

This article is a two part series which discusses special inspection provisions for wood construction in the 2015 International Building Code (Part 1) and perspectives from several States (based on the 2012 International Building Code) on suggested handling of special inspections regionally (Part 2).

# CODES AND STANDARDS

updates and discussions related to codes and standards

Special inspection is not a new term to the building code. The International Conference of Building Officials' (ICBO) *Uniform Building Code* (UBC) has had special inspection requirements in the code since the 1961 edition. The Building Officials and Code Administrators' (BOCA) *National Building Code* first introduced special inspection provisions in 1988. The ICBO and BOCA codes had a slightly different philosophy and emphasis, which resulted in very different special inspection implementation approaches in ICBO jurisdictions from BOCA jurisdictions. When the International Code Council's (ICC) *International Building Code* (IBC) was first issued in 2000, it merged the ICBO and BOCA special inspection requirements into its Chapter 17. Today, the IBC continues this practice with criteria included in 2015 IBC Chapter 17, titled *Structural Tests and Special Inspections*. The Special Inspections in Chapter 17 are in addition to the inspections identified in Chapter 1 Section 110 and although Chapter 1 will not be covered in this article, Section 110.3.4 Frame Inspection is specific to wood construction elements.

## Background

Special inspection is a quality control measure intended to ensure that certain critical – mostly structural – features incorporated into a structure are constructed properly. This requires inspection by professionals (usually registered design professionals) with specialized skills and experience to verify that the material and workmanship comply with approved plans, specifications, and industry standards. Some aspects of construction may only need periodic inspection, while other aspects of construction require continuous inspection. In

most cases, wood construction is only required to have periodic inspections. The authority to enforce provisions contained in the building code for special inspections rests solely with the local building official. Since a building official certainly cannot be expected to be an expert on all technical building systems contained in a modern structure, inspectors are necessary who have special expertise to evaluate critical building components.

The purpose of special inspections is to provide additional evaluation and inspections above and beyond inspections which are normally performed by the building department, particularly in areas of construction where strength, safety, and construction practices have been determined by the building code, registered design professional, or building official to be sufficiently critical to warrant a special inspector.

Ensuring competence of the special inspector has always been and continues to be the responsibility of the building official.

The registered design professional in responsible charge and engineer of record involved in the design of the project are permitted to act as the approved agency, and their personnel are permitted to act as the special inspector for the work designed by them, provided those personnel are qualified to perform the inspection and are approved by the building official.

## Special Inspections for Wood Construction – Part 1

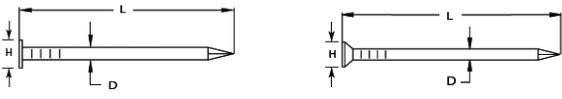
By David P. Tyree, P.E., C.B.O., James B. Smith, P.E. and Michelle Kam-Biron P.E., S.E., SECB

## Pre-fabricated Wood Members

The definition of a pre-fabricated item is located in Section 202 of the IBC. The definition notes that any item that is manufactured in accordance

David P. Tyree is the Central Regional Manager, James B. Smith is the Midwest Regional Manager, and Michelle Kam-Biron is the Director of Education at the American Wood Council, Washington, DC.

**Table A1 Standard Common, Box, and Sinker Nails<sup>1</sup>**



Type	Pennyweight											
	6d	7d	8d	10d	12d	16d	20d	30d	40d	50d	60d	
Common	L	2"	2-1/4"	2-1/2"	3"	3-1/4"	3-1/2"	4"	4-1/2"	5"	5-1/2"	6"
	D	0.113"	0.113"	0.131"	0.148"	0.148"	0.162"	0.192"	0.207"	0.225"	0.244"	0.263"
	H	0.266"	0.266"	0.281"	0.312"	0.312"	0.344"	0.406"	0.438"	0.469"	0.5"	0.531"
Box	L	2"	2-1/4"	2-1/2"	3"	3-1/4"	3-1/2"	4"	4-1/2"	5"	-	-
	D	0.099"	0.099"	0.113"	0.128"	0.128"	0.135"	0.148"	0.148"	0.162"	-	-
	H	0.266"	0.266"	0.297"	0.312"	0.312"	0.344"	0.375"	0.375"	0.406"	-	-
Sinker	L	1-7/8"	2-1/8"	2-3/8"	2-7/8"	3-1/8"	3-1/4"	3-3/4"	4-1/4"	4-3/4"	-	5-3/4"
	D	0.092"	0.099"	0.113"	0.12"	0.135"	0.148"	0.177"	0.192"	0.207"	-	0.244"
	H	0.234"	0.250"	0.266"	0.281"	0.312"	0.344"	0.375"	0.406"	0.438"	-	0.5"

<sup>1</sup> Tolerances specified in ASTM F 1667. Typical shape of common, box, and sinker nails shown. See ASTM F1667 for other nail types.

Figure 1. *National Design Specification® for Wood Construction*, Table A1 Standard Common, Box, and Sinker Nails.

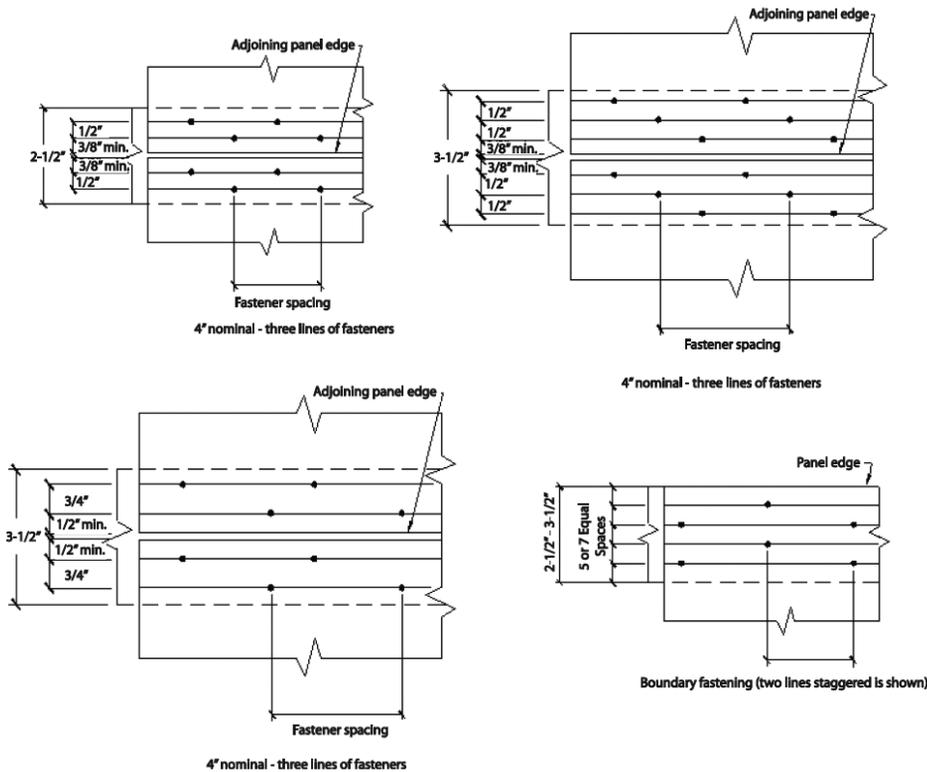


Figure 2. Special design provisions for wind and seismic – high load diaphragm nailing details.

with one of the standards referenced in the code (Chapter 35) is not to be considered a fabricated item and thus is not subject to the special inspection requirements of Section 1704. However, this exception is only permitted if the fabricator maintains approved detailed fabrication and quality control procedures that provide a basis for control of the workmanship and the fabricator's ability to conform to approved construction documents and the code. As an example, most metal plate connected wood trusses, glued laminated timbers (glulam), and I-joists are manufactured to a referenced standard (such as ANSI A190.1 for glulam). Therefore, unless there is an unusual situation where a reference standard is not being used, special inspection of these items is not required by the IBC.

Chapter 23 of the IBC specifies requirements for wood design and construction. Section 2303 specifies the minimum standards and quality control procedures for various wood products. Quality control certification programs such as those implemented by APA—The Engineered Wood Association, Truss Plate Institute, International Accreditation Service (IAS), etc., are covered under provisions specified in IBC Section 1704.2.5.1 for “fabricator approval.” These requirements include a comprehensive audit to stringent industry-specific performance criteria by trained auditors and industry professionals.

IBC Section 1704 outlines requirements for special inspections and tests, contractor

responsibility and structural observation. Since the 2000 IBC was published, this section of the code has changed several times and provides much more guidance for the building official.

### Special Inspection and Tests

Where application is made to the building official for construction as specified in Section 105, the owner or the owner's authorized agent, other than the contractor, shall employ one or more approved agencies to provide special inspections and tests during construction on the types of work listed under Section 1705.

Per Section 1704.2, there are exceptions as to where special inspections are required including: construction of a minor nature or in situations where the building official does not feel special inspection is necessary; portions of structures designed and constructed in accordance with Section 2211.7 for cold-formed steel light frame construction or conventional light-frame construction in accordance with Section 2308; and, a Group U occupancy which is accessory to a residential occupancy including but not limited to those uses listed in Section 312.1. Additionally, it is noted in this section that the contractor is permitted to employ the approved special inspection agency where the contractor is also the owner.

Prior to the start of construction, the approved special inspection agency is required

to provide written documentation to the building official demonstrating that the special inspectors are qualified individuals who demonstrate competence, and relevant experience and training, for the inspection of the particular type of construction or operation requiring special inspection or testing. Generally, it is the opinion of most building officials that the increased involvement by the registered design professional in responsible charge during the construction process of a project will help facilitate early detection of code and structural problems, which can be resolved much more easily when caught at an earlier stage of construction.

The building codes do not specifically state how a special inspector is to be considered qualified. Minimum qualifications are somewhat clarified in IAS *Accreditation Criteria for Special Inspection Agencies* (AC291), but additional assistance can be found in other documents concerning special inspection as well and can be of help to the building official.

## Special Inspection for Wood Construction

Sections 1705.5.1, 1705.11 and 1705.12.2 of the IBC specify special inspection requirements for wood construction, and these are in addition to basic requirements of the frame inspection in Section 110.3.4. The IBC does not contain special inspection requirements for conventional wood frame construction per Section 2308, which is specifically exempted from special inspection as noted previously. The IBC specifies generally that all wood special inspections be “periodic” as opposed to “continuous”, except in Sections 1705.11.1 and 1705.12.2 where continuous special inspection is required during field gluing operations of the main wind force-resisting system in certain high wind areas and of the seismic force-resisting system in seismic areas. Therefore, the special inspection frequency is usually left to the special inspector's discretion unless the structural engineer specifies a specific frequency of inspections in the Statement of Special Inspections.

### Statement of Special Inspections

IBC Section 1704.2.3 requires a “Statement of Special Inspections.” The extent and duration of special inspections, as well as their frequency, should be clearly stated. Not all buildings are created equal; therefore, when considering the statement of special inspections, the required number of inspections for specific elements should take a number of factors into



Figures 3a and 3b. Periodic special inspection is required for nailing, bolting, anchoring and other fastening of elements of the seismic and main wind force-resisting systems, including wood shear walls, wood diaphragms, drag struts, braces and hold-downs.

consideration such as complexity of construction details, the general contractor's wood construction skill and experience, building size, and staffing of the building department.

## High-Load Diaphragms

Under the 2015 IBC, section 1705.5.1 requires special inspection of high-load diaphragms designed and constructed in accordance with Section 2306.2. Per Section 1705.5.1, the special inspector is required to complete the following when inspecting high-load diaphragms:

- inspect the wood structural panel sheathing to determine whether it is the grade and thickness shown on the approved construction documents
- verify the nominal size of framing members at adjoining panel edges
- verify the nail or staple diameter and length (Figure 1)
- determine the number of fastener lines
- verify that the spacing between fasteners in each line and at edge margins agrees with the approved construction documents (Figure 2)

Additional special inspection requirements for high wind and high seismic areas are listed in Sections 1705.11.1 for wind and 1705.12.2 for seismic.

## Metal-Plate-Connected Wood Trusses Spanning 60 Feet or Greater

The 2015 IBC section 1705.5.2 requires special inspection when a metal-plate connected wood truss has a clear span of 60 feet or greater. The special inspector is required to verify that the temporary installation restraint/bracing, and the permanent individual truss member restraint/bracing, are installed in accordance with the approved truss submittal package. This section specifically requires that the owner or his/her authorized agent employ one or more approved agencies to

perform inspections on the temporary and permanent truss bracing during construction to verify installation is in accordance with the truss submittal package.

## Special Inspections for Wind and Seismic Resistance

Section 1705.11 requires special inspections for wood buildings in Exposure B areas where design wind speed,  $V_{asd}$ , as determined in accordance with Section 1609.3.1, is equal to or greater than 120 miles per hour; and in Exposures C & D areas where  $V_{asd}$  is equal to or greater than 110 miles per hour. Continuous special inspection is required during field gluing operations of elements of the main wind force-resisting system, and periodic special inspection is required for nailing, bolting, anchoring and other fastening of elements of the main wind force-resisting system, including wood shear walls, wood diaphragms, drag struts, braces and hold-downs. Section 1705.11.3 goes further to state that special inspections should include periodic inspection for fastening of the following systems and components: roof covering, roof deck, roof framing connections, exterior wall coverings, wall connections to the roof, and floor diaphragms and framing (Figure 3b).

Section 1705.12.2 requires special inspections for wood buildings when the building is located in Seismic Design Categories C, D, E or F. In these Seismic Design Categories, continuous special inspection is required during field gluing operations of elements of the seismic force-resisting system and periodic inspection is required for: nailing, bolting, anchoring and other fastening of the elements of the seismic force-resisting system, including wood shear walls (Figures 3a and 4), wood diaphragms (Figure 3b), drag struts, braces, shear panels, and hold-downs.

Sections 1705.11.1 and 1705.12.2 further provide for an exemption from special inspection for wood shear walls, shear panels, and diaphragms, including nailing bolting,

anchoring, and other fastening to other elements of the main wind force-resisting system where the diaphragm fastener spacing is greater than 4 inches. This exception is intended to exempt less highly-stressed lateral force resisting systems from special inspection. Additionally, a general exception to special inspection for seismic force resistance is provided in Section 1705.12 for buildings of light-frame construction not exceeding a building height of 35 feet and located in areas where SDS does not exceed 0.5.

The purpose of special inspection requirements in these areas is to provide additional public safety in higher wind and seismic zones, and to provide assurance for the structural engineer of record and the building department that the structure is being built in accordance with the proper design and performance specifications.

## Structural Observations

When required by Sections 1704.6.1 for those structures assigned to Seismic Design Category D, E or F or Section 1704.2 for those structures sited where  $V_{asd}$ , as determined in accordance with Section 1609.3.1 exceeds 110 mph, structural observations are to be provided on a project. Structural Observation is the visual observation of structural systems by a Registered Design Professional (i.e., licensed engineer or architect) for general conformance with approved construction documents. Structural Observation is intended to assist and supplement the work of the Building Official. Structural Observation by itself does not certify, guarantee, or ensure conformance with all of the requirements of the approved construction documents. Structural observation does not waive nor is it an alternative to the inspections in Section 110 or the special inspection requirements in Section 1705.

Typically, observation occurs during significant construction stages and at the completion of the structural system. The objective of the structural observation is

to become familiar with the progress and quality of the contractor's work, and then determine if the work is being completed in general conformance with approved plans and specifications. Observation is a contract-negotiated activity which is usually performed by the structural engineer as a part of the normal scope of services. Structural observations are mandated for certain high wind or high seismic areas, Risk Category III or IV buildings, and in other circumstances in accordance with IBC Section 1704.6. At the conclusion of the work included in the permit, the structural observer is required to submit to the building official a written statement that the site visits have been made and identify any reported deficiencies that, to the best of the structural observer's knowledge, have not been resolved.

### Conclusion

Requirement for special inspections in the model building codes have been mandated since 1961; however, special inspections pertaining to wood construction have only been required for the past twenty-five years. Structural provisions in the building codes, including those for special inspection, have evolved based on experience following natural and manmade disasters. Certain types of wood construction require special inspections per IBC Chapter 17. Most commonly specified wood products have quality control

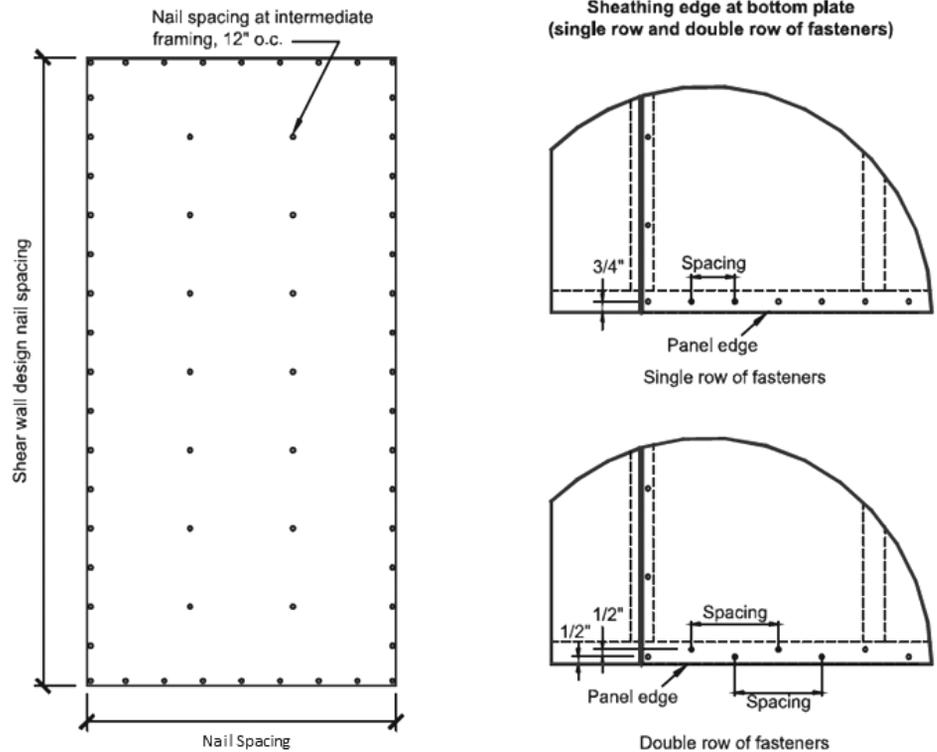


Figure 4. Shear wall nailing details.

and third-party auditing procedures in place that exempt the manufacturer from these additional requirements. High capacity (blocked) diaphragms and applications for certain high wind and high seismic zones, however, are the most common examples

where special inspections for wood construction are required. Part 2 of this article will provide perspectives from several States (based on the 2012 IBC) on suggested handling of special inspections regionally. ■

This article is the conclusion of a two-part series which discusses special inspection provisions for wood construction found in Chapter 17 of the *International Building Code* (IBC). Although the IBC is in use or adopted in 50 states, the District of Columbia, Guam, Northern Marianas Islands, New York City, the U.S. Virgin Islands, and Puerto Rico, each state and jurisdiction may not adopt the same edition of the code and/or make amendments to the code. Included are examples of special inspection provisions from California, Washington, and Wisconsin based on the 2012 IBC. The previous article (Part 1, STRUCTURE, January 2016) provided an overview of the special inspection provisions for wood construction found in the 2015 IBC.

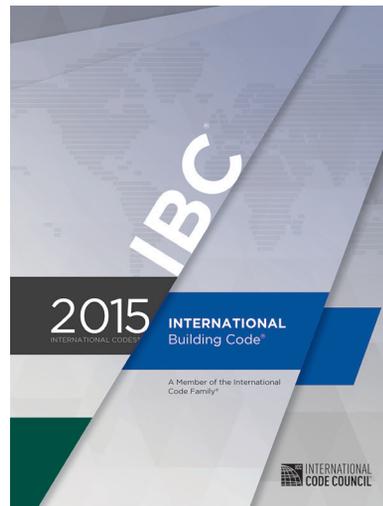
## State of California

Prior to adopting the IBC as a model code, the 2001 *California Building Code* (CBC) used the 1997 *Uniform Building Code* as a model code. Special inspection for wood construction was only required for prefabricated structural elements and not for seismic and wind force resisting systems and components. However, structural observation was required for buildings in seismic zones 3 and 4. It wasn't until the 2007 CBC that California transitioned to the 2006 IBC as the model code. The 2007 CBC was the first edition that included provisions for special inspection of seismic and wind force resisting systems and components.

### *California Agencies, Boards, Commissions and Departments*

Although this article is based on the 2015 IBC, California has yet to adopt the 2015 IBC as its model code and is in the process of developing California Amendments, which will eventually become the 2016 CBC. The CBC is part of the *California Code of Regulations, Title 24*, also referred to as the *California Building Standards Code*, and is published in its entirety every three years by order of the California legislature. The California legislature delegated authority to various state agencies, boards, commissions and departments to create building regulations to implement the state's statutes. A city, county, or city and county may establish more restrictive building standards reasonably necessary because of local climatic, geological, or topographical conditions. The current 2013 CBC and *California Residential Code* (CRC) use the 2012 IBC and 2012 *International Residential Code* (IRC) as its model codes.

Chapter 17, Structural Tests and Special Inspections, includes amendments from adopting state agencies, including: California Building Standards Commission (State owned buildings, including University and State College buildings



*Special inspection provisions for construction are found in Chapter 17 of the International Building Code (IBC).*

and all buildings not otherwise regulated by other state agencies), Department of Housing and Community Development (HCD) 1 & 2 (hotels, motels, apartments, dwellings and permanent buildings within mobile home parks), and Office of Statewide Health Planning and Development (OSHPD) 2 & 3 (skilled nursing facilities & clinics). Chapter 17, Structural Tests and Special Inspections, also includes amendments from adopting state agencies, including: Division of the State Architect-Structural Safety (public schools), Division of the State Architect-Structural Safety/Community Colleges (community colleges) and OSHPD 1 & 4 (acute-care hospitals and correctional treatment centers). However, there are no significant California Amendments for wood in Chapter 17A.

### *Significant California Amendments to IBC Chapter 17*

What follows are several significant amendments to IBC Chapter 17:

OSHPD 2: 1704.2.3 *Statement of Special Inspection* provision requires special inspections for conventional light-frame construction of Section 2308. HCD 1: 1704.2.4 *Report requirements* references provisions for the construction and inspection of factory-built housing.

OSHPD 2: 1705.5.3 *Manufactured trusses and assemblies* expands the scope of inspection for manufactured trusses and assemblies, and does not limit this to trusses with a clear span greater than or equal to 60 feet. Continuous inspection and a report are required for lumber species, grades, and moisture content; type of glue, temperature, and gluing procedure; type of metal members and metal plate connectors; and workmanship.

# CODES AND STANDARDS

updates and discussions related to codes and standards

## Special Inspections for Wood Construction – Part 2

*By David P. Tyree, P.E., C.B.O., James B. Smith, P.E., and Michelle Kam-Biron P.E., S.E.*

*David P. Tyree is the Central Regional Manager, James B. Smith is the Midwest Regional Manager, and Michelle Kam-Biron is the Director of Education at the American Wood Council, Washington, DC.*

## City of Los Angeles

The City of Los Angeles (COLA), *Los Angeles Municipal Code* (LAMC) Sixth Edition, Chapter IX Building Regulations, Article 1 Buildings, is the *Los Angeles Building Code* (LABC). The LABC adopts by reference portions of the 2013 CBC and 2012 IBC and is amended by *Ordinance Number 182850*.

### COLA Special Inspection

Significant amendments in the LABC, including *91.1704.2 Special Inspections*, require a Registered Deputy Inspector (RDI) rather than just an approved agency as stated in the CBC. In addition, the RDI shall demonstrate competence to the satisfaction of the Superintendent of Building rather than to the building official. Per *Division 2 Definitions and Abbreviations* of the LABC, the Superintendent of Building is the General Manager of the Department of Building and Safety of the City of Los Angeles or a duly authorized representative. COLA has a certification/license requirement for RDIs as required by the Chapter for structural wood. Additional sections provide extensive requirements beyond the ICB or CBC; however, there are no specific changes related to the inspection process.

There are no LABC amendments to subsection IBC or CBC subsection *1705.5 Wood Construction of Section 1705 Required Verification and Inspection*.

### COLA Structural Observation

COLA section *91.1704.5. Structural Observations* clarifies that the registered design professional in responsible charge for the structural design may perform structural observations and he/she may delegate responsibility for structural observations to another registered design professional. Also included are requirements for the owner or owner's representative to coordinate a preconstruction meeting with the engineer or architect responsible for the structural design, structural observer, contractor, affected subcontractors, and deputy inspectors. The structural observer is to preside over the meeting. The purpose of the meeting is to identify the major structural elements and connections that affect the vertical and lateral load systems of the structure, and to review scheduling of the required observations.

The LABC exempts one-story wood framed Group R-3 and Group U Occupancies less than 2000 square feet in area from structural observation that are not in Risk Category III or IV, provided the adjacent grade is not steeper than 1 unit vertical in 10 units

horizontal (10% sloped), and assigned to Seismic Design Category A through D.

The City of Los Angeles' website contains an extensive library of *Building and Safety Forms* such as Registered Deputy Building Inspectors Certificate of Compliance, Structural Observation Report Form, Architects or Engineers Certificate of Compliance, Deputy Correction Notice, etc for use, as applicable, by the design professional.

## State of Washington

The Washington Association of Building Officials (WABO) developed a Special Inspection Registration Program to create a uniform method of determining qualifications of special inspection agencies and special inspectors. The voluntary registration program is designed to provide a means of documenting special inspection and testing qualifications, and competency in various types of work cited in the IBC. The current list of special inspection categories includes:

- Reinforced Concrete (RC)
- Prestressed Concrete (PC)
- Shotcrete (SC)
- Structural Masonry (SM)
- Structural Steel and Bolting (SSB)
- Structural Welding (SW)
- Spray-applied Fire-resistive Materials (FP)
- Lateral Wood (LW)
- Cold-Formed Steel Framing (CF)
- Proprietary Anchors (PA)

For the purposes of this article, the focus will be on the Lateral Wood category.

Development of the Lateral Wood Special Inspection (LWSI) registration program was initiated by WABO a decade ago. The first version employed the special inspection requirements in Chapter 17 of the 2003 IBC. This program was a natural addition to WABO's existing Special Inspection Registration Program (SIRP) which already met other code-mandated needs for special inspections. Since that time, LWSI materials have been updated as new editions of the code are adopted. Washington currently adopts and modifies the 2012 edition of the IBC. Because critical details in the lateral force resisting framing of wood buildings are beyond the normal scope of conventional framing inspections, this program specifically targets critical building components in multi-story wood buildings that must be properly installed to withstand seismic and high-wind events.

The program aids in increasing the uniformity and quality of inspection procedures, and establishes inspector credentials. The developmental committee, consisting of code officials, engineers, and architects,

provided tools to assist in the facilitation of the program and to outline the responsibilities of the LWSI inspector. Those responsibilities include:

### General

- Authority to carry out requirements of the enforcing jurisdiction.
- Notify the jurisdiction about the type of inspection in accordance with jurisdiction requirements.
- Present for continuous inspection during execution of all work for which the special inspector has been engaged.
- Verify that the local jurisdiction inspectors have approved the conditions at the site when required.
- Submit periodic written and verbal progress reports to the local jurisdiction as required.
- Notify the contractor when discrepancies occur.
- Notify the building official of uncorrected discrepancies.
- Verify that structural plan changes are properly documented, and approved by the enforcing jurisdiction.
- Maintain records of work inspected, including discrepancies and actions taken.
- Submit final compliance reports.

### Technical

- Identify lateral force resisting systems for conformance, including shear walls, diaphragms, chords, sub-diaphragms, hold-downs, connectors, and drag struts.
- Verify placement of plates, shear walls, diaphragms, squash blocks, hold-downs, strapping, beams, and columns.
- Verify stud spacing, blocking, panel material and orientation, nail size and spacing, anchor bolt spacing, location, strap-size and location, and use of glue.

### Material Identification

- Verify wood species and grade, dimensions, sheathing material, and engineered lumber applications.
- Verify fasteners, including nails, staples, screws, and bolts for size, type, grade, and location.
- Verify hardware, including hold-downs, straps, ties, rods, nuts, anchors, engineered systems, and prefabricated panel size types and location. Verifying that the hardware specified on the plans has been installed. Reviewing and verifying manufacturer installation procedures.

## Workmanship

- Verify the proper use of materials, including appropriate cutting, notching, nailing, and member alignment.
- Verify material condition, including member damage, shipping, handling, weather impacts, and hardware.
- Verify any associated testing that should occur including pullout tests for epoxied anchor bolts.
- Review plans for associated general requirements and details for foundations, connections, beams and columns, shear walls, and diaphragms.

Through this program, local building jurisdictions can easily ascertain and approve credentials of prospective special inspectors. The program also oversees and certifies quality control agencies where inspectors are employed.

## State of Wisconsin

Wisconsin has had a state-wide commercial building code since their Safe Place Statutes were first put in place in 1913. The ensuing *Wisconsin Commercial Building Code* (WCBC) was developed and went into effect in 1914. Although the use of model codes was being considered in the late 1970s, it was not until 1998 that the State of Wisconsin began the rulemaking process that would consider the then proposed I-Codes for adoption as the state-wide WCBC.

Early editions of the WCBC aligned the plan review arm of enforcement with a few of the larger cities that had building inspection departments and with the State agency assigned stewardship of the Safe Place Statutes. Inspections were conducted by those larger cities and the State agency staff. State law placed the greatest responsibility for safe

places on the owner, and safe construction of those buildings on supervision by architects or engineers. Understanding the limited role that building departments were expected to take in the requirement for providing a safe place, the Administration section of the WCBC included language to reinforce that it is the responsibility of the owner and architect.

By 1976, the WCBC added language to clarify the Wisconsin design professional's responsibility to ensure that all commercial buildings over 50,000 cubic feet total volume were constructed in accordance with the design plans and comply with the WCBC.

The WCBC requirements for a supervising professional cover all aspects of the code. Registered architects and professional engineers functioning as supervising professionals can hire specialists to monitor/inspect special aspects of a project that are deemed critical. The WCBC only included specifics associated with pile foundations and protection of adjoining property (underpinning). At the time the model code provisions associated with Special Inspections were being considered in 1999, it was determined that the methodology in place in Wisconsin corresponded to and in some ways exceeded the provisions for Special Inspection that existed in Chapter 17 of the 2000 *International Building Code*. Accordingly, the entirety of IBC Chapter 17 was removed from state-wide adoption.

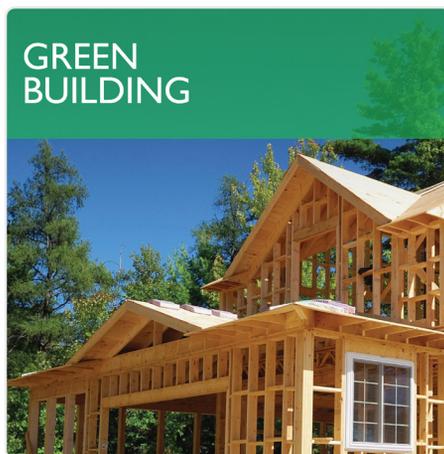
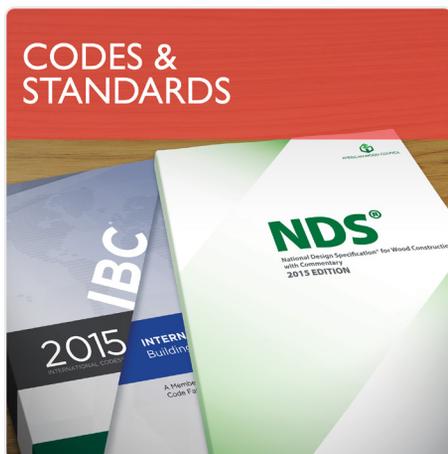
Shortly after the first adoption, it was recognized that there were many provisions within Chapter 17 that would be advantageous to users of the code while not conflicting with the state's Supervising Professional methodology. Accordingly, when the 2006 edition of the IBC was adopted in 2008, the important provisions for in-situ load testing and preconstruction load testing were included.

Wisconsin currently adopts and modifies the 2009 IBC by only specifying requirements in IBC sections 1711 (Design Strengths of Materials), 1712 (Alternative Test Procedure), 1713 (Test Safe Load), 1714 (In-situ Load Tests), 1715 (Preconstruction Load Tests) and 1716 (Material and Test Standards). The provisions normally associated with special inspections elsewhere in the United States are currently excluded.

Even though the original intent was to allow local municipalities the option to adopt the excluded provisions, the changes made within 2013 Act 270 established the WCBC as a uniform code. Accordingly, the administrative rules that create the WCBC will have to be changed in order to use the Special Inspection program outlined in IBC Chapter 17 or allow programs as implemented in the States of California and Washington. The State of Wisconsin is currently in the middle of their process to evaluate the 2015 edition of the IBC for adoption as the statewide uniform commercial building code.

## Conclusion

Each state and jurisdiction can make amendments to the code. Chapter 17 of the IBC dealing with special inspections is not immune from this practice. This article provides perspectives from the states of California, Washington, Wisconsin, and the City of Los Angeles regarding special inspection provisions for wood construction. Structural engineers play an important role in the special inspection process, and all owners and design professionals should be aware of the importance of special inspection in providing a safe, code-compliant building. ■



## AMERICAN WOOD COUNCIL

The American Wood Council (AWC) is the voice of North American traditional and engineered wood products, representing over 75% of the industry. AWC's engineers, technologists, scientists, and building code experts develop state-of-the-art engineering data, technology, and standards (e.g. NDS) on structural wood products for use by design professionals, building officials, and wood products manufacturers to assure the safe and efficient design and use of wood structural components.