Practical Detailing for Mid-Rise Wood Frame Buildings

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February 23 & 24, 2016

Disclaimer: This presentation was developed by a third party and is not funded by WoodWorks or the Softwood Lumber Board.
Type VA Detailing

- 1 Hour Rated Floor
- 1 Hour Rated Wall
- Rated from Both Sides
Type VA Detailing

- 1 Hour Rated Floor
- 1 Hour Rated Wall
- Rated from Inside Only
Type IIIA Detailing

- 1 Hour Rated Floor
- 2 Hour Rated Wall
- Fire Retardant Treated
- Rated from Both Sides
Type IIIA Detailing

- 1 Hour Rated Floor
- 2 Hour Rated Wall
- Fire Retardant Treated
  - Wall Framing
  - Wall Sheathing
- Rated from Both Sides
Type IIIA Detailing

- 1 Hour Rated Floor
- 2 Hour Rated Wall
- Fire Retardant Treated
  - Wall Framing
  - Wall Sheathing
  - Rim Beam
- Rated from Both Sides
Type IIIA Detailing

- 1 Hour Rated Floor
- 2 Hour Rated Wall
- Fire Retardant Treated
  - Wall Framing
  - Wall Sheathing
  - Rim Beam
  - Floor Joists for at least 10’ & individually wrapped with GWB
- Rated from Both Sides
Type IIIA Detailing
Type IIIA Detailing

- 1 Hour Rated Floor
- 1 Hour Rated Non-Bearing Wall
- Fire Retardant Treated
Type IIIA Detailing

- 1 Hour Rated Floor
- 1 Hour Rated Non-Bearing Wall
- Fire Retardant Treated
Type IIIA Detailing

- 1 Hour Rated Floor
- 2 Hour Rated Wall
- Fire Retardant Treated
- Rated from Both Sides
Type IIIA Detailing

- 1 Hour Rated Floor
- 2 Hour Rated Non-Bearing Wall
- Fire Retardant Treated
- Fire Coated Plywood
Type IIIA Detailing

- 1 Hour Rated Floor
- 2 Hour Rated Non-Bearing Wall
- Fire Retardant Treated
- Fire Coated Plywood
Interior Wall Detailing

- 1 Hour Rated Floor
- Non-Rated Wall
Interior Wall Detailing

- 1 Hour Rated Floor
- 1 Hour Rated Wall
Interior Wall Detailing

- 1 Hour Rated Floor
- 1 Hour Rated Demising Wall
- Fire Blocking Required
Interior Wall Detailing

- 1 Hour Rated Floor
  - Parallel Framing
- 2 Hour Rated Wall
Interior Wall Detailing

- 1 Hour Rated Floor
  - Perpendicular Framing
- 2 Hour Rated Wall
- Fire Coated Plywood
Interior Wall Detailing

- 1 Hour Rated Floor
  - Perpendicular Framing
- 2 Hour Rated Wall
- Fire Coated Plywood
Interior Wall Detailing

• 1 Hour Rated Wall
• 2 Hour Rated Wall
Interior Wall Detailing

- 2 Hour Rated Floor
- 1 Hour Rated Wall - NLB
Interior Wall Detailing

- 2 Hour Rated Floor
- 2 Hour Rated Wall – Load Bearing
Corridor Wall Detailing

- 1 Hour Rated
- Load Bearing
- STC 50 min
- GA File No WP 3242
  - (For acoustics)
Corridor Wall Detailing

- 1 Hour Rated
- Load Bearing
- Shear Wall
- **NOT** STC 50 min
- GA File No WP 3242 Sim
  - (For acoustics)
Corridor Wall Detailing

- 1 Hour Rated
- Load Bearing
- Shear Wall
- Sound Board
- STC 50 min
- NGC 2011058
  - (For acoustics)
Corridor Wall Detailing

- 1 Hour Rated
- Load Bearing
- Shear Wall
- Staggered Stud
- STC 50 min
- GA File No 3910
  - (For acoustics)
Corridor Wall Detailing

- 1 Hour Rated
- Load Bearing
- Shear Wall
- Staggered Stud
- STC 50 min
- GA File No 3910
  - (For acoustics)
Corridor Ceiling Detailing

- 1 Hour Rated
- 6x10 Beams
- 14” I Joists
- MEPF Within Rated Enclosure
Corridor Ceiling Detailing

- 1 Hour Rated
- Heavy Timber Construction
- 3x Flooring
- MEPF Outside Rated Enclosure
Corridor Ceiling Detailing

- 1 Hour Rated
- 9 ½” I Joists
- Dropped Ceiling
- MEPF Outside Rated Enclosure
Balcony Detailing

- Bolt On Balcony
  - Aluminum or Steel
  - Sprinkler Requirements
  - Floor Area Implications
Balcony Detailing

- Framed Balcony
  - Decking Options
  - Review Tested Assemblies
- Step and Slope Limitations
  - Review for Accessibility
- Venting Requirements
- Waterproofing Implications
Shaft Wall Detailing

- Mechanical
  - 2 hour rating thru 1 hour wall
  - One side with shaft wall for access
Shaft Wall Detailing

- Stair
  - Rating Continuous
  - Only Beams Penetrate Shaft
  - Secondary Stair Framing
  - Furred wall for MEPF
Shaft Wall Detailing

- Elevator
  - Beam at Door Opening
  - C-T Shaft Wall
Fire Wall Detailing

• Structurally Dependent
  o Seattle Only
Fire Wall Detailing

- Structurally Independent
- UL U336
  - (2) 1” Shaft Wall
  - H Studs
  - ¾” Air Gap
  - Non rated wood walls
  - Breakaway clips
Fire Wall Detailing

- Structurally Independent
- Two Wood Frame Walls
- Plywood Non-continuous
- Fire Coated Plywood at Rim
Fire Wall Detailing

- Structurally Independent
- Two Wood Frame Walls
- Plywood Continuous
- Fire Coated Plywood at Rim
- Fire Coated Plywood at Wall Gap
Fire Wall Detailing

- Structurally Independent
- Masonry Walls
- Furred Plumbing Walls
Structural Column and Beam Detailing

- Column Protection
  - 8x8 = 1 layer GWB w/ cover
  - 4x4 = 2 layers GWB w/ cover
  - Wood = ?
Structural Column and Beam Detailing

Column Protection

- $4 \times 4 = 2 \times 8$ wall minimum
- Wood = ?
Structural Column and Beam Detailing

- Beam Protection
  - Spray Applied Fire Resistant Material
Questions?

This concludes The American Institute of Architects Continuing Education Systems Course

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