Darlington Public Event Safety Advisory Group

A12 – Temporary Structures and inflatables

Many events will include temporary structures such as staging, tents, marquees, stalls, tables etc. Decide as early as possible the intended location of any such structures and indicate them on the site plan. This site plan should be part of the event plan documentation available for reference on site on the day of the event.

The erection and dismantling of temporary structures is considered as Construction work subject to the Construction (Design and Management) Regulations 2007. The Health and Safety Executive are responsible for enforcement of this legislation and have produced detailed guidance: http://www.hse.gov.uk/entertainment/cdm-2015/index.htm

The Institution of Structural Engineers have *published* detailed guidance *"Temporary demountable structures – Guidance on procurement, design and use" ISBN* 978-0-901297-45-

Decide who will erect and dismantle the structures and whether barriers will be required to create an exclusion zone to protect the public against specific hazards such as moving machinery, barbecues, vehicles, lifting equipment etc. In some cases, fencing or barriers will need to have specified safety loadings dependent upon the number of people likely to attend.

For community events the structures regularly used are Tents, Marquees, Gazebos, Stages, Stalls, Tables and Inflatable Bouncy Castles/Slides. The notes below are intended to assist you in considering their safe use.

(A) Tents, Marquees, Gazebos, Stages, Stalls and Tables.

Risk Assessment

A suitable risk assessment to cover the erection, dismantling, use and anchoring of the Tents, Marquees, Gazebos, Stages, Stalls and Tables should be compiled together with assessments of the fire risk and the risks to the means of escape in case of fire or similar hazard. These documents should be available from the supplier and be made available to all members of the organisers team for reference.

The Tents, Marquees, Gazebos, Stages and Stalls must be checked to ensure that they are in a good condition and fit for purpose and that the people erecting and dismantling the structures are competent to do so and have received adequate training.

[If a small domestic type gazebo is to be used at a Public Event, the manufacturer's literature must show: (a) that it will be suitable for the proposed use, (b) that the

materials are or have been treated with a fire retardant, (c) the method of adequately anchoring or fixing the structure down and (d) the maximum safe wind speed that the structure can be safely used in should also be known.]

Anchoring down the structure.

The person carrying out the erection should follow the manufacturers' advice, guidelines and recommendations for the anchoring of the Tents, Marquees, Gazebos, Stage or Stalls.

- All anchor points and ropes should be in good condition and fit for purpose and be regularly checked by a competent person while the structure is erected; if the weather changes/deteriorates the number of checks should be increased.
- The number of anchor points available for use should be in accordance with the manufacturer's instructions.
- If ballast is to be used the amount required should be obtained from the manufacturer and it should be positioned and fixed in accordance with their instructions.
- If stakes are to be used, the length, type and number to be provided should be determined by the manufacturer of the structure. If the manufacturers can make no recommendations suitable for the ground where the Tents, Marquees, Gazebos, Stage or Stalls is to be sited a structural engineer should be consulted to provide the relevant information.
- If an alternative means of anchoring to stakes or ballast is to be used the organizer should consult with the manufacturer to ascertain if the proposed alternative method is adequate.

Wind Speed

Wind is a potential hazard during the erection, the operation and the dismantling phases of an event.

You should check with the manufacturer to ascertain the operational wind speed for the safe use of the Tents, Marquees, Gazebos, Stage or Stalls to be used. To determine the level of monitoring and management that will be required while the structure is in place refer to local weather forecasting services.

A competent person must be appointed to check the wind speed at regular intervals while the structure is erected. Should the weather change/deteriorate the number of checks should be increased. If the maximum safe wind speed is exceeded, the use of the structure should cease and it should be dismantled if necessary and safe to do so. If the maximum safe wind speed is exceeded the use of the structure should cease and the area should be cleared. The structure should then be dismantled, when safe to do so.

Means of escape

When considering the proposed use of Tents, Marquees, Gazebos or Stages, a fire risk assessment must be carried out. The assessment would need to consider the availability of safe and suitable means of escape fire exit points and how any movement of the crowd during an event can have an impact on the means of escape routes available and the safety of a crowd.

If any Tents, Marquees, Gazebos or Stage is over 30m2 in floor area or its use involves hazards such as hot cooking surfaces etc., an alternative means of escape will be required remote from the main entrance. Dependent on its size, the number of occupant's and the use, more than one alternative emergency exit may be required. Advice regarding the position, number and width of access/exit routes and final exits etc. may be obtained from the Building Control Surveyor or alternatively the Fire Prevention Officer at the Fire Service.
The fire risk assessment should also determine if suitable fire extinguishers should be provided and at what locations they should be positioned.
All emergency exits are required to be indicated using appropriate fire exit signage to BS 5499.

For further guidance on Fire Risk Assessments see:

- *Fire safety risk assessment: open-air events and venues.*
  Ref: ISBN 9781851128235
  www.gov.uk/government/publications/fire-safety-risk-assessment-open-air-events-and-venues

- *For events with up to 300 persons attending.*
  Fire safety risk assessment: small and medium places of assembly
  Ref: ISBN 9781851128204
  www.gov.uk/government/publications/fire-safety-risk-assessment-small-and-medium-places-of-assembly

- *For events with over 300 persons attending.*
  Fire safety risk assessment: large places of assembly
  Ref: ISBN 9781851128211
  www.gov.uk/government/publications/fire-safety-risk-assessment-large-places-of-assembly

Night time use
If the Tents, Marquees, Gazebos, Stages or Stalls are to be used during the hours of darkness, or if ambient light levels are low, suitable emergency lighting will be required to indicate exits and a safe route of travel inside the Tents, Marquees, Gazebos, Stages or Stalls area and externally to a safe place of refuge. The required standards for lighting, emergency lighting, ingress and egress remain the same for temporary and permanent structures.

Heating
The provision of heaters must take into account the fire risks associated with all equipment, fabrics and combustible material within or forming part of the structure to the Tents, Marquees, Gazebos, Stages or Stalls.

Parking of Vehicles
Parking of vehicles, and storage of flammable materials, must take into account fire risks to Tents, Marquees, and Gazebos, Stages or Stalls positions and the escape routes from and around such structures.

Portable staging.

The following features or issues specific to stage areas should be addressed through, (a) the design of the stage and (b) with appropriate risk assessments undertaken and suitable safety measures implemented.

- Its size of the stage and its height above ground level.
- The means of access to the stage i.e. rise and going of the steps, handrails etc.
- The construction of the stage.
- The means of guarding/highlighting the edges of the stage.
- Dependent on the size and construction of the staging, additional information or structural calculations to confirm its stability under the proposed loading and operating conditions should be obtained.
- Written confirmation that the stage will be erected by suitably qualified and competent personnel should be obtained.
- The risk assessments undertaken should take into account how the staging will affect the maximum density of an audience, pinching of escape routes, and the stability of any fencing/barriers at the front of the stage with regard to pushing, heave and surge or movement of the crowd.

Tables, Trestles etc.

If tables or trestles are to be used for the display of goods or materials, or are to be used as activity areas including the consumption of food in the outdoor environment, suitable risk assessments should be carried out with suitable safety measure implemented if required.
The monitoring of the weather conditions, in particular the wind conditions, similar to those previously noted for Tents, Marquees, Gazebos, Stages and Stalls should be followed.

(B) Inflatable Structures

Please Note: Darlington Borough Council does not permit the use of inflatables or bouncy castles on their land, any parks or outdoor open spaces. This includes items the public in attendance would climb upon on or inside.

A discrepancy to this rule may be an inflatable start/finish race gantry that does not conflict with the forementioned points. If you have any queries relating to inflatable use, contact the land hirer representative of the council.

Risk Assessment
The safety of inflatable play devices depends on their design, safe operation, maintenance and inspection. You should ask the supplier to provide the relevant risk assessment(s) that they have and then make them available to all members of the organiser's team for reference. (This information should include guidance on the safe erection, dismantling, use and anchoring of the inflatable).

Design
The design should have taken account of all relevant factors and be supported by design calculations. This will enable the safe operating parameters to be determined. A competent person should carry out this work.

Safe Operation
Details of the safe operation of play inflatables, including bouncy castles, can be found on the www.pipa.org.uk web site. Key points to look out for are:

- Instability due to inadequate anchoring.
- Obtain from the manufacture the maximum designed wind speed that the structure can safely withstand. A competent person must be appointed to check the wind speed at regular intervals throughout the time the inflatable is erected and in use. Should the weather change/deteriorate the number of checks should be increased. If the maximum safe wind speed is exceeded the inflatable should be taken out of use and allowed to deflate.
- Segregation of children may be necessary to avoid either overcrowding within or around the structure or to prevent large more boisterous children and infants being allowed to use the inflatable at the same time.
- Supervision, and attendants to prevent misuse – the maximum number of persons that the structure can tolerate safely and any height or age restrictions must be enforced.

Where people can enter into an inflatable structure the following additional detail should be available for (a) checking by the event organisers and (b) viewing by any member of the organiser's team.

- The up to date manufactures details of the fire resistance, the flame resistance and/or the flame proof/retardant nature of the structure and the test methods

employed along with the dates of the testing.

- The fire resistance, flame resistance and/or flame proof/retardant nature of internal fixtures, fittings, decoration, sculptures, hanging features/material/tassels or other

artwork etc. within the structure and the methods employed and the dates of the testing.

- The fire risk associated with the proposed use of the inflatable must be considered and risk assessed.
- A scale plan showing the escape routes, sizes and positions.
- Details of the: emergency lighting, power source, emergency exit signage and their positions.
- Actions to be taken during a power failure and/or air loss must be considered.
- The time that has elapsed since the structure was designed and constructed, may affect the stability, the resilience of the structure (including fixing positions) and fire resistance of the materials. Confirmation will be required from the manufacturer or other independent examiner that the materials, stability and finishes comply with the current standards and regulations.

Maintenance and Inspection of inflatables

The inflatable should be in a good condition and be fit for purpose. The event organizer or another competent responsible person should check that the structure has a valid test/safety certificate issued by an independent examiner. **Note:** There are two schemes available for the inspection and certification of inflatable play devices; the Amusement Devices Inspection Procedure Scheme (ADIPS) and the Performance Inflatable Play Accreditation Scheme (PIPA). Generally, inflatables found at traditional fairgrounds and theme parks will have been tested under ADIPS while inflatables found at galas, fetes, hired for domestic parties etc. tend to have been tested under PIPA. Both allow operators to comply with their duties under health and safety law. An inflatable tested under either scheme should have a safety certificate issued by an independent examiner. Each certificate will have a unique reference number. If there is any doubt over the status of the certificate, it can be confirmed by contacting the ADIPS Bureau (0191 516 6381) or in the case of PIPA by (i) checking the tag number of the device against the database on the web site www.pipa.org.uk or (ii) by phone on 01827 52337. If neither scheme has been used duty holders should be able to demonstrate that they have taken equally effective measures to comply with their legal obligations.

Anchoring down of the structure.

The people erecting and dismantling the structure must be competent and have received adequate training.

All anchor points and ropes should be checked to ensure that they are in good condition and fit for purpose.

The number of anchor points and type of anchor available should be in accordance with the manufacturer's instructions. The justification details of the number and the method of holding down points, anchor points, stakes and/or ballast should be available on site (Note this may require structural calculations or similar information produced by a person competent to do such an assessment).

If ballast is to be used the amount required should be obtained from the manufacturer and positioned and fixed in accordance with their instructions.

If stakes are to be used, the length, type and number will need to be ascertained and provided. If the manufacturers can make no recommendations suitable for the ground where the inflatable is to be sited a structural engineer should be consulted to provide the relevant information.
All anchor points and ropes should be regularly checked while the structure is erected and in use; if the weather changes/deteriorates the number of checks should be increased.
If an alternative means of anchoring to stakes or ballast is to be used the organiser should consult with the manufacturer to ascertain if the proposed alternative method is adequate.
All anchor points and guy ropes must be protected to ensure a tripping hazard does not occur.

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