Design and Construction Note
702.06
Street Trees and Reticulation Design
Underground Structural Cells

Reviewed: 06/12/2018

Tree Rootball

Cross-Section Notes:
1. Geogrid. 150mm min below backfill at base. overlap 300mm min at top of cells
2. 100mm depth - Crushed rock, compacted to 95% or by 3 passes with plate compactor, whichever is greater.
3. Structural cell base slope to match cross-slope or flow-line slope, whichever is greater, to max 5%.
4. Sub-grade below crushed rock, compacted to 95% or by 3 passes with plate compactor, whichever is greater.
5. Paving, base and compacted sub-grade.
6. Geotextile - min 450mm overlap past excavation.
7. 5mm x 300mm Cable ties attaching geogrid to structural cells at each level and at cell deck.
8. Backfill using surplus excavated material installed in 200mm max lifts (2 lifts per cell) compacted to 95%.
9. Geogrid. 150mm min below backfill at base. overlap 300mm min at top of cells.
10. Anchor each structural cell to the ground with 4x 250mm spikes Ø<10mm. supplied by manufacturer of cells.

General Notes
1. The planting soil mix used to fill the structural cells is to match the planting soil mix for the tree-pit.
2. Prior to the use of structural cells, underground exploration must be undertaken to ensure that there is sufficient space free of services.
3. The use of structural cells will be considered on a case by case basis and shall only be installed with approval from the City of Perth.
4. Additional structural cells may be installed where site constraints allow, in order to achieve greater volumes of soil.
5. Tree cell installation is preferred before the construction of adjacent road. If the adjacent road is an existing road, then the contractor must exercise precaution such as shoring (designed and signed off by experienced engineer) to prevent disturbance of adjacent road/kerb and the underlying sub-grade/soil causing future settlement/failure of road.
6. Tree cell manufacturer must provide test certificate to ascertain the cells are able to withstand vertical and lateral traffic loading found in the adjacent road.

SOIL MIXTURE SPECIFICATIONS
- Refer to the Co-ordination & Design Unit at the City of Perth.
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