SUMMARY

This study describes in detail the land present in the Strathfieldsaye District and provides information relevant to land use planning and assessment

The Strathfieldsaye District (previously the Shire of Strathfieldsaye) was amalgamated into the new City of Greater Bendigo municipality in April 1994. The District is approximately 600 km^2 in area and adjoins the City of Bendigo to the south-east. Much residential development has occurred close to the City of Bendigo. The remaining area is predominantly rural or rural residential. There are extensive but fragmented areas of public land which cover approximately 30% of the Municipality.

In recent times, the population of the District has increased considerably due to the close proximity to Bendigo. This trend is expected to continue. The Department of Planning and Development predicts significant population increases in the greater Bendigo area. Residential development is centred on the townships of Spring Gully, Flora Hill, Kennington, Bendigo East and Strathdale, while there are several small residential centres located in rural areas including Strathfieldsaye, Sedgwick and Axedale. Rural residential development is widespread within the District and there is increasing demand for further development close to urban centres.

A major amendment to the former Strathfieldsaye Planning Scheme was recently completed. This amendment included a rezoning of all rural areas. The rural rezoning aims to overcome accelerated land degradation problems caused by the fragmentation of large tracts of rural land. This land capability study will provide valuable supporting information to the new amendment, and will enable new development proposals to be readily assessed.

This study has recognised a total of 30 distinct map units. Each map unit has been assessed to determine the capability of the unit to sustain certain forms of land use. These map units have been delineated on the basis of common geology, slope and soil type. The map units are conveniently grouped into geological families to enable a broad description of the physical limitations of the land, and the inherent problems resulting from land use. There are six geological families present, including Quaternary alluvial sediments, Quaternary basalts Tertiary fans, Tertiary sediments, Devonian granodiorites and Ordovician sediments.

Much of the District is covered by gently undulating Ordovician sediments, however to the south, the sedimentary areas become very steep surrounding and including the metamorphic aureole which adjoins the granodiorite plateau. The steep sedimentary terrain is highly susceptible to sheet erosion and can contribute significantly to recharge and salting in the lower parts of the landscape. Dispersive subsoils can cause problems with gully erosion in the gentle undulating terrain, and make dam construction more difficult.

The steep Devonian granodiorite hills and plateaus in the south of the District are extremely prone to soil erosion. The granodiorite areas are particularly sensitive when topsoils and subsoils are exposed during the development of roading, housing or earthen dams. Rapid sheet erosion and subsoil dispersion can result in severe soil loss, failure of earthen dams, roadside batters and culverts. Strong development guidelines are required in the granitic areas to minimise the potential for serious land degradation.

The sedimentary and granitic areas have become popular for residential and rural residential development, however existing development has resulted in the widespread deterioration of land and water quality.

Water quality is an emerging issue within the District. The low annual rainfall, combined with continued development of earthen dams, has severely reduced existing stream flows thereby concentrating stream pollutants and salt loads.

The Quaternary alluvial floodplains and basalt plateaus remain essentially unchanged by residential development. Agriculture is the predominant land use, and little land degradation occurs within these areas.

The Tertiary sediments east of Bendigo contain important gravel deposits. In most cases, these gravel deposits have been disturbed by strip mining. The presence of highly disturbed soils will require careful site inspection when proceeding with development in these areas.

Previous studies covering the Strathfieldsaye District have provided background information for this study; these include ‘A study of the land in the Campaspe River Catchment’ by Lorimer and Schoknecht (1987), and ‘An Assessment of the Principal Non-Urban Areas - Municipality of Strathfieldsaye. A Land Capability Approach’ by White (1992).

Table i.i Summary of land capability classes.

MAP UNIT		LAND CAPABILITY CLASSES				
Symbol	**Description**	**Agriculture**	**Effluent disposal**	**Farm dams**	**Secondary roads**	**Building foundations**
Qa1	Quaternary alluvium, floodplain	3	5	3	5	5
Qa2	Quaternary alluvium, floodplain	3	4	3	4	4
Qap	Quaternary alluvium, alluvial plain	3	4	2	4	4
Qbb	Quaternary basalt, steep slope	5	5	5	5	5
Qbc	Quaternary basalt, moderately steep slope	5	4	5	5	5
Qbd	Quaternary basalt, moderate slope	4	3	5	4	4
Qbf	Quaternary basalt, gentle slope	4	2	5	4	3
Qbp	Quaternary basalt, plain	4	5	4	5	5
Qbr	Quaternary basalt, rocky plain	4	5	5	5	5
Tfd	Tertiary fan, moderate slope	5	3	4	4	4
Tff	Tertiary fan, gentle slope	5	2	4	3	3
Tse1	Tertiary alluvial sediments, gentle crest	4	4	5	5	3
Tsf1	Tertiary alluvial sediments, gentle slope	4	4	5	5	3
Dgr	Devonian granodiorite, rocky crest	5	5	5	5	5
Dga	Devonian granodiorite, steep crest	5	5	5	5	5
Dgb	Devonian granodiorite, steep slope	5	5	5	5	5
Dgc	Devonian granodiorite, mod. steep slope	5	4	5	4	4
Dgd	Devonian granodiorite, moderate slope	5	4	5	4	4
Dge	Devonian granodiorite, gentle crest	5	4	5	3	3
Dgf	Devonian granodiorite, gentle slope	5	4	5	4	4
Dgg	Devonian granodiorite, very gentle slope	5	4	5	4	4
Dgh	Devonian granodiorite, drainage depression	4	3	4	3	3
Osa	Ordovician sediments, steep crest	5	5	5	5	5
Osb	Ordovician sediments, steep slope	5	5	5	5	5
Osc	Ordovician sediments, mod. steep slope	5	4	5	4	4
Osd	Ordovician sediments, moderate slope	5	3	5	4	4
Ose	Ordovician sediments, gentle crest	5	4	5	3	3
Osf	Ordovician sediments, gentle slope	4	4	5	5	3
Osg	Ordovician sediments, very gentle slope	4	4	5	3	3
Osh	Ordovician sediments, drainage depression	3	3	4	4	4

Note: Please refer to Section 4 (Detailed Map Unit Descriptions and Capability Ratings) for further information.