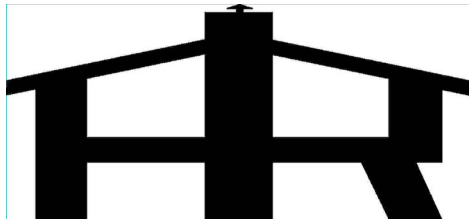


INSPECTION REPORT



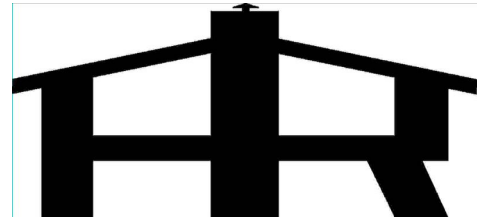
For the Property at:
000 ANY STREET
ANYTOWN, MB

Prepared for: HOUSE REVIEW CLIENT
Inspection Date: Monday, April 1, 2013
Prepared by: Roger Chamberland, RHI, CMI



House Review/Guardian Inspection Services Inc.
432 Speers Rd.
Winnipeg, MB R2J 1N2
204-253-4076
Fax: 204-221-0520
www.housereview.ca
housereview@shaw.ca

The professionals who know what it takes to call a house, home.



April 1, 2013

Dear House Review Client,

RE: Report No. 2254
000 Any Street
Anytown, MB

As per your request, an indoor air quality/mold investigation was carried out at 000 Any Street, Anytown, MB on April 1, 2013. It is our understanding that this investigation was requested due to general air quality and mold concerns and related health issues of the occupants of the house.

At the time of the investigation and inspection, the house was occupied. There was no noticeable odor in the house.

The CMHC Indoor Air Quality Investigation (IAQ) Protocol used during my inspection focuses on house-related problems that may affect indoor air quality. This report focuses on identifying potential IAQ contaminants in the house and then recommends methods for removing, separating and diluting them from contact with the air you breathe. Indoor air quality improvements are an important part of personal health management and the steps we recommend can be seen as positive steps towards better overall air quality.

Air sampling was conducted at the time of the inspection, one sample was taken outside for comparative purposes, one sample was taken in the basement and one sample was taken on the first floor. The samples were appropriately delivered to ABC Labs on March 24, 2013 for analysis.

Lab results indicate elevated aspergillus/penicillium & cladosporium spore counts in the basement and first floor areas. In light of the high counts, immediate remediation/repair action should take place in these areas as per the recommendations contained in the attached report. It is recommended to consult with experienced general contractors and experienced/qualified mold remediation contractors to assist with the recommendations.

It is also recommended to conduct further air sampling once all the work has been completed to determine if mold counts are reduced to acceptable levels. We can be of further assistance with this if requested.

A number of CMHC About Your House fact sheets are referenced in the report and are attached along with the report. These are intended to help you gain necessary information to assist you in dealing with the many recommendations.

A number of recommendations are included in the report, please be assured each one of these items listed, when completed, will make a positive improvement in air quality. You are also advised that the best possible IAQ requires a systematic, integrated and long term approach.

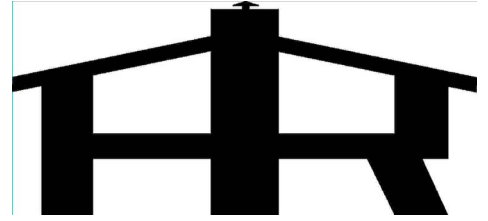
Thank you again for allowing me the opportunity to perform the IAQ investigation for your home. Your interest and commitment in improving the indoor air quality is to be commended. Please do not hesitate to call me at 253-4076 should you have any questions relative to the recommendations contained in this report.

Sincerely yours,

Sincerely,

Roger Chamberland, RHI, CMI
on behalf of
House Review/Guardian Inspection Services Inc.

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INVOICE

April 1, 2013

Client: House Review Client

Report No. 2254
For inspection at:
000 Any Street
Anytown, MB

on: Monday, April 1, 2013

Inspection & Assessment	\$300.00
Air Sampling, 3X150	\$450.00
Travel	\$75.00
	<hr/>
Subtotal	\$825.00
GST #	\$41.25
889326526	
	<hr/>
Total	<u>\$866.25</u>

PAID IN FULL - THANK YOU!

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ROOFING

000 Any Street, Anytown, MB April 1, 2013

Report No. 2254

www.housereview.ca

ROOFING

EXTERIOR

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INTERIOR

SITE INFO

Description

Sloped roofing material: • Asphalt shingles

Recommendations

SLOPED ROOFING \ Asphalt shingles

Condition: • Near end of life expectancy

Roof shingles are at the end of life expectancy, leakage to attic observed at chimney and vents, granule loss, curling/cupping, recommend immediate replacement. Check all flashings when reroofing, repair/replace as required. Install drip edge flashing and ice/water shield when reroofing. Repair/replace moisture damaged sheathing as required when reroofing.

Task: Replace

Time: Less than 1 year



EXTERIOR

000 Any Street, Anytown, MB April 1, 2013

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ROOFING

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SITE INFO

Description

Gutter & downspout material: • Aluminum

Gutter & downspout type: • Eave mounted

Downspout discharge: • Above grade

Lot slope: • Towards house • Flat

Wall surfaces - wood: • Boards • Hardboard, plywood or OSB

Wall surfaces - masonry: • Brick

Soffit and fascia: • Wood

Exterior steps: • Concrete

Recommendations

General

• Basement/crawlspace leakage is often caused by conditions on the exterior of the building. Basements/crawlspaces are not built like boats, and if water is allowed to collect outside of foundation walls, it will leak through into the basement/crawlspace. It is important that gutters and downspouts collect roof water and carry it away from the building. Similarly, lot grading around the building should slope away from the building so surface water from rain and melting snow is directed away from the building, rather than towards the foundation.

Improve grade around house as required to provide obvious slope away from foundation.

Location: Various Exterior

Task: Improve

Time: Spring

• Ground that slopes toward the building can funnel surface water from rain and melting snow against the foundation walls. This can lead to basement/crawlspace leakage. The ground should slope down away from the building on all sides. This includes areas under decks, steps, porches, driveways and sidewalks.

WALLS \ Plywood, hardboard, and OSB

Condition: • The exterior finishes under windows are in poor condition, lots of air leakage/deterioration in these areas, repair/replace as required.

Location: Various Exterior

Task: Repair or replace

Time: Less than 1 year

EXTERIOR

000 Any Street, Anytown, MB April 1, 2013

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INTERIOR

SITE INFO

Description

Configuration: • Basement

Foundation material: • Poured concrete

Floor construction: • Joists • Steel columns • Steel beams • Subfloor - plywood

Exterior wall construction: • Wood frame

Roof and ceiling framing: • Rafters/roof joists • Plywood sheathing

HEATING

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SITE INFO

Description

Fuel/energy source: • Electricity

System type: • Furnace

Heat distribution: • Ducts and registers

Approximate capacity: • 23 Kw

Approximate age: • 3 years

Chimney/vent: • Abandoned

Recommendations

ELECTRIC FURNACE \ General

Condition: • The furnace filter installed in the filter rack is not the right size not type. The filter is clogged and the furnace blower/motor are very dirty. Recommend cleaning/servicing furnace, install proper sized/pleated type filter. In light of the ongoing use of the wrong filters and condition of furnace, it is also recommended to clean all furnace ducts in the house. The A/C evaporator coil is probably clogged with dust/dirt and severely restricting air flow/circulation, inspect/clean coil as required when cleaning ducts and furnace. Reminder to change filters every 2-3 months and service/clean furnace annually.

Location: Basement

Task: Service Clean

Time: Immediate



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Condition: • Install make-up air duct from outside to the furnace return air duct in basement. This is recommended to provide ongoing fresh air supply in the home. The fresh air will be drawn in through the return air duct and distributed throughout the house through the supply ducts. It is important to provide a means of air exchange in the house to ensure overall better indoor air quality.

It is also recommended to adjust the furnace blower/fan to run on low speed on continuous basis to provide ongoing air exchange in house and to better circulate the air throughout the house on ongoing basis.

An alternative to installing fresh air duct to furnace is to install a Heat Recovery Ventilator to provide more efficient air exchange in the house. Rather than having exhaust fans in the bathrooms and kitchen operating independently, this system continually exhausts stale, humid air and introduces fresh air which can be distributed through the house through dedicated ducts or the furnace duct system. A properly installed and maintained HRV will provide continuous fresh air exchanges which is very important to maintain good indoor air quality. If you go this route, you'll be looking for a HVI certified ventilation system, installed and balanced by a qualified HRAI certified installer. Like other mechanical systems, this too will require regular maintenance.

Location: Basement

Task: Provide

Time: Immediate

COOLING & HEAT PUMP

000 Any Street, Anytown, MB April 1, 2013

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SITE INFO

Description

Air conditioning type: • Air cooled

Recommendations

AIR CONDITIONING \ Condensate drain line

Condition: • Improper discharge point

The A/C condensate drain line is draining to under floor slab. This is not recommended as this adds moisture under the floor slab and contributes to increased moisture in basement as the moisture under the slab is continually wicking up through the slab and increasing humidity levels in basement. The condensate drain should drain to the floor drain or plumbing system in basement.

Location: Basement

Task: Repair



INSULATION AND VENTILATION

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SITE INFO

Description

Attic/roof insulation material: • Glass fiber

Attic/roof insulation amount/value: • R-40

Attic/roof ventilation: • Roof and soffit vents

Wall insulation material: • Not determined

Wall insulation amount/value: • Not determined

Foundation wall insulation material: • Plastic/foam board

Foundation wall insulation amount/value: • R-4

Recommendations

ATTIC/ROOF \ Air/vapor barrier

Condition: • Air leakage excessive

Ice damming observed at roof edges at front and rear. This condition is usually indicative of excessive indoor air leakage to attic space. There were insulation , frosting and water leakage observed in attic at time of inspection. Exhaust fans are not properly installed and venting to attic is significantly contributing to the leakage. Replace exhaust fans in bathrooms and kitchen, replace exhaust ducts with proper insulated ducts which terminate to outside, remove/replace all wet insulation as required, air seal all attic/ceiling penetrations to reduce air leakage.

Location: Attic

Task: Repair/replace

Time: Spring



INSULATION AND VENTILATION

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ATTIC/ROOF \ Hatch

Condition: • Not insulated and not weatherstripped

Recommend weatherstripping/insulating hatch to reduce indoor air leakage/heat loss to attic.

Location: First Floor Hall

Task: Improve



FOUNDATION \ Interior insulation

Condition: • The rigid foam insulation installed on the foundation walls is the wrong type and insufficient thickness for this application as air leakage is occurring through the insulation resulting with condensation/frosting/moisture and mold behind insulation and on concrete wall. Recommend removal of all foam insulation, clean/wash mold as required. In light of visible mold observed on walls, this work may be best done by experienced mold remediation contractor.

Location: Basement

Task: Remove

Time: Immediate



Description

Water supply source: • Public

Service piping into building: • Copper

Supply piping in building: • Copper

Main water shut off valve at the: • Basement • Front of the basement • Exterior wall

Water flow (pressure): • Functional

Water heater fuel/energy source: • Electric

Water heater type: • Conventional

Tank capacity: • 175 litres

Water heater approximate age: • 7 years

Waste disposal system: • Public

Waste piping in building: • Plastic • Copper • Cast Iron

Recommendations

WASTE PLUMBING \ Venting system

Condition: • Insulate plumbing vent in attic. In an effort to prevent the plumbing vent from freezing at the roof, it is recommended to have your insulation contractor insulate the vent pipe in the attic space. At the time of inspection the vent was completely blocked by ice. Sewer gas can occur in the house when vents cannot operate due to blockage. See attached CMHC publication, How to Prevent Plumbing and Heating Vent Stack Freeze-Up.

Location: Exterior

Task: Improve



WASTE PLUMBING \ Floor drain

Condition: • Reminder to flush/prime unused basement plumbing to ensure that water does not evaporate in traps (This includes floor drains, shower drain, laundry tub, sinks, toilets, etc.). Dry plumbing traps could allow sewer gas in the house and could significantly contribute to very poor indoor air quality.

Location: Basement

Task: Clean

Time: Ongoing



Description

Major floor finishes: • Carpet • Resilient • Laminate

Major wall finishes: • Plaster/drywall

Major ceiling finishes: • Plaster/drywall

Windows: • Fixed • Casement • Awning • Vinyl

Glazing: • Triple

Exterior doors - type/material: • Storm • Wood • Metal

Evidence of basement leakage:

• Present

At basement windows, probably due to window well flooding, recommend further evaluation by foundation repair specialist.

Laundry facilities: • Washer • Laundry tub • Hot/cold water supply • Dryer • Vented to outside • 120-Volt outlet • 240-Volt outlet • Waste standpipe

Recommendations

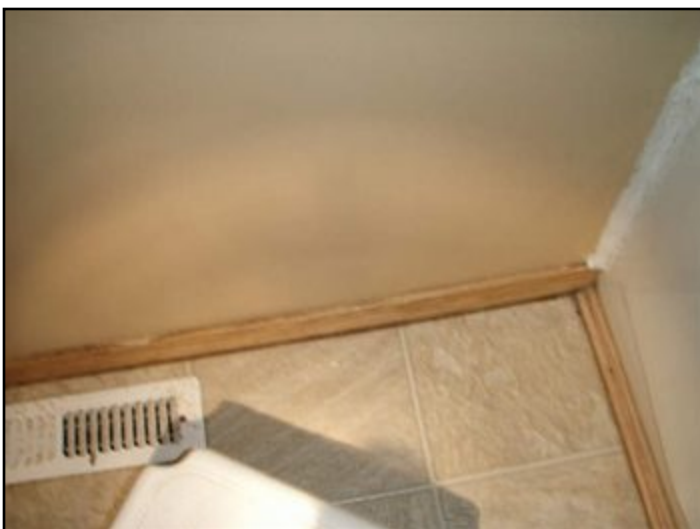
General

• There is considerable water leakage occurring from bathtub ledge and exhaust fan, moisture damage and mold observed to ceiling, walls, floors and finishes, recommended gutting bathroom, to framing, repair/replace framing/sheathing/finishes as required. This area is probably contributing to high mold counts on first floor.

Location: First Floor Bathroom

Task: Repair or replace

Time: Immediate



INTERIOR

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- Clean mold from windows and trim as required. Repair/seal wood finish/trim under windows, some air leakage/mold observed under windows in living & dining room.

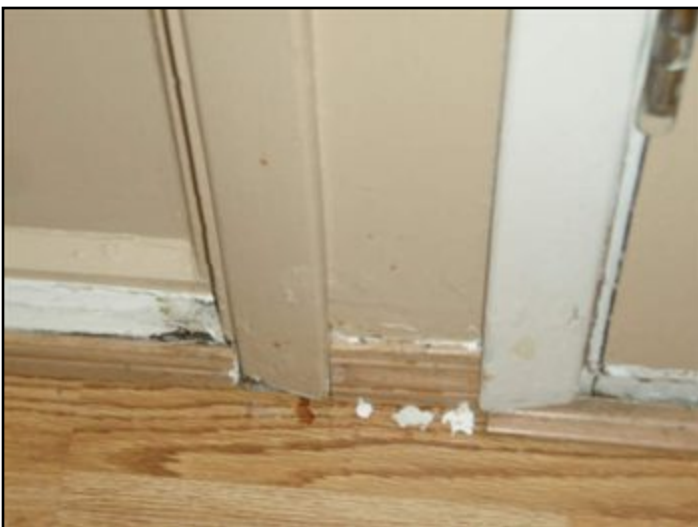
It is further recommended to purchase and utilize a digital hygrometer to monitor the humidity levels in the house, try to maintain at 30-40% and lower during cold winter spells. High humidity levels promote mold growth and it is important to monitor the humidity levels with a good hygrometer. Hygrometers are available at major home improvement centers.

Window coverings should be opened during the day to allow air to circulation around windows. There is a lot of condensation occurring at all windows due to poor circulation and excessive humidity.

Location: Various First Floor & Basement

Task: Clean

Time: Immediate



INTERIOR

000 Any Street, Anytown, MB April 1, 2013

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- Sort through and remove unnecessary stored materials in basement. Cardboard boxes and other materials stored on the damp floor or against exterior walls inhibit air circulation and, when damp, provide food for potential mold growth. Discard any unnecessary stored materials. Retained items in the basement should be stored in plastic containers with tight-fitting lids, off the floor and away from the walls. This keeps stored items drier and allows for better air circulation, which in turn minimizes mold growth potential. For further information see attached CMHC About Your House fact sheet, Fighting Mold: the Homeowners' Guide.

Location: Basement

Task: Improve Clean

Time: Immediate



- Reduce storage in all first floor closets. It is recommended to keep clothes and storage away from exterior walls to allow air circulation. Air circulation is critical in helping prevent mold from occurring on exterior walls.

Location: First Floor

Task: Improve

Time: Ongoing



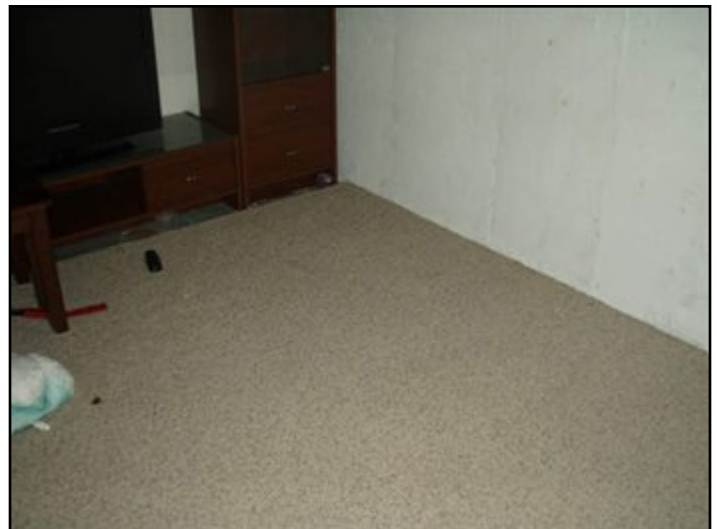
FLOORS \ Carpet on floors

Condition: • Remove carpet from the basement family room and bedroom. Concrete floors in older homes such as yours have no moisture barriers installed under the concrete floor to prevent moisture from moving upwards through the floor and coverings. As such, carpets on basement floors can wick and hold moisture and provide opportunities for mold growth. Better concrete floor finishes for these areas include low-toxicity water-based paint, composite tile or ceramic tile. Wash clean floors after removing carpet. For further information, see attached CMHC About Your House fact sheet, Flooring Choices.

Location: Basement

Task: Remove

Time: Immediate



INTERIOR

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WALLS \ General

Condition: • Clean/wash all visible mold on concrete walls after all foam insulation has been removed.

Location: Basement

Task: Clean

Time: Immediate



WINDOWS \ General

Condition: • Repair/replace damage window in bedroom, check insulation and framing under this window for moisture damage, repair as required.

Basement windows are leaking, repair/replace as required.

Location: Basement & First Floor

Task: Repair or replace

Time: Immediate



BASEMENT \ Wet basement - evidence

Condition: • Mold

Recommend evaluation of window well drains by foundation repair specialist, repair/replace/provide as required to stop water leakage under window frames due to flooded wells.

Location: Basement

Task: Further evaluation

Time: Spring



EXHAUST FANS \ Exhaust fan

Condition: • Replace lower quality/noisy exhaust fans in first floor bathrooms. The bathroom fans installed in the first floor bathrooms do not provide adequate suction to properly remove humidity and are venting in the attic. Reminder to properly seal fan housing in attic and install proper ducting to vent fans directly to the outside. Bathroom exhaust fans are critical to exhaust humid air when bathing or showering. Fans should have a capacity between 50-90 CFM (cubic feet per minute) and a sound rating of 1.5 sones or less (the lower the quieter). It is also recommended to replace the first floor exhaust fan ducting with properly sized flexible insulated ducting made for this purpose. A contractor should be engaged to conduct this installation.

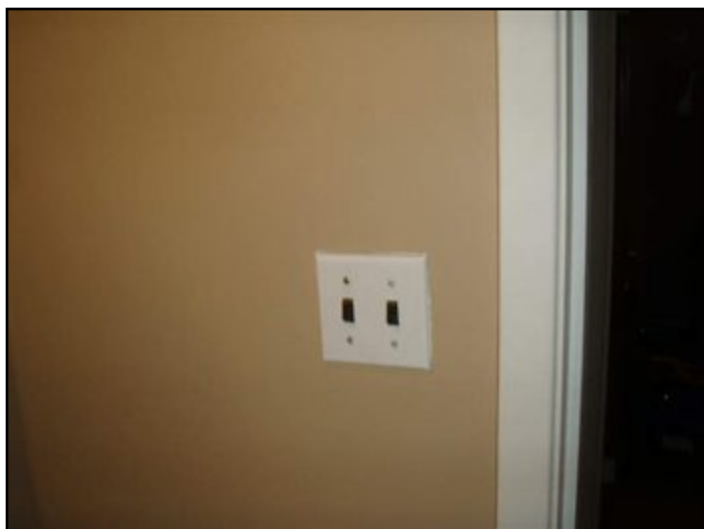
It is also recommended to install electronic timers or humidity sensor type switches for both bathroom exhaust fans in the house. These fans should be run during showers or baths and for at least 15 minutes after or until humidity clears from windows and mirrors. Fans, grills, and components should also be cleaned on a regular basis. For further

information see attached CMHC About Your House fact sheet, The Importance of Bathroom and Kitchen Fans.

Location: First Floor

Task: Replace

Time: Immediate



EXHAUST FANS \ Kitchen exhaust system

Condition: • Replace the kitchen range hood exhaust fan and install proper duct and discharge hood with damper. The exhaust duct should be insulated where it passes through unheated spaces like attics to reduce risk of condensation/leakage/damage. The fan must vent directly to outside to effectively remove humidity from house. Kitchens, like bathrooms need provision for good mechanical ventilation to control odors and moisture. The range hood exhaust duct should vent directly outside. Chose one that has a noise rating of less than 3.5 sones, an energy efficient fan, fluorescent lights, sound insulation, anti-vibration mounts and duct connections. For further information see attached CMHC About Your House fact sheet, The Importance of Bathroom and Kitchen Fans.

Location: First Floor Kitchen

INTERIOR

000 Any Street, Anytown, MB April 1, 2013

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Task: Replace

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Description

Weather: • Sunny • Ground was frozen • There was snow on the ground. • There was snow on the roof. • Light winds

Approximate temperature: • -14°

Attendees: • Client

Access to Home Provided by: • Client

Occupancy: • The home was occupied at the time of the inspection. • The home was furnished during the inspection.

Utilities: • All utilities were on during the inspection. • The water service is public. • The plumbing waste disposal system is public.

Approximate age of home: • 50 years

Approximate size of home: • Less than 1000 ft.²

Building type: • Detached home • Bungalow

Number of stories: • 1

Number of bedrooms: • 4

Number of bathrooms: • 2

Below grade area: • Basement

Garage, carport and outbuildings: • Detached garage

END OF REPORT