

# PARTITION SEPARATION PREVENTION AND SOLUTIONS

## WHAT IS PARTITION SEPARATION?

Partition separation is cracking that develops between interior partition walls and ceiling or floor finishes, usually characterized by gaps that open in the winter and close in the summer.

## WHAT CAUSES PARTITION SEPARATION?

### Building Settlement

- Footings improperly sized for soil-bearing capacity.
- Shallow footings, subject to freeze / thaw cycles.
- Footings at or near seasonally fluctuating water tables. Many clay soils expand and contract as water migrates in and out. This results in a reaction with building systems, which may erroneously appear as roof truss uplift.

### INCONSISTENT FRAMING PRACTICES

- Uneven stud lengths.
- Trusses designed with bottom chord camber may not be dealt with appropriately in the field.

### MOISTURE EFFECTS

- Individual wood member used in a typical platform-framed structure shrink and swell significantly on a seasonal basis, due to changes in moisture content.

### DEFLECTION

- When a floor system or supporting beam is not stiff enough to carry all applied load, excessive deflection occurs, and the finish may crack.

### TRUSS ARCHING

- According to the best available data, roof truss movement is responsible for approximately 20% of the reported cases of partition separation. This movement is typically due to differences in the moisture content between the top and bottom chords of the truss. Arching has not been associated with structural problems such as truss failure. In fact, the stresses that cause roof truss arching or uplift testify to the structural integrity of metal plate connected wood trusses.

### COMBINATION OF FACTORS

- Partition separation is often caused by a combination of these factors.

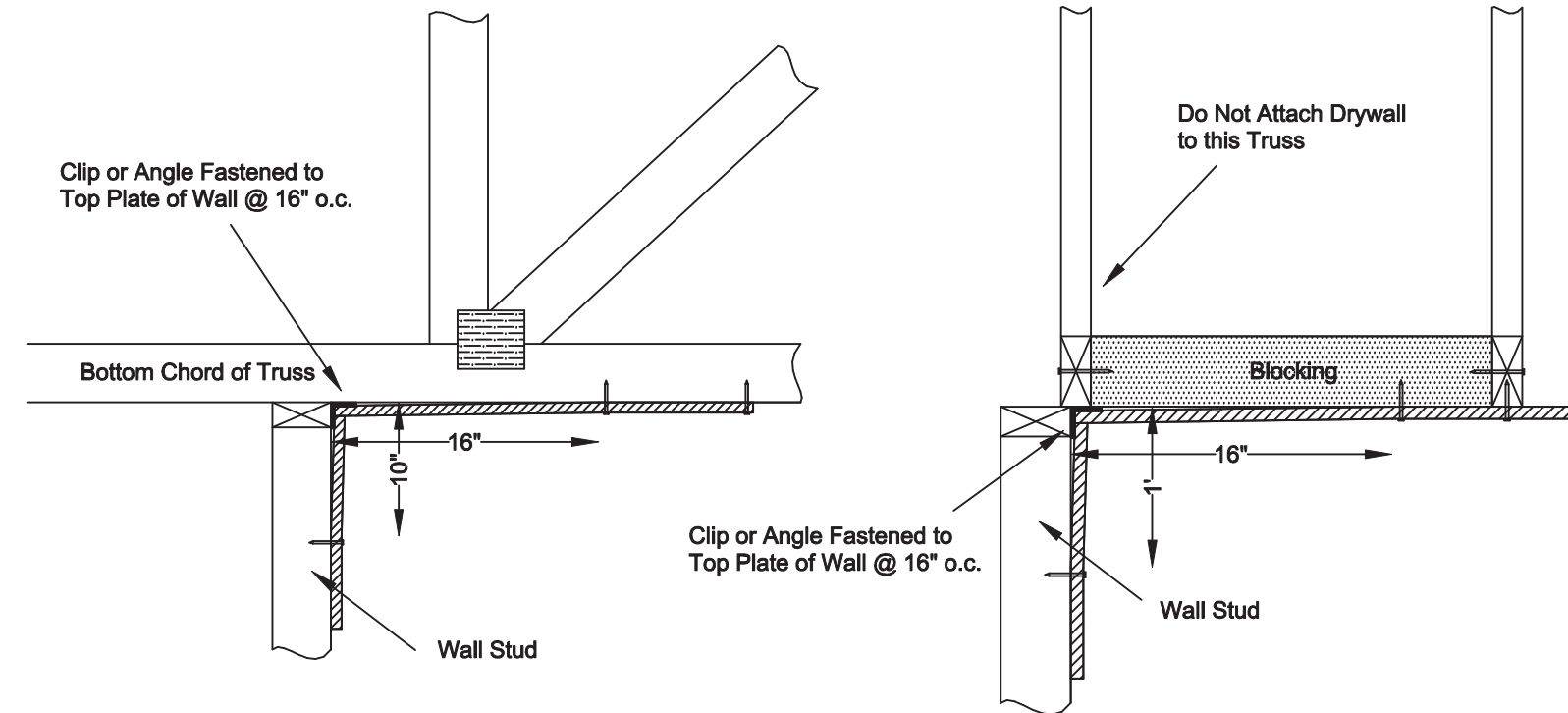
## PREVENTING PARTITION SEPARATION

Preventive action during construction is the best way to avoid costly repair work.

- In many cases, installing properly balanced attic ventilation helps prevent partition separation. Ventilation exhausts moisture from the air in the attic space. Continuous eave and ridge ventilation is most effective; however, it must be properly sized to handle exhausting the air volume within the attic space.

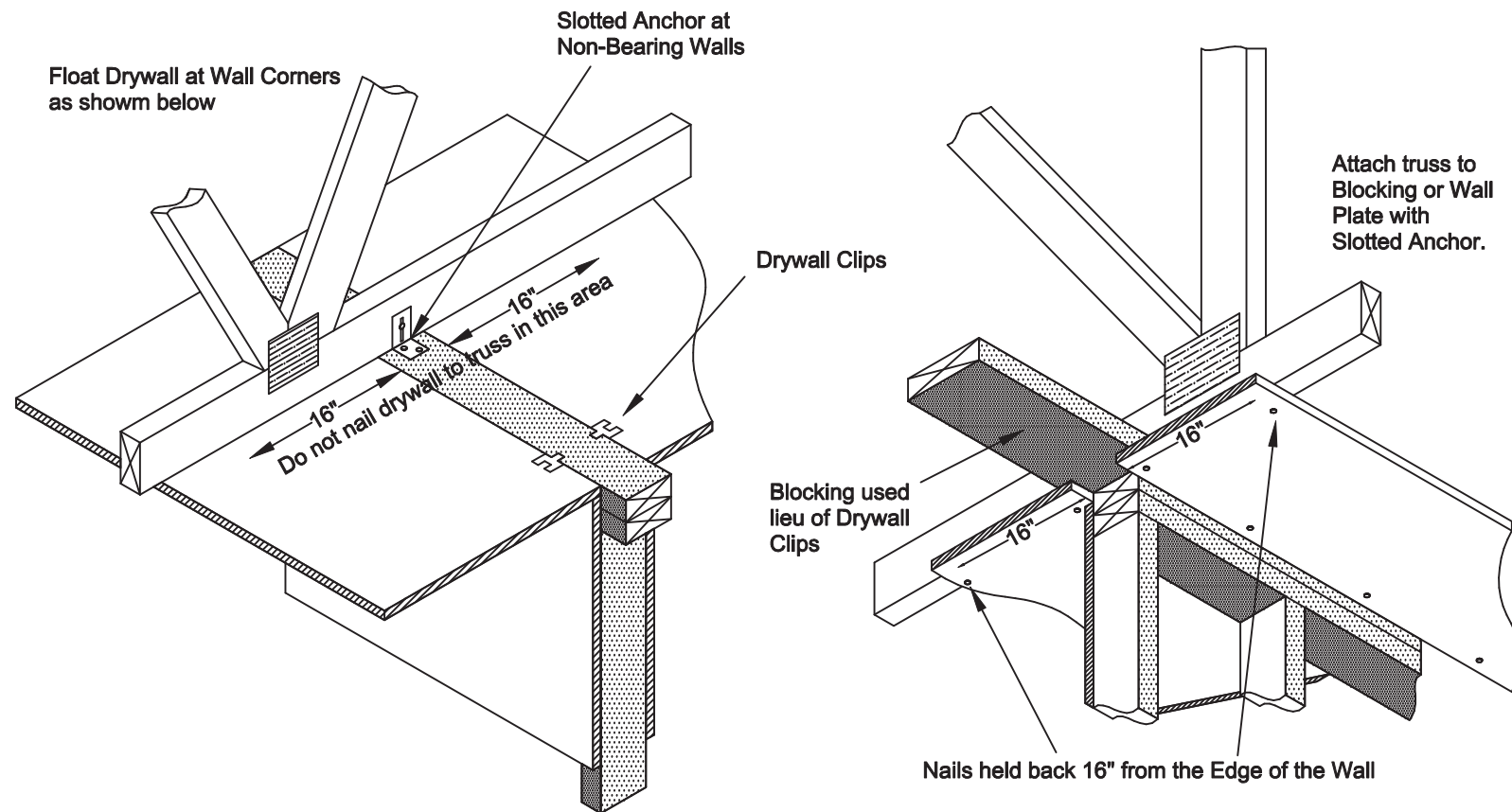
- A floating gypsum corner should be used, where appropriate. The Gypsum Association "Recommended Specifications for the Application and Finishing of Gypsum Board, GA-216", states that the floating angle method of application should be used to minimize the possibility of fastener popping and cracking in areas adjacent to a wall and ceiling intersection.

The details at right have proven effective in minimizing these problems.



FLOATING DRYWALL CORNER  
(Truss Parallel to Wall)

FLOATING DRYWALL CORNER  
(Truss Perpendicular to Wall)



USE OF DRYWALL CLIPS AND SLOTTED ANCHOR ON NON-BEARING WALL

USE OF BACK BLOCKING ON A NON-BEARING WALL