
BBS MEMO

Ohio Board of Building Standards

February 8, 2018

6606 Tussing Road, P.O. Box 4009, Reynoldsburg, Ohio 43068-9009

LOCAL BUILDING DEPARTMENTS AND STATE-APPROVED INDUSTRIALIZED UNITS

When a local building department receives an application for plan approval for a project built of Industrialized Units or for a project which includes Industrialized Units, there is often uncertainty about how to proceed. Although the use and processing of projects that include Industrialized Units is specified in the residential and non-residential codes, these duties are often overlooked. This BBS Memo is provided to clarify local building department duties in order to provide consistent and uniform enforcement in Ohio for the use of Industrialized Units (I.U.).

I.U. CONSTRUCTION DOCUMENTS

The Ohio I.U. Program assures that the construction document for I.U.s are reviewed by a certified Master Plans Examiner and that inspections are made during their in-plant construction. Construction documents must be approved through the Board of Building Standards (BBS) I.U. Program. All work that is performed on-site – i.e. footings, foundations, site-built components - must be submitted to the local building department for review, approval, and inspections. Board-approved IU construction documents must to be submitted to the local Building Official as a part of the application for plan approval for projects that include the installation of an I.U.

Enforcement duties for IUs are outlined in RCO Section 106.1.4 and OBC Sections 106.1.2(1) and 113.7.1. Therefore, Building Official must receive or evaluate the following information:

- a. Verify that the I.U. construction documents have the State of Ohio BBS/I.U. seal on every page (samples shown to right).
- b. Verify that the seal contains the correct current building code editions referenced – I.U. approvals are not perpetual.
- c. Details indicating how, on-site, the modular units are interconnected. This information could be in the manufacturer's installation instructions and/or in the manufacturer's "system documents." If the cover page or sheet index lists a system document index, this also must be submitted. A "system document" contains detailed information regarding a manufacturer's standard construction assemblies for structural, mechanical, electrical, and plumbing "systems."
- d. Energy compliance documentation.
 - i. Ohio I.U. plan approvals are based upon configurations entered into energy conservation calculation forms (such as a REScheck or COMcheck). These forms must be attached as a part of the approved IU construction documents and will provide important information.
 - ii. I.U.'s will have a variety of on-site scope differences for energy code compliance. For example, if a structure is configured with a conditioned/unventilated crawlspace, the local Building Official must ensure this design is followed and not allow non-approved alternated – i.e. a ventilated crawlspace – unless a new compliant energy calculation form is submitted to the local Building Official based upon the installer's or owner's revised configuration. This would also be the case when an I.U. design is approved with a ventilated crawlspace and it is found that a conditioned crawl space is intended to be used at the site.
- e. Verify the age of the units; an I.U. is an I.U. for only 2 years after the affixing of the Board's shipping insignia to the unit. After 2 years, the unit(s) must be reviewed and inspected as moved structures per RCO Section 113.8 or OBC Section 3410. The approved set of I.U. construction documents should contain the I.U. document file number, an approval date, and the limitations of the approval.



Any issues identified at document submission should be handled as described below under *Items of Non-compliance*.

I.U. INSPECTIONS

Inspections of I.U.s are somewhat different than conventional construction. Local building department duties are outlined in RCO Section 108.2.12 and OBC Section 108.2.13. Therefore inspectors should look for the following:

- a. The scope of inspections is limited to the on-site open construction work such as:
 - i. On-site connection to the foundation that has already been reviewed and approved by the local Building Official. This work must be inspected.
 - ii. Verify that the on-site interconnection of I.U. modules are in compliance with the manufacturer's drawings approved by the BBS. This work must be inspected.
 - iii. Roof truss assemblies are typically completed at the site. Their complete design is already approved by the BBS within the scope of the roof truss engineering documents within the approved I.U. documents. Their

erection has to be inspected for compliance with the I.U. approval. Some roof assemblies are completed on-site with “ship loose” raw materials or site supplied materials which will be installed at the site. When not included in the IU approval, this on-site performed work must be reviewed, approved, and inspected by the local building department.

- iv. On-site connections to utilities, including the often site-installed service pipe or electrical conductors across the length of a unit.
 - 1) On-site plumbing piping work that may, for instance, be installed under the floor deck. This work must be reviewed and inspected by the local building department. Most IUs have plumbing vents through the roof that have to be site-installed because of the site-completed roof truss assemblies. This work must be inspected.
 - 2) Some units have electrical distribution panels or circuits that are installed beyond the exterior walls of the IU, thus requiring site-installed components or service disconnects. This work must be inspected.
- v. Owners may add site-built patios, decks, or garages that require local review and approval and may require additional site-installed work such as additional exterior electrical receptacles, flashings, etc. This work must be inspected.
- b. Because IUs are transported to the site of their intended use, inspections must be made for transportation, weather, or erection damage to the unit’s interior or exterior. Inspections may reveal damage, cracks, mold, water damage, etc.
- c. Inspectors should verify the presence of an OBBS required shipping insignia that is required to be placed in each IU module, which signifies construction inspection approval by OBBS appointed 3rd party construction inspectors (sample shown to right).
- d. Inspectors should verify that what got shipped to the local site matches what appears in the OBBS approved construction documents. This inspection cannot require destruction or disassembly of factory approved construction. Inspectors should verify that the floor plan and the elevations shown in the approved construction documents look like what has been shipped to the site.



Any issues identified during inspections should be handled as described below under *Items of Non-compliance*.

ITEMS OF NON-COMPLIANCE

Any items of non-compliance identified initially at document submission or during inspections should be addressed as described below.

These duties are outlined in RCO and OBC Sections 108.6.4, Observations of Noncompliance. When issues are identified the process outlined in the codes should be followed.

- a. RCO and OBC Sections 108.6.4 require the inspector to report any items of noncompliance to their department’s Building Official. However, they are not to act upon it as typically done for open construction within their jurisdiction’s scope.

If an inspector, in the course of performing inspections observes a code violation that was either shown incorrectly or not adequately addressed or detailed in the approved construction documents, the inspector must communicate the finding to the building official who must notify the BBS of all violations. The BBS, or its designee, and the Building Official then determine the corrective action to be taken before the building is approved to be occupied.

WHAT IF SOMETHING IS AN IU BUT THERE ARE NO OHIO-APPROVED IU CONSTRUCTION DOCUMENTS?

Occasionally a project gets submitted for approval and it is apparent that a completed modular component at the site is proposed to be used that is of closed construction, was build off-site, and was shipped to the site of its intended use. Such a module is then deemed to be built without approval or inspection during its construction (in violation of RCO and OBC Section 107.1, and RCO Section 106.1.4 or OBC Section 106.1.2). As with any work done without appropriate approvals, the local Building Official can issue an order stopping the module’s use until construction documents are submitted to the building department to determine code compliance and requiring the unapproved module be disassembled to the point necessary to allow for inspections.

The Building Official should also contact the Board to permit the Board to determine if the manufacturer is an Ohio-approved IU manufacturer that has not complied with the Board’s rules for the manufacture of IUs. If not an approved IU manufacturer, it may be able to become a part of the program and allow it to produce IUs for use in future projects.

As IUs are used more and more for buildings or as building components, consistent enforcement of the rules of Ohio’s IU Program will assure a level playing field for owners choosing this construction method. Please do not hesitate to call the Board’s offices at 614-644-2613 with any additional questions on Industrialized Units.