

wt

WATTAMOLLA ROAD

Depositional



Landscape—long gently to moderately inclined sideslopes and undulating to rolling hills with broad benches on Budgong Sandstone. Relief <200 m. Slopes 5–15%. Extensively cleared with stands of tall open-forest.

Soils—moderately deep (50–100 cm) Red Podzolic Soils (Dr2.31) on upper slopes and benches. Yellow Podzolic Soils (Dy5.31) on mid and lower slopes.

Limitations—rock outcrop, run-on, mass movement (localised), hardsetting, high organic matter, low wet bearing strength, strongly acid, sodicity.

LOCATION

Long, gently to moderately inclined sideslopes and undulating to rolling hills on sandstone in the Kangaroo Valley. Examples include along the lower reaches of Wattamolla Road, Woodhill/Berry Road and the crest and midslopes of Coolongatta Mountain.

LANDSCAPE

Geology

Budgong Sandstone—red brown and grey volcanic lithic sandstone.

Topography

Long, gently to moderately inclined sideslopes and undulating to rolling hills. Relief <200 m. Slope gradients generally 5–15% with isolated steep slopes >40%. Broad flat benches and crests <400 m wide recur throughout the landscape. Drainage lines are incised with rock outcrop. Terracettes and slumping and scattered boulders occur on steeper slopes.

Vegetation

Extensively cleared with scattered stands of tall open-forest. Common species include rough-barked apple (*Angophora floribunda*), cabbage gum (*Eucalyptus amplifolia*), brown barrel (*Eucalyptus fastigata*), mountain grey gum (*Eucalyptus cypellocarpa*), forest red gum (*Eucalyptus tereticornis*), isolated stands of scribbly gum (*Eucalyptus racemosa*) and bangalay (*Eucalyptus botryoides*).

Existing Erosion

On steeper slopes minimal terracettes, slumping and minor gullying occur.

Included Soil Landscapes

Small areas of Barrengarry (**bg**) soil landscape and Cambewarra (**ca**) soil landscape occur.

SOILS**Dominant Soil Materials****wt1—Hardsetting brownish black fine sandy loam (topsoil)**

Colour	brownish black (5YR 3/1) to greyish brown (7.5YR 4/2) with occasional bleaching at depth
Texture	fine sandy loam
Structure	moderately pedal, 2–5 mm polyhedral peds
Fabric	rough-faced, porous
pH	6.0
Stones	<2% 2–6 mm
Roots	abundant, ex-ped

wt2—Friable brown silt loam (topsoil)

Colour	brown (7.5YR 4/3) to dull brown (7.5YR 4/6) with occasional bleach
Texture	silt loam
Structure	weakly pedal <2 mm polyhedral peds
Fabric	rough-faced, porous
pH	5.5
Stones	nil
Roots	common, ex-ped

wt3—Mottled brown light clay (subsoil)

Colour	brown (7.5YR 4/3) yellowish brown (10YR 5/4) red mottles (50%)
Texture	light clay
Structure	weakly to moderately pedal, 10–20 mm polyhedral to sub-angular blocky peds
Fabric	smooth-faced, dense

pH	5.5
Stones	nil
Roots	few, in-ped

wt4—Dark reddish brown strongly pedal light clay (subsoil)

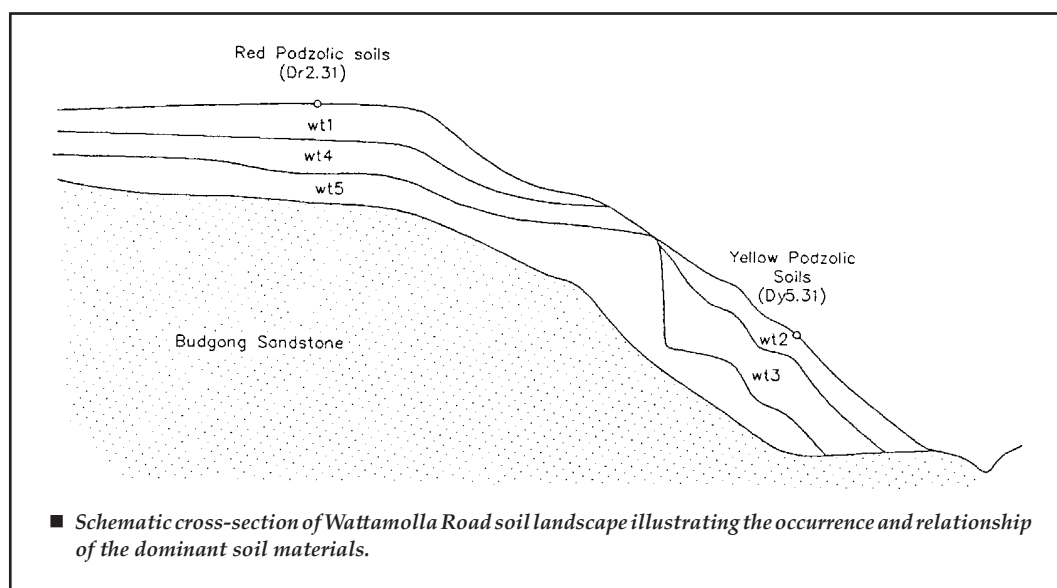
Colour	dark reddish brown (5YR 3/4)
Texture	light clay
Structure	strongly pedal, 10–20 mm sub-angular blocky peds
Fabric	rough-faced, porous
pH	5.5
Stones	nil
Roots	common, ex-ped

wt5—Mottled brown strongly pedal medium clay (subsoil)

Colour	brown (7.5YR 4/6) to yellowish brown (10YR 5/8) with red and grey mottles (50%) at depth
Texture	medium clay
Structure	strongly pedal, 20–50 mm polyhedral to sub-angular blocky peds
Fabric	rough-faced, porous
pH	4.5
Stones	nil
Roots	few, in-ped

Occurrence and Relationships

Upper slopes and benches. Up to 10 cm hardsetting brownish black fine sandy loam (**wt1**) overlies <25 cm dark reddish brown strongly pedal light clay (**wt4**) which overlies <60 cm mottled brown strongly pedal medium clay (**wt5**).



Boundaries are clear [Red Podzolic Soils (Dr2.31)]. Total depth is <100 cm.

Mid and lower slopes. Up to 5 cm friable brown silt loam (**wt2**) overlies <20 cm mottled brown light clay (**wt3**) which overlies <80 cm **wt5**. Boundaries are clear [Yellow Podzolic Soils (Dy5.31)]. Total depth is <120 cm.

LIMITATIONS TO DEVELOPMENT

Soil Limitations

- wt1** Hardsetting
Strongly acid
High organic matter
- wt2** High organic matter
Low wet bearing strength
Sodicity
Strongly acid
- wt3** Low wet bearing strength
Sodicity
Strongly acid
- wt4** High permeability
Sodicity
Strongly acid
- wt5** Low permeability
Low wet bearing strength
Sodicity

Fertility

Moderate to high fertility. Moderately pedal with moderate CEC. Very high to moderate base saturation (**wt1**, **wt2**, **wt3**). High organic matter (**wt1**, **wt2**).

Erodibility

The erodibility of the topsoils (**wt1**, **wt2**) is moderate. The erodibility of the subsoils (**wt3**, **wt4**, **wt5**) is high.

Erosion Hazard

Erosion hazard for non-concentrated flows is extreme. The calculated soil loss for the first 12 months of urban development ranges up to 150 t/ha for topsoils and 200 t/ha for exposed subsoils. The erosion hazard for concentrated flows is high.

Surface Movement Potential

The soil materials are generally stable.

Landscape Limitations

Steep slopes (localised)
Mass movement (localised)
Shallow soil (localised)
Rock outcrop
Water erosion hazard (localised)
Run-on

Urban Capability

Generally moderate limitations for urban development. High to severe limitations for urban development on steep slopes.

Rural Capability

Generally high to severe limitations for regular cultivation. Low to moderate limitations for grazing.