

GUIDE 2008



ENTRANCE FRAME INSTALLATION GUIDE



THE PEELLE COMPANY

FREIGHT DOORS | CAR GATES | CAR ENCLOSURES

TECHNICAL SUPPORT 1-800-787-5020 ext 275

Guide No. 208

**ENTRANCE FRAME
INSTALLATION GUIDE**

Date: Sept 8 / 2017

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1. GENERAL

Masonry walls are recommended for use with vertically sliding doors and door frames. Drywall (sheet rock) or gypsum hollow-type walls designed for shaft wall construction can be used. Follow the wall-system installation requirements to maintain the designed integrity. Follow the Peelle supplied drawings to maintain drywall construction fire ratings.

It is preferred to use Peelle UL fire rated door frames for masonry or drywall/shaft-wall construction. Doors installed in masonry walls do not require UL fire rated frames. Doors installed in drywall shaft-wall construction require a UL approved door frame design and installation. Peelle can provide UL labeled door frames (within size limitations) for the application. Doors should be installed in Peelle UL fire rated door frames in order to provide the protection indicated on the UL fire rated door label.

Structural (channel) steel frames are used for fastening and installing Peelle freight elevator doors. Channels are usually a minimum 200mm [8 in]. Jambs should have minimum 65mm [2.5 in] return flanges for mounting of door rails. The sill angle should be 100 by 100 by 10 mm angle [4 x 4 x 3/8 in] as a minimum. The plate on top of the angle should be 6 mm by 200mm [1/4 in x 8 in] checker-plate. Larger is better to accommodate forklifts. Per ASME A17.1/CSA B44 Rule 2.11.12.1.1, Landing sills shall be of metal and of sufficient strength to support the loads to be carried by the sills when loading and unloading the car, and be secured in place (see 2.16.2.2 for classes of loading); the load on the sill during loading and unloading shall be considered to be the same as that on the platform members. (See Figure 1 on page 6 & Figure 3 on page 8).

Structural steel four-sided frames must be set exactly plumb one above the other and square with hoistway shaft. Where front and rear door entrances are required, the distance between front and rear door frames must be maintained exactly. Sills must be level and plumb. No wall bulges permitted below sill, in shaft.

For drywall only, jambs should extend to structure above (extend jambs past the head of the frame - Jamb-Extensions-To-Beam-Above). Drywall jambs must include jamb extensions above head of the frame, be fastened on bottom to the sill and fastened on top to the structure above (building beam or floor slab above) to provide proper support for door guide rails. Drywall mounting angles (struts/angle clips) are also required (from Peelle). Request drywall



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installation details from Peelle. These details include frame-to-wall interface details per ASME A17.1/CSA B44 Rule 2.11.18. Sheet rock contractors will add J fasteners / struts.

Many times in steel structures it is necessary to run lines between building columns, and then extend a level line across the front of the hoistway at each landing. In this way the finished floor vertical location is established. On masonry structures you will generally find that the builder has marked the guide line on the wall at each landing.

The installation of door sills requires careful work. It is necessary to obtain the finished “floor line” location of each landing from the building superintendent, before beginning work. Once a sill is set and grouted in, it is very difficult and expensive to change its location. It is suggested that the floor level lines be established at as many landings as possible before beginning work on the sills.

A mark should be placed on the hoistway edge of each sill to indicate the center of the opening of the door. These marks should be plumb with each other hopefully by using a center mark of an operating car platform.

2. INSTALLATION

Refer to illustrations in this manual. Use Door Layout Drawing Peelle L-1. If Peelle supplied the frames, use Peelle Frame Layout Drawing.

BEFORE BEGINNING INSTALLATION.

It is general practice to set hoistway entrance sills on some form of sill support bracket. These may be termed, “Z” brackets, “clip” brackets or may have a name peculiar to its individual design. The brackets are secured to steel beams by welding or bolting. They are fastened to concrete beams by masonry anchors or grouting. [For horizontal slide entrances, they are set to align with the holes in the sill which fasten the two parts together.] They are set with their tops about level. Some arrangements allow for a small amount of packing between the bracket top and sill bottom. It is often necessary to shim under brackets to get their tops level when installing them on rough concrete beams. Once the sill brackets are installed, the sill itself is laid on them. A template is placed into position against the guide rails and then the sill set to it. Shims or packing are slid between the brackets and sill, if needed. (For horizontal slide entrances, the bolts are installed and tightened.)



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INSTALLING ENTRANCE FRAMES. SEE FIGURE 2 ON PAGE 7

- 1) **CHECK DOOR OPENING SIZE AT EACH FLOOR.** Check width and height. Confirm floor to floor heights, overhead and pit dimensions. Frames require a recess for sill if the floor was poured before frame (and sill) installation. Recess for sill should be 75mm [3 in] deep, the full width of opening and 50 mm [2 in] wider than the edge of the sill plate towards the room.
- 2) **SET SILL LEVEL BOTH WAYS TO $\pm 6\text{mm}$ [1/4 in].**
 - 2.1.) The sill is critical. Sill must be level and plumb. On the hoistway shaft side, sill angle must be flush with jambs (installed later); sill angle must be plumb. Jambs get mounted on top of sill. The horizontal center of sill must be set at center of door frame opening as shown on the drawing.
 - 2.2.) Top of sill must be set at the height of the finished floor. In order to locate the vertical height of the finished floor, many builders mark the rough corridor walls 915mm [36 in] above the finished floor lines. These lines are called “bench marks.” It is not wise to start installation of door sills until you have confirmed the location of these marks with the construction engineer or construction superintendent.

Set the level of the sill in both post wise and front-to-back directions. The vertical distance from the bench mark down to the sill top must also be confirmed again and, in addition, the alignment of the marks for horizontal centers of door openings. These checks will permit the car and hoistway doors to align properly when door work is completed.
- 3) **JAMBS PLUMB BOTH WAYS TO $\pm 6\text{mm}$ [1/4 in].**
 - 3.1.) Bolt the jambs to the sills. Set jambs square and vertical. Use a level.
 - 3.2.) Set the jambs square and in line. Drop a plumb line and ensure all frames are in vertical alignment bottom to top.
- 4) **SIDE MEMBERS (JAMBS) ONE ABOVE THE OTHER VERTICAL ALIGNMENT.** Use a plumb line to ensure jambs are in vertical alignment with each floor.
- 5) **SIDE MEMBERS (JAMBS) SQUARE WITH HOISTWAY SHAFT**



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ENTRANCE WALLS. Accuracy to 90° SQUARE ± 5°. Also square with elevator car platform (if already installed). If poured concrete walls rather than block/brick, prop the wall anchor brackets on outside of each jamb to horizontal position if necessary by drilling and tapping a bolt underneath each wall anchor bracket.

6) ENTRANCE CROSS SECTION.

- 7) DIMENSION FROM DOOR FRAME AND SILL TO ELEVATOR PLATFORM. The car clearance is the horizontal distance between the sill and the car platform and it is critical for proper running clearance. Maintain car to building sill distance (car clearance), or distance from elevator rails to building sill, or distance between rear and front frames. Make sure to set the sill and frames according to Door Layout Drawing Peelle L-1.

Different types of vertical doors have a different car clearance. All doors in a line will have the same car clearance. This is to ensure bi-parting doors space and for car-to-door-trucking-sill clearance (running clearance). Running clearance is 30mm [1-1/4 in]. Door space dimension is 125mm [5 in] for regular-type doors and 170mm [6-3/4 in] for pass-type doors. If two-section slide-up doors are planned instead of bi-parting doors, a projection-building-sill is required rather than leaving space for the doors; running clearance is 30mm [1-1/4 in].

If there are rear entrances, the dimension between front and rear frames must be maintained.

- 8) FRAME PROJECTION 15mm [1/2 in] FROM THE HOISTWAY WALL. Hoistway shaft face of jambs, sills, heads and extensions must be smooth on hoistway shaft side (in one plane). No part of the masonry wall should be in the hoistway shaft, extending beyond a vertical plane of the face of the vertically sliding door. Do not allow concrete bulging! This ensures the door panels when opened do not get scratched especially in the pit.



NOTE: NO WALL BULGES PERMITTED BELOW SILL IN SHAFT.

- 9) DOOR RETURN SPACE BOTH SIDES. Check door return space on both sides, at each floor (hoistway shaft side): ± 330mm [13 in] minimum return space for power doors or 250mm [10 in] minimum for manual doors. If two-section slide-up doors are planned instead of



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bi-parting doors, refer to return dimensions required on door layout drawing.

- 10) **LEVEL HEAD OF FRAME.** Header level should be maintained within ± 6 mm [1/4 in]. Keep jambs same distance apart at the top as at the bottom. Bolt head of frame to both jambs. It is recommended to have an intermediate horizontal building beam from column to column above the head of frame, as a lintel to support the wall load above. See drawings for recommended header with overhead loads.

NOTES BEFORE GROUTING

Before sills are grouted, place something as concrete stop between sill angle and floor edge next to hoistway shaft! Keep concrete from bulging into the shaft, past the edge of the sill angle, otherwise the vertically sliding doors will scrape against the bulge!

Where, for any reason, the sills are not bolted or grouted to a firm foundation, they must be securely braced so that they cannot move when they are grouted or bricked in during the completion of the walls. Use temporary flat steel braces and mounting angles for this purpose. Clip the angles to the sill and flats, and the flat steel to the elevator rail back. The braces can be made up from the layout drawings.

Be sure to check the alignment of the sill with those sills of the other cars, if it is in a group installation. If the elevator rails are aligned and the sill template is the same, all sills should be perfectly aligned. Therefore, test check all sills. If errors are found, discuss the problem with the superintendent before correcting them, as a great loss of time or use of materials would be involved when making necessary changes.

3. MAINTENANCE AND CARE

Periodically (yearly) check the Sills and Frames for wear, damage, corrosion and general integrity. On biparting doors, the frame maintain the load of the doors along with loading trucks. Ensure that the frame-to-wall interface is structurally sound. Check the sills for wear or cracks around the frame grout. Repair or replace as necessary.



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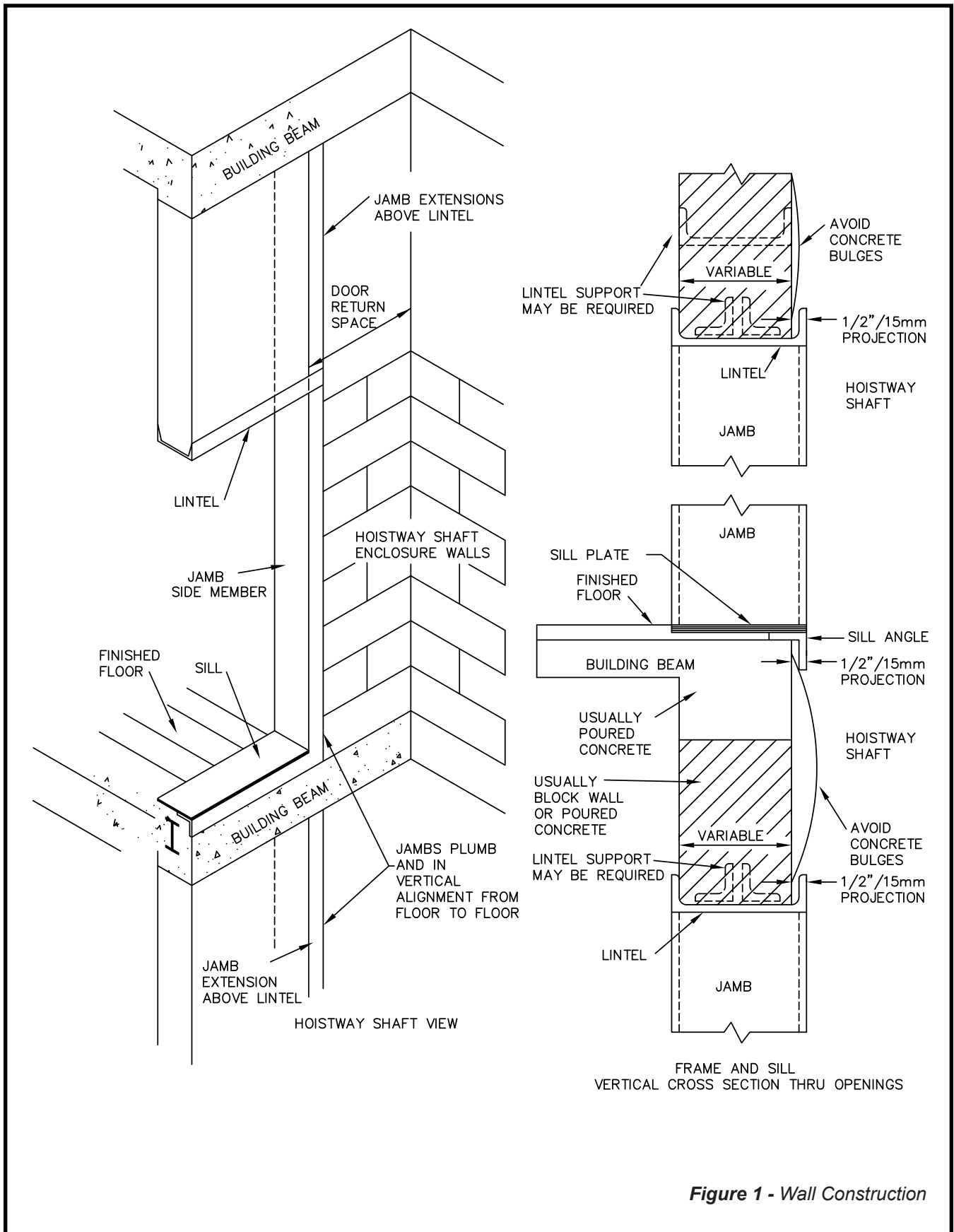


Figure 1 - Wall Construction



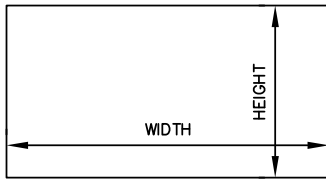
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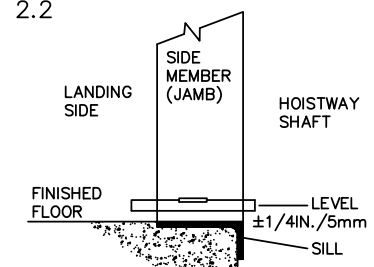
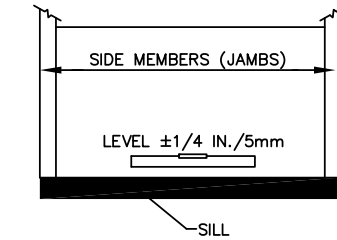
FRAME INSTALLATION

FRAMES AND SILLS MUST BE SET ACCURATELY

1. CHECK DOOR OPENING SIZE
EACH FLOOR

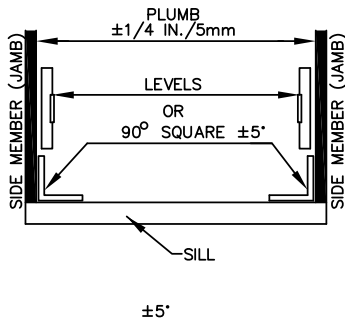


2. SET SILL LEVEL BOTH WAYS TO $\pm 1/4$ INCH/5mm

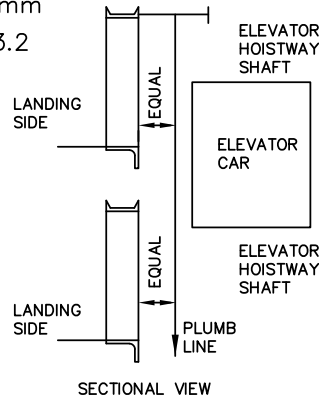


3. SIDE MEMBERS (JAMBS) PLUMB BOTH WAYS TO $\pm 1/4$ INCH/5mm

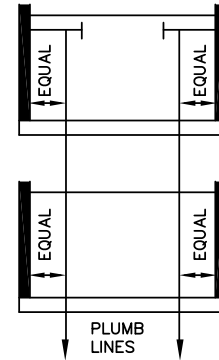
3.1



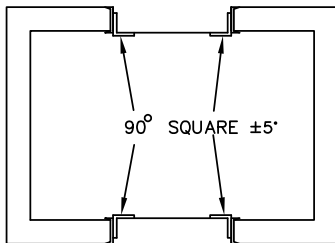
3.2



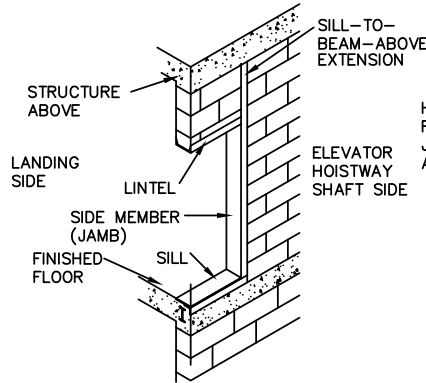
4. SIDE MEMBERS (JAMBS) ONE ABOVE THE OTHER VERTICAL ALIGNMENT



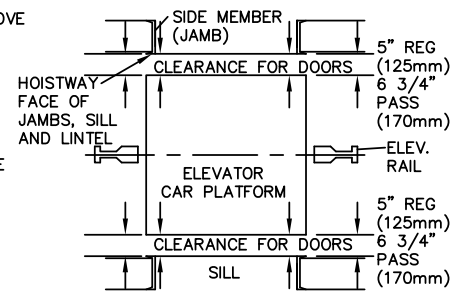
5. SIDE MEMBERS (JAMBS) SQUARE WITH HOISTWAY SHAFT ENTRANCE WALLS



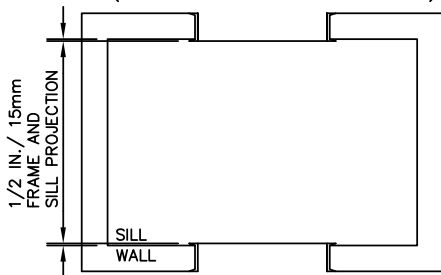
6. SIDE MEMBERS (JAMBS) SHOULD EXTEND TO STRUCTURE ABOVE



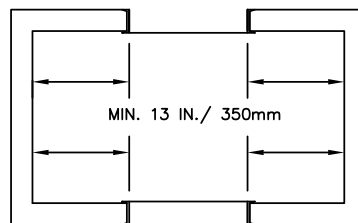
7. DIMENSIONS FROM DOOR FRAME AND SILL TO ELEVATOR PLATFORM



8. 1/2 IN./15mm FRAME PROJECTION FROM THE HOISTWAY WALL (HOLD NO. 7 DIMENSIONS)



9. DOOR RETURN SPACE BOTH SIDES



10. LEVEL LINTEL

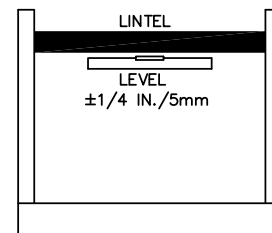


Figure 2 - Construction Details



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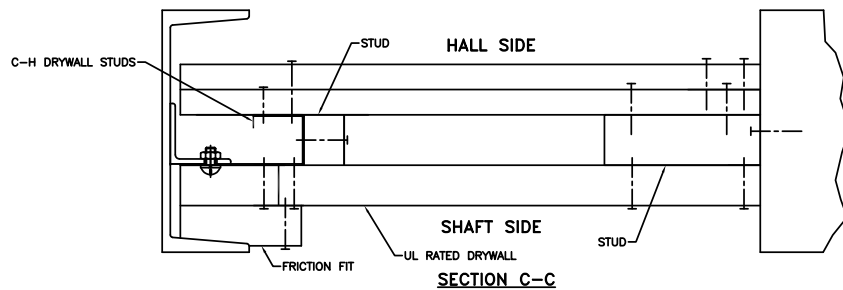
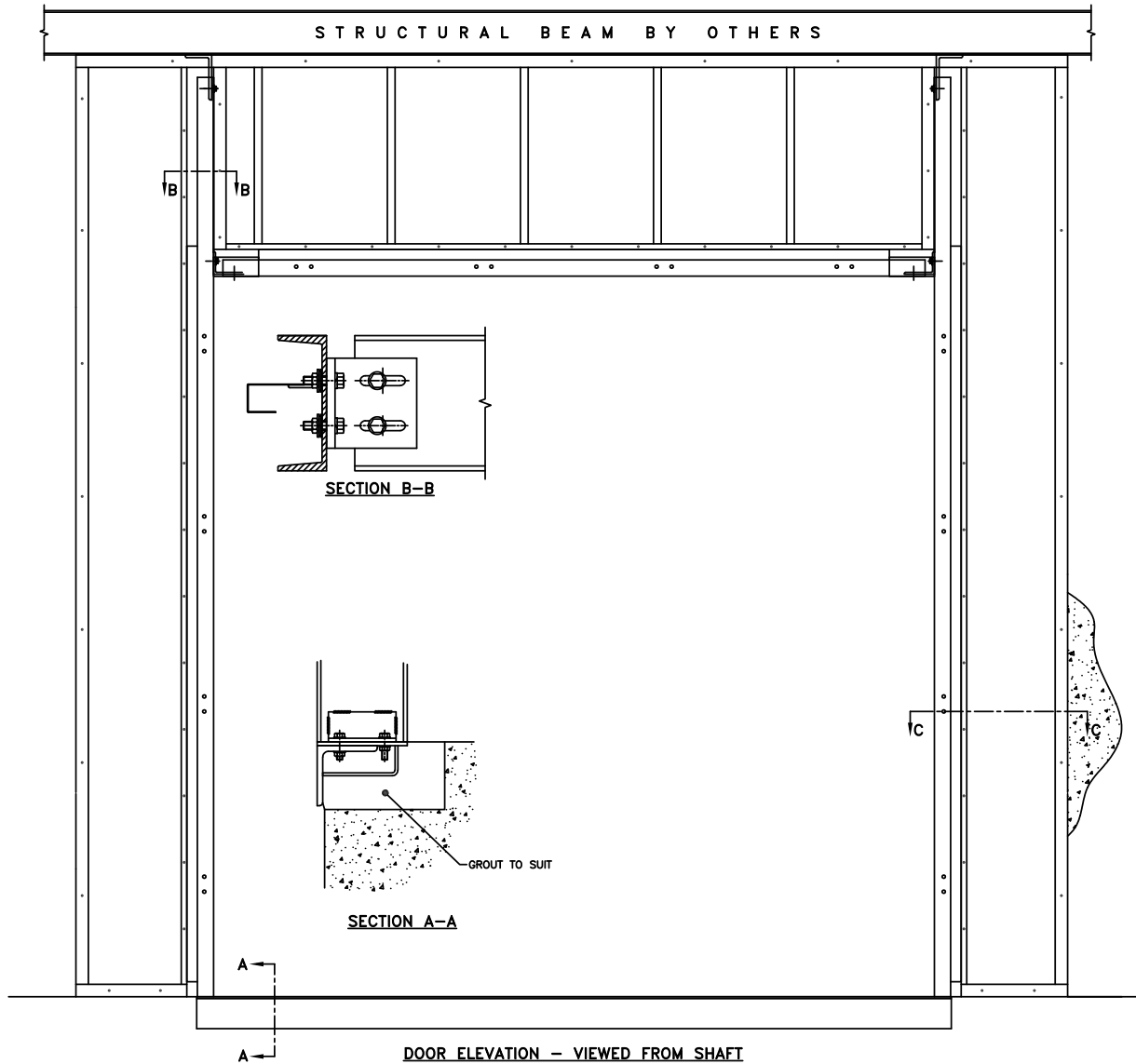


Figure 3 - Drywall Frame Construction



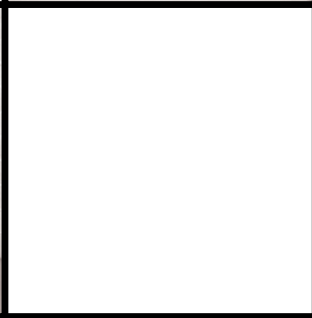
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