

The background of the entire page is a photograph of a multi-story building with a red brick facade and white architectural details. Long icicles hang from the roof and balconies, indicating winter weather.

# **11 WINTER BUILDING DEFICIENCIES CONDO BOARD MEMBERS SHOULD WATCH OUT FOR**

**FORT SANDS CONSTRUCTION**

**[WWW.FORTSANDS.COM](http://WWW.FORTSANDS.COM)**

Alberta's Year-Round Building Envelope and Revitalization Experts.

Founded in 2018 and with 600+ projects under our belts across Alberta, Fort Sands is a full-service general contractor working with Condo Boards, Property Managers, Engineers & Architects to revitalize multi-family residential buildings, commercial & industrial properties.



### EMPOWERED BOARDS

To make a multi-family community run smoothly it takes a whole team including the property manager, the condo board, and trusted vendors like Fort Sands.

Alberta's winters are beautiful but harsh. Cold weather significantly impacts multi-family residential buildings. As well, our unique Chinook freeze / thaw cycles test the limits of our building envelope, concrete and pipes.

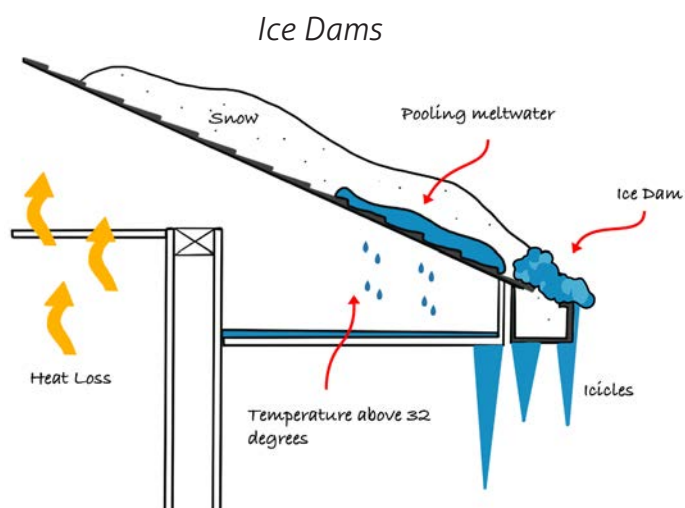
*An Ounce of Prevention  
and a Pinch of Vigilance is  
Worth a Pound of Cure!*

## Just Because Its Winter Doesn't Mean We Stop Working

At Fort Sands, a little cold doesn't get in our way. Take advantage of the slow season to move projects forward with our best skilled trades, including rope access technicians. Here are some of our winter construction services:

- Interior Renovations
- Space Conversions
- Common Area Revitalization
- Roof, Gutter, and Building Envelope Repairs
- Parkade traffic deck coating
- Parkade concrete restorations
- Hardie & Vinyl Siding
- Window & Door replacements

- Structural Repairs
- New deck builds and repairs (best done in winter when no one is using them)



**"Get Water Off The Building Faster"**  
Fort Sands are experts in preventing ice dams as well as repairing ice dam damage. We'd be happy to provide an inspection if you have concerns.



## Residents play a role in winter proactive property maintenance.

**Information Sharing:** Share information about the risk of ice dams, cold/thaw cycles, protecting pipes, etc. with residents. And what they can do to help, such as keeping their thermostats at a consistent temperature, closing windows, or keeping an eye out for ice dams. Discuss it at resident meetings. You may distribute this eBook if you wish, or provide this link:

[www.fortsands.com/winter](http://www.fortsands.com/winter)

**Reporting:** Encourage residents to report signs of water leakage or ice dams as soon as possible so that immediate action can be taken.

# Seven Ways That Winter Can Impact Your Building Envelope

The building envelope **separates the indoor conditioned space of your building from the outdoor environment.** It includes components like walls, roofs, windows, doors, insulation, and the foundation.

A properly maintained building envelope helps to control the flow of heat, air, and moisture in and out of the building which affects the overall comfort and energy performance of the building. What is the potential impact of cold weather?

- 1. Ice Dams:** In cold weather, improperly insulated roofs can lead to the formation of ice dams. Ice dams occur when snow on the roof or in the attic melts due to heat escaping from the interior, then refreezes at the eaves. This leads to water backup under the roof covering, causing leaks and potential damage.
- 2. Frozen Pipes:** If the building envelope is not well-insulated or if there are gaps, water pipes within exterior walls or unheated spaces may freeze, potentially causing the pipes to burst and leading to water damage.
- 3. Heat Loss and Energy Efficiency:** Cold weather can lead to increased heat loss if the envelope is not well-insulated or if there are gaps and leaks,

- 4. Thermal Bridging:** Thermal bridging occurs when there is a direct connection between the interior and exterior through a material that is a poor insulator, such as metal. In cold weather, this can result in localized cold spots on interior surfaces, potentially leading to condensation, mold growth, and discomfort for occupants.
- 5. Condensation and Moisture Issues:** In cold climates, warm indoor air can come into contact with cold surfaces within the building envelope, leading to condensation. Condensation can lead to moisture-related problems, such as mold growth and deterioration of building materials over time.
- 6. Thermal Comfort:** A poorly insulated building envelope can result in uneven temperatures and drafts, making it difficult to maintain comfortable indoor conditions for occupants.
- 7. Structural Concerns:** Extreme cold can affect the structural integrity of the building envelope. For example, repeated freezing and thawing cycles can cause expansion and contraction of building materials, potentially leading to cracking, spalling, and other forms of deterioration.



# WHAT TO LOOK OUT FOR IN THE WINTER

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01

## RAINWATER MGMT SYSTEM

Fixing gutters and downspouts is a must. Freezing temperatures can lead to potential ice dams that obstruct proper drainage and increase stress on the system. Frozen debris in gutters can hinder flow, causing overflow and water infiltration issues. Build-up of ice at roof edges and within drainage systems, including downspouts, french drains and catch basins, can exert pressure on these components.



02

## ROOF

Fixing leaks, replacing shingles, and addressing flashing issues can be done during winter to prevent further damage. Freezing & thawing cycles can exacerbate existing cracks in roofing materials, accelerating deterioration and causing leaks. Accumulation of snow can add weight, potentially stressing the roof structure.





# building envelope risks?

## 03 EXTERIOR WALLS

Winter is a good time for siding and building envelope repairs. Moisture trapped in cracks and gaps can freeze and expand, accelerating the deterioration of wall materials. Uneven building envelope can lead to pipes freezing, thawing and potentially bursting. Moreover, ice buildup on these walls can lead to staining, mold growth, and the degradation of siding or stucco materials.



## 04 FOUNDATION

Snow melt and water can expand upon freezing, exerting pressure on foundation walls and potentially leading to cracking and expansion of existing cracks. Frost heave from freezing and expanding soil can disrupt the foundation alignment and stability, potentially causing shifts leading to cracks.



## 05 WINDOWS & DOORS

Cold air infiltration around these openings can lead to uncomfortable drafts and uneven indoor temperatures. Freeze-thaw cycles can cause window and door frames to expand and contract, potentially compromising their sealing and operation. Moisture within window and door components can freeze, leading to cracking, warping, and reduced efficiency.





# property damage?

## 06 BALCONIES & DECKS

There's no better time to repair and rebuild decks than winter when no one is using them. Freeze-thaw cycles can cause cracks and gaps in these surfaces to expand, accelerating their deterioration. Ice accumulation can create hazards for occupants and damage the overall structure. Moisture infiltration into materials like wood can freeze, leading to swelling, warping, and potential structural instability.



## 07 FENCES

Fence repairs can occur in winter as long as no post holes need to be dug. Frozen ground can impact stability of fence posts, leading to shifting or loosening. Moisture trapped within fence materials can freeze, causing expansion, warping, and potential damage. Ice buildup can contribute to rust damage on metal fencing.



## 08 LANDSCAPING & DRAINAGE

Are retaining walls in good condition? Frozen ground can hinder proper drainage, leading to standing water that can damage plants, cause erosion, and saturate the soil. Frost heave can dislodge retaining walls, disrupt grading, and alter rainwater flow, potentially compromising landscape stability. Moreover, cold weather can stress plants, leading to frost damage, disease, and decreased landscaping health.





# concrete damage?

## 09 SIDEWALKS & PARKING LOTS

Damage to outside concrete structures needs to be repaired in better weather. Watch out for freezing temperatures to worsen existing cracks and potholes, resulting in uneven surfaces and potential tripping hazards. Ice formation on these surfaces can create slippery conditions, posing safety risks for pedestrians and vehicles. Additionally, frozen water in pavement cracks can expand and shift.



## 10 PARKADES

Winter is a great time for parkade concrete work, fixing potholes, and traffic deck coating. Existing cracks and leaks can worsen due to freezing temperatures. Freeze-thaw cycles can contribute to the deterioration of garage doors and gate mechanisms. Ice on ramps and floors can create slippery conditions, posing safety risks.



## 11 COMMON AREAS

Common Area renovations, interior design, and space repurposing are a natural fit for winter work. Insulation in walls, roofs, and attics can improve energy efficiency. Keep an eye out for moisture infiltration from snow and ice leading to staining, discoloration, and damage to walls, ceilings, and floors within common areas. If not attended to properly, problems and damage can escalate quickly.





# PROPERTY WALKAROUND CHECKLIST

PROPERTY NAME

ADDRESS

DATE

YOUR NAME



Calgary – Red Deer – Edmonton  
1-888-803-6787 info@fortsands.com  
www.fortsands.com  
info.fortsands.com/walkaround

CONDITION 1=BAD, 5=GOOD

		1	2	3	4	5
1	<b>RAINWATER MANAGEMENT SYSTEM</b>					
1.1	Gutters in good condition; no cracks or holes, or clogging	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
1.2	Gutters properly sloped; water is not pooling in gutter	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
1.3	Downspouts securely attached; directing water away	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
1.4	Drainage systems, such as catch basins, are not clogged	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2	<b>ROOF</b>					
2.1	Roof with missing/damaged shingles, cracks/splits?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2.2	Roof free of water damage? Any areas sagging?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2.3	Flashing around chimneys and vents is waterproof	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2.4	Quality of roof edges -- look for lifting or rot	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3	<b>EXTERIOR WALLS</b>					
3.1	Wall damage or deterioration; any holes or dents?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3.2	Any cracks and gaps in the walls?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3.3	Signs of water damage such as stains, mold, or rot?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3.4	Any signs of discolouring or streaking?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3.5	Does siding connect to roof properly?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3.6	Does siding connect to foundation properly?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5	<b>FOUNDATION</b>					
4.1	Signs of damage like cracking or bulges	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4.2	Soil around the foundation has proper drainage	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4.3	Soil is not settling or eroding around foundation	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4.4	Signs of shifting; cracks or misaligned windows/doors	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4.5	Signs of shifting on interior walls of building?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5	<b>WINDOWS &amp; DOORS</b>					
5.1	Frames & sills -- any cracks, rot, or warping?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5.2	Condition of weatherstripping & caulking	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5.3	Smooth operation open/close with good locks	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5.4	Glass condition -- cracks, chips, or signs of fogging?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

NOTES

CONDITION 1=BAD, 5=GOOD

		1	2	3	4	5
6	<b>BALCONIES &amp; DECKS</b>					
6.1	Condition of surface of the balcony or deck	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6.2	Railings & supports; securely fastened, safe?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6.3	Condition of waterproofing; such as flashing & sealant	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6.4	Is water draining correctly?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6.5	Condition of connection to the siding / building	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7	<b>FENCES</b>					
7.1	Fence posts securely anchored; not leaning or broke?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7.2	Any rot, cracks, pest damage, insect infestation?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7.3	Fence boards missing or broken? Metal corrosion?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7.4	Gates & hardware; working correctly? Not sagging?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
8	<b>LANDSCAPING &amp; DRAINAGE</b>					
8.1	Are retaining walls in good condition?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
8.2	Any erosion or water damage?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
8.3	Does water flow away from building; any pooling?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
8.4	Plant disease, damage, overgrowth or overcrowding?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
8.5	Condition of outdoor lighting and features?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
9	<b>SIDEWALKS &amp; PARKING LOTS</b>					
9.1	Surface condition; cracks, potholes, uneven surfaces	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
9.2	Tripping hazards or unexpected edges	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
9.3	Any cracks or areas where water might pool & freeze	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
9.4	Condition of drainage systems from pathways	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
10	<b>PARKADES</b>					
10.1	Signs of damage, such as cracks, leaks, or water?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
10.2	Condition of lighting, ventilation, & fire protection	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
10.3	Inspect operation of garage doors or gates	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
10.4	Condition of pavement and markings	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
10.5	Safety & cleanliness of elevators, stairwells, handrails	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
11	<b>COMMON AREAS</b>					
11.1	Wear & tear, damage, cracks, leaks, broken fixtures?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
11.2	Concrete leading into the entry way and stairwells	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
11.3	Check walls, ceilings, and floors for water damage	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>