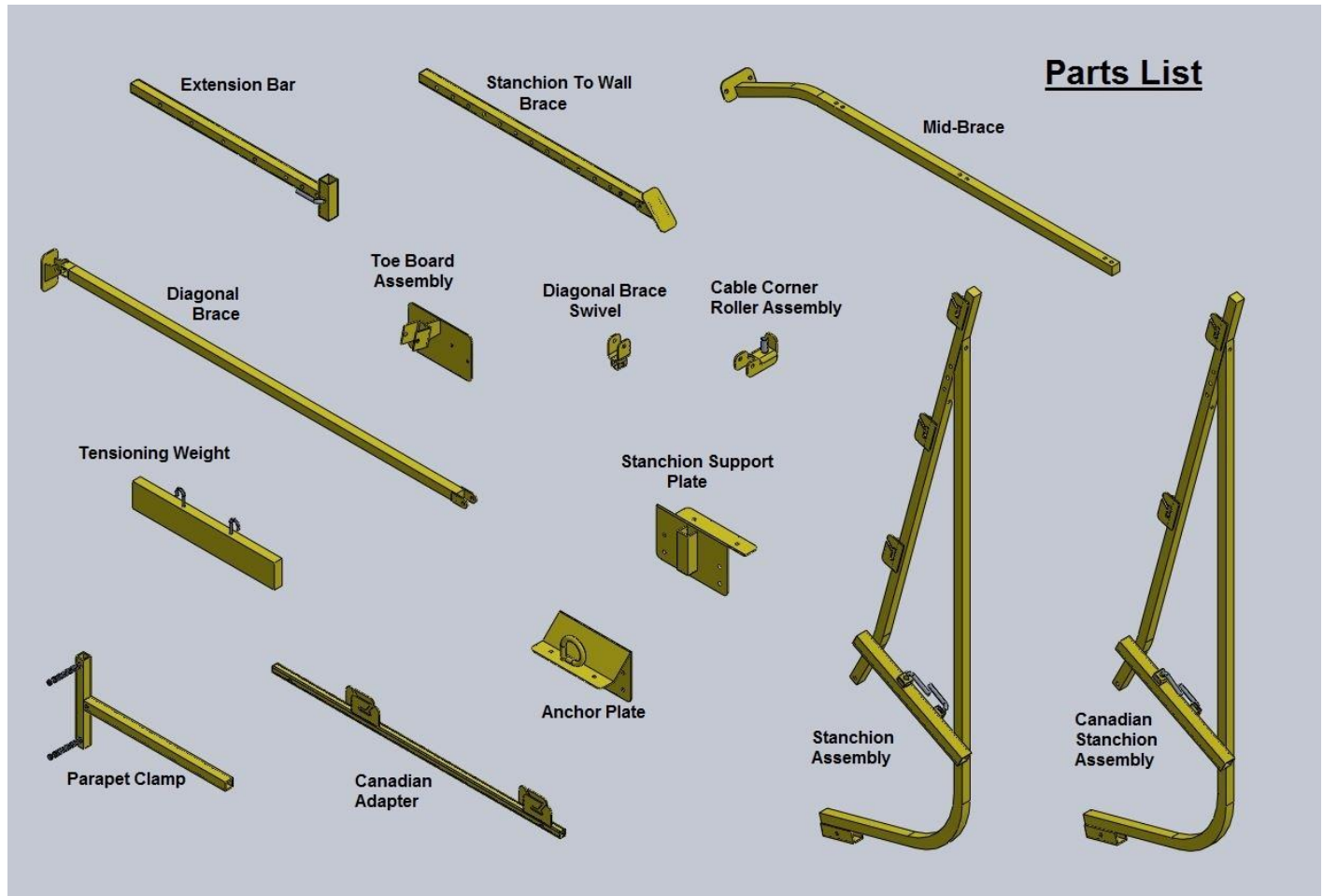


FALLBAN CABLEGUARD INSTALLATION INSTRUCTIONS



These instructions are for use with FallBan 1 and FallBan 2. FallBan 1 with hard rail adaptors can be used in straight run applications but does not allow for corners. If installed, FallBan 1 hard rail adaptors must be removed before installing a cable system involving corners. For the sole purpose of simplifying these instructions, the substrate for this installation example is wood perimeter edge. *Toe Board Adapter not pictured above* For further details and examples, please visit <http://www.fallban.com/installation>.

FallBan Perimeter Safety System is for use on Low Slope Roofing (Flat up to 4/12 pitch). FallBan is not intended for Steep Roofing applications. Please read all instructions before attempting to install.

The installer should determine substrate acceptability for the installation and accepts any and all liability for failures or damage resulting from substrate integrity and/or incorrect installation.

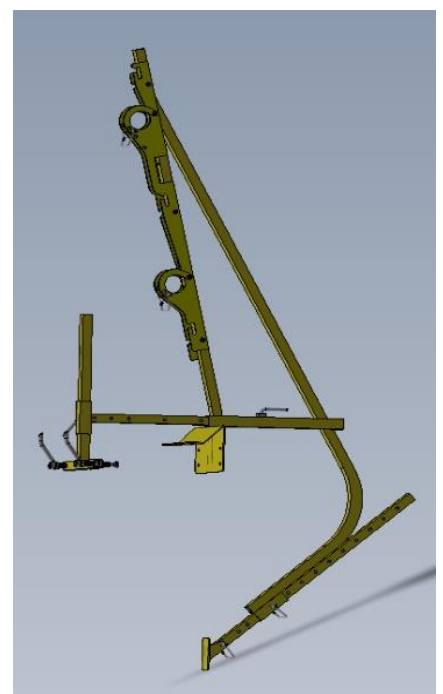
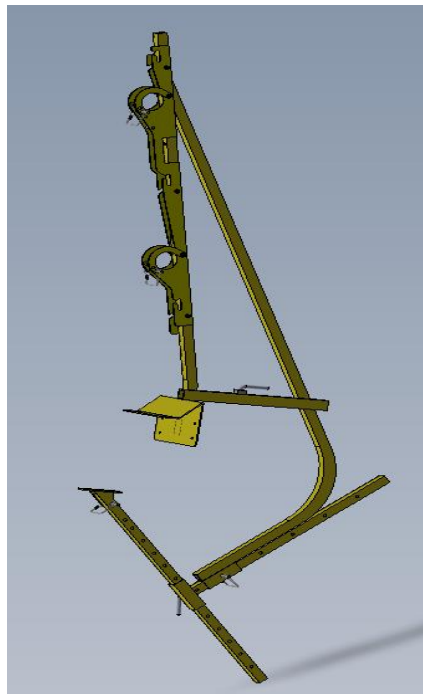
Flat roof installation requires 1 ½ inch #12 roofing fasteners. Parapet wall installation requires equivalent anchors, based on substrate, for cable termination.
DO NOT REUSE FASTENERS.

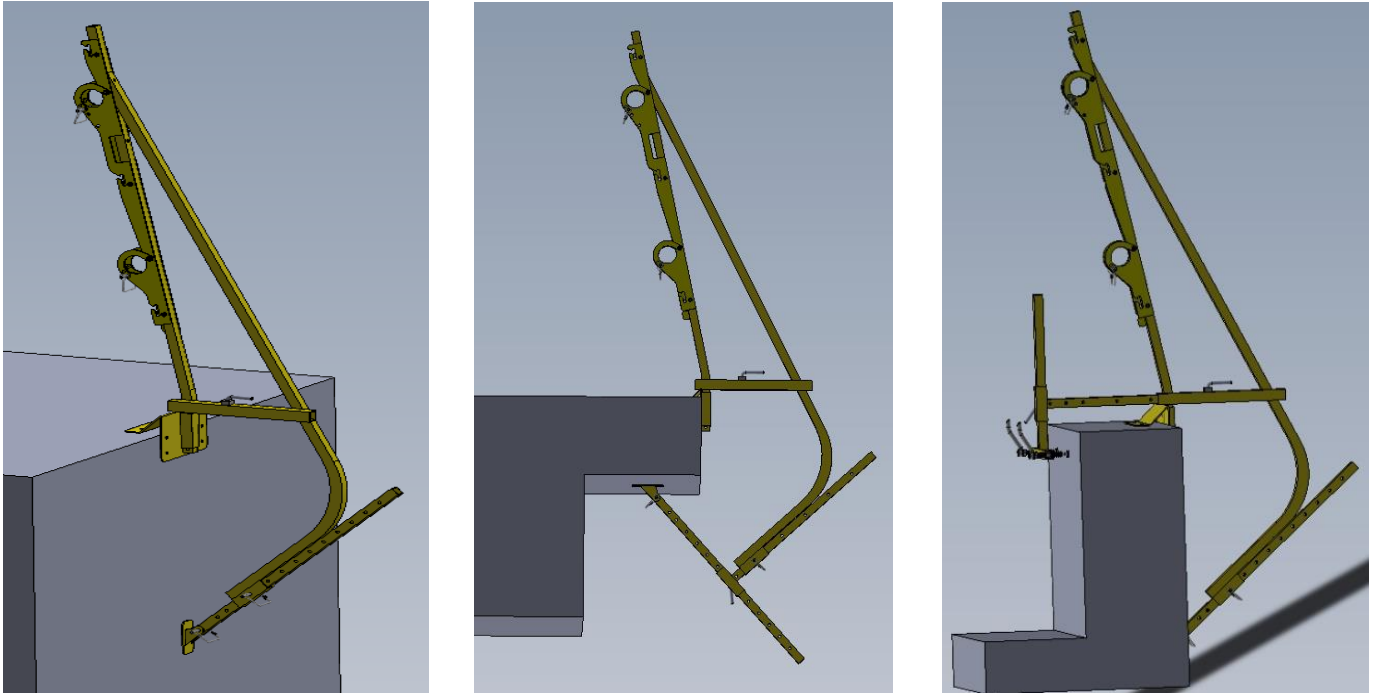
The use of fall protection Harnesses, ropes, lanyards, personal anchors, or other fall protection of your choosing is required during FallBan installation.

1. Survey the area to be protected: Place a chalk mark on the roof where you would like to begin your FallBan barrier. For roofs containing corners, one of the corners will typically be the best starting point. Make a mark between 16 and 20 inches from the corner point on each side of the corner. For straight runs, place a mark on either the leftmost or rightmost point of the protected area and use this as a starting point. From this starting line, measure and mark off 10-foot max intervals along the roof perimeter edge. At each corner, a mark should be made between 16 and 20 inches from the corner point on each side of the corner. Your starting line marks the placement of your first stanchion. For longer runs without parapet walls, stanchions should be placed every second mark from the first stanchion, with mid braces installed on the marks between stanchions. **Mid braces should not be used on parapet wall applications, stanchions should be placed every 10 feet. Additionally, the run should be planned to allow at least two termination anchor plates hardware anchored to the parapet wall. At stanchion cable termination is not allowed on parapet walls.** In runs containing corners, a stanchion must be placed at the marks between 16 inches and 20 inches from the corner point on each side of the corner. **Stanchion on-center spacing cannot exceed 20 feet.** The purpose of the mid brace is to always maintain the correct cable height. For short runs, stanchions may be installed concurrently at a maximum span of 10 feet without a mid brace in between. Ensuring ample room for material handling and ladder entry/exit, place a mark on each side of desired ladder access and staging areas. Staging areas should not exceed 10 feet in length (Figure 8, last page).



2. Assemble stanchions: Count the number of necessary stanchions, using the corresponding marks from the previous step. Attach support plates and stanchion to wall rests to stanchions, in a manner that fits your roof edge detail. **For parapet wall applications:** Insert the parapet clamp into the extension bar receiver tube, as shown below. Ensure the bottom of the clamp brace is 4 – 6 inches from the bottom of the receiver tube and tighten the L bolt on the extension bar.





3. Make a template stanchion: Take a stanchion and set it on the roof edge. While the stanchion is in an upright position, adjust stanchion to wall rest so it slightly rest against the wall or roof overhang (extension bar may also require adjustment for overhang roofs). Once the first stanchion has been adjusted, use it as a template to set all remaining stanchions which will be used on similar roof edge detail. Do the same with all other roof edge details.
4. Next lay out individual parts to be used (complete stanchions, with support plates and stanchion to wall rests attached, extension bars, mid braces, parapet clamps, etc.), approximately 10 feet from the roof edge. (Figure 2)



(Figure 2)

5. Pick a starting point:

For applications with parapet walls: Hardware anchoring of the stanchions is not necessary. Place stanchions with attached stanchion support plates in place. With the short end of the extension bar held vertically, insert the extension bar and mated parapet clamp into the stanchion center brace (receiver tube directly above the support plate) until the parapet clamp feet contact the inside of the parapet wall. Tighten the two L bolts on the stanchion center brace, to secure the extension bar to the stanchion. Secure the stanchion to the roof by tightening the two screw clamps on the inside of the parapet wall. Push and pull on the secured stanchion to identify and adjust any available slack from the system.

Mid braces and corner rollers should not be used in parapet wall applications.

For applications without parapet walls: Place stanchions with attached stanchion support plates and mid braces in place. The top of the stanchion support plates and mid braces must be anchored using the supplied fastening holes and two 1 ½ inch #12 screws. The support plate has optional lower wall fastening holes which may be used in addition to the two top fastening holes, if necessary.

Attach each stanchion and mid brace securely to the roof. Stanchion to wall rests should be fastened to the lower wall/overhang, when possible. As a reminder: On runs containing corners, a stanchion must be placed between 16 and 20 inches from the corner point on each side of the corner (Figure 4). Additionally, a stanchion must be placed on each side of a desired access area, e.g. staging and ladder access areas (Figure 8).

6. After installing and fastening all of the stanchions and mid braces to the roof deck, install diagonal braces at each corner, termination, and access area. Install and, using a 5/16 snap pin, pin the top of the diagonal brace to the stanchion body (Figure 3). The diagonal brace should always be placed in opposition to the cable tension force, so the system can withstand tension load (Figures 3 & 4). **In parapet wall applications: Place a pipe clamp over the foot of the diagonal brace and tighten the clamp to the parapet wall, in lieu of hardware fasteners.** Fasten the diagonal brace foot to the roof deck, using the supplied holes and 1 ½ inch #12 screws. When the roof edge does not run parallel to the stanchion placement, a diagonal brace swivel should be used allowing the diagonal brace to be placed as close to 90 degrees from the stanchion body facing as possible while still fully anchoring to the roof deck.

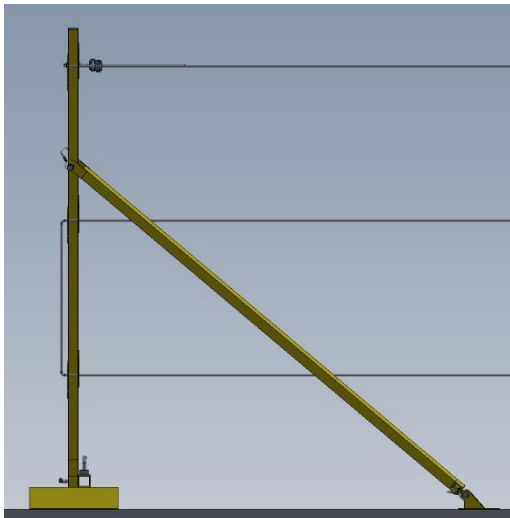


Figure 3



Figure 4

7. Begin installing the cable by picking one of your planned termination points and affixing the cable to either the end of run stanchion (Figure 5) or termination anchor plate (Figure 6) with two cable clamps as shown. **For parapet wall installations, termination anchor plates must be used and hardware anchored to the parapet wall. At stanchion termination is not allowed on parapet walls.**



Figure 5

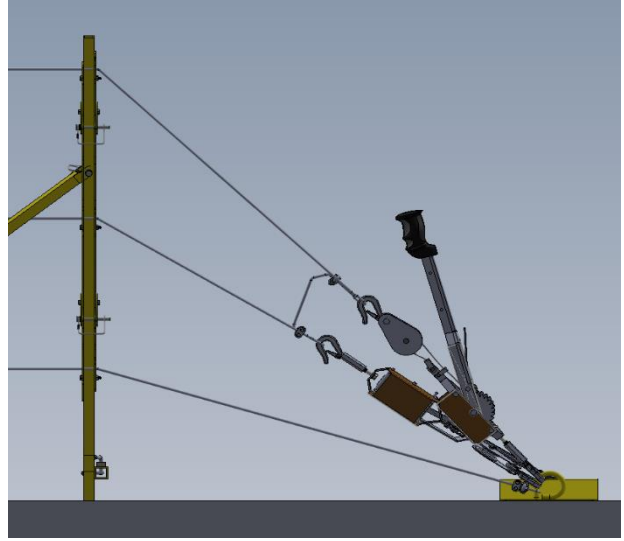


Figure 6

8. Working in your chosen direction, begin unrolling the cable along the roof edge. We recommend sliding a rod, such as a broom handle, through the inside of the cable spool to assist in unrolling the cable. After unrolling the cable from the start of the run to the next terminating point, such as an access area or the end of the run, walk back through and insert the cable into top cable brackets on each of the stanchions and mid braces. FallBan 1 mid braces utilize a J-hook cable retainer. Loosen the wing nut on the back of the J-hook, insert the cable into the hook, and tighten the wing nut until the cable cannot fall. Do not completely tighten the J-hook as it will prevent the cable from tensioning correctly. FallBan 2 mid braces utilize a cable slot and hook system. Simply insert the cable into the slot and clip the hook onto the cable (Figure 7)

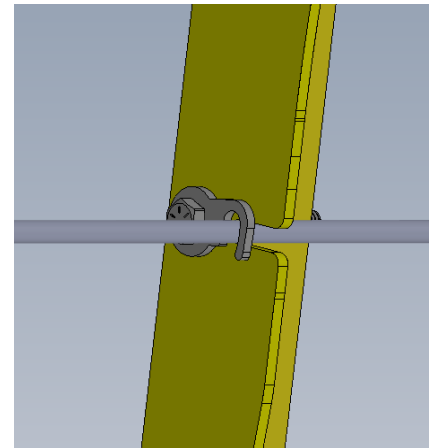
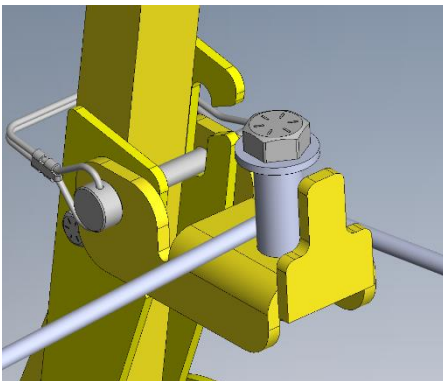
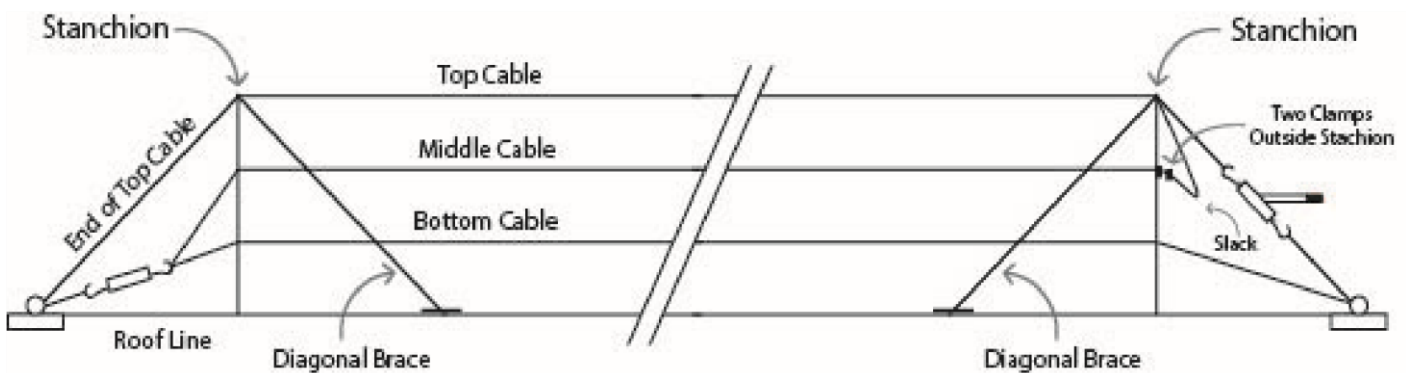


Figure 7



9. **If stanchion to wall rests are fastened to the lower wall/overhang at roof corners:** Ensure three corner rollers are installed on both stanchions at each corner (Figure 4). Install the cable to the corner rollers as shown.

10. **If stanchion to wall rests could not be fastened to the lower wall/overhang at roof corners:** It is necessary to separate the top cable run into multiple straight runs at each corner. To accomplish this, terminate the top cable at the stanchion, as pictured further in this section, on each side of the corner. When using the same spool of cable for the two terminations, leave substantial slack in the top cable between the two corner stanchions. The mid and bottom cables can still utilize the corner cable rollers, as the tension load on these is far less than the top cable.
11. Using one of the above methods, terminate the top cable at the end of the desired run. The top cable should be tensioned independently from the middle and bottom cables. This isolation can be achieved various ways, e.g. using different cables or employing a termination loop with ample slack for the top cable and placing cable clamps on the terminating side of the middle and bottom cables.
12. Following the top and middle cable terminations, unroll the cable in the opposite direction. Once you reach the start of the run, install the cable into the stanchion and mid brace cable brackets, as described in #8. The cable can then be looped down to the bottom cable brackets without termination, and the cable can be unrolled, in the same manner as before, heading toward the end of the run. Ensure all three cables are installed on each stanchion and mid brace before tensioning the system.
13. Repeat these steps when restarting the cable run after terminating at a desired access area. Cables will need to be terminated on each side of an access area (Figure 8).



14. Install at least one hand winch (come along) to the top cable and at least one more to the mid and bottom cable run (if looped together). Above is an example using two termination plates. A similar system can be if you choose to terminate at the stanchions.

For applications with parapet walls, tension the middle and bottom cables taut before tensioning the top cable. Ensure mid brace J hooks have not been fully tightened, to allow the cable to move freely during tensioning.

Top cable

Choose the longest span, stanchion or mid brace for long runs or stanchion to stanchion for shorter runs. Measure the top cable height from the roof deck at the span's stanchion. Hook the 15 lb. tensioning weight, or equivalent, to the top cable at the middle of the selected span and measure the height of the cable from the roof deck at the center of the tensioning weight. Remove the tensioning weight and begin cranking the hand winch. Hang the tensioning weight in the same spot and measure the height from the roof deck again. Repeat these steps until the cable height at the weight is within 3/4" (OSHA, SOR) or 9/16" (USACE) of the height at the initially measured stanchion. Depending on application, it may be necessary to add an additional mid brace to each span to achieve USACE requirements.

Mid and Bottom Cable

The mid and bottom cables should be tensioned taut. Crank the hand winch until slack is removed from both cables. Walk to the middle of the protected area and move the middle and bottom cables up and down to release any potential binds. Repeat this process until all slack has been removed from the middle and bottom cables.

15. When using a ladder or staging area to access the roof, sections of galvanized 2" EMT should be used as a gate when the access area is not in use. Terminate the sections of rail at staging area entries by installing and tightening T-bolt clamps on the end of the rails just inside of the staging area, to ensure the rails cannot slide out of the stanchion rail brackets. The same procedure should be used for any other access area e.g., material loading and debris removal areas. If a rail barrier is not used, warning line should be installed around these areas in compliance with OSHA, Corp of Engineers, Canadian SOR, etc. **For parapet wall applications, the cables must be terminated to anchor plates. Access areas must use a warning line in compliance with OSHA, Corp of Engineers, Canadian SOR, etc.**

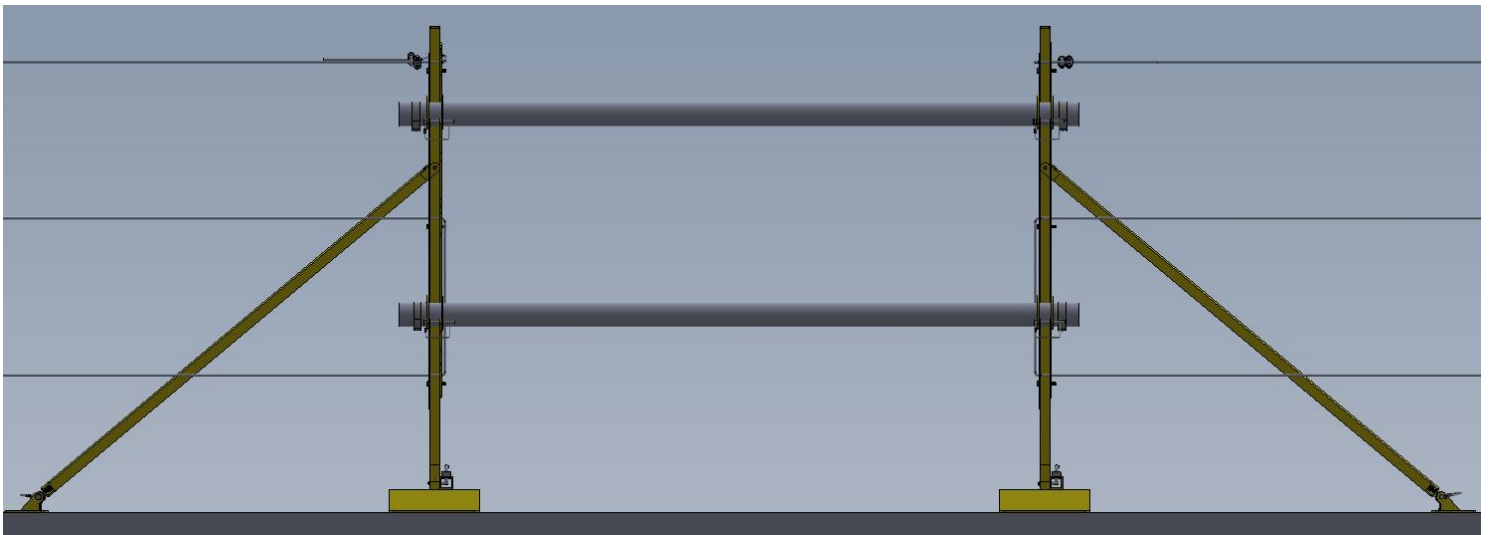


Figure 8

16. Repeat these steps until the desired perimeter is protected.

Reminder: Check FallBan system DAILY and re-adjust if necessary. Document actions in the daily logbook. While making your daily inspection, visually inspect all components judiciously.

***"IF IT IS NECESSARY TO MEET O.S.H.A. 1910.29(b)(2)(ii), NETTING OR SCREENING CAN BE INSTALLED IN CONJUNCTION WITH A FALLBAN SYSTEM. A VINYL COATED NETTING WILL BE OFFERED FOR THIS PURPOSE AND WILL BE AVAILABLE**