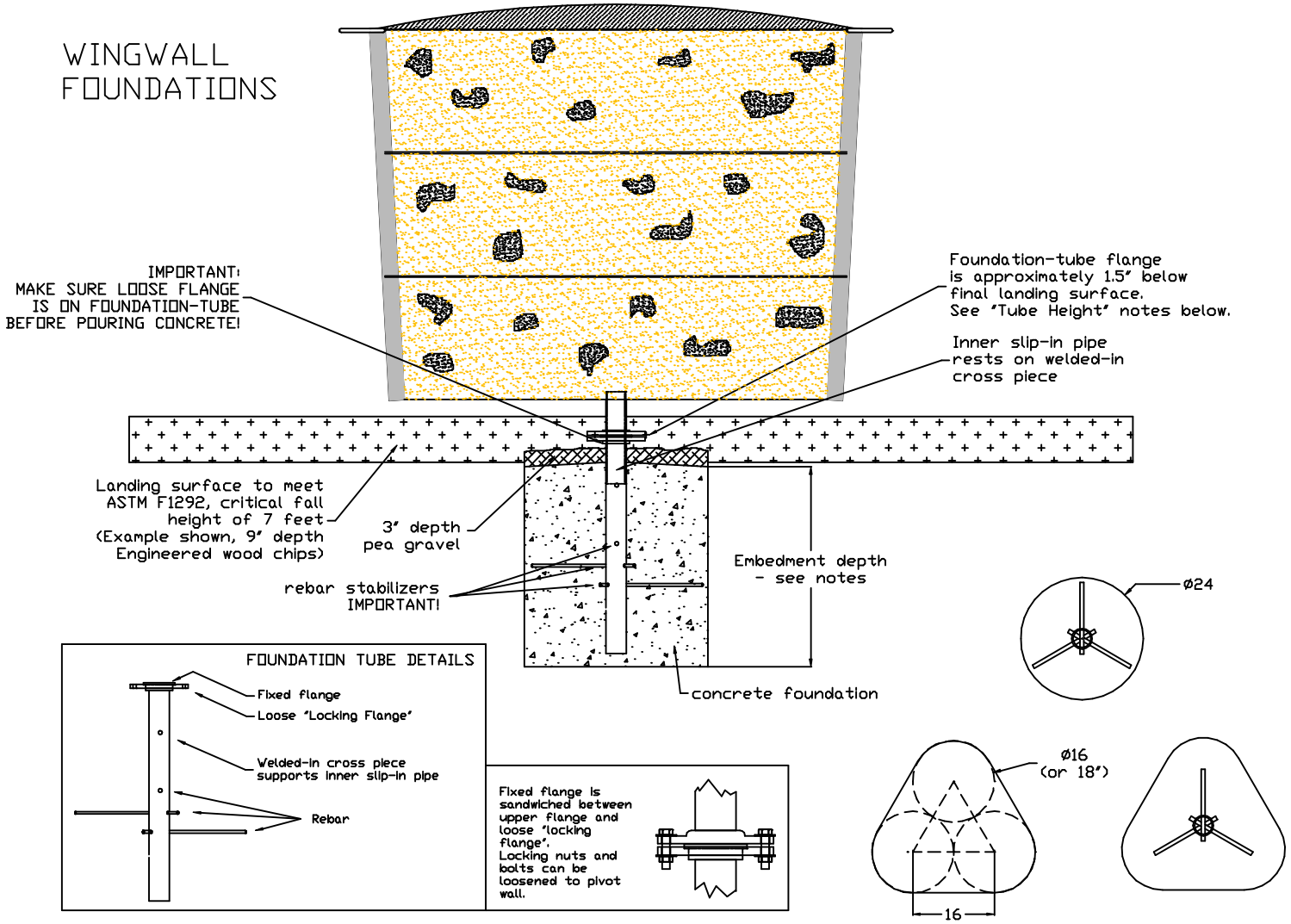
WINGWALL FOUNDATIONS



Digging a WingWall foundation:
The foundation tube for a WingWall has a fixed flange and a larger loose 'locking flange' that should be about 4" below the final surface of the landing area. This will result in a total height of approximately 80" above the landing area for the installed WingWall. The total height of the WingWall above the landing area must not exceed 84". If a pour-in-place surface is to be used, provide a shallow well, 16" in diameter, for the flanges with enough space to access the locking nuts.

Tube height: Height of the flange is a critical dimension. In the final installation, the the bottom of the WingWall should be about 2" above the final surface. The bottom of the Wingwall is about 3.5" from the flange, so the flange at the top of the foundation tube should be about 1.5" below the finished surface. Ideally, you should check the WingWall itself to verify the 3.5" distance between the bottom of the wall and the flange, and adjust for any variation in this measurement.

The site must be prepared for a landing area that will meet ASTM F1292 for a 7 foot critical fall height. For example, if 9" of wood chips are to be used, the ground must be graded appropriately. The WingWall foundation tubes must be installed carefully in their foundations to be vertical and level with each other with enough projection above the graded surface to accomodate the final surfacing material, as shown in the diagram above.

The minimum size of the landing area can be determined by drawing a 10 1/2 foot radius circle (21 foot diameter) around the center of each WingWall.
If a 24" auger is available, a 24" sonotube foundation is adequate if it is a full 48" deep in stable ground with no decompostable materials.

If a 16" or 18" auger is used, make a triangular foundation as follows:
Lay out a 16" equilateral triangle around the post location.
Dig three holes at the corners of the triangle as shown. Minimum embedment of foundations shall be 40" or frostline depth specified in state building codes or local ordinance, whichever is greater. Foundation shall be installed in stable ground containing no decomposable materials. Dig out to a triangular hole as shown.

The WingWall base tube has three rebar stabilizers that fit into drilled holes. The complete assembly fits into the triangular hole as shown. After the foundation tube is in place, the short length of inner pipe is dropped into the top of the foundation tube where it rests on a welded-in crosspiece. This slip-fit tube protrudes from the foundation tube and aligns the WingWall with the lower flange.

Level and plumb the base tube with the flange properly located above the graded surface (for example, 7.5" if 9" of wood-chip fill will be used). In a group of WingWalls, make sure all the flanges are at the same level.

Pour concrete to the graded surface and finish the concrete surface with a slight conical bevel to direct rainwater away from the tube. A 40" depth foundation will use about 1/2 yard of concrete.

Before filling in the final landing surface (I.E. wood chips), fill in the area around the top of the foundation with 3" of pea gravel to promote drainage.

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