

## Use of Storage Containers as Permanent Structures

Meeting of August 11, 2016

8:00 AM PST

Conference Call

### Minutes

1. Ara called the meeting to order and introductions were made. In attendance were the following individuals:

Ara Sargsyan, Los Angeles, CA  
Arturo Rivera, Long Beach, CA  
Gregory Bowser, Long Beach, CA  
David Gieser, Mecklenburg County, NC  
Jim Bartl, Mecklenburg County, NC  
Michael Reagen, Ohio  
Elizabeth Scanlan, Chicago, IL  
John Barrios, Tampa, FL

Sam Palmer, Clark County, NV  
Vicky Russo, Tarpon Springs, FL  
Mehdi, Shadyab, San Diego, CA  
Mo Madani, Florida  
Robert Lorenzo, Florida  
Ron Lynn, Clark County, NV  
Cindy Davis, Commonwealth of Virginia

2. Ara outlined today's discussion. Earlier he spoke with ICC Evaluation Services about containers being permanent structures and ICCES sent back an acceptance criteria that allowed containers to be used as structural building materials, AC462. He also spoke with container vendors who provided names of jurisdictions that used their product, but further investigation yielded no evidence. The goal of this teleconference is to discuss each jurisdiction's experience and concerns regarding containers being permanent structures with the ultimate goal of developing some universal guidelines.
3. Long Beach started the open discussion by talking about their new container complex and how they went about approving it. A developed standard of having permanent containers being one story was put into place for seismic integrity reasons. Multiple revisions were made prior to construction and some field revisions. Multiple questions were asked and the end answer was that the containers being used were solely based on engineering.
4. Virginia brought up questions pertaining to the ICC acceptance criteria and safe container criteria for the jurisdictions that have allowed permanent containers and the jurisdiction of Tampa answered that the containers were approved before any acceptance criteria was published, the safe container criteria was based solely on the engineering aspect. Follow up questions included:
  - a. How can someone determine the confirmation of steel type?
    - i. Whether it is foreign or American.
    - ii. The integrity of the steel
  - b. What about the chemicals used like formaldehyde and lead paint?

5. The responses for the above questions was simply on site testing. On site testing for structural integrity, seismic integrity, and chemical/elemental integrity. Florida brought up the reason that they have not received many request was that on site testing was expensive and not cost effective for the developers, to which other jurisdictions agreed. Chicago explained that they require the developer to provide the proper requirements beforehand, that way on site testing is no longer needed.
6. Ara brought up a question pertaining to the modular side of permanent containers, not the unique side of permanent containers. San Diego explained that the engineers for the modular structures were just making assumptions about the container's integrity.
7. A question about alternative methods for permanent containers was asked. San Diego's response was that it depended on the alternative. The building official cannot assume it is standard steel used for the container when there is no official paperwork. In San Diego's experience, the clients that want to construct permanent containers never provide verified material/paperwork. Labels also came up in the response and the jurisdictions agreed that if the container does not have a label from a certified company on it, then it should not be used as a permanent structure.
8. International Building Codes were also discussed. Florida explained that the International Building Code had a section in chapter one that pertained to the building official having the right to allow alternative materials and construction methods, but ultimately the decision is up to the jurisdiction. It was agreed that the ultimate goal is to establish universal guidelines that would be use by multiple jurisdictions.
9. At the conclusion of the meeting, it was agreed that discussion was very valuable and that a future teleconference would be in order. Another agreement was that there should be a checklist/package of all the jurisdictions' info about permanent containers. The follow up comments and questions will be compiled and discussed at the next teleconference and/or at the ICC ABM MJC meeting.