

MOBILE HOMES

Site Preparation, Foundation and Anchorage Requirements for Mobile Homes



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NOTE

For factory built mobile homes CSA Standard A-277-01 describes an approved in-factory certification procedure to insure inspections for compliance to the CAN/CSA-Z240 Standard as the various components and subassemblies are installed.

The certification procedure set forth by CSA/A277-01 provides a means of verifying that the factory built mobile home, including the structural, plumbing, heating/ventilation and electrical systems have been built to meet or exceed the CAN/CSA-Z240 Standard for mobile homes.

The manufacturer shall provide with each mobile home a copy of the Deformation Resistance Test to ensure the CAN/CSA-Z240 Standard has been met.

This booklet is designed to provide a general overview of site preparation, foundation, and anchorage requirements for mobile homes, as well as address some of the more common questions regarding mobile homes. Should you have any questions or concerns that are not covered in this booklet, please contact your local Codes and Standards Office for assistance.



The Roblin Planning Department office is located in the Municipality of Roblin office: **125—1st Avenue NW**

Office Hours are: Monday to Friday 8:30 a.m. to 4:30 p.m.

To contact planning office personnel: Phone: 204-937-8333 ext.227 Fax: 204-937-4382 Box 998, Roblin, MB, R0L 1P0 Email: planning@roblin.ca www.roblinmanitoba.com



For more information on the regulations for Mobile Homes or to inquire about recertifying a mobile home, contact the Office of the Fire Commissioner.

> Office of the Fire Commissioner 1601 Van Horne Ave. East Brandon, MB R7A 7K2 1-888-253-1488 (204) 726-6855 Fax: (204) 726-6847 Email: firecomm@gov.mb.ca

> Office of the Fire Commissioner 508-401 York Avenue Winnipeg, MB R3C 0P8 1-800-282-8069 (204) 945-3322 Fax: (204) 948-2089 Email: firecomm@gov.mb.ca

BUILDING PERMITS

Are Building Permits required for a mobile home?

Yes, a building permit is needed whether the mobile home is new or relocated from an existing site. All mobile homes in Manitoba are required to be CSA certified. New homes come with this certification, however, if you are dealing with an older mobile home, it may not be certified.

Those mobile homes that are not certified must be subjected to recertification, which is carried out by the Office of the Fire Commissioner.

How do I know if my mobile home is CSA certified?

A certification sticker can be found on all mobile homes that are CSA certified. This sticker can usually be found near the doorway or the electrical panel. It should state that it is a CSA Z240 designation in order for the foundation to be a surface foundation.



FIGURE 1

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SITE PREPARATION

NOTES:

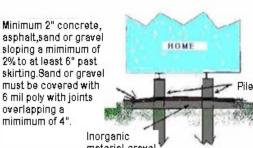


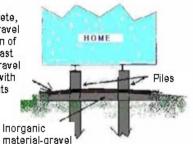
What steps must be taken during site preparation for a mobile home?

As a first step, all topsoil and organic material must be removed from the site below the mobile home location. The base of the excavated site area should then be graded from the center to the outside, or from side to side, with a minimum slope of 2% to prevent water accumulation under the home. The area should then be filled with gravel or other suitable granular inorganic material to a level above the surrounding finished grade.

All backfill in the area of footings for surface foundations should be compacted. This fill should be similarly graded with a minimum slope of 2%.

A ground cover shall be placed over the entire area below the mobile home and shall extend 150 mm (6 in) beyond the perimeter to prevent upward movement of moisture into the space beneath the home. If the ground cover cannot be one piece, the sections must be overlapped at least 100mm (4in) at the joints.





Pile Foundation System:

Friction piles with a 16" min. diameter and a min. depth of 20 feet or Spread Bore Piles with a min. depth of 8 feet, are acceptable for pile foundations.

FIGURE 2

Are there any other requirements?

YES!

Smoke Alarms:

Smoke alarms need to be installed in each bedroom and in the hallway near the living area. Hard wired or wireless interconnected units are to be installed on or near the ceiling.

Carbon Monoxide Alarms:

Carbon monoxide alarms conforming to CAN/CSA-6.19 "Residential Carbon Monoxide Alarming Devices," shall be mechanically fixed on or near the ceiling in each room which contains a fuel burning appliance.

Wood Burning Stoves:

Solid fuel appliances to be installed in a mobile home shall:

- (a) Be certified to the CSA Standards for mobile home;
- (b) Have provisions for obtaining all the required combustion air directly from the outdoors; and
- (c) Be provided by the manufacturer, with hardware that accompany appliance for:

-venting the appliance through combustible construction; -protection for combustible flooring; and -provisions for attaching the appliance to floor.

A certified appliance, accessory components, and equipment shall be installed in accordance with the manufacture's installation instructions.

In all cases, the solid fuel appliance installation must be inspected by your insurance company to ensure compliance for insurance coverage.

CLEARANCE

Is there a minimum clearance required under the mobile home?

Yes. A vertical clearance of at least 600 mm (24 in) shall be maintained between the top of the finished grade under the home and the bottom of the floor joists. In homes that incorporate a lowered section (eg. sunken living room), or where the home is installed on a sloping site, the vertical clearance between the top of the finished grade and the bottom of the joists of the lowered section shall be at least 300 mm (12 in).

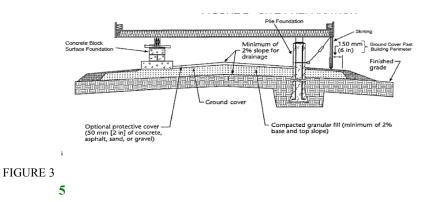
In all cases, sufficient vertical clearance shall be provided to allow ready access for servicing and replacement of heating, plumbing, and other equipment located under the home.

FOUNDATIONS

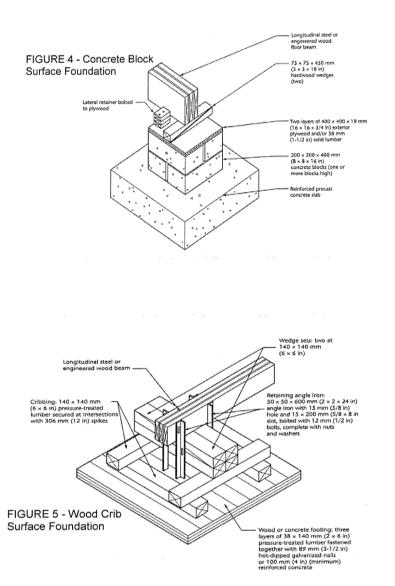
Does one acceptable foundation system exist for all mobile homes?

No. Depending on the soil type and ground conditions, a number of different systems can be incorporated.

Two of the more common foundations systems are the concrete block surface foundation, and the wood crib surface foundation.



CONCRETE BLOCK SURFACE FOUNDATION



ADDITIONS, PORCHES & DECKS ETC.

Can I build an addition or porch onto my mobile home?

Yes you can build a porch, addition or deck, but you do require a building permit. It's also important to know that if you plan on attaching any structure to your mobile home, or using your mobile home's roof to support any extra weight you need to get an engineer to design and stamp your plan. A mobile home is designed as an all-inclusive unit—in other words, it is designed to only carry the weight and loads that it was manufactured with. The walls were not designed to carry the extra weight of an addition or a covered deck etc. which is why an engineer needs to get involved.

Additions to a mobile home are required to be connected in such a manner that movement between the mobile home, due to frost heaves or other soil conditions, and addition will not damage the mobile home.

Further details can be obtained at the Planning Department office.

What about other types of renovations?



Other renovations such as new windows and siding etc. **may** require a permit,

contact the Planning Office for more info. More structurally in depth projects such as changing interior walls, making a doorway bigger etc., will require the services of an engineer.

SKIRTING & VENTILATION

Are there any requirements for the skirting around a mobile home?

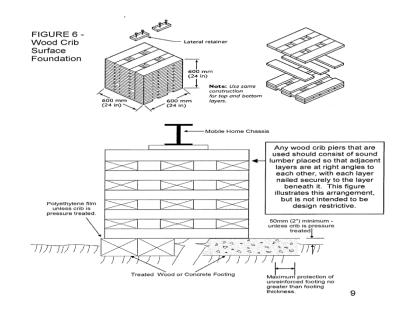
Skirting should be designed to accommodate a minimum of 50 mm (2 in.) vertical movement of the soil surface due to frost action. Any part of the skirting in contact with the ground should be corrosion resistant or pressure-preservative treated. Cut ends of wood members should be brush or dip treated in accordance with the instructions of the preservative manufacturer. The exterior surface of mobile home skirting should also be painted or otherwise made resistant to the weather.

What type of ventilation is required?

When skirting is used, it must allow for year-round ventilation. This can be accomplished by installing screened louvers or grilles of at least $1m^2$ of unobstructed venting for each 500 m² (1 sq ft for each 500 sq ft) of floor area of mobile home. These grilles should be uniformly spaced on each side of the mobile home.

At least one access panel of not less than $500 \ge 700 \text{ mm} (20 \ge 28 \text{ in.})$ shall be provided in the skirting for periodic inspections and maintenance of services. This panel should be located close to sewer and water connection.

WOOD CRIB SURFACE FOUNDATION



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NOTE

The mobile home manufactures specifications should be followed for the spacing between cribs. If this information is not available, the maximum spacing between cribs is 12 feet.

If cribbing is not pressure treated, a poly sheet must be placed between the cribbing and the concrete slab or pressure treated base. Cribbing is to be nailed together and the longitudinal floor beams are to be fastened to the top of the crib.

Important!!!

Railway ties are **NOT** acceptable for mobile home foundations or any other types of foundations.

ANCHORAGE

TYPICAL ANCHORAGE SYSTEMS

Does my mobile home require an anchoring system?

Depending on the size of the mobile home, it may or may not require an anchoring system. Single-wide mobile homes having a gross weight of at least 8400 kg (18,500 lbs), do not normally require additional anchorage beyond that sufficient to maintain the structural integrity of the box between the main structure frame and the foundation.

Are there any design requirements for anchorage systems?

Where ground anchors are used to resist wind forces, they should be at a sufficient depth to be free of movement from frost action. If the foundation units move upward as a result of frost action, and the ground anchors resist this movement, damage to the mobile home will likely occur. Therefore, it is extremely important that a means of adjusting the anchor cable tension be provided. See figure 3 for anchorage to pile foundation.

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NOTE

In most cases where you have purchased a new mobile home, the company will deliver and set up the home as per the required foundations, anchorage etc.

