# Data product description

## Vicmap Lite

Document version 5.0 - February 2014 Applies to delivered data model version 1.2





Department of Environment and Primary Industries



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#### Standard

This document is based on the AS/NZS ISO 19131:2008 Geographic information

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Information Services Division

Department of Environment and Primary Industries

## Contents

Overview	5
Vicmap Products	5
Data product specification title	5
Reference date	5
Responsible party	5
Language	5
Topic category	5
Distribution format	5
Terms and definitions	6
Abbreviations and acronyms	7
Informal description of the data product	9
Specification Scope	10
Scope identification	10
·	
Data Product Identification	11
Title	11
Alternate titles	11
Abstract	11
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control the level of detail displayed. Datasets in the series are listed below. See their metadata entries for more detailed metadata. VMLite_BUILT_UP_AREA VMLite_FOREST_SU2 VMLite_FOREST_SU3 VMLite_FOREST_SU5 VMLite_GEO_AREA_LABEL VMLite_GEO_POINT_LABEL VMLite_HILLSHADE VMLite_HY_WATER_AREA VMLite_HY_WATERCOURSE VMLite_LGA VMLite_LOCALITY_POLYGON	uced to help 11 11 11 11 11 11 11 11 11 11 11
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VMLite_TR_ROAD	12
VMLite VICGOV REGION	12
VMLite VICTORIA LINE SU2	12
VMLite VICTORIA LINE SU5	12
VMLite VICTORIA POLYGON SU2	12
VMLite VICTORIA POLYGON SU5	12
Purpose	12
Topic category	12
Geographic description	12
Data content and structure	13
Feature-based data	15
Feature-based application schema (data model)	15
Data dictionary	15
Data structure	15
Generalisation within the Data	16
Poforonce system	6
Spatial reference system	6
Temporal reference system	6
Reference system scope	6
Reference systems	6
Data quality	7
	-
Lineage / History	7
Accuracy	7
Completeness	8
	8
Logical consistency	0
Data capture	8
Data capture scope	8
	· · ·
Data maintenance	9
Maintenance and update frequency	9
Data product delivery	10
λορος	10
Licencing and pricing	10
	10
Metadata	10
Appendix A - data model	10
Appendix B - data dictionary	40
Appendix D - dala dictional y	12

Appendix C – data schema	36
Appendix D – feature representation	36
Appendix E – feature attribute rules	36
Appendix F – general information	36
Appendix G - reference tables	37

## **Overview**

### **Vicmap Products**

Vicmap Digital is the foundation that that underlies most spatial information in Victoria. This set of spatial related data products, made from individual datasets, is developed by Information Services Division, Department of Environment & Primary Industries (DEPI).

VSIS framework information datasets have been delivered into the following Vicmap Products, identified below.

Vicmap Address Vicmap Admin Vicmap Crown Land Tenure Vicmap Elevation Vicmap Features of Interest Vicmap Hydro Vicmap Imagery-Aerial Photography Vicmap Imagery- Satellite Vicmap Lite Vicmap Planning Vicmap Position Vicmap Property Vicmap Topographic Vicmap Transport Vicmap Vegetation

Further information at http://www.depi.vic.gov.au/vicmap

#### Data product specification title

Vicmap Lite Product Description.

#### **Reference date**

July 2013.

#### **Responsible party**

Information Services Division Department of Environment and Primary Industries PO Box 500, East Melbourne VIC 3002 Australia T: 03 8636 2333 | F: 03 8636 2813 | E: vicmap.info@depi.vic.gov.au http://www.depi.vic.gov.au/vicmap http://www.depi.vic.gov.au/maps-imagery-data http://www.depi.vic.gov.au/spatial

#### Language

English

#### **Topic category**

Spatial data and metadata for the Lite dataset for Victoria.

#### **Distribution format**

PDF.

### **Terms and definitions**

This section includes the standard terms and conditions.

Term	Definition			
Area feature	A feature which is portrayed as a region or surface. An area feature is bounded by one or more polygons.			
AS2482	Australian Standard 2482 defines Geographic information systems – Geographic data – Interchange of feature-coded digital mapping data.			
Attribute	A particular characteristic or property of an entity. Attributes can be spatial (or locational) and aspatial (or non-locational).			
Attribute Object	The addition of non-locational information about a feature instance. These data identify the feature class and the aspatial attributes of a specific instance of the feature type. The attribute object is composed of one or more attributes.			
Attribute Value	The value assigned to an attribute for a specific feature instance.			
Data	The base level of information stored in electronic databases. Generally, "raw" data has not been value-added. Source- AUSISB at http://www.ausISB.gov.au			
Entity	A real world phenomenon not divided into phenomena of the same kind.			
Feature Instance	An abstraction of an entity. The description of a feature instance encompasses only selected properties of that entity. Feature instances can also be referred to as features.			
Feature Type	A class of real world phenomena with common properties.			
	A group of feature instances defined by a set of rules and having common attributes and relationships that are properties of the corresponding real world phenomena. Within the Oracle tables that comprise Vicmap Digital Property, classes may refer to "link" tables, which establish direct relationships between the point and/or line and/or polygon structures that may be used as spatial objects.			
	The feature structure of the feature based data model can be summarised as:			
	feature instance = [spatial object + attribute object]			
Feature Class	A group of feature instances defined by a set of rules and having common attributes and relationships that are properties of the corresponding real world phenomena. Within the Oracle tables that comprise Vicmap Digital Property, classes may refer to "link" tables, which establish direct relationships between the point and/or line and/or polygon structures that may be used as spatial objects.			
	The feature structure of the feature based data model can be summarised as:			
	feature instance = [spatial object + attribute object]			
	Where:			
	<b>Spatial Object</b> is the addition of all of the locational attributes of the feature instance and may comprise geometrical objects such as points, lines and polygons. Spatial objects carry a spatial address that consists of one or more couplets (x, y) or triplets (x, y, z) of coordinates. In the feature based data model topological relationships will be carried as part of the spatial object whenever the transfer formats support them.			
	Attribute Object is the addition of non-locational information about a feature instance. These data identify the feature class and the aspatial attributes of a specific instance of the feature type. The attribute object is composed of one or more attributes			
Information Services Division	A body within Department of Environment and Primary Industries, responsible for spatial policy for the State and for providing and maintaining a statewide spatial infrastructure, including the Victorian Geodetic Framework and Vicmap Digital.			
Layer	Subdivision of a theme into one or more layers of data on the basis of topological relationships. Linear networks, polygons and point/line features are placed in separate layers.			
Linear Network	A theme layer consisting of linear features which are connected forming a pathway along which movement is possible.			
Metadata	Metadata, defined as 'information about information', provides fundamental information management tools at three levels:			
	Discovery: enabling users to locate and evaluate information.			
	Management: enabling custodians to better manage their spatial information.			

	• Utilisation: enabling users to access and manipulate information by means of automated / distributed systems.				
Node	A point that is a junction of two or more chains or which is the end point of a chain.				
Node/Chain Structure	The structuring of linear features in a theme layer so that they consist of chains broken by nodes at intersections or at the point where an attribute of the feature changes.				
Parish	A Crown description for a larger administrative area identified and surveyed by the State's early government surveyors as a means of rational sub-division, settlement and alienation of Crown Land, eg PARISH OF ULUPNA.				
Persistent Feature identifier (PFI)	Unique Feature Identification (each feature is uniquely identified for change management) is managed through the use of two identifier attributes; namely the Persistent Feature identifier (PFI) and the Unique Feature Identifier (UFI).				
	See also Unique Feature Identifier(UFI)				
Polygon	A set of chains used to define the boundaries of an area. There is one external polygon and there may be one or more internal, non-nested polygons.				
Positional Accuracy	Statistical estimate of the degree to which planimetric coordinates and elevations of features agree with their real world values.				
Road	A corridor of land set aside for access purposes.				
Segment	A direct line between a pair of points, or a point and a node.				
Spatial Object	The addition of all of the locational attributes of the feature instance and may comprise geometrical objects such as points, lines and polygons. Spatial objects carry a spatial address that consists of one or more couplets $(x, y)$ or triplets $(x, y, z)$ of co-ordinates. In the feature based data model topological relationships will be carried as part of the spatial object whenever the transfer formats support them.				
Theme	The information contained in the map production material can be divided into themes which contain logically-related geographic information, each theme capable of being used as a data set in its own right.				
	Custodial Officers- Place in a product specific items here.				
Township	A localised administrative area used in the formal sub-division and identification of Crown Land and in determination of general location, eg TOWNSHIP OF KIATA. Township boundaries are formally defined under the Land Act through Government gazettal. They usually defined areas originally identified and surveyed for the establishment and settlement of towns, where smaller parcels of land (allotments) were marked for alienation or reservation as housing, education, religion, recreation, infrastructure and related sites.				
Unique Feature identifier (UFI)	Unique Feature Identification (each feature is uniquely identified for change management) is managed through the use of two identifier attributes; namely the Persistent Feature identifier (PFI) and the Unique Feature Identifier (UFI). See also Persistent Feature Identifier (PFI)				
Vicmap	Vicmap is a set of spatially related data products made up from individual datasets. They are the underlying foundation to Victoria's primary mapping and geographic information systems. Vicmap products are produced and managed by Information Services Division, Department of Environment and Primary Industries. Further Information- http://www.depi.vic.gov.au/vicmap				
Vicmap Digital	Vicmap Digital is a set of spatially related data products made up from individual datasets. They are the underlying foundation to Victoria's primary mapping and geographic information systems. Vicmap products are produced and managed by Spatial Information Infrastructure, Department of Sustainability and Environment. Further Information- www.land.vic.gov.au/spatial				

## Abbreviations and acronyms

This section includes the standard abbreviations and acronyms.

Term	Definition			
CAD	Computer-Aided Design is the production of drawings, specifications, parts lists, and other design-related elements using special graphics- and calculations-intensive computer programs. CAD systems originally merely automated drafting but now often include three-dimensional modeling and computer-simulated operation of the model.			
DEM	Vicmap Elevation includes a state-wide digital elevation model (DEM), representing the shape of Victoria's state-wide terrain surface, and the source elevation data sets including contours, spot heights and break-lines.			
GDA94	The Geocentric Datum of Australia (GDA) is the latest Australian coordinate system, replacing the Australian Geodetic Datum (AGD).			
	The GDA is a part of a global coordinate reference frame and is directly compatible with the Global Navigation Satellite Systems (GNSS).			
	It is the result of more than a decade of anticipation and work by the Intergovernmental Committee on Surveying and Mapping (ICSM) and its predecessor, the National Mapping Council (NMC).			
	When the NMC adopted the Australian Geodetic Datum (AGD84) coordinate set in 1984, it recognised the need for Australia to eventually adopt a geocentric datum. This was further recognised in 1988 when the ICSM recommended the adoption of an appropriate geocentric datum by 1 January 2000. This resulted in the adoption of the GDA94.			
GIS	Geographic Information System. A spatial database which is manipulated with a set of spatial operators or commands.			
ICSM	Intergovernmental Committee on Survey and Mapping. ICSM's role is to provide leadership through coordination and cooperation in surveying, mapping and charting. ICSM's core function is to coordinate and promote the development and maintenance of key national spatial data including geodetic, topographic, cadastral, street addressing, tides & sea level, and geographical names. See http://www.icsm.gov.au/			
IUF	Incremental Update Format			
	A system whereby maintenance updates are provided as change only, add/modify/delete incremental update files, between nominated dates/times.			
MGA94	Map Grid Australia. A cartesian coordinate system based on the Universal Transverse Mercator projection on the Geocentric Datum of Australia 1994. The unit of measure is the metre.			
SDE	Spatial Data Engine – an ESRI product Software used by Information Services Division to manage the spatial component of it's Unified Data Store, which includes copies of the whole of the Vicmap Digital product suite.			
SDTS	The United States Spatial Data Transfer Standard. This standard is to be the basis of the new Australian Standard for the transfer of spatial digital data.			
VICGRID	Coordinate system adopted by Spatial Information Infrastructure as the basis for Victorian GIS databases. VICGRID is derived from Lambert's conformal conic projection of latitudes and longitudes on AGD66 with standard parallels of latitude at 36 S and 38 S and a central meridian of longitude at 145 E. Co-ordinates are in metres. The origin of VICGRID coordinates is 2,500,000 metres west and 4,500,000 metres south of the intersection of the parallel of latitude 37 S and the central meridian.			
VSIS 2011-14	In 2008, the Victorian Spatial Council's Victorian Spatial Information Strategy 2008-101 introduced the strategic goal of creating a 'spatially enabled Victoria'.			
	The role of the Strategy is to create the frameworks that enable all sectors of the spatial information community2 to be highly engaged and their efforts integrated towards delivering a spatially enabled Victoria.			
	Development of this 2011-14 Strategy has allowed the Council to review the landscape it painted in 2008 and set out the requirements for continuing to respond to the challenges associated with meeting this goal.			
	VSIS 2011-2014 incorporates four integrated strategic directions:			
	Creating a framework in which the use of spatial information can flourish.			
	Adopting an inclusive approach to the management of spatial information			
	<ul> <li>Developing the spatial information community through collaboration and partnerships</li> <li>Maintaining the foundations for spatial information management.</li> </ul>			

	Further information http://victorianspatialcouncil.org/			
WGS 84	World Geodetic System 1984. A geocentric datum used for the determination of geographic coordinates.			

#### Informal description of the data product

Vicmap Lite is a series of state-wide datasets that have been generalised and simplified to a useful scale of 1:250,000 and smaller. When used in conjunction with each other, the Vicmap Lite datasets are ideal for the creation of general topographic or thematic backgrounds.

Vicmap Lite datasets are designed to suit a variety of applications including web mapping, visualisation and map production (either as a stand-alone product or for inclusion in publications). Vicmap Lite has introduced the concept of a scale use code (SUC) which enables the data to be used through a range of scales (ie from 1:250,000 through to 1:5 million). Vicmap Lite is made up of point, line and area features in a seamless and topologically structured dataset.

#### Vicmap Lite :

- Incorporates the following key Vicmap data themes: Transport, Hydrology, Elevation, Administrative boundaries, Features of interest and Vegetation.
- Is a series of state-wide generalised and simplified spatial datasets with a scale range of 1:250,000 through to 1:5 million.
- Includes a selection of small scale datasets from the Victorian Spatial Data Library.
- Is designed to cater for the web mapping, cartographic and GIS needs of spatial scientists

## **Specification Scope**

#### **Scope identification**

Level Dataset.

Level Names

Vicmap Lite

Extent

State of Victoria.

#### Vicmap Products effected by the Cross border data agreements

Cross border data for select Vicmap Products is provided to DEPI under agreements with NSW and SA. For these select Vicmap Products, coverage extends across the whole of Victoria as well as up to 100 kilometers into New South Wales and an 1 x 1:100 000 tile into South Australia.

For further information, the list of effected products and a coverage diagram go to <u>http://www.depi.vic.gov.au/crossborderdata</u>.

#### Data available under the Data.Vic policy http://www.data.vic.gov.au/ - Victoria Only

Many DEPI datasets, and most Vicmap products (covering Victoria only) are freely available through the Data.vic Policy.

See this website for details including:

- Timetable for release
- Usage and availability restrictions
- Licence restrictions and conditions
- Access constraints
- Exclusion of liability
- Supply and media formats
- Projections.

NOTE: Any Vicmap Products or datasets, not currently implemented by the Data.vic Policy, still retain the same pricing, licencing, restrictions, conditions, liability, constraints as indicated at <a href="http://www.depi.vic.gov.au/vicmap">http://www.depi.vic.gov.au/vicmap</a> webpage.

## **Data Product Identification**

#### **Title**

Vicmap Lite

#### **Alternate titles**

Formerly known as Vicmap Reference

#### Abstract

Statewide data series depicting major features, public land, vegetation, hydrology, transport and administrative data. Vicmap Lite datasets are suited for use between scales of 1: 250,000 and 1 : 5 million. The level of attribute information, the number of features and the number of vertices has been simplified to suit the 1: 250,000 - 1 : 5 million scale range. The concept of a Scale Use Code has been introduced to help control the level of detail displayed.

Datasets in the series are listed below. See their metadata entries for more detailed metadata.

VMLite\_BUILT\_UP\_AREA

VMLite\_FOREST\_SU2

VMLite\_FOREST\_SU3

VMLite\_FOREST\_SU5

VMLite\_GEO\_AREA\_LABEL

VMLite\_GEO\_POINT\_LABEL

VMLite\_HILLSHADE

VMLite\_HY\_WATER\_AREA

VMLite\_HY\_WATERCOURSE

VMLite\_LGA

VMLite\_LOCALITY\_POLYGON

VMLite\_POSTCODE\_POLYGON

VMLite\_PUBLIC\_LAND\_SU2

VMLite\_PUBLIC\_LAND\_SU5

VMLite\_RELIEF

VMLite\_TR\_AIRPORT

VMLite\_TR\_RAIL

VMLite\_TR\_RAIL\_STATION VMLite\_TR\_ROAD VMLite\_VICGOV\_REGION

VMLite\_VICTORIA\_LINE\_SU2

VMLite\_VICTORIA\_LINE\_SU5

VMLite\_VICTORIA\_POLYGON\_SU2

VMLite\_VICTORIA\_POLYGON\_SU5

#### Purpose

Vicmap Lite aims to provide a high level spatial view of the state of Victoria. The data is intended to be used through scales of 1:250,000 to 1: 5 million. The datasets are designed to be easy to use and fast to display, making them ideal for use in mobile, web and desktop mapping applications. The Vicmap Lite datasets also provide a logical transition path for the display of the more detailed Vicmap framework datasets.

Administrative boundaries data serves as a foundation for several other datasets provided by DEPI As well as being a valuable dataset in its own right. The common geometric base allows users to apply the spatial data to the full extent of coverage. This common infrastructure facilitates data integration with supplementary data supplied in the future.

#### **Topic category**

Vicmap Lite data is identified by coordinate spatial data (latitude and longitude) with associated textual attributes and metadata.

#### **Geographic description**

The Vicmap product covers the Vicmap Lite themes within the State of Victoria

## Data content and structure

### Content

- Vicmap Lite is a generalised statewide, seamless, maintained product
- The product is designed for web and PDA developers, cartographers, GIS users and analysts, marketers and report producers
- It is ideal for web mapping, navigational devices and hard copy cartographic products
- The products fitness for purpose is between 1:250,000 and 1:5,000,000 scales
- It is designed to be easy to use, fast to load or display and be small in size
- A number of other datasets owned by DEPI are being considered for inclusion in Vicmap Lite
- A test website is now available at <u>http://services.land.vic.gov.au/maps/vmlite.jsp</u> for potential users to see the benefits of using this product.
- All other Web Map applications on DEPI websites utilise Vicmap Lite at the small scales.

The themes include:

- Transport
- Hydro
- Relief
- Admin
- Vegetation
- Features
- Topography

It must be understood that only the key attributes of the parent dataset have been retained for Vicmap Lite. Minimising attributes was a key driver for this product. For example, Roads in the parent dataset had 31 attributes as opposed to 13 in the Vicmap Lite version. On average a Lite dataset will have 6 attributes.

Secondly some of the parent attributes have been generalised, for example Watercourse feature codes of connectors and watercourse drain channel have been re classified into the remaining four, namely Watercourse Stream, Watercourse River, Watercourse Channel and Watercourse Drain. This enables the user to select the Hopkins River as one entity and label it once.

As a foundation, all Vicmap Lite datasets have a feature\_type\_code, scale\_use\_code and a state attribute. The role of the feature\_type\_code is to group elements by a defined feature type (for example, road, tunnel, railway, watercourse\_river, watercourse\_lake are all valid feature type codes), The scale use code is a mechanism that can be used to control the level of content displayed. The state item can also be used to control the display of content within a particular dataset.

#### Scale Use Code

The Scale Use Code (SUC) attribute has been designed and incorporated into every Lite dataset to assist in displaying / filtering spatial data appropriate for a given scale. It enables Vicmap Lite to be more flexible, making it usable at a greater range of scales. The "scale use code" attribute will help the user control the level of detail displayed at different scales.

The "scale use code" value is a sequential number which relates to a range of display scales (Refer to the table below).

Scale Use Code	Scale ranges	Usage examples
1	1:5 million – 1:3 million	A7 - A5 PDA, Small maps, Web mapping & very small maps
2	1:3 million – 1:2 million	A4 maps of Victoria & Web maps of Victoria
3	1:2 million – 1:1 million	A3 maps of Victoria & Web maps
4	1:1 million - 1: 500,000	A1+ A0 maps of Victoria & Web maps
5	1:500,000 - 1:250,000	Regional maps of Victoria & Web maps

To display an appropriate level of detail the user selects the scale use code (that reflects the required scale of display) and all the preceding scale use code values.

For example:

To display a level of detail suited for a 1:1 million scale map, select "scale use codes" 1, 2 & 3.

To display a level of detail suited for a 1: 250,000 scale map, select "scale use codes" 1, 2, 3, 4 & 5.

A prefix \_su <scale use code value> in a datasets name identifies the minimum scale this dataset is suited to.

For example :

VMLite\_PUBLIC\_LAND\_SU3 refers to scale use code 3's scale range. Therefore the minimum scale for use of this dataset is 1: 1 million.

VMLite\_PUBLIC\_LAND\_SU5 refers to scale use code 5's scale range. Therefore the minimum scale for use of this dataset is 1: 250,000.

It is important to note that a Scale Use Code value represents a suggested selection of features for a particular scale range. Users should use their own judgment and assess which scale use code is to be used in a given situation / application, or not at all. It is designed to be used as a guide only.

#### Label Use Code

In a similar vein as the Scale Use Code (SUC), the concept of a Label Use Code has been developed. The Label Use Code is a mechanism which is designed to control the level of labelling. The Label Use Code uses the same values as the Scale Use Code (ie 1, 2, 3, 4 and 5) and is suited to the same scale ranges. The Label Use code was introduced for situations where it is appropriate to display particular features however, there may not be enough room to label all these features. By using the Label Use Code, the user has more control over what is labeled.

For example, to create a 1: 1 million scale map of Victorian Government regions, select those polygons (from VMLite\_VICGOV\_REGION) with a scale use code <= 3 and label only those with a label\_use\_code <= 3. In doing so, you will notice that the smaller polygons around Phillip Island and French Island (where space for labeling is limited) are not labeled. This is because these polygons have a label use code greater than 3 (and a scale use code less than 3). The user can still see these polygons but they are not labeled.

#### Feature-based data

No information inserted here.

#### Feature-based application schema (data model)

The Vicmap Lite data model diagram, current to the listed Reference Date, is set out at Appendix A. NOTE - The most current Data Models are published at http://www.depi.vic.gov.au/vicmap Select Vicmap Products > Vicmap Lite

#### **Data dictionary**

The Vicmap Lite feature based feature catalogue in support to the application schema, current to the listed Reference Date, is set out at Appendix B.

The data dictionary applicable to this Vicmap Products model is also located on the Victorian Governments website www.depi.vic.gov.au/vicmap.

A dictionary describing all pertinent features, together with any inter-relationships within the dataset that are used to depict respective real world counterparts and any aspects of their behavior. includes:

- Class/Feature lists
- Definitions
- Types and included elements
- Attributes
- Spatial representation (line, point, polygon, etc, including any relationship between size or scale of a feature and its representation
- Accepted codes or abbreviations or pointers to reference tables.

#### **Data structure**

- Topologically structured
- Seamless across Victoria
- Consists of vector (point, line or polygon) and raster datasets
- Additional information about features contained in attribute tables ie. feature type, etc

**Polygon layers:** Polygon features such as Local Government Area polygons composed of boundary lines/arcs at this stage have not been vertically aligned to State Boundary Framework Lite Dataset. The alignment is such that at a minimum scale of 1:250,000 the line work will appear as if aligned.

**Linear layers:** Linear features such as roads, railways and watercourses can be considered as linear networks generally combined according to consistent attributes, i.e. Western Highway being a single linear feature and are of special interest in Cartographic work.

**Point layers:** Point layers contain entity point features representing entities such as railway stations, airports and locations.

**Raster Images:** A series of raster images have been created to represent the terrain. The terrain is depicted using hillshading or hypsometric tinting techniques. The images have a pixel resolution of either 100 meters or 800 meters. To support the interpretation of the hypsometric tint dataset a legend image was created and is available in 2 formats (ecw or jpg).

#### Attribution

All data contains attribution which is feature descriptive and provides specific information about each feature. Each feature contains information from different classes of common attribution (see Appendix A, Data Dictionary).

Attribute Classes:

- Layer The layer to which the features belong
- Theme The Theme to which the features belong
- Named Feature The list of all names of features used within Victoria, with linkages to the official Place Names Register
- Scale use code (SUC) defines the level of detail displayed at a given scale
- Feature Type The holding of all the different feature types that are applicable and their relationship to the original Vicmap IGDS Data Dictionary.

#### Generalisation within the Data

The data contained in this dataset has been generalized from the parent Vicmap or VSDL dataset. All features have been subjected to algorithmic generalization from 1:25,000 to 1:250,000 scales by means of selecting relevant attributes and weeding nodes.

The original Vicmap Reference product was produced by digitising 1:500,000 maps. In 2005, a number of considerations needed to be looked at as to the design of the generalisation process. See the diagram below.

#### **GENERALISATION Process**

#### 1. Filter

Filtering relates to selecting the appropriate class of data, such as the major roads network. The majority of spatial data components needed for any given layer of data will be selected using the class codes. This will result in a first stage filtered dataset. For example class codes 0-3 would be selected for roads. This will be the quickest and easiest part of the generalisation process. Nevertheless care needs to be taken that the appropriate class codes are selected. In essence the filter determines which classes of data will be wholly included in any given layer of Vicmap Lite.

#### 2. Add (complete)

Source data is not without its faults and imperfections, therefore it is not sufficient to just accept the given classification code as gospel. In order to obtain a "complete" Cartographic look, it is necessary to manually "look over" the filtered layer and consider further additions to that layer from the remaining classes not selected at the filtering stage. For example the addition of roads in remote areas of the state, where roads class 4 or 5 are key routes or defined as public roads in a given forest area. Secondly, some tracks have not been correctly classified, form part of a key route, therefore needing addition for completeness.

#### 3. Combine

The majority of Vicmap data is segmented for example Western Highway is made up of 750 line segments,. The aim of Vicmap Lite is to have a combined series of data entities. This means that when selected the Western Highway (for example) will be one single entity and its full extent will be clearly visible. This will be very helpful when labeling roads and as stated above, determining its extents and distance.

#### 4. Weed Attributes

Once the common segments are combined, it is necessary to trim the superfluous attributes that become irrelevant at that process, these are the UFIs & PFIs and their dates etc which relate to the ungeneralised road segments from the source dataset. A new unique PFI will be created for every new segment created during data generalisation.

#### 5. Weed Graphics

Weeding is a necessary and final task of any spatial generalisation process. The data source is nominally produced at a scale of 1:25,000, BB accuracy of 12.5 metres. Vicmap Lite requires a tenth of this accuracy namely 125 metres equating to a tenth of the original number of nodes contained in the generalised dataset. The weeding process needs to also include snapping capabilities, so that two different joining road segments, once weeded will snap or end in exactly the same location. This is more relevant when generalising polygons such as LGA boundaries where adjoining polygons need to be weeded at snapped in the same location along the length of the common boundary.



## **Reference system**

#### **Spatial reference system**

GDA 94.

#### **Temporal reference system**

Gregorian calendar.

#### **Reference system scope**

The spatial objects and temporal collection periods for the Vicmap datasets.

#### **Reference systems**

The datum used in the construction and maintenance of Vicmap data is the Geocentric Datum of Australia. Data is held in geographicals (latitude/longitude) computed in terms of the GDA at 01 January 1994 (GDA94).

## Data quality

Although the parent dataset has been created to the 1:25,000 scale specification, the Vicmap Lite process dilutes the data to a usable scale of 1:250,000 or smaller. Use of the data is therefore logically suited to applications within the scale range of 1:250,000 to 1: 5 million.

Any enlargement or extrapolation of the data will result in proportionally increased visual displacement and/or errors of the same order of magnitude in any analytical outcomes.

#### Lineage / History

Vicmap Reference, the predecessor of Vicmap Lite was the first digital product created in the late 80's and was never maintained. It was digitised from existing 1:500,000 mapping and served as a good generalised digital data layer for many years.

Vicmap Lite is a new initiative resulting from the needs of the spatial community for an authoritative, statewide generalized dataset. Planning started mid 2005 and has now delivered a first stage cut of the Vicmap Lite product.

The Lite product, stage 1, has been created by SII staff during 2007 calendar year. The product will go through a number of quality assurance / testing iterations before being made available to the public.

The Quality Assurance steps taken when developing the product are as follows:

- 1. Feature Selection QA. Supervisor checked the data for consistency and correctness at the creation of master dataset stage.
- 2. Internal testing stage. All the datasets have been put through structured internal testing by various SII staff members. The resulting comments, errors and queries were dealt with by the project control group. Errors and inconsistencies was corrected
- 3. Limited release testing. DEPI/DPI staff and a small number of external stakeholders have been asked to comment on the new product. Feedback was collated and actioned by the Project control group.

The Vicmap Lite product was created from their respective parent layer. Some updating and "fixing" occurred where the parent layer was deficient.

The generalisation process is dealt with in the above "Generalisations of the Data" section

The proposed revision frequency is outlined in the "Data Maintenance" section.

#### Accuracy

The positional accuracy of point datasets is as per the parent layer used to derive the Vicmap Lite version. The positional accuracy of line or polygon datasets varies. The source line work was simplified using an enhanced Douglas and Peucker simplification algorithm. The algorithm keeps so-called critical points that depict the essential shape of a line and removes all other points. The algorithm connects the end nodes of an arc with a "trend line". The distance of each vertex to the trend line is measured perpendicularly. Vertices closer to the line than the tolerance are eliminated. The tolerances used range from between 30 – 120 m. Raster datasets were resampled using either a 100m or 800m pixel resolution

The tolerances were determined by visually assessing the appropriateness of the linework at 1:250,000 scale and reviewing the total number of vertices.

#### Feature and attribute accuracy (Thematic accuracy)

The attribute accuracy is generally based on the parent product. For example a stream name will be derived from the Hy\_Watercourse parent product. Please refer to the parent product description for more detailed information on a given theme.

#### **Completeness**

The nature of the Vicmap Lite product is such that only a selection of key components from the parent layer will be included in this product. The generalization and selection of features was based on hierarchical business rules that gives weight for inclusion based on importance and size. To a certain degree, key element selection was subjective. Other layers such as the administrative boundaries like the LGA's will have all the parent entities included with only the line work and some attributes weeded.

#### Logical consistency

The allowable error in logical consistency ranges is 1%. Logical consistency is a measure of the degree to which data complies with the technical specification. The test procedures are a mixture of software scripts and on-screen, visual checks. The aim is for the data to be at least 99.9% consistent.

## Data capture

For multiple themes, add sections, such as for Administrative- Local Government Area, etc.

#### Data capture scope

See the individual parent Vicmap layer product descriptions for further detail.

## Data maintenance

### Maintenance and update frequency

Information Services Division updates Vicmap Lite themes based on the products practical requirements and is dependent on the maintenance regime of the parent Vicmap dataset. The following table lists the current frequency of updates for Vicmap Lite:

Vicmap Lite theme	Update Frequency
Roads	Annually
Railways & Rail stations	Annually
Airports	Annually
Hydro watercourse & water area	Annually
State Boundary – Border, coastline	As Required
Local Government Area Boundary	Annually
State Govt. Regional Boundaries	As Required
Public Land Boundaries	Annually
Built Up Area	As Required
Vegetation	As Required
Locations Pt & Poly	Annually
Hypsometric tints	As Required
Geographic Point & Area	As Required
Postcodes	Annually
Hill shade	As Required

#### Source

Content has been derived from selected Vicmap and Victorian Spatial Data Library (VSDL) datasets.

## Data product delivery

#### Access

#### Data and assistance

Vicmap Digital data is available directly from DEPI's network of official data service providers listed at: <a href="http://www.depi.vic.gov.au/vicmapdsp">http://www.depi.vic.gov.au/vicmapdsp</a>

Supply and media format can be negotiated with the Data Service Provider.

#### Small packets of data

Selected Vicmap Products can be bought online through DEPI web located at: <u>http://www.depi.vic.gov.au/vicmapdata</u>

### Licencing and pricing

See <u>http://www.depi.vic.gov.au/vicmap</u> webpage for information on pricing, licencing, restrictions, conditions, liability and constraints.

#### Data available under the Data.Vic policy http://www.data.vic.gov.au/ - Victoria Only

Many DEPI datasets, and most Vicmap products (covering Victoria only) are freely available through the Data.vic Policy.

See this website for details including:

- Timetable for release
- Usage and availability restrictions
- Licence restrictions and conditions
- Access constraints
- Exclusion of liability
- Supply and media formats
- Projections.

NOTE: Any Vicmap Products or datasets, not currently implemented by the Data.vic Policy, still retain the same pricing, licencing, restrictions, conditions, liability, constraints as indicated at <a href="http://www.depi.vic.gov.au/vicmap">http://www.depi.vic.gov.au/vicmap</a> webpage.

## Metadata

#### **Datasearch Victoria**

Search for a Victorian dataset by type of data required, area type, dataset name, theme, or you can view all 1,250+ datasets. This will provide access to abstract, metadata, a preview, and the provider. Further information at <a href="http://www.depi.vic.gov.au/datasearch">http://www.depi.vic.gov.au/datasearch</a>

## Appendix A - data model

The latest data model for each product is located at <u>http://www.depi.vic.gov.au/vicmap</u>. Select the Product's data model from the Vicmap Products section.

## Appendix B - data dictionary

#### Layer – Entity Relationships

Vicmap Lite is maintained internally by Spatial Information Infrastructure. The datasets are held in Oracle®, the spatial component of which is managed by ESRI's ArcSDE®.

OVERVIEW OF TABLES AND THEIR INCLUDED FIELDS

This document sets out the layers, entities, attribute tables, and fields within the tables that comprise the Vicmap Lite product.

This table details the feature types, entity types and attributes applicable to each of the layers within the Vicmap Lite product.

Aggregated Feature	Geometric Type	Included Entities	<b>Class Specific Attributes</b>
Road	Line	road	Ezi_road_name
		tunnel	EZI_road_name_label
			Road_name
			Road_type
			Road_suffix
			Class_code
			Route_no
			Road_seal
			State
			Scale_use_code
Rail	Line	railway	Name
		rail_uground	State
		rail_tourist	Scale_use_code
Rail Station	Point	rail_station	Name
			State
			Scale_use_code
Airport	Point	airport	Name
			Hierarchy
			State
			Scale_use_code
Watercourse	Line	watercourse_channel	Name
		watercourse_drain	Origin
		watercourse_river	State
		watercourse_stream	Scale use code
Water area	Polygon	pondage	Name
		pondage_saltpan	Waterody_state
		pondage_sewerage	State
		watercourse_area	Scale use code
		wb_lake	
		wb_lake_salt	
		wetland_swamp	

Aggregated Feature	Geometric Type	Included Entities	<b>Class Specific Attributes</b>
Locality	Point	place	Locality name Locality name label Hierarchy State Scale use code
	Polygon	locality	Locality name Gazetted locality name State Scale use code Label use code
Tree Density	Polygon	forest	State Scale use code
State Border	Line	coast state_border	Border class State Scale use code
State Area	Polygon	island mainland sea	State name State Scale use code
Public Land	Polygon	public_land	Public Land group State Scale use code
Local Government Area	Polygon	LGA	Lga name State Scale use code Label use code
Vic Gov Region	Polygon	vicgov_region	Vicgov region name Vicgov region sname State Scale use code Label use code
Built up area	Polygon	bua	State Scale use code
Postcode	Polygon	postcode	Postcode State Scale use code Label use code
Relief Object	Point	mountain peninsula	Place name Place name label Surface type code State Scale use code
Geographic Area	Polygon	bay island_marine marine_place named_natural_region ridge sea	Place name Place name label Surface type code State Scale use code

Aggregated Feature	Geometric Type	Included Entities	<b>Class Specific Attributes</b>
Relief	Raster	N/A	N/A
Hillshade	Raster	N/A	N/A

### Layer Table Structure

## ROAD (LINE)

### **Summary information**

Description	An open way for the passage of vehicles, persons or animals on land.
Entity	Road
Included terms	Highway, freeway, major road, local road,
Entity Type	Spatial
ICSM Conformance	Conforms

#### TABLE: VMLite\_TR\_ROAD

TABLE DESCRIPTION:		
Column Name	Data Type	Column Description
UFI	NUMBER(14)	Lite Road Identifier
FEATURE_TYPE_CODE	VARCHAR2 (30)	Feature Code like road, tunnel
EZI_ROAD_NAME	VARCHAR2 (65)	Combination of ROAD NAME, TYPE & SUFFIX
EZI_ROAD_NAME_LABEL	VARCHAR2 (65)	Combination of ROAD NAME, TYPE ABBREVIATIONS & SUFFIX (where appropriate) in title case
ROAD_NAME	VARCHAR2 (45)	Road Name (Primary) / Declared Road if available
ROAD_TYPE	VARCHAR2 (15)	Road Name Type (Primary) / (Declared Road if available)
ROAD_SUFFIX	VARCHAR2 (2)	Road Name Suffix (primary) / (Declared Road if available)
CLASS_CODE	NUMBER(2)	Code to Indicate road Classification as per Tr_Roads product:
ROAD_SEAL	VARCHAR2 (1)	Road Seal -> Sealed, Unsealed, Unknown
ROUTE_NO	VARCHAR2 (5)	Vicroads Route No
STATE	VARCHAR2 (7)	VIC, NSW, SA
SCALE_USE_CODE	VARCHAR2 (1)	Refer to finalised scale use code document: codes 1-5
		This product will utilise codes 1 to 5.
CREATE_DATE_UFI	DATE 7	This field will reflect the create date ie currency of dataset

#### LOOK UP TABLE CODELISTS APPLICABLE:

Class\_Code (adopted from the TR\_ROAD product)

Code	Description
------	-------------

0	Freeway
1	Highway
2	Arterial
3	Sub-Arterial
4	Collector
5	Local
6	2wd
7	4wd
9	Proposed (FWY / HWY only)

#### **Road Class Code Definitions**

#### 0 Freeway

Hard surface formation, high volume, high speed roads declared as "Freeway"; comprising dual carriageway and full access control and grade separated intersections; ie no direct access from adjoining properties or side roads and all crossings are by means of overpass or underpass bridges with traffic entering or leaving carriageways by means of ramps. Single carriageway sections forming part of declared freeways may be included within this category.

#### <u>1 Highway</u>

Hard surface roads which:

- Are of importance in a national sense, and/or
- Are of a major interstate through route, and/or
- Are principal connector roads between capitals and/or major regions and/or key towns.

#### 2 Arterial

Well maintained and widely used hard surface formation roads which are major connectors between:

- Freeways and/or National Highways, and/or
- Major centres, and/or key towns, or
- Have major tourist importance or
- Which main function is to form the principle avenue of communication for metropolitan traffic movements, not catered for by freeways.

#### 3 Sub-Arterial

Hard surface formation road, which acts as:

- A connector between highways and/or arterial roads, or
- An alternate route for class 2 roads, or
- A principal avenue for massive traffic movements.

#### 4 Collector Road

Hard surface or improved, loose surface formation road acting to:

- Provide for traffic movement (connects class 3 to class 5) or
- To distribute traffic to local street systems.

#### 5 Local Road

Hard surface or improved, loose- surface formation road providing property access.

#### 6 Track 2 Wheel Drive

Unimproved roads which are generally only passable in two wheel drive vehicles during fair weather and are used predominately by local traffic.

Also included are driveways regardless of construction.

#### 7 Track 4 Wheel Drive

Unimproved roads which are generally only passable with for wheel drive vehicles.

#### 9 Proposed

Road centreline alignments have been received from plans of subdivision or Vicroads and are yet to be constructed or construction completed.

#### Road\_Seal

**Road Surface description** 

Code	Description
1	Road Sealed
2	Road Unsealed
3	Unknown

#### Scale\_Use\_Code

Scale use code classification

Code	Description
1	1:5 million or smaller
2	1:3 million
3	1:2 million
4	1:1 million
5	1:250k or smaller

## RAIL (LINE)

### **Summary information**

Description	A permanent way having one or more rails which provide a track for trains.
Entity	Railway
Included terms	Double track railway, Light rail, Single track railway, Underground railway, tourist railway
Entity Type	Spatial
ICSM Conformance	Conforms

#### TABLE: VMLite\_TR\_RAIL

TABLE DESCRIPTION:		
Column Name	Data Type	Notes
UFI	NUMBER(14)	Lite Rail Identifier
FEATURE_TYPE_CODE	VARCHAR2 (30)	railway, rail_uground and rail_tourist
NAME	VARCHAR2 (50)	Railway line name ie "NORTH EASTERN"
STATE	VARCHAR2 (7)	VIC, NSW, SA
SCALE_USE_CODE	VARCHAR2(1)	Refer to finalised scale use code document: codes 1-5 This product will utilise codes 1 to 5.
CREATE_DATE_UFI	DATE 7	This field will reflect the create date ie currency of dataset

#### FEATURE CODES RANGES:

Feature_Type_Code	Description
railway	Railway line
rail_uground	Underground rail
railway_tourist	Tourist railway

## **RAIL STATION (POINT)**

### Summary information

Description	A point on a railway designated as a stopping place to set down or pick up passengers or freight. In the Melbourne, not all metropolitan stations are included due to their high density.
Entity	Railway Station,
Included terms	Train stop
Entity Type	Spatial
ICSM Conformance	Conforms

#### TABLE: VMLite\_TR\_RAIL\_STATION

TABLE DESCRIPTION:

Column Name	Data Type	Notes
UFI	NUMBER(14)	Lite Rail Identifier
FEATURE_TYPE_CODE	VARCHAR2 (30)	Rail_station
NAME	VARCHAR2 (50)	Eg. Railway station name "BALLARAT"
STATE	VARCHAR2 (7)	VIC, NSW, SA
SCALE_USE_CODE	VARCHAR2(1)	Refer to finalised scale use code document: codes 1-5 This product will utilise codes 1 to 5.
CREATE_DATE_UFI	DATE 7	This field will reflect the create date ie currency of dataset

## WATERCOURSE (LINE)

### **Summary information**

Description	A way or course through which water may or does flow.
Entity	Watercourse
Included terms	Anabranch, aqueduct, braided, stream, canal, channel, creek, culvert, ditch, drain, flume, gully, race, river, river bed, rivulet, stream, tributary
Entity Type	Spatial – Line
ICSM Conformance	Conforms

#### TABLE: VMLite\_HY\_WATERCOURSE:

Column Name	Data Type	Notes
UFI	NUMBER(14)	Lite Watercourse Identifier
FEATURE_TYPE_CODE	VARCHAR2 (30)	see feature code ranges table below
NAME	VARCHAR2 (50)	Watercourse name ie
		"YARRA RIVER"
ORIGIN	VARCHAR2(1)	Natural (1) or man made (2)
STATE	VARCHAR2 (3)	VIC, NSW, SA
SCALE_USE_CODE	VARCHAR2(1)	Refer to finalised scale use code section above: codes 1-5
		This product will utilise codes 1 to 5.
CREATE_DATE_UFI	DATE 7	This field will reflect the create date ie currency of dataset

#### FEATURE CODES RANGES:

Feature_Type_Code	Description
watercourse_channel	CHANNEL/AQUEDUCT (Major)
watercourse_drain	DRAIN
watercourse_river	RIVER
watercourse_stream	STREAM

#### LOOK UP TABLE CODELISTS APPLICABLE:

Origin	
Code	Description
1	natural
2	man-made

## WATER AREA (POLYGON)

### Summary information

Description	A inland area of standing water on a permanent basis, a lake bed containing water intermittently or an outdoor swimming pool of competition dimension. (N)
Entity	Lake
Included terms	billabong, clay pan, earth tank, intermittent lake, lake, pool, pond, reservoir, salt lake, waterhole, waterbody
Entity Type	Spatial – Polygon
ICSM Conformance	New entity

Description	A vegetated area which is inundated or saturated with water.
Entity	Wetland
Included terms	lignum swamp, marsh, reed bed, swamp
Entity Type	Spatial – Ploygon
ICSM Conformance	Conforms

Description	All areas of shallow water with walls or banks created for a specific purpose.
Entity	Pondage
Included terms	aeration beds, cooling pond, filtration beds, salt evaporation pool, settling pond, sewerage pond
Entity Type	Spatial – Polygon
ICSM Conformance	Conforms

Description	Watercourse entity with polygonised area.	
Entity	Watercourse Area	
Included terms	Double-sided stream	
Entity Type	Spatial – Polygon	
ICSM Conformance	Unknown	

#### TABLE DESCRIPTIONS:

#### VMLite\_HYDRO\_WATER\_AREA

#### TABLE DESCRIPTION:

Column Name	Data Type	Notes	
UFI	NUMBER(14)	Lite Watercourse Identifier	
FEATURE_TYPE_CODE	VARCHAR2 (30)	see feature code ranges table below	
NAME	VARCHAR2 (50)	Water feature name ie	
		"Lake Burrumbeet"	
WATERBODY_STATE	VARCHAR2 (1)	1 - Intermittent	
		2 – Perennial	
		"NULL"	
STATE	VARCHAR2 (7)	VIC, NSW, SA	
SCALE_USE_CODE	VARCHAR2(1)	Refer to finalised scale use code document: codes 1-5	
		This product will utilise codes 1 to 5.	
CREATE_DATE_UFI	DATE 7	This field will reflect the create date ie currency of dataset	

#### FEATURE CODES RANGES:

Feature_Type_Code	Description
pondage	Pondage
pondage_saltpan	Salt Pan / Evaporator
pondage_sewerage	Sewage Filtration Beds
watercourse_area	Watercourse Area (wide double-sided stream)
wb_lake	Lake/Dam
wb_lake_salt	Salt Lake
wetland_swamp	Swamp

#### LOOK UP TABLE CODELISTS APPLICABLE:

#### Waterbody\_state

Code	Description
1	Intermittent
2	Perennial

## LOCALITY (POINT)

### **Summary information**

Description	LOCALITY_POINT is a statewide point dataset containing city, town, suburb and locality positions as defined by Geographic Place Names.
	Locality points are aligned to Vicmap Locality Polygon boundaries
Entity	City, Town, Place Name, Suburb, Village
Included terms	City, Town, Place Name, Suburb, Village, location,
Entity Type	Spatial – Point
ICSM Conformance	

#### TABLE DESCRIPTIONS: VMLite\_LOCALITY

TABLE DESCRIPTION:

Column Name	Data Type	Notes
UFI	NUMBER(14)	Lite Locality Identifier
FEATURE_TYPE_CODE	VARCHAR2 (30)	Valid code is "place"
LOCALITY_NAME	VARCHAR2 (50)	Locality name
LOCALITY_NAME_LABEL	VARCHAR2 (50)	Locality name formatted into upper and lower case
HIERARCHY	NUMBER(1)	see feature code ranges table below
STATE	VARCHAR2(7)	Valid codes are "VIC" "NSW", "ACT" & "SA"
SCALE_USE_CODE	VARCHAR2(1)	Refer to finalised scale use code document: codes 1-5
		This product will utilise codes 1 to 5.
UFI_CREATED	DATE	This field will reflect the create date ie currency of dataset

### LOOK UP TABLE CODELISTS APPLICABLE:

#### Hierarchy

Code	Description
1	Capital City
2	City
3	Regional Centre
4	Major or regionally significant town
5	Large or locally significant town
6	Town
7	Small town or locally significant district
8	District

## LOCALITY (POLYGON)

### Summary information

Description	LOCALITY_POLYGON is a statewide polygon dataset containing gazetted locality boundaries as defined by Geographic Place Names.	
Entity	City. Town. Place Name. Suburb. Village	
Included terms	City, Town, Place Name, Suburb, Village, location,	
Entity Type	Spatial - Polygon	
ICSM Conformance		

#### TABLE DESCRIPTIONS:

#### VMLite\_LOCALITY\_POLYGON

Column Name	Data Type	Notes
UFI	NUMBER(14)	Lite Locality Polygon Identifier
FEATURE_TYPE_CODE	VARCHAR2 (30)	Valid code is "locality"
LOCALITY_NAME	VARCHAR2 (50)	Locality name
GAZETTED_LOCALITY_NAME	VARCHAR2 (40)	Better suited to labelling
STATE	VARCHAR2 (7)	Valid codes are "VIC", "SA" & "NSW"
SCALE_USE_CODE	VARCHAR2(1)	Refer to finalised scale use code document: codes 1-5 This product will utilise codes 4 .
LABEL_USE_CODE	VARCHAR2(1)	Refer to finalised scale use code document: codes 1-5 This product will utilise codes 4 & 5.
UFI_CREATED	DATE	This field will reflect the create date ie currency of dataset

## POSTCODE (POLYGON)

### Summary information

Description	VicMap Lite POSTCODE is part of the State of Victoria's framework information and defines Australia Post's postcode boundaries that facilitate its postal delivery services. This product is a weeded (generalized) version of the parent product which is currently undergoing continual updates by Australia Post. These boundaries will be updated to match any change to the formal postcode boundary definitions on a regular basis	
Entity	Administrative Boundary	
Included terms	Postcode area, postcode boundary	
Entity Type	Spatial - Polygon	
ICSM Conformance		

#### TABLE DESCRIPTIONS: VMLite\_POSTCODE

Column Name	Data Type	Notes
UFI	NUMBER(14)	Vicmap Lite Postcode Polygon Identifier
FEATURE_TYPE_CODE	VARCHAR2 (30)	Valid code is "postcode"
POSTCODE	VARCHAR2 (4)	Postcode number
STATE	VARCHAR2 (7)	Valid codes are "VIC"
SCALE_USE_CODE	VARCHAR2(1)	Refer to finalised scale use code document: codes 1-5 This product will utilise code 3.
LABEL_USE_CODE	VARCHAR2(1)	Refer to finalised scale use code document: codes 1-5 This product will utilise codes 3 to 5
UFI_CREATED	DATE	This field will reflect the create date ie currency of dataset

## LGA (POLYGON)

### **Summary information**

Description	VicMap Lite LGA is part of the State of Victoria's framework information and defines Local Government jurisdiction boundaries. This product is a weeded (generalized) version of the parent product which is aligned with topographic features and is not designed for any detailed analysis purposes
Entity	Administrative Boundary
Included terms	LGA, council boundary, shire boundary, city boundary, rural city boundary,
Entity Type	Spatial - Polygon
ICSM Conformance	

#### TABLE DESCRIPTIONS:

#### VMLite\_LGA

Column Name	Data Type	Notes
UFI	NUMBER(14)	Vicmap Lite LGA Identifier
FEATURE_TYPE_CODE	VARCHAR2 (30)	Valid code is "Iga"
NAME	VARCHAR2 (50)	LGA name
STATE	VARCHAR2 (7)	Valid codes are "VIC", "NSW" & "SA"
SCALE_USE_CODE	VARCHAR2(1)	Refer to finalised scale use code document: codes 1-5 This product will utilise code 1,
LABEL_USE_CODE	VARCHAR2(1)	Refer to finalised scale use code document: codes 1-5 This product will utilise codes 1 to 5.
UFI_CREATED	DATE	This field will reflect the create date ie currency of dataset

## VICGOV REGION

## (POLYGON)

### **Summary information**

Description	All State Departments have adopted common regional boundaries. which align with those of local governments. The result is eight standard administrative regions – five in provincial Victoria and three in metropolitan Melbourne. To provide for the operational requirements of different Departments, there is scope, where necessary, for some flexibility within the eight regions. For example, the Department of Education will operate with four metropolitan regions, two of which will be coextensive with the North Western Metropolitan Region. The adoption of common boundaries will facilitate joint planning and service delivery both between State Departments and Agencies as well as between those Departments, Agencies, councils and community organisations. State Statutory Authorities, such as VicRoads, will be encouraged to adopt similar regions.
Entity	Administrative Boundary
Included terms	State Government regions, depatramental regions
Entity Type	Spatial - Polygon
Entity Type ICSM Conformance	Spatial - Polygon

#### TABLE DESCRIPTIONS:

#### VMLite\_VICGOV\_REGION

TABLE DESCRIPTION:

Column Name	Data Type	Notes
UFI	NUMBER(14)	Vicmap Lite Gov Region Identifier
FEATURE_TYPE_CODE	VARCHAR2 (30)	Valid code is "vicgov_region"
VICGOV_REGION_SNAME	VARCHAR2 (13)	Short version of Government Region name
VICGOV_REGION	VARCHAR2 (35)	Government Regions. Valid codes are are : BARWON, SOUTH WEST, EASTERN METROPOLITAN, GIPPSLAND, GRAMPIANS, HUME, LODDON MALLEE, NORTHERN AND WESTERN METROPOLITAN & SOUTHERN METROPOLITAN
STATE	VARCHAR2 (7)	Valid codes are "VIC"
SCALE_USE_CODE	VARCHAR2(1)	Refer to finalised scale use code document: codes 1-5
LABEL_USE_CODE	VARCHAR2(1)	Refer to finalised scale use code document: codes 1-5 This product will utilise code 1-2.
UFI_CREATED	DATE	This field will reflect the create date ie currency of dataset

## VICTORIA LINE (LINE) Summary information

Description	VicMap Lite VICTORIA LINE is part of the State of Victoria's framework information and defines the states boundary.	
	Two versions are available i.e. the dataset is generalized to suit two different scale ranges: namely scale use code 1 – 2 and scale use code 3 – 5.	
Entity	Administrative Boundary	
Included terms	State Boundary, State Border	
Entity Type	Spatial - Line	
ICSM Conformance		

## TABLE DESCRIPTIONS: TABLE DESCRIPTION:

#### VMLite\_VICTORIA\_LINE\_SU2

Column Name	Data Type	Notes
UFI	NUMBER(14)	Vicmap Lite Victoria line SU2 Identifier
FEATURE_TYPE_CODE	VARCHAR2 (30)	Valid codes are "state_border", "coast"
BORDER_CLASS	VARCHAR2 (12)	Valid codes are "SURVEY", "HYDROGRAPHIC" & "NULL"
STATE	VARCHAR2 (7)	Valid codes are "VIC", "NSW", "SA","TAS", "VIC_SA", "VIC_NSW", "NSW_ACT", "NSW_SA""
SCALE_USE_CODE	VARCHAR2(1)	Refer to finalised scale use code document: codes 1-5
		This product will utilise codes 1
		1- 1:5 million
UFI_CREATED	DATE	This field will reflect the create date ie currency of dataset

#### TABLE DESCRIPTIONS:

#### VMLite\_VICTORIA\_LINE\_SU5

TABLE DESCRIPTION:			
Column Name	Data Type	Notes	
UFI	NUMBER(14)	Vicmap Lite Victoria line SU5 Identifier	
FEATURE_TYPE_CODE	VARCHAR2 (30)	Valid codes are "state_border", "coast"	
BORDER_CLASS	VARCHAR2 (12)	Valid codes are "SURVEY", "HYDROGRAPHIC" & "NULL"	
STATE	VARCHAR2 (7)	Valid codes are "VIC", "NSW", "SA", "VIC_SA", "VIC_NSW", "NSW_SA"	
SCALE_USE_CODE	VARCHAR2(1)	Refer to finalised scale use code document: codes 1-5	
		This product will utilise codes 3 to 5	
UFI_CREATED	DATE	This field will reflect the create date ie currency of dataset	

## VICTORIA POLYGON (POLYGON)

### **Summary information**

Description	VicMap Lite VICTORIA POLYGON is part of the State of Victoria's framework information and defines the states boundary	
	Two versions are available i.e. the dataset is generalized to suit two different scale ranges: namely scale use code 1 – 2 and scale use code 3 – 5.	
Entity	Administrative Boundary	
Included terms	State of Victoria, State Border	
Entity Type	Spatial - Polygon	
ICSM Conformance		

#### TABLE DESCRIPTIONS:

#### VMLite\_VICTORIA\_POLYGON\_SU2

Column Name	Data Type	Notes
UFI	NUMBER(14)	Vicmap Lite Victoria polygon SU2 Identifier
FEATURE_TYPE_CODE	VARCHAR2 (30)	Valid codes are "mainland" , "island" & "sea"
STATE_NAME	VARCHAR2 (28)	Valid codes are "AUSTRALAIN CAPITAL TERRITORY", "NEW SOUTH WALES", "SOUTH AUSTRALIA", "TASMANIA", "VICTORIA", & "NA"
STATE	VARCHAR2 (7)	Valid codes are "ACT", "NSW", "SA", "TAS", "VIC" & "NA"
SCALE_USE_CODE	VARCHAR2(1)	Refer to finalised scale use code document: codes 1-5 This product will utilise code 1
UFI_CREATED	DATE	This field will reflect the create date is currency of dataset

TABLE DESCRIPTIONS:

#### VMLite\_VICTORIA\_POLYGON\_SU5

#### TABLE DESCRIPTION:

Column Name	Data Type	Notes
UFI	NUMBER(14)	Vicmap Lite Victoria polygon SU5 Identifier
FEATURE_TYPE_CODE	VARCHAR2 (30)	Valid codes are "mainland" , "island" & "sea"
STATE_NAME	VARCHAR2 (28)	Valid codes are "VICTORIA", "NEW SOUTH WALES", "SOUTH AUSTRALIA" & "NA"
STATE	VARCHAR2 (7)	Valid codes are "VIC", "NSW", "SA" & "NA"
SCALE_USE_CODE	VARCHAR2(1)	Refer to finalised scale use code document: codes 1-5
		This product will utilise codes 3-5
UFI_CREATED	DATE	This field will reflect the create date ie currency of dataset

## PUBLIC LAND (POLYGON)

#### **Summary information**

Description	VicMap Lite PUBLIC LAND defines broad classes of public land that exist in the State of Victoria.		
	Two versions are available i.e. the dataset is generalized to suit two different scales of use: namely scale use code 1- 3 and scale use code 4 - 5.		
Entity	Crown Land		
Included terms	Public land, Crown Land, National Park, Park, Reserve, Bushland reserve, Water reserve, permanent reserve, plantation, marine reserve, state forest, reserved forest		
Entity Type	Spatial – Polygon		
ICSM Conformance			

#### TABLE DESCRIPTIONS: VMLite\_PUBLIC\_LAND\_SU3 & VMLite\_PUBLIC\_LAND\_SU5

TABLE DESCRIPTION:

Column Name	Data Type	Notes
UFI	NUMBER(14)	Lite Public land SU3 or SU5 Identifier
FEATURE_TYPE_CODE	VARCHAR2 (30)	public_land
PUBLIC_LAND_GROUP	VARCHAR2 (25)	Codes to indicate public land groups are : "COASTAL WATERS", "MARINE PARKS AND RESERVES", "OTHER PUBLIC LAND", "PARKS AND RESERVES", "SOFTWOOD PLANTATION", "STATE FOREST"
STATE	VARCHAR2 (3)	VIC
SCALE_USE_CODE	VARCHAR2(1)	Refer to finalised scale use code document: codes 1-5 SU3 product will utilise codes 1 - 3 SU5 product will utilise codes 4 - 5
CREATE_DATE_UFI	DATE 7	This field will reflect the create date ie currency of dataset

**Public Land Group Definitions** 

COASTAL WATERS - term defines states water jurisdiction, being 3 nautical miles from the high water mark..

MARINE PARKS AND RESERVES - term to include marine national parks, marine sanctuaries, marine parks, marine reserves and marine & coastal parks, but excludes marine aquaculture areas.

OTHER PUBLIC LAND – term to include coastal reserves, forest parks, public land water frontages, water production, community use areas, alpine resorts, marine aquaculture areas, earth resources (mining) areas, stone reserves, services & utilities areas, and uncategorized public land.

PARKS AND RESERVES - term to include national parks, state parks, regional parks, coastal parks, national heritage park, wilderness parks, reference areas, nature conservation reserves, most natural features reserves, and historic & cultural features reserves. Excludes public land water frontages, community use areas, stone reserves, and CLRA reserves for services & utilities and so on.

SOFTWOOD PLANTATION – term to include, only public land. Excludes hardwood plantations. STATE FOREST – term includes reserved forest.

## FOREST (POLYGON)

#### Summary information

TABLE DESCRIPTION:

Description	General woody vegetation/tree cover boundary.		
	Three versions are available i.e. the dataset is generalized to suit three different scales of use: namely scale use code 1- 2, scale use code 3 and scale use code 4 - 5.		
Entity	Forest		
Included terms			
Entity Type	Spatial - Polygon		
ICSM Conformance	New entity		

#### TABLE DESCRIPTIONS:

## VMLite\_FOREST\_SU2, VMLite\_FOREST\_SU3 & VMLite\_FOREST\_SU5

Column Name	Data Type	Notes
UFI	NUMBER(14)	Lite Forest SU2, SU3 and SU5 Identifier
FEATURE_TYPE_CODE	VARCHAR2 (30)	forest
STATE	VARCHAR2 (7)	VIC
SCALE_USE_CODE	VARCHAR2(1)	Refer to finalised scale use code document: codes 1-5 SU2 product will utilise codes 1 - 2 SU3 product will utilise code 3 SU5 product will utilise codes 4- 5
CREATE_DATE_UFI	DATE 7	This field will reflect the create date ie currency of dataset

## AIRPORT (POINT)

### Summary information

Description	A facility, on land, where aircraft can take off and land on a hard surface.	
Entity	Airport	
Included terms		
Entity Type	Spatial - Point	
ICSM Conformance		

#### TABLE DESCRIPTIONS: VMLite\_TR\_AIRPORT

TABLE DESCRIPTION:

Column Name	Data Type	Notes	
UFI	NUMBER(14)	Lite Airport Identifier	
FEATURE_TYPE_CODE	VARCHAR2 (30)	Valid code is "airport"	
NAME	VARCHAR2 (50)	Aerodrome name i.e. "BALLARAT"	
HIERARCHY	NUMBER(1)	see look up table below	
STATE	VARCHAR2 (7)	Valid codes are "VIC", "NSW" & "SA"	
SCALE_USE_CODE	VARCHAR2(1)	Refer to finalised scale use code document: codes 1-5 This product will utilise codes 1 to 5.	
CREATE_DATE_UFI	DATE 7	This field will reflect the create date ie currency of dataset	

### LOOK UP TABLE CODELISTS APPLICABLE:

Hierarchy

Code	Description
1	CASA Certified
2	CASA Registered
3	Other, named.

## **BUILT UP AREA (POLYGON)**

### Summary information

Description	An area of dense/moderately dense housing and buildings with definite boundaries. May include a number of places or a number of polygons may have the same NAME attribute.
Entity	BUA
Included terms	Built up area, Urban area
Entity Type	Spatial – Polygon
ICSM Conformance	

#### TABLE DESCRIPTIONS:

#### VMLite\_BUILT\_UP\_AREA

TABLE DESCRIPTION:

Column Name	Data Type	Notes	
UFI	NUMBER(14)	Vicmap Lite Built Up Area Identifier	
FEATURE_TYPE_CODE	VARCHAR2 (30)	Valid codes are : bua	
STATE	VARCHAR2 (7)	Valid codes are "VIC", "NSW", "SA"	
SCALE_USE_CODE	VARCHAR2(1)	Refer to finalised scale use code document: codes 1-5	
		This product will utilise codes 1 to 5	
UFI_CREATED	DATE 7	This field will reflect the create date ie currency of dataset	

## **GEOGRAPHIC AREA (POLYGON)**

#### **Summary information**

Description	Contains highly stylised polygon features from which key geographic areas can be labelled. The polygons do not accurately represent the extent of the particular feature.		
Entity	Geographic areas		
Included terms	bay, island marine, named natural region, ridge, sea,		
Entity Type	Spatial – Polygon		
ICSM Conformance			

#### TABLE DESCRIPTIONS:

#### VMLite\_GEO\_AREA\_LABEL

TABLE DESCRIPTION:

Column Name	Data Type	Notes				
UFI	NUMBER(14)	Vicmap Lite Geographic Area Lab Identifier				
FEATURE_TYPE_CODE	VARCHAR2 (30)	Valid codes are: "bay", "island_marine", "named_natural_region", "marine_place","ridge" & "sea"				
PLACE_NAME	VARCHAR2 (100)	place name				
PLACE_NAME_LABEL	VARCHAR2 (100)	place name for labelling				
SURFACE_TYPE_CODE	VARCHAR2 (1)	Valid codes are : L – for land & W – for water				
STATE	VARCHAR2 (7)	Valid code is "VIC"				
SCALE_USE_CODE	VARCHAR2(1)	Refer to finalised scale use code document: codes 1-5				
		This product will utilise codes 1 to 5				

UFI_CREATED	DATE 7	This field will reflect the create date
		ie currency of dataset

## RELIEF OBJECT (POINT)

#### **Summary information**

Description	Contains point features from which key geographic landmarks can be labelled.
Entity	Geographic features
Included terms	bay, island marine, named natural region, ridge, sea,
Entity Type	Spatial – Point
ICSM Conformance	

#### TABLE DESCRIPTIONS:

### VMLite\_GEO\_POINT\_LABEL

Column Name	Data Type	Notes				
UFI	NUMBER(14)	Vicmap Lite Geographic Point Labe				
FEATURE_TYPE_CODE	VARCHAR2 (30)	Valid codes are: "mountain" or "peninsula"				
PLACE_NAME	VARCHAR2 (100)	place name				
PLACE_NAME_LABEL	VARCHAR2 (100)	place name for labelling				
SURFACE_TYPE_CODE	VARCHAR2 (1)	Valid codes are : L – for land				
STATE	VARCHAR2 (7)	Valid code is "VIC" or "NSW"				
SCALE_USE_CODE	VARCHAR2(1)	Refer to finalised scale use code document: codes 1-5				
		This product will utilise codes 2 to 5				
UFI_CREATED	DATE 7	This field will reflect the create date ie currency of dataset				

## RELIEF (RASTER).

### Summary information

Description	A geo referenced image which has been shaded in colour to represent terrain. (Hypsometric tint). The pixel resolution for t image is 100m.			
	The name of this dataset is vmlite- relief_2008jan01_thm_dem_100m_ <projection abbreviation="">. ie vg94, mga54, mga55)</projection>			
	To support the interpretation of the hypsometric tint dataset a legend image was created and is available in 2 formats (ecw or jpg).			
	The name of these datasets are vmlite-relief- legend_2008jan01_thm_dem_300dpi_raw.ecw or vmlite-relief- legend_2008jan01_thm_dem_72dpi_raw.jpg			
Entity	Relief			
Included terms				
Entity Type	Spatial – Raster			
ICSM Conformance				

## HILLSHADE (RASTER).

## Summary information

Description	A geo referenced image which has been shaded in grey scale to represent terrain. Two versions are available i.e. the dataset is generalized to suit two different scale ranges: namely scale use code $1 - 2$ (800m pixel size) and scale use code $3 - 5$ (100m pixel size).
	The name of these datasets are : vmlite-hillshade-su2_2008jan01_thm_dem_800m_ <projection abbreviation&gt;. ie vg94, mga54, mga55) and</projection 
	vmlite-hillshade-su5_2008jan01_thm_dem_100m_ <projection abbreviation&gt;. ie vg94, mga54, mga55)</projection 
Entity	Relief
Included terms	
Entity Type	Spatial – Raster
ICSM Conformance	

#### Class: spatial\_feature

Definition: A spatial feature	within	the dataset
Features: <b>Spatial</b>		

Name	Definition	Data Type	Key	Mandatory	Unique
PFI	VICMAP Digital unique identifier for a feature over time (common to all versions of a single feature)	number	yes	yes	
UFI	VICMAP Digital unique identifier for a feature	Number	yes	yes	yes
feature_type_code	feature code to identify feature type	Character		yes	
named_feature_id	Feature Name Identifier for the feature	number			
feature_quality_id	Identifier for the feature quality record	number		yes	

#### Land Victoria PFI /UFI Applications

The following incremental update attributes are required with behaviour as described:

- PFI a sequential number applied across the whole VDRT database.
- A new PFI is assigned in the following instances:
- 1. Creation of a new feature, i.e. when a new object is added to the database.
- 2. When two or more existing features are merged, the final merged feature assumes a new PFI. The old PFIs of the features making up the merged feature are retired.
- 3. When a feature is split into two or more new features. Each of the new features are assigned a new PFI. The PFI of the original feature is retired.

PFIs do not change when a feature is edited in any other way. i.e. when the following edits are undertaken on features:-

- 1. Attributes of a feature are modified
- 2. Physical or spatial representation of a feature is modified.
- UFI a unique sequential number applied across the whole VDRT database. New UFIs are created on a feature whenever edits are undertaken on the feature.
- Create\_date\_UFI, The date that a UFI is created on a feature
- Retire\_date\_UFI, The date that a feature is retired. A feature is retired when any physical change, attribute change, or deletion of a feature occurs.
- Superceded\_UFI; This is the UFI of a feature prior to the last edit of the feature

#### **Incremental Update Attributes:**

The following Attributes for the new Incremental Update Model for VDRT are:

Attribute	Data Type	Description
PFI	Number	Persistent Feature Identifier
Create_date_PFI	Date	Date that PFI originally created
Retire_date_PFI	Date	Date that PFI retired as a result of merge, split, or feature
		discontinuance (deletion)
Superceded_PFI	Number	PFI of feature before merge or split operation
Create_Type_code	Varchar	Type of action that caused creation of feature
UFI	Number	Unique Feature Identifier – assigned at every feature creation
		or edit
Create_date_UFI	Date	Date that UFI created
Retire_date_UFI	Date	Date that UFI retired
Superceded_UFI	Number	Value of UFI on the feature prior to last edit
Change_Type_code	Varchar	Type of edit undertaken on feature at last edit

#### Class: feature\_quality

**Definition**: Defines accuracy and other quality information pertaining to this spatial feature **Features**: Aspatial

Name	Definition Data Type Code List		Кеу	Mandatory	
id	Identifier for the feature quality record	number		yes	yes
feat_reli_date	reliability date for spatial features	date			yes
attr_reli_date	reliability date attribute	date			yes
plan_accuracy	plan accuracy	real			yes
elevation_accuracy	elevation accuracy	real			yes
data_sour_code	Source Code	number			yes

scale	VICMAP Digital data scale indicating position accuracy	number		yes
create_date	Date the record was created on	date		yes

Feature Quality Class Attributes

## Appendix C – data schema

Add this products information, if required..

## Appendix D – feature representation

Add this products information, if required..

## Appendix E – feature attribute rules

Add this products information, if required.

## Appendix F – general information

Add this products information, if required. Eg. History Add this section, if required

## Appendix G - reference tables

The following reference tables are used in the production and maintenance of this data set (refer appendix A).

Copies are available on Spatial Information Infrastructure's GIS web site www.land.vic.gov.au/spatial. Copies can also be obtained direct from Spatial Information Infrastructure. They are held as 'Oracle' tables and are available in most database, spreadsheet and delimited formats. Some of the tables are dynamic, with changes being incorporated as new entries are determined. Users should regularly check the web site.

#### Codelists: Attribution Tables

#### **All Themes**

Dataset item	Reference Table	Reference Table Join Item
<dataset_name>.SCALE_USE_CODE</dataset_name>	VMREFTAB.VL_SCALE_USE	SCALE_USE_CODE
<dataset_name>.STATE</dataset_name>	VMREFTAB.VL_STATE	STATE

#### Airports

Dataset item	Reference Table	Reference Table Join Item
VMLite_TR_AIRPORT.HIERARCHY	VMREFTAB.VL_AIRPORT_HIERARCHY	HIERARCHY

#### **Geographic Area**

Dataset item	Reference Table	Reference Table Join Item
VMLite_GEO_AREA_LABEL.SURFACE_ TYPE_CODE	VMREFTAB.PL_SURFACE_TYPE	SURFACE_TYPE_CODE

#### **Geographic Point**

Dataset item	Reference Table	Reference Table Join Item
VMLite_GEO_POINT_LABEL.SURFACE_ TYPE_CODE	VMREFTAB.PL_SURFACE_TYPE	SURFACE_TYPE_CODE

#### Hydro Water area

Dataset item	Reference Table	Reference Table Join Item
VMLite_HY_WATER_AREA.WATERBOD	VMREFTAB.HY_WATERBODY_S	WATERBODY_STATE_C
Y_STATE	TATE	ODE

#### Hydro Watercourse

Dataset item	Reference Table	Reference Table Join Item
VMLite_HY_WATERCOURSE.ORIGIN	VMREFTAB.HY_ORIGIN	ORIGIN_CODE

### LGA

Dataset item	Reference Table	Reference Table Join Item
VMLite_LGA.LGA_NAME	VMREFTAB.LGA	LGA

### **Locality Point**

Dataset item	Reference Table	Reference Table Join Item
VMLite_LOCALITY.HIERARCHY	VMREFTAB.FT_PLACE_HIERARCHY	HIERARCHY

### Locality Polygon

Dataset item	Reference Table	Reference Table Join Item
VMLite_LOCALITY_POLYGON.GAZETTED_L OCALITY_NAME	VMREFTAB.LOCALITY	LOCALITY

## Postcode Polygon

Dataset item	Reference Table	Reference Table Join Item
VMLite_POSTCODE_POLYGON.LABEL_U SE_CODE	VMREFTAB.VL_SCALE_USE	SCALE_USE_CODE

### **Public land**

Dataset item	Reference Table	Reference Table Join Item
<dataset name="">.PUBLIC_LAND_GROUP</dataset>	VMREFTAB.PL_PUBLIC_LAND_ GROUP	PUBLIC_LAND_GROUP

### Roads

Dataset item	Reference Table	Reference Table Join Item
VMLite_TR_ROAD.CLASS_CODE	VMREFTAB.TR_ROAD_CLASS	ROAD_CLASS_CODE
VMLite_TR_ROAD.ROAD_SEAL	VMREFTAB.TR_ROAD_SEAL	ROAD_SEAL_CODE
VMLite_TR_ROAD.ROAD_SUFFIX	VMREFTAB.ROAD_SUFFIX	ROAD_SUFFIX
VMLite_TR_ROAD.ROAD_TYPE	VMREFTAB.ROAD_TYPE	ROAD_TYPE

## **VICGOV** Region

Dataset item	Reference Table	Reference Table Join Item
VMLite_VICGOV_REGION.LABEL_USE_ CODE	VMREFTAB.VL_SCALE_USE	SCALE_USE_CODE
VMLite_VICGOV_REGION.VICGOV_RE GION	VMREFTAB.AM_VICGOV_REGION	VICGOV_REGION

### Victoria line

Reference Table	Reference Table Join Item
VMREFTAB.VL_BORDER_CLASS	BORDER_CLASS
	Reference Table           VMREFTAB.VL_BORDER_CLASS

Using Template V 3.2, July 2013

## www.depi.vic.gov.au/vicmap

