

# Installation Foundations

## Installation of Planted Root Lighting Columns.

### Installation Preparation.

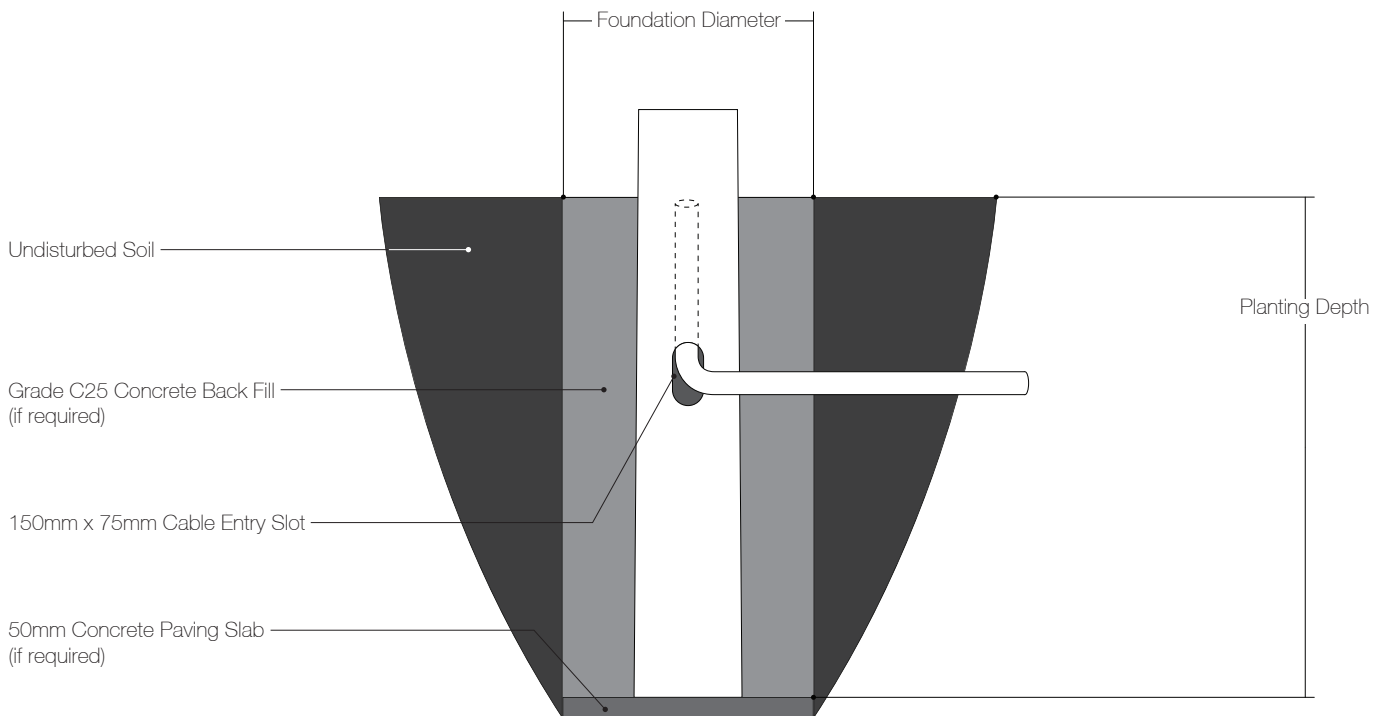
Before commencement of installation examine the items and ensure that there are no missing or damaged parts.

The following items of equipment will be required to install the column(not supplied by Valmont Stainton).

1. Timber supports and packers
2. A mobile crane for erection, typically 1.0 tonne
3. A lump hammer etc for adjustment.

The relevant technical literature or column/bracket Appendix 13/2 data sheet should be consulted for each column to ascertain the correct concrete diameter(if any) required. Typical example of a Foundation Spreadsheet for planted root columns can be obtained to accompany this document if required.

Dependent upon the ground conditions, it may be prudent to place a concrete paving slab or similar anti-sink feature at the base of the foundation hole.



### Column Installation.

Use a crane to lift the column and place the root section into the previously prepared foundation hole. Ensure that the orientation of the door opening is as required and cable protection sleeve(duct) is fed through the column cable entry slot, to allow for installation of electric cabling.

Plumb up the base section of the column and use timber packing to hold the column in position. Back fill the hole with either concrete or the excavated material(or better quality), up to ground level. All back filling using excavated material should be placed in 150mm thick layers and must be well compacted.

If concrete surround is used, ensure the correct curing time is allowed before further commissioning of the column installation.

# Installation Foundations

## Installation of Flange Plated Lighting Columns.

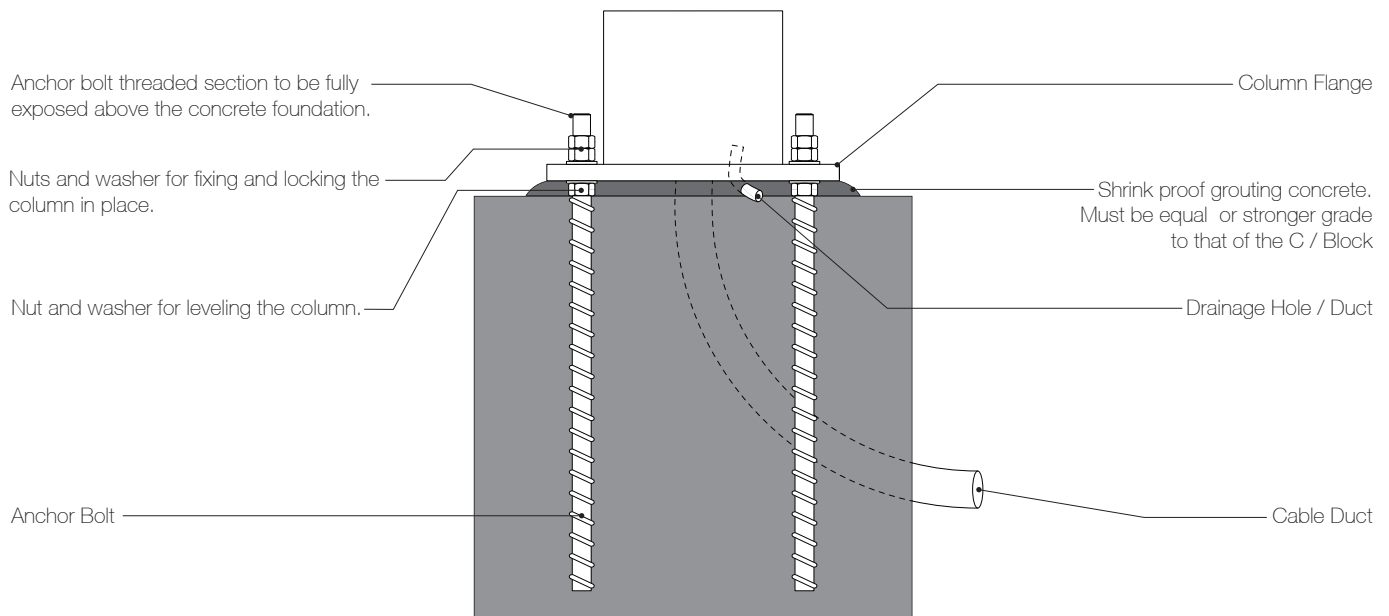
### Installation of Anchor Bolts & Column Levelling.

To ensure that the Anchor Bolts are cast in their correct position they should be held in place using an accurately manufactured Foundation Template (drawing/sketch on request). It is recommended that the full threaded length of the anchor bolt be left protruding above the upper surface of the concrete foundation. Prior to casting of the concrete a Cable Duct should be positioned to enable cables to exit the concrete block centrally under the column flange plate. After the concrete has cured the foundation template may be discarded or re-used, i.e. dependent upon number of templates used.

Each anchor bolt is supplied with 3 nuts and 2 washers, we recommend that one nut and washer [on each bolt] be assembled on the underside of the Lighting Column Flange and are used as a means of levelling/plumbing the Lighting Column. Once the column is positioned and plumbed as required one nut and remaining washer can be tightened to firmly hold the Lighting Column in place. The final nut is then used as a lock nut.

It is recommended that the gap between the underside of the column flange and the concrete foundation block be filled with Shrink Proof Grouting Mortar of the same grade as the main concrete mass. A small gap must be left in the grouting mortar to enable moisture and condensation to escape from the inside of the column base compartment.

After installation the exposed threaded section of the anchor bolts should be protected against corrosion using wax coated tape ["Denso" tape], or by using grease caps or zinc rich paint.



### Torque Settings.

For non preloaded bolts the requirement is to bring the assembly to at least a snug tight condition. The definition below for snug tight is taken from BS EN 1090-2 – Execution of Steel Structures.

Each bolt assembly shall be brought at least to a snug-tight condition, with special care being given to avoid over-tightening especially short bolts and M12. The tightening process shall be carried out from bolt to bolt of the group, starting from the most rigid part of the connection and moving progressively towards the least rigid part. To achieve a uniform snug-tight condition, more than one cycle of tightening may be necessary.

**NOTE 1** The most rigid part of a cover plate connection of an I section is commonly in the middle of the connection bolt group. The most rigid parts of end plate connections of I sections are usually beside the flanges.

**NOTE 2** The term "snug-tight" can generally be taken as that achievable by the effort of one man using a normal sized spanner without an extension arm, and can be set as the point at which a percussion wrench starts hammering.