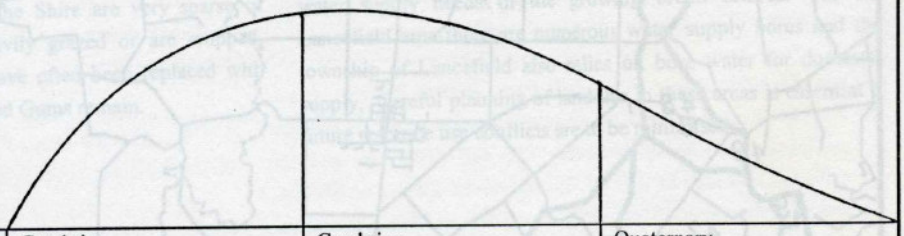
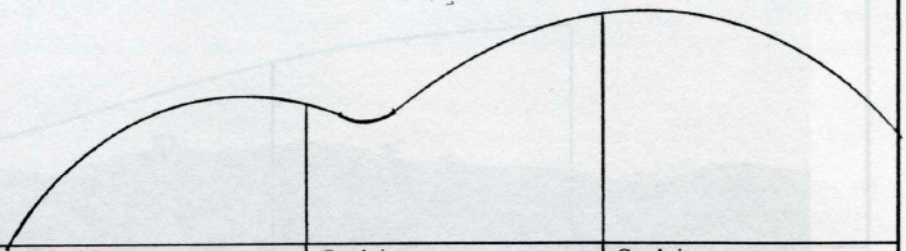
6. MOUNT WILLIAM RANGE

6.1 Introduction

Mount William Range is a complex of numerous geologies and landforms. It is too complex to map according to the criteria used for the remainder of the shire. Accordingly, the Range has been mapped into three complexes based on soil type, drainage and incidence of land degradation. While detailed soils information has not been gathered for the three complexes, even a cursory examination of physical features of the units includes a mixed capability for development, often over a very short distance. Consequently, should more intensive use of this land be contemplated, additional site specific information would be required for both planning and evaluation of the proposal(s).

6.2 Map unit description

MAP UNIT SYMBOL: **MW1** Area: 24 648 ha	MAP UNIT: **Mount William 1**		
			
Geology: Age Lithology	Cambrian Shale	Cambrian Dense metabasalt (greenstone), manganiferic and ferruginized sediments	Quaternary Colluvium - Greenstone slumps
Site Drainage	Well drained	Well drained	Moderately well drained
Soil: Topsoil	Dark reddish brown clay loam, apedal to weakly structured, rough fabric. Clear transition to:	Dark reddish brown clay loam, weak to moderate subangular blocky structure, rough fabric. Clear transition to:	Brown silty loam, weak to moderate subangular blocky structure, rough fabric, many coarse gravel fragments. Clear transition to:
Subsoil	Dark reddish brown medium heavy clay, strongly structured, smooth fabric, medium and coarse gravel fragments are common	Dark reddish brown medium heavy clay, strongly structured, smooth fabric, many medium and coarse gravel fragments	Reddish brown medium clay, moderate to strong subangular blocky structure, rough fabric, many distinct red and brown mottles, many coarse gravel fragments
Slope Range %	20- 35	1-5 (crest) 10-25 (sideslopes)	10-25
Factual Key	Dr2.12	Dr2.12	Dr3.11
Land Degradation-(risk/incidence)	High/moderate sheet erosion high/low mass movement	Moderate/low sheet erosion	High/high mass movement, High/moderate to low sheet, rill and gully erosion
Dominant Vegetation	Manna Gum, Blackwood	Manna Gum, Narrow-leaved Peppermint, Broad-leaved Peppermint, Messmate, Broad-leaved Box	Manna Gum, Blackwood, Silver Wattle, Bracken Fern
Landuse	Grazing	Grazing	Grazing, minimal cropping
Capability for residential development	Poor -water erosion, slope, mass movement	Fair to Poor - water erosion, slope	Very poor - mass movement, water erosion, slope

MAP UNIT SYMBOL: **MW2** Area: 12 673 ha	MAP UNIT: **Mount William 2**		
			
Geology: Age Lithology	Ordovician Thick and thinly bedded sediments	Cambrian Chert	Cambrian Shale
Site Drainage	Moderately well drained	Well to moderately well drained	Moderately well drained
Soil: Topsoil	Brown loam with fine sand, apedal, bleached A2 horizon, fine sandy clay loam, massive. Massive transitional horizon of light clay. Clear transition to:	Very dark greyish brown sandy clay loam, moderate subangular blocky structure, rough fabric. Bleached A2 horizon, silty clay to light clay, weak to massive structure. Clear transition to:	Dark greyish brown loam, moderate subangular blocky structure. Bleached A2 horizon, silty clay loam weak to massive structure. Clear transition to:
Subsoil	Yellow medium to heavy clay, prominent orange and red mottles are abundant, strong subangular blocky structure, smooth fabric, coarse gravel fragments throughout	Yellow medium heavy clay, often silty subsoil, coarse, distinct red and orange mottles are common, moderate to strong subangular blocky structure, smooth fabric, many coarse fragments throughout	Reddish yellow light medium clay, distinct orange mottles are abundant, moderate to strong subangular blocky structure, smooth fabric, many coarse fragments throughout
Factual Key	Gn3.84, Dy3.41	Gn3.84, Dy3.41	Gn3.84, Dy3.41
Slope range %	15 - 30	0-5 (crest) 10 - 30 (sideslopes)	15 - 35
Land Degradation - (Risk/incidence)	High/moderate to high sheet erosion, high/moderate rill erosion, High/low gully erosion, moderate/low to moderate salinity	High/moderate to high sheet erosion, high/moderate rill erosion, moderate/low gully erosion, low/low salinity	High/moderate sheet and rill erosion, moderate/low salinity
Dominant Vegetation	Broad-leaved Peppermint, Messmate, Stringybark, Blackwood, Black Wattle, Silver Wattle	Broad-leaved Peppermint, Narrow-leaved Peppermint, Long-leaved Box, Messmate, Stringybark, Blackwood, Black Wattle, Silver Wattle	Broad-leaved Peppermint, Narrow-leaved Peppermint, Long-leaved Box, Messmate, Stringybark, Blackwood, Black Wattle, Silver Wattle
Landuse	Grazing	Grazing	Grazing
Capability for residential development	Poor - water erosion, slope	Poor - water erosion, slope	Poor - slope, water erosion

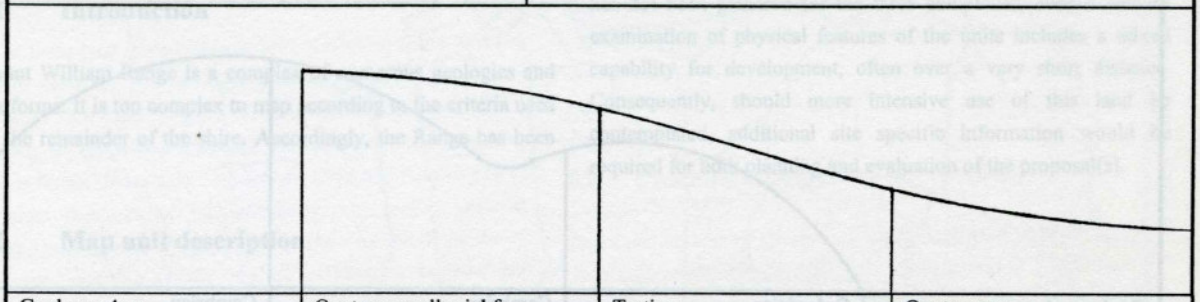
MAP UNIT SYMBOL: **MW3** Area: 20 019 ha	MAP UNIT: **Mount William 3**		
			
Geology: Age Lithology	Quaternary alluvial fan deposits	Tertiary Alluvial outwash deposits	Quaternary Alluvial outwash deposits
Site Drainage	Moderately well to imperfectly drained	Imperfectly drained	Imperfectly drained
Soil: Topsoil	Brown loam, moderate to weak subangular blocky structure. Bleached A2 horizon, massive to weakly structured silty clay loam to light clay, abundant yellow, orange and Brown mottles in the lower A2 horizon	Dark reddish brown clay loam to fine sandy clay loam topsoil, occasionally a bleached A2 horizon, massive silty clay, with many faint orange mottles	Brown loam, moderate to weak subangular blocky structure, bleached A2 horizon, massive to weakly structured silty clay loam to light clay
Subsoil	Dark brown, medium heavy clay, many orange and red mottles, moderate angular blocky structure, smooth fabric	Brownish yellow medium to heavy clay, many prominent orange and red mottles, strong subangular blocky structure, smooth fabric	Dark brown medium heavy clay, many orange and red mottles, moderate angular blocky structure, smooth fabric
Factual Key	Gn3.64	Dy3.11, Gn3.84	Gn3.64
Slope Range %	3 - 10	3 - 10	1 - 5
Land Degradation-(risk/incidence)	Moderate/low sheet and rill erosion, high/low to moderate gully erosion	Moderate/low sheet and rill erosion, high/low to moderate gully erosion	High/low to moderate gully and rill erosion, low/low sheet erosion
Dominant Vegetation	Candlebark Gum, Manna Gum, River Red Gum	Candlebark Gum, Manna Gum, River Red Gum	Candlebark Gum, Manna Gum, River Red Gum
Landuse	Grazing	Grazing	Grazing, minimal cropping
Capability for residential development	Fair to Poor - drainage, water erosion	Poor - drainage, water erosion	Poor - drainage, water erosion

Figure 5.12 Mount William 1 in background and Mount William 3 in foreground

6.3 Geology and Geomorphology

The extremely complex landforms of Mount William Range occurs to the east of the Shire. It is composed of Cambrian rock bounded by Middle Ordovician to Lower Silurian. It is part of the Lancefield-Heathcote-Colbinabbin belt. The ridge of the range running north to south is composed of Cambrian metabasalt "greenstone". On the eastern side and to a lesser extent the western side of the range greenstone slumps have formed a large colluvial fan. On the western side there are hills of chert and black shale with colluvial fans of both Quaternary and Tertiary age.

6.4 Soils

Due to the complexity of Mount William Range, the area has been mapped into three complex land units. Mount William 1 consists of metabasalt, shale and colluvium slopes. The complex has been formed due to the red soils. The soils associated with the metabasalt ridge appear to be affected by climatic and depositional gradients where gradational soils are found at greater elevations and duplex soils are found lower down in the landscape. The soils on the ridge tend to be a red duplex, whereas crests of the shales tend to be shallow stony profiles.

Mount William 2 consists of yellow soils found on shales, chert, and younger sedimentary material. When the shale is separated from the metabasalt by a minor dip, the soils tend to be yellow and shallower. When the shale is found abutting the chert the soils tend to be hardsetting yellow soils with a bleached A2 horizon and are more erodible.

Mount William 3 consists of the yellow and brown colluvial soils found on the western side of the range.

6.5 Land degradation

Mount William Range, consisting of a number of different geologies and landforms, has variable degrees of land degradation problems.

The deep colluvial soils associated with Mount William 1 are highly susceptible to mass movement and the slopes of the shale have a low incidence of land slips.

A high incidence of sheet and rill erosion occurs on the Mount William 2 complex, particularly on the sedimentary and chert lithologies and to a lesser extent on the Shale associated with Mount William 1. A low incidence of sheet and rill erosion occurs on the rest of the range.

Gully erosion occurs to a low degree on the colluvial soils of Mount William 1 and on the sedimentary and chert lithologies of Mount William 2. There is a low to moderate incidence of gully erosion on the colluvial soils which make up Mount William 3.

Mount William 2 has a low to moderate incidence of salinity. Salting occurs mainly on the lower reaches of the unit, and around the drainage depressions. The steep bare hills of the Mount William 2 and 1 possibly contribute to the salinity, as they are potentially high recharge areas.

6.6 Vegetation

The vegetation found on the crest and side slopes of the range commonly occur in an open forest formation. The dominant species found on the crests are Narrow-leaved Peppermint, Broad-leaved Peppermint, Manna Gum, Messmate and Long-leaved Box. Swamp Gum and

Candlebark occur as well as the above species on the side slopes.
On the drainage depressions and some of the wetter colluvial soils, Manna Gum, Swamp Gum, Candlebark and River Red Gum occur in a woodland formation.

Figure 5.13 Mount William 2