

## Construction Documents

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Some of you may be wondering what construction documents have to do with understanding the building code; thinking that construction drawings are used only to obtain the permit and build the building. “Used to obtain the permit”—that is the key. In other words, no construction documents means no permit and, therefore, no building. End of story.

Under the building code, what are construction documents? Architects, engineers, and contractors know what types of documents are necessary for the proper execution of a construction contract; however, do those documents need to be identical to the documents submitted to the building department for plan review? The answers to these questions may surprise you.

To answer the first question, we turn to the Construction Specifications Institute (CSI). The CSI defines construction documents in *The Project Resource Manual - CSI Manual of Practice* as “the written and graphic documents prepared or assembled by the A/E for communicating the project design for construction and administering the construction contract.” Typically, they consist of drawings, specifications, and, according to the CSI, procurement requirements (i.e. solicitation, bidding/procurement instructions), contracting requirements (i.e. agreement, conditions of the contract, modifications), and resource drawings (i.e. existing building record documents). All of these may be submitted to the building department for plan review, but all may not be necessary for determining compliance with the building code.

So, maybe the question needs to be refined: what construction documents *are* required to be submitted for plan review? Well, the 2006 *International Building Code* isn’t as specific as one would expect. In Section 106.1, Submittal Documents, it states, “Construction documents, statement of special inspections and other data shall be submitted in one or more sets with each permit application.” Pretty vague. Therefore, it is necessary to check out the definition of “construction documents” in Chapter 2 of the IBC:

*Written, graphic and pictorial documents prepared or assembled for describing the design, location and physical characteristics of the elements of a project necessary for obtaining a building permit.*

Still fairly generic, but the first part of the definition above is very similar to the one provided by the CSI; they both refer to construction documents as being written and graphic. It is the interpretation of this phrase that has some design professionals and building officials at odds.

Under the former *Uniform Building Code* (UBC), the list of submittal documents was a little more precise: plans, specifications, engineering calculations, diagrams, soil investigation reports, special inspection and structural observation programs and other data. With the inclusion of specifications in that list, it can be construed that specifications are, and should be, a document reviewed by the building official. Even though the IBC’s definition is less exact than the UBC’s, it would make no sense for the IBC to reduce the intent of submittal requirements for plan review from previously published model codes.

To most design professionals, written and graphic documents are in reference to drawings and specifications. However, some building departments view these as drawings with notes. Thus, specifications are either not requested for plan review, or they are considered irrelevant and not reviewed by the building official. In one case, in which an architect responded to a review comment stating that the item was in the specifications, he received the following response from the plans examiner: “Note on the response sheet that this item is in the specifications is unacceptable. Specifications are not accepted and are not part of the plans.” It should be made clear, however, that not all building departments view specifications in this manner. All differences aside, if a design professional submits specifications along with the drawings, is the building official obligated to review the documents? The answer to that is a simple “yes.”

The International Code Council’s (ICC) *Plan Review Manual Based on the 2003 IBC* states, “Where there are specs, the plan reviewer must explore them fully during the review process because it is not uncommon to include information in specs that does not appear in the plans.” Additionally, in the *Plan Review Manual* published by the former International Conference of Building Officials (ICBO), it states:

*For the plan reviewer, the plans and specs are considered as a whole. Whether or not specific items appear in all working documents is of small amount, so long as they do appear someplace and are not contradictory with other portions. From this point of view, then no fragment of the plans and specs takes precedence over other fragments. The documents must be considered as a whole. [Emphasis in original]*

It is clear from these publications that all construction documents submitted--drawings and specifications--must be reviewed by the plans examiner during the plan review process. Therefore, code-related information that is included in the specifications and not on the drawings is acceptable, provided the information meets or exceeds the minimum requirements of the code.

Based on the preceding paragraphs, the documents submitted for plan review can be in any form that the design professional deems necessary to convey the compliance of the project to the adopted building code, provided the information prescribed in Section 106 of the IBC is covered in the construction documents. Even though the design professional may feel that the construction documents adequately convey the required information, the building official may still require additional information if he or she determines that the information in the documents is insufficient to show compliance with the building code. However, review comments should not dictate specific methods of achieving compliance. For example, if the comment states that panic hardware is required on certain doors, the comment should not direct the design professional to add this information to the door schedule. The design professional should have full control of where to place this information; he or she may decide to place the information on the door schedule on the drawings, or in a door hardware schedule located in the specifications that is cross-referenced to those doors in the door schedule.

Now for the second question previously introduced: should the documents used to obtain the permit be identical to the documents used to build the building? To answer that, the last parts of the CSI and IBC definitions for construction documents require further study.

Recall the CSI definition: the last few words state “...communicating the project design for construction and administering the construction contract.” The last part of the IBC definition states “...necessary for obtaining a building permit.” The CSI definition focuses solely on the construction document’s application to the actual construction of the project, whereas the IBC definition is only

concerned with their application to obtaining the permit. Based on this, design professionals may submit one set of documents to the building official for permitting, and issue a different set of documents for bidding and construction. Nonetheless, the design professional who does issue different sets to the building department and contractors must keep two very important items in mind.

The first item is found in IBC Section 106.4. This section requires that the work “be installed in accordance with the approved construction documents.” Consequently, any changes to the approved documents must be resubmitted for approval as an amended set of documents. This means that the set of documents issued to the contractors, although not identical to the plan review set, cannot modify the essential elements of construction shown on the documents that are relevant to permit approval. It is also important to mention that the approved documents will be enforced, even if they show construction that exceeds the minimum requirements, unless the changes are approved via resubmittal. For example, if the project was approved by the building official using Class A finishes in corridors, but the design professional changed them to Class B finishes when issued to the contractor, then the finishes will need to be resubmitted for approval, even if the Class B finish is acceptable per the building code.

The second item, found in IBC Section 106.3.1, requires that one set of the construction documents, stamped “Reviewed for Code Compliance” by the building official, must remain available at the project site. This set of documents is subject to inspection by the building official or authorized representative when they visit the project site. This allows the inspector to compare the actual construction to the approved documents, even if the documents the contractor is using are not identical to the approved set.

Building officials often complain about the quality of construction documents submitted, while design professionals and specifiers complain that building officials don’t understand the relationship between all the elements of a set of construction documents. The truth is, they are all right. With the introduction and evolution of computer-aided drafting (CAD), architects and engineers can now make mistakes at the speed of light with a click of a mouse button, and they organize drawings in a manner that makes it quite difficult for the building official to ascertain a project’s compliance with the building code. On the other hand, building officials reject or overlook the specifications and require multiple notations on drawings that are either unnecessary, repeat information provided in the specifications, or both. The solution to these problems is education.

For the design professionals, providing clear, complete, concise, and correct documents is only possible through acceptance of recognized industry standards on organization and formatting of construction documents, including the training on how to properly implement them. For specifications, the CSI provides several standards on organization and format. The most recognized CSI standard is MasterFormat, which establishes a numbering classification system for project manuals and other construction-related information. The CSI, along with the American Institute of Architects (AIA) and the National Institute of Building Sciences (NIBS), have developed the National CAD Standard and Uniform Drawing System (NCS/UDS). Included in the UDS is a module specifically developed to provide building code-related information on construction documents. Module 8, Code Conventions, was incorporated into the UDS in 2001, and includes standards for code-related graphic symbols and information locations.

For building officials and their staffs, supplementing code-specific training with educational courses on construction documents, construction contracts, and the complementary nature of these documents will illustrate the use of these documents beyond just permitting. Understanding how construction documents should be organized will reduce comments that ask for information which is already provided elsewhere

in the documents. Obtaining a basic knowledge of the project manual concept, and how specifications can provide much of the information plans examiners are looking for, will reduce requests for duplicate information in other areas of the construction documents, thereby avoiding the potential problem of conflicting information.

The building code establishes the minimum criteria to which the building official reviews construction documents for compliance. Design professionals need to understand and appreciate this duty required by the building official. And in turn, building officials need to understand that the liability for compliance with the building code *and* the building's owner's requirements lies squarely with the design professional. Building officials should not participate in the development of the building design; nor should they dictate specific requirements for content of construction documents beyond that prescribed in the building code. A set of construction documents is the bridge between design and construction execution, and the pier supporting that bridge is the building permit--without it, the whole thing won't stand. Through cooperation and mutual understanding of the roles and responsibilities of the building department and the design team, this bridge will be erected and maintained until project completion.

*To comment on this article, suggest other topics, or submit a question regarding codes, contact the author at [ron@specsandcodes.com](mailto:ron@specsandcodes.com).*

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