

# Best available refuge area (BARA) assessment

## 1. Determine how much space is required for the refuge area.

How many people normally work in the building? (A meeting attendee or other person scheduled to be in the building, like maintenance, etc. If unsure, use five per cent of the total number of people working in the building.) \_\_\_\_\_ +

How many visitors would normally be in the building? \_\_\_\_\_ +

How many members of the public generally in the building? (An unscheduled member of the public not meeting a specific employee. If unsure, estimate the number based on 50 per cent fire code occupancy excluding employees and visitors.) \_\_\_\_\_ +

Total number of people in the building = \_\_\_\_\_

Total refuge area required:

Total number of people \_\_\_\_\_ x 5 square feet \_\_\_\_\_ (A)

OR Total number of people \_\_\_\_\_ x 0.465 square metres \_\_\_\_\_

Number of staff with mobility assistance devices (such as crutches, wheelchairs, etc.) \_\_\_\_\_

Total number of staff with mobility assistance devices \_\_\_\_\_ x 10 square feet \_\_\_\_\_ (B)

OR Total number of staff with mobility assistance devices \_\_\_\_\_ x 0.93 square metres \_\_\_\_\_

**Total area required** \_\_\_\_\_ (A+B)

## 2. Review any available drawings and conduct an onsite assessment of the building to determine the best available refuge area. Assess each proposed area against the list of options below.

Your business unit Safety Advisor is a potential source of assistance in the selection of a BARA. You may wish to engage them in the selection process.

The selection of a BARA cannot guarantee safety. The majority of buildings are not built to withstand the forces of an EF4 or EF5 tornado. The identification of a BARA is to provide a safer location in which to shelter.

The selected BARA will not necessarily “check all the boxes” for criteria. Select the area which meets the most number of criteria. Some judgement may be required.

High-rise buildings typically do not collapse during a high wind or tornado event, but may have significant glass cladding. For this reason, an interior space away from windows is required.

Any relocatable structure (ATCO trailers, etc.) that doesn’t have a foundation securing it to the ground is unsafe in a high wind or tornado situation. Individuals in these buildings must evacuate to the nearest suitable structure.

**YES NO UNKNOWN/NA**

The proposed area is large enough to meet the space criteria in Part 1.

The proposed shelter is below grade.

The proposed shelter is accessible to everyone in the building.

It does not require a key or electronic access card, it is handicapped accessible, it is accessible to the public (if building has public access)

YES NO UNKNOWN/NA

The proposed area has a short roof span of less than 25 feet.

The proposed area is in the interior of the building.

The proposed area is free of shelving or other materials that could topple.

The proposed area has minimal windows, skylights or other glass (minimal is defined as 10 per cent of wall/ceiling area).

The doors to the proposed area are solid core or metal.

The proposed area has concrete or masonry walls.

Areas that have more “yes” responses may be considered for a BARA.

**3. Assess the exterior site.**

1. Note any exterior hazards exceeding six inches in diameter, such as trees, lampposts, flagpoles, towers, chimneys and other hazards.
2. Measure or estimate the height of the hazard to determine if the hazard could fall on the building if uprooted. (It’s important to note that even hazards located far away from the structure can become projectiles that can affect the integrity of the structure. Use the selection criteria in Step 2 to ensure an appropriate area inside the structure is less penetrable to windborne debris and projectiles.)
3. Using the height and the diameter of the hazard, plot or estimate how far the hazard could reach in the building and what areas could be affected.
4. If possible, avoid designating areas as a BARA that could be impacted by a falling hazard.

Using the criteria in Steps 1 – 3, an assessment about a BARA selection can be made. Remember, it is unlikely that a designated area meets all the criteria. It’s acceptable to designate multiple locations as BARAs, especially if one location is not large enough to shelter everyone in the building. The goal is to identify areas that are more likely to be safe in a tornado or high winds.

Once the BARA assessment is completed, notify your assigned Safety Advisor and ensure that the person(s) responsible for updating the building’s Emergency Response Plan (ERP) are aware of the location of the refuge area.

Name of building or structure	Date	Safety Advisor
Identified BARA(s)		
Signage installed (Date):  Signage installed by (Name)	Assessment provided to FM (Date):	Building ERP updated (Date)  ERP updated by: (Name)

When completing the BARA assessment, consult building plans as required, and include any drawings relevant to the BARA selection. Include any drawings with the BARA checklist when submitting.

Building sketch or drawings (if applicable)