



BREEZEBRELLAS

INSTALLATION MANUAL



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PACKING LIST NOTES & ITEMS SUPPLIED BY APOLLO SUNGUARD

Check the packing list and verify that the shade unit is complete with the correct assembly parts. Each package is labeled for a specific size shade unit. All other structural members are shipped bubble wrapped and labeled according to size of structure.

Breezibrella Parts:

- (1) In-Ground Sleeve (Not Supplied if Surface Mounted)
- (1) Center Column
- (1) Spider Top Section
- (6) Hip Beams
- (1) Fabric Cover (Cut to Unit's Specifications)
- (2) Tension Cables
- (1) Sleeve Anchor Bolt (1/2" Ø X 6" Long)
- (2) Top Column Bolts (1/2" Ø X 5 1/2" Long)
- (6) Hip Bolts (1/2" Ø)
- Washers Equal To The Number of Bolts
- (4) U-Bolts (D-Shackles)
- (2) Turnbuckles
- (1) Can of Touch Up Spray Paint
- Set of Drawings / Engineering Plans (Custom units Only)



SITE PREPARATION

Step 1. Footing Preparation:

- Confirm the precise location for the unit and ensure that your site is clear.
- Dig the footings to the required dimensions necessary for the particular unit supplied. Check the drawings / Engineering plans (custom units only) footing details for the correct depth, width, and length. Standard footing details are included at the back of this manual.
- Dig Footings and check all dimensions and make depth adjustments for the grade of your site.

Step 2. Setting the Sleeve:

- Check the In-Ground Sleeve size (3'-6").
- Set the In-Ground Sleeve in the bottom of the footing. Before pouring the concrete, check the sleeve height for the correct level above and below the grade. Bottom of the Sleeve must be opened to allow draining.

Attention..!!!: Ensure that the sleeve projects six inches (6") above the finish grade and is plumb before the concrete is poured.

Step 3. Pouring the Footing:

- Support the In-Ground Sleeve in the footing to maintain the plumb, level and square setting.
- Pour the concrete into the footing, checking regularly that the sleeve does not move off the plumb.

Attention..!!!: Ensure that the concrete will not fill inner cavity of the sleeve from any of the ends while pouring the concrete. Do not pour concrete and then insert sleeve inside the footing.

Allow Concrete to cure for 24 - 48 hours before proceeding with the installation of the rest of the structure.



ERECTING THE STEEL FRAME

Step 4. Attach The Column To Sleeve:

- Gently lower the column into the In-Ground Sleeve to ensure the powder coat does not get scratched, chipped or marked. Insert the 1/2" Ø X 6" Long bolt through the predrilled mounting hole in the In-Ground Sleeve and the column.
- Apply a thin bead of Silicone sealant to the inner face of the bolt head and washer and to the exit point to prevent water from entering. Apply the nut and washer and tighten the nut on the bolt taking care not to over tighten or to damage the bolt.
- Apply a bead of Silicone around the top of the In Ground Sleeve and the column to prevent water from going down the inside of the column.

Step 5. Attach The Spider To The Top of The Column:

Because of the Shape, design and weight of the Spider, this piece is easier fitted if using mechanical equipment such as a cherry picker or a forklift. If these are not available, it is easily installed with (2) people using stepladders.

- Place a stepladder on each side of the column, about the width of the spider apart and carefully carry the spider up the ladders to the top of the column.
- Gently place the Spider into the top of the column ensuring that the powder coat paint does not get scratched, chipped or marked. Line the two pre-drilled mounting holes in the column with the pre-drilled holes in the Spider and insert the (2) 1/2" Ø X 5 1/2" long mounting bolts.
- Apply a thin bead of Silicone sealant to the inner face of the bolt head and washer and to the exit point to prevent water from entering and attach washers and nuts. Tighten the nuts on the bolt taking care not to over tighten or to damage the bolts.
- Apply a bead of Silicone sealant around the joint at the top of the column and the insert of the spider to prevent water from going down the inside of the column.



Step 6. Attach The hips To The Spider:

- Using stepladders and (2) people, line each hip up with the arm from the spider and slide in to the place, taking care not to damage the powder coat paint, and place a bolt through the predrilled mounting hole in the hip and the arm. The hips must be positioned so that the log rod on the end of the hip and the beveled slope are facing upwards.
- Repeat the previous step with each hip applying a thin bead of Silicone sealant to the inner face of the head of the bolt and the washers and to the exit points to prevent water from entering.
- Apply a bead of Silicone sealant around the joint of the Spider arm and each hip to prevent water from entering.



INSTALLING THE COVER

Step 7. Setting Up The Cover:

- Carry the fabric to the installation site. **WARNING: Do Not Drag The Fabric Cover. It will damage the material.**
- Unfold the fabric cover with the label side down and thread pull ropes through the pulling eyelets on the fabric cover corners.
- Throw one of the ropes over the highest point of the steel frame and carefully pull cover over the frame.
- When the fabric cover is loosely draped over the steel frame gently pull the fabric cover until it is spread over the (6) hips, and then temporarily tie off the pull ropes to a secure fixture to hold the fabric cover in place.

Step 8. Fitting The Cover:

- Attach one eyelet of the fabric to the log rod at the end of one hip, proceed to the opposite arm and repeat the process using the pull ropes to gently tension the fabric cover and place fabric eyelet onto the mounting log rod.
- Move to an adjacent hip and repeat the previous step.
- The last fabric eyelet requires the most fitting tension. To make this last corner easier, have (1) person pull the rope from 10 to 15 feet out of the hip with a rocking motion. A second person should be on a step ladder and as the fabric is gently stretched, guide the fabric hole over and onto the log rod.
- Remove all the ropes from the cover.

Hint: Pull tautly then release, pull tautly then release again. Doing this allows the fabric cover to stretch slowly without deforming or breaking the stitching or fabric weave.

Note: Do not install the fabric cover in temperatures less than 50 °F or over 85 °F. Although it may seem difficult to insert over log rods, the covers may not be short. Keep present that fabric covers are designed for a snug, tight roof line.

Warning..!!!: Do not pull the cover with one continuous motion otherwise the cover may be damaged.



Step 9. Fitting The Tension Cables:

The fabric covers are made with cable sleeves located along the outer edge of each side of the cover. At the end of each cable sleeve is a cable access hole, protected by a fabric loop. There are also (2) Velcro pockets on each cover, at opposite ends of the cover.

- Unwind the (2) tension cables but DO NOT remove the tape from the end of the tension cable.
- Spray each cable sleeve access hole on the cover with a thin film of Silicone lubricant. Spray the tension cable end to help feed the cable through the sleeve.
- Starting at one of the Velcro pockets thread one end of the cable into a sleeve access hole. This will become your starting point.
- Feed the cable to ensure that binding during threading does not occur. Feed the tension cable into the next access hole and continue as before, exiting and passing under each log rod on each hip. The cable is long enough to reach the next Velcro pocket where it exits.
- Take the second cable and starting at the second Velcro pocket repeat the process until both cables are threaded through the cover and under the log rods.

Step 10. Attaching the Turnbuckles:

- Take (1) turnbuckle and extend it to the maximum. Take one end of the tension cable, insert it through one eye of the turnbuckle and form a small loop approximately 12 inches long.
- Attach (1) U-bolt to the cable and tighten closing the formed loop near the turnbuckle eye. Ensure that the U-bolt is tight on the cable so that it will not slip when it is tensioned.
- Take the end of the other cable at the same Velcro pocket and repeat the previous step at the other eye of the turnbuckle.
- Proceed to the opposite Velcro pocket and pull both ends of the cables to take up the slack.
- Take the second turnbuckle and extend it to the maximum. Attach the cables to it as previously described. Pull the cables tight by hand before fastening the last U-bolt. This will ensure that there is not slack in the cables. Both turnbuckles should be sitting nearly in the middle of the Velcro pockets.



- Tighten both turnbuckles gradually to tension the cables around the cover until they are taught

The correct tension is achieved when the cable at the center of any edge can be deflected downward by approximately 6 inches using finger pressure only.

- Once the correct tension has been reached, tuck the loose ends of the cable inside the fabric sleeve and attach the Velcro flap over the pocket hiding the turnbuckles and U-bolts.
- Remove all the equipment and clear the site before leaving.

Note: *Tensioning should be checked and adjusted 3 – 6 Months after installation.*

Warning..!!!: Do not cut the cable ends, otherwise it may not be possible to remove or re-tension the fabric in the future without ordering a replacement cable.



APPENDIX

A1 – Member Schedule

A2 – Plan View Detail

A3 – Elevation View Detail

A4 – Concrete Footing and Sleeve Mount Detail

A5 – Hip Fabric Assembly Detail

A6 – Installation Steps

MEMBER SCHEDULE

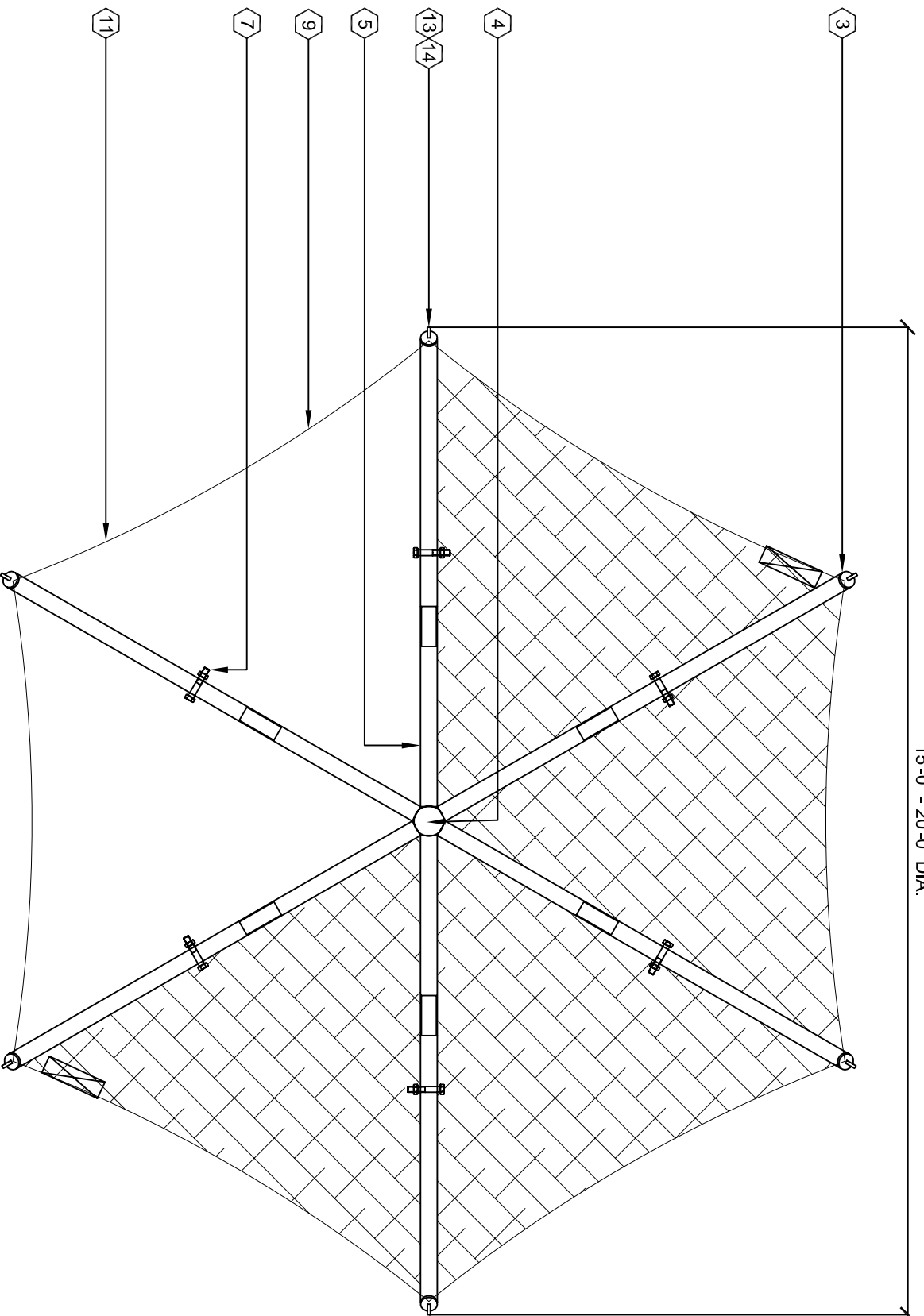
18', 19', 20' DIA BREEZEBRELLA

No	qty	Name	Description
1	1	COLUMN	4.5" Ø X 11GA GALV. (ALLIED FLO-COAT) (A-500)
2	1	GROUND SLEEVE	5" Ø X 11GA GALV. (ALLIED FLO-COAT) (A-500)
3	6	HIP BEAM	2.875" Ø X 11GA GALV. (ALLIED FLO-COAT) (A-500)
4	1	COLUMN HEAD	4.5" Ø X 11GA GALV. (ALLIED FLO-COAT) (A-500)
5	6	HIP INSERTS	2.875" Ø X 11GA GALV. (ALLIED FLO-COAT) (A-500)
6	6	BRACE ARMS	1.90" Ø X 13GA GALV. (ALLIED FLO-COAT) (A-500)
7	6	HIP BEAM ASSEMBLY BOLTS	1/2"Ø X 3 3/4" LG (A-325)/ WASHERS 4
8	2	COL. HEAD ASSEMBLY BOLTS	1/2" Ø X 5 1/2" LG (A-325)/ WASHERS 4
9	1	PERIMETER CABLE	3/16" Ø GALV. CABLE AIRCRAFT CABLE (7X19)
10	2	TURN BUCKLE & CLAMP	3/8" Ø X 12" LG STD ZINC COAT 3/8" STD. CABLE U-CLAMP 4 PER STRUC.
11	1	SHADE FABRIC	POLYETHYLENE RACHEL KNITTED MESH
12	1	COL. HEAD CAP PL.	4.5 Ø X 1/4" PL. (A-36)
13	6	HIP END CAP PL.	2.875" Ø X 1/4" PL. (A-36)
14	6	CABLE LUG ROD	3/8" Ø X 1 1/2" LG RND BAR (A-36)
15	1	CONCRETE FOOTING	MIN. 3000 PSI CONC. SEE APPENDIX
16	1	COLUMN BASE PL	10 X 10 X 3/8" PL. (A-36)
17	4	ANCHOR BOLTS	5/8" Ø X 12" LG (A-307) WITH LEVEL BOLTS AND WASHERS
18	1	COL. SLEEVE ASSEMBLY BOLT	1/2" Ø X 6" STAINLESS BOLT & LOCKNUT
19			
20			
21			
22			

A1

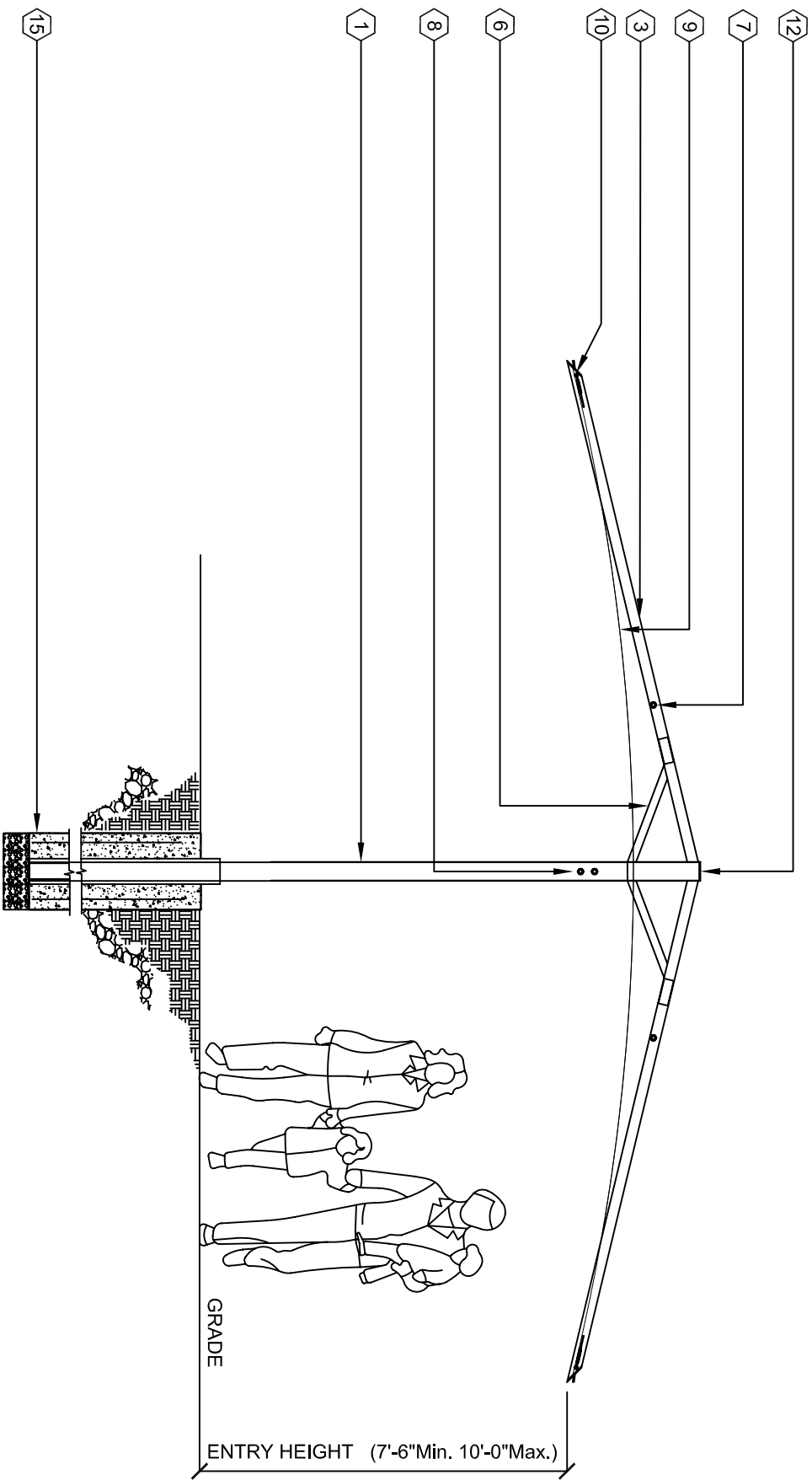
PLAN VIEW DETAIL

15'-0" - 20'-0" DIA.



A2

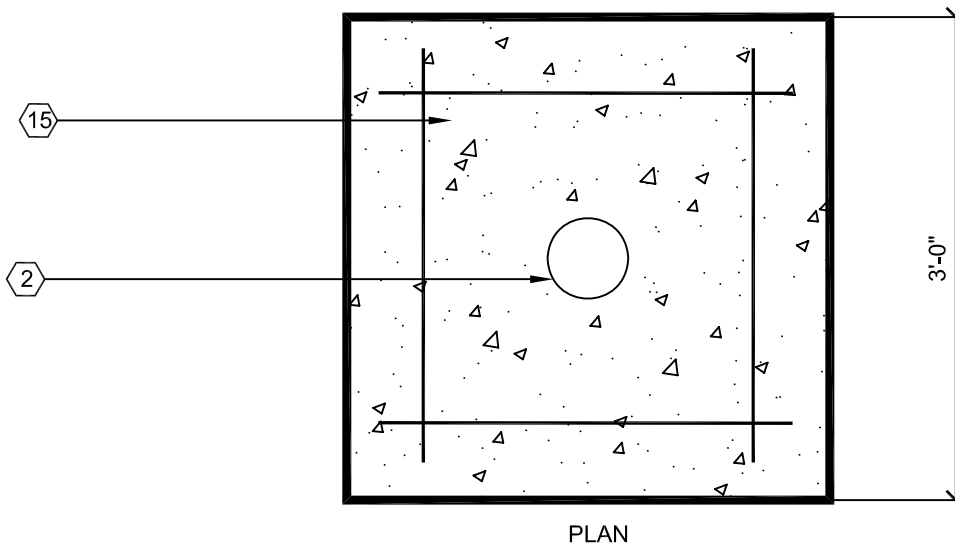
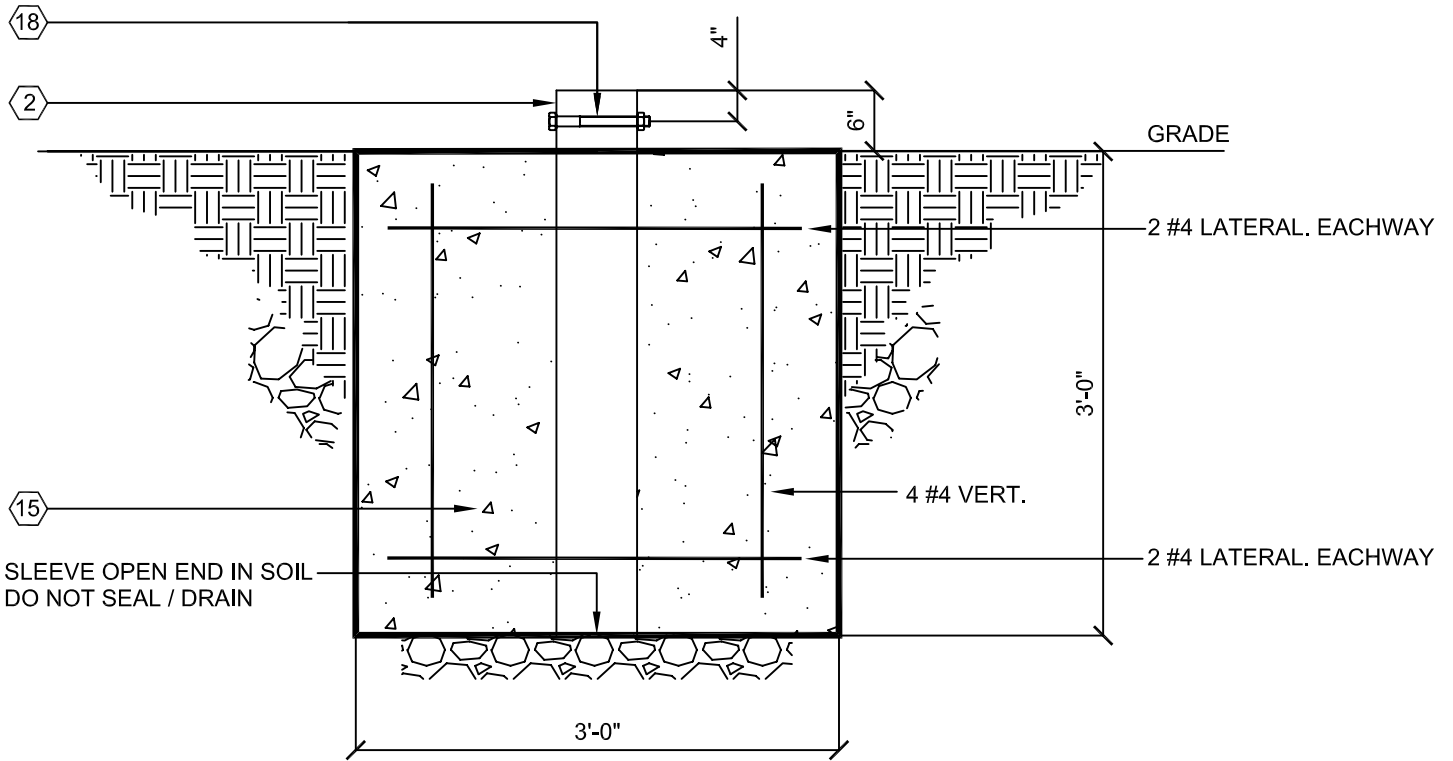
ELEVATION VIEW DETAIL



A3

CONC. FTG & COLUMN SLEEVE MOUNT DETAIL

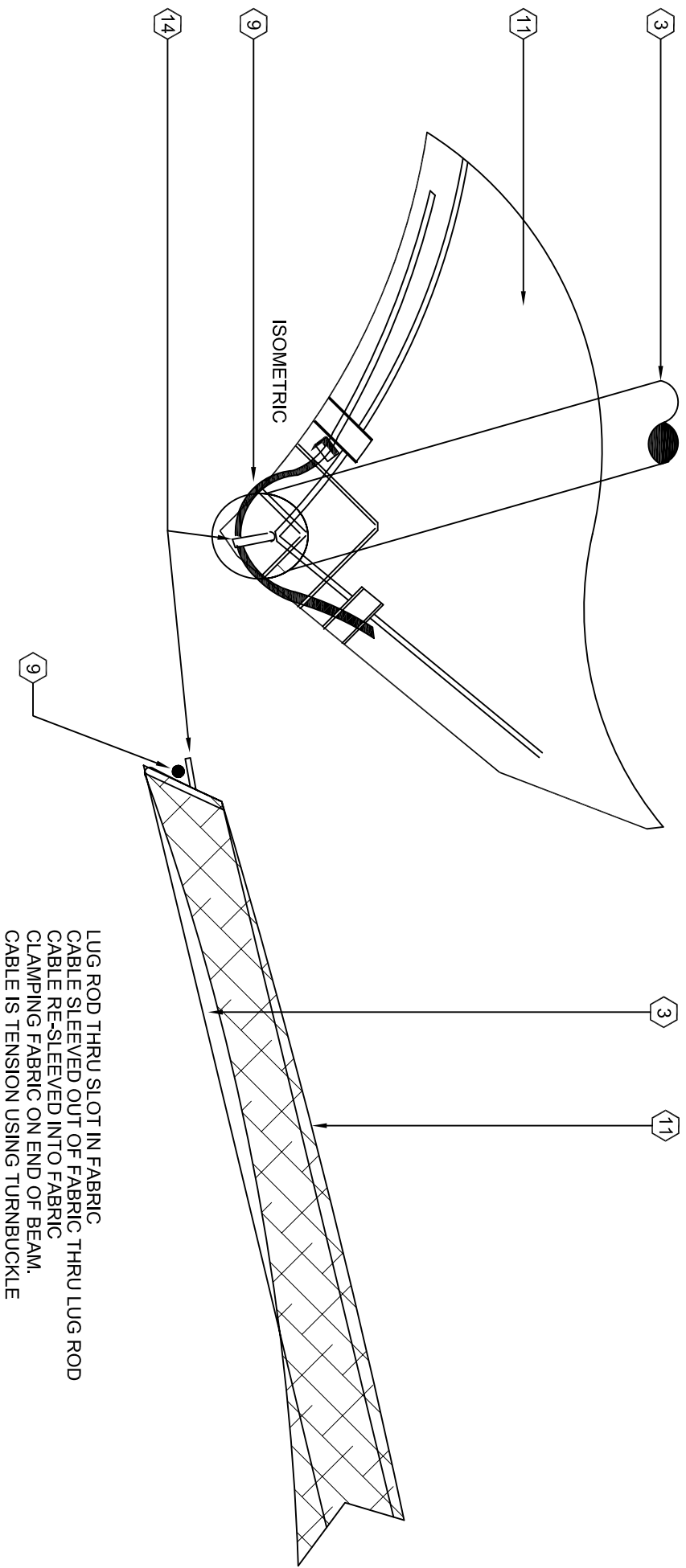
18', 19', 20' DIA.



3'X3'X36"D CONC FOOTING
3000 psi min.

A4

HIP FABRIC ASSEMBLY DETAIL

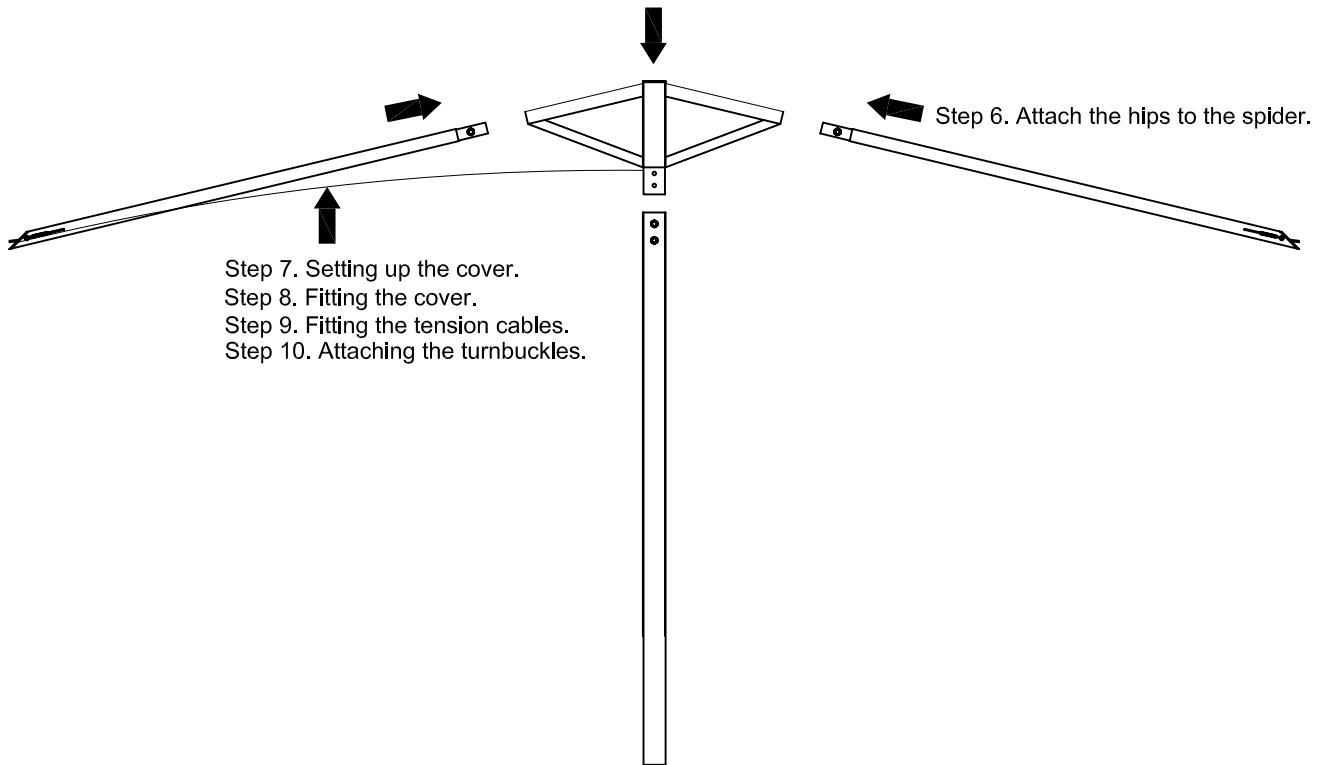


A5

INSTALLATION STEPS

INSTALLATION NOTE...!!!
SILICONE MUST BE APPLIED
IN ALL BOLTS AND JOINTS
TO SEAL WATER ACCESS TO INNER
STRUCTURAL MEMBERS

Step 5. Attach the Spider to the top of the column.



Step 4. Attach the column to the sleeve.

