

Built to Resist Earthquakes

The Path to Seismic Design and Construction for Architects, Engineers, Inspectors



ATC/SEAOC Training Curriculum Contents

INSTRUCTIONAL MATERIALS (LESSONS).

The heart of the training curriculum is a compendium of instructional materials (lessons) on seismic design, inspection, construction and retrofit of wood frame buildings, concrete and masonry buildings, and building nonstructural components. These materials consist of in-depth descriptions of various issues and approaches for improving the quality of seismic design and construction. The textual information is supplemented with drawings and illustrations as well as photographs and other graphical information. Following is a list of the lessons (with subsections) included in the training curriculum.

- **Lesson W1:** The Load Path in Wood-Frame Construction
- **Lesson W2:** Improving the Earthquake Performance of Wood-Frame Construction
 - Section 2.1:* Diaphragms
 - Section 2.2:* Shear Walls
 - Section 2.3:* Connections Between Seismic Elements
 - Section 2.4:* Foundation Systems
 - Section 2.5:* Irregular Configurations
 - Section 2.6:* Design Issues in Buildings with Concrete or Masonry Walls
- **Lesson W3:** Seismic Retrofitting of Wood-Frame Construction—Special Considerations
 - Section 3.1:* Retrofitting Multi-Family Residential Buildings with Soft First Story
 - Section 3.2:* Out-of-Plane Anchorage Retrofit of Diaphragm-to-Wall Connections in Concrete-Wall and Masonry-Wall Buildings
- **Lesson C1:** The Load Path in Concrete and Masonry Construction
- **Lesson C2:** Improving the Earthquake Performance of Concrete and Masonry Construction
 - Section 2.1:* Masonry Construction (Materials and Placement)
 - Section 2.2:* Reinforced Concrete Construction (Materials, Cast-in-Place Concrete Placement, Shotcrete, Precast Concrete)
 - Section 2.3:* Reinforcing Steel
- **Lesson C3:** Seismic Retrofitting Issues in Concrete and Masonry Construction—Special Considerations
 - Section 3.1:* In-Situ Testing and Material Properties
 - Section 3.2:* Unforeseen Conditions
 - Section 3.3:* Fiber-Reinforced Composite Systems
- **Lesson N1:** General Seismic Considerations of Nonstructural Building Components
- **Lesson N2:** Improving the Earthquake Performance of Typical Nonstructural Building Components
 - Section 2.1:* Architectural: Interior Suspended Ceilings
 - Section 2.2:* Architectural: Interior Partitions
 - Section 2.3:* Architectural: Glazing
 - Section 2.4:* Architectural: Glass Block and other Nonstructural Masonry
 - Section 2.5:* Architectural: Cladding
 - Section 2.6:* Architectural: Parapets
 - Section 2.7:* Mechanical and Electrical: Floor- or Roof-Mounted Equipment
 - Section 2.8:* Mechanical and Electrical: Suspended Equipment, Ducts and Pipes
 - Section 2.9:* Mechanical: Water Heaters
 - Section 2.10:* Electrical: Interior Lights

(Over)

BRIEFING PAPERS*:

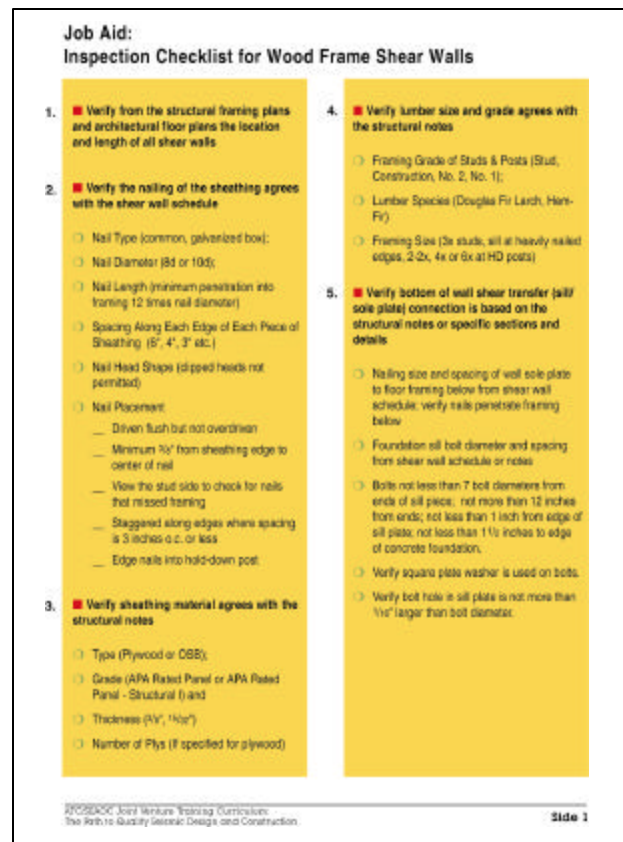
The training curriculum also contains two-color Briefing Papers, divided into parts containing no more than four pages. The Briefing Papers cover the following topics:

- **Briefing Paper 1:** Building Safety and Earthquakes (Parts A, B, C, and D, 14 pages, total)
- **Briefing Paper 2:** Roles and Responsibilities of Engineers, Architects, and Code Enforcement Officials (Parts A and B, 8 pages)
- **Briefing Paper 3:** Seismic Response of Wood-Frame Construction (Parts A, B and C, 10 pages)
- **Briefing Paper 4:** Seismic Response of Concrete and Masonry Buildings (Parts A, B, C, and D, 12 pages)
- **Briefing Paper 5:** Seismic Response of Nonstructural Components (Parts A, B and C, 12 pages)
- **Briefing Paper 6:** Seismic Code Requirements for Anchorage of Nonstructural Components (Parts A and B, 8 pages)

JOB AIDS*

Job Aids, which were developed for various specific disciplines (e.g., design professionals and inspectors), include two-color, laminated check lists (see sample) and other forms of information to facilitate the improvement in quality of seismic design and construction. Following is a list of Job Aids provided in the training curriculum:

- **Job Aid for Wood-Frame Construction:** Inspection Checklist for Wood-Frame Shear Walls
- **Job Aids for Masonry Construction:** (1) Designer Checklist for Masonry Construction; (2) Inspection Checklist for Masonry Construction
- **Job Aid for Concrete Construction:** Class B Lap Splice Table
- **Job Aids for Nonstructural Components:** (1) Standard Detail for Bracing of Suspended Ceilings and Standard Detail for Bracing Interior Non-Load-Bearing Partitions, with supporting documentation conforming to the 1997 *Uniform Building Code*; (2) Roles and Responsibilities Coordination Matrix for Nonstructural Building Component Seismic Anchorage or Bracing.



ADDITIONAL INFORMATION: Copies of the ATC/SEAOC Joint Venture training curriculum can be obtained from the Applied Technology Council, 555 Twin Dolphin Drive, Suite 550, Redwood City, California 94065 (phone, 650/595-1542; fax, 650/593-2320; e-mail, atc@atcouncil.org; web site, www.atcouncil.org). See online store for price and shipping information.

* The two-color Briefing Papers and Job Aids can also be downloaded in PDF format from ATC's web site (www.atcouncil.org). The web site also contains a Standard Detail for Bracing of Suspended Ceilings and a Standard Detail for Bracing Interior Non-Load-Bearing Partitions, with supporting documentation conforming to the 1997 *Uniform Building Code*, in CAD format.