STORM SHELTERS

Since 2009 the IBC has referenced ICC 500 to establish minimum requirements for structures and spaces designed as tornado shelters. In the 2009 and 2012 editions of the IBC there are no scoping provisions to enact these technical requirements .

The 2015 IBC now provides scoping provisions that mandate the construction of complying storm shelters in critical emergency operations facilities and most Group E occupancies.

REQUIRED STORM SHELTERS

423.3 Critical emergency operations. 911 call stations, emergency operations centers and fire, rescue, ambulance and police stations.

Exception: Buildings meeting the requirements for shelter design in ICC 500.

423.4 Group E occupancies. All group E occupancies with an occ. load of 50 or more.

Exceptions:

Group E daycare facilities.

Group E occupancies accessory to places of religious worship.

Buildings meeting the requirements for shelter design in ICC 500.

13

ICC 500 REQUIREMENTS

Without getting into too much detail there will be many additional structural, engineering, and procedural requirements for shelters designed in compliance with ICC 500. In addition to the very rigorous structural design criteria there are other extraordinary requirements including, but not limited to the following.

1. Peer review by an independent registered design professional including a signed and sealed report. Section 106.

2. The building owner shall employ a registered design professional to conduct visual observations of the construction of the structural system-provide final report.

3. A quality assurance plan must be prepared and submitted. Section 107.

4. Contractors must submit a written statement of responsibility.

5. Ventilation, sanitation and emergency power including sanitation support systems. (e.g., bladders, storage tanks or vessels, etc.) Section 702

6. The debris impact test missile for all components of the shelter envelope shall be a 15 lb. sawn lumber 2X4 traveling at 100 mph for vertical surfaces and 67 mph for horizontal surfaces