ABOUT YOUR HOUSE

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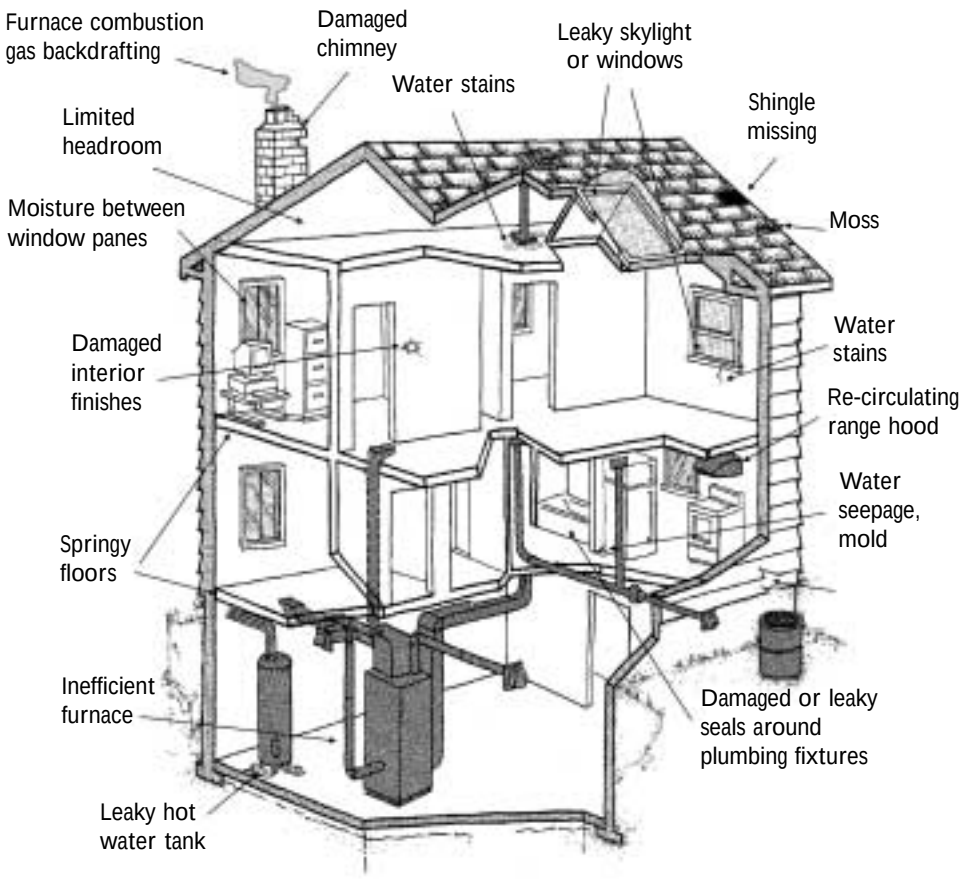
ASSESSING THE RENOVATION PROJECT



Over the years, we've developed a good understanding of how buildings perform. Construction techniques for new homes have changed rapidly. Most of these improved techniques also apply to renovations.

If you plan carefully, you can renovate your home to make it look better, work better, last longer and be more comfortable. Before renovating, it's important to assess the condition of your home to determine if there are any significant underlying problems that must be addressed before or during your planned renovation project.

CMHC SCHL

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Common Situations

In Canada, we need affordable houses to provide shelter from the elements. We also want our homes to be pleasant, comfortable and attractive.

Homeowners have higher expectations than in the past, particularly about comfort and interior design. Renovations are an opportunity to address some of these expectations.

Some of the reasons people decide to renovate are to:

- **Upgrade or improve outdated or deteriorated systems**—replacing an outdated furnace, old siding or windows are common upgrades.
- **Maintain and repair various elements of your house**—reshingling a roof or fixing foundation cracks are typical renovations.
- **Address lifestyle needs**—converting unused attic space to living quarters, add a sunroom or build a home office.

Healthy Housing™

Renovating is an ideal time to make your house healthier for you, the community and the environment. When assessing your renovation project, be sure to consider:

- **Occupant health**—create a healthy, clean and hazard-free environment with improved indoor air quality (minimize chemical and biological contaminants, provide healthy humidity levels and good ventilation).
- **Energy efficiency**—effective air barriers and insulation, energy efficient windows and doors, energy efficient heating, ventilating and air conditioning equipment, energy efficient lights and appliances.
- **Resource efficiency**—durable materials that need to be replaced less often, water-conserving fixtures, recycled or reused items, minimal construction waste.
- **Environmental responsibility**—efficient heating systems, water-conserving appliances and lifestyle, reduced sewage, low impact landscaping, proper handling and disposal of construction waste.
- **Affordability**—energy- and water-efficient equipment and fixtures to reduce ongoing operating costs, durable products to reduce future repair and replacement expenses.

House as a System

A house is much more than just four walls and a roof—it's an interactive system made up of many components including the basic structure, heating, ventilating and air conditioning (HVAC) equipment, the external environment and the occupants. Each component influences the performance of the entire system. A renovation provides an opportunity to improve how your house performs.

As you assess your renovation project, ask yourself how changing particular components will affect the performance of the whole house. For example, as part of a bathroom renovation you may want to add a hot tub that will generate large amounts of humidity during operation. Your existing ventilation may be inadequate to handle the increased moisture levels. It will be important to provide proper ventilation to avoid mold growth, indoor air quality (IAQ) problems and damage to the structure or finishes. You may need to consult with a qualified home inspector or a professional renovator.

Avoid Surprises

A systematic and thorough inspection will help you to assess the condition of your home. Look for any signs of deterioration and the possible causes. Start your inspection in the basement.

Many problems in other parts of the house originate there. Depending upon the size of your project, you may want to ask a qualified home inspector or a professional renovator to help you assess your building and develop a plan. Here are some of the likely questions that you'll want to think about.

Ask yourself...

Consider your options...

...and if you don't

Foundations

- Are there any cracks or is there damage to concrete walls or floors?
- Are there any damp spots, stains efflorescence (white, chalky stains) or blistered paint on the concrete, finished walls or floors?
- Does anyone notice bad smells or experience nausea or headaches when in the basement?
- Is there high humidity, any condensation or visible mold?

- Repair minor cracks if they leak. Seek an engineer's opinion on serious structural problems such as major or expanding cracks, bowed walls or uneven floors.
- Clean up mold; discard moldy or rotting materials.
- Ensure that the floor drain has a trap or install a retrofit backflow preventer. Make sure that all plumbing fixtures (including washer) are vented and have traps. Install a sealed cover on the sump pit.
- Direct outside surface water away from the foundation. Improve underground drainage.
- Repair or replace damaged interior finishes.
- Keep the relative humidity between 30 and 55%. Ventilate and circulate air. Dehumidify or air condition in summer. Clean up mold according to CMHC guidelines.

- Serious structural problems could cause further damage or collapse.
- Water pressure on the outside of the foundation can contribute to leaks and structural problems.
- Odours will continue to be annoying and can pose health problems, depending on the source.
- Unresolved water sources will cause renovations to deteriorate quickly, whether the water comes from building leaks, plumbing leaks or high humidity.
- Mold can grow on almost anything and be a source of serious indoor air quality (IAQ) problems.

Basement ceiling or main floor structure

- Are there any headroom problems?
- Are there signs of rot, sagging floor joists or twisted beams?
- Are there water stains on the main floor structure or basement finished ceiling?

- Assess structural problems carefully. Expert help may be required. Repair or replace structural elements so they will accommodate renovation plans and expected loads.
- Fix any water leaks.

- Unresolved structural problems, poorly planned structural changes or new loads may cause future settling or collapse.

Rewards

- Undertaking maintenance and repair projects such as correcting structural flaws, fixing leaks and making sure that all services are safe and adequate will make your home safer, more efficient and more durable.
- After you have ensured safety, efficiency and durability, other renovations can be done to make your home more pleasant, attractive and suited to your lifestyle.

Ask yourself…	Consider your options…	…and if you don't

Mechanical and electrical systems

• Are there unusually high heating or cooling bills?	• Have a qualified service company inspect your heating system to ensure that equipment is up-to-date, functioning properly and sized to handle current and future needs.	• Without regular service, heating systems may gradually deteriorate unnoticed, leading to serious health and safety concerns.
• Are mechanical systems capable of supplying current and future needs?	• Air seal the house to keep it from becoming too dry. Use a humidifier (that has a humidistat) as required. Provide ventilation using exhaust fans or a heat recovery ventilator to reduce humidity in winter. Dehumidify or air condition to reduce the humidity in summer. Check for heat flow to each room.	• Problems can arise if HVAC needs cannot be met by the capacity of the services available. The heating supply must be enough for comfort. Proper ventilation is needed to control excess humidity.
• Is the house too dry or too humid? Is the heat uneven?		• Electrical service, wiring and outlets may be unsafe or inadequate for increased loads.
• Is there ever a noticeable smoky or fuel smell?	• Repair any sources of smoky or fuel smells immediately. The smells could indicate serious fire or health hazards.	• Plumbing leaks will continue to damage the finishes and the house structure. The leaks may also contribute to mold growth and IAQ problems.
• Is the electrical service and wiring capable of supplying current and future needs?	• Have an electrician assess the electrical systems and any problems such as fuses blowing repeatedly, sparking outlets, exposed wires or connections.	
• Do fuses keep blowing or circuit breakers keep shutting off?	• Repair any water leaks. Repair or replace leaky fixtures.	
• Are there any exposed electrical wires or crumbled wire insulation?		
• Do any lights dim or outlets spark?		
• Are there leaks from pipes, taps, toilets or the water heater?		

General living areas, floors and stairs

• Are floors or stairs springy, sagging, warped or squeaky?	• Assess the supports underneath the floor. Contact a carpenter for help. Repair as needed.	• Damaged or uneven floors and stairs may be unsafe.
• Are floor surfaces damaged or carpets musty?	• Refasten or shim squeaking floors or stairs.	• Musty carpets are usually a source of mold.
• Are handrails or guardrails loose?	• Repair serious safety hazards immediately such as damaged floors or stair boards and loose coverings.	• Loose handrails or guardrails are a safety hazard.
	• Replace damaged flooring. Eliminate moisture sources.	
	• Repair loose handrails or guardrails.	

Kitchens and bathrooms

• Is there any water seepage around fixtures or condensation on windows or toilets?	• Repair or replace leaky fixtures.	• Leaks will continue to cause damage.
• Are floors damaged around bathtubs or showers?	• Repair or replace damaged flooring.	• Excess humidity will continue to cause damage, may cause mold growth and affect the IAQ.
	• Provide proper ventilation to reduce humidity, indoor pollutants and stale air.	

Ask yourself…	Consider your options…	…and if you don't
Walls and ceilings		
• Do walls and ceilings have any cracks, holes, bulges, water stains or peeling finishes? • Do any doors or windows bind or stick? • Are any windows drafty, broken, operating poorly or is there moisture between panes? • Are there water stains or rot on windows or walls?	• Repair any holes. Eliminate moisture sources that cause bulges, water stains or peeling finishes. • Assess cracks, binding doors or stuck windows for changes in moisture levels or structural movement. Repair or replace as required. • Replace broken windowpanes and poorly operating hardware. Replace sealed unit windows that have broken seals or rot. • Replace rotted wall materials. Eliminate moisture sources.	• If the problem sources are not fixed, the bulges, cracks or binding will re-occur. • Hiding moisture damage behind new finishes will cause continuing deterioration and mold growth. • Faulty windows will eventually result in damage to surrounding wall areas.
Attics		
• Are there water stains or excessive dampness? • Is there black mold on any of the roof framing or sheathing? • Is the attic adequately ventilated? • Are there air leaks in the ceiling of the rooms below the attic? Is the attic hatch sealed?	• Find moisture sources. Repair roof leaks. Air-seal the ceiling using polyethylene sheeting, sealed over octagonal boxes for lights, caulk holes for wires through sheeting or wall top plates and weatherstrip attic hatches. • Ventilate the attic at the soffits and roof peak. • Seal any air leaks in the ceiling of the rooms below the attic. Install a sealed attic hatch.	• Moisture damage will continue to deteriorate the house. Unventilated attics will allow moisture to build up. • Air leaks in ceilings below the attic will reduce heating efficiency and can be sources of odours and pollutants.
Roofs		
• Does the roof have any curled or cracked shingles, bare patches, leaks, moss, or damaged flashing? • Do eavestroughs and downspouts direct water away from the foundation?	• Repair or replace damaged roofing. • Clean leaves and debris from eavestroughs every spring and fall. Extend downspouts to direct rainwater away from the foundation.	• Roofing will continue to deteriorate. • Surface water near the house can put undue stress on the foundation and is a primary cause of water entry problems.
Exterior walls		
• Is there any blistered paint, rotted wood, buckled siding, stained or crumbled brick or damaged stucco on exterior walls?	• Find and eliminate the source of water penetration. Repair or replace damaged exterior finishes.	• Water penetration may lead to more serious siding, structural and interior finish problems.

Skills to Do the Job

You can assess most of your house j1 with the help of one of CMHC's inspection checklists. Professional home inspectors are also available to do a thorough inspection for you.

Repairing serious structural, mechanical or electrical problems will require the help of an expert.

Use the House Assessment Worksheet to record the present condition, problems and to set priorities for your renovation.

House Assessment Worksheet		
	Present condition and problems	Renovation priority
Foundation		
Basement ceiling or main floor structure		
Heating, cooling and ventilation system		
Electrical service and house wiring		
Plumbing and fixtures		
Floors and stairs structure/finishes		
Wall and ceiling structure/finishes		
Kitchen		
Bathrooms		
Attics		
Roof structure/finishes		
Exterior wall finishes		
Windows and doors		
Other		

Costing Your Assessment

The cost of your assessment will depend almost entirely on how many professionals you need. They might include an engineer, architect, electrician, plumber, carpenter or professional home inspector.

Other useful information from Canada Mortgage and Housing Corporation

Before You Renovate
Renovation Guide and Catalogue
2384E Free

Healthy Housing Renovation Planner
2172E $34.95

Homeowner's Inspection Checklist
2444E $19.95

Inspecting Your Home
video VE023 $19.95

Renovator's Technical Guide
6993E $34.95

About Your House fact sheets, Free

How to Hire a Contractor, CE 26

Before You Start Renovating Your Basement—Moisture Problems, CE 28c

Before You Start Renovating Your Kitchen, CE 28d

Before You Start Renovating Your Bathroom, CE 28e

Before You Start Window and Door Renovations, CE 28f

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