

# SSMA

Steel Stud Manufacturers Association <a href="https://www.ssma.com">www.ssma.com</a>

# **Cold-Formed Steel Details**

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# **DISCLAIMER**

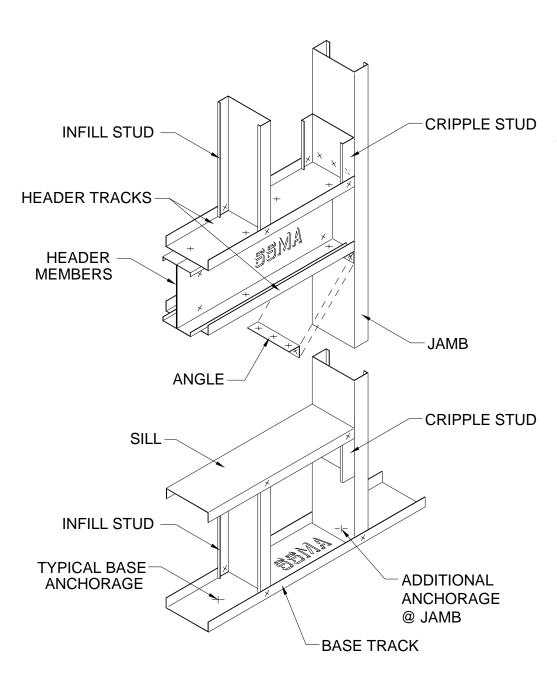
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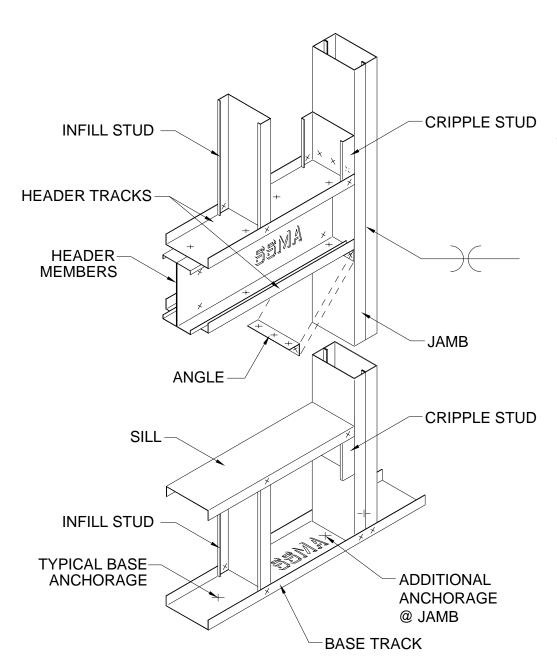


# Window - Load Bearing Back to Back Header Single Jamb

# **ADVANTAGES:**

- 1. Use of cripple stud to receive head/sill tracks at the jamb studs helps maintain alignment of finishes.
- 2. Back to back header reduces web-crippling reinforcement requirements.
- 3. Using a wider flange and thicker jamb stud material reduces cost of installation compared to built-up jamb studs.
- 4. Using a wider flange reduces possibility of installing a wall stud as a jamb stud.

- I. Requires the clip angle below the head track to be sized to transfer the vertical load from the head into the jamb.
- 2. Back to back headers will not provide backing for attaching window covering support.
- 3. High-end reactions for single web jamb studs may require reinforcement to reduce web-crippling failure.

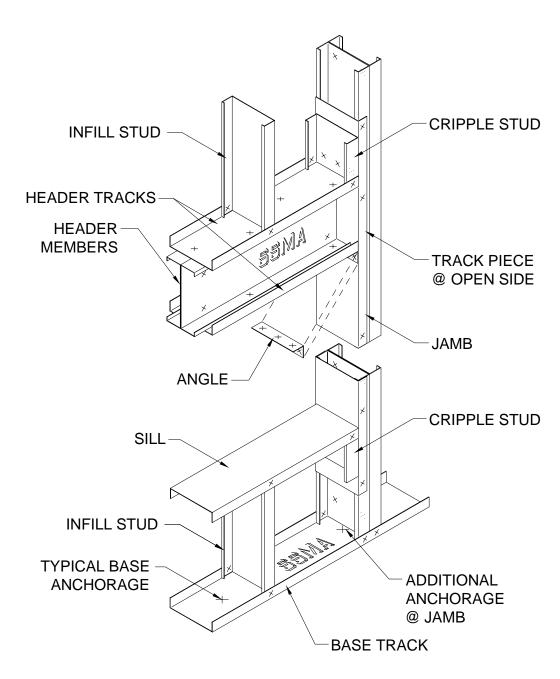


# Window - Load Bearing Back to Back Header Boxed Jamb

# **ADVANTAGES:**

- 1. Use of cripple stud to receive head/sill tracks at the jamb studs helps maintain alignment of finishes.
- 2. Back to back header reduces web-crippling reinforcement requirements.
- 3. Boxed jamb studs welded together reduces material build-up and finish problems.

- I. Requires the clip angle below the head track to be sized to transfer the vertical load from the head into the jamb.
- 2. Back to back headers will not provide backing for attaching window covering support.
- 3. High-end reactions for single web jamb studs may require reinforcement to reduce web-crippling failure.
- 4. Requires 43 mil and thicker jamb stud material so weld can be made easily.

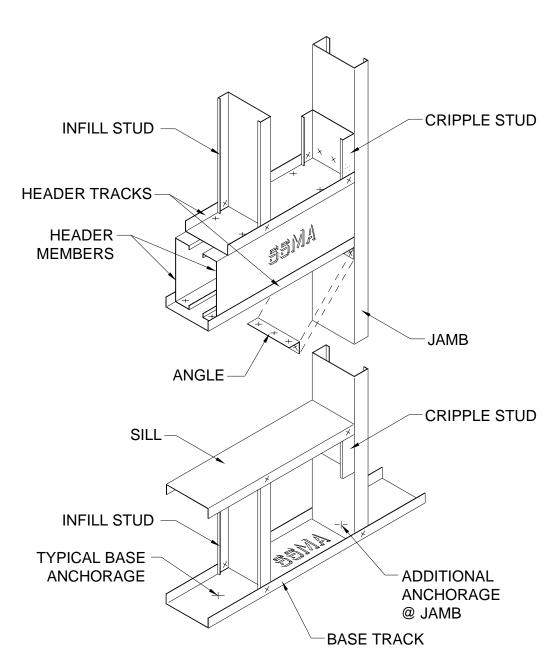


# Window - Load Bearing Back to Back Header Back to Back Jamb

# **ADVANTAGES:**

- 1. Use of cripple stud to receive head/sill tracks at the jamb studs helps maintain alignment of finishes.
- 2. Back to back header reduces web-crippling reinforcement requirements.
- 3. Using a back to back jamb with a track cap piece at the opening eliminates welding so that thinner material can be used depending on the load requirements.
- 4. Reduces the need to reinforce the web at the end reactions of the jamb studs.

- I. Requires the clip angle below the head track to be sized to transfer the vertical load from the head into the jamb.
- 2. Back to back headers will not provide backing for attaching window covering support.
- 3. Material build-up at the jamb stude can cause finish and window frame problems.

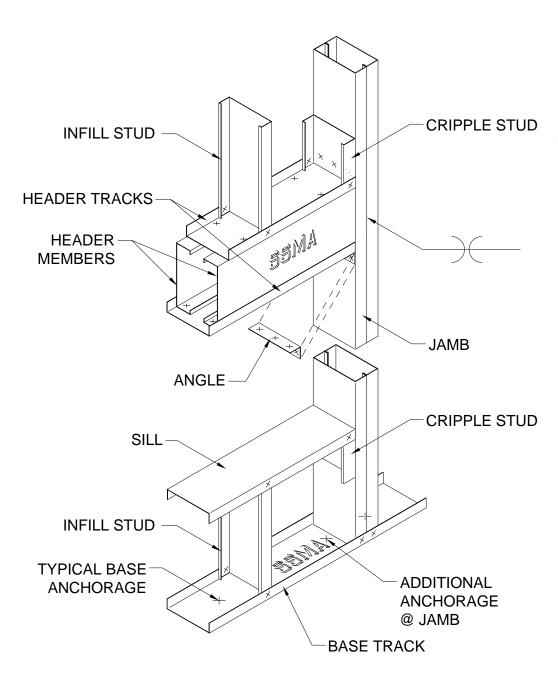


# Window - Load Bearing Boxed Header Single Jamb

# **ADVANTAGES:**

- 1. Use of cripple stud to receive head/sill tracks at the jamb studs helps maintain alignment of finishes.
- 2. Boxed header members provide backing for attachment of window covering support.
- 3. Using a wider flange and thicker jamb stud material reduces cost of installation compared to built-up jamb studs.
- 4. Using a wider flange reduces possibility of installing a wall stud as a jamb stud.

- I. Requires the clip angle below the head track to be sized to transfer the vertical load from the head into the jamb.
- 2. Boxed header increases web-crippling reinforcement being required at each end of the header vs. back to back headers.
- 3. High-end reactions for single web jamb studs may require reinforcement to reduce web-crippling failure.

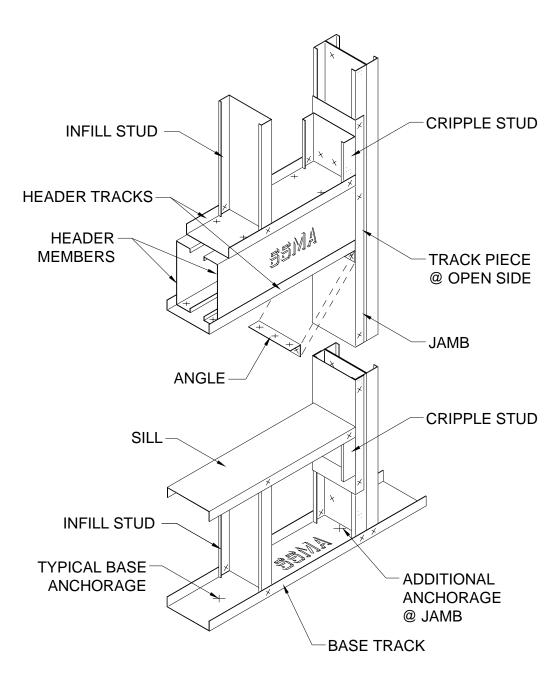


# Window - Load Bearing Boxed Header Boxed Jamb

# **ADVANTAGES:**

- 1. Use of cripple stud to receive head/sill tracks at the jamb studs helps maintain alignment of finishes.
- 2. Boxed jamb studs welded together reduces material build-up and finish problems.
- 3. Boxed header members provide backing for attachment of window covering support.

- I. Requires the clip angle below the head track to be sized to transfer the vertical load from the head into the jamb.
- 2. Boxed header increases web-crippling reinforcement being required at each end of the header vs. back to back headers.
- 3. High-end reactions for single web jamb studs may require reinforcement to reduce web-crippling failure.
- 4. Requires 43 mil and thicker jamb stud material so weld can be made easily.

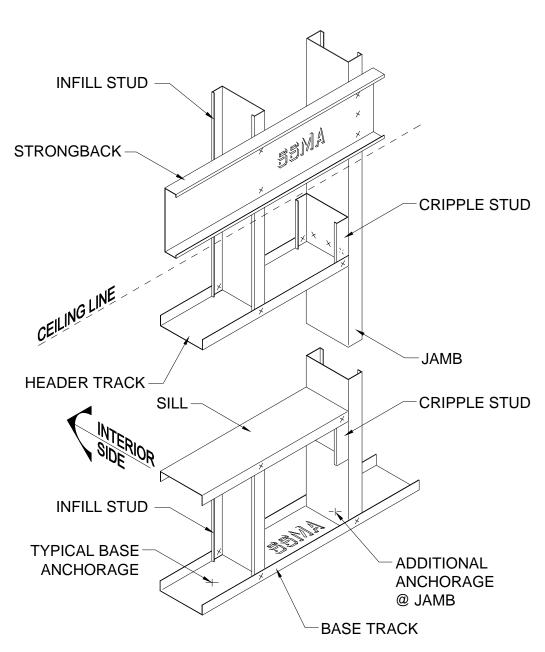


# Window - Load Bearing Boxed Header Back to Back Jamb

# ADVANTAGES:

- 1. Use of cripple stud to receive head/sill tracks at the jamb studs helps maintain alignment of finishes.
- 2. Boxed jamb studs welded together reduces material build-up and finish problems.
- 3 Using a back to back jamb with a track cap piece at the opening eliminates welding so that thinner material can be used depending on the load requirements.
- 4. Reduces the need to reinforce the web at the end reactions of the jamb studs.

- I. Requires the clip angle below the head track to be sized to transfer the vertical load from the head into the jamb.
- 2. Boxed header increases web-crippling reinforcement being required at each end of the header vs. back to back headers.
- 3. Material build-up at the jamb stude can cause finish and window frame problems.

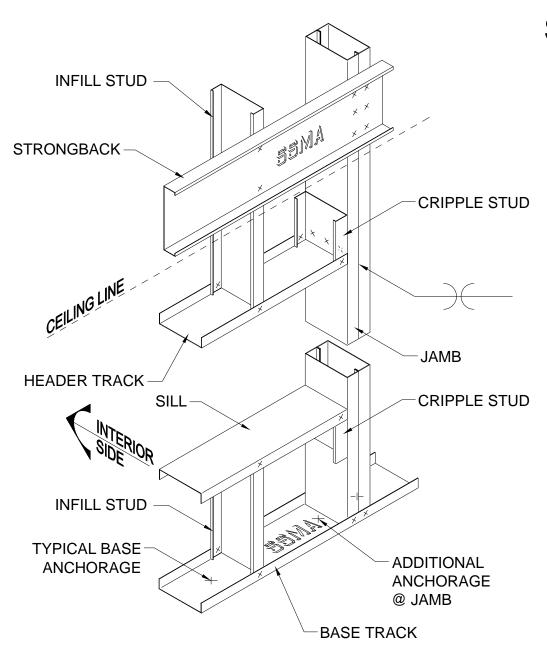


# Window - Load Bearing Single Header with Strongback Single Jamb

# **ADVANTAGES:**

- 1. Use of cripple stud to receive head/sill tracks at the jamb studs helps maintain alignment of finishes.
- 2. Strongback header minimizes number of members to be installed vs. back to back or boxed header.
- 3. Using a wider flange and thicker jamb stud material reduces cost of installation compared to built-up jamb studs.
- 4. Using a wider flange reduces possibility of installing a wall stud as a jamb stud.
- 5. Provides good vertical load transfer at each strongback header into jamb stud.
- 6.Reduces web-crippling reinforcement being required at end of strongback header.

- I. Requires a ceiling being installed to hide vertical strongback.
- 2. Strongback would interfere with installing interior wall covering at the strongback.
- 3. Back to back headers will not provide backing for attaching window covering support.
- 4. May require a thicker or wider flange head track member with only one member being installed to resist the horizontal load from the opening.

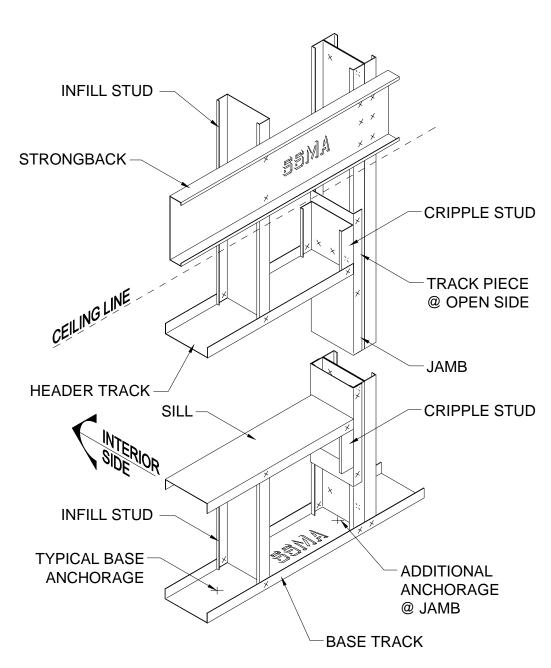


# Window - Load Bearing Single Header with Strongback Boxed Jamb

# **ADVANTAGES:**

- 1. Use of cripple stud to receive head/sill tracks at the jamb studs helps maintain alignment of finishes.
- 2.Strongback header minimizes number of members to be installed vs. back to back or boxed header.
- 3. Boxed jamb studs welded together reduces material build-up and finish problems.
- 4. Provides good vertical load transfer at each strongback header into jamb stud.
- 5. Reduces web-crippling reinforcement being required at end of strongback header.

- I. Requires a ceiling being installed to hide vertical strongback.
- 2. Strongback would interfere with installing interior wall covering at the strongback.
- 3. High-end reactions for single web jamb studs may require reinforcement to reduce web-crippling failure.
- 4. May require a thicker or wider flange head track member with only one member being installed to resist the horizontal load from the opening.
- 5.Requires 43 mil and thicker jamb stud material so weld can be made easily.



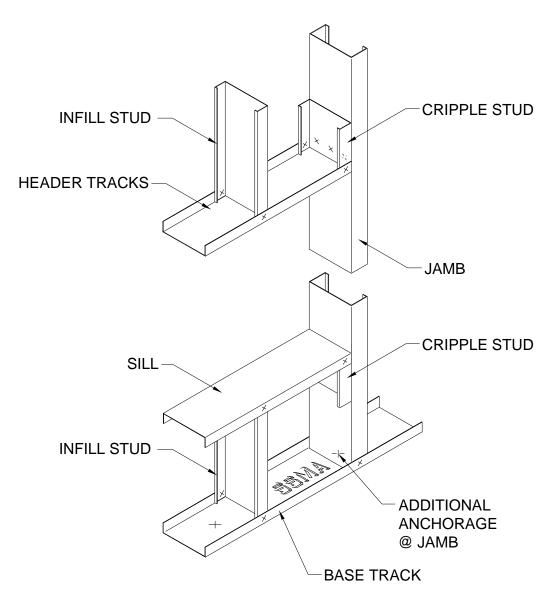
# Window - Load Bearing Single Header with Strongback Back to Back Jamb

# **ADVANTAGES:**

- 1. Use of cripple stud to receive head/sill tracks at the jamb studs helps maintain alignment of finishes.
- 2.Strongback header minimizes number of members to be installed vs. back to back or boxed header.
- 3. Using a back to back jamb with a track cap piece at the opening eliminates welding so that thinner material can be used depending on the load requirements.
- 4. Reduces the need to reinforce the web at the end reactions of the jamb studs.
- 5. Provides good vertical load transfer at each strongback header into jamb stud.
- 6.Reduces web-crippling reinforcement being required at end of strongback header.

- I. Requires a ceiling being installed to hide vertical strongback.
- 2. Strongback would interfere with installing interior wall covering at the strongback.
- 3. Material build-up at the jamb studes can cause finish and window frame problems.
- 4. May require a thicker or wider flange head track member with only one member being installed to resist the horizontal load from the opening.

# Window - Non-Load Bearing Single Track Header Single Jamb



# **ADVANTAGES:**

- 1. Use of cripple stud to receive head/sill tracks at the jamb studs helps maintain alignment of finishes.
- 2. Using a wider flange and thicker jamb stud material reduces cost of installation compared to built-up jamb studs.
- 3. Using a wider flange reduces possibility of installing a wall stud as a jamb stud.

# **DISADVANTAGES:**

I. High-end reactions for single web jamb studs may require reinforcement to reduce web-crippling failure.

# **CRIPPLE STUD INFILL STUD** HEADER TRACKS JAMB **CRIPPLE STUD** SILL-**INFILL STUD ADDITIONAL ANCHORAGE** @ JAMB **BASE TRACK**

# Window - Non-Load Bearing Single Track Header Boxed Jamb

# **ADVANTAGES:**

- 1. Use of cripple stud to receive head/sill tracks at the jamb studs helps maintain alignment of finishes.
- 2. Boxed jamb studs welded together reduces material build-up and finish problems.

- I. High-end reactions for single web jamb studs may require reinforcement to reduce web-crippling failure.
- 2. Requires 43 mil and thicker jamb stud material so weld can be made easily.

# **CRIPPLE STUD INFILL STUD** HEADER TRACKS TRACK PIECE JAMB TRACK PIECE **CRIPPLE STUD** SILL-**INFILL STUD ADDITIONAL ANCHORAGE** @ JAMB **BASE TRACK**

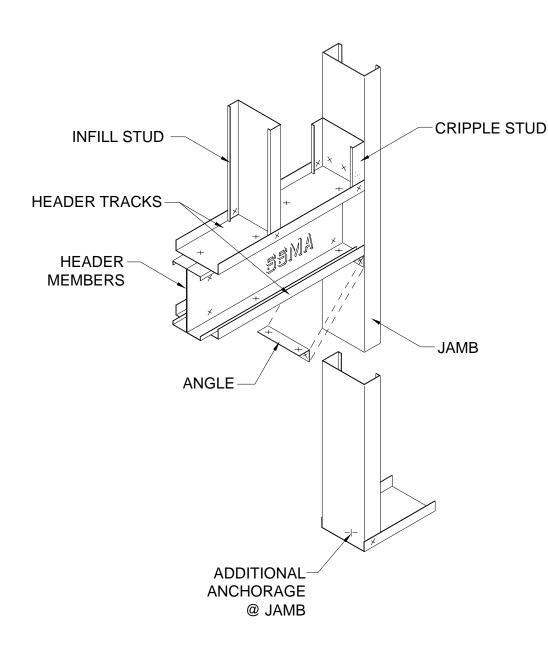
# Window - Non-Load Bearing Single Track Header Back to Back Jamb

# **ADVANTAGES:**

- 1. Use of cripple stud to receive head/sill tracks at the jamb studs helps maintain alignment of finishes.
- 2. Using a back to back jamb with a track cap piece at the opening eliminates welding so that thinner material can be used depending on the load requirements.
- 3. Reduces the need to reinforce the web at the end reactions of the jamb studs.

# DISADVANTAGES:

I. Material build-up at the jamb studs can cause finish and window frame problems.

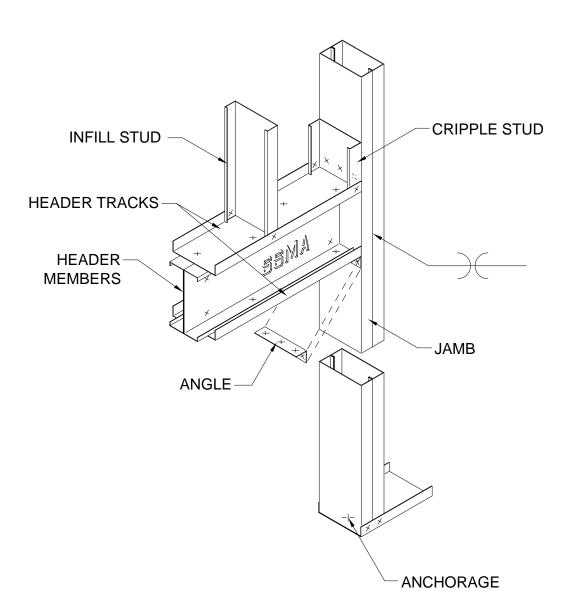


# Door - Load Bearing Back to Back Header Single Jamb

# **ADVANTAGES:**

- 1. Use of cripple stud to receive head/sill tracks at the jamb studs helps maintain alignment of finishes.
- 2. Back to back header reduces web-crippling reinforcement requirements.
- 3. Using a wider flange and thicker jamb stud material reduces cost of installation compared to built-up jamb studs.
- 4. Using a wider flange reduces possibility of installing a wall stud as a jamb stud.

- I. Requires the clip angle below the head track to be sized to transfer the vertical load from the head into the jamb.
- 2. Back to back headers will not provide backing for attaching window covering support.
- 3. High-end reactions for single web jamb studs may require reinforcement to reduce web-crippling failure.
- 4. Base track may require reinforcement with clip angle and direct attachment to transfer end reaction from jamb stud.

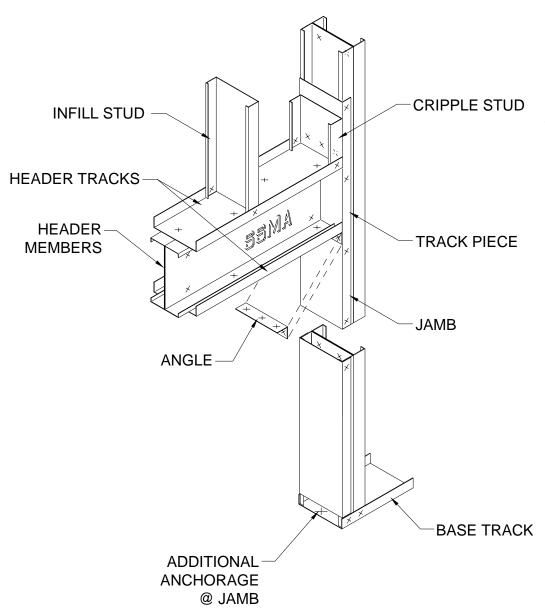


# Door - Load Bearing Back to Back Header Boxed Jamb

### **ADVANTAGES:**

- 1. Use of cripple stud to receive head/sill tracks at jamb studs helps maintain alignment of finishes.
- 2. Back to back header reduces web-crippling reinforcement requirements.
- 3. Boxed jamb studs welded together reduces material build-up and finish problems.
- 4. Provides better load transfer from jamb stud to base track vs. single jamb stud.

- I. Requires the clip angle below the head track to be sized to transfer the vertical load from the head into the jamb.
- 2. Back to back headers will not provide backing for attaching window covering support.
- 3. High-end reactions for single web jamb studs may require reinforcement to reduce web-crippling failure.
- 4. Requires 43 mil and thicker jamb stud material so weld can be made easily.

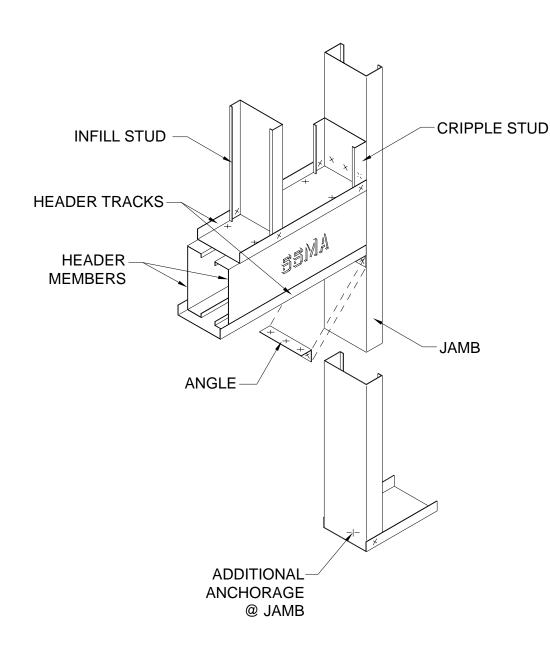


# Door - Load Bearing Back to Back Header Back to Back Jamb

### **ADVANTAGES:**

- 1. Use of cripple stud to receive head/sill tracks at the jamb studs helps maintain alignment of finishes.
- 2. Back to back header reduces web-crippling reinforcement requirements.
- 3. Using a back to back jamb with a track cap piece at the opening eliminates welding so that thinner material can be used depending on the load requirements.
- 4. Reduces the need to reinforce the web at the end reactions of the jamb studs.
- 5. Provides better load transfer from jamb stud to base track vs. single jamb stud.

- I. Requires the clip angle below the head track to be sized to transfer the vertical load from the head into the jamb.
- 2. Back to back headers will not provide backing for attaching window covering support.
- 3. Material build-up at the jamb stude can cause finish and window frame problems.

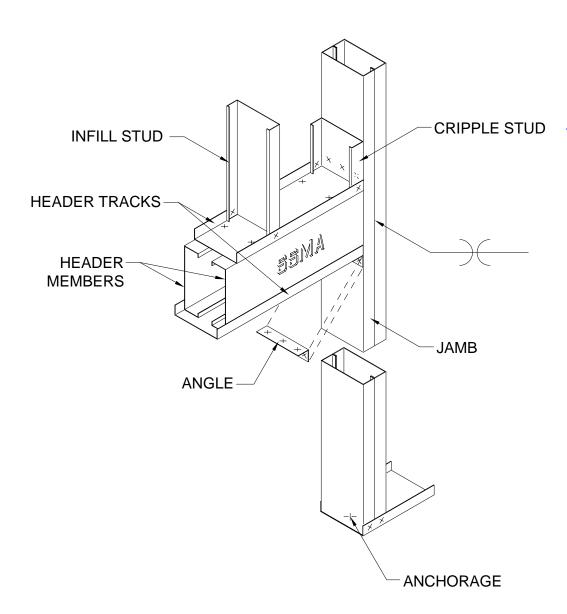


# Door - Load Bearing Boxed Header Single Jamb

# **ADVANTAGES:**

- 1. Use of cripple stud to receive head/sill tracks at the jamb studs helps maintain alignment of finishes.
- 2. Boxed header members provide backing for attachment of window covering support.
- 3. Using a wider flange and thicker jamb stud material reduces cost of installation compared to built-up jamb studs.
- 4. Using a wider flange reduces possibility of installing a wall stud as a jamb stud.

- I. Requires the clip angle below the head track to be sized to transfer the vertical load from the head into the jamb.
- 2. Boxed header increases web-crippling reinforcement being required at each end of the header vs. back to back headers.
- 3. High-end reactions for single web jamb studs may require reinforcement to reduce web-crippling failure.
- 4. Base track may require reinforcement with clip angle and direct attachment to transfer end reaction from jamb stud.

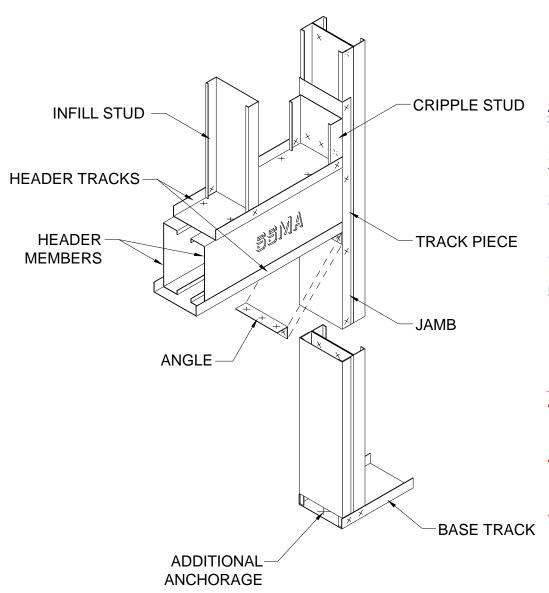


# Door - Load Bearing Boxed Header Boxed Jamb

### **ADVANTAGES:**

- 1. Use of cripple stud to receive head/sill tracks at the jamb studs helps maintain alignment of finishes.
- 2. Boxed jamb studs welded together reduces material build-up and finish problems.
- 3. Boxed header members provide backing for attachment of window covering support.
- 4 Provides better load transfer from jamb stud to base track vs. single jamb stud.

- I. Requires the clip angle below the head track to be sized to transfer the vertical load from the head into the jamb.
- 2. Boxed header increases web-crippling reinforcement being required at each end of the header vs. back to back headers.
- 3. High-end reactions for single web jamb studs may require reinforcement to reduce web-crippling failure.
- 4. Requires 43 mil and thicker jamb stud material so weld can be made easily.

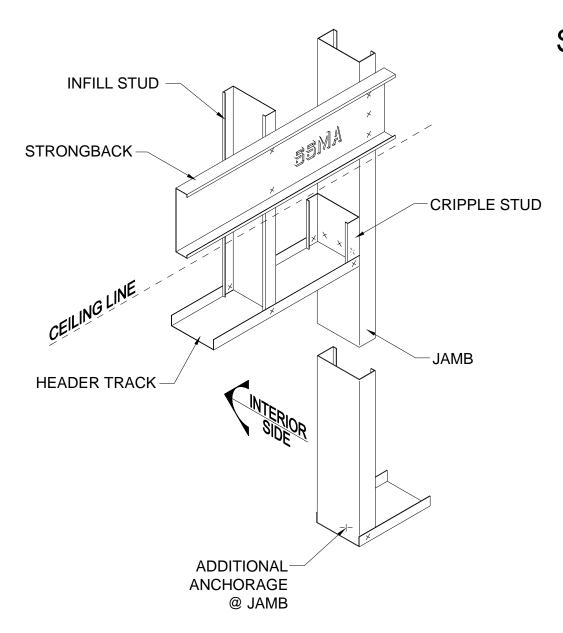


# Door - Load Bearing Boxed Header Back to Back Jamb

### **ADVANTAGES:**

- 1. Use of cripple stud to receive head/sill tracks at the jamb studs helps maintain alignment of finishes.
- 2. Boxed jamb studs welded together reduces material build-up and finish problems.
- 3. Using a back to back jamb with a track cap piece at the opening eliminates welding so that thinner material can be used depending on the load requirements.
- 4. Reduces the need to reinforce the web at the end reactions of the jamb studs.
- 5. Provides better load transfer from jamb stud to base track vs. single jamb stud.

- I. Requires the clip angle below the head track to be sized to transfer the vertical load from the head into the jamb.
- 2. Boxed header increases web-crippling reinforcement being required at each end of the header vs. back to back headers.
- 3. Material build-up at the jamb studs can cause finish and window frame problems.

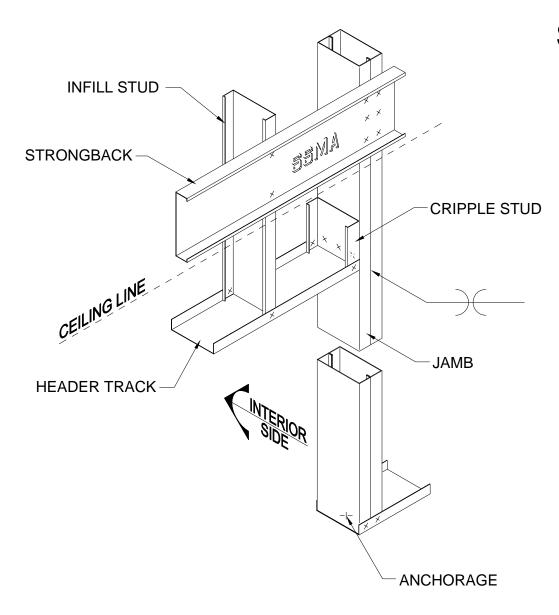


# Door - Load Bearing Single Header with Strongback Single Jamb

# **ADVANTAGES:**

- 1. Use of cripple stud to receive head/sill tracks at jamb studs helps maintain alignment of finishes.
- 2.Strongback header minimizes number of members to be installed vs. back to back or boxed header.
- 3. Using a wider flange and thicker jamb stud material reduces cost of installation compared to built-up jamb studs.
- 4. Using a wider flange reduces possibility of installing a wall stud as a jamb stud.
- 5. Provides good vertical load transfer at each strongback header into jamb stud.
- 6.Reduces web-crippling reinforcement being required at end of strongback header.

- I. Requires a ceiling being installed to hide vertical strongback.
- 2. Strongback would interfere with installing interior wall covering at the strongback.
- 3. May require a thicker or wider flange head track member with only one member being installed to resist the horizontal load from the opening.
- 4. Base track may require reinforcement with clip angle and direct attachment to transfer end reaction from jamb stud.

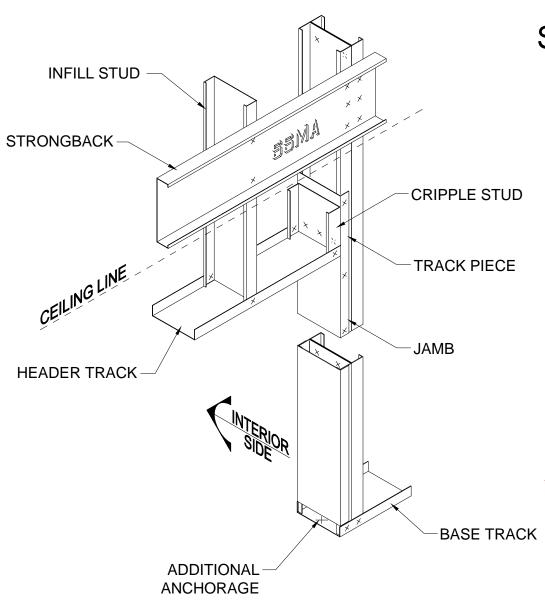


# Door - Load Bearing Single Header with Strongback Boxed Jamb

### **ADVANTAGES:**

- 1. Use of cripple stud to receive head/sill tracks at jamb studs helps maintain alignment of finishes.
- 2.Strongback header minimizes number of members to be installed vs. back to back or boxed header.
- 3. Boxed jamb studs welded together reduces material build-up and finish problems.
- 4. Provides good vertical load transfer at each strongback header into jamb stud.
- 5. Reduces web-crippling reinforcement being required at end of strongback header.
- 6. Provides better load transfer from jamb stud to base track vs. single jamb stud.

- I. Requires a ceiling being installed to hide vertical strongback.
- 2. Strongback would interfere with installing interior wall covering at the strongback.
- 3. High-end reactions for single web jamb studs may require reinforcement to reduce web-crippling failure.
- 4. May require a thicker or wider flange head track member with only one member being installed to resist the horizontal load from the opening.
- 5. Requires 43 mil and thicker jamb stud material so weld can be made easily.



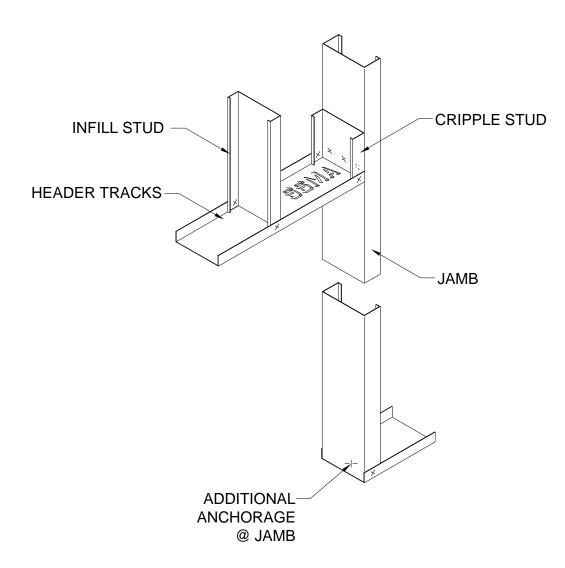
# Door - Load Bearing Single Header with Strongback Back to Back Jamb

### **ADVANTAGES:**

- 1. Use of cripple stud to receive head/sill tracks at jamb studs helps maintain alignment of finishes.
- 2.Strongback header minimizes number of members to be installed vs. back to back or boxed header.
- 3. Using a back to back jamb with a track cap piece at the opening eliminates welding so that thinner material can be used depending on the load requirements.
- 4. Reduces the need to reinforce the web at the end reactions of the jamb studs.
- 5. Provides good vertical load transfer at each strongback header into jamb stud.
- 6.Reduces web-crippling reinforcement being required at end of strongback header.
- 7. Provides better load transfer from jamb stud to base track vs. single jamb stud.

- I. Requires a ceiling being installed to hide vertical strongback.
- BASE TRACK 2. Strongback would interfere with installing interior wall covering at the strongback.
  - 3. Material build-up at the jamb stude can cause finish and window frame problems.
  - 4. May require a thicker or wider flange head track member with only one member being installed to resist the horizontal load from the opening.

# Door - Non-Load Bearing Single Track Header Single Jamb

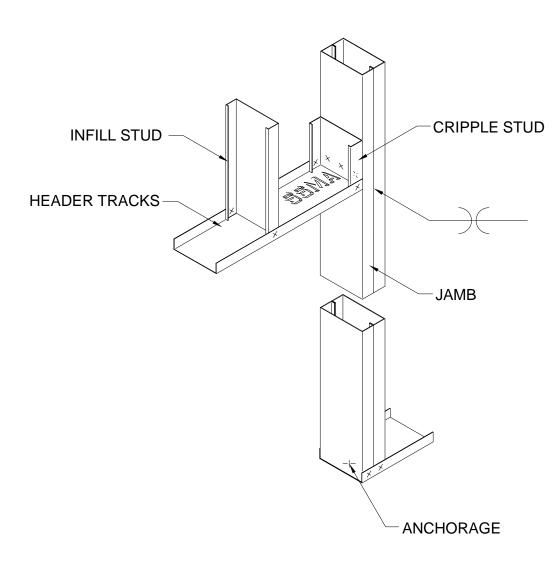


# **ADVANTAGES:**

- 1. Use of cripple stud to receive head/sill tracks at the jamb studs helps maintain alignment of finishes.
- 2. Using a wider flange and thicker jamb stud material reduces cost of installation compared to built-up jamb studs.
- 3. Using a wider flange reduces possibility of installing a wall stud as a jamb stud.

- I. High-end reactions for single web jamb studs may require reinforcement to reduce web-crippling failure.
- 2. Base track may require reinforcement with clip angle and direct attachment to transfer end reaction to jamb stud.

# Door - Non-Load Bearing Single Track Header Boxed Jamb



# **ADVANTAGES:**

- 1. Use of cripple stud to receive head/sill tracks at the jamb studs helps maintain alignment of finishes.
- 2. Boxed jamb studs welded together reduces material build-up and finish problems.
- 3. Provides better load transfer from jamb stud to base track vs. single jamb stud.

- I. High-end reactions for single web jamb studs may require reinforcement to reduce web-crippling failure.
- 2. Requires 43 mil and thicker jamb stud material so weld can be made easily.

# **CRIPPLE STUD INFILL STUD HEADER TRACKS** TRACK PIECE JAMB **BASE TRACK ADDITIONAL ANCHORAGE**

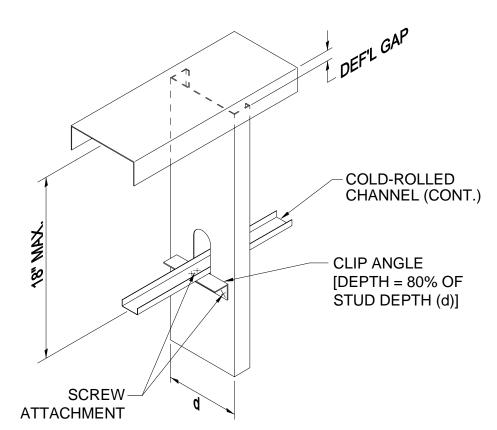
# Door - Non-Load Bearing Single Track Header Back to Back Jamb

# **ADVANTAGES:**

- 1. Use of cripple stud to receive head/sill tracks at the jamb studs helps maintain alignment of finishes.
- 2. Using a back to back jamb with a track cap piece at the opening eliminates welding so that thinner material can be used depending on the load requirements.
- 3. Reduces the need to reinforce the web at the end reactions of the jamb studs.
- 4. Provides better load transfer from jamb stud to base track vs. single jamb stud.

- I. Material build-up at the jamb studs can cause finish and window frame problems.
- 2. High-end reactions for single web jamb studs may require reinforcement to reduce web-crippling failure.

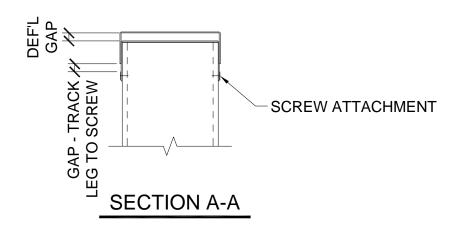
# Deflection Track Assembly Single Track with Cold-rolled Channel

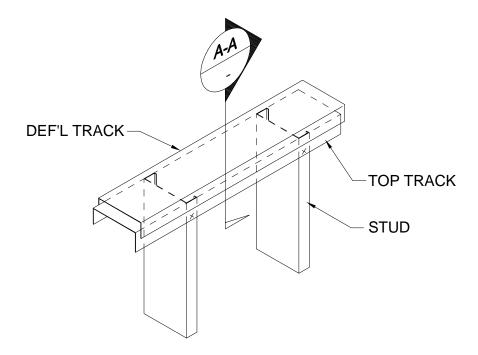


# **ADVANTAGES:**

1. Allows both vertical and horizontal movement of the structure above which supports the deflection track.

- I. Difficult to hold stud in place until cladding is installed.
- 2. Doesn't provide lateral support of the studs parallel to the wall other than the use of the cladding material.





# Deflection Track Assembly Double Deflection Track

# **ADVANTAGES:**

- 1. Provides lateral connection of the studs together without relying on cladding for lateral support parallel to the wall.
- 2. Allows both vertical and horizontal movement of the structure above which supports the deflection track.

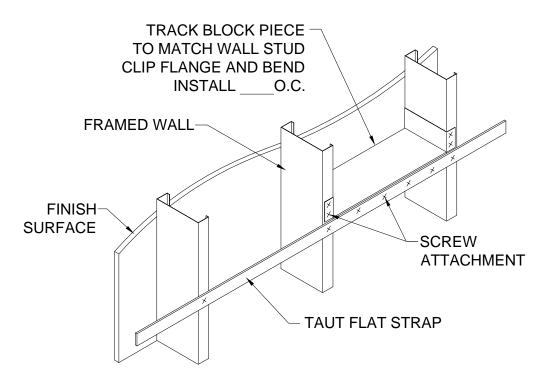
# **DISADVANTAGES:**

I. Difficult to build - usually requires temporary support of nested track to deflection track - Temporary support must be removed prior to installation of cladding.

# Bridging Single Flat Strap With Blocking

# **ADVANTAGES:**

1. Good torsional resistance for studs of all depths.



- I. Requires the pre-tensioning of the flat strap to provide torsional restrain.
- 2. Difficult to install unless access to the flat strap side of the wall is available.

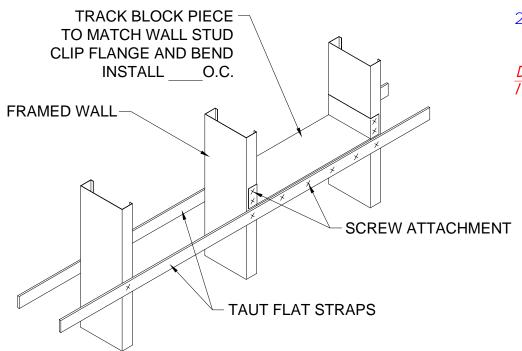
# Bridging Double Flat Strap With Blocking

# **ADVANTAGES:**

- 1. Provides good torsional restraint for axially-loaded studs for all stud sizes.
- 2. Strap layout is independent of punchout location.

# DISADVANTAGES:

I. Requires access to both sides of wall for installation.

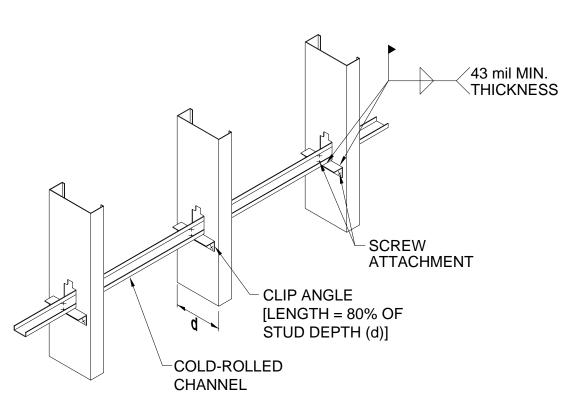


# Bridging Cold-rolled Channel With Clip Angle

# **ADVANTAGES:**

1. Ease of installation of cold-rolled channel through pre-aligned stud punchouts.

- THICKNESS I. Requires stud puchouts to align.
  - 2. Centerline bridging not very effective for torsional resistance for stude greater than 6 inches in depth.



# STUD—STEEL WASHERS SCREW SLOT

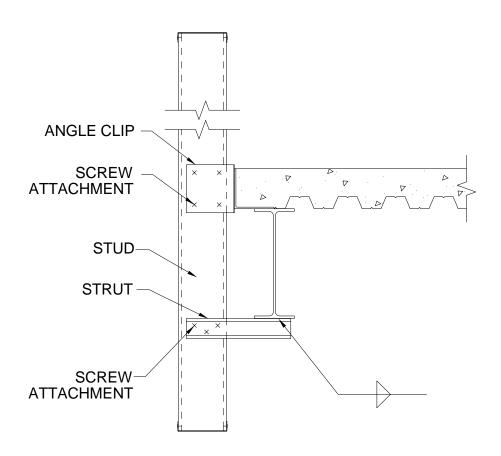
# Full-height Curtain Wall Deflection Clip

# **ADVANTAGES:**

- 1. Allows floor/roof to move vertically without imparting any axial load to wall framing.
- 2. Provides support for out-of-plane wind and seismic loads and for in-plane seismic loads.
- 3. Accommodates variation of slab edge to maintain wall alignment.

# **DISADVANTAGES:**

I. Does not accommodate for lateral displacement parallel to wall or horizontal drift between floors/roof.



# Spandrel Curtain Wall Sticker to Beam

# **ADVANTAGES:**

1. Ease of installation.

# DISADVANTAGES:

I. Lateral load is transferred into bottom of beam and may require additional bracing to support bottom of beam.

# ANGLE CLIP W.P.-SCREW -**ATTACHMENT** ANCHORAGE STUD-**CLIP ANGLE** KICKER MAX. 45° **SCREW ATTACHMENT**

# Spandrel Curtain Wall Diagonal Brace

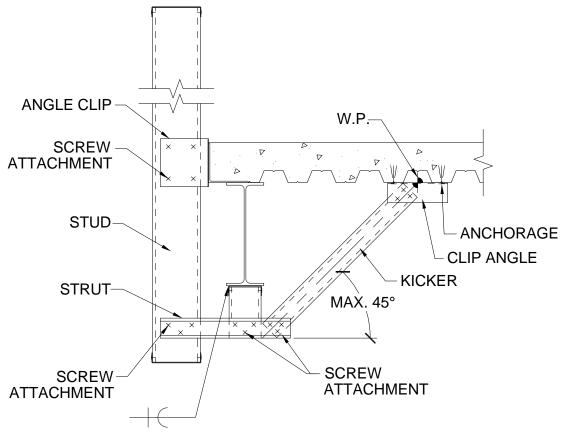
# **ADVANTAGES:**

- 1. Ease of installation.
- 2. Increases spacing between support points which reduces lateral support reactions and decreases deflections.

# DISADVANTAGES:

I. Requires edge clip support to take vertical load from brace in addition to lateral and dead loads.

# Spandrel Curtain Wall Sticker with Vertical Drop And Diagonal Brace



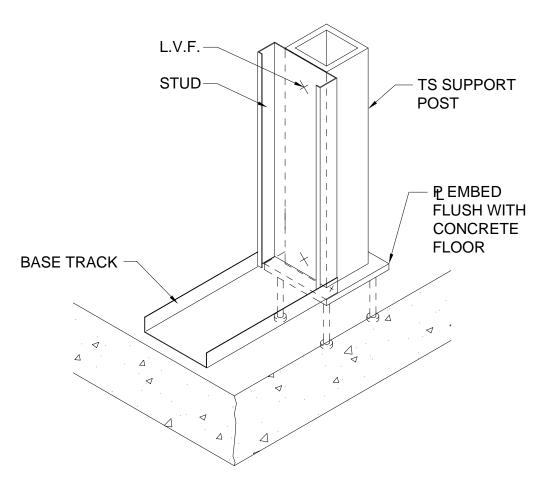
# **ADVANTAGES:**

- 1. Increases spacing between support points which reduces support reactions and decreases deflections.
- 2. Transfers vertical load from the brace into bottom of beam rather than the wall.
- 3. Allows support at floor/roof to be sized to take lateral and dead loads from wall only, rather than the brace.

# **DISADVANTAGES:**

ANCHORAGE /. Costly to install.

# Spandrel Framing At Pony Wall Steel Post with Embed



# **ADVANTAGES:**

- 1. Provides lateral support for pony wall with spandrel glass.
- 2. Eliminates costly retrofitting.

# **DISADVANTAGES:**

I. Requires coordination with building structural engineer and installation of embed prior to slab placement.

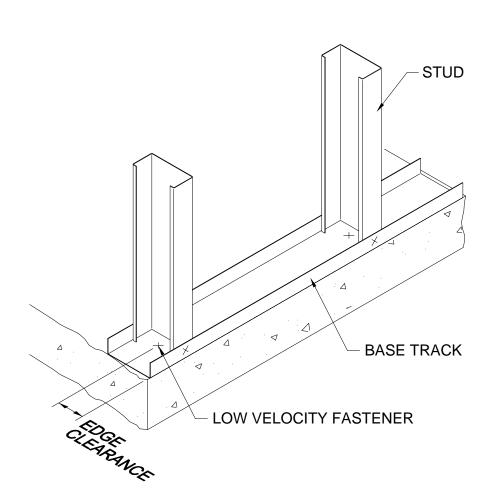
# **Bottom Track Anchorage** Low Velocity Fastener

# **ADVANTAGES:**

1. Economical to install vs. wedge anchor.

# DISADVANTAGES:

T. Requires adequate edge clearance to develop anchorage.



# **STUD BASE TRACK** WEDGE ANCHOR

# **Bottom Track Anchorage** Wedge Anchor

# **ADVANTAGES:**

- Edge clearance requirement is minimized.
   Good holding capacity allows fewer anchors to be installed.

# **DISADVANTAGES:**

I. More costly to install vs. low velocity fastener.

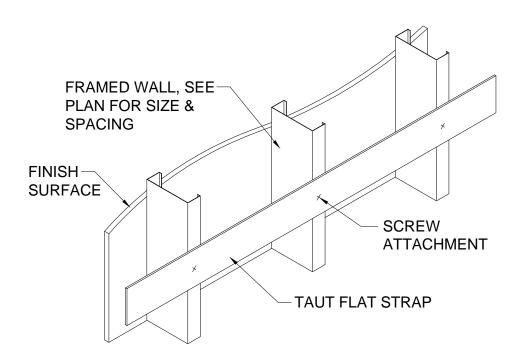
# Backing Flat Strap - Lightly Loaded (Paper towel dispensers, towel bars, toilet paper holders)

# **ADVANTAGES:**

1. Ease of installation.

# **DISADVANTAGES:**

1. Not to be used for heavily loaded bracket support.



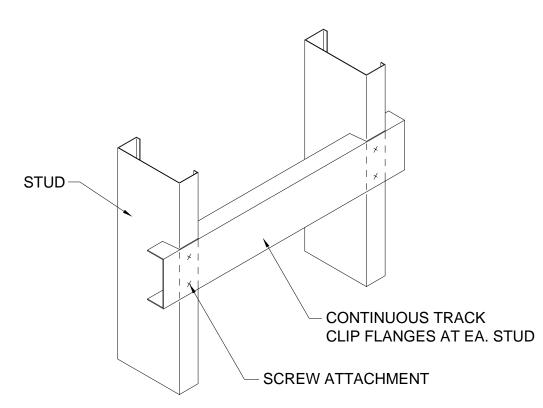
# Backing Clipped Track - Heavily Loaded (Grab bars, handrails, wall hung cabinets)

# **ADVANTAGES:**

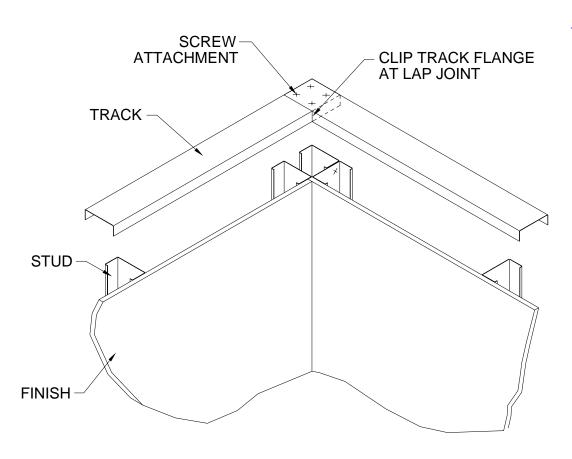
1. Good load carrying capacity.

# **DISADVANTAGES:**

1. Requires notching of track at each stud.



# Wall Framing at Corner **Track Lap Connection**



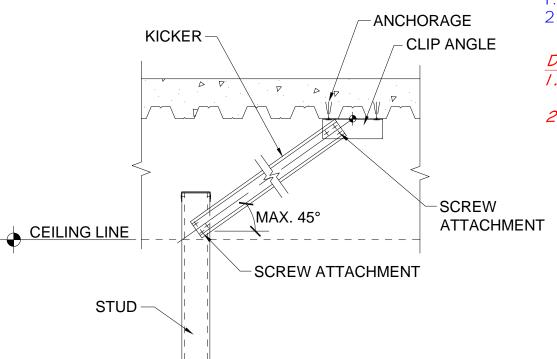
# **ADVANTAGES:**

- 1. Provides good load transfer.2. Ties interior walls together.

# DISADVANTAGES:

I. Requires flange of one track to be clipped.

# Non-Load Bearing Interior Wall Framed Above Ceiling with Diagonal Kicker



# **ADVANTAGES:**

- 1. Provides good load transfer from wall to kicker.
- 2. Kicker does not place twisting load on wall top track.

- I. Requires the wall to be framed approximately 6-8 inches above the ceiling.
- 2. Requires the kicker to be sized to take both compression and tension loads unless alternately kickers are used.

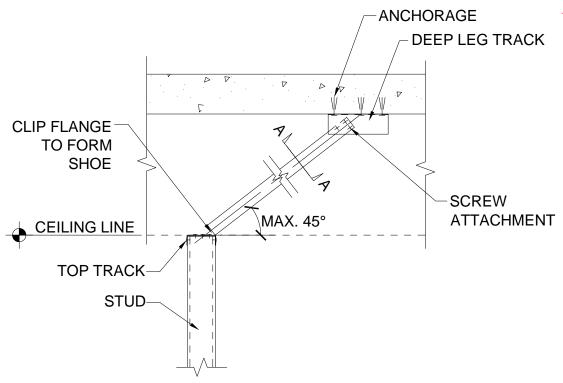
# Non-Load Bearing Interior Wall Framed to Ceiling with Diagonal Kicker

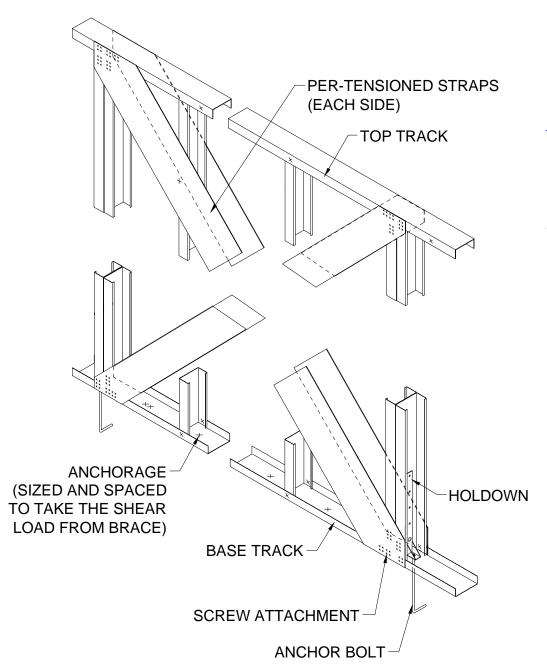
# SECTION A-A

# **ADVANTAGES:**

1. Eliminates extending wall above top of ceiling.

- 1. Kicker places a twisting load on wall to track.
- DEEP LEG TRACK 2. Requires the kicker to be sized to take both compression and tension loads unless alternately kickers are used.





# **Shearwall X-Bracing**

# **ADVANTAGES:**

- 1. Wide flat straps eliminate doubling the number of screws if corner gussets are used.
- 2.A thin flat strap reduces the material build-up that can create finish problems.

- 1. X-braces thinner than stud or track material at the end connection increases number of screws required.
- 2.Requires x-brace to be pre-tensioned so lateral load is immediately transferred to the x-brace without movement in the wall before load is transferred.

# **Typical Floor Framing**

# **ADVANTAGES:**

- 1. Locating web stiffener on back side of web is easier to install than fitting the stiffener between joist flanges.
- 2. Using screws to connect the web stiffeners is more economical than using a series of weld segments.

