractor.
Page 15 Item: 3	Window Condition	3.1. Keep basement window wells free of debris to help prevent water intrusion, recommend installing covers / rain diverters on window wells to keep them free of debris and to divert water.  3.2. Peeling paint observed at one or more window and or window frame, suggest scraping and painting as necessary.

Page 15 Item: 4	Eaves & Trim	4.2. Trim boards have areas of damage and or deterioration, recommend assessment and repair by a qualified contractor.
Page 16 Item: 5	Exterior Paint	5.1. Peeling paint observed on fascia and trim boards in one or more area, suggest assessment by a qualified painting contractor and scraping and painting as necessary.
Page 17 Item: 6	Stairs	6.2. Front steps have damage to brick or mortar. Recommend further investigation and repair by a qualified masonry contractor.
Page 18 Item: 8	Exterior Electrical	8.2. Open conduit for data lines near electric meter should be sealed to prevent water intrusion.  8.3. There are improperly protected electric wires at one or more area, this is a potential safety hazard, recommend further investigation and repair by a licensed electrician. Wire should be protected by conduit or pipe.
Roof		
Page 20 Item: 1	Roof Condition	1.1. There are trees and branches over hanging or in contact with roof, this condition is detrimental to life of roof and can cause damage, fungal growth, water, insect and animal intrusion. Keep trees and branches trimmed to help prolong life of roof covering.  1.2. Staining and fungal growth on surface of roof, recommend cleaning of shingles by a qualified roofing contractor to help prolong life of roof.  1.3. Shingles show granular loss, are cracked in several areas and showing age. Recommend further investigation and repair by a qualified roofing contractor.  1.4. There are areas of damage and broken or missing shingles, recommend assessment and repairs by a qualified roofing contractor.
Page 23 Item: 2	Flashing	2.1. Flashing around chimney and or <b>vent stack</b> penetrations is sealed with roofing tar, this is considered a temporary repair and will have to be monitored for leaking and repaired or sealed from time to time. Recommend inspection and proper repair by a qualified roofing contractor.  2.2. Water staining and active moisture noted in attic at chimney penetration. Recommend assessment by a qualified roofing contractor.
Page 23 Item: 3	Gutter Observations	3.1. Gutters have areas of damage, recommend having repaired as needed by a qualified contractor.
Page 24 Item: 4	Chimney	4.2. Chimney(s) are over 50 years old and will require inspection and maintenance from time to time.  4.3. The chimney stack appears to have an unlined flue. While this may have been acceptable at the time of construction, flue liners are a fire safety feature which the client should consider installing to enhance safety. Regular cleaning of the chimney is recommended to ensure safe and efficient operation.
Attic		

Page 26 Item: 2	Structure	<p>2.4. Water intrusion mainly around chimney penetration. Recommend further investigation and repairs to chimney flashing by a qualified roofing contractor.</p> <p>2.5. Stains were found in one or more surfaces. The stain(s) may be due to past or present roof and/or plumbing leaks. Recommend asking the property owner(s) about this, and monitoring the stained area(s) in the future, especially after heavy or prolonged rain. If elevated moisture is found in the future, a qualified contractor should evaluate and repair areas as necessary.</p>
Page 27 Item: 3	Insulation Condition	<p>3.1. Apparent vermiculite insulation present; this type of insulation may contain <b>asbestos</b>, which has been linked to cancer (mesothelioma). This inspector is qualified to sample the insulation for you and send it to a national laboratory which will determine if asbestos is present.</p> <p>The EPA makes the following recommendation at <a href="http://www.epa.gov/asbestos/pubs/insulation.html">http://www.epa.gov/asbestos/pubs/insulation.html</a> :          "What should I do if I have vermiculite attic insulation?          DO NOT DISTURB IT. Any disturbance has the potential to release asbestos fibers into the air. Limiting the number of trips you make to your attic and shortening the length of those trips can help limit your potential exposure. EPA and ATSDR strongly recommend that Vermiculite insulation be left undisturbed in your attic. Due to the uncertainties with existing testing techniques, it is best to assume that the material may contain asbestos.          You should not store boxes or other items in your attic if retrieving the material will disturb the insulation.          Children should not be allowed to play in an attic with open areas of vermiculite insulation.          If you plan to remodel or conduct renovations that would disturb the vermiculite, hire professionals trained and certified to handle asbestos to safely remove the material.          You should never attempt to remove the insulation yourself. Hire professionals trained and certified to safely remove the material."</p>
Page 28 Item: 5	Electrical	<p>5.1. Knob and tube wiring in attic in contact with insulation, was not tested to determine if it is still active, this type of wiring is at least 70 years old and is no longer considered safe, recommend further investigation and repairs as needed by a qualified electrician.</p>
<b>Foundation</b>		
Page 29 Item: 1	Foundation walls	<p>1.6. A few areas of damage to the foundation walls, due to the age it is recommend to have stone and grout lines on wall inspected and repaired as needed on a regular basis.</p> <p>1.7. Moisture intrusion was observed one or more areas of the foundation. Moisture can create high humidity, mold &amp; can damage stored items &amp; finishing materials. Recommend a basement specialist review the foundation for correcting any water intrusion issues.</p>

Page 31 Item: 2	Under Floor Framing	<p>2.6. Water staining on basement ceiling dry at time of inspection, recommend monitor condition for further water intrusion and repairs as needed.</p> <p>2.7. Foundation framing is very old , there are areas where framing components have been repaired or replaced. there is settlement on floors in finished space noted, condition should be monitored and repaired as needed.</p> <p>2.8. Water staining and damaged wood at one or more area of under floor framing, dry at time of inspection recommend monitor area and repairs as needed by a qualified tradesman.</p>
Page 32 Item: 3	Floor Slab	<p>3.5. Dirt floor with no vapor barrier, this is conducive to moisture and insect intrusion. recommend installation of vapor barrier and ballast, (plastic sheeting and crushed stone) by a qualified tradesman.</p> <p>3.6. There is wood flooring in contact with dirt in basement, areas of damaged flooring and construction debris in basement, this can be conducive to insect intrusion. Recommend removal of any area of wood to earth contact in basement.</p>
Electrical		
Page 33 Item: 2	Electric Panel Condition	<p>2.2. One or more breakers are double tapped, two or more wires under one breaker screw, this condition can cause loose wire connections or nuisance tripping, recommend repair by a qualified electrician.</p> <p>2.3. There is one or more open breaker spaces on the panel this is a safety hazard. The knock-outs in the dead front (cover of the main panel) were removed. This is considered a major safety hazard as live components of the electrical system are potentially exposed. Recommend repairs by a qualified electrician to prevent injury/electrical shock.</p> <p>2.4. There are open knock outs present in main panel enclosure. This is a potential safety hazard and can allow mice or insects into panel.</p> <p>2.5. Missing protective bushing at one or more circuit knock out this can be conducive to damaged wire, recommend repair by a qualified electrician.</p> <p>2.6. Undersized wires noted at breakers in service panel. Recommend further evaluation and repair by a licensed electrician.</p> <p>2.7. Rodent activity inside electric panel, recommend assessment by a licensed electrician.</p>
Plumbing		
Page 35 Item: 1	Plumbing	<p>1.5. One or more leaks on plumbing lines. Recommend further investigation and repair by a qualified plumber.</p>
Laundry		

Page 37 Item: 2	Plumbing	<p>2.1. Laundry supply lines are rubber or plastic, recommend installing metal mesh burst proof hoses to help prevent water intrusion / damage from laundry leaks.</p> <p>2.2. Corrosion staining around water supply and drain lines, recommend monitor for leaking and repairs as needed by a licensed plumber.</p>
Page 38 Item: 4	Dryer Vent	<p>4.3. The dryer vent has a very long run, this can make it more prone to clogging, difficult to vent properly and become a fire hazard. It appeared to be operating properly at the time of inspection but should be monitored closely. Recommend regular cleaning and inspection for safe operation.</p>
<b>Kitchen</b>		
Page 39 Item: 1	Cabinets	<p>1.2. There is dark staining that appears to be mold on cabinet surfaces below sink. Recommend cleaning or removing all affected areas and monitor for further staining, further investigation and treatment by a qualified professional if needed.</p>
<b>Interior Areas</b>		
Page 41 Item: 1	Doors	<p>1.2. Doors are not installed at one or more area of house.</p>
Page 42 Item: 2	Windows	<p>2.2. Window has broken pane in one or more area of home. Recommend assessment of windows and repair by a qualified tradesman.</p> <p>2.3. Peeling paint on and inside windows at one or more areas of building, due to the age of the building lead paint may be present, this is a potential health hazard recommend keeping windows clean of all paint chips and dust.</p> <p>2.4. Windows at one or more area did not lock/latch properly, recommend repairs for enhanced security/safety to occupants.</p> <p>2.5. Window has moisture intrusion and / or wood damage to window or frame at one or more area of the home. Recommend assessment of windows and repairs by a qualified tradesman as needed.</p>
Page 43 Item: 3	Walls	<p>3.2. Damage to surface of wall in one or more area of home, recommend assessment of wall surfaces and repairs by a qualified tradesman as needed.</p> <p>3.3. There is peeling paint on walls at one or more area of home. The areas tested dry at the time of the inspection, but should be monitored for further damage or possibly water intrusion. Recommend scraping, prepping and repainting as needed.</p>
Page 44 Item: 4	Ceilings	<p>4.3. There are damaged areas mainly in the basement. Recommend having repaired as needed.</p>

Page 45 Item: 6	Electrical	<p>6.3. One or more electrical outlet at wet location is not <b>GFCI</b> protected. Current building practices require GFI protection at all wet locations; kitchen and bath counters, outdoor and garage outlets, unfinished basement outlets, any outlet providing power to a wet appliance such as hot tub or pool, and any outlet within 6' of the rim of a sink. Recommend assessment and installation of GFI outlets where needed by a licensed electrician for safety.</p> <p>6.4. Open junction boxes were observed, which is a safety concern. Recommend installing proper covers, as needed, for safety.</p> <p>6.5. Improperly secured wires present, all wiring should be properly secured to the framing. recommend assessment by a licensed electrician.</p> <p>6.6. Electric wires in contact with plumbing or heating lines, this is a potential safety hazard, causing damage to wires and potential energizing of pipes / duct. Recommend repairs by a licensed electrician.</p> <p>6.7. There are sub panels or equipment disconnect boxes with older fuse type over current protection. These are considered to be unsafe because home owner may replace fuses with improper sized fuses creating a fire hazard. Recommend upgrading to current residential standards using breakers.</p> <p>6.8. There are no switched outlets or lights at one or more area of the home, recommend having a switched outlet or switched light fixture for illumination in every room for safety.</p>
Page 47 Item: 7	Smoke Detectors	7.2. Smoke and or CO detectors are missing at one or more bedrooms, recommend assessment and installation of smoke / CO detectors at the correct locations by a licensed electrician.
Page 48 Item: 9	Stairs & Handrail	9.2. Stairs have one or more area of handrail missing. Recommend installing proper hand rail and <b>balusters</b> by a qualified contractor for safety.
Page 48 Item: 10	Ceiling Fans	10.1. The fan unit at one or more area of the home makes an irregular noise. This may be a sign that it has reached the end of its useful life.
<b>Bathroom</b>		
Page 50 Item: 3	Tub / Showers	3.2. Caulking is damaged or missing near base of tub/ shower enclosure at second floor hall bathroom. Recommend further evaluation by a qualified plumber. Caulking around tub to prevent water from leaking behind wall tile may prohibit further damage that may be present.
Page 51 Item: 4	Sinks	4.2. Sink drains slow at one or more bathroom. Recommend servicing by a qualified plumber.
Page 51 Item: 5	Toilets	5.2. The toilet bowl at the one or more bathroom is loose at floor anchor bolts. The wax ring inside the unit must have a snug, secure fit in order to keep from leaking. Properly resealing and re-securing this unit is suggested to prevent water leakage and damage to the sub-floor area. This type of damage is not always visible or accessible to the inspector at time of inspection.
<b>Heat AC</b>		

Page 53 Item: 3	Thermostats	3.1. Thermostat in basement does not start furnace / boiler, basement zone was not tested, recommend to have system assessed by a qualified heating contractor.
Tenant Kitchen		
Page 56 Item: 2	Oven & Range	2.3. Oven is missing anti tip bracket, recommend installation of anti tip devise to prevent stove from tipping over and causing injury

# Inspection Details

## 1. Attendance

Client present, Buyer Agent present, Clients parent present

## 2. Home Type

Two Family Home

## 3. Occupancy

Occupied - Furnished

## 4. House Faces

West

## 5. Weather Conditions

Rain, 70-79 degrees, ground is damp

## 6. Inspector Comments

- Due to the age of the house it is assumed that lead paint and **asbestos** may be present. They are in and of themselves not necessarily a hazard. It is important when doing repairs on a building this age to use proper protocol to prevent contamination from lead or asbestos debris and dust. As of February 22, 2010 EPA is requiring any contractor doing work on a home built prior to 1979 and disturbing more than 6 square feet in any room be certified lead disturbance and containment. For more information contact your realtor or visit [www.epa.gov](http://www.epa.gov). This inspection takes into consideration that the house is over 85 years old and an expected amount of deterioration, wear and tear will be present and considered typical for a home this age.

## Grounds

### 1. Driveway and Walkway Condition

Asphalt driveway noted., Gravel driveway noted.  
Observations:

1.1. Excessive deterioration and cracking was observed at the asphalt surfaces. Recommend assessment and repairs by a qualified asphalt contractor.



### 2. Grading

Observations:

2.1. Lot grading and drainage have a significant impact on the building, simply because of the direct and indirect damage that moisture can have on the foundation. It is very important, therefore, that surface runoff water be adequately diverted away from the home. Lot grading should slope away and fall a minimum of one (1) inch every foot for a distance of six (6) feet around the perimeter of the building.

2.2. There is a depression in grading at one or more exterior area of foundation wall. This is conducive to ponding and possible water intrusion into house, recommend filling or re grading any depressions and taking measures to divert water away from this area and monitor for proper drainage.

2.3. Areas of erosion to grounds , recommend repairs, re grading if needed and adding plantings as needed to maintain integrity of grounds,



rain water ponding at left side of house



Rain water ponding at rear of house



Sink hole in back yard

### 3. Vegetation Observations

#### Observations:

3.1. Vegetation such as trees, shrubs and/or vines are in contact with or less than one foot from the structures exterior. Vegetation can serve as a **conduit** for wood destroying insects and fungal growth and may retain moisture against the exterior after it rains. Vegetation should be pruned and/or removed as necessary to maintain a one foot clearance between it and the structures exterior.



#### 4. Retaining Wall / Fence Condition

Materials:

- Block

Observations:

4.1. There are cracks, damage or evidence of movement in retaining walls. Recommend further investigation and repair as needed by a qualified masonry contractor.



Damage to side block wall.

## Exterior Areas

The proper installation of flashings around doors and windows is critical to water proofing the exterior walls. Missing, damaged or improperly installed flashings are the most common cause of moisture intrusion to walls and baseboards beneath windows. Because these flashings are concealed by the exterior wall covering, we cannot endorse them and specifically disclaim any evaluation of these flashings, and leaks may become evident only during heavy, prolonged or wind driven rainfall. The window screens are not evaluated, they are easily damaged and often removed. Home Inspectors cannot always determine the integrity of the thermal seal in double glazed windows. Evidence of failed seals may be more or less visible from one day to the next depending on the weather and inside conditions (temperature, humidity, sunlight, etc.).

### 1. Doors

#### Observations:

1.1. Exterior doors were checked on a random basis. All doors that were tested opened and closed with no binding with no significant visible areas of wear or damage to door or frame except where noted.

1.2. One or more exterior door has damage of door, frame, or trim, recommend further investigation of all doors and repairs by a qualified tradesman as needed.



Damage to rear door frame

### 2. Siding Condition

- A visual inspection of exterior surfaces is performed, checking for evidence of deterioration, damage, excessive staining, or improper installation.
- Vinyl siding, wood frame construction.
- Aluminum siding, wood frame construction.

#### Observations:

2.1. Noted stains/ discoloration mainly at north and east walls. Recommend cleaning and monitoring area for further staining.

2.2. Siding is in contact with finish grade at one or more area of building, this is conducive to moisture and insect intrusion, recommend monitor area and have repaired as needed by a qualified contractor.



contact with finish grade front of house



contact with finish grade side of house



repairs to side siding left side of house



### 3. Window Condition

• A visual inspection of exterior window surfaces is performed, checking for evidence of deterioration or damage.

- Vinyl
- Wood
- Insulated Pane
- Single Pane

Observations:

3.1. Keep basement window wells free of debris to help prevent water intrusion, recommend installing covers / rain diverters on window wells to keep them free of debris and to divert water.

3.2. Peeling paint observed at one or more window and or window frame, suggest scraping and painting as necessary.



Basement window



Peeling paint.

### 4. Eaves & Trim

4.1. A visual inspection of exterior trim, soffit and fascia surfaces is performed, checking for evidence of deterioration, damage, excessive staining, or improper installation. No major system safety or function concerns except where noted.

4.2. Trim boards have areas of damage and or deterioration, recommend assessment and repair by a qualified contractor.



deterioration to trim below front door



damage to corner trim front of house



damage fascia board and trim above front porch



Damaged trim at rear of house.



Damaged trim over side door.

## 5. Exterior Paint

### Observations:

5.1. Peeling paint observed on fascia and trim boards in one or more area, suggest assessment by a qualified painting contractor and scraping and painting as necessary.



## 6. Stairs

### Observations:

6.1. Exterior stairs were inspected for any areas of damage, missing or improper hand rails or guard rails and for any areas of improper installation. Stairs appear to be in acceptable condition except where noted.

6.2. Front steps have damage to brick or mortar. Recommend further investigation and repair by a qualified masonry contractor.



Front of house.



Damaged tread at front porch

## 7. Deck / Porch

### Observations:

7.1. Outside decks, porches or landings were inspected for any areas of damage, missing or improper hand rails or guard rails and for any areas of improper installation. Appear to be in acceptable condition except where noted.

## 8. Exterior Electrical

### Observations:

8.1. Main service entrance cable is over head.

8.2. Open conduit for data lines near electric meter should be sealed to prevent water intrusion.

8.3. There are improperly protected electric wires at one or more area, this is a potential safety hazard, recommend further investigation and repair by a licensed electrician. Wire should be protected by conduit or pipe.



separate electric meters



open conduit below meters



Exposed wires at rear of house

## Roof

This report describes the roof coverings and the method used to inspect the roof. Inspectors are required to inspect the roof covering, roof drainage systems, flashings, skylights, chimneys and roof penetrations. The following web site is an excellent resource of information on roofs:

<http://www.roofhelper.com>

### Limitations of Roof Inspection

- This inspection may not reveal future leaks. Roofs may leak at any time. Leaks often appear at roof penetrations, flashings, changes in direction or changes in material. A roof leak should be addressed promptly to avoid damage to the structure, interior finishes and furnishings. A roof leak does not necessarily mean the roof has to be replaced. We recommend an annual inspection and tune-up to minimize the risk of leakage and to maximize roof life.
- It is not always possible to inspect the total underside surface of the roof sheathing for evidence of leaks. Evidence of prior leaks may be disguised by interior finishes. Leakage can develop at any time and may depend on rain intensity, wind direction, ice buildup, and other factors.
- Estimates of roof life are approximations only and do not preclude the possibility of leakage.
- It is advised to inquire and obtain roof documentation & history of permits from the previous owner.
- Chimney flue is not included in this inspection, recommend having flue inspected by a qualified masonry / chimney contractor.

### 1. Roof Condition

- Approximate Age of Roof: 10-15 Years
- Design Life: 20-25 years
- Inspected from ground level with binoculars.
- Walked roof limited areas.

#### Materials:

- Three tab asphalt shingles noted
- Rolled asphalt roofing
- Flat roof, rubber membrane

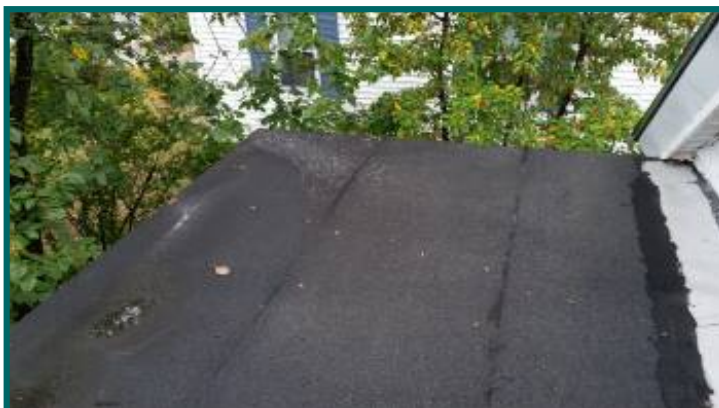
#### Observations:

1.1. There are trees and branches over hanging or in contact with roof, this condition is detrimental to life of roof and can cause damage, fungal growth, water, insect and animal intrusion. Keep trees and branches trimmed to help prolong life of roof covering.

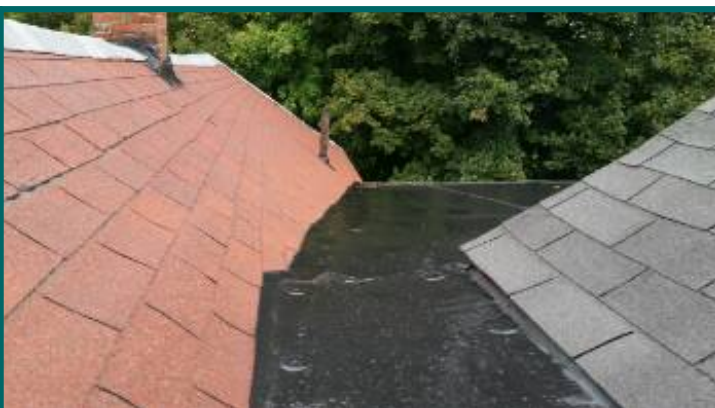
1.2. Staining and fungal growth on surface of roof, recommend cleaning of shingles by a qualified roofing contractor to help prolong life of roof.

1.3. Shingles show granular loss, are cracked in several areas and showing age. Recommend further investigation and repair by a qualified roofing contractor.

1.4. There are areas of damage and broken or missing shingles, recommend assessment and repairs by a qualified roofing contractor.



rolled asphalt roofing



Trees overhanging roof should be cut back or removed.



Rubber rolled roof



Repaired shingles



Repaired shingles



## 2. Flashing

### Observations:

2.1. Flashing around chimney and or **vent stack** penetrations is sealed with roofing tar, this is considered a temporary repair and will have to be monitored for leaking and repaired or sealed from time to time. Recommend inspection and proper repair by a qualified roofing contractor.

2.2. Water staining and active moisture noted in attic at chimney penetration. Recommend assessment by a qualified roofing contractor.



## 3. Gutter Observations

### Observations:

3.1. Gutters have areas of damage, recommend having repaired as needed by a qualified contractor.



missing end cap & downspout at front porch

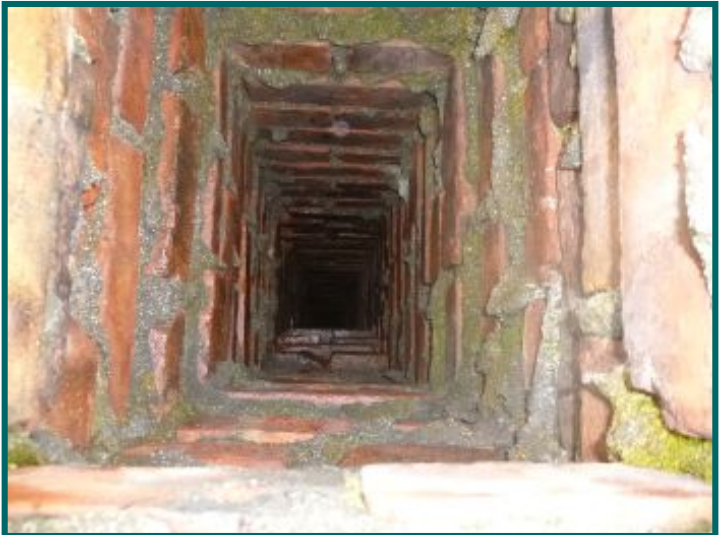
#### 4. Chimney

Observations:

4.1. Masonry Chimney

4.2. Chimney(s) are over 50 years old and will require inspection and maintenance from time to time.

4.3. The chimney stack appears to have an unlined flue. While this may have been acceptable at the time of construction, flue liners are a fire safety feature which the client should consider installing to enhance safety. Regular cleaning of the chimney is recommended to ensure safe and efficient operation.



## Attic

Attics may be subject to limited inspection due to limited visibility, mobility and lastly most areas are covered by insulation and the potential to cause damage to the structure like (falling through ceilings) is possible. Due too these issues some hidden defects could be present but not able to detect under the scope of a home inspection.

### Limitations of Attic and Insulation Inspection

- Present or possibility of future water leaks is not alway observable.
- Access to all areas of attic space is often limited due to lack of permanently installed walkways, the possibility of damage to insulation, low height and/or stored items. These areas are excluded from this inspection.
- Insulation/ventilation type and levels in concealed areas, like exterior walls, are not inspected.
- Potentially hazardous materials such as Asbestos and Urea Formaldehyde Foam Insulation (UFFI) cannot be positively identified without a detailed inspection and laboratory analysis. This is beyond the scope of the inspection.
- Any estimates of insulation R values or depths are rough average values.

### 1. Access

#### Observations:

- 1.1. Scuttle Hole located in bedroom.
- 1.2. Attic space was not entered, it was viewed from access area only.



### 2. Structure

#### Observations:

- 2.1. Attic Framing Materials:
- 2.2. Rafters
- 2.3. Panel Boards
- 2.4. Water intrusion mainly around chimney penetration. Recommend further investigation and repairs to chimney flashing by a qualified roofing contractor.
- 2.5. Stains were found in one or more surfaces. The stain(s) may be due to past or present roof and/or plumbing leaks. Recommend asking the property owner(s) about this, and monitoring the stained area(s) in the future, especially after heavy or prolonged rain. If elevated moisture is found in the future, a qualified contractor should evaluate and repair areas as necessary.



Leak around chimney.



### 3. Insulation Condition

#### Materials:

- Unfinished fiberglass batts noted.
- Loose fill insulation
- Insulation averages 3 to 4 inches.
- Current building standards would require approximately 16-18 inches of insulation or R-49 in attic floor area. Client may wish to add insulation to enhance energy efficiency.

#### Observations:

3.1. Apparent vermiculite insulation present; this type of insulation may contain asbestos, which has been linked to cancer (mesothelioma). This inspector is qualified to sample the insulation for you and send it to a national laboratory which will determine if asbestos is present.

The EPA makes the following recommendation at

<http://www.epa.gov/asbestos/pubs/insulation.html> :

"What should I do if I have vermiculite attic insulation?

DO NOT DISTURB IT. Any disturbance has the potential to release asbestos fibers into the air. Limiting the number of trips you make to your attic and shortening the length of those trips can help limit your potential exposure. EPA and ATSDR strongly recommend that:

Vermiculite insulation be left undisturbed in your attic. Due to the uncertainties with existing testing techniques, it is best to assume that the material may contain asbestos.

You should not store boxes or other items in your attic if retrieving the material will disturb the insulation.

Children should not be allowed to play in an attic with open areas of vermiculite insulation.

If you plan to remodel or conduct renovations that would disturb the vermiculite, hire professionals trained and certified to handle asbestos to safely remove the material.

You should never attempt to remove the insulation yourself. Hire professionals trained and certified to safely remove the material."



Vermiculite insulation

### 4. Ventilation

#### Observations:

4.1. No Visible Ventilation noted.

### 5. Electrical

#### Observations:

5.1. Knob and tube wiring in attic in contact with insulation, was not tested to determine if it is still active, this type of wiring is at least 70 years old and is no longer considered safe, recommend further investigation and repairs as needed by a qualified electrician.



Knob and tube

## Foundation

Despite all efforts, it is impossible for a home inspection to provide a guaranty that the foundation, and the overall structure and structural elements of the building is sound. National Property Inspection suggests that if the client is at all uncomfortable with this condition or our assessment, a structural engineer be consulted to independently evaluate any specific concern or condition, prior to making a final purchase decision.

### Limitations of Structure Inspection

- Full inspection of all structural components (posts/girders, foundation walls, sub flooring, and/or framing) is not possible in areas/rooms where there is insulation, stored items, shelves, appliances or are finished walls, ceilings and floors. A representative sample of the visible structural components was inspected.
- No representation can be made to future leaking of foundation walls.

### 1. Foundation walls

#### Observations:

#### 1.1. Foundation wall materials:

#### 1.2. Field Stone

#### 1.3. Granite

#### 1.4. Brick

#### 1.5. Limited visibility due to finished basement space and or stored items or cluttered conditions.

1.6. A few areas of damage to the foundation walls, due to the age it is recommend to have stone and grout lines on wall inspected and repaired as needed on a regular basis.

1.7. Moisture intrusion was observed one or more areas of the foundation. Moisture can create high humidity, mold & can damage stored items & finishing materials. Recommend a basement specialist review the foundation for correcting any water intrusion issues.



loose bricks left side of house



leak below side window



Wet wall right side window



Damaged loose brick



Water leak at wall.

## 2. Under Floor Framing

### Observations:

#### 2.1. \*\*FRAMING Materials\*\*

#### 2.2. Beam Material: Wood

#### 2.3. Steel lally **columns**

#### 2.4. **Dimensional lumber** wood Joists

#### 2.5. Limited visibility due to finish basement, insulation or cluttered conditions.

2.6. Water staining on basement ceiling dry at time of inspection, recommend monitor condition for further water intrusion and repairs as needed.

2.7. Foundation framing is very old , there are areas where framing components have been repaired or replaced. there is settlement on floors in finished space noted, condition should be monitored and repaired as needed.

2.8. Water staining and damaged wood at one or more area of under floor framing, dry at time of inspection recommend monitor area and repairs as needed by a qualified tradesman.



stains below kitchen



Damaged wood next to left side window



### 3. Floor Slab

#### Observations:

##### 3.1. Materials:

##### 3.2. Dirt Floor

##### 3.3. Wood Floor

3.4. Some areas of floor slab not visible due to floor covering.

3.5. Dirt floor with no **vapor barrier**, this is conducive to moisture and insect intrusion. recommend installation of vapor barrier and ballast, (plastic sheeting and crushed stone) by a qualified tradesman.

3.6. There is wood flooring in contact with dirt in basement, areas of damaged flooring and construction debris in basement, this can be conducive to insect intrusion. Recommend removal of any area of wood to earth contact in basement.



Dirt floor



## Electrical

## 1. Main Panel Description

- Panel boxes located in basement.
- Main Electric Disconnects Located in Main Electric Panels.
- 120/240 volt
- Circuit Breakers
- 100 amp
- Copper Romex Wiring

## 2. Electric Panel Condition

## Observations:

2.1. Electric panels were inspected for any areas of damage, deterioration, improper installation and any safety hazards. The electric panel appears acceptable except where noted.

2.2. One or more breakers are double tapped, two or more wires under one breaker screw, this condition can cause loose wire connections or nuisance tripping, recommend repair by a qualified electrician.

2.3. There is one or more open breaker spaces on the panel this is a safety hazard. The knock-outs in the dead front (cover of the main panel) were removed. This is considered a major safety hazard as live components of the electrical system are potentially exposed. Recommend repairs by a qualified electrician to prevent injury/electrical shock.

2.4. There are open knock outs present in main panel enclosure. This is a potential safety hazard and can allow mice or insects into panel.

2.5. Missing protective bushing at one or more circuit knock out this can be conducive to damaged wire, recommend repair by a qualified electrician.

2.6. Undersized wires noted at breakers in service panel. Recommend further evaluation and repair by a licensed electrician.

2.7. Rodent activity inside electric panel, recommend assessment by a licensed electrician.



left side apartment main panel



open knock outs, missing bushings



14 gage wire on 20 amp breaker left side apartment panel.



Open breaker space



right side apartment main panel



double tapped circuit.



rodent droppings

# Plumbing

## 1. Plumbing

### Observations:

- 1.1. Main Water Shut off Valve is located in basement.
- 1.2. Copper water supply lines
- 1.3. "PVC" waste and vent pipes noted.
- 1.4. Some plumbing lines are not visible due to finished space.
- 1.5. One or more leaks on plumbing lines. Recommend further investigation and repair by a qualified plumber.



Expulsion pump for basement plumbing fixtures.



Main water shut off valve is located at water meter.



Leak on plumbing line in basement.



Expulsion pump for basement plumbing fixtures.



Main drain line termination.



Leak on plumbing line in basement.

## Laundry

Our inspection of the laundry area is visual only we do not operate washer and dryer during the inspection. Laundry connections or areas of dryer venting obscured behind walls or obstacles are not inspected. Issues with improper laundry venting can be a potential fire hazard.

We recommend regular inspection and cleaning of dryer vent to help reduce potential fire hazards. Please view the following link for more information.

[http://www.dryerbox.com/dryer\\_venting\\_guide.htm](http://www.dryerbox.com/dryer_venting_guide.htm)

### 1. Locations

- Limited visibility of laundry hook ups and dryer vent due to stack appliances.

### 2. Plumbing

Observations:

2.1. Laundry supply lines are rubber or plastic, recommend installing metal mesh burst proof hoses to help prevent water intrusion / damage from laundry leaks.

2.2. Corrosion staining around water supply and drain lines, recommend monitor for leaking and repairs as needed by a licensed plumber.



right side



left side

### 3. Electrical

Observations:

3.1. Electric dryer outlet is three prong, when buying appliances dryer will come with either 3 or 4 prong chord. You can buy three prong chord or upgrade outlet to a four prong receptacle to bring circuit up to current building standards.



right side dryer connection is 3 prong electric

#### 4. Dryer Vent

##### Observations:

4.1. Recommend regular inspection and cleaning of dryer vent to help prevent fire hazard.

4.2. The clothes dryer is equipped with a plastic or foil, accordion-type, flexible exhaust duct. The U.S. Consumer Product Safety Commission considers these types of ducts to be unsafe for gas fired dryers, and a fire hazard. These types of ducts can trap lint and are susceptible to kinks or crushing, which can greatly reduce the air flow. This duct should be replaced with a rigid or corrugated semi-rigid metal duct, and by a qualified contractor if necessary. Most clothes dryer manufacturers specify the use of a rigid or corrugated semi-rigid metal duct. For more information on dryer safety issues, see <http://www.cpsc.gov/PageFiles/98570/clothesdryer.pdf>

4.3. The dryer vent has a very long run, this can make it more prone to clogging, difficult to vent properly and become a fire hazard. It appeared to be operating properly at the time of inspection but should be monitored closely. Recommend regular cleaning and inspection for safe operation.



Accordion type dryer hose right side.

## Kitchen

The kitchen appliances are operated using normal controls and tested for proper operation and general conditions.

### 1. Cabinets

Observations:

1.1. Kitchen cabinets were functional except where noted.

1.2. There is dark staining that appears to be mold on cabinet surfaces below sink. Recommend cleaning or removing all affected areas and monitor for further staining, further investigation and treatment by a qualified professional if needed.



Staining below sink right side kitchen

### 2. Dishwasher

Observations:

2.1. Amana

2.2. Model #:ADB1100AWB3

### 3. Oven & Range

Observations:

3.1. Kenmore

3.2. Model #790.77449804

### 4. Vent Condition

- Recirculating

Observations:

4.1. Kitchen exhaust vent / filter fan operated normally.

## 5. Refrigerator

Observations:

5.1. Electrolux

5.2. Model #LFHT2131QF0

## 6. Sinks

Observations:

6.1. Sinks are operated, as well as visually inspected for evidence of leaks, damage or improper operation.

## Interior Areas

The Interior section covers all surfaces at interior spaces as well as other interior components.. Interior areas usually consist of bedrooms, kitchens, bathrooms, hallways, foyer, living room, dining room, work areas, offices and other open areas. Within these areas the inspector is performing a visual inspection and will report visible damage, wear and tear, and moisture problems if seen. Stored items, occupant fit up and fixtures in the structure may prevent the inspector from viewing all areas on the interior.

The inspector does not usually test for mold or other hazardous materials. A qualified expert should be consulted if you would like further testing.

### 1. Doors

#### Observations:

1.1. Interior doors were checked on a random basis. All doors that were tested opened and closed with no binding with no significant visible areas of wear or damage to door or frame except where noted.

1.2. Doors are not installed at one or more area of house.



doors are missing at 2nd floor rear bedroom

### 2. Windows

#### Observations:

2.1. Interior windows were checked on a random basis for damage, staining and proper operation. All windows that were tested opened and closed with no binding with no significant visible areas of wear or damage, except where noted.

2.2. Window has broken pane in one or more area of home. Recommend assessment of windows and repair by a qualified tradesman.

2.3. Peeling paint on and inside windows at one or more areas of building, due to the age of the building lead paint may be present, this is a potential health hazard recommend keeping windows clean of all paint chips and dust.

2.4. Windows at one or more area did not lock/latch properly, recommend repairs for enhanced security/safety to occupants.

2.5. Window has moisture intrusion and / or wood damage to window or frame at one or more area of the home. Recommend assessment of windows and repairs by a qualified tradesman as needed.



First floor front wall broken panes



broken glass first floor side wall



peeling paint first floor



right side apartment dining room window is fogged  
will not lock.



2 dining room windows will not lock



right side apartment family room window has broken  
glass will not open



First floor peeling paint

### 3. Walls

#### Observations:

3.1. Interior finish space wall surfaces were checked for visible evidence of staining , damage, settlement cracks and improper installation. No significant deficiencies were observed. Except where noted.

3.2. Damage to surface of wall in one or more area of home, recommend assessment of wall surfaces and repairs by a qualified tradesman as needed.

3.3. There is peeling paint on walls at one or more area of home. The areas tested dry at the time of the inspection, but should be monitored for further damage or possibly water intrusion. Recommend scraping, prepping and repainting as needed.



peeling paint 2nd floor rear bedroom



basement stairway



peeling paint right side living room.

#### 4. Ceilings

##### Observations:

4.1. Interior finish space ceilings were checked for visible evidence of staining, damage, settlement cracks and improper installation. No significant deficiencies were observed. Except where noted:

4.2. Typical settlement cracks on surface of ceilings at one or more area of the home. Recommend assessment of ceiling surfaces and repairs as needed by a qualified contractor.

4.3. There are damaged areas mainly in the basement. Recommend having repaired as needed.



2nd floor rear bedroom

#### 5. Floors

##### Observations:

5.1. Interior finish floor surfaces were checked for visible evidence of damage, settlement cracks and improper installation. No significant deficiencies were observed. Except where noted.

5.2. Floors are not level at one or more areas of home. Suggest monitor condition and repairs as needed by a qualified contractor.

## 6. Electrical

### Observations:

- 6.1. A random sampling of outlets, GFI outlets, switches and light fixtures were observed and tested as well as visual inspection of all accessible / visible interior wiring. All electric components appeared acceptable or operated properly except where noted.
- 6.2. Ungrounded outlets present. Ungrounded outlets do not offer current standard of protection for equipment, especially for sensitive electronics. Recommend installing three prong grounded outlets where any sensitive electronics are being used, ( Entertainment center, TV, computer etc.)
- 6.3. One or more electrical outlet at wet location is not **GFC** protected. Current building practices require GFI protection at all wet locations; kitchen and bath counters, outdoor and garage outlets, unfinished basement outlets, any outlet providing power to a wet appliance such as hot tub or pool, and any outlet within 6' of the rim of a sink. Recommend assessment and installation of GFI outlets where needed by a licensed electrician for safety.
- 6.4. Open junction boxes were observed, which is a safety concern. Recommend installing proper covers, as needed, for safety.
- 6.5. Improperly secured wires present, all wiring should be properly secured to the framing. recommend assessment by a licensed electrician.
- 6.6. Electric wires in contact with plumbing or heating lines, this is a potential safety hazard, causing damage to wires and potential energizing of pipes / duct. Recommend repairs by a licensed electrician.
- 6.7. There are sub panels or equipment disconnect boxes with older fuse type over current protection. These are considered to be unsafe because home owner may replace fuses with improper sized fuses creating a fire hazard. Recommend upgrading to current residential standards using breakers.
- 6.8. There are no switched outlets or lights at one or more area of the home, recommend having a switched outlet or switched light fixture for illumination in every room for safety.



No GFI protection at kitchen outlets.



the house has a mix of three prong grounded and two-prong ungrounded outlets



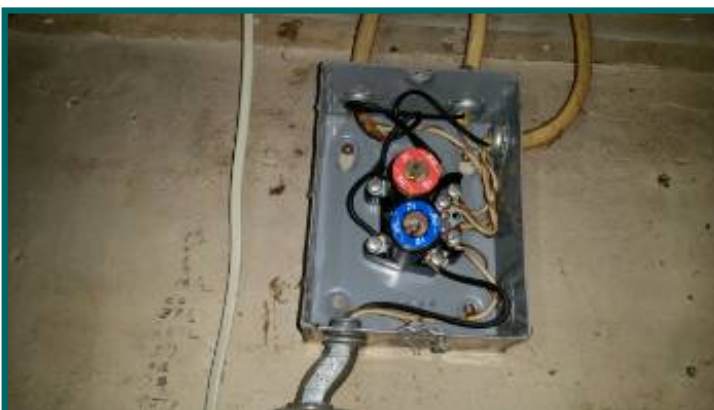
Second floor bedrooms are missing wall switches to turn lights on and off



improperly secured junction box, wires in contact with pipes



improperly secured junction box, wires in contact with pipes



Open junction box, screw fuse sub panel in basement



No GFI protection at kitchen outlets.



## 7. Smoke Detectors

### Observations:

7.1. Today's safety standards recommend hard wired interconnected smoke detectors, one on each floor hall and one in each bedroom and one CO detector on each floor. For battery powered smoke detectors it is recommended to test and change batteries twice a year when clocks are changed.

7.2. Smoke and or CO detectors are missing at one or more bedrooms, recommend assessment and installation of smoke / CO detectors at the correct locations by a licensed electrician.



There is one smoke detector in bedroom hallway area, no smoke or CO detectors in bedrooms.



left side apartment smoke detector outside of bedrooms

## 8. Heat Distribution

### Observations:

8.1. Heat Distribution Method:

8.2. Forced hot water baseboard heaters

8.3. Heat registers / base board heaters were spot tested and providing heat and or conditioned air at time of inspection. Basement zone was not tested due to inoperable thermostat.



right side apartment first floor



right side apartment second floor

## 9. Stairs & Handrail

### Observations:

9.1. Interior stairs were inspected for any areas of damage, missing or improper hand rails or guard rails and for any areas of improper installation. Stairs appear to be in acceptable condition except where noted.

9.2. Stairs have one or more area of handrail missing. Recommend installing proper hand rail and **balusters** by a qualified contractor for safety.



missing hand rail at basement stairs.

## 10. Ceiling Fans

### Observations:

10.1. The fan unit at one or more area of the home makes an irregular noise. This may be a sign that it has reached the end of its useful life.



left side apartment ceiling fan clanging

## Bathroom

The home inspector will operate all plumbing fixtures if possible, inspect all surface and identify as many issues as possible but some problems may be undetectable due to problems within the walls or under the flooring. Client is advised that plumbing leaks can occur at any time. The possibility of future leaks can not be predicted.

### 1. Cabinets

Observations:

- 1.1. Bathroom cabinets are fully functional.



Basement bathroom is not in service plumbing fixtures not tested.

### 2. Exhaust Fan

Observations:

- 2.1. Bath exhaust fans operated normally.

### 3. Tub / Showers

Observations:

- 3.1. Tub and shower fixtures were operated as well as visually inspected for evidence of leaks, damage or improper operation. No significant deficiencies were observed except where noted.

3.2. Caulking is damaged or missing near base of tub/ shower enclosure at second floor hall bathroom. Recommend further evaluation by a qualified plumber. Caulking around tub to prevent water from leaking behind wall tile may prohibit further damage that may be present.



left side

#### 4. Sinks

##### Observations:

4.1. Sink fixtures were operated as well as visually inspected for evidence of leaks, damage or improper operation. No significant deficiencies were observed except where noted.

4.2. Sink drains slow at one or more bathroom. Recommend servicing by a qualified plumber.



slow drain at left side apartment sink

#### 5. Toilets

##### Observations:

5.1. Toilets are operated, checked for proper attachment to floor, as well as visually inspected for evidence of leaks, damage or improper operation. No significant deficiencies were observed except where noted.

5.2. The toilet bowl at the one or more bathroom is loose at floor anchor bolts. The wax ring inside the unit must have a snug, secure fit in order to keep from leaking. Properly resealing and re-securing this unit is suggested to prevent water leakage and damage to the sub-floor area. This type of damage is not always visible or accessible to the inspector at time of inspection.



left side apartment toilet is loose

## Heat AC

## 1. Heater Condition

- Approximate Heater Age:18 Years
  - Design Life:25-30 years
  - -- Heater Type--
  - Hydronic Boiler
- Observations:

1.1. Weil Mclaine

1.2. Model #G5-4 SBDN



## 2. Fuel Lines

Observations:

2.1. Heating fuel is:

2.2. Natural gas

2.3. Fuel shut off located at furnace / boiler.

2.4. Fuel shut off located at exterior wall.

## 3. Thermostats

Observations:

3.1. Thermostat in basement does not start furnace / boiler, basement zone was not tested, recommend to have system assessed by a qualified heating contractor.



Basement thermostat low battery was not tested.

## Water Heater.

## 1. Water Heater Condition

- Approximate Age: 10 Years
- Design Life: 10-15 years
- Gallons: 40
- Water heater type
- Natural Gas

Observations:

1.1. State Select

1.2. Model # GS640YBRS

1.3. Water temperature is above 120 degrees, should be set minimum 110 degrees for comfort and maximum 120 degrees to prevent scalding particularly for very young and very old persons.

1.4. Water heater is approaching or at the end of its typical service life. Client should expect to replace water heater in the near future. Client should monitor condition and have replaced as needed.



Water Temperature



Mixing valve / burner control to adjust water temperature.

## 2. TPRV

Observations:

2.1. A Temperature Pressure Relief Valve (**TPR Valve**) present. This safety valve releases water (and thus relieves pressure) if either the temp or pressure in the tank gets too high. The TPR valve discharge tube must be made of copper, iron, or CPVC (NOT regular PVC). It must terminate within 6" above the floor--the end cannot be threaded or have a fitting.

The discharge piping should not be reduced either by fittings, kinks or in any other way. Watts® Regulator Company, a maker of numerous water safety devices, states that discharge piping in excess of 30 feet or the use of more than four 90° elbows will reduce the discharge capacity. Shorter is better.

2.2. Down pipe is CPVC

## Tenant Kitchen

## 1. Cabinets



## 2. Oven &amp; Range

Observations:

2.1. Frigidaire

2.2. Model # not visible

2.3. Oven is missing anti tip bracket, recommend installation of anti tip devise to prevent stove from tipping over and causing injury



## 3. Refrigerator

Observations:

3.1. Admiral

3.2. Model #ATB1710DRW

## Tenant Water Heater.

## 1. Water Heater Condition

- Approximate Age: 5 years
- Design Life: 10-15 years
- Gallons: 40
- Water heater type
- Natural Gas

Observations:

1.1. GE

1.2. Model # GG40S06AVJ00

1.3. Water temperature is above 120 degrees, should be set minimum 110 degrees for comfort and maximum 120 degrees to prevent scalding particularly for very young and very old persons.



Water Temperature



Mixing valve / burner control to adjust water temperature.

## 2. TPRV

Observations:

2.1. A Temperature Pressure Relief Valve (TPR Valve) present. This safety valve releases water (and thus relieves pressure) if either the temp or pressure in the tank gets too high. The TPR valve discharge tube must be made of copper, iron, or CPVC (NOT regular PVC). It must terminate within 6" above the floor--the end cannot be threaded or have a fitting. The discharge piping should not be reduced either by fittings, kinks or in any other way. Watts® Regulator Company, a maker of numerous water safety devices, states that discharge piping in excess of 30 feet or the use of more than four 90° elbows will reduce the discharge capacity. Shorter is better.

2.2. Down pipe is Copper

## 3. Plumbing

Materials:

- copper