

United States National CAD Standard[®] Version 5

What is new?

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NCS Version 5

- ❖ This session will outline the latest release of NCS as well as provide a walk-through of the new delivery tool. There will also be discussion related to the next version and its further integration with BIM.
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NCS Version 5

- ❖ Define the NCS's relevance in BIM based AECOO industry.
 - ❖ Describe new content in NCS Version 5.
 - ❖ Describe new online NCS.
 - ❖ Recall future direction of NCS and further integration with BIM.
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NCS Version 5

❖ **Q:** How is a construction project like a puzzle?



❖ **A:** Similar to putting together a puzzle, one of the greatest challenges in the construction industry is piecing together all the elements that go into a building project, sometimes from sources that use conflicting standards.








Pain Points

- ❖ Different platforms and file types
 - ❖ Irregular standards
 - ❖ Plan set organization
 - ❖ Design and construction data
 - ❖ Confusion = money
 - ❖ Confusion = time
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Standards Save Time and Money

- ❖ Standards can help construction professionals make sense of their project data.
 - ❖ First release in July 1999, the United States National CAD Standard® (NCS)
 - ❖ Used by thousands of project teams
 - ❖ Version 5 of NCS released this spring
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NCS Version 5

- ❖ American Institute of Architects (AIA)
 - ❖ Construction Specifications Institute (CSI)
 - ❖ National Institute of Building Sciences (NIBS)
 - guidelines for drawing sets
 - extensive symbols library
 - terms and abbreviations.
 - Available exclusively as an online document.
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NCS – It's in there!

- ❖ The AIA CAD Layer Guidelines
 - ❖ CSI's Uniform Drawing System (UDS)
 - ❖ NIBS' Plotting Guidelines
 - ❖ Excel spreadsheets containing AIA CAD Layer Guideline files, UDS Terms and Abbreviations, Schedules and Regulatory Information, and Plotting Guidelines tables
 - ❖ DWG symbols files
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AEC00 Involvement



❖ NCS Project Committee




- owners
- construction
- design



❖ collect improvements from individual NCS users and perform a consensus peer review






NCS On Line

- ❖ NCS is now web-based
 - ❖ accessible 24/7 to licensees
 - ❖ online document's in-text references are cross-linked
 - ❖ users can print each section as necessary
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Implementing the NCS

- ❖ New implementation guidelines.
 - ❖ guidelines on how to incorporate NCS
 - ❖ tool to demonstrate the value of NCS to management or clients
 - ❖ actionable steps how to incorporate NCS into an organization
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Content Revisions



❖ New Discipline Designators

- **Distributed Energy**
- **Real Estate**
- **Survey/Mapping**



❖ New Layers

- **additional structures**
- **wind and solar power**
- **fire ratings**



More Revisions



❖ New Layers

- **air barriers**
- **architectural curtain walls**
- **electrical cathode protection**




❖ New Symbols

- **interior elevation indicators**
 - **azimuth indicators**
 - **architectural scale**
 - **electrical symbols and other areas**
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Benefits of NCS

- ❖ Helps everyone, from designers to building owners, to understand the information.
 - ❖ NCS extends the lifecycle of information; the more use of NCS, the better chance that each team member can use the information as it travels from design to engineering to construction to operation.
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Consistency

- ❖ common terms and symbols
- ❖ naming conventions
- ❖ Information in the same place in all drawing sets;
- ❖ predictable file translation
- ❖ Streamline checking errors and omissions.





Firm Benefits

- ❖ advantages in communication and organization
 - ❖ no developing individual standards
 - ❖ no extra time to decipher plans
 - ❖ opportunities for expanded service
 - ❖ Clients requesting NCS compliance
 - ❖ adopt the standard, be a step ahead of the competition.
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NCS and NBIMS

- ❖ NCS is connected with the National BIM Standard- United States (NBIMS-US).
 - ❖ NCS is the standard way to output information about the constructed environment.
 - ❖ BIM uses processes and tools to access and understand information details for the total building lifecycle.
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NCS – BIM Standard Output

- ❖ NCS is the standard to follow for the output format of BIM jobs.
 - ❖ The construction industry continues to build with 2-D paper output, even from BIM, this is where NCS focuses.
 - ❖ NCS supports the printed output of NBIMS projects, making sure the information is consistent and understandable.
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NCS - Stepping Stone to BIM

- ❖ NCS will help firms implement the NBIMS.
 - ❖ NCS helps form a firm's habit of consistency in the building process.
 - ❖ Consistency is vital for object-based BIM
 - ❖ NCS guidelines streamline the production of 3-D building models.
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Future of NCS

- ❖ As the NBIMS becomes more widespread, NCS will become even more critical to the industry, and will continue to evolve.
 - ❖ NCS is driven by industry input.
 - ❖ NCS needs you!
 - ❖ NCS makes it easier to understand the “puzzle” of modern construction.
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Resources

- ❖ For information on the United States National CAD Standard[®], visit www.nationalcadstandard.org.
 - ❖ If you would like to add your voice and participate in the development of the standard (NCS or NBIMS), join the buildingSMART alliance[™] at www.buildingsmartalliance.org
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