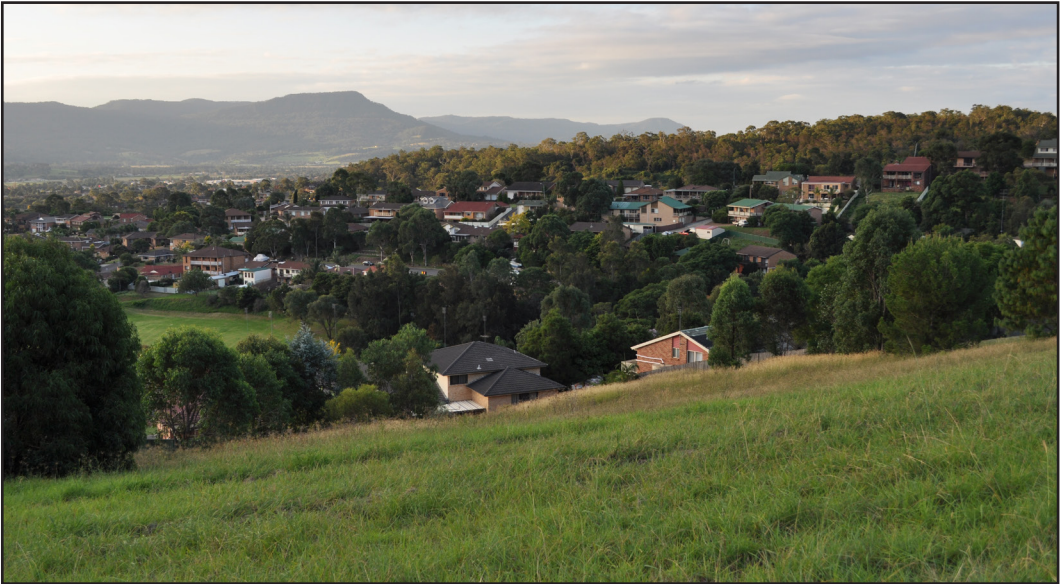


sh

SHELLHARBOUR

Erosional



Landscape—rolling low hills with long sideslopes and broad drainage plains on Budgong Sandstone. Relief 30–50 m. Slopes <20%. Extensively cleared with stands of tall open-forest and closed-forest.

Soils—deep (>150 cm) Prairie Soils (Gn3.21) occur on crests and upper slopes. Brown Krasnozems (Gn3.14) occur on midslopes. Red Podzolic Soils (Dr4.41) and Prairie Soils (Dy4.11) occur on lower slopes and drainage plains.

Limitations—mass movement (localised), shallow soil (localised), water erosion hazard (localised), sodicity, hardsetting, low permeability, low wet bearing strength (subsoil), high shrink-swell (subsoil).

LOCATION

Rolling low hills with long sideslopes and broad drainage plains which occur on Budgong Sandstone on the Coastal Plain—for example, Dunmore, Blackbutt Reserve and Shellharbour.

LANDSCAPE

Geology

Budgong Sandstone—red brown and grey volcanic sandstones.

Topography

Rolling low hills. Relief 20–50 m. Slope gradient <20%. Broad convex crests with long ridges. Long moderately inclined sideslopes with concave footslopes grading into broad drainage plains. Scattered occasional rock outcrops.

Vegetation

Extensively cleared with stands of tall open-forest and closed-forest in sheltered locations. Common species of tall open-forest include blackbutt (*Eucalyptus pilularis*), sydney blue gum (*Eucalyptus saligna*), bangalay (*Eucalyptus botryoides*), sydney blue gum/bangalay (*Eucalyptus saligna/botryoides*), and kangaroo grass (*Themeda australis*). Forest red gum (*Eucalyptus tereticornis*) and white stringybark (*Eucalyptus globoidea*) grow in poorly drained areas. A remnant stand of closed-forest grows on the sea cliffs at Gerroa. The common species include yellowwood (*Sarcomelicope simplicifolia*), bird lime tree (*Pisonia umbellifera*) and plum pine (*Polocarpus elatus*).

Land Use

Dairying and horse agistment on improved pastures and urban subdivisions—for example, Lakeview Estate.

Existing Erosion

Moderate gullying along drainage lines to bedrock (1 m).

SOILS

Dominant Soil Materials

sh1—Friable brownish black sandy loam (topsoil)

Colour	brownish black (7.5YR 2/2)
Texture	sandy loam
Structure	weakly pedal, 2–5 mm crumb peds
Fabric	rough-faced, porous
pH	6.0
Stones	nil
Roots	many, ex-ped

sh2—Hardsetting organic rich black light clay (topsoil)

Colour	black (7.5YR 2/1)
Texture	sandy clay to light clay
Structure	moderately pedal, 5–10 mm platy peds
Fabric	rough-faced, porous
pH	5.5
Stones	2–10% 2–6 mm sub-rounded, dispersed
Roots	abundant, in-ped

sh3—Mottled dull reddish brown, sandy clay (subsoil)—with characteristic stone line

Colour	dull reddish brown (5YR 4/4) with red and grey mottles (50%) at depth
Texture	sandy clay to light clay

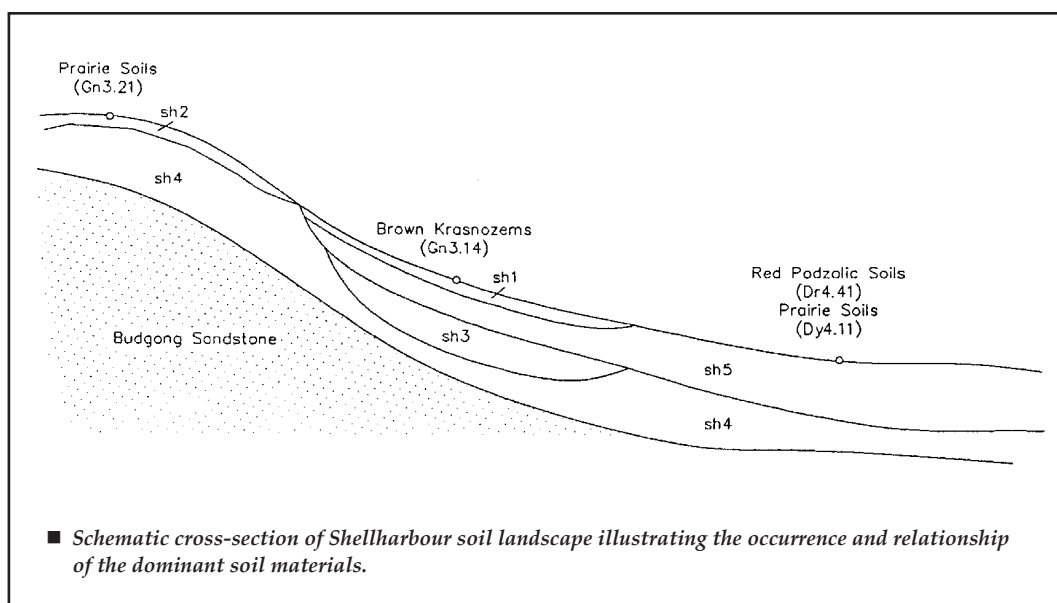
Structure	moderately pedal, 10–20 mm sub-angular blocky peds
Fabric	smooth-faced, dense
pH	6.0
Stones	20–50% 2–6 mm sub-angular, stratified
Roots	common, in-ped

sh4—Brown strongly pedal heavy clay (subsoil)

Colour	brown (7.5YR 4/6)
Texture	heavy clay
Structure	strongly pedal, 20–50 mm sub-angular to columnar peds
Fabric	smooth-faced, dense
pH	5.5–4.5
Stones	nil
Roots	few, in-ped

sh5—Very sticky strongly pedal dull reddish brown sandy clay loam (subsoil)

Colour	dull reddish brown (5YR 4/4)
Texture	sandy clay loam to sandy clay at depth
Structure	strongly pedal, 10–20 mm sub-angular blocky peds
Fabric	rough-faced, porous
pH	6.0
Stones	nil
Roots	many, in ped



Occurrence and Relationships

Crests and upper slopes. Up to 10 cm hardsetting organic rich black light clay (**sh2**) overlies <100 cm of brown strongly pedal heavy clay (**sh4**). Boundary is gradual [Prairie Soils (Gn3.21)]. Total depth is >120 cm.

Midslopes. Up to 20 cm friable brownish black sandy loam (**sh1**) overlies <50 cm very sticky strongly pedal dull reddish brown sandy clay loam (**sh5**). Up to 50 cm mottled dull reddish brown sandy clay (**sh3**) overlies <50 cm **sh4**. Occasionally **sh1** is absent. The boundaries are sharp to gradual [brown Krasnozems (Gn3.14)]. Total depth is <200 cm.

Footslopes and drainage plains. Up to 40 cm of **sh5** overlies >50 cm of **sh4**. Boundary is clear [Red Podzolic Soils (Dr4.41) with localised Prairie Soils (Dy4.11) more frequently occurring on drainage plains]. Total depth is >100 cm.

LIMITATIONS TO DEVELOPMENT

Soil Limitations

- sh1** Sodicity
- sh2** Hardsetting
 - Stoniness
 - Sodicity
- sh3** Low permeability
 - Low wet bearing strength
 - Stoniness
 - Sodicity
- sh4** Low permeability
 - Low wet bearing strength
 - Sodicity
 - Shrink-swell
- sh5** Low permeability
 - Low wet bearing strength
 - Sodicity

Fertility

General fertility is moderate. The soils, with the exception of localised friable outcrops, are generally hardsetting. The soils have localised impeded drainage with a definite stone line but are often deep. Soil materials are slightly acid with a high CEC.

Erodibility

The erodibility ratings for both topsoils and subsoils is very high to high respectively.

Erosion Hazard

Erosion hazard for this soil landscape for non-concentrated flows is extreme. The calculated soil loss for the first 12 months of urban development ranges up to 1 300 t/ha for topsoils and 900 t/ha for exposed subsoils. The erosion hazard for concentrated flows is high.

Surface Movement Potential

These soils are generally stable. **sh4** is moderately reactive.

Landscape Limitations

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

Urban Capability

Generally low limitations for urban development.

Rural Capability

Generally low to moderate limitations for regular cultivation and grazing.