

STEEP HILLY TERRAIN ON DEVONIAN SEDIMENTS

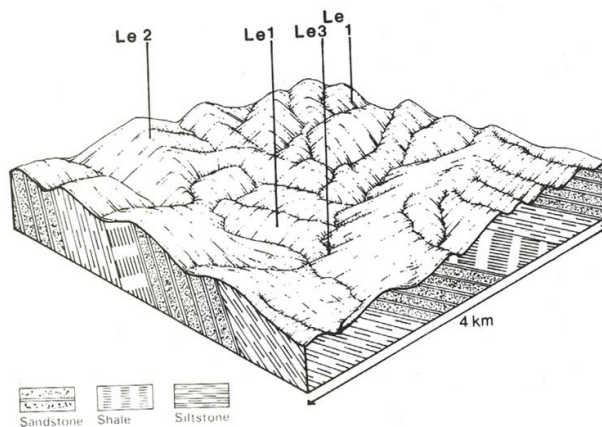
Land System: La Trobe (Le), Buln Buln (Bu) – Freehold land and public land.

This type occurs extensively throughout the catchment in both the detailed study area (freehold land) and the remaining public land. It consists of steep hills with 'ridge and ravine' topography with a dendritic drainage pattern. The steep, straight slopes moderate on ridge crests. These appear to be slightly broader and more rounded within the freehold areas on the western side of the catchment. It occupies the bulk of the mid catchment region including Mt Tanjil and Mt Carmel, and extends from those mountains in a north westerly direction almost to Icy Creek.

The underlying geology comprises mainly Devonian mudstones, siltstone, sandstone and shales (DLT, DLO, DLW, DLN, DLG) and to a lesser extent, similar rock types of Silurian age (SUS, SMB).

The soils are usually grey or yellow gradational earths, acidic and moderately well, to somewhat poorly drained. The dominant soils have dark coloured sandy loam to sandy clay loam topsoils over yellowish brown, moderately structured clay subsoils. In areas with silty parent materials (DLO, DLW) subsoils are often dispersible and subject to erosion.

The native vegetation as shown in areas of public land, consists of a shrubby or layered open forest with mountain grey gum (*E. cypellocarpa*), silvertop (*E. sieberi*), messmate (*E. obliqua*) and narrow-leaf peppermint (*E. radiata*) as characteristic species.



Latrobe Land System & Components (Public and freehold areas)

Public Land

In areas of public land three land system components have been mapped on the basis of broad topographical differences. They are Le1, the steep slopes, Le2, the broad ridge tops and Le3, the drainage floors of major watercourses. Although there are some observable differences in soil depth and colour between steep slopes with exposed aspects and those with sheltered aspects within component Le1, the scale mapping here (1:50, 00 for public land) is too small to allow separation. In addition, it was considered that within Le1 the overriding factor limiting future development would be slope which is relatively constant for both aspects, and that soil depth and colour differences would be far less significant.

Freehold Land

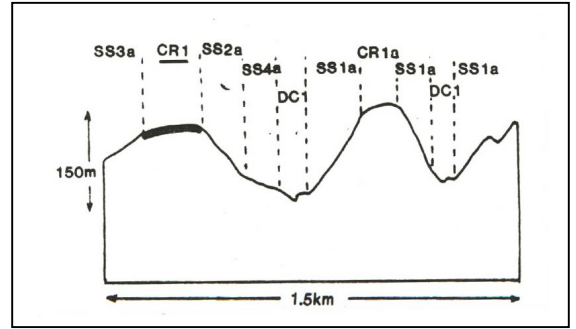
Within the detailed study area this land type has been split into six basic mapping units on the basis of topographic, soil slope differences. Two crest units CR1 and CR1a are separated on soil differences, the latter having more shallow but better drained soils than the former. Sideslopes to the hills are separated into four units based on different slop ranges (ss1 – 4).

STEEP HILLY TERRAIN ON DEVONIAN SEDIMENTS

Map Unit: CR1
CR1 – Crests and upper slopes with grey soils.

Extent of Occurrence:
230 ha – mainly in the Hill End
Fumina South region (freehold land only)

Landscape: Undulating rounded crests and upper hill slopes.



Slope Range: 0-8% **Elevation Range:** 100-300 m

Relief: 2-10 m **Surface Drainage:** Well drained

Soils: Grey massive earths and less commonly, mottled yellow duplex soils and structured yellow earths (Soil Types 1, 5, 2).

Classification: Gn 2.81, Dy 3.2, Gn 3.8
Yellow Earths and Yellow Podzolics

Depth: 80 to greater than 120 cm **Surface Texture:** Loamy sands

Stone/Gravel: Minor quartz in some topsoils **Profile Drainage:** Moderately well drained

Shrink-Swell Potential: Low **Dispersibility:** Low to moderate

CAPABILITY RATING					Limiting Factors						
FOR,	Steepness	Site Drainage	Landslip Risk	Flood Risk	Proximity to River	Soil Depth	Soil Drainage/Permeability	Soil Dispersability	Soil Shrink-Swell	Stones/Gravel	Capability Rating
General Construction	●					●	●	●			● 2
Effluent Disposal	●					●	●●	●			● 3
Erosion Risk						●	●	●			● 2
<i>Dot size indicates importance of factor</i>					Overall Rating: Rural-Residential Development						● 3

Limitations to Development:

1. Soils only moderate deep and dispersible in some areas.
2. Effluent disposal limited by soil permeability and drainage; larger areas probably required.

STEEP HILLY TERRAIN ON DEVONIAN SEDIMENTS

Map Unit: CR1a

CR1a – Crests and upper slopes commonly with yellow stony soils.

Extent of Occurrence:

243 ha – mainly in the northern, Icy Creek area (Freehold land only).

Landscape: Undulating rounded crests and upper hill slopes.

Slope Range: 2-8% *Elevation Range:* 540-610 m

Relief: 2-10 m *Surface Drainage:* Well drained

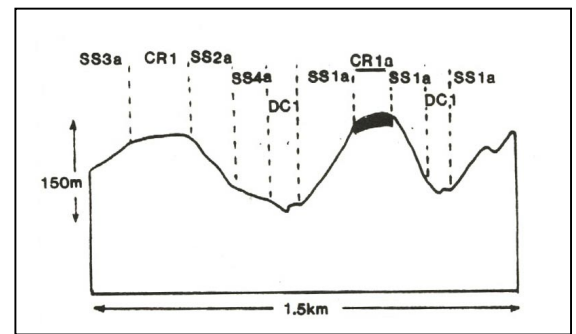
Soils: Structured yellow earths (Soil Type 2)

Classification: Gn 4.81
Yellow Earth

Depth: 80 to greater than 120 cm *Surface Texture:* Loamy to sandy clay loam

Stone/Gravel: Variable, up to 20% subsoil stone and gravel *Profile Drainage:* Moderately well drained

Shrink-Swell Potential: Low *Dispersibility:* Low



CAPABILITY EVALUATION					Limiting Factors						
FOR	Steepness	Site Drainage	Landslip Risk	Flood Risk	Proximity to River	Soil Depth	Soil Drainage/Permeability	Soil Dispersability	Soil Shrink-Swell	Stones/Gravel	Capability Rating
General Construction	●					●	●	●		●	● 3
Effluent Disposal	●					●	●	●			● 2
Erosion Risk						●	●	●			● 2
<i>Dot size indicates importance of factor</i>					Overall Rating: Rural-Residential Development						● 2

Limitations to Development:

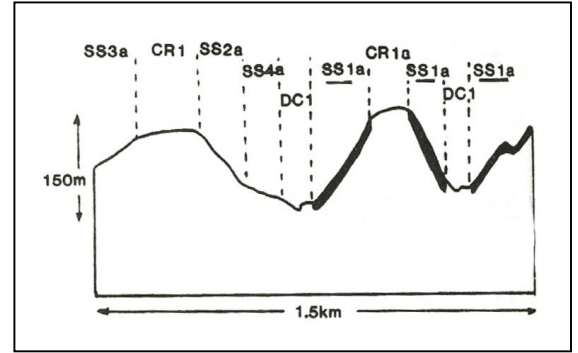
1. Soil depth limitation in some areas which may hinder construction.

STEEP HILLY TERRAIN ON DEVONIAN SEDIMENTS

Map Unit: SS1a

Extent of Occurrence: 1120 ha – throughout steep hill country between Serpentine Creek and Icy Creek (Freehold land only)

Landscape: Steep straight, and generally long, sideslopes to hills, with terracettes and minor landslip scars.



Slope Range: 25-50% **Elevation Range:** 100-520 m

Relief: 30-100 m **Surface Drainage:** Excessively well drained

Soils: Dominantly, gradational grey brown and yellow brown earths (Soil Types 1, 2)

Classification: Gn4.51, Gn4.81, Gn2.41, Gn2.81 and rare Dy3.21

Depth: 80 to greater than 150 cm **Surface Texture:** Sandy loam to loam

Stone/Gravel: Up to 20% subsoil gravel and stone in limited areas **Profile Drainage:** Moderately well drained

Shrink-Swell Potential: Low **Dispersibility:** Moderate

CAPABILITY EVALUATION					Limiting Factors						
FOR	Steepness	Site Drainage	Landslip Risk	Flood Risk	Proximity to River	Soil Depth	Soil Drainage/Permeability	Soil Dispersability	Soil Shrink-Swell	Stones/Gravel	Capability Rating
General Construction	●		●			●	●	●		●	● 5
Effluent Disposal	●					●	●				● 5
Erosion Risk	●		●			●		●			● 5
<i>Dot size indicates importance of factor</i>					Overall Rating: Rural-Residential Development						● 5

Limitations to Development:

1. High erosion hazard due to slope and areas of dispersible subsoil.

STEEP HILLY TERRAIN ON DEVONIAN SEDIMENTS

Map Unit: SS2a
 SS2a – Moderately steep hill slopes

Extent of Occurrence:
 986 ha – throughout steeper hill country between Willow Grove and Icy Creek (Freehold land only)

Landscape: Moderately steep, straight, sideslopes to hills

Slope Range: 10-25% *Elevation Range:* 80-490 m

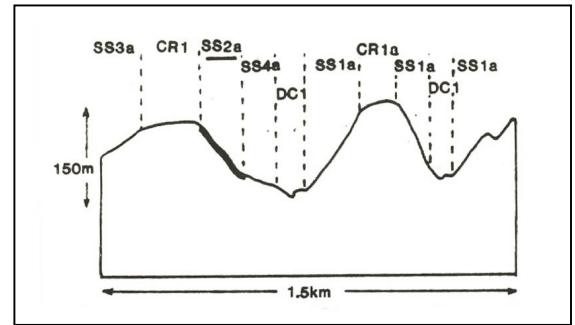
Relief: 5-50 m *Surface Drainage:* Somewhat excessive

Soils: Structured yellow brown earths, mottled yellow duplex soils and less commonly, grey brown earths (Soil Types 2, 5, 1).

Classification: Gn4.81, Dy3.11 and rare Gn4.51, Gn2.81
 Yellow podzolics and Brown or Yellow Earths.

Depth: Greater than 100 cm *Surface Texture:* Loam to silt loam
Stone/Gravel: Minor quartz gravels, sometimes in upper subsoil *Profile Drainage:* Somewhat poorly drained.

Shrink-Swell Potential: Low *Dispersibility:* Moderate to high



CAPABILITY EVALUATION					Limiting Factors						
FOR	Steepness	Site Drainage	Landslip Risk	Flood Risk	Proximity to River	Soil Depth	Soil Drainage/Permeability	Soil Dispersability	Soil Shrink-Swell	Stones/Gravel	Capability Rating
General Construction	●		●				●				● 4
Effluent Disposal	●		●			●	●				● 3
Erosion Risk	●		●				●				● 4
<i>Dot size indicates importance of factor</i>					Overall Rating: Rural-Residential Development						● 4

Limitations to Development:

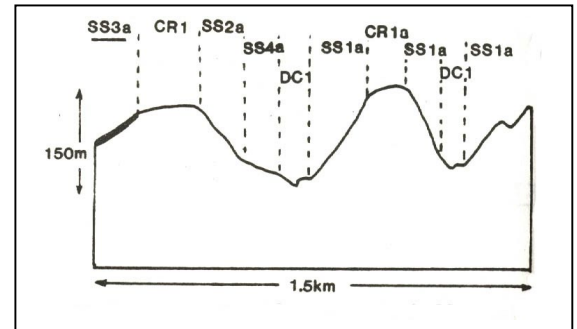
- Moderate erosion hazard due to slope and areas of dispersive subsoils.
- Effluent disposal commonly limited by soil permeability.

STEEP HILLY TERRAIN ON DEVONIAN SEDIMENTS

Map Unit: SS3a

Extent of Occurrence: 665 ha – throughout area from Icy Creek to Serpentine Creek.

Landscape: Moderately steep, generally convex, sideslopes to hills.



Slope Range: 5-10%

Elevation Range:

100-540 m

Relief: 2-25 m

Surface Drainage:

Moderately well to well drained

Soils: Gradation grey-brown or yellowish brown earths (Soil Types 1, 2)

Classification: Gn4.51, Gn4.81, Gn2.81, Gn2.61
Yellow Earths, Yellow Podzolics

Depth: Greater than 120 cm

Surface Texture: Loam, fine sandy to sandy clay loam

Stone/Gravel: Minor quartz gravels throughout profile in some areas

Profile Drainage: Somewhat poorly drained

Shrink-Swell Potential Low

Dispersibility: Moderate

CAPABILITY EVALUATION					Limiting Factors						
FOR	Steepness	Site Drainage	Landslip Risk	Flood Risk	Proximity to River	Soil Depth	Soil Drainage/Permeability	Soil Dispersibility	Soil Shrink-Swell	Stones/Gravel	Capability Rating
General Construction	●	●					●	●			● 3
Effluent Disposal	●	●					●				● 3
Erosion Risk	●						●	●			● 3
<i>Dot size indicates importance of factor</i>					Overall Rating: Rural-Residential Development						● 3

Limitations to Development:

1. Effluent disposal limited by soil permeability and drainage; larger disposal areas may be required.
2. Slight erosion hazard in steeper areas may be exacerbated by subsoil dispersibility.

STEEP HILLY TERRAIN ON DEVONIAN SEDIMENTS

Map Unit: SS4a
SS4a – Gentle hill slopes

Extent of Occurrence:
89 ha – throughout area from Icy Creek to Willow Grove
(Freehold land only)

Landscape: Gentle sideslopes to hills, usually as concave footslopes.

Slope Range: 2-5% *Elevation Range:* 100-560 m

Relief: 2-10 m *Surface Drainage:* Moderately well drained

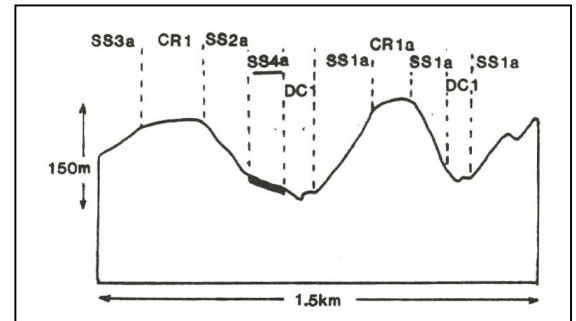
Soils: Structured grey brown or yellowish brown earths, less commonly grey massive earths (Soil Types 1, 2)

Classification: Gn4.51, Gn4.81, Gn2.81
Yellow Earths

Depth: Greater than 120 cm *Surface Texture:* Loam fine sandy to sandy clay loam

Stone/Gravel: - *Profile Drainage:* Somewhat poorly drained

Shrink-Swell Potential: Low *Dispersibility:* Low to moderate



CAPABILITY EVALUATION					Limiting Factors						
FOR	Steepness	Site Drainage	Landslip Risk	Flood Risk	Proximity to River	Soil Depth	Soil Drainage/Permeability	Soil Dispersability	Soil Shrink-Swell	Stones/Gravel	Capability Rating
General Construction		●					●	●			● 3
Effluent Disposal		●					●				● 3
Erosion Risk		●					●	●			● 2
<i>Dot size indicates importance of factor</i>					Overall Rating: Rural-Residential Development						● 3

Limitations to Development:

1. Effluent disposal limited by soil permeability and drainage; larger disposal areas may be required.