

Method Statement For The Installation of Cellweb Tree Root Protection System.

When considering damage to tree roots, in applications of vehicular access and parking, the risk of oxygen depletion caused by compaction of subsoil's, site clearance damaging the root source and type of reinforcement are areas which need to be given due consideration.

Other risk factors are:

- Creating an impermeable surface
- Causing a rise in the water table due to construction
- Increasing ground level
- Contamination of subsoil's

1.0 Compaction

When looking at site conditions and use, the following information should be considered to enable a load bearing structure capable of supporting traffic to be proposed:

- Californian Bearing ratio (CBR) – Standard test method for measuring soil strength
- Soil types
- Water table
- Maximum load (vehicles)
- Acceptable rut depth
- Reinforcement type Cellweb Cellular Confinement 150mm deep

Type and Depth of engineered infill material, Clean, angular. Usually 40mm to 20mm.

2.0 Dig (site strip)

Site stripping does damage some root structure prior to construction; however, the use of no-dig construction elevates the access road requiring edge protection.

3.0 No dig

- Remove surface vegetation with herbicide suitable for the specific vegetation and not harmful to the tree root system
- Place 300mm of course sand onto the existing surface and lightly compact. The three dimensional cell structure, is formed by ultrasonically welding polyethylene (perforated) strips / panels together to create a three dimensional network of interconnecting cells. A high degree of frictional interaction is developed between infill and the cell wall, increasing the stiffness of the system
- Edge restraint - A treated timber edging is usually acceptable.

4.0 Cellular Confinement and Backfill Material

Expand the Cellweb 2.56m wide panels to the full 8.1 meter length. Pin the Cellweb panels with staking pins to anchor open the cells and staple adjacent panels together to create a continuous mattress. Infill the Cellweb with a no fines angular granular fill (typically 4-20mm) within each open cell. The use of cellular confinement reduces the bearing pressure on the subsoil by stabilising aggregate surfaces against rutting under wheel loads. Comparisons between cellular confinement and traditional aggregate and geogrid-reinforced structures demonstrate a 50% reduction in construction thickness of the granular material.

5.0 Surfacing Options

Block Paving:

- Lay second layer 300mm over the in filled Cellweb sections.
- Lay sharp sand bedding layer compacted with a vibro compaction plate to recommended depth.
- Place block pavers as per manufacturers instructions.

Tarmac:

- Place 25mm surcharge of the granular material above the Cellweb system and lay the bitumen base and wearing courses.

Loose Gravel:

- Ensure Cellweb is completely filled.
- Place decorative aggregate to required depth

NOTE: A treated timber edge should be provided to restrict gravel movement.

Grass Blocks:

- Place 300mm of coarse sand onto the existing surface and lightly compact.
- Place 50/50 root zone bedding layer to the required depth
- Lay recycled Duo Block 500 Grass Protection System in filled with 50/50 root zone mix.
- Seed as per architects instructions. (Alternatively the Grass Blocks may be in filled with gravel).

Concrete Slab

- Place 300mm of coarse sand onto the existing surface and lightly compact. Pour concrete base as specified.