

ADVISORY

Demountable Stages and Structures for Outdoor use

BUILDING CODE SERVICES



This advisory applies to temporary stages and associated support structures used at outdoor entertainment venues.

As a result of the failure of temporary stages and associated support structures in 2011 and 2012 notably the Bluesfest stage collapse of July 18, 2011, in Ottawa, the Ontario Government developed requirements to regulate the design and installation of these structures. The Ontario Building Code (O.Reg.332/12) has been amended to include these requirements forming part of the amendments outlined in O.Reg.30/23. The Ontario Building Code (OBC) requires that a building permit be obtained for their construction. The Building Code Act, section 1(1)(d) defines “building” as “structures designated in the building code”. The amendments outlined in O.Reg.30/23, temporary stages and support structure have been added to Div. A 1.3.1.1.(1) and classified as a “designated structure”.

Factors that may contribute to the failure and collapse of such structures may include but are not limited to severe weather conditions, unstable ground conditions, overloading of the structure, component failure or a combination of such conditions.

The design, erection, assembly and installation of temporary stages and support structures and their structural components are required to be completed in accordance with the requirements of Part 4 of the Ontario Building Code or to conform to good engineering practice. The OBC outlines “good engineering practice” as “appropriate to the circumstances as described in the standard ANSI E1.21, “Entertainment Technology – Temporary Structures Used For Technical Production of Outdoor Entertainment Events”.

DEFINITIONS

When referring to outdoor temporary stages and associated support structures, the Ontario Building Code uses the following terms, **Demountable Stages** and **Demountable Support Structures**. The following definitions are taken from the OBC Div. A 1.4.1.2.

These terms are defined as follows,

Demountable Stage means a structure that,

- a) Consists of one or more platforms together with any wall, roof or other structures attached to or located on any of the platforms,
- b) Is intended to be used for public or private performances or events, other than performances or events associated with movie or television productions,
- c) Is intended to be erected, assembled, or installed for a limited specified time,
- d) Is capable of being dismantled at its location and moved to be reconstituted elsewhere or is erected for a one-time use,
- e) Is not located inside a fully enclosed building,
- f) Is primarily for use by performers and workers, and
- g) May or may not be mounted on wheels

Demountable support structure means any structure that,

- a) Is capable of supporting banners, stage sets, props, sound equipment, lighting equipment or other equipment,
- b) Is intended to be used for public or private performances or events, other than performances or events associated with movie or television productions,
- c) Is intended to be erected, assembled, or installed for a limited specified time,
- d) Is capable of being dismantled at its location and moved to be reconstituted elsewhere or is erected for a one-time use,
- e) Is not attached to or located on a demountable stage,
- f) Is not located inside a fully enclosed building,
- g) Is primarily for use by performers and workers, and
- h) May or may not be mounted on wheels.

REQUIREMENTS FOR PERMIT

As outlined in the Ontario Building Code, Div. B 3.16A.1.1., a building permit is required for a demountable stage platform that meets or exceeds the following criteria:

- a) The aggregate area of all platforms of the demountable stage is more than 60m² and any part of its platforms is more than 3m in height above adjacent ground level,
- b) The aggregate area of all platforms of the demountable stage is more than 225m², or
- c) Any part of the platforms or any roof, wall or structure attached to or located on any of the platforms of the demountable stage is 5m or more in height above adjacent ground level.

As outlined in Div. B 3.16A.1.1., a building permit is required for a demountable support structure for the support of lighting, audio, etc. that meets or exceeds the following criteria:

- a) Is more than 3m in height above adjacent ground level,
- b) Is designed to carry a superimposed specified load greater than 115kg (1.13kN), or
- c) Would create a hazard to the public.

Additionally, a building permit will be required to be obtained for demountable stages and demountable support structures where the demountable support structure is associated with any demountable stage structure.

ADDITIONAL REQUIREMENTS

The Ontario Building Code has additional requirements that must be considered during the design and construction of these temporary structures. Other requirements include but are not limited to issues such as clearances to other structures, means of egress and exiting from the stage and stage area, access for firefighting, guards, applicable barrier free design requirements, protection of the public from electrical equipment and electrical cables on the site, clearances required to be maintained from overhead electrical conductors as examples.

EXEMPTIONS

Permits will not be required for a free-standing demountable support structure used to carry minimal loads such as signage or banners. Examples may include but are not limited to a standalone structure erected above the start and finish line at an event such as the marathon or used to advertise an event such as a sale at a business.

Although these types of appurtenant support structures will be exempted, it is the event organizers responsibility to ensure that such structures meet all applicable requirements outlined in Div. B 3.16A.1 of the Ontario Building Code, all applicable occupational health and safety requirements, be designed and reviewed by a structural engineer to ensure compliance with building code requirements. These structures shall also meet all applicable regulations, standards and guidelines pertaining to design, construction, installation, and use.

Additionally, as per Div. C 1.3.1.1.(7) A demountable stage or demountable support structure not regulated by Div. B 3.16A is exempt from the requirement to obtain a permit under section 8 of the Building Code Act and is exempt from compliance with this Code.

ROLES AND RESPONSIBILITIES

CONSULTANT

A professional engineer is required to design the structure in conformance with Part 4 of the Ontario Building code or ANSI E1.21, as per Div. B 3.16A.2.8.

Once construction of these temporary structures has been completed, they must be reviewed by a professional engineer as required by Div. C 1.2.2.1.(10) of the OBC. An occupancy inspection is required to be completed by the building inspector, prior to occupying or using the stage/structure. The final letter of general review is to be provided to the Building Inspector prior to or at the time of the occupancy inspection.