



## ***CSA-2.5 IS Multiple Narrow Panel Inside Slide Door-Revision 09/14 Assembly and Installation Instructions***

1. **Open** all structural component and hardware **boxes** and compare with itemized packing list. Note: Structural components and hardware may arrive in separate shipments.
2. **The presence of a return wall at the opening** (The interior building width is wider than the opening width means there is a return wall at the opening on one or both sides) will determine if a hinged starter panel is required. If a return wall is present and the measurement from the face of



the column at the opening to the face of the side wall that the track will mount on is 36" or more a hinged starter panel is not required and the panel can be hinged or sliding with a leading trolley. A return wall smaller than 36", a hinged starter panel is required.

3. **Determine how you will install the Hinged Starter Panel!**

The best is to hinge in-swing and attached to the first sliding panel. The alternative is to hinge this panel to building column in-swing, but the presence of a return wall will not allow this operation. A third alternative is to hinge the starter panel to the building column out-swing. This requires special order exterior hinges.



4. **Install Top track** per print.
5. **Use Side mount brackets** Part #646512 attach the Key Hole track and splice collars #465101 at each track joint. Track may have to be trimmed to fit. Caution: **Do Not trim the end of the track where the key hole slot (the slot that the track mount brackets are installed into) faces the opposite direction.**
6. **Install Radius Corner Track** Part #643312 first, then end wall track. The mount brackets are welded to the radius corner track including the splice collar but structural support is required at the center of the radius. For enough room for the trolley hardware, the bottom of the track must be 2-3/16" above the bottom of the header.



Contact Fold Tite Systems at 1-866-580-8980 or  
518-664-2100 fax 518-691-8347 Sales@foldtite.com www.foldtite.com  
26B Viall Ave, Mechanicville, NY 12118, PO BOX 2283. Malta, NY 12020

7. **It is critical to have the Radius corner track and side wall track completely level with the track in the opening, The track must also be plumb and can't flex up – down – in or out.**

8. **End wall and side wall track** is Part #711061 for 12' and #643387 for 10'. Other lengths may be supplied for special applications. **Four sections of track have been specially ground to work with the radius track, make sure the marked ground ends are fitted into the radius track.**



9. **Door panel height** is determined by the clear opening height and the vertical is pre cut based on this dimension. This presumes that the track is installed with the top of the mounting bracket 7.25" above the bottom of the end-wall header.

10. **The door panel height** includes tolerance for expansion of the door. It is not recommended to attempt to have the door fit tightly at top and bottom, it is better to allow the seals to cover the space.

11. **Confirm the available door space - Measure** distance between bottom of header and finished floor. Deduct 1" top seal space, 1.5" bottom seal space and 2" for the bottom rail, a total of 4.50". Trim the vertical to this dimension. Adjust if more or less space is needed between door and floor or header. Note: There is often variation in the floor height inside the building and it is important to also check the height of the door verses the available sidewall height in this step. Adjust the length of the verticals if necessary after standing an assembled door panel under the track along both side walls.

## **The Standard Door is made up of four types of panels: Hinged Starter, Standard, Excess and Center Panels.**

12. Only the **Hinged Starter Panel** will have **Diagonal Braces**.

13. **Each system will have at least two lengths of girts** and if there is an **Excess panel** there will be three lengths of girts supplied. Note: standard cutting tolerance may cause girts to vary by 1/4". It is recommended that girts be grouped by size for best fit and some may need trimming.



14. All of the **Horizontal** components for the **Hinged Starter, Standard and Center panel** will be the **same size** with standard girts **Part #791096**, drilled top girt **Part # 793546** and bottom rail **Part #793890** 40" long. The Diagonal Brace will vary by door height.

15. Be aware that the **Excess Panel Girts and Bottom Rail length** will be **different** depending on the size of the door and there may be **one or two** Excess Panels also depending on the size of the door – **CHECK THE PARTS LIST.**

16. **Two astragals**, which is used to close off the gap between operating groups when closed. Locate these and attach with small Phillips head teks on one of the **Center Panels Verticals**. Note: If the door is very large and operation is specified at the time of ordering to allow more than two operating sections (quantity of door panels operating together) additional double astragal verticals are supplied at one per operating section.
17. Lay out Door structural components per component layout. Suggested to start face UP (“J” trim on Vertical is the front or face of the door and the larger lip on the bottom rail faces front) with protection to not scratch the paint.
18. **Install Steel Girts with the seam on the “J” trim side or the front of the door. Aluminum girts do not have seams.**
19. **Determine location of Trolley** for each standard, excess and center panel (Hinged Starter Panel does not get a trolley) and locate the pre-drilled girt #793546 in position (print follows that shows location). Each Center Panel will have a second trolley at the trailing edge and this is located 4-3/4” from the end of the door, use pre drilled girt #500891 (second print follows for this hole location)
20. Install Top Girt and Bottom Rail with one screw 12-14X5/8” TEK Part # 500815 at each joint.
21. Locate and place remaining girts per the **GIRT SPACING SHOWN ON YOUR DOOR PRINT**. Numbers are starting from top down.
22. Do not vary this number from the number on the print even if the verticals are trimmed at site because the diagonal braces are pre cut based on height dimension.
24. The **Starter** panels have a **diagonal brace** for the top and bottom bay. Locate and place this diagonal girt/brace in position. Angle the diagonal brace in the away from the lock pin location. The brace will angle opposite directions.
25. **Square the door** panel by measuring from corner to corner diagonally and equalizing.
26. Install one assembly TEK (12/14X3/4” # 500815) at each diagonal brace and horizontal girt.
27. **Turn the door panels over**, End for end, do not rotate side ways as this will alter the trolley hole relationship. Lay panels Side By Side.
28. **If The Hinged Starter Panel is to be hinged to the first Sliding panel** the first sliding panel must be a standard 40” panel.
29. **A plastic hold open devise** is supplied and attached to the Hinged Starter Panels vertical and the mating vertical of the first sliding panel. This will hold the Hinged Starter Panel open when the door is sliding.
29. **Suggest laying out the door outside** the building with the bottom rail at the opening and the top of the door away from the building. This will simplify visualization of the location of the trolley for each panel. Place one Cut Down Hinge Part #500802 at each Horizontal Girt centered between two panels and secure using four 1/4-20 lock Head TEKS Part #500803 per hinge.
30. Use Two standard (12/14X5/8” Part # 500815) assembly TEK screws for each Diagonal Brace
31. **Place Trolleys** Part #714938 with 9” x 1/2” head bolt into the trolley hole in the top of each door. The trailing or last door in each section of doors will have a trailing or second trolley. All other door panels only have one trolley. See the Trolley instruction page later



for the sequence of parts required for the trolley. **It is very important that the trolley move up and down in the door during operation.** The Trolley has an adjustment nut, make sure this is on the inside away from the header.

**33. Stand Door Panels up** at the opening. Remove the trolley from the pendent bolt installed in the door by removing the pin. Slide each trolley into the track and position over door. Raise Door to trolley and insert pin. Note: It may be easier and desirable to break the multiple door panel sections into fewer sections for this process. To do this, just remove the hinge TEK screws from the hinges of one panel. Reapply the same TEK's after the door is supported by the track

**34. Plumb door panels** and secure in Plumb position. Adjusting the trolley nuts will raise or lower the height of the door and are adjusted to plumb the door.

**35. Concealed Stay Rollers are standard in the package.** Manual foot bolts are optional though not recommended.

**36. Mark joint between each panel on the floor** and then locate the centerline of the channel in the bottom rail and mark it on the floor. The **Concealed Stay Roller (CSR)** includes: One Part #500852 Roller, One part #500851 Clevis Pin and One Washer.. Locate the CSR on either side of the door panel joint so that it will be entirely contained inside one panel bottom rail. Mark the aircraft gear line on the floor and locate the CSR at least 12" either side of the gear lines. The CSR's may also be relocated to miss high traffic areas. Each panel except the Hinged Starter Panel should be secured with a CSR but it is permissible to have one panel not receiving a CSR as long as each adjacent panels are secured with a CSR. Note: The first Concealed Stay Roller at each side of the opening is located no closer than 74" from each building column to allow the door to rotate around the radius. CSR may be used for the first panel if a return wall is present.

**38. Drill** a 17/32" hole for the Stay Roller clevis pin or Foot Bolt in floor. This may be oversized if a stub pipe (not supplied) is to be inserted in the floor to receive the Stay Roller pin. Install the Stay Roller in the drilled hole.

**39. The Hinged Starter Panel when hinged to the first sliding panel will have one bottom and one top lock pins** Part # 500884 (see break down sheet for additional parts) and no concealed Stay Roller. A top strike plate Part #791283 is supplied but will need a structural support placed at site.

**40. The First Sliding Panel will have a rear mounted Foot Bolt attached to the vertical.** This allows the hinged starter panel to open securely. A short section of girt is supplied to provide an attachment point for the foot bold hold open devise.

**40. Lock Pins are operated by a lock system.** See the detail sheet for the location and components of the lock. This lock is made up of a inside center case with over-center and override features that will allow the lock pins to be held up during movement and for the lock to be opened from the inside with inside handle even when the exterior lock (supplied but optionally installed) is operational. Typically, only one Hinged Starter



Panel will receive the lock hardware, the other side will just receive a cable to connect the lock pins and a hold open device that attaches to a girt to keep the locks retracted.

41. **Secure the door open** - two Concealed Stay Rollers are supplied to secure the open door along the sidewall. Mark and place one Stay Roller at the middle of the end panel and one at least 36" past the radius track joint with the sidewall track. Additionally, a door stop Part ##710894 is supplied to mount below the track to stop the door at the desired maximum inside travel point. Do not expect the track end plug to stop the door movement.
42. Install the **bottom seal** Standard Part #500905 Vinyl or #500904 optional brush seal cut to panel width is inserted into the weather strip groove built into the aluminum bottom rail. Optionally a double seal may be installed in the rear of the bottom rail. **The vinyl seal may be cut oversized by 1/2" at each end and the square top cut off. This will allow an overlap at the joint between panels.** Use a silicone caulk (not supplied) to secure the seals in place in the bottom rail or compress the weather strip groove to hold the seal.
43. An 'J' trim (by others) is recommended for the **top of the door** to close off the corrugations of the steel and allow the door to seal with the header.
44. **Install the sheeting.** It is easiest for the door panels to be lying on the floor to install the sheeting but it can be installed with the door hung in position. Do not install the sheeting until the floor lock system, Concealed Stay Roller or Foot Bolts are installed and working.
45. **The top seal is a 1" brush seal and aluminum holder.** Attach the holder to the bottom of the header with the seal pointing down and in toward the door. An Over Head Door Stop is supplied for each side of the door. Part #900017 or #900018 and is attached to the building jamb to seal the hinged starter panel when closed.
46. Note: In some applications it is advisable to **divide the door** into four or more operating sections. This will require an additional trolley for each joint created. Example: if the door is a 12 panel door composed of two standard 6 panel sections, the door can be reduced to four 3 panel sections by removing the hinges at the joint between the third and fourth door panel on each side of the opening. An additional trolley must be ordered to replace the hinges.
47. **We suggest that you install a rub rail.** This is a 2x4 board or similar section of material that will not damage the door. This is installed near the bottom of the side wall under the track board in the location that the door comes around the corner. This will aid the operation of the door.

### Trouble Shooting

1. Door movement hangs up or does not roll smoothly.
  - a. Confirm that the track is level, plumb and has no movement up, down, in or out..
  - b. Confirm that all trolleys are equally adjusted and that the door is floating on the trolleys (door can move up and down at each trolley) The compression springs should not be fully compressed.
  - c. Confirm that each trolley has a double nut and the second nut is jammed against the first nut.
  - d. Check each joint between track sections for miss alignment of the adjacent track sections and check splice collar alignment. If there is misalignment, ad-

just the track or if necessary, grind any track or splice collar corners causing problems.

- e. The track sections fitted to the radius track must be specially ground to eliminate any catch points. See instruction page showing this grinding.
  - f. The rear screw attaching the hinge to the vertical may interfere with the trolley movement, the instructions show the hinge tek being replaced with a type "F" screw. Check that this was done if the trolley does not float.
2. Gap uneven at center between operating sections.
    - a. All trolleys will have to be adjusted. If gap is larger at top than bottom, raise outboard trolleys and lower center trolleys
    - b. If gap is larger at bottom, raise center trolleys and lower outboard trolleys.

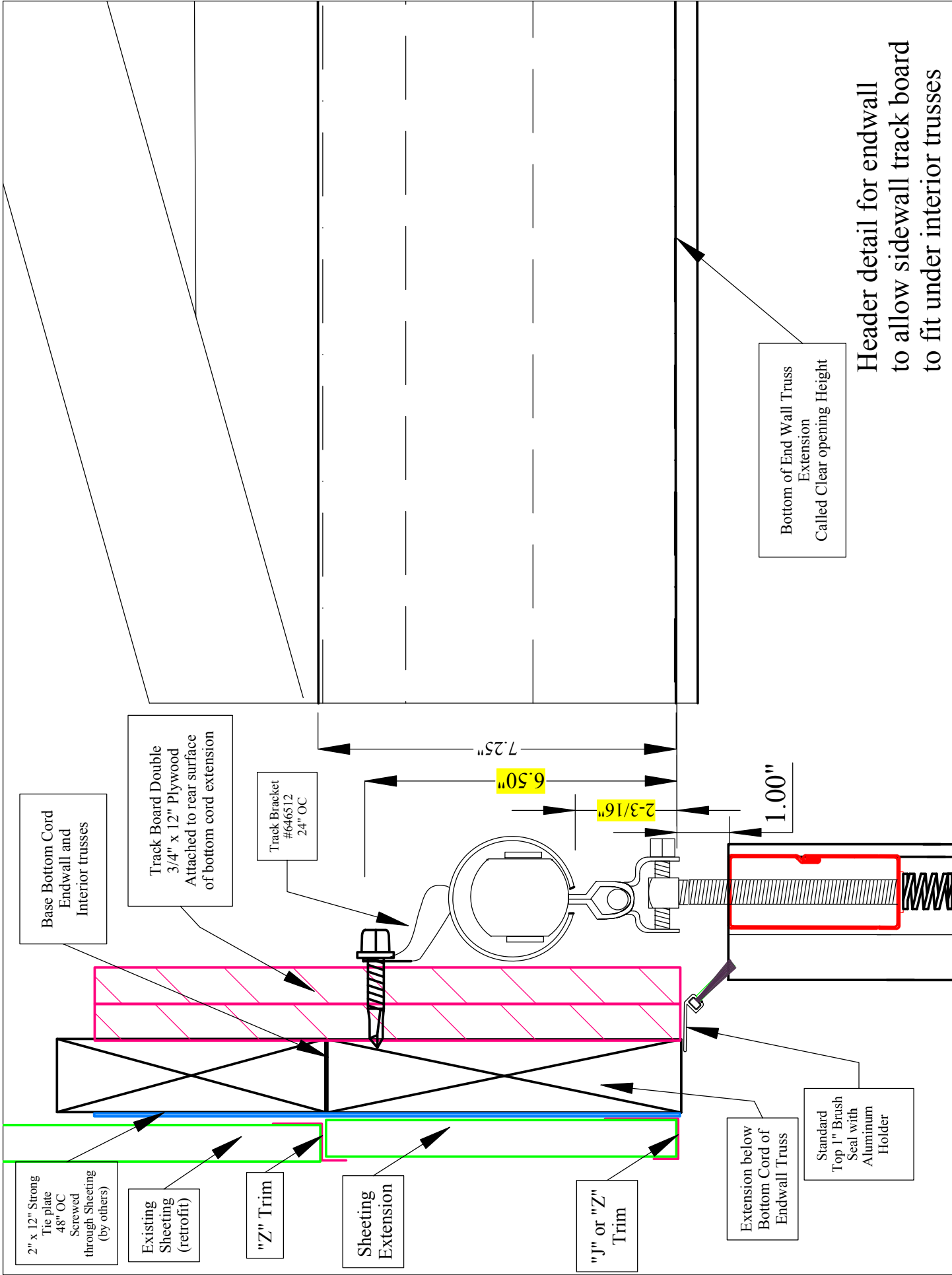
#### Door Maintenance

1. Check hinge mount tek screw for security occasionally. Retighten if found loose.
2. Check trolley height adjustment occasionally. Each Trolley must be adjusted to compress the compression spring. If any one or more trolleys become loose, they will bind and make the door hard to open.
3. The trolley and concealed stay rollers do not need lubrication and longer life is developed by not lubricating either. Dirt will be attracted to each with lubrication.
4. Check the cables and security of the lock system occasionally and replace cable if wear is detected and retighten screws if loose.

#### Door Operation

1. Open Hinged Panel. If attached to sliding panel, open 180 degrees. Snap this to the first sliding door. Do not try to slide door with hinged panel at 90 degrees to the sliding panel. It will kick the sliding panel to the wall. After the door is moving down the side wall, the hinged panel can be rotated against the side wall if desired.
2. If the Optional Foot Bolt bottom lock system is supplied, Release each Foot Bolt then Open the door. Take care if the wind is strong as nothing will be holding the bottom of the door. Re-secure the foot bolts with the door open.
3. When sliding the door open, it is easiest to stand in the corner and walk each panel around the corner. The door is not easy to move by pushing or pulling from one end or the other. Position the person operating the door in the corner for easiest operation.
4. Slide opening and closing door over concealed stay rollers to secure against the wind.

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Base Bottom Cord  
Endwall and  
Interior trusses

Track Board Double  
3/4" x 12" Plywood  
Attached to rear surface  
of bottom cord extension

Track Bracket  
#646512  
24" OC

2" x 12" Strong  
Tie plate  
48" OC  
Screwed  
through Sheeting  
(by others)

Existing  
Sheeting  
(retrofit)

"Z" Trim

Sheeting  
Extension

"J" or "Z"  
Trim

Extension below  
Bottom Cord of  
Endwall Truss

Standard  
Top 1" Brush  
Seal with  
Aluminum  
Holder

7.25"

6.50"

2-3/16"

1.00"

Bottom of End Wall Truss  
Extension  
Called Clear opening Height

Header detail for endwall  
to allow sidewall track board  
to fit under interior trusses

Double Side Wall Track Board may be necessary only if side wall is finished. Leading edge of each panel will extend past inside surface of single track board.

Single side wall track board requires Starter panel to hinge out if hinged to building column or to hinge to the first sliding panel

Interior Truss

Side Wall girt

6x6 Building Column

Single 2X8 Side Wall Track Board

Inside Slider Door Panel

Steel Sheeting fits Here

Track Mount Lag Bolt #500800 5/16" x 1-1/4"

Track Mount Bracket #646512

Door Track  
10' = #643837  
12' = #711061  
14' = #711062

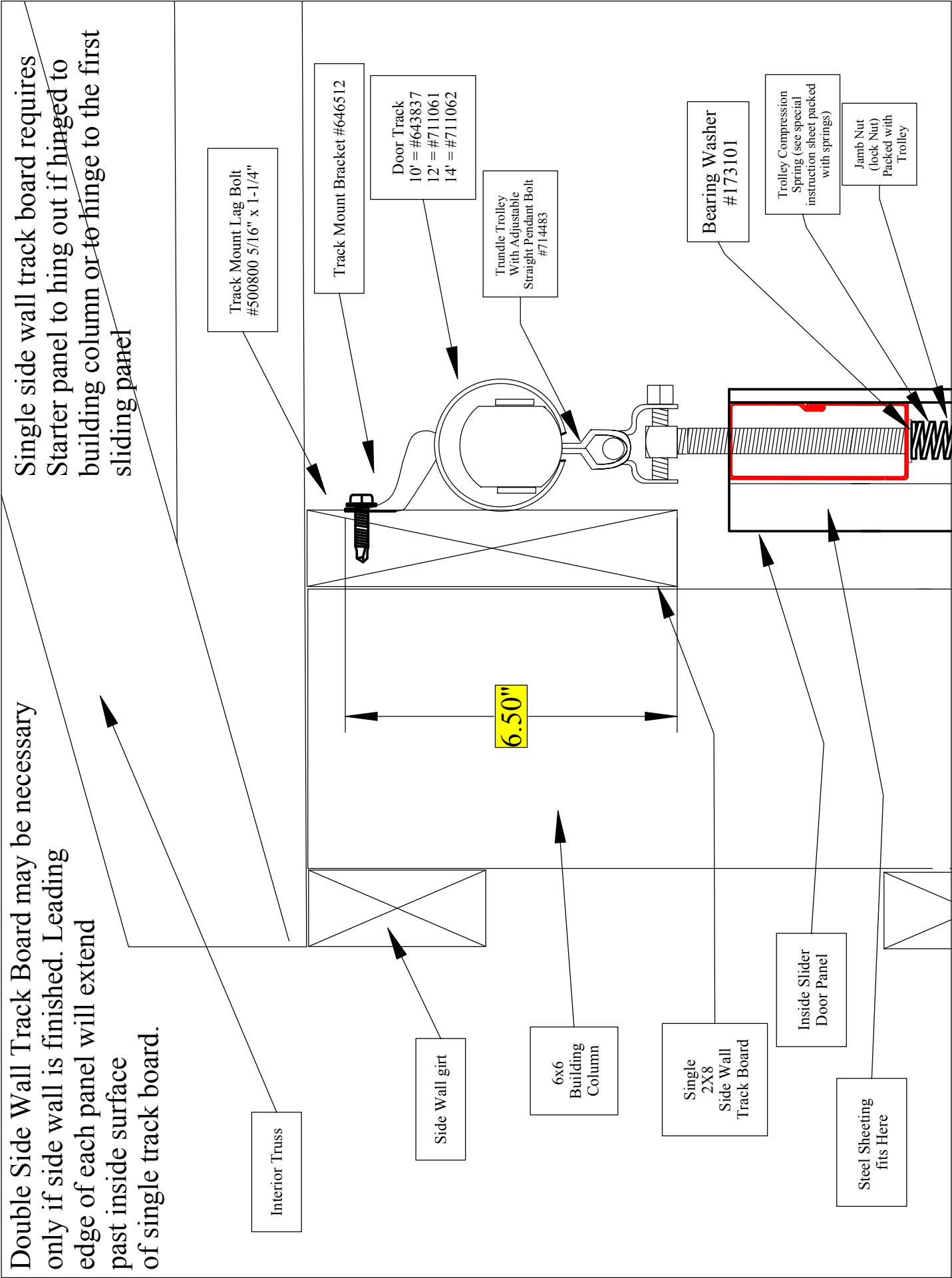
Trundle Trolley With Adjustable Straight Pendant Bolt #714483

6.50"

Bearing Washer #173101

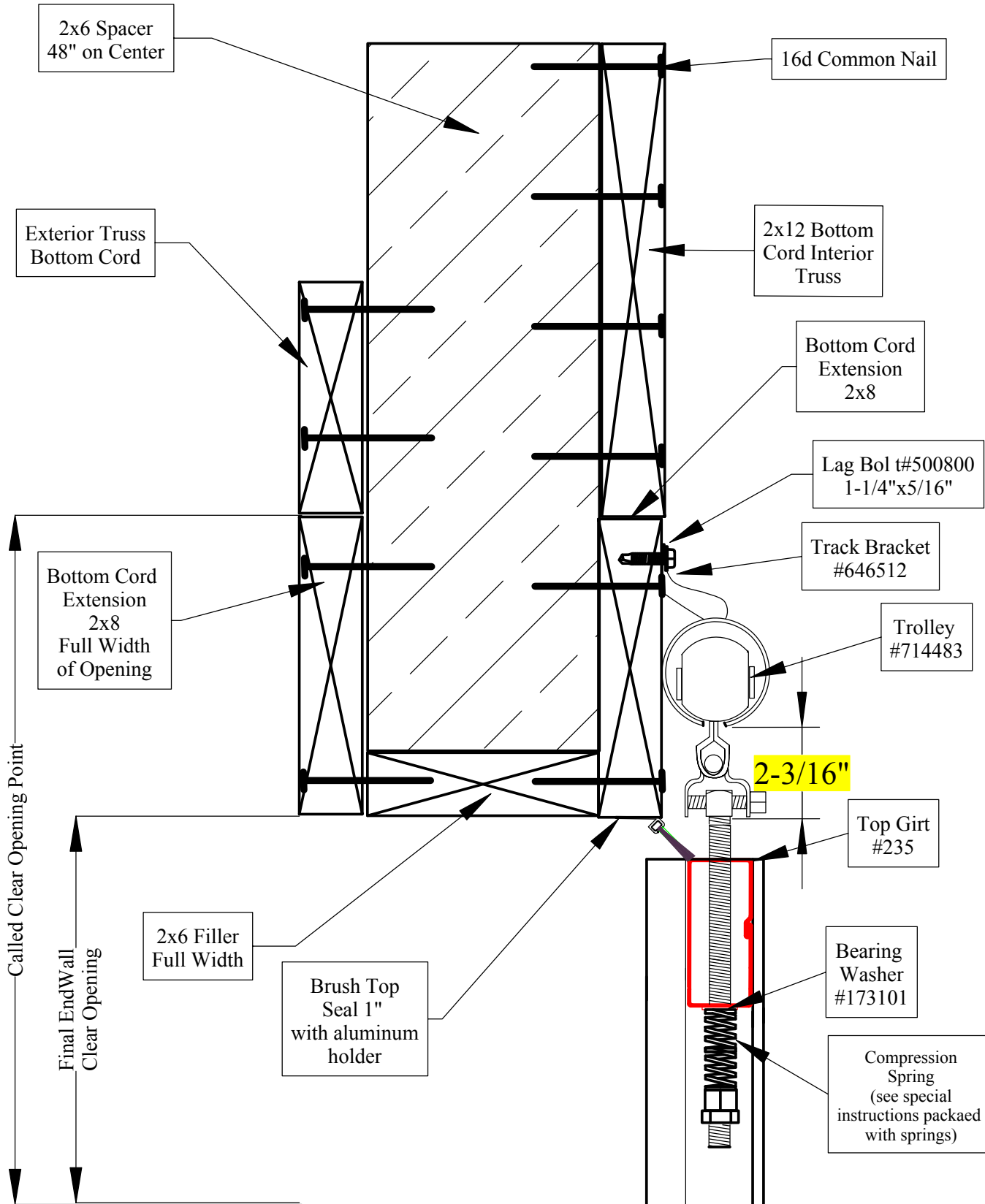
Trolley Compression Spring (see special instruction sheet packed with springs)

Jamb Nut (lock Nut) Packed with Trolley



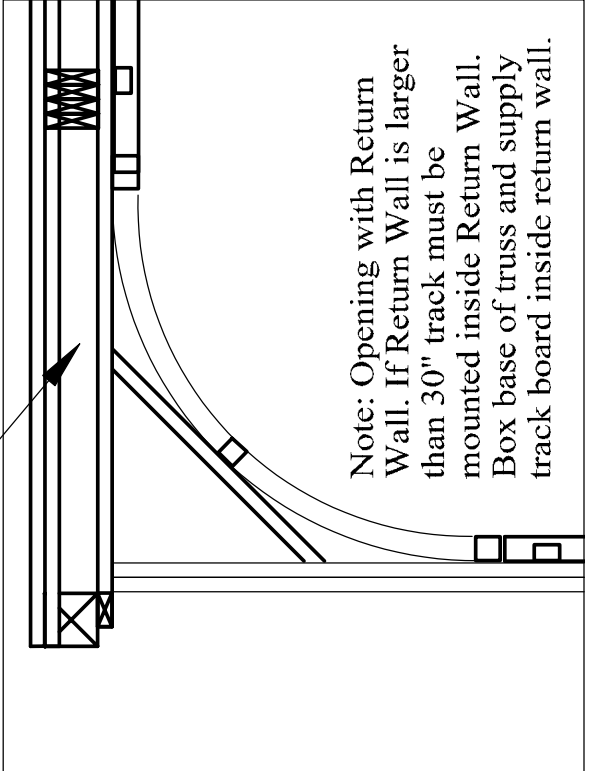
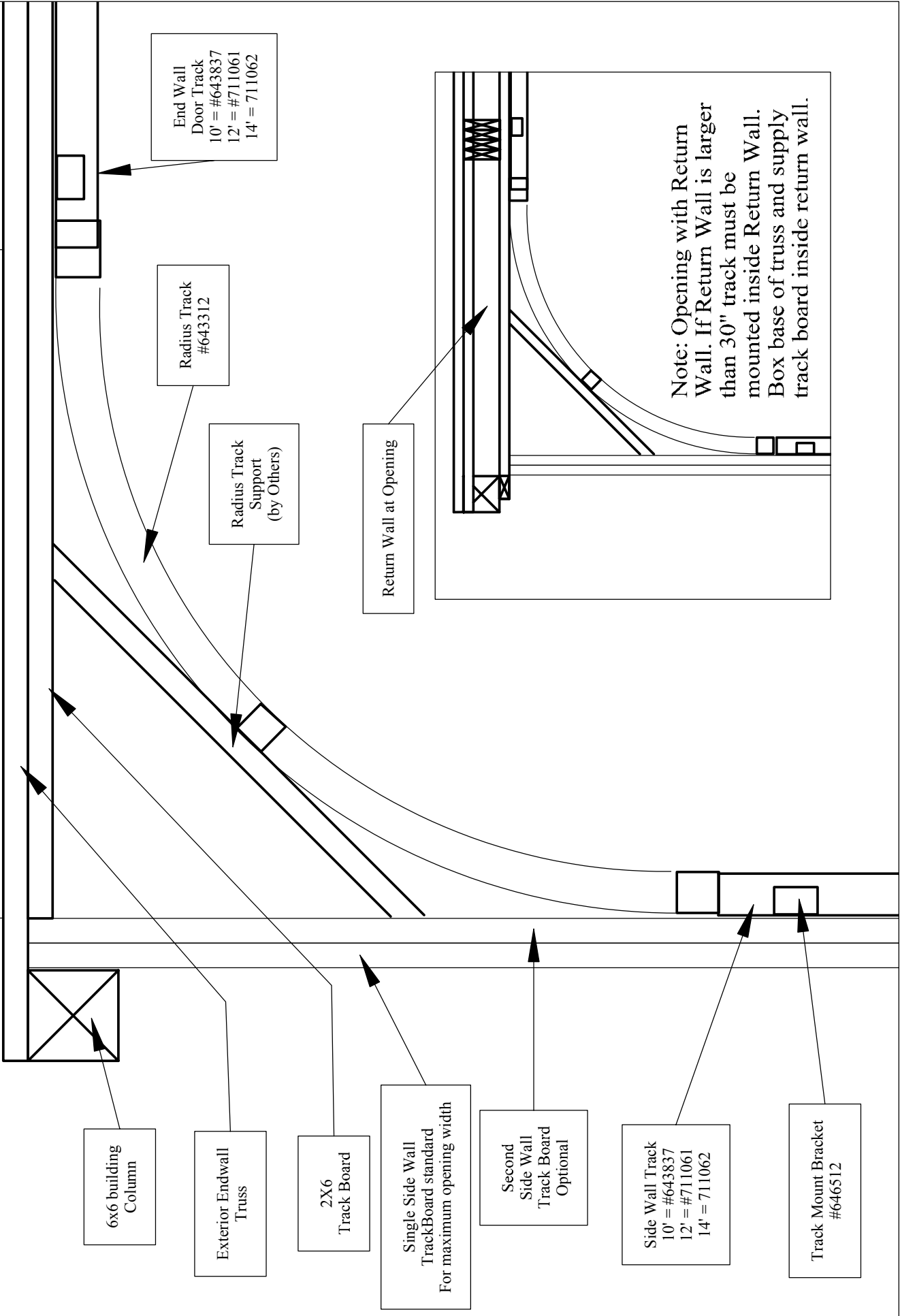


# Boxed End Wall Header With 7-1/4" extension



# Top View - Inside Radius Track Slide Door

40.00



# Pre Engineered Steel Side Wall

Height & Width Specified  
By others  
"C" Track Support

Side Wall or  
Intermediate  
walls

Girt

Minimum 1.00"

6.50"

2-3/16"

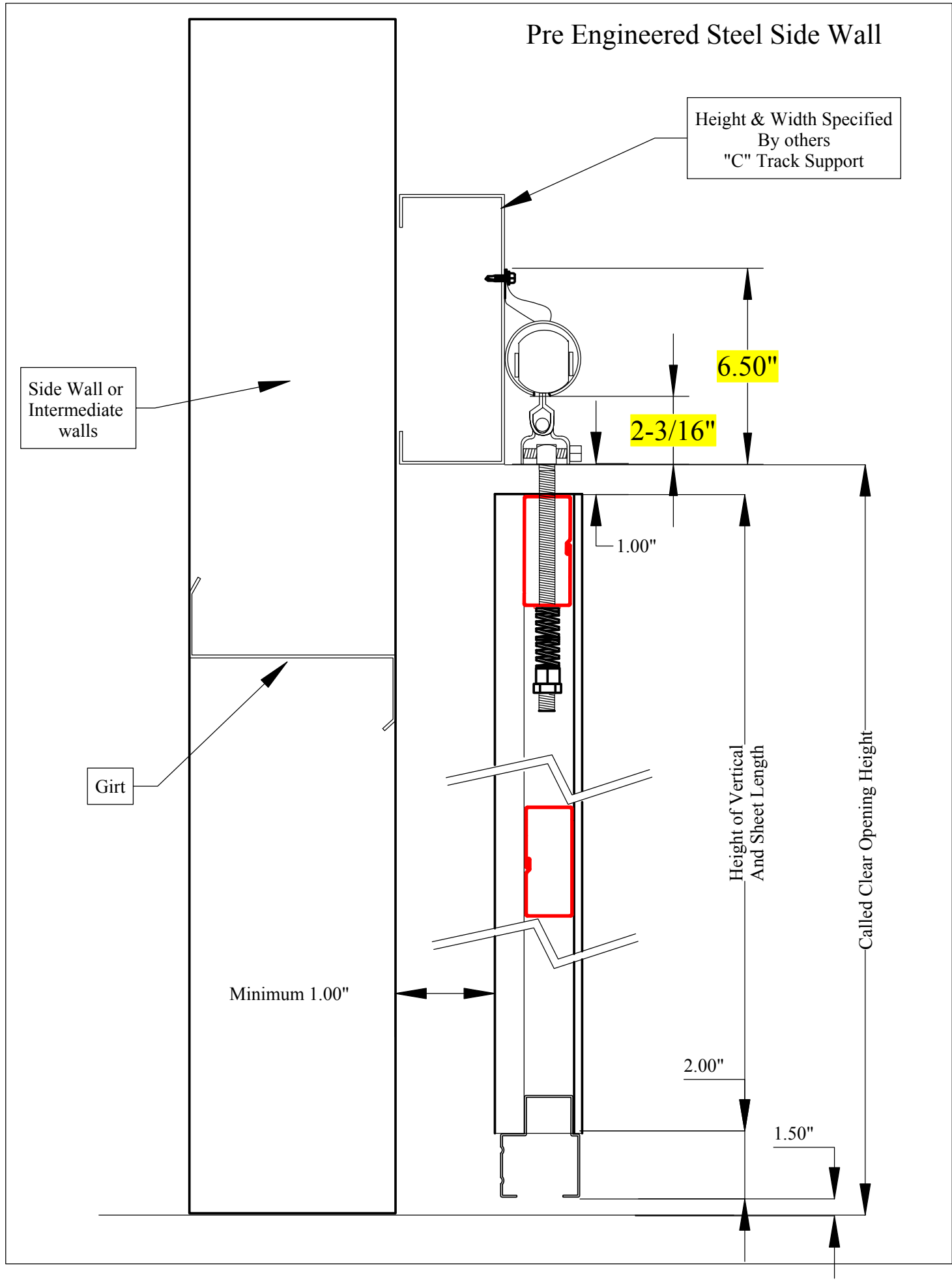
1.00"

Height of Vertical  
And Sheet Length

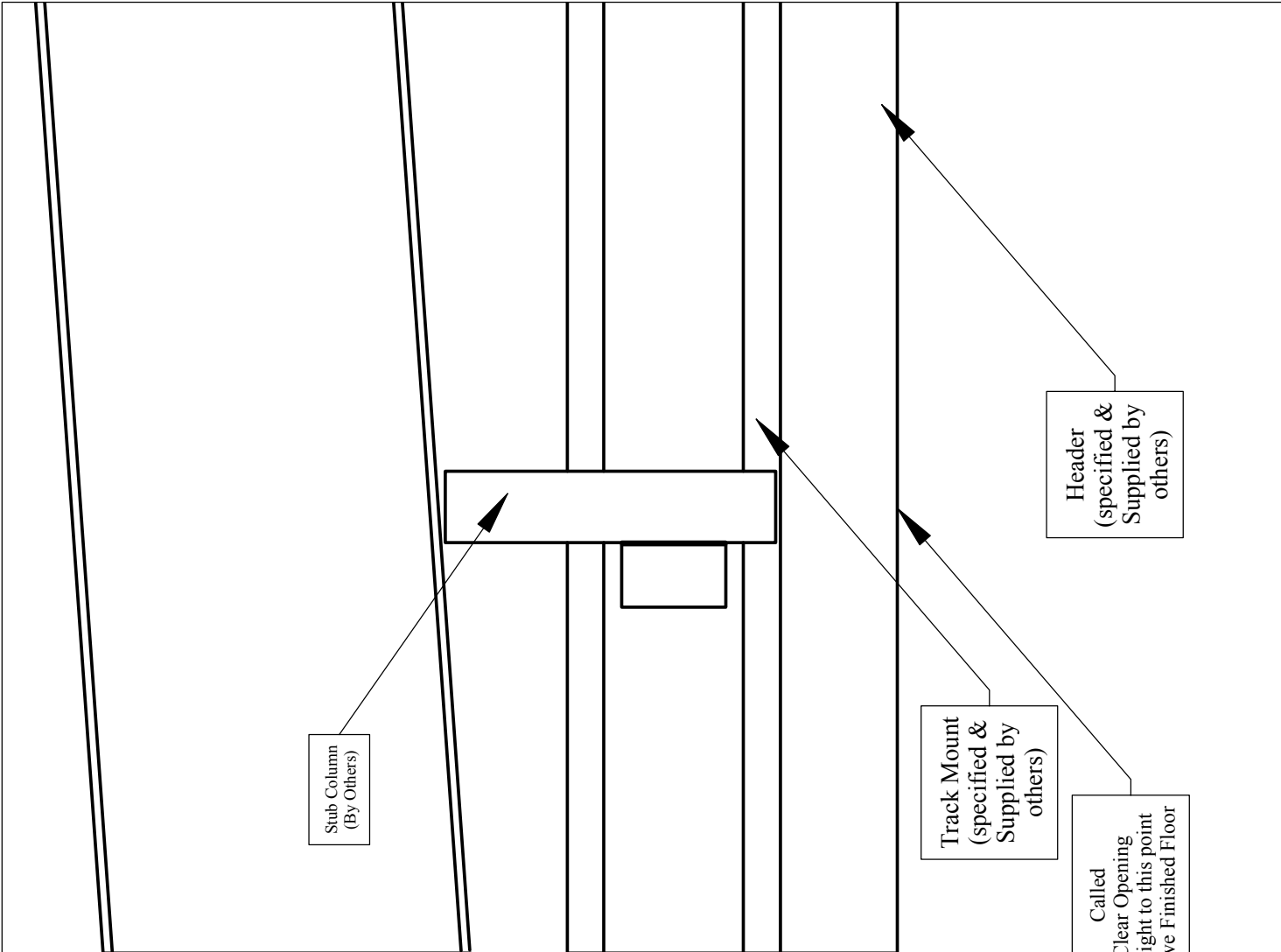
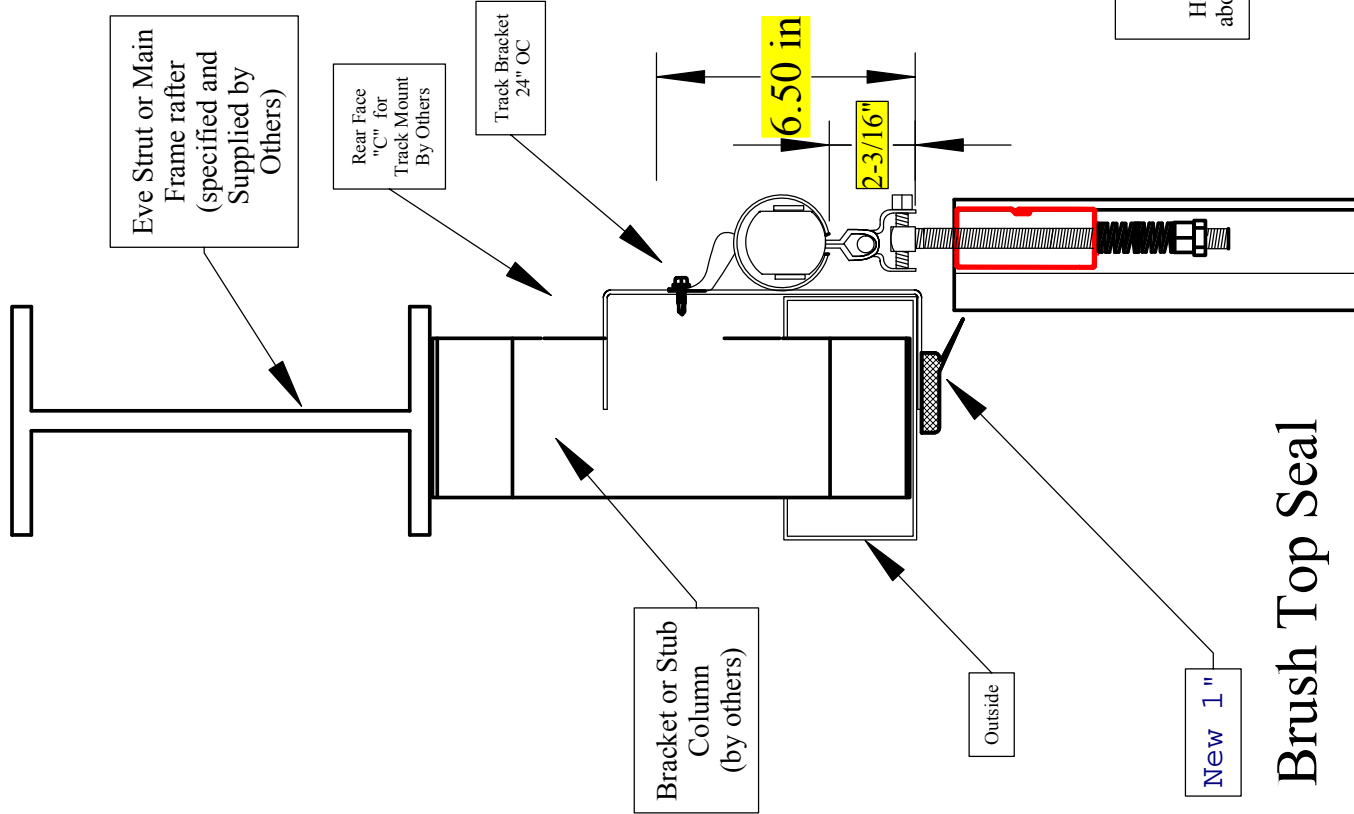
Called Clear Opening Height

2.00"

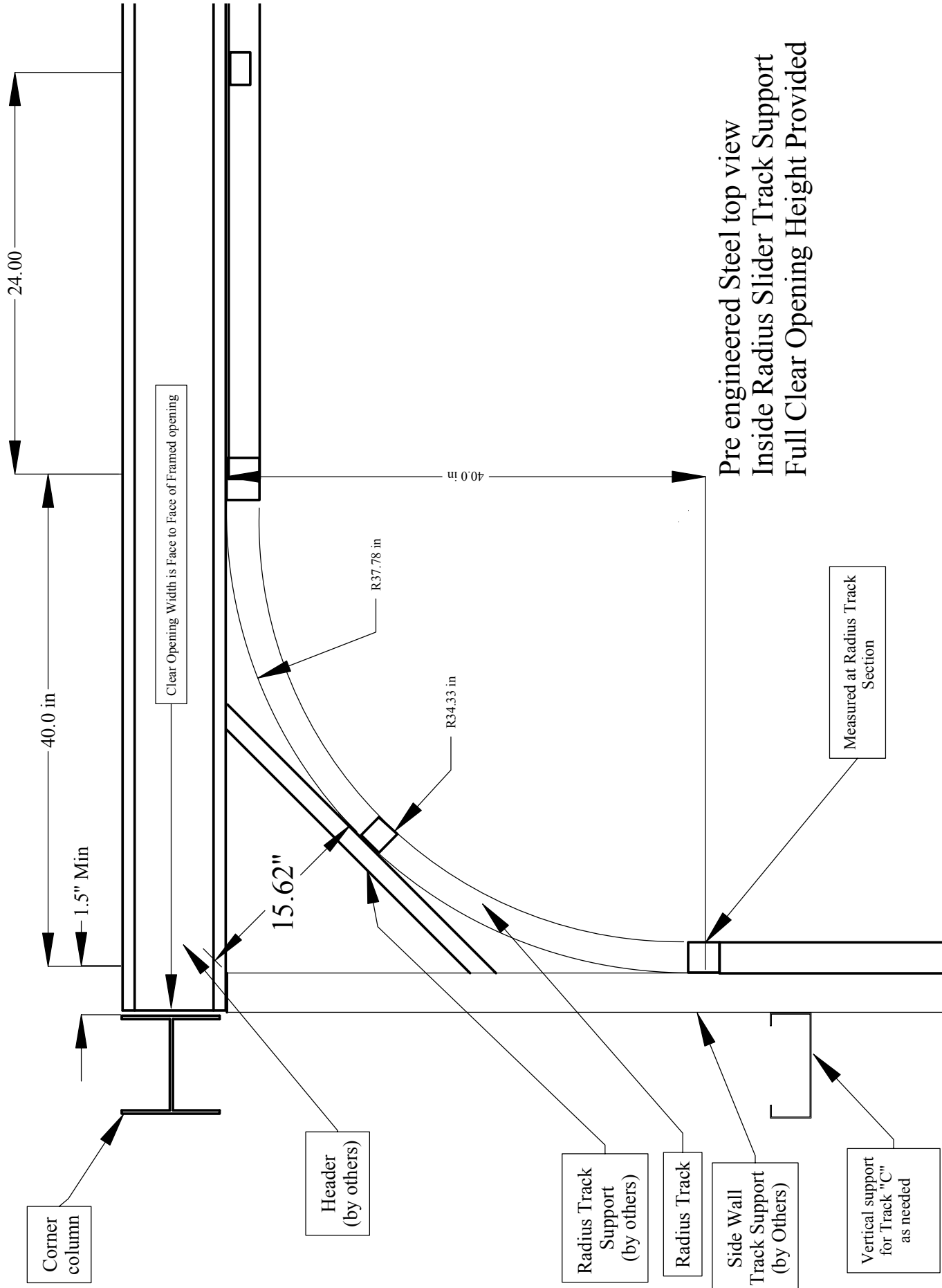
1.50"



Pre engineered Steel building  
Door opening



# Inside Slider with Track Mounted on inside rear surface of Header



# Expolded Panel - CSA-5.0

Astragal at center attached to vertical with small tek screws.

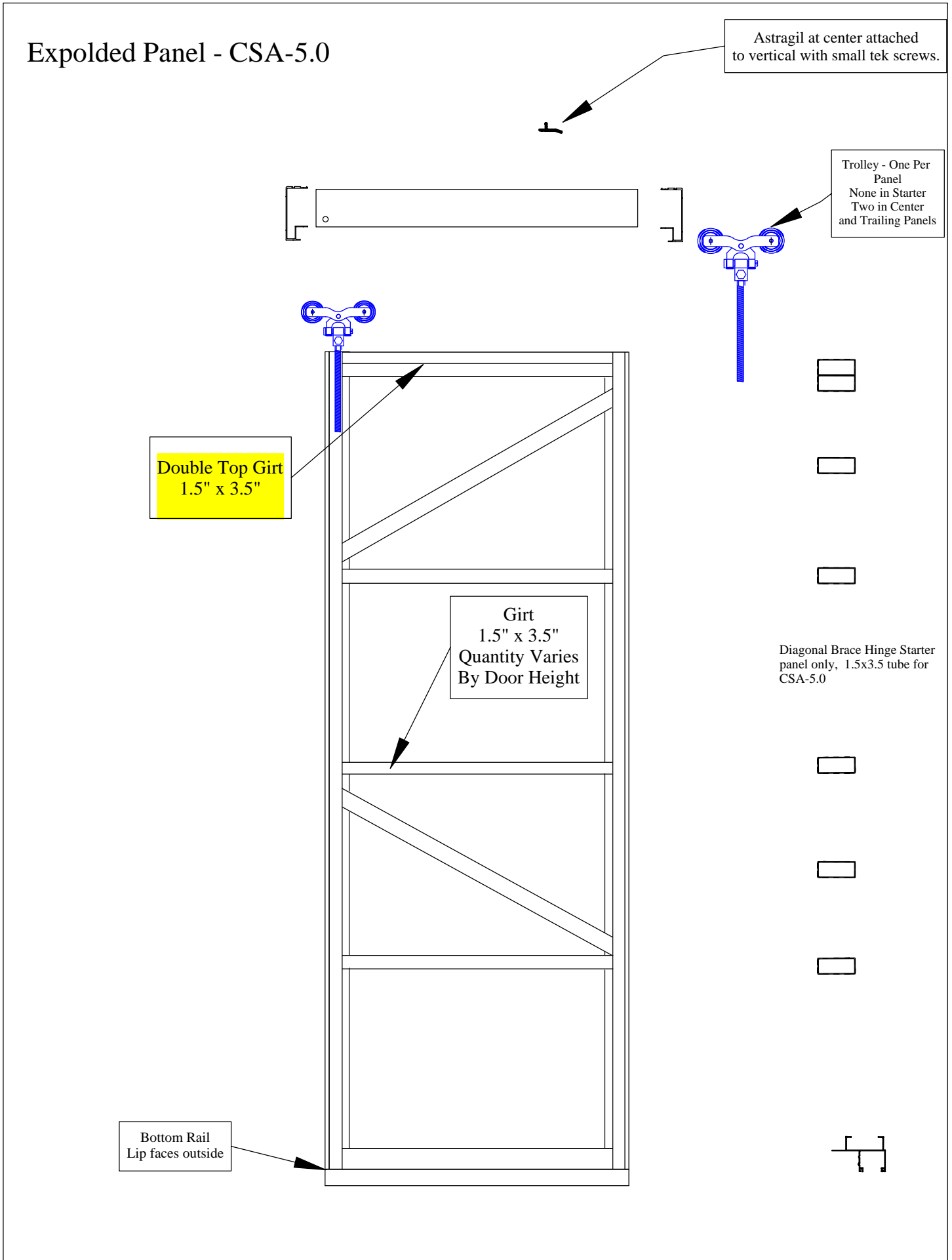
Trolley - One Per Panel  
None in Starter  
Two in Center  
and Trailing Panels

Double Top Girt  
1.5" x 3.5"

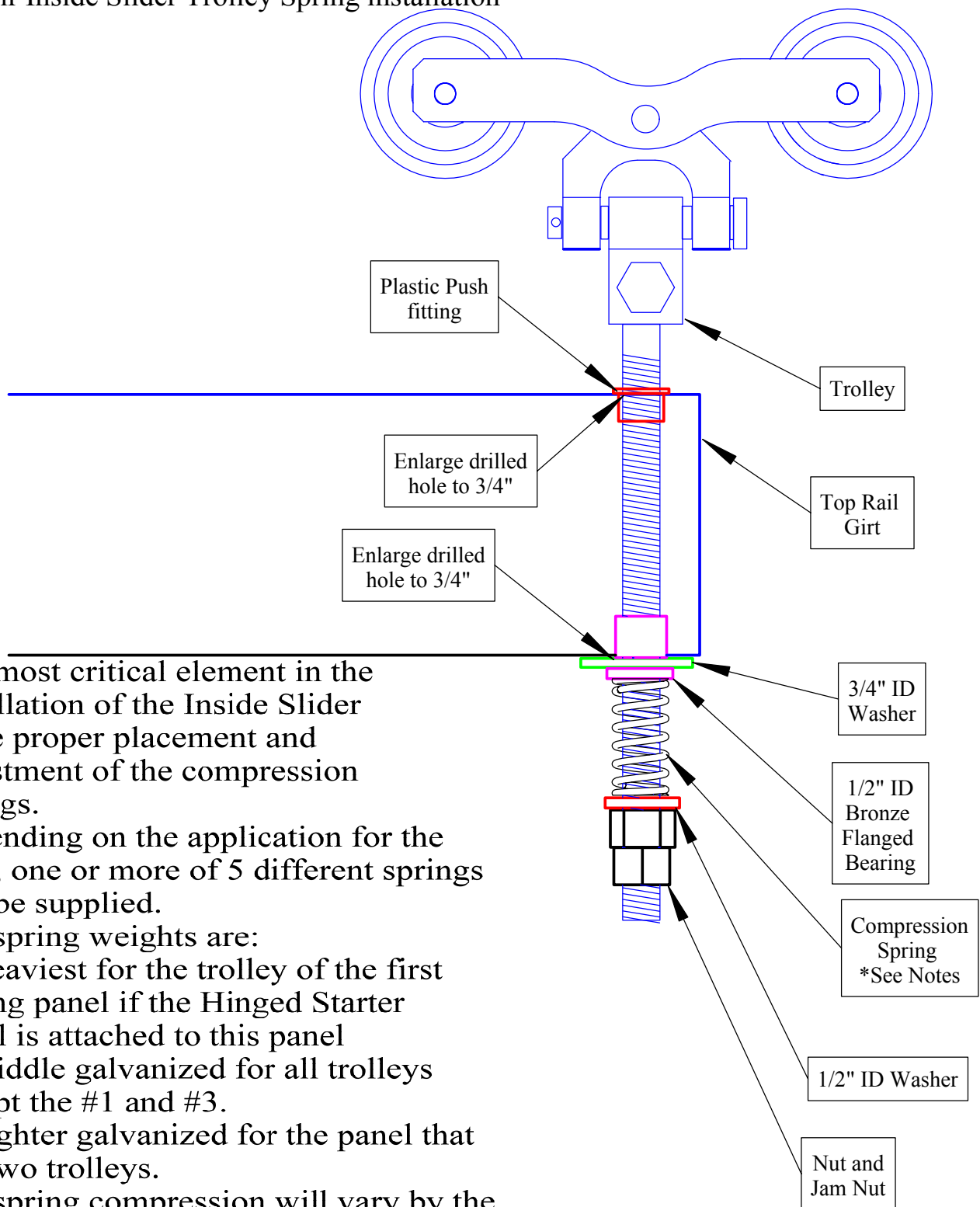
Girt  
1.5" x 3.5"  
Quantity Varies  
By Door Height

Bottom Rail  
Lip faces outside

Diagonal Brace Hinge Starter  
panel only, 1.5x3.5 tube for  
CSA-5.0



## Cool-air Inside Slider Trolley Spring installation



The most critical element in the installation of the Inside Slider is the proper placement and adjustment of the compression springs.

Depending on the application for the door, one or more of 5 different springs will be supplied.

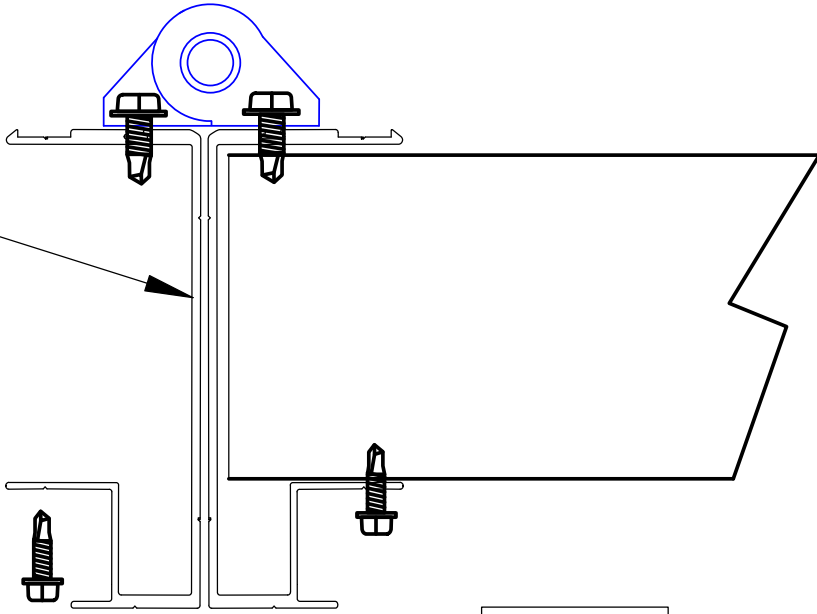
The spring weights are:

1. Heaviest for the trolley of the first sliding panel if the Hinged Starter Panel is attached to this panel
2. Middle galvanized for all trolleys except the #1 and #3.
3. Lighter galvanized for the panel that has two trolleys.

The spring compression will vary by the door size. It is important to adjust the trolley nut to allow all of the #2 springs to be compressed about the same and the top of the door located 1" below the header.

Adjust the #1 & #3 trolley nuts to compress the springs about 1/2 way but only as needed to balance the door.

CSA-5.0  
Vertical  
Application  
Shown at Half Scale

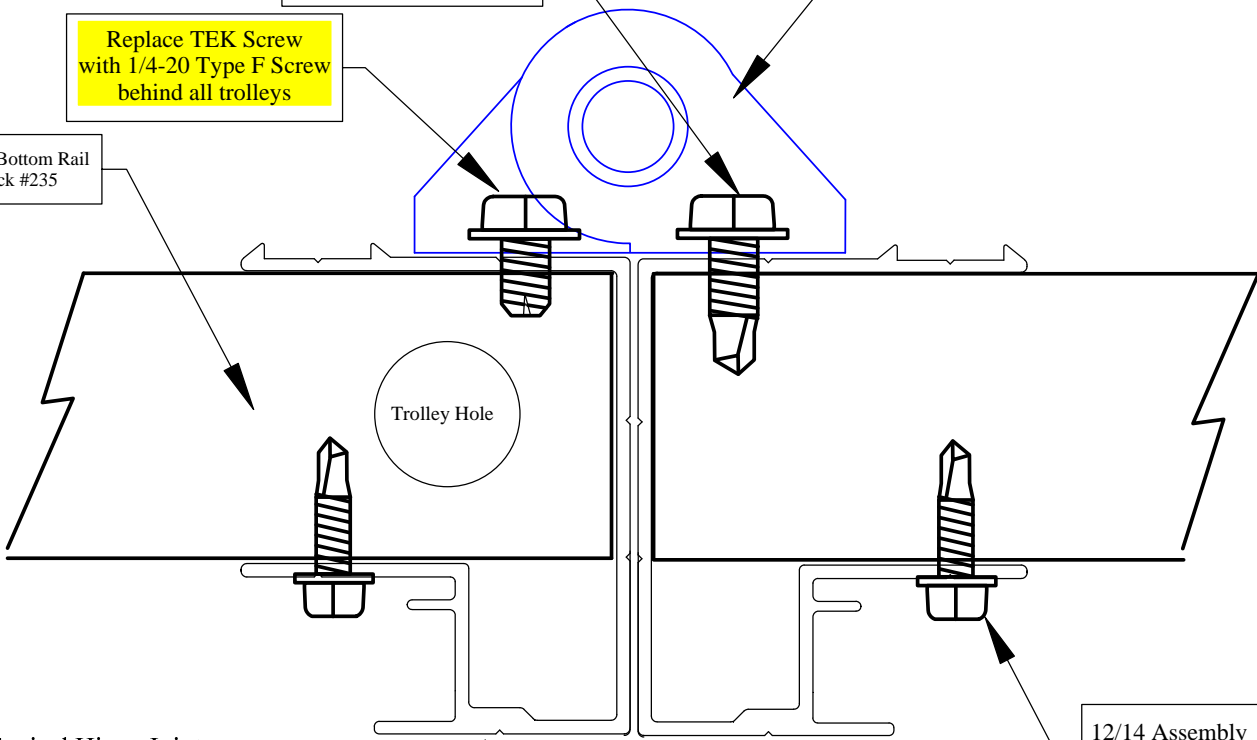


1/4 X 20 Lock Head Tek  
#500803

Cut Down Hinge  
#500802

Replace TEK Screw  
with 1/4-20 Type F Screw  
behind all trolleys

Girt or Bottom Rail  
Stock #235



Trolley Hole

12/14 Assembly  
Tek Screw  
#500815

Typical Hinge Joint  
Located at each Horizontal Girt

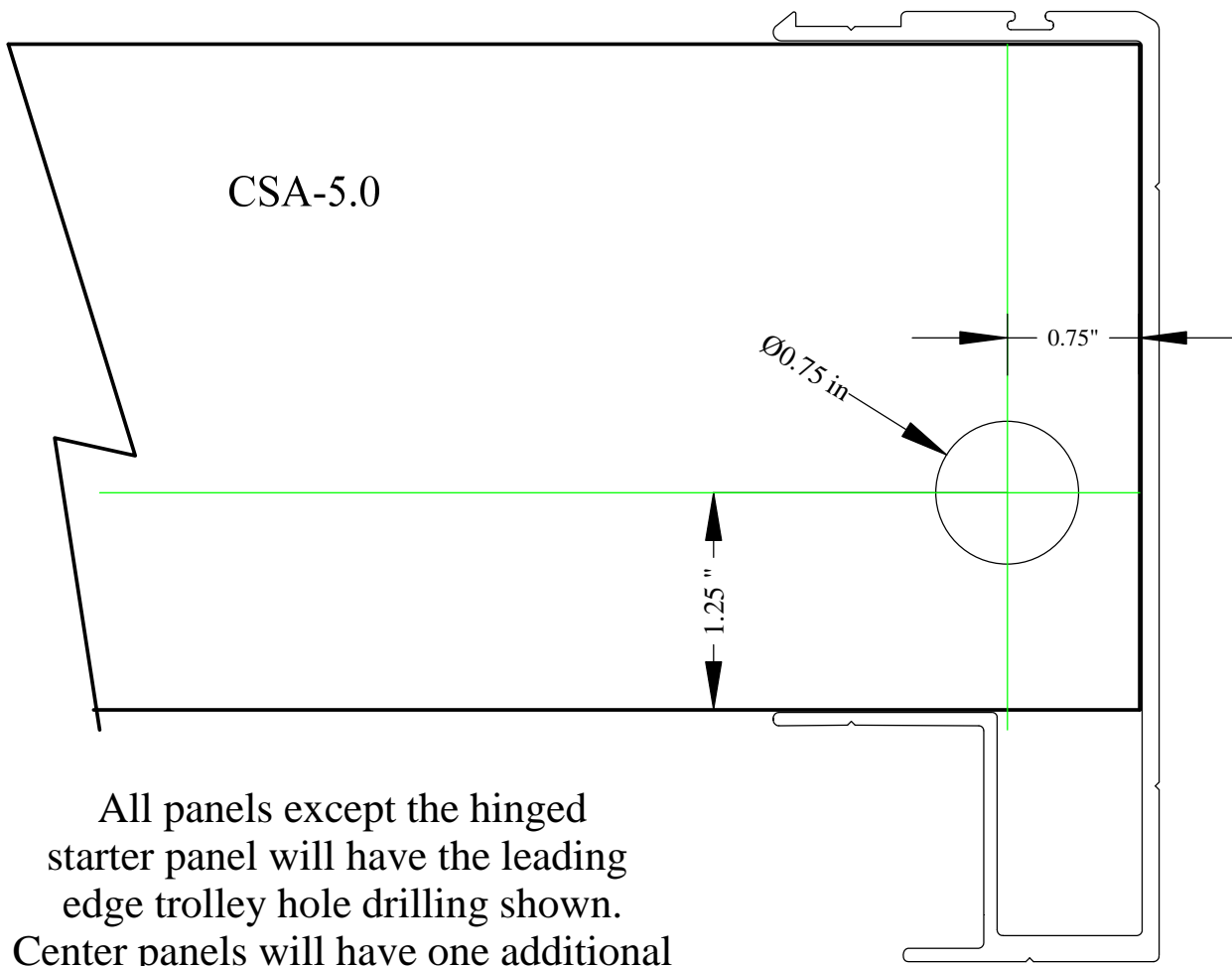
Two 1/4X20 Lock Head Tek Screws  
per hinge side

Top and bottom hinge can be bolted  
through vertical if desired

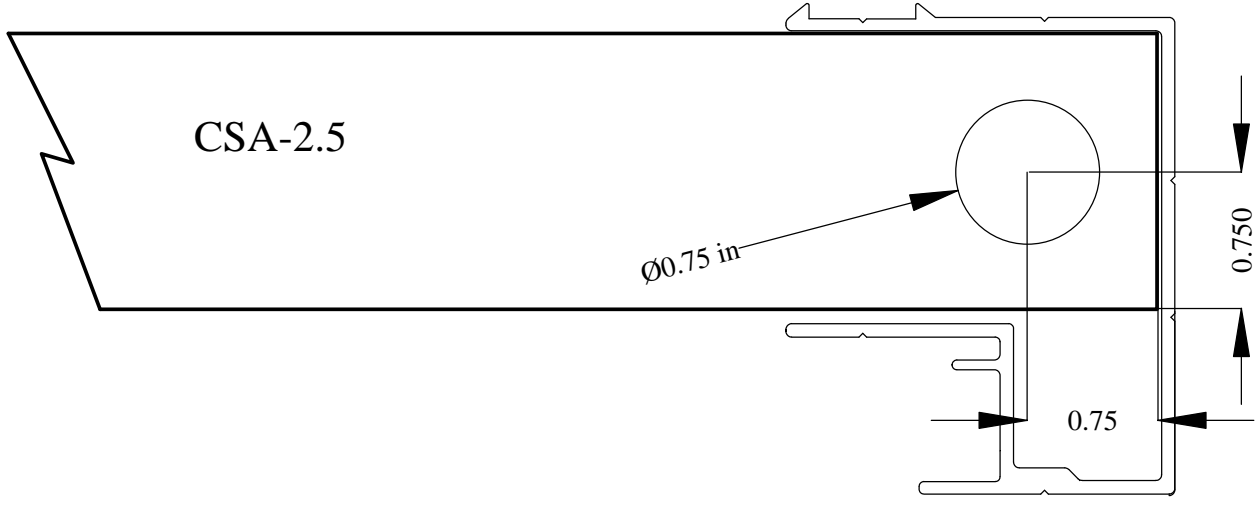
CSA-2.5  
Vertical  
Shown Full Scale

Cool-Air, Inc	Hinge Assembly
CSA-2.5 CSA-5.0	
04/10/2014	D. Coolman





All panels except the hinged starter panel will have the leading edge trolley hole drilling shown. Center panels will have one additional trolley hole drilled as shown on next page.

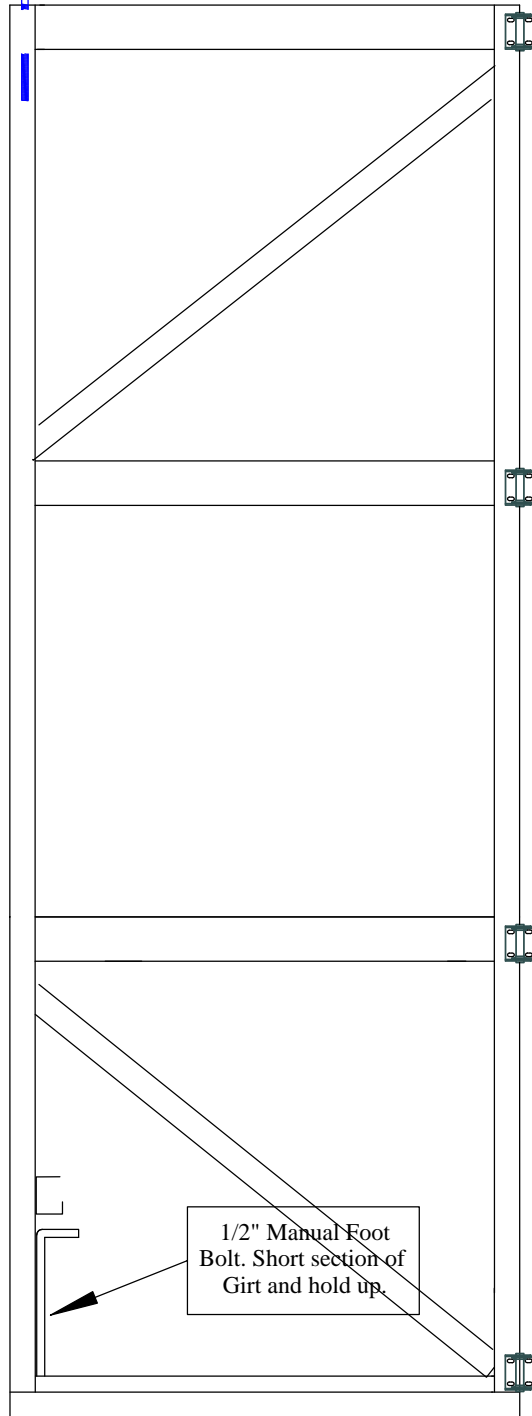


**Door Opens** →

Cool-Air, Inc	Trolley Hole Drilling
CSA-2.5 CSA-5.0	
03/11/2015	D. Coolman

Lock Set Up for NO HINGED STARGTER PANEL Install  
No Hinged Starter Panels installation with leading panel that has a leading trolley can have a bottom lock installed thru the bottom rail pre drilled with short section of girt installed in vertical to hold the foot bolt keeper.

Leading Stay Trolley



1/2" Manual Foot Bolt. Short section of Girt and hold up.

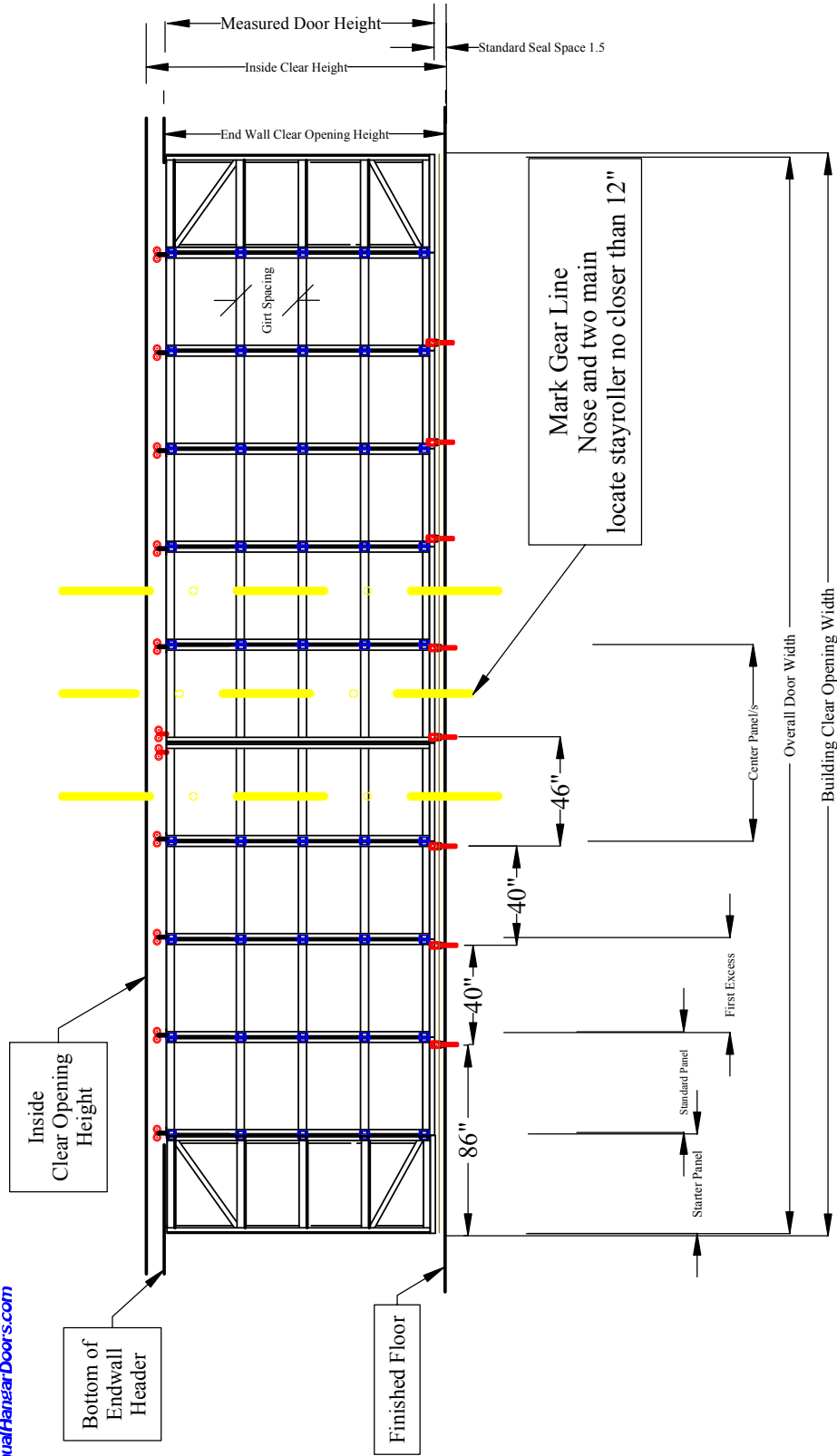
Leading Stay Roller



Manufactured under License by Cannon Ball : HNP For

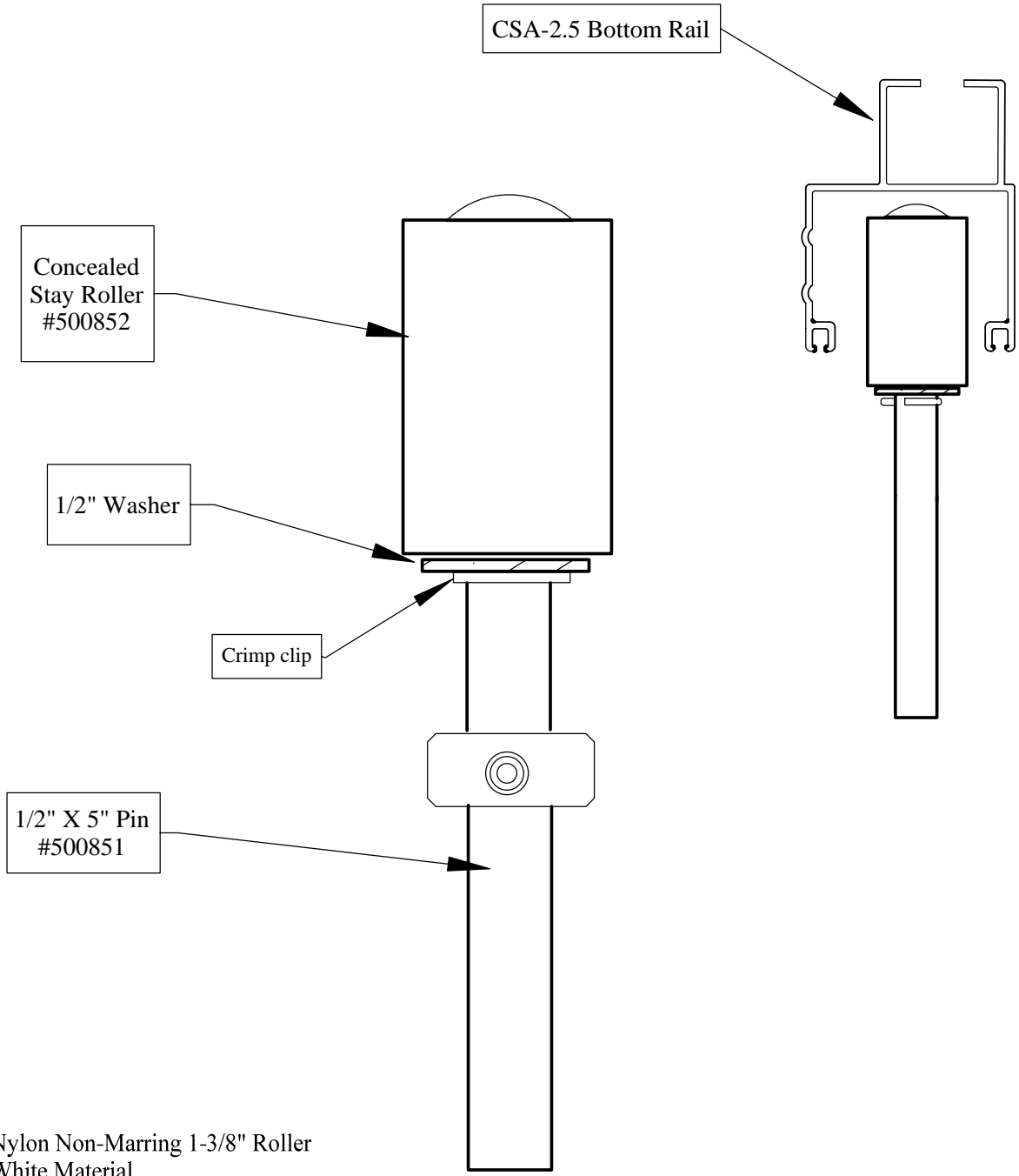


Check Actual System for Panel and Girt Quantity  
 Print Shows 11 Panel - 4 Girt Plus Bottom Rail  
 Two way operation



<b>Cool-Air, Inc</b>	Multiple Panel Inside Slider
Actual System Plus Bottom Rail	Consealed Stayroller Location
Door System CSA-2.5+	Jack Cooper

# Concealed Stay Roller

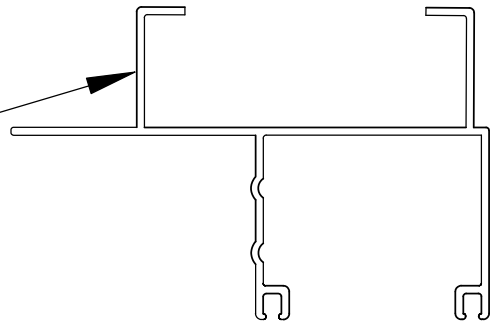


Nylon Non-Marring 1-3/8" Roller  
 White Material  
 1/2" X 5" Mounting Pin  
 Adjustable Height with Shaft Collar  
 Requires 2-1/2 " deep receptical in Floor

Standard supply is ONE per panel less Starter panel  
 Plus Two for securing the open door on the side wall

Cool-Air, Inc	Concealed Stayroller
CSA-2.5	
02/25/2015	D. Coolman

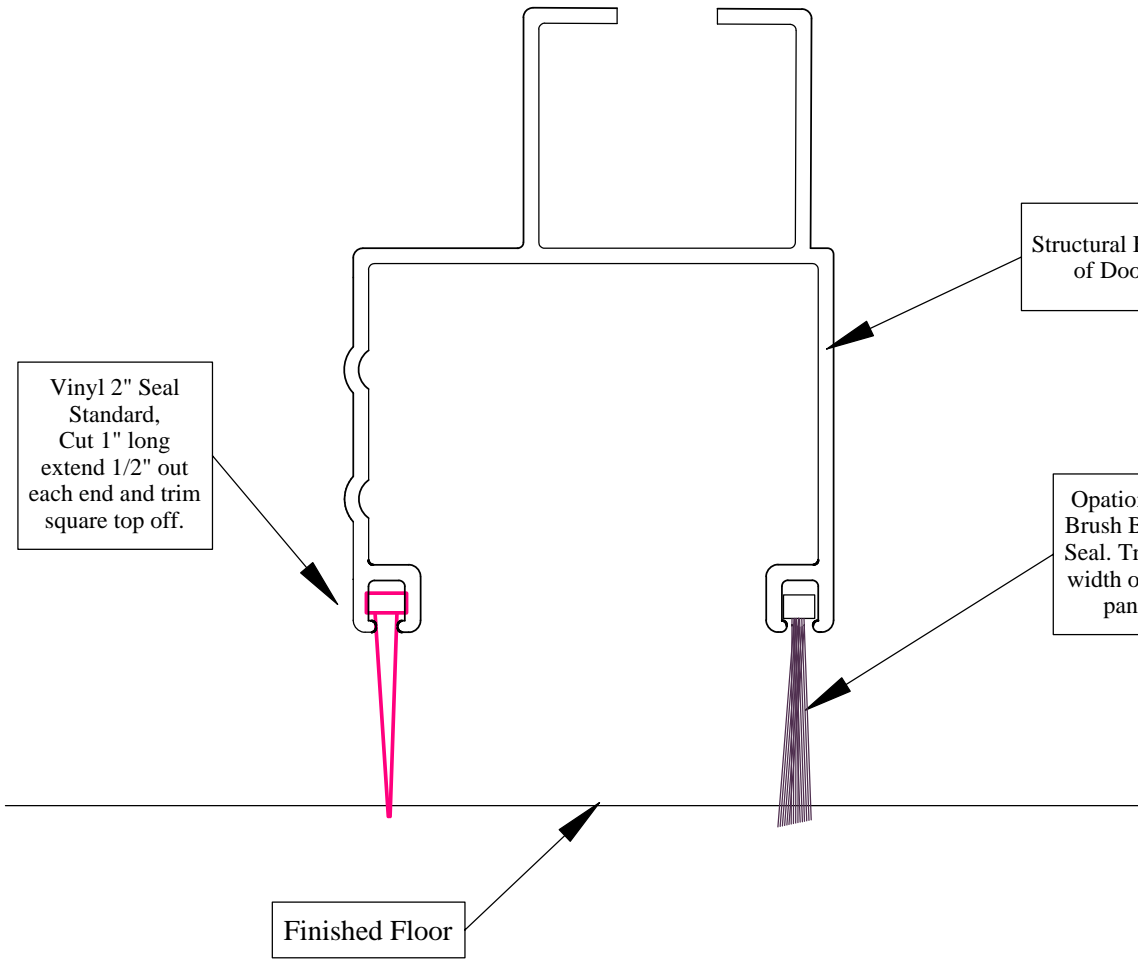
CSA-5.0 Bottom Rail  
shown at Half Scale



Structural Bottom Rail  
of Door Panel

Vinyl 2" Seal  
Standard,  
Cut 1" long  
extend 1/2" out  
each end and trim  
square top off.

Optional 2"  
Brush Bottom  
Seal. Trim at  
width of door  
panel.

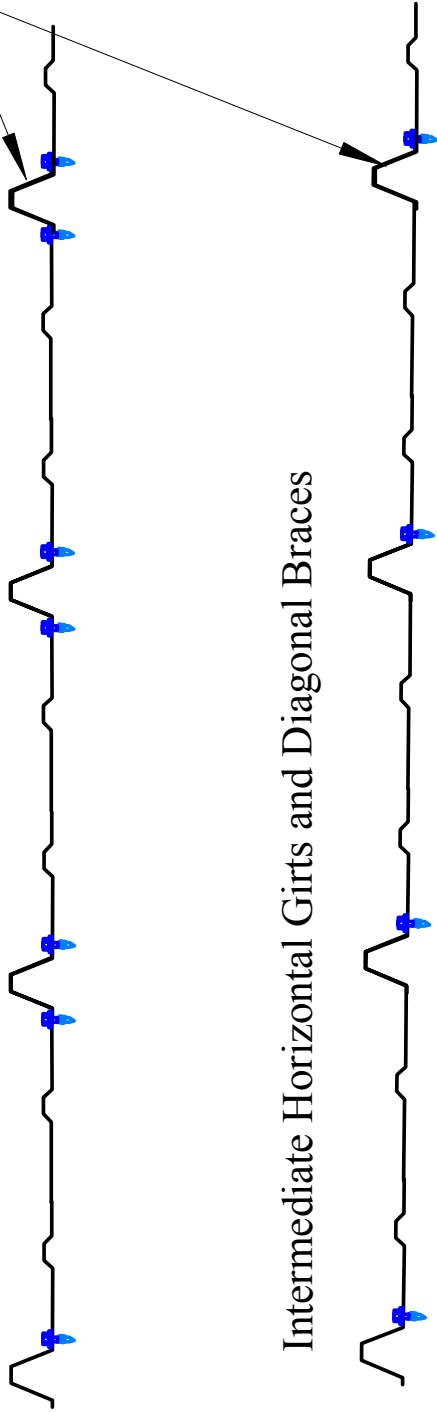


Finished Floor

Standard Seal Space  
is 1.5". Seal should  
rub on floor.

Cool-Air, Inc	Bottom Rail Seals
CAS-2.5 CSA-5.0	
04/10/2014	D. Coolman

Door Top Rail Girt and Bottom Rail Screw Pattern



Intermediate Horizontal Girts and Diagonal Braces

### Steel Panel Screw Pattern Recommendations.

The top horizontal rail and the bottom rail will have one screw at each side of each major rib. The remaining horizontal girts and diagonal braces will need one screw at one side of each major rib. For other configurations of steel sheeting and other types of sheeting, follow the manufacturers recommendations but use at least 80 to 100 screws per square of sheeting.