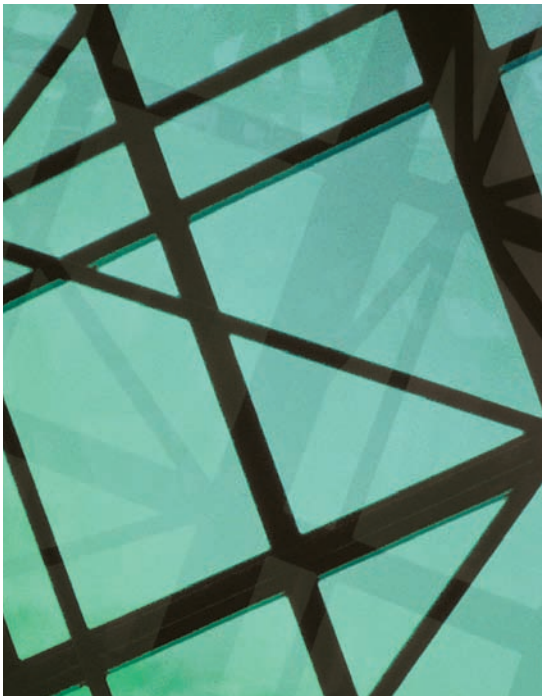




## United States National CAD Standard®



**T**he architectural, engineering and construction industry has undergone major technological changes in the last 25 years. Prior to the 1980s, most architects drafted building plans by hand. Architects and engineers employed multiple draftsmen to prepare the huge numbers of drawings required for large buildings. Computers revolutionized the industry and brought the advent of computer-aided design (CAD). With CAD, design teams no longer had to draw floor plans manually. By entering dimensions into a CAD program, designers could develop detailed drawings and make modifications much more quickly and accurately.

[More →](#)



## United States National CAD Standard®

As more CAD products came into the market, several industry associations worked to develop format guidelines to standardize how electronic building design data are delivered. The *United States National CAD Standard® (NCS)*, developed by the National Institute of Building Sciences Facilities Information Council (FIC), consolidated those guidelines into one standard.

First published in 1999, *NCS Version 1.0*, was based on several constituent documents: the American Institute of Architects *CAD Layer Guidelines* second edition, the Construction Specifications Institute *Uniform Drawing System (UDS)*, components of the *A/E/C CADD Standard* (from what is now known as the U.S. Department of Defense CAD/GIS Technology Center) and the U.S. Coast Guard *Plotting Guidelines*.

A decade later, the NCS is now the U.S. building industry's only comprehensive graphical data standard. In January 2008, the FIC released *NCS Version 4.0*. The *NCS Version 4.0* includes amended and updated NCS constituent documents balloted and approved by consensus vote of the NCS Project Committee.

Following the release of *NCS Version 4.0*, the NCS Project Committee elected new officers and appointed a version 5.0 Steering Committee.

There is a continuing effort to establish a common language for design and documentation throughout the industry and to promote

voluntary national adoption of CAD standards for design, construction and facility management.

An informal study indicates the NCS has already impacted hundreds of thousands of U.S. construction documents. NCS use is expected to grow as vendors and third party suppliers incorporate the standard into new software products. Recognizing a need to stay relevant as long as the industry uses paper documents, the NCS Steering Committee took the lead to define printed output for building information modeling (BIM), and established close ties to the National Building Information Model Standard (NBIMS) Committee.

The NCS two-dimensional graphical data standard plays an important role in the transition to the three-dimensional, object-based environment used in NBIMS. To coordinate related programs and improve functionality, the buildingSMART alliance™ now oversees the NCS. The Facility Information Council was sunset in September 2008. The extensive changes made during the recent revision cycle positions the NCS to continue to meet the needs of the industry.

In 2009, *NCS Version 4.0* is going through the consensus process to update and expand existing content, resulting in *NCS Version 5.0*. A new module will coordinate NCS with NBIMS and a task team will work on furthering implementation guidelines. ■

**Staff Contact:** Dominique Fernandez, Director, WBDG/CCB

**Email:** [dfernandez@nibs.org](mailto:dfernandez@nibs.org)

**Website:** [www.buildingSMARTalliance.org/ncs](http://www.buildingSMARTalliance.org/ncs)