

Calculating deep soil areas

SPP 7.3 R-Codes Volume 2 - Apartments, 3.3 Tree canopy and deep soil areas

KEY INFORMATION

- Deep soil areas (DSA) occurs within the lot boundary.
- Recommends 10% DSA minimum, or 7% if a tree is retained on site.
- DSA may be co-located with either a retained existing tree or planted tree/s and meet a minimum dimension.
- Minimum DSA dimensions depend on size of tree at maturity.
- 20% of the DSA may be covered with permeable paving or decking.
- If located adjacent to a rootable soil zone (RSZ) the minimum dimension may be nominally reduced, provided the RSZ is contiguous.
- RSZ does not contribute to overall DSA requirements
- If site conditions prevent 10% DSA from being achieved, planting on structure at two times the shortfall may be considered.

DEFINITIONS

R-Codes Vol. 2 Definitions

Deep soil area - soft landscape area on lot with no impeding building structure or feature above or below, which supports growth of medium to large canopy trees and meets a stated minimum dimension. Used primarily for landscaping and open to the sky, deep soil areas exclude basement car parks, services, swimming pools, tennis courts and impervious surfaces including car parks, driveways and roof areas.

Rootable soil zone / space - areas beyond the primary deep soil area under adjacent pavements that are engineered and constructed to support tree root penetration. This is achieved by the use of structural soil and structural cells which are materials for creation of rootable soil zone beneath pavements and other structures. Structural soil involves the use of structural materials, such as rock, that interlock under specified compaction loads while leaving macro spaces that provide rootable soil zone for tree roots. Structural cells are similar but utilise a plastic cell structure to meet the required compaction and loading.

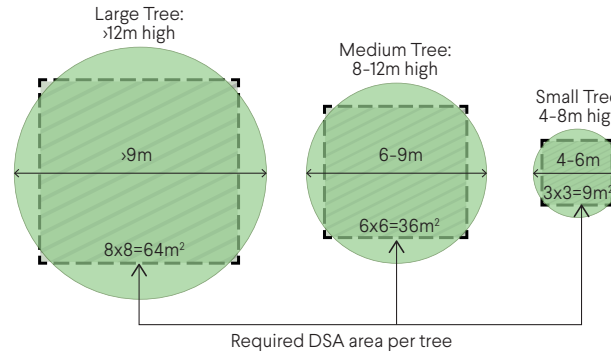


Figure 3.3b Tree size definitions when mature for deep soil areas.

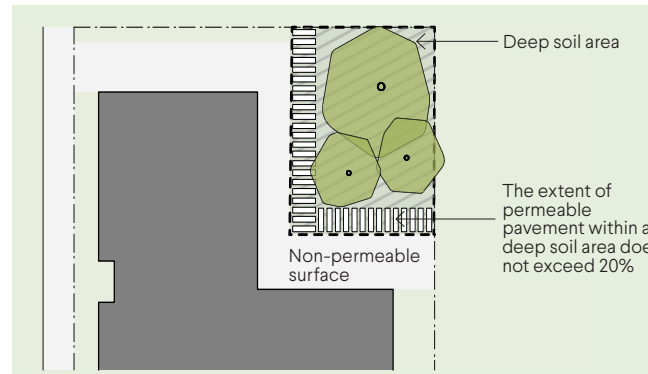


Figure 3.3e Deep soil area and permeable paving (refer A3.3.6).

Table 3.3b Tree sizes

Tree size	Indicative canopy diameter at maturity	Nominal height at maturity	Required DSA per tree	Recommended minimum DSA width	Minimum DSA width where additional rootable soil zone (RSZ) width provided ¹ (min 1m depth)	Indicative pot size at planting
Small	4-6m	4-8m	9m ²	2m	1m (DSA) + 1m (RSZ)	100L
Medium	6-9m	8-12m	36m ²	3m	2m (DSA) + 1m (RSZ)	200L
Large	>9m	>12m	64m ²	6m	4.5m (DSA) + 1.5m (RSZ)	500L

¹ Rootable areas are for the purposes of determining minimum width only and do not have the effect of reducing the required DSA.

Table 3.3a Minimum deep soil area and tree provision requirements

Site Area	Minimum deep soil area	Minimum requirement for trees ¹
Less than 700m ²		1 medium tree and small trees to suit area
700 – 1,000m ²	10% OR	2 medium trees OR 1 large tree and small trees to suit area
> 1,000m ²	7% if existing tree(s) retained on site (% site area)	1 large tree and 1 medium tree for each additional 400m ² in excess of 1000m ² OR 1 large tree for each additional 900m ² in excess of 1000m ² and small trees to suit area

¹ Minimum requirement for trees includes retained or new trees Refer Table 3.3b for tree sizes

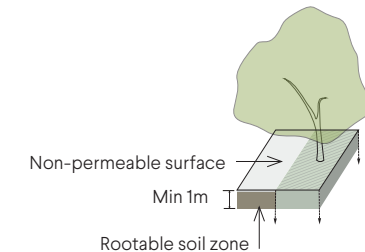


Figure 3.3f Rootable soil zone.