

Glismann Road Development Plan: *Contaminated Land Study*

Project No: 112064

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A	04/04/14	DRAFT – Contaminated Land Assessment	DCa	DCo	
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C	13/03/15	FINAL – Contaminated Land Assessment	DCa	DQ	
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Executive Summary

Meinhardt has been engaged by Cardinia Shire Council to undertake a Contaminated Land Assessment (Desktop Study) for the Glismann Road Development Plan (GRDP). This study will form part of the suite of documents required to collate the Planning Scheme Amendment for the proposed development area.

The Council site comprises of 22 lots ranging in size from 0.4 hectares to 1.2 hectares along Glismann Road, Mahon Avenue and Old Princes Highway Beaconsfield

The overall objective of the assessment was to identify the potential for contamination within the GRDP study area and assess the nature of potential contamination to be considered during the design and construction phases.

A desktop review was conducted to evaluate current and previous land uses across the study area. An assessment was then made on the potential for environmental contamination based upon the current and historic land use activities and the environmental setting at the GRDP site.

Note: *Cardinia Planning Scheme Amendment C238card rezones land in the Glismann Road Development Plan area to facilitate infill urban development. The amendment responds to the recommendations and mitigation measures outlined in the Meinhardt, Glismann Road Development Plan Contaminated Land Study, March 2015 (updated May 2020) report. The Cardinia Planning Scheme Amendment C238card, Corrected Panel Report, 25 January 2022 (Panel Report) accepted the conclusions of the Contaminated Land Study report and noted that relevant legislation had changed. Meinhardt issued an addendum to Council with updated guidance on the identification of potentially contaminated land in response to the updated Planning Practice Note 30 (PPN30-2021). It is also noted that the Panel Report also addressed the inclusion of 11 Mahon Avenue Beaconsfield in the Glismann Road Development Plan. The Panel recommended that the only development plan requirement for 11 Mahon Avenue be regarding the pedestrian connection to the Glismann Road area. Based on this recommendation, the response to the updated PPN30-2021 did not include an assessment of 11 Mahon Avenue property. The addendum has been included in Appendix H of this report.*

Site Contamination

The GRDP site desktop and historical review identified several potential sources of contamination.

Based on the results of the desktop study and our understanding of the future land uses for the GRDP site, the overall likelihood or risk of contamination being encountered across the majority of the site on properties 3, 4, 5, 6, 7, 9, 11, 12, 13, 14, 15, 16, 18, 19, 20, 21 & 22 is considered **'Low'** due to on-site activities which included:

- Rural residential with no significant evidence of miscellaneous outbuildings; and
- Historic agriculture at the site was identified as having been used as grazing paddocks prior to subdivision, with no in-situ farm buildings or sheep dips.

The activities onsite which were identified as having a **'Medium'** potential contamination risk included:

- Filling (imported soil) onto property number 2 as highlighted through correspondence with Council; and
- Historic farming operations including buildings, potentially used for the storage of hydrocarbons, insecticides (sheep dips), fungicides, herbicides and pesticides on properties 1, 2, 8, 10 and 17 as observed on historical aerial photographs.

There were no properties that had historical activities onsite considered as having a **'High'** potential contamination risk.

1 Introduction

1.1 Background

Meinhardt has been engaged by Cardinia Shire Council (Council) to undertake a Contaminated Land Assessment (Desktop Study) for the Glismann Road Development Plan (GRDP). This study will form part of the suite of documents required to collate the Planning Scheme Amendment for the proposed development area.

The GRDP area comprises 22 lots ranging in size from 0.4 hectares to 1.2 hectares along Glismann Road, Mahon Avenue and Old Princes Highway Beaconsfield within the jurisdiction of the Cardinia Shire Council.

A site location map is provided as Figure 1, in **Appendix A**.

Note: Cardinia Planning Scheme Amendment C238card rezones land in the Glismann Road Development Plan area to facilitate infill urban development. The amendment responds to the recommendations and mitigation measures outlined in the Meinhardt, Glismann Road Development Plan Contaminated Land Study, March 2015 (updated May 2020) report. The Cardinia Planning Scheme Amendment C238card, Corrected Panel Report, 25 January 2022 (Panel Report) accepted the conclusions of the Contaminated Land Study report and noted that relevant legislation had changed. Meinhardt issued an addendum to Council with updated guidance on the identification of potentially contaminated land in response to the updated Planning Practice Note 30 (PPN30-2021). It is also noted that the Panel Report also addressed the inclusion of 11 Mahon Avenue Beaconsfield in the Glismann Road Development Plan. The Panel recommended that the only development plan requirement for 11 Mahon Avenue be regarding the pedestrian connection to the Glismann Road area. Based on this recommendation, the response to the updated PPN30-2021 did not include an assessment of 11 Mahon Avenue property. The addendum has been included in Appendix H of this report.

1.2 Objectives

The overall objective of this desktop study is to identify the potential for contamination, which may affect the potential re-zoning or development of the GRDP into the future.

The key objectives of this assessment were to conduct a desktop study to:

- Confirm suitability of the GRDP site for sensitive uses and what level of further assessment would be required to determine suitability of the site for sensitive uses in accordance with the Potentially Contaminated Land General Practice Note No.30 2005 (e.g. *Environmental Site Assessment*);
- Identify data gaps and outline future testing and more detailed investigations (if required).
- Provide a plan of the study area clearly showing the GRDP site and which areas of the site have 'Low', 'Medium' or 'High' potential for contamination;
- Prepare a report of findings that will be used to inform the design of the GRDP (in terms of suitability of land uses nominated for each location/area) and to identify key issues that should be addressed prior to any development works taking place within the GRDP area; and
- Reflect a review of previous Environmental Site assessments that may have been performed within the investigation area.

-

1.3 Scope of Works

1.3.1 Desktop Review

A desktop review was conducted to evaluate current and previous land uses across the study area. Assessment was then made on the implications of these current and historic land use activities on potential for environmental contamination.

The desktop review comprised:

- Assessment of historical aerial photography for the precinct and surrounding areas.
- EPA for review of records including the 'Priority Sites Registry' and the list of issued '*Certificates and Statements of Environmental Audit*';
- Soil, geology and hydrogeology conditions desktop review, including survey, mapping and other base data as available from relevant authority and agency data sets and maps. This is aimed at identifying potential shortcomings in data coverage;
- Review and summary of Environmental Audit Reports within the vicinity of the study area;
- Compilation of known groundwater borehole/well locations and testing results.
- Groundwater well databases;
- Review of Wetlands databases;
- Historical title search of the property for twenty-two (22) historic titles; and
- Victoria Department of Primary Industries online GIS system.

1.3.2 Reporting

Based on the findings of this desktop assessment, Meinhardt prepared this report comprising:

- Summary of findings and recommendations of the desktop review;
- Issues summary and resultant recommendations for management in terms of environmental contamination;
- Outline of possible future testing and more detailed investigations;
- Evaluation (*to the extent practicable within limitations*) of the suitability of the site for sensitive uses and what level of further assessment would be required to determine suitability of the site for sensitive uses in accordance with the Potentially Contaminated Land General Practice Note No.30 2005;
- Provision of a plan of the study area clearly showing the GRDP site and which areas of the site have 'Low', 'Medium' or 'High' potential for contamination; and
- Drawings/maps, to illustrate existing conditions.

It should be noted that this report is a limited desktop assessment only, and no on-site visual assessment or sampling was performed when first prepared. In 2018, Meinhardt inspected the properties at 11 Mahon Avenue (Property 17) and 12 Glismann Road (Property 12) as part of further investigations conducted on behalf of Council.

1.3.3 Legislative Requirements and Relevant Assessment Guidelines

The scope of work for this desktop environmental contamination assessment of the site has been performed in general accordance with requirements outlined in the following documents:

- Victoria Environmental Protection Act 1970;
- Australian and New Zealand Environment and Conservation Council (ANZECC), Agriculture and Resource Management Council of Australia and New Zealand (ARMCANZ), 2000. *Australian and New Zealand Guidelines for Fresh and Marine Water Quality 2000*. Canberra: ANZECC

- DSE 2005. Potentially Contaminated Land, General Practice Note No30;
- Guide to the sampling and investigation of potentially contaminated soil, Part 2: Volatile substances, AS 4482.2-1999, Standards Australia;
- Guide to the investigation and sampling of sites with potentially contaminated soil, Part 1: Non-volatile and semi-volatile compounds, AS 4482.1-2005, Standards Australia;
- National Environment Protection (*Assessment of Site Contamination*) Measure, 2013;
- State Environment Protection Policy (*SEPP*), Groundwaters of Victoria, December 1997, No. S160;
- State Environment Protection Policy (*SEPP*), Prevention and Management of Contaminated Land, June 2002, No. S95; and
- State Environment Protection Policy (*SEPP*), Waters of Victoria, October 2004, No. S210.

1.3.4 Limitations

Meinhardt have prepared this report for the exclusive use of Cardinia Shire Council, regulatory authorities, Auditors and others approved by the Client for the purpose of desktop contamination assessment for the GRDP site.

The Report must be read with the following caveats and assumptions:

- The limited readership and purposes for which it was intended;
- Its reliance upon information provided to Meinhardt by the Client and others which has not been verified by Meinhardt and over which Meinhardt has no control;
- The limitations and assumptions referred to throughout the Report;
- Other relevant issues which are not within the scope of the Report;
- Subject to the limitations referred to above, Meinhardt has exercised all due care in the preparation of the Report and believes that the information, conclusions, interpretations and recommendations of the Report are both reasonable and reliable;
- Meinhardt makes no warranty or representation to the Client or third parties (*express or implied*) in respect of the Report, particularly with regard to any commercial investment decision made on the basis of the Report. Use of the Report by the Client or third parties shall be at their own risk. Extracts from the Report may only be published with permission of Meinhardt and/or Cardinia Shire Council;
- This disclaimer must accompany every copy of the Report, which is an integral document and must be read in its entirety; and
- This report does not remove the requirement for additional direct assessments to be conducted and the information provided is for planning reasons only.

2 Site Description

2.1 Current Site Use and Zoning

The GRDP area comprises of 22 lots ranging in size from 0.4 hectares to 1.2 hectares along Glismann Road, Mahon Avenue & Old Princes Highway Beaconsfield, within the jurisdiction of the Cardinia Shire Council. The GRDP area consists of zoned Rural Living Schedule 1 & Residential Schedule 1 under the Cardinia Planning Scheme.

For the purpose of this report Meinhardt have referenced each property with a number as shown in Figure 2 of *Appendix A* in order to identify the various lots more easily and accurately. These street addresses and corresponding property numbers which Meinhardt have assigned are provided in Table 2-1 below.

Table 2-1 Street Address & Corresponding Property Number

Street Address	Property Number
1 Glismann Road	1
2 Glismann Road	2
3 Glismann Road	3
4 Glismann Road	4
5 Glismann Road	5
6 Glismann Road	6
7 Glismann Road	7
8 Glismann Road	8
9 Glismann Road	9
10 Glismann Road	10
11 Glismann Road	11
12 Glismann Road	12
13 Glismann Road	13
14 Glismann Road	14
15 Glismann Road	15
16 Glismann Road	16
11 Mahon Avenue	17
13-15 Mahon Avenue	18
111-113 Old Princes Highway	19
115-117 Old Princes Highway	20
119-121 Old Princes Highway	21
123-125 Old Princes Highway	22

Planning Property Reports for the specific properties along Glismann Road are provided in *Appendix B*. Site location and features are presented on Figure 1 and Figure 2 in *Appendix A*.

2.2 Surrounding Land Use

The land uses directly adjacent to the GRDP area comprise:

- **North** – the north of the GRDP is bounded by Timberside Drive with Residential 1 (R1Z) planning zones continuing beyond this followed by Green Wedge A (GWAZ) and Rural Conservation (RCZ) land use areas;
- **East** – the East of the GRDP is bounded Janet Bowman Boulevard and Woods Point Drive. R1Z continues to the east as well as Public Park and Recreation (PPRZ) along Oneil Road including the Oneil Road Oval and Beaconsfield Community Centre. Large areas of Urban Growth Zones (UGZ) continue to the east around Whiteside Road; and
- **South** – the south of the GRDP is bounded by the Old Princes Highway with Industrial 1 zoning (IN1Z) around Beaconsfield Avenue and a Low Density Residential Zone (LDRZ) to the south east around Kenilworth Avenue.
- **West** – the west of the GRDP is bounded by Mahon Avenue and Beaconsfield Primary School (PUZ2). Beyond this the land use is predominately R1Z with Commercial (B1Z) and Farming (FZ1) areas to the west and Public Park & Recreation (PPRZ) and Public Conservation & Resource (PCRZ) zones to the north west over the Emerald-Beaconsfield Road;

2.3 Topography

The land within the GRPD area is characterised by sedimentary terrain ranges from steep rocky crests and highly dissected steep slopes near the metamorphic aureole, to low undulating hills and broader drainage depressions. Slopes range from 21-35 per cent, with an average gradient of 25 per cent in the steeper hill country, while in the low undulating hills, slopes range from 10-25 per cent, with an average gradient of 16 per cent (DEPI 1997).

The GRDP site is characterised by elevated topography in the northern areas at 70m Australian Height Datum (AHD) with a gradual slope downwards to around 50m AHD in the southern section. Regional topography around the GRDP site shows elevated areas to the northeast towards Beaconsfield Upper and low-lying areas to the southwest in the direction of Cranbourne North and further towards Westernport.

A contour and drainage map showing topography within and surrounding GRDP site is provided as Figure 3, in *Appendix A*.

2.4 Geology

The Cranbourne 1:63,360 Geological Map (*Geological Survey of Victoria, 1967*) and the GeoVic Geology Mapping Tool indicate that the geology of the GRDP is split into two main classifications. The south of the site is Recent Quaternary geology comprising of silt, sand, clay and occasional gravel. The north of the GRDP site is Silurian sediment comprising of sandstone, siltstone, mudstone and shale.

Details of the geology at GRDP and the surrounding area are illustrated in Figure 4, in *Appendix A*.

2.5 Soil Characteristics

The Australian Soil Resource Information (ASRIS) map identifies the soils beneath the GRDP to be Dermosols, with a medium to heavy clay content of greater than 45% and a subsoil pH of 4.8 – 5.5, and a topsoil pH of 3.0 – 4.8 (refer to Figure 5, *Appendix A*).

Dermosols in the western Gippsland region occur on Silurian sediments ranging from steep rocky crests, highly dissected steep slopes, low undulating hills and broader drainage depressions. Modification of soils present has occurred since early European settlement where cultivation has removed the topsoil and mixed it with subsoil. Weak stony yellow Dermosol soil occurs where soil depth increases, especially when moderate slopes are encountered (DEPI 1997).

2.6 Hydrology and Hydrogeology

Information regarding the hydrology and hydrogeology of the site and surrounding area is based solely on the desktop study. No direct evaluation of groundwater chemistry or groundwater elevation was performed as part of this assessment.

2.6.1 Surface Water Assessment

According to the Westernport Groundwater Catchment Map (2012) the GRDP site is located within the Westernport Catchment. Surface water from the GRDP will generally move in a south to south westerly direction towards the Cardinia Creek (*Cardinia Drain*). Topography maps also show a sloping of the GRDP to the southwest in the direction of Cardinia Creek, which is located approximately 900m to the west from the entrance to the GRDP. The Westernport Groundwater Catchment Map (2012) shows Cardinia Creek continues in a southerly direction before flowing into the Lower Toomuc Creek and eventually into Western Port between Tooradin and Koo Wee Rup.

Based on analysis of topography and groundwater maps it can be assumed that surface water flow in local area surrounding the GRDP is from northeast to southwest, while on a regional scale the overall direction of flow is from north to south.

Details of the GRDP site topography and interaction with surface waters is illustrated in Figure 3, in *Appendix A*.

2.6.2 Groundwater Assessment

With reference to the Department of Sustainability and Environment (DSE) Westernport Groundwater Catchment Map (2012) and the Department of Minerals and Energy (DME) Groundwater Basins Map (1984) the groundwater beneath the GRDP site occurs as part of the Westernport Basin. The aquifer lithology beneath the GRDP consists of fractured and weathered indurated sediments, metasediments and intrusives.

DSE Melbourne Groundwater map and DEPI groundwater resource reports (*Appendix C*) show salinity at the site is expected to fall between a range of 1001 - 3500 mg/L Total Dissolved Solids (TDS) with an aquifer depth between 5m – 10m. The Groundwater State Environment Protection Policy (SEPP) (1994) classifies groundwater in this TDS range as category B suitable for maintenance of ecosystems, potable mineral water supply, agriculture parks and gardens, stock water, industrial water use primary contact recreation and buildings & structures.

2.6.3 Groundwater Resources and Usage

The DPI website Groundwater Monitoring Map identified that there are 17 registered groundwater bores located within a 2km radius of the GRDP site. None of these bores are located within the boundaries of the GRDP site. Details of the groundwater bores are provided in Table 2-2 below.

Table 2-2 Groundwater Bores within 2km radius of GRDP

Bore ID	Easting	Northing	Date Completed	Bore Depth (mbgl)	Monitoring Status	Lithology
130951	357813.2	5788644	7/2/1997	71.0	Stock & Domestic	Fractured Mudstone
301806	355713.2	5787044	5/17/1974	1.22	Non-Groundwater	N/A
301807	355893.2	5787064	5/17/1974	2.44	Non-Groundwater	N/A
301808	356393.2	5787004	5/17/1974	2.44	Non-Groundwater	N/A
301809	356273.2	5788384	5/24/1974	3.35	Non-Groundwater	N/A
301873	355903.2	5787064	1/24/1975	7.32	Non-Groundwater	N/A
301874	355803.2	5787024	1/24/1975	7.32	Non-Groundwater	N/A
87419	357293.2	5789504	6/30/1972	4.87	Stock & Domestic	Sand
87433	357614.2	5788914	11/26/1977	28.23	Stock & Domestic	Sandstone
87437	358375.2	5788100	4/18/1980	31.50	Stock & Domestic	Mudstone
WRK046845	355783	5787600	N/A	40.00	N/A	N/A
WRK047151	356540	5787740	10/22/2008	72.00	Irrigation	Siltstone
WRK062713	359420	5787760	8/29/2011	5.00	Observation	Clay
WRK062717	359425	5787761	8/29/2011	5.00	Observation	N/A
WRK062718	359420	5787760	8/29/2011	5.00	Observation	N/A
WRK966914	356766.2	5786625	2/24/2005	105.00	Domestic & Stock	N/A
WRK970805	357250	5787255	7/25/2005	7.00	Domestic & Stock	N/A

A list of the installation details for the registered boreholes is summarised in *Appendix C*, and a map illustrating the location of the bores is shown in Figure 6, *Appendix A*.

2.7 Wetlands

Wetland classification and mapping was undertaken across Victoria from 1980 onwards culminating in a State-wide Wetland Inventory. The inventory lists approximately 13,000 naturally occurring wetlands (*over one hectare in size*) covering about 635,000 hectares.

These have been classified into six categories:

- Freshwater meadows;
- Shallow freshwater marshes;
- Deep freshwater marshes,
- Permanent open freshwater wetlands,
- Semi-permanent saline wetlands; and
- Permanent saline wetlands.

The online Index of Wetland Condition (IWC) mapping tool identified that no wetlands are located within the GRDP site. There is an area in the northwest of site classified as a watercourse/permanent water feature shown in Figure 6, *Appendix A*; however, this is not considered a wetland area.

3 Records Review

3.1 Certificates of Title

Land ownership records were reviewed to obtain evidence of previous land uses on the various parcels of land, as the occupation of land owners is often included. While an occupation does not necessarily denote land use for a property, it can give an indication of potential land use.

3.1.1 Current Titles

Current certificates of title for property with the GRDP were obtained from the Landata website. Review of current title information found no ownership entries of environmental concern. Copies of current (2014) certificates of title are presented in *Appendix B*.

3.1.2 Historic Titles

Historic certificates of title were obtained from the Landata website, for all properties within the GRDP. Review of historic title information found some ownership entries of environmental concern, which are analysed in Table 3-1 below. Copies of historic certificates of title are presented in *Appendix B*.

Table 3-1 Summary of Significant Title Search Information

Property Number	Street Address	Significant Past or Present Usage
1 – 16	Glismann Rd Properties	<ul style="list-style-type: none"> Owned by smallgoods manufacturer 1915 Site has been historically used for grazing farmland since at least 1918
17 and 18	Mahon Ave Properties	<ul style="list-style-type: none"> Owned by National Bank of Australia from 1892 – 1897 Site has been historically used for grazing farmland since at least 1915
19 - 22	Old Princes Hwy Properties	<ul style="list-style-type: none"> Owned by smallgoods manufacturer 1915 Site has been historically used for grazing farmland since at least 1918

Review of historical titles indicates the majority of properties comprising the GRDP were used as grazing farmland since the late 1800's, until current sub-division for rural residential purposes in approximately 1923. Land belonging to Volume 4726 Folio 038 which incorporates numbers 1-16 & 19-22 of the GRDP was transferred to William John Smith; a smallgoods manufacturer in 1915 however there is no further evidence to suggest the property was used for this purpose. The historical titles did not identify any other significant contamination sources from within the GRDP.

3.2 Historical Aerial Photography

Aerial photographs dating back to 1963 were obtained from the Land Victorian Aerial Photography site in Laverton (Victoria), Cardinia Shire Council and from a GIS base map model. These aerial photos were reviewed to ascertain information about the historic land use of the area within and surrounding GRDP site.

A summary of notable observations from each of the aerial photographs are contained within Table 3.2. Copies of the historical aerial photographs are collated in *Appendix D*.

Table 3-2 Review of Historical Aerial Photographs

Date	On-Site Description	Off-Site Description
1963	The majority of the properties within the GRDP site appear to be rural residential or used as grazing farmland. No cropping is evident from the photograph. One property within the GRDP off Mahon Avenue appears to be a poultry farm.	Surrounding land use is consistent with that within the GRDP with rural or farmland adjoining the site as well as some crop farming to the east and heavily vegetated forest areas to the north and north east.
1972	The majority of the GRDP site still appears to rural residential land with a significant increase in the number of permanent structures within the site. The property off Mahon Avenue remains used as a poultry farm.	Surrounding land use changes are seen with the clearing of the forested area to the north of the GRDP as well as increased development to the south as well as less evidence of crop farming to the east.
1976	Properties within the GRDP continue to be used as rural living with little change from previous land use or structures on site.	Surrounding land use is similar to previous with increased development to the west of the site around Mahon Avenue and some commercial developments along the Old Princes Highway with what appears to be a service station adjacent to the GDRP.
1984	Properties within the GRDP continue to be used as rural living with little change from previous land use or structures on site.	Surrounding land use changes are seen with increased residential or commercial development along Mahon Avenue to the west and along the Old Princes Highway to the south west of the GRDP. Further south there appears to be industrial developments and the St. Francis Xavier College constructed in 1978 on Beaconsfield Avenue.
1986	Properties within the GRDP continue to be used as rural living with little change from previous land use or structures on site.	Surrounding land use is similar to previous with more land cleared of vegetation on properties to the east while there is increased residential land use to the north west of the GRDP.
1992	Properties within the GRDP continue to be used as rural living with little change from previous land use or structures on site.	Surrounding land use is similar to previous with further development to the west of the GRDP with an extension of residential land use along Mahon Avenue.
2002	Properties within the GRDP continue to be used as rural living with little change from previous land use or structures on site. The property on Mahon Avenue previously used as a poultry farm has been cleared of major structures	Properties bordering GRDP on Old Princes Highway have been converted to residential and there has been increased industrial development to the south. Service station site on the corner of Old Princes Highway and Beaconsfield Avenue appears is now a commercial site.
2010	Properties within the GRDP continue to be used as rural living with little change from previous land use or structures on site	Little changes to the south of the GRDP however new residential development has taken place on subdivided land bordering the north of the site.

3.3 Heritage Study Review

A review of the Cardinia Local Heritage Study (2011) showed no areas of historical significance relating to possible environmental contamination within the GRDP. The closest heritage place to the GRDP site is the Wood Street Residential Precinct consisting of residential properties 46-56 Wood Street in Beaconsfield approximately 1km away.

3.4 Historic maps

3.4.1 Melbourne Metropolitan Board of Works

A search of The State Library of Victoria archives recovered Township Plan maps for Beaconsfield belonging to the Melbourne Metropolitan Board of Works (MMBW) from 1880 and 1881. Both MMBW maps show the area around GRDP to be unplanned or subdivided indicative of grazing farmland at this time.

Copies of MMBW Beaconsfield Township Plan maps are shown in *Appendix D*.

3.4.2 Beaconsfield Action Area Plan

A review of the Beaconsfield Action Area Plan Map shows potentially contaminated land in the Beaconsfield area from 1990. The map shows there are several potentially contaminating land uses found within and around the GRDP which are listed in Table 3.3 below. A copy of the Beaconsfield Action Area Plan Map is provided in *Appendix D*.

Table 3-3 Beaconsfield Action Area Plan Land Uses 1990

Location	Land Use
12 Glismann Rd	Truck Depot
11 Mahon Ave	Poultry Farm
107 Old Princes Hwy	Nursery
124 Old Princes Hwy	Petrol Filling Station

4 Contamination Potential

4.1 Potential for Contamination from Off Site Sources

4.1.1 Environmental Protection Authority

A search of EPA interaction portal records, including the 53X Statement category and the list of issued Certificates and Statements of Environmental Audit, was performed to identify the subject site or properties in the vicinity that have been listed as having been issued with a clean-up notice or pollution abatement notice (*relative to land and/or groundwater*) or undergone a statutory environmental audit. No locations were identified within the GRDP site or within a 5 km radius of the site. Details for properties issued with a Certificate or Statement of Environmental Audit and approximate distance from the site are detailed in Table 4.1 below.

Table 4-1 Closest EPA Recorded Sites to GRDP Site.

Transaction No.	CARMS No.	Date Completed	Locality	Address	Approx. Distance to Site	Issue
8001812	54149 - 1	31/8/2005	Pakenham	1043 Clearwater Drive, Pakenham	6.76 km	Arsenic contamination & buried refuse
8000943	38189 - 1	08/10/1999	Pakenham	11 – 15 Main Street, Pakenham	9.21 km	Phenols in shallow soils

4.1.2 Historic Potential for Contamination from Off-Site Contamination Sources

A review of historical aerial photographs from the DSE as well as the Beaconsfield Council Land Use Map (1990) shows several potential sources for off-site contamination in the vicinity of the GRDP, listed below in Table 4.2.

Table 4-2 Potential Off-Site Contamination Sources

Address	Year	Land Use	Approx. Distance from Site	Direction from Site	Potential Contamination
107 Old Princes Hwy	1990	Service Station	110m	South	Underground storage tanks / contamination from TPH, PAH, BTEX & lead
124 Old Princes Hwy	1990	Nursery	Bordering	South	Pesticides & fertilisers in cultivated/storage areas

4.2 Potential for Contamination from On-Site Sources

A review of historical aerial photographs from the DSE as well as the Beaconsfield Action Area Plan Map (1990) shows several potential sources for on-site contamination. Table 4.3 shows potential on-site contamination sources within the GRDP.

Table 4-3 Potential On-Site Contamination Sources

Address	Land Use	Potential Contamination
2 Glismann Rd	Fill Deposit	Heavy Metals, TPH, BTEX, PAH
12 Glismann Rd	Truck Depot	Heavy Metals, TPH, BTEX, PAH
11 Mahon Ave	Poultry Farm	Pesticides, Herbicides, Fertilisers, Faecal Coliforms

4.2.1 Fill Material (2 Glismann Road)

Consultation with Council revealed that fill from a neighbouring development (approximately 3.2km north east of the GRDP) was placed onto some properties within the GRDP. Owners of property at 2 Glismann Road have confirmed they agreed to have fill placed on their property, as did other Glismann Road property owners however it is unknown which other properties have been affected or what type of fill was brought into the GRDP.

Correspondence between Council and land owners of 2 Glismann Road is provided in *Appendix E*.

4.3 Summary of Historic Contamination Potential

The historical data search including EPA records, aerial photograph review and information from Council provided limited information regarding potential sources of contamination on the site.

However, upon assessment of the above data several sources of environmental contamination have been identified both within, and adjacent to the GRDP. These sources of contamination comprise, but are not limited to:

- Truck Depot;
- Poultry Farm;
- Placement of Fill Material;
- Market Garden; and
- Petrol Station.

5 Environmental Risk Assessment

5.1 Introduction

This Environmental Risk Assessment (*ERA*) is based on the contamination methodology:

Source – Pathway – Receptor

Contamination Source:	A substance that has the potential to cause harm to environmental receptors. In a broader sense sources can include ground conditions, for example redundant footings in the ground, which have the potential to impact on redevelopment proposals.
Contamination Pathway:	The route by which the source is brought into contact with the receptor. This can include the transport of contamination via water (<i>surface and groundwater</i>), wind borne dust, vapours, excavation and deposition.
Contamination Receptor:	Human beings, other living organisms, physical systems and built structures that could be affected by the source. A receptor will only be affected if a pathway from the source to the receptor is present. Groundwater and surface water systems can be considered as receptors in their own right as their quality is regulated by statutory bodies, as well as being pathways for contaminant migration to other receptors.

The **source-pathway-receptor** relationship allows an assessment of potential environmental risks to be determined, based on the nature of the source, degree of exposure of a receptor to a source and the sensitivity of the receptor. On this basis an assessment is made of the environmental liabilities associated with the risk. These can be expressed for example, in terms of additional costs associated with site redevelopment or remedial measures, the potential for costs, fines or penalties imposed for breaches of environmental legislation or third-party claims, and loss of land value.

The identified potential environmental liabilities about contamination have been evaluated with respect to the potential impacts on:

- Surface water features;
- Groundwater bodies;
- Soils and subsoils;
- Sensitive sites and ecosystems;
- Construction and maintenance workforce;
- Current and future site users; and
- Current and future adjacent site users.

5.2 Contamination Concerns within and surrounding the GRDP Site

Sources of potential contamination were identified within the GRDP site, and the following contaminants were identified as having the potential to be on-site:

- Petroleum hydrocarbons – *total petroleum hydrocarbons (TPH); Benzene, Toluene, Ethylbenzene and Xylenes (BTEX); and Polycyclic Aromatic Hydrocarbons (PAH);*
- Heavy metals (lead and chromium);
- Fertilisers, pesticides, fungicides and herbicides – (*arsenic (sheep dips), organochlorines, organophosphates, synthetic pyrethroids;*)
- Waste animal products – buried animals, manure mounds and slurry pits;
- Asbestos; and
- Volatile and semi-volatile organic hydrocarbons.

5.3 Contaminant Pathways within and Surrounding the GRDP Site

The potential contaminant pathways that can impact on both human health and the environment include:

- Topographic and localised site drainage to nearby surface water features;
- Seepage of contaminants to groundwater;
- Particle (*dust*) release through the air;
- Vapour inhalation of contaminants; and
- Direct contact with contaminants in soil.

The potential exists for the migration of contaminants to or from the GRDP site via stormwater runoff to local surface water features, by seepage through the subsoil into groundwater, as an airborne release such as dust or *vapour (usually from demolition and excavation activities)*, and by dermal absorption caused by direct contact between skin with contaminated material.

Contaminated soil has the potential to migrate during transportation or movement of stockpiles to either on-site or offsite locations.

At the GRDP site the dispersal and migration of chemical contaminants (*of concern*) will generally be controlled by sub-surface conditions (*soil type/permeability and groundwater levels*) along with physical and chemical properties of individual contaminants and climatic conditions.

Other factors that may impact on the migration of contaminants include:

- Erosion of disturbed and cleared areas that contribute to sediment transport and deposition;
- Natural erosion of undisturbed soils along waterways and other areas that contribute to sediment transport and deposition;
- Stripping of topsoil material;
- Removal or damage to aquitard layers resulting in contamination of lower groundwater aquifers.
- On-site movement of light vehicles and machinery that will contribute to shallow soils being disturbed;
- The presence of drainage culverts forming preferential migration pathways down gradient of identified Areas of Environmental Concern (AECs); and
- Precipitation rates.

5.4 Potential Receptors

Potential receptors identified on the site and in the surrounding areas include:

- Residential properties on and off site;
- Agricultural properties on and off site;
- Construction workers;
- Watercourses on and off site; and
- Groundwater.

Potential receptors and pathways from identified sources are summarised in Table 5.1.

Table 5-1 Potential Contaminant Source, Receptors & Pathways

Source	Receptor	Pathway
Soil	Site Users	Dermal Contact, Ingestion & Inhalation
	Adjacent Site Uses	Dermal Contact, Ingestion & Inhalation
	Future Site Users (including site users during construction)	Dermal Contact, Ingestion & Inhalation
Groundwater	Perched Water table	Leaching in/from topsoil, Transport in Perched Groundwater.
	Unconfined Aquifers	Leaching from Soils, Transport in Perched Groundwater.
	Confined Aquifers	Damage to Aquitard, Leaching from Soils, Transport from upper tier Groundwater
Surface Water	Drain/Creek	Transport in Perched Groundwater, Surface Run-off
	River	Transport in Perched Groundwater, Surface Run-off, Tributary Creek or Drain. Flooding.
	Inundation Area/ Pooled Water / Farm Dams / Wetlands	Transport in Perched Groundwater, Surface Run-off, Tributary Creek or Drain. Flooding.
Ecosystems – Flora & Fauna	Plants	Uptake through Soil, Direct Contact.
	Animals (Wild & Domestic)	Direct Contact, Ingestion.
Sub-Surface Services	Telstra Pits	Integrity Degradation, Water Migration Vapour Migration
	Culverted Drains	Integrity Degradation, Water Migration Vapour Migration
	Gas Pipelines	Integrity Degradation, Water Migration Vapour Migration

5.5 Risk Assessment

A qualitative risk assessment was conducted considering the sources of potential contamination identified above, and the series of potential receptors identified, together with linking pathways. Risk matrixes are based on the AS/NZS ISO 31000: 2009, *Risk Management Principles and Guidelines, Standards Australia and Standards New Zealand and the Australian Standards Handbook for Environmental Risk Management – Principles and Processes* (HB 203:2006). These linkages are summarised in Table 9, where the associated contamination risk is assessed for a given source on a particular receptor. This assessment also takes account of specific chemicals of concern or groups of similar chemicals of concern. It is implicit that where a source has been identified during the desktop study, it has been included within the list, conversely, where the findings of the desktop study have not encountered a potential source it has not been included unless there is good reason to suspect that it may be present but is yet unidentified.

In Table 12, a two-stage assessment has been carried out based on the identified sources, pathways and receptors. Initially, the column designated as ‘Potential Consequence of Source – Receptor Linkage’, gives an indication of the sensitivity of a given receptor to a source or contaminant of concern under consideration. It is a ‘Worst Case Scenario Classification’ and is based on full exposure from the linkage being examined. The derivations of classes used to rank this particular aspect are presented in Table 5.2.

Table 5-2 Derivation of Risk

Classification	Human Health	Ground/Surface Water	Ecological	Built Environment
Severe	Irreversible damage to human health, or death.	Substantial contamination of sensitive receiving waters.	Significant change to one or more species, or ecosystem.	Irreparable damage to buildings, structures or the environment.
Moderate	No long term/permanent health effects to humans.	Substantial contamination of non-sensitive water resources or small-scale contamination of sensitive water resources.	Change to population densities of non-sensitive species.	Damage to sensitive buildings, structures or the environment.
Mild	Short term health effects to humans.	Substantial contamination to non-sensitive water resources.	Some change to population densities but with no negative effects on the function of the ecosystem.	Easily reparable effects of damage to buildings and or structures.
Negligible	No measurable health impacts on humans.	Insubstantial contamination to non-sensitive water resources.	No significant changes to population densities in the environment or in any ecosystem.	Very slight, non-structural, damage or cosmetic harm to buildings or structures.

Subsequently, in the column entitled ‘Likelihood of Source-Receptor Linkage’, an assessment is made of the probability of the selected source and receptor being linked by the identified pathway. This assessment is ranked based on site-specific conditions as follows:

- **Very unlikely** (0 to < 5%)
- **Unlikely** (5 to 45%)
- **Possible** (45 to 55%)
- **Likely** (55 to 95%)
- **Almost Certain** (95 to 100%)

The ‘Risk Classification’ column is an overall assessment of the actual risk, which considers the likely effect on a given receptor, taking account of both of the previous rankings (*i.e. consequence and likelihood*). The risk classifications are assigned using the consequence/likelihood matrix detailed in Table 5.3 below.

Table 5-3 Consequences / Likelihood Matrix

Consequences	Likelihood
Extreme	There is a high probability that severe harm to a designated receptor could arise from an identified source, without appropriate remedial action.
High	A designate receptor is likely to experience significant harm from an identified source, without remedial action.
Medium	It is possible that harm could arise to a specific receptor, but it is unlikely that such harm would be significant.
Low	It is possible that harm could arise to a designated receptor, though it is likely to be mild.
Negligible	The presence of the identified source does not give rise to the potential to cause significant harm.

On this basis, the overall risk is ranked as outlined in Table 5.4 below.

Table 5-4 Overall Risk Matrix

Potential Consequence	Likelihood				
	Very Unlikely	Unlikely	Possible	Likely	Almost Certain
Severe	Low	Low	Medium	High	Extreme
Moderate	Negligible	Low	Medium	Medium	High
Mild	Negligible	Low	Low	Medium	Medium
Negligible	Negligible	Negligible	Negligible	Low	Low

Source: Risk Matrix based on AS/NZS ISO 31000: 2009

Based on the results of the desktop study and our understanding of the future land uses for the GRDP site, the overall likelihood or risk of contamination being encountered across the majority of the site is considered ‘**Low**’.

A breakdown of the likelihood or risk of contamination being encountered in on-site structures, soil and/or groundwater has been presented in Table 5.5 below.

Table 5-5 Qualitative Risk Assessment for the GRDP Site

Source / Contaminating Activity	Contaminant	Critical Receptor	Pathway	Potential Effect	Potential Consequence of Source – Receptor Linkage	Likelihood of Source – Receptor Linkage	Risk Classification
Equipment Storage & Maintenance	Heavy Metals, TPH, BTEX, PAH, Solvents & Asbestos	Human (<i>Current Site Users</i>)	Dermal Contact, Ingestion, and Inhalation	Toxic, Carcinogenic, Hazardous to Human Health	Severe	Possible	Medium
Equipment Storage & Maintenance	Heavy Metals, TPH, BTEX, PAH, Solvents & Asbestos	Human (<i>Future Site Users including construction workers</i>)	Dermal Contact, Ingestion, and Inhalation	Toxic, Carcinogenic, Hazardous to Human Health	Severe	Possible	Medium
Equipment Storage & Maintenance	Heavy Metals, TPH, BTEX, PAH, Solvents & Asbestos	Human (<i>Adjacent Site Users</i>)	Dermal Contact, Ingestion, and Inhalation	Toxic, Carcinogenic, Hazardous to Human Health	Severe	Unlikely	Low
Equipment Storage & Maintenance	Heavy Metals, TPH, BTEX, PAH, Solvents & Asbestos	Groundwater	Permeation through Soil Profile	Groundwater Contamination	Moderate	Possible	Medium
Equipment Storage & Maintenance	Heavy Metals, TPH, BTEX, PAH, Solvents & Asbestos	Surface Water	Perched Groundwater Flow, Surface Runoff.	Surface Water Contamination	Moderate	Possible	Medium
Equipment Storage & Maintenance	Heavy Metals, TPH, BTEX, PAH, Solvents & Asbestos	Flora & Fauna	Leaching and Uptake	Toxic, Phytotoxic	Mild	Unlikely	Low
Equipment Storage & Maintenance	Heavy Metals, TPH, BTEX, PAH, Solvents & Asbestos	Services / Infrastructure	Permeation through Soil Profile	Physical and Chemical Damage to Structures	Mild	Unlikely	Low
Fuelling Operations and Fuel Storage	Heavy Metals, TPH, BTEX, PAH	Human (<i>Current Site Users</i>)	Dermal Contact, Ingestion, and Inhalation	Toxic, Carcinogenic, Hazardous to Human Health	Severe	Possible	Medium

Source / Contaminating Activity	Contaminant	Critical Receptor	Pathway	Potential Effect	Potential Consequence of Source – Receptor Linkage	Likelihood of Source – Receptor Linkage	Risk Classification
Fuelling Operations and Fuel Storage	Heavy Metals, TPH, BTEX, PAH	Human (<i>Future Site Users including construction workers</i>)	Dermal Contact, Ingestion, and Inhalation	Toxic, Carcinogenic, Hazardous to Human Health	Severe	Possible	Medium
Fuelling Operations and Fuel Storage	Heavy Metals, TPH, BTEX, PAH	Human (<i>Adjacent Site Users</i>)	Dermal Contact, Ingestion, and Inhalation	Toxic, Carcinogenic, Hazardous to Human Health	Severe	Unlikely	Low
Fuelling Operations and Fuel Storage	Heavy Metals, TPH, BTEX, PAH	Groundwater	Permeation through Soil Profile	Groundwater Contamination	Moderate	Possible	Medium
Fuelling Operations and Fuel Storage	Heavy Metals, TPH, BTEX, PAH	Surface Water	Perched Groundwater Flow, Surface Runoff.	Surface Water Contamination	Moderate	Possible	Medium
Fuelling Operations and Fuel Storage	Heavy Metals, TPH, BTEX, PAH	Flora & Fauna	Leaching and Uptake	Toxic, Phytotoxic	Moderate	Unlikely	Low
Fuelling Operations and Fuel Storage	Heavy Metals, TPH, BTEX, PAH	Services / Infrastructure	Permeation through Soil Profile	Physical and Chemical Damage to Structures	Mild	Unlikely	Low
Farming Activities & Operations (<i>including, stock yards, use of herbicides and pesticides, etc</i>)	Heavy Metals, Pesticides, Herbicides, Fertilisers, TPH PAH, Faecal Coliforms	Human (<i>Current Site Users</i>)	Dermal Contact, Ingestion, and Inhalation	Toxic, Carcinogenic, Hazardous to Human Health	Severe	Possible	Medium
Farming Activities & Operations (<i>including, stock yards, use of herbicides and pesticides, etc</i>)	Heavy Metals, Pesticides, Herbicides, Fertilisers, TPH PAH, Faecal Coliforms	Human (<i>Future Site Users including construction workers</i>)	Dermal Contact, Ingestion, and Inhalation	Toxic, Carcinogenic, Hazardous to Human Health	Severe	Possible	Medium

Source / Contaminating Activity	Contaminant	Critical Receptor	Pathway	Potential Effect	Potential Consequence of Source – Receptor Linkage	Likelihood of Source – Receptor Linkage	Risk Classification
Farming Activities & Operations (including, stock yards, use of herbicides and pesticides, etc)	Heavy Metals, Pesticides, Herbicides, Fertilisers, TPH PAH, Faecal Coliforms	Human (<i>Adjacent Site Users</i>)	Dermal Contact, Ingestion, and Inhalation	Toxic, Carcinogenic, Hazardous to Human Health	Severe	Unlikely	Low
Farming Activities (including, stock yards, use of herbicides and pesticides, offal pits, etc)	Heavy Metals, Pesticides, Herbicides, Fertilisers, TPH PAH, Faecal Coliforms	Groundwater	Permeation through Soil Profile	Groundwater Contamination	Severe	Likely	High
Farming Activities & Operations (including, stock yards, use of herbicides and pesticides, etc)	Heavy Metals, Pesticides, Herbicides, Fertilisers, TPH PAH, Faecal Coliforms	Surface Water	Perched Groundwater Flow, Surface Runoff.	Surface Water Contamination	Severe	Likely	High
Farming Activities & Operations (including, stock yards, use of herbicides and pesticides, etc)	Heavy Metals, Pesticides, Herbicides, Fertilisers, TPH PAH, Faecal Coliforms	Flora & Fauna	Leaching and Uptake	Toxic, Phytotoxic	Moderate	Possible	Medium
Farming Activities & Operations (including, stock yards, use of herbicides and pesticides, etc)	Heavy Metals, Pesticides, Herbicides, Fertilisers, TPH PAH, Faecal Coliforms	Services / Infrastructure	Permeation through Soil Profile	Physical and Chemical Damage to Structures	Mild	Unlikely	Low

Source / Contaminating Activity	Contaminant	Critical Receptor	Pathway	Potential Effect	Potential Consequence of Source – Receptor Linkage	Likelihood of Source – Receptor Linkage	Risk Classification
Buildings & Structures (Including possible Septic Tanks & backfill material)	Lead, Asbestos, Hazardous, Material, Faecal Coliforms	Human (<i>Current Site Users</i>)	Dermal Contact, Ingestion, and Inhalation	Toxic, Carcinogenic, Hazardous to Human Health	Severe	Possible	Medium
Structures (Including possible Septic Tanks & backfill material))	Lead, Asbestos, Hazardous, Material, Faecal Coliforms	Human (Future Site Users including construction workers)	Dermal Contact, Ingestion, and Inhalation	Toxic, Carcinogenic, Hazardous to Human Health	Severe	Unlikely	Low
Structures (Including possible Septic Tanks & backfill material))	Lead, Asbestos, Hazardous, Material, Faecal Coliforms	Human (<i>Adjacent Site Users</i>)	Dermal Contact, Ingestion, and Inhalation	Toxic, Carcinogenic, Hazardous to Human Health	Severe	Possible	Medium
Structures (Including possible Septic Tanks & backfill material))	Lead, Asbestos, Hazardous, Material, Faecal Coliforms	Groundwater	Permeation through Soil Profile	Groundwater Contamination	Severe	Likely	High
Structures (Including possible Septic Tanks & backfill material))	Lead, Asbestos, Hazardous, Material, Faecal Coliforms	Surface Water	Perched Groundwater Flow, Surface Runoff.	Surface Water Contamination	Severe	Likely	High
Structures (Including possible Septic Tanks & backfill material))	Lead, Asbestos, Hazardous, Material, Faecal Coliforms	Flora & Fauna	Leaching and Uptake	Toxic, Phytotoxic	Moderate	Unlikely	Low
Structures (Including possible Septic Tanks & backfill material))	Lead, Asbestos, Hazardous, Material, Faecal Coliforms	Services/ Infrastructure	Permeation through Soil Profile	Physical and Chemical Damage to Structures	Mild	Unlikely	Low

6 Discussion

The assessment of the GRDP site has identified several potential sources of contamination and related contaminants of concern. Table 6-1 below summarises the potential contaminating activities and provides a classification of risk for potential contamination to soils, surface water and groundwater in every property within the GRDP site, based upon the outcomes of the Qualitative Risk Assessment detailed in Section 5.

Note: Table 6-1 has been updated based on the completion of site inspections at two (2) properties in October 2018, as detailed in Appendix F.

Table 6-1 Potential Contamination Risk Assessment

Property Number	Location	Potential Contaminating Activity	Contaminants of Potential Concern	Risk Classification	Comments
1	1 Glismann Road	Historical Farming Activities & Operations	Heavy Metals, Pesticides, Herbicides, Fertilisers, TPH PAH, Faecal Coliforms	Medium	The site was historically used for farming & cattle grazing, with potential for heavy farm equipment having been used. Current land use is rural residential with storage sheds and other structures observed from aerial photographs. Therefore, Meinhardt considers that the potential risk associated with historical farming activity & the current number of storage & maintenance structures, potentially associated with current agricultural or other activity at this location as 'Medium' .
		Equipment Storage & Maintenance	Heavy Metals, TPH, BTEX, PAH, Solvents & Asbestos		
		Structures (Including possible Septic Tanks)	Lead, Asbestos, Hazardous, Material, Faecal Coliforms		
2	2 Glismann Road	Fill Material Deposits	Heavy Metals, TPH, BTEX & PAH	Medium	The site was historically used for farming & cattle grazing, with potential for heavy farm equipment having been used. Current land use is rural residential. Section 4.2.1 highlights that Council sanctioned deposit of fill material from nearby development onto this site. Therefore, Meinhardt deems the potential risk associated historical farming activity & deposited fill material at this location as 'Medium' .
		Historical Farming Activities & Operations)	Heavy Metals, Pesticides, Herbicides, Fertilisers, TPH PAH, Faecal Coliforms		
		Structures (Including possible Septic Tanks)	Lead, Asbestos, Hazardous, Material, Faecal Coliforms		

Property Number	Location	Potential Contaminating Activity	Contaminants of Potential Concern	Risk Classification	Comments
3	3 Glismann Road	Historical Farming Activities & Operations)	Heavy Metals, Pesticides, Herbicides, Fertilisers, TPH PAH, Faecal Coliforms	Low	The site was historically used for farming & cattle grazing, with potential for heavy farm equipment having been used.
		Equipment Storage & Maintenance	Heavy Metals, TPH, BTEX, PAH, Solvents & Asbestos		Current land use is rural residential with no evidence of current potentially contaminating activities.
		Structures (Including possible Septic Tanks)	Lead, Asbestos, Hazardous, Material, Faecal Coliforms		Therefore, due to lack of site buildings being observed on aerial photographs Meinhardt considers that the potential risk associated with historical farming at this site is 'Low'
4	4 Glismann Road	Historical Farming Activities & Operations)	Heavy Metals, Pesticides, Herbicides, Fertilisers, TPH PAH, Faecal Coliforms	Low	The site was historically used for farming & cattle grazing, with potential for heavy farm equipment having been used.
		Structures (Including possible Septic Tanks)	Lead, Asbestos, Hazardous, Material, Faecal Coliforms		Current land use is rural residential with no evidence of current potentially contaminating activities.
5	5 Glismann Road	Historical Farming Activities & Operations)	Heavy Metals, Pesticides, Herbicides, Fertilisers, TPH PAH, Faecal Coliforms	Low	The site was historically used for farming & cattle grazing, with potential for heavy farm equipment having been used.
		Equipment Storage & Maintenance	Heavy Metals, TPH, BTEX, PAH, Solvents & Asbestos		Current land use is rural residential with no evidence of current potentially contaminating activities.
		Structures (Including possible Septic Tanks)	Lead, Asbestos, Hazardous, Material, Faecal Coliforms		Therefore, due to lack of site buildings being observed on aerial photographs Meinhardt considers that the potential risk associated with historical farming at this site is 'Low'

Property Number	Location	Potential Contaminating Activity	Contaminants of Potential Concern	Risk Classification	Comments
6	6 Glismann Road	Historical Farming Activities & Operations)	Heavy Metals, Pesticides, Herbicides, Fertilisers, TPH PAH, Faecal Coliforms	Low	<p>The site was historically used for farming & cattle grazing, with potential for heavy farm equipment having been used.</p> <p>Current land use is rural residential with no evidence of current potentially contaminating activities.</p> <p>Therefore, due to lack of site buildings being observed on aerial photographs Meinhardt considers that the potential risk associated with historical farming at this site is 'Low'</p>
		Equipment Storage & Maintenance	Heavy Metals, TPH, BTEX, PAH, Solvents & Asbestos		
		Structures (Including possible Septic Tanks)	Lead, Asbestos, Hazardous, Material, Faecal Coliforms		
7	7 Glismann Road	Historical Farming Activities & Operations)	Heavy Metals, Pesticides, Herbicides, Fertilisers, TPH PAH, Faecal Coliforms	Low	<p>The site was historically used for farming & cattle grazing, with potential for heavy farm equipment having been used.</p> <p>Current land use is rural residential with no evidence of current potentially contaminating activities.</p> <p>Therefore, due to lack of site buildings being observed on aerial photographs Meinhardt considers that the potential risk associated with historical farming at this site is 'Low'</p>
		Equipment Storage & Maintenance	Heavy Metals, TPH, BTEX, PAH, Solvents & Asbestos		
		Structures (Including possible Septic Tanks)	Lead, Asbestos, Hazardous, Material, Faecal Coliforms		

Property Number	Location	Potential Contaminating Activity	Contaminants of Potential Concern	Risk Classification	Comments
8	8 Glismann Road	Historical Farming Activities & Operations)	Heavy Metals, Pesticides, Herbicides, Fertilisers, TPH PAH, Faecal Coliforms	Medium	<p>The site was historically used for farming & cattle grazing, with potential for heavy farm equipment having been used.</p> <p>Current land use is rural residential with large storage sheds and other structures observed from aerial photographs.</p> <p>Therefore, Meinhardt considers that the potential risk associated with historical farming activity & the current number of storage & maintenance structures, potentially associated with current agricultural or other activity at this location as 'Medium'.</p>
		Equipment Storage & Maintenance	Heavy Metals, TPH, BTEX, PAH, Solvents & Asbestos		
		Structures (Including possible Septic Tanks)	Lead, Asbestos, Hazardous, Material, Faecal Coliforms		
9	9 Glismann Rd	Historical Farming Activities & Operations)	Heavy Metals, Pesticides, Herbicides, Fertilisers, TPH PAH, Faecal Coliforms	Low	<p>The site was historically used for farming & cattle grazing, with potential for heavy farm equipment having been used.</p> <p>Current land use is rural residential with no evidence of current potentially contaminating activities.</p> <p>Therefore, due to lack of site buildings being observed on aerial photographs Meinhardt considers that the potential risk associated with historical farming at this site is 'Low'</p>
		Equipment Storage & Maintenance	Heavy Metals, TPH, BTEX, PAH, Solvents & Asbestos		
		Structures (Including possible Septic Tanks)	Lead, Asbestos, Hazardous, Material, Faecal Coliforms		

Property Number	Location	Potential Contaminating Activity	Contaminants of Potential Concern	Risk Classification	Comments
10	10 Glismann Road	Historical Farming Activities & Operations)	Heavy Metals, Pesticides, Herbicides, Fertilisers, TPH PAH, Faecal Coliforms	Medium	The site was historically used for farming & cattle grazing, with potential for heavy farm equipment having been used.
		Equipment Storage & Maintenance	Heavy Metals, TPH, BTEX, PAH, Solvents & Asbestos		Current land use is rural residential. A number of structures are located on the property and the property is located immediately south of a former trucking depot, which was located at property number 12.
		Structures (Including possible Septic Tanks)	Lead, Asbestos, Hazardous, Material, Faecal Coliforms		Therefore, due to unknown structures at the site and the properties position next to a former trucking depot, Meinhardt considers that the potential risk associated with the site is 'Medium' .
11	11 Glismann Road	Historical Farming Activities & Operations)	Heavy Metals, Pesticides, Herbicides, Fertilisers, TPH PAH, Faecal Coliforms	Low	The site was historically used for farming & cattle grazing, with potential for heavy farm equipment having been used.
		Structures (Including possible Septic Tanks)	Lead, Asbestos, Hazardous, Material, Faecal Coliforms		Current land use is rural residential with no evidence of current potentially contaminating activities.
					Therefore, due to lack of site buildings being observed on aerial photographs Meinhardt considers that the potential risk associated with historical farming at this site is 'Low'

Property Number	Location	Potential Contaminating Activity	Contaminants of Potential Concern	Risk Classification	Comments
12	12 Glismann Road	Historical Farming Activities & Operations)	Heavy Metals, Pesticides, Herbicides, Fertilisers, TPH PAH, Faecal Coliforms	Low	The site was historically used for farming & cattle grazing, with potential for heavy farm equipment having been used. A Council Land Use Map (1990) indicates this site was used as a Truck Depot with possible underground fuel storage tanks. Current land use is rural residential with storage sheds and other structures observed from aerial photographs.
		Equipment Storage & Maintenance	Heavy Metals, TPH, BTEX, PAH, Solvents & Asbestos		An inspection of this property in 2018 found insufficient evidence of the site being used as a truck stop. It is believed a former owner owned a truck(s) but no evidence of bulk fuel storage was identified.
		Structures (Including possible Septic Tanks)	Lead, Asbestos, Hazardous, Material, Faecal Coliforms		Therefore, as a former truck depot does not appear to have been located at the site Meinhardt deems the potential risk of contamination at this site as 'Low'.
13	13 Glismann Road	Historical Farming Activities & Operations)	Heavy Metals, Pesticides, Herbicides, Fertilisers, TPH PAH, Faecal Coliforms	Low	The site was historically used for farming & cattle grazing, with potential for heavy farm equipment having been used. Current land use is rural residential with no evidence of current potentially contaminating activities.
		Equipment Storage & Maintenance	Heavy Metals, TPH, BTEX, PAH, Solvents & Asbestos		Therefore, due to lack of site buildings being observed on aerial photographs Meinhardt considers that the potential risk associated with historical farming at this site is 'Low'
		Structures (Including possible Septic Tanks)	Lead, Asbestos, Hazardous, Material, Faecal Coliforms		

Property Number	Location	Potential Contaminating Activity	Contaminants of Potential Concern	Risk Classification	Comments
14	14 Glismann Road	Historical Farming Activities & Operations)	Heavy Metals, Pesticides, Herbicides, Fertilisers, TPH PAH, Faecal Coliforms	Low	<p>The site was historically used for farming & cattle grazing, with potential for heavy farm equipment having been used.</p> <p>Current land use is rural residential with no evidence of current potentially contaminating activities.</p> <p>Therefore, due to lack of site buildings being observed on aerial photographs Meinhardt considers that the potential risk associated with historical farming at this site is 'Low'</p>
		Equipment Storage & Maintenance	Heavy Metals, TPH, BTEX, PAH, Solvents & Asbestos		
		Structures (Including possible Septic Tanks)	Lead, Asbestos, Hazardous, Material, Faecal Coliforms		
15	15 Glismann Road	Historical Farming Activities & Operations)	Heavy Metals, Pesticides, Herbicides, Fertilisers, TPH PAH, Faecal Coliforms	Low	<p>The site was historically used for farming & cattle grazing, with potential for heavy farm equipment having been used.</p> <p>Current land use is rural residential with no evidence of current potentially contaminating activities.</p> <p>Therefore, due to lack of site buildings being observed on aerial photographs Meinhardt considers that the potential risk associated with historical farming at this site is 'Low'</p>
		Equipment Storage & Maintenance	Heavy Metals, TPH, BTEX, PAH, Solvents & Asbestos		
		Structures (Including possible Septic Tanks)	Lead, Asbestos, Hazardous, Material, Faecal Coliforms		

Property Number	Location	Potential Contaminating Activity	Contaminants of Potential Concern	Risk Classification	Comments
16	16 Glismann Road	Historical Farming Activities & Operations)	Heavy Metals, Pesticides, Herbicides, Fertilisers, TPH PAH, Faecal Coliforms	Low	<p>The site was historically used for farming & cattle grazing, with potential for heavy farm equipment having been used.</p> <p>Current land use is rural residential with no evidence of current potentially contaminating activities.</p> <p>Therefore, due to lack of site buildings being observed on aerial photographs Meinhardt considers that the potential risk associated with historical farming at this site is 'Low'</p>
		Equipment Storage & Maintenance	Heavy Metals, TPH, BTEX, PAH, Solvents & Asbestos		
		Structures (Including possible Septic Tanks)	Lead, Asbestos, Hazardous, Material, Faecal Coliforms		
17	11 Mahon Avenue	Historical Farming Activities & Operations)	Heavy Metals, Pesticides, Herbicides, Fertilisers, TPH PAH, Faecal Coliforms	Medium	<p>The site was historically used for farming & cattle grazing, with potential for heavy farm equipment having been used.</p> <p>Council Land Use Map (1990) indicates this site was used as a Poultry Farm.</p> <p>Current land use is residential with large storage sheds and other structures observed from aerial photographs.</p> <p>A site inspection identified that the site had historically been used for farming or agricultural purposes, there was no evidence to suggest that the site had once been used as a poultry farm and that any sheds that had previously been located at the site were removed, and replaced by a pond.</p> <p>The information provided by the land owner suggested that the potential risk associated with historical farming and current use for a rural residence and concreting business) as "Medium".</p>
		Equipment Storage & Maintenance	Heavy Metals, TPH, BTEX, PAH, Solvents & Asbestos		
		Structures (Including possible Septic Tanks)	Lead, Asbestos, Hazardous, Material, Faecal Coliforms		

Property Number	Location	Potential Contaminating Activity	Contaminants of Potential Concern	Risk Classification	Comments
18	13 – 15 Mahon Avenue	Historical Farming Activities & Operations)	Heavy Metals, Pesticides, Herbicides, Fertilisers, TPH PAH, Faecal Coliforms	Low	<p>The site was historically used for farming & cattle grazing, with potential for heavy farm equipment having been used.</p> <p>Current land use is rural residential with no evidence of current potentially contaminating activities.</p> <p>Therefore, due to lack of site buildings being observed on aerial photographs Meinhardt considers that the potential risk associated with historical farming at this site is 'Low'</p>
		Equipment Storage & Maintenance	Heavy Metals, TPH, BTEX, PAH, Solvents & Asbestos		
		Structures (Including possible Septic Tanks)	Lead, Asbestos, Hazardous, Material, Faecal Coliforms		
19	111 – 113 Old Princes Highway	Historical Farming Activities & Operations)	Heavy Metals, Pesticides, Herbicides, Fertilisers, TPH PAH, Faecal Coliforms	Low	<p>The site was historically used for farming & cattle grazing, with potential for heavy farm equipment having been used.</p> <p>Current land use is rural residential with no evidence of current potentially contaminating activities.</p> <p>Therefore, due to lack of site buildings being observed on aerial photographs Meinhardt considers that the potential risk associated with historical farming at this site is 'Low'</p>
		Equipment Storage & Maintenance	Heavy Metals, TPH, BTEX, PAH, Solvents & Asbestos		
		Structures (Including possible Septic Tanks)	Lead, Asbestos, Hazardous, Material, Faecal Coliforms		
20	115 – 117 Old Princes Highway	Historical Farming Activities & Operations)	Heavy Metals, Pesticides, Herbicides, Fertilisers, TPH PAH, Faecal Coliforms	Low	<p>The site was historically used for farming & cattle grazing, with potential for heavy farm equipment having been used.</p> <p>Current land use is rural residential with no evidence of current potentially contaminating activities.</p> <p>Therefore, due to lack of site buildings being observed on aerial photographs Meinhardt considers that the potential risk associated with historical farming at this site is 'Low'</p>
		Structures (Including possible Septic Tanks)	Lead, Asbestos, Hazardous, Material, Faecal Coliforms		

Property Number	Location	Potential Contaminating Activity	Contaminants of Potential Concern	Risk Classification	Comments
21	119 – 121 Old Princes Highway	Historical Farming Activities & Operations)	Heavy Metals, Pesticides, Herbicides, Fertilisers, TPH PAH, Faecal Coliforms	Low	The site was historically used for farming & cattle grazing, with potential for heavy farm equipment having been used. Current land use is rural residential with no evidence of current potentially contaminating activities. Therefore, due to lack of site buildings being observed on aerial photographs Meinhardt considers that the potential risk associated with historical farming at this site is 'Low'
		Structures (Including possible Septic Tanks)	Lead, Asbestos, Hazardous, Material, Faecal Coliforms		
22	123 – 125 Old Princes Highway	Historical Farming Activities & Operations)	Heavy Metals, Pesticides, Herbicides, Fertilisers, TPH PAH, Faecal Coliforms	Low	The site was historically used for farming & cattle grazing, with potential for heavy farm equipment having been used. Current land use is rural residential with no evidence of current potentially contaminating activities. Therefore, due to lack of site buildings being observed on aerial photographs Meinhardt considers that the potential risk associated with historical farming at this site is 'Low'
		Equipment Storage & Maintenance	Heavy Metals, TPH, BTEX, PAH, Solvents & Asbestos		
		Structures (Including possible Septic Tanks)	Lead, Asbestos, Hazardous, Material, Faecal Coliforms		

Figure 7 (Appendix A), provides a 'Traffic Light' contamination maps summarising the outcomes of the Qualitative Risk Assessment, identifying areas of potential contamination for the GRDP site. Figure 7 indicates that the majority of the site is classified as having a 'Low' potential contamination risk. In total, 17 sites were allocated a 'Low' risk and 5 sites were allocated a 'Medium' risk rating.

The assessment of potential contamination has been made in accordance with the DSE, *Potentially Contaminated Land, General Practice Note No.30*, (DSE 2005).

Note: Meinhardt notes that the 2005 Planning Practice Note has been superseded at the time of issue of Revision F of the current report. The updated potential for contamination ratings and consequences arising from the assessment are provided in the Meinhardt, *Contaminated Land Study- PPN30 (2021) Addendum in Appendix H*.

Under the DSE *General Practice Note No.30* the land identified as having a 'Low' potential contamination risk that is classified as dwelling, open space, agriculture, retail or office, industry or warehouse is categorised as Assessment Level C, and subject to general duty under the Section 12(2)(b) and Section 60(1)(a)(iii) of the Planning and Environment Act 1987 (DSE 2005).

However, land that is identified as having a 'Medium' potential contamination risk that is classified as childcare centre, primary school, dwellings or residential buildings is categorised as Assessment Level B, requiring a site assessment from a suitably qualified environmental professional, if insufficient

information is available to determine if an audit is appropriate. If advised that an audit is not required, a review subject to general duty under the Section 12(2)(b) and Section 60(1)(a)(iii) of the Planning and Environment Act 1987 (DSE 2005) is required.

Detail on future recommended actions as a result of the risk ratings prescribed are included in *Appendix G*.

Details of assessment levels for the three levels of contamination assessment are summarised in Table 6.2 below, further details can also be found in the Potentially Contaminated Land General Practice Note, June 2005.

Table 6-2 Assessment Matrix as per Potentially Contaminated Land General Practice Note, June 2005

PROPOSED LAND-USE	POTENTIAL FOR CONTAMINATION (as indicated in Table 1)		
	<i>High</i>	<i>Medium</i>	<i>Low</i>
<i>Sensitive Uses</i>			
<i>Child care centre, pre-school or primary school</i>	<i>A</i>	<i>B</i>	<i>C</i>
<i>Dwellings, residential buildings etc.</i>	<i>A</i>	<i>B</i>	<i>C</i>
<i>Other Uses</i>			
<i>Open space</i>	<i>B</i>	<i>C</i>	<i>C</i>
<i>Agriculture</i>	<i>B</i>	<i>C</i>	<i>C</i>
<i>Retail or office</i>	<i>B</i>	<i>C</i>	<i>C</i>
<i>Industry or warehouse</i>	<i>B</i>	<i>C</i>	<i>C</i>

- A. Require an environmental audit as required by Ministerial Direction No. 1 or the Environmental Audit Overlay when a planning scheme amendment or planning permit application would allow a sensitive use to establish on potentially contaminated land.
 - An environmental audit is also strongly recommended by the SEPP where a planning permit application would allow a sensitive use to be established on land with ‘**High Potential**’ for contamination.
- B. Require a site assessment from a suitably qualified environmental professional if insufficient information is available to determine if an audit is appropriate. If advised that an audit is not required, default to C.
- C. General duty under Section 12(2)(b) and Section 60(1)(a)(iii) of the Planning and Environment Act 1987.

7 Conclusions and Recommendations

Note: Meinhardt notes that the following conclusion and recommendations have been updated based on PPN30-2021 guidance. The updated potential for contamination ratings and consequences arising from the assessment are provided in the Meinhardt, Contaminated Land Study- PPN30 (2021) Addendum in Appendix H.

Meinhardt has conducted a Land Capability (Desktop Environmental Contamination) Assessment for the GRDP. The key objective of this assessment was to conduct a desktop study to:

- Confirm suitability of the GRDP site for sensitive uses and what level of further assessment would be required to determine suitability of the site for sensitive uses in accordance with the Potentially Contaminated Land General Practice Note No.30 2005 (e.g. *Environmental Site Assessment*);
- Identify data gaps and outline future testing and more detailed investigations (if required).
- Provide a plan of the study area clearly showing the GRDP site and identifying which areas of the GRDP site have 'Low', 'Medium' or 'High' potential for contamination; and
- Prepare a report of findings that will be used to inform the re-zoning of the GRDP from Rural Residential to Urban Residential (or similar sensitive land use)

7.1 Summary of Contamination Potential

The GRDP site desktop review identified several potential sources of contamination. Based on the results of the desktop study and our understanding of the future land uses for the GRDP site, the overall likelihood or risk of contamination being encountered across the majority of the site is considered '**Low**'.

7.1.1 Low potential for contamination

The activities on-site which were identified as having a '**Low**' potential contamination risk included:

- Rural Residential, with no significant evidence of miscellaneous outbuildings; and
- Historic agriculture at the site was identified as having been used as grazing paddocks prior to subdivision, with no in-situ farm buildings or sheep dips.

Therefore, properties 3, 4, 5, 6, 7, 9, 11, 12, 13, 14, 15, 16, 18, 19, 20, 21 & 22 identified as having '**Low**' potential for contamination will be subject to a Level C assessment for all proposed developments on-site.

7.1.2 Medium Potential for contamination

The activities on-site which were identified as having a '**Medium**' potential contamination risk included:

- Filling (imported soil)
- Historic farming operations including buildings potentially used for the storage of hydrocarbons, insecticides (sheep dips), fungicides, herbicides and pesticides.

Therefore, properties 1, 8 & 10 which were used for historic farming operations shown on historic aerial photographs, as well as properties 2 and 17 which had fill placed on it, are identified as having 'Medium' potential for contamination will be subject to a Level C assessment for non-sensitive land uses, and subject to a Level B Assessment when sensitive land uses are proposed.

7.1.3 High potential for contamination

There were no sites that contained activities which were identified as having a '**High**' potential contamination risk.

7.2 Summary of Property Risk Ratings

Table 7-1 Summary of Property Risk Ratings

Street Address	Property Number	Contamination Potential
1 Glismann Road	1	Medium
2 Glismann Road	2	Medium
3 Glismann Road	3	Low
4 Glismann Road	4	Low
5 Glismann Road	5	Low
6 Glismann Road	6	Low
7 Glismann Road	7	Low
8 Glismann Road	8	Medium
9 Glismann Road	9	Low
10 Glismann Road	10	Medium
11 Glismann Road	11	Low
12 Glismann Road	12	Low
13 Glismann Road	13	Low
14 Glismann Road	14	Low
15 Glismann Road	15	Low
16 Glismann Road	16	Low
11 Mahon Avenue	17	Medium
13-15 Mahon Avenue	18	Low
111-113 Old Princes Highway	19	Low
115-117 Old Princes Highway	20	Low
119-121 Old Princes Highway	21	Low
123-125 Old Princes Highway	22	Low

Map 1 - Property Risk Ratings



8 References

- Standards Australia, AS 4482.2-1999: *Guide to the sampling and investigation of potentially contaminated soil, Part 2: Volatile substances*, 1999.
- Standards Australia, AS 4482.1-2005, *Standards Australia. Guide to the investigation and sampling of sites with potentially contaminated soil, Part 1: Non-volatile and semi-volatile compounds*, 2005.
- Australian and New Zealand Environment and Conservation Council (ANZECC), *Australian and New Zealand Guideline for the Assessment and Management of Contaminated Sites*, 2000.
- Cardinia Local Heritage Study Review, Volume 1, 2011
- Centre for Land Protection and Research, 1997, A Land Capability Study of The Cardinia Shire (Accessed March 2014). <http://vro.depi.vic.gov.au/dpi/vro/portreg.nsf/pages/pp_lca_cardinia>
- DPI, GeoVic Online Mapping (Accessed March 2014)
< http://er-info.dpi.vic.gov.au/sd_weave/anonymous.html>
- DPI, Australian Soil Resource Information System. (Accessed May 2014)
<http://www.asris.csiro.au/index_other.html>
- Department of Sustainability and Environment (DSE), *Melbourne Groundwater Map*, 2012.
- DSE, *Westernport Groundwater Catchment Map*, 2012.
- DSE, *Potentially Contaminated Land, General Practice Note*, 2005.
- Department of Environment, Land, Water and Planning, *Potentially Contaminated Land Planning Practice Note 30*, July 2021.
- EPA, *Priority Sites Register*, 2013 (Accessed March 2014).
- Geological Survey of Victoria, *Cranbourne. 1 mile to 1 inch, geological map. Department of Mines, Victoria*, 1967.
- Department of Minerals and Energy, *Groundwater Basins Victoria Map*, 1982. National Environment Protection Council (NEPC), *National Environment Protection (Assessment of Site Contamination) Measure*, 1999 (amended 2013).
- State Environment Protection Policy (SEPP), *Groundwaters of Victoria*, December 1997, No. S160.
- State Environment Protection Policy (SEPP), *Prevention and Management of Contaminated Land*, June 2002, No. S95.
- State Environment Protection Policy (SEPP), *Waters of Victoria*, October 2004, No. S210.
- State Government of Victoria, *Environmental Protection Act*, 1970.

9 Statement of Limitations

This assessment and assumed levels of contamination contained within are restricted by the limited amount of data currently available for the GRDP site, and are also subject to the limitations set out below or elsewhere within this report.

The assessment has been undertaken and performed in a professional manner consistent with the skill and care ordinarily exercised by reputable consultants under similar circumstances. No other warranty, expressed or implied, is given.

Where Meinhardt Infrastructure & Environment Pty Ltd (*Meinhardt*) has relied on verbal information and/or documentation provided by the client and/or third parties, Meinhardt did not attempt to independently verify the accuracy or completeness of that information. To the extent that the conclusions and recommendations in this report are based in whole or in part on such information, they are contingent on its validity. Meinhardt assume no responsibility for any consequences arising from any information or condition that was inaccurate, concealed, withheld, misrepresented, or otherwise not fully disclosed or made available to Meinhardt.

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APPENDIX A

FIGURES

**Figure 1
Site Location Map**



Legend

- ▭ Study area boundary
- ▬ Major Roads
- ▬ Secondary Roads
- ▬ Arterial Roads
- ▬ Minor Roads

Glissmann Road Project Area

Map projection MGA z55, aerial photography 2013

0 75 150 Metres



Figure 2
Site Features Map



Legend

- Major Roads
- Secondary Roads
- Arterial Roads
- Minor Roads
- Study area boundary
- Properties in study

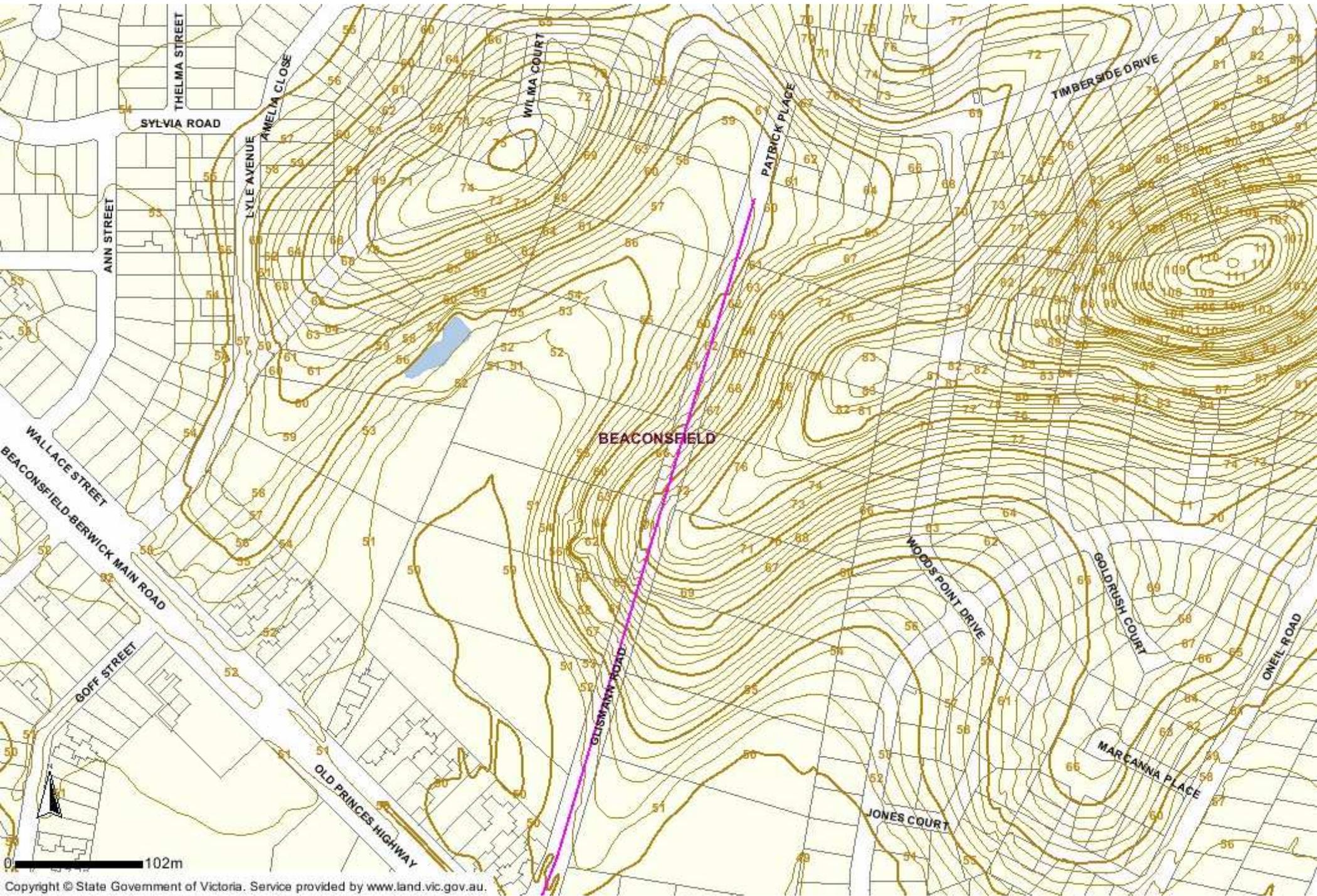
Glismann Road Property Numbers

Map projection MGA z55, aerial photography 2013

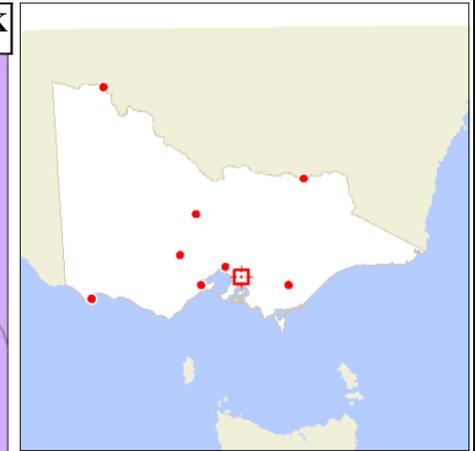
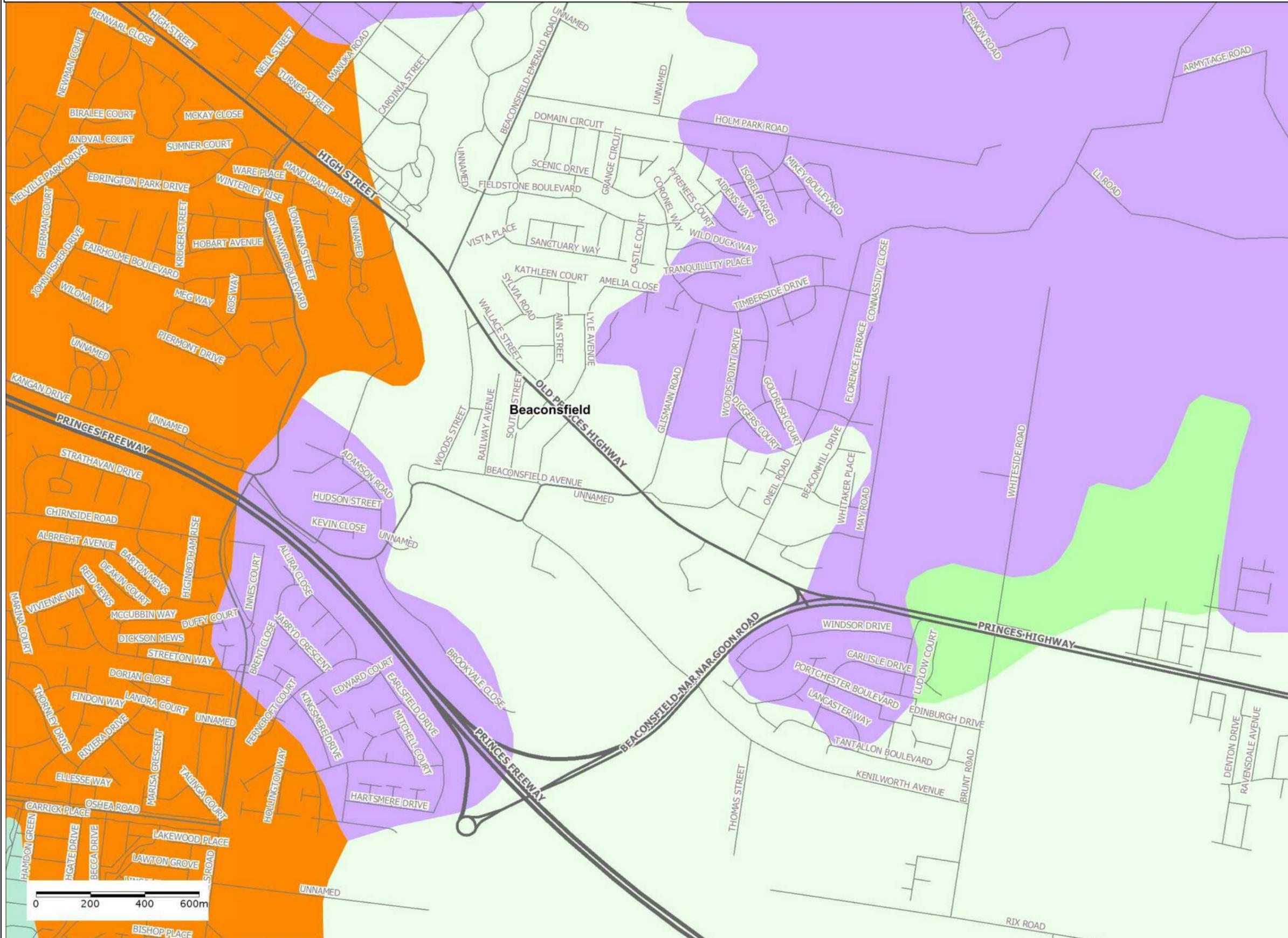
0 50 100 Metres



Figure 3
Topography & Surface Water Map



**Figure 4
Geology Map**



Legend

- Towns (25K)**
- Roads (vmtrans)**
- Freeway
 - Highway
 - Main Road
 - Other
- GSY Geological Unit (250K)**
- Aberfeldy Basalt (-Puy)
 - Adje Granodiorite (G105)
 - Akuna Mudstone (Oba)
 - Albion Formation (-Caa)
 - Allwood Granodiorite (G566)
 - Almonds Granite (G207)
 - Altona Coal Seam (-Pxa)
 - Amberley Park Volcaniclastic Member (Dba)
 - Amboyne Granodiorite (G71)
 - Anderson Creek Formation (Sxa)
 - Anglers Rest Granite (G114)
 - Angry Hill Sandstone (Ocr)
 - Angry Hill Sandstone - conglomerate (Ocrag)
 - Angusvale Dyke Swarm (Yan)
 - Ararat Granodiorite (G380)
 - Archie Granodiorite (G531)
 - Arte Gabbro - gabbro phase (G38a)
 - Arte Gabbro - hornblende gabbro phase (G38b)
 - Arte Gabbro - mylonite phase (G38c)
 - Arte Gabbro - tonalite phase (G38c)
 - Arte Gabbro (G38)
 - Arthurs Seat Rhyodacite (Dxu)
 - Ashwin Siltstone Member (Damsa)
 - Attunga Paranga Formation (Dsqa)
 - Aughaderry Tonalite (G360)
 - Avon Supergroup - basalt (Dab)
 - Awalti Granite (G444)
 - Bacchus Marsh Formation (Pxb)
 - Bald Hills Creek Tonalite (G149)
 - Ballantyne Megabreccia (Dsf)
 - Ballark Conglomerate (Kob)
 - Bally Hooley Ignimbrite (Dske)
 - Ballyroan Granite (G385)
 - Balmattam Basalt (Nurb)
 - Banimboola Quartz Monzodiorite (G110)
 - Banksia Chert Member (Okba)
 - Baranduda Granite (G176)
 - Barangaroo Ignimbrite (Drb)
 - Baringhup Granodiorite (G293)
 - Barjarg Granite (G216)
 - Barnawartha Oneissic Granodiorite (G182)
 - Barrabilly Granite (G77)
 - Barrakee Granite (G340)
 - Barrama Microgranite (G436)
 - Barringo Granodiorite (G282)
 - Barry Mountains Granite (G159)
 - Barwon River Conglomerate (Krb)

Disclaimer: This map is a snapshot generated from Victoria Government data. This material may be of assistance to you but the State of Victoria does not guarantee that the publication is without flaw of any kind or is wholly appropriate for your particular purposes and therefore disclaims all liability for error, loss or damage which may arise from reliance upon it. All persons accessing this information should make appropriate enquiries to assess the currency of the data.

Map Scale: 1:14,038
Projection: MGA 55



Figure 5
ASRIS Soil Classification Map

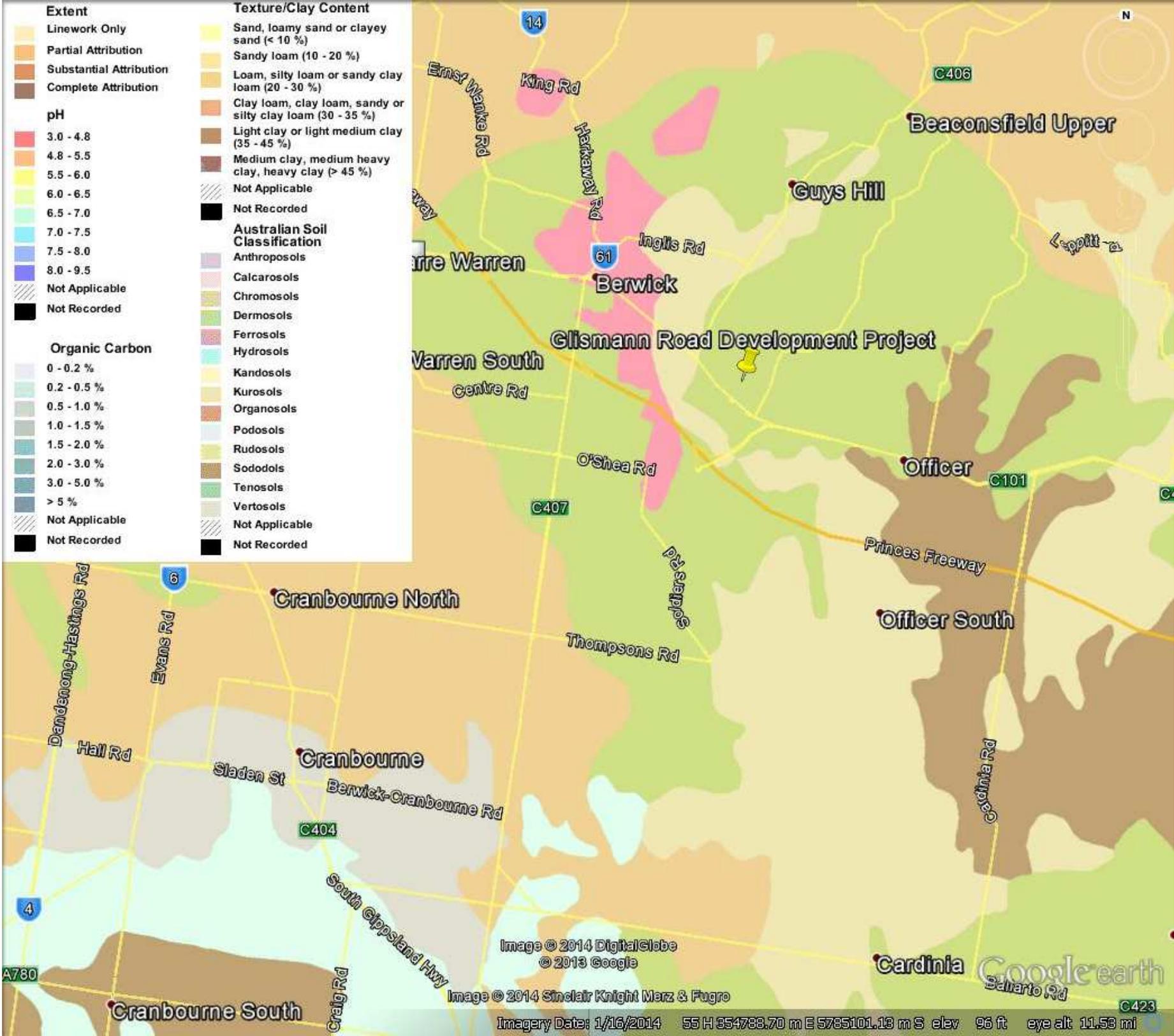
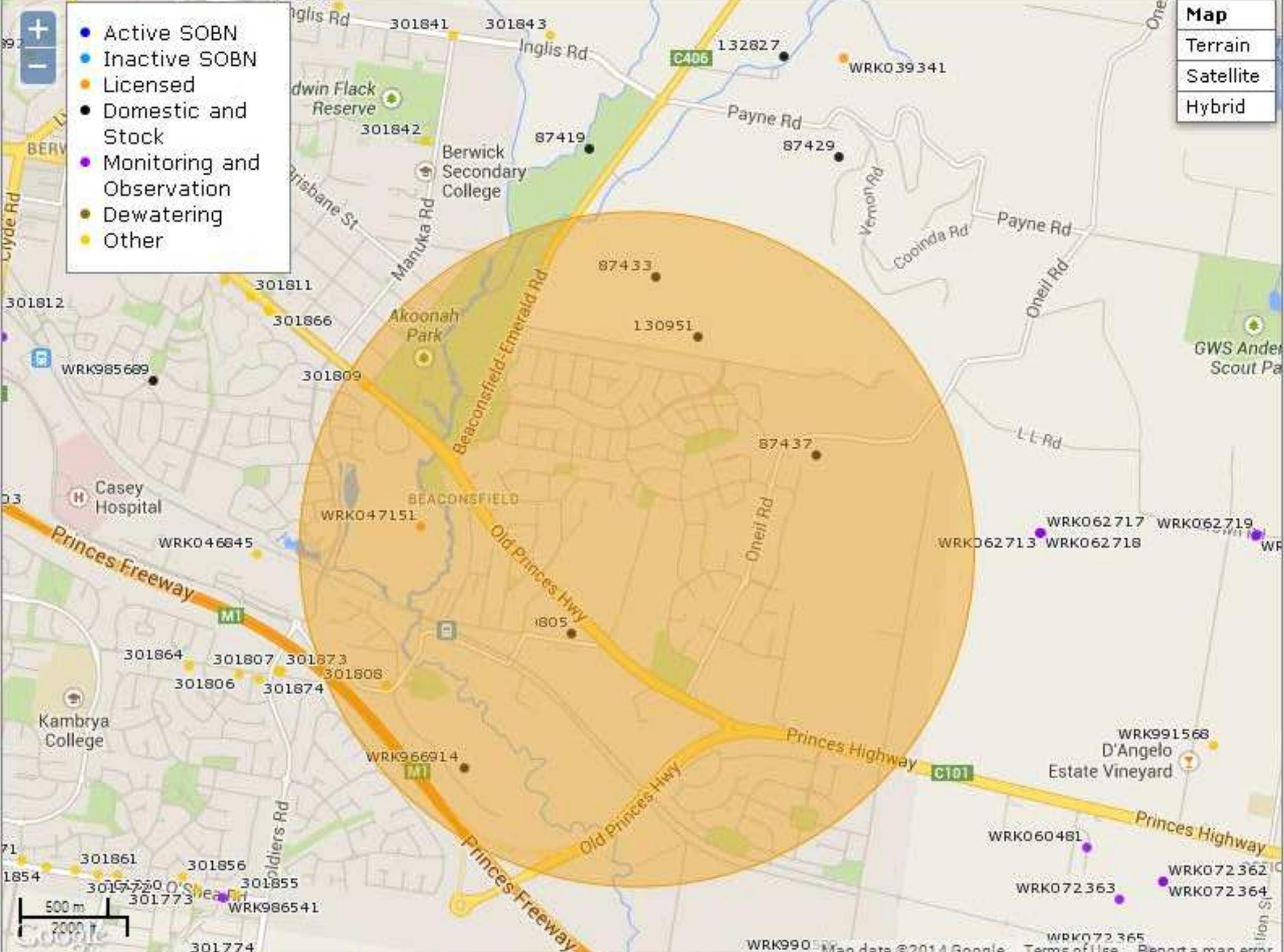


Figure 6
Bore Locations Map 2 km Radius

Map

- Terrain
- Satellite
- Hybrid

- Active SOBN
- Inactive SOBN
- Licensed
- Domestic and Stock
- Monitoring and Observation
- Dewatering
- Other



Scale = 1 : 27K

145.376,-38.048 r:1,988m

Figure 7
Potential Contamination “Traffic Light” Map

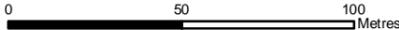


Legend

- Study area boundary
- Major Roads
- Secondary Roads
- Arterial Roads
- Minor Roads
- Properties in study
- High Risk ratings
- Medium Risk ratings
- Low Risk ratings

Glissmann Road Risk Ratings (April 2015)

Map projection MGA z55, aerial photography 2013



APPENDIX B

PROPERTY REPORTS & TITLES

Planning Property Reports

Planning Property Report

from www.dtpli.vic.gov.au/planning on 14 March 2014 11:44 AM

Address: 1 GLISMANN ROAD BEACONSFIELD 3807

Lot and Plan Number: Lot 10 LP3783

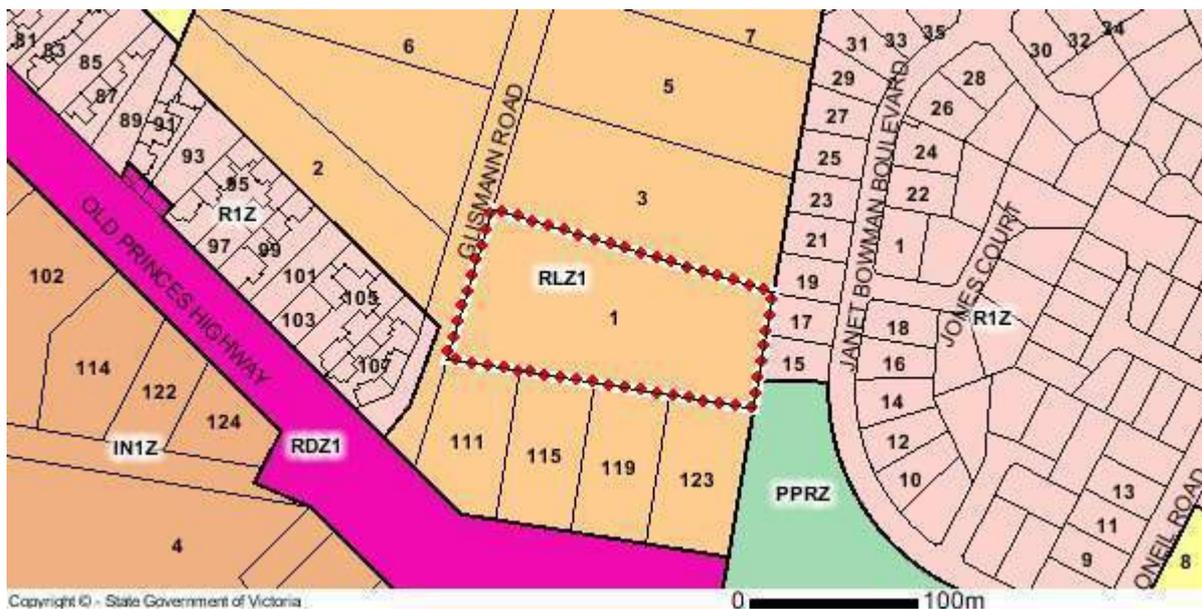
Local Government (Council): CARDINIA **Council Property Number:** 1333950100

Directory Reference: Melway 131 K1

Planning Zone

RURAL LIVING ZONE - SCHEDULE 1 (RLZ1)

SCHEDULE TO THE RURAL LIVING ZONE - SCHEDULE 1



Note: labels for zones may appear outside the actual zone - please compare the labels with the legend.

Zones Legend

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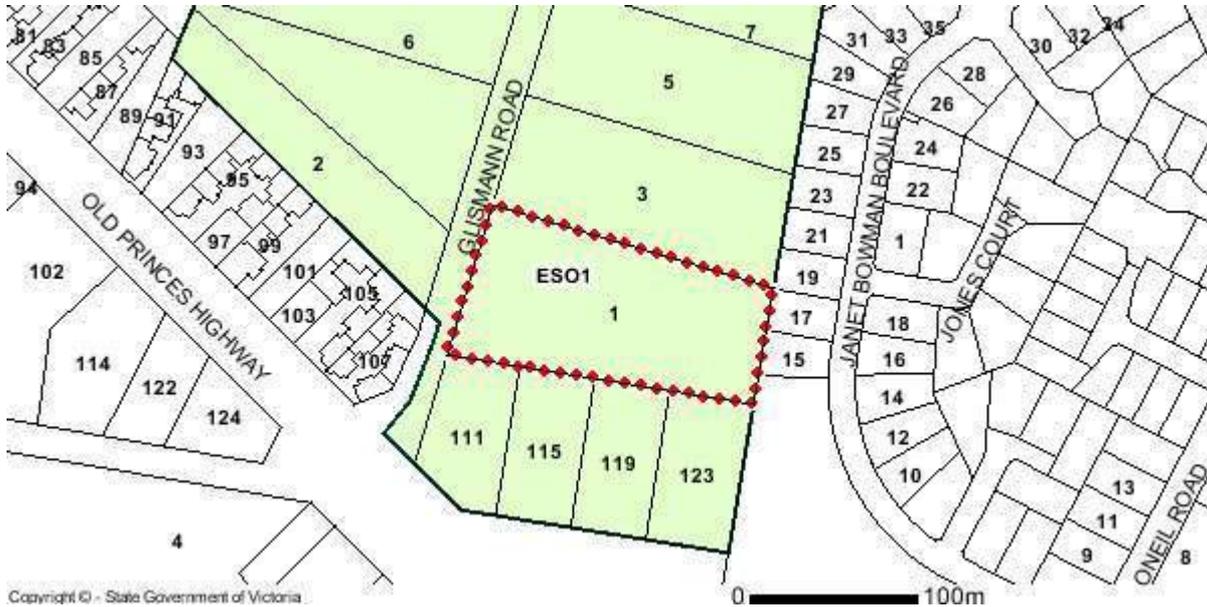
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Planning Overlay

ENVIRONMENTAL SIGNIFICANCE OVERLAY (ESO)

ENVIRONMENTAL SIGNIFICANCE OVERLAY - SCHEDULE 1 (ESO1)

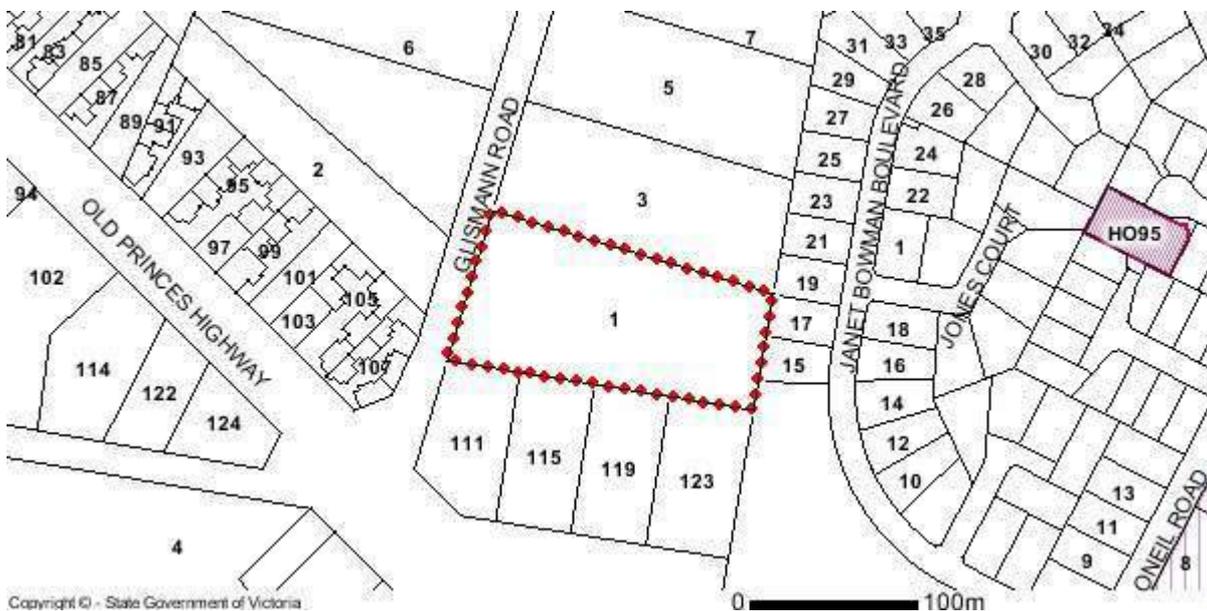


OTHER OVERLAYS

Other overlays in the vicinity not directly affecting this land

DEVELOPMENT PLAN OVERLAY (DPO)

HERITAGE OVERLAY (HO)



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Planning Overlays Legend

Overlays Legend					
	Airport Environs		Erosion Management		Public Acquisition
	City Link Project		Environmental Significance		Restructure
	Development Contributions Plan		Floodway		Road Closure
	Design & Development		Heritage		Special Building
	Design & Development Part		Incorporated Plan		Significant Landscape
	Development Plan		Land Subject to Inundation & Floodway		Salinity Management
	Environmental Audit		Melbourne Airport Environs 1		State Resource
			Melbourne Airport Environs 2		Vegetation Protection
			Neighbourhood Character		Bushfire Management - Wildfire Management

Note: due to overlaps some colours on the maps may not match those in the legend.

Further Planning Information

Planning scheme data last updated on 13 March 2014.

A **planning scheme** sets out policies and requirements for the use, development and protection of land.

This report provides information about the zone and overlay provisions that apply to the selected land.

Information about the State, local, particular and general provisions of the local planning scheme that may affect the use of this land can be obtained by contacting the local council or by visiting [Planning Schemes Online](#)

This report is NOT a **Planning Certificate** issued pursuant to Section 199 of the Planning & Environment Act 1987.

It does not include information about exhibited planning scheme amendments, or zonings that may affect the land.

To obtain a Planning Certificate go to [Titles and Property Certificates](#)

For details of surrounding properties, use this service to get the Reports for properties of interest

To view planning zones, overlay and heritage information in an interactive format visit [Planning Maps Online](#)

For other information about planning in Victoria visit www.dpcd.vic.gov.au/planning

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Planning Property Report

from www.dtpli.vic.gov.au/planning on 14 March 2014 11:34 AM

Address: 2 GLISMANN ROAD BEACONSFIELD 3807

Lot and Plan Number: Lot 2 LP64568

Local Government (Council): CARDINIA **Council Property Number:** 1333900100

Directory Reference: Melway 131 K1

Planning Zone

RURAL LIVING ZONE - SCHEDULE 1 (RLZ1)

SCHEDULE TO THE RURAL LIVING ZONE - SCHEDULE 1



Note: labels for zones may appear outside the actual zone - please compare the labels with the legend.

Zones Legend

ACZ - Activity Centre	IN1Z - Industrial 1	R1Z - Residential 1
B1Z - Commercial 1	IN2Z - Industrial 2	R2Z - Residential 2
B2Z - Commercial 1	IN3Z - Industrial 3	R3Z - Residential 3
B3Z - Commercial 2	LDRZ - Low Density Residential	RAZ - Rural Activity
B4Z - Commercial 2	MUZ - Mixed Use	RCZ - Rural Conservation
B5Z - Commercial 1	NRZ - Neighbourhood Residential	RDZ1 - Road - Category 1
C1Z - Commercial 1	PCRZ - Public Conservation & Resource	RDZ2 - Road - Category 2
C2Z - Commercial 2	PDZ - Priority Development	RGZ - Residential Growth
CA - Commonwealth Land	PPRZ - Public Park & Recreation	RLZ - Rural Living
CCZ - Capital City	PUZ1 - Public Use - Service & Utility	RUZ - Rural
CDZ - Comprehensive Development	PUZ2 - Public Use - Education	SUZ - Special Use
DZ - Dockland	PUZ3 - Public Use - Health Community	TZ - Township
ERZ - Environmental Rural	PUZ4 - Public Use - Transport	UFZ - Urban Floodway
FZ - Farming	PUZ5 - Public Use - Cemetery/Crematorium	UGZ - Urban Growth
GRZ - General Residential	PUZ6 - Public Use - Local Government	
GWAZ - Green Wedge A	PUZ7 - Public Use - Other Public Use	Urban Growth Boundary
GWZ - Green Wedge		

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Planning Overlay

ENVIRONMENTAL SIGNIFICANCE OVERLAY (ESO)

ENVIRONMENTAL SIGNIFICANCE OVERLAY - SCHEDULE 1 (ESO1)



OTHER OVERLAYS

Other overlays in the vicinity not directly affecting this land

DESIGN AND DEVELOPMENT OVERLAY (DDO)

DEVELOPMENT PLAN OVERLAY (DPO)

FLOODWAY OVERLAY (FO)

HERITAGE OVERLAY (HO)

VEGETATION PROTECTION OVERLAY (VPO)



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Planning Overlays Legend

Overlays Legend		
 Airport Environs	 Erosion Management	 Public Acquisition
 City Link Project	 Environmental Significance	 Restructure
 Development Contributions Plan	 Floodway	 Road Closure
 Design & Development	 Heritage	 Special Building
 Design & Development Part	 Incorporated Plan	 Significant Landscape
 Development Plan	 Land Subject to Inundation & Floodway	 Salinity Management
 Environmental Audit	 Melbourne Airport Environs 1	 State Resource
	 Melbourne Airport Environs 2	 Vegetation Protection
	 Neighbourhood Character	 Bushfire Management - Wildfire Management

Note: due to overlaps some colours on the maps may not match those in the legend.

Further Planning Information

Planning scheme data last updated on 13 March 2014.

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Planning Property Report

from www.dtpli.vic.gov.au/planning on 14 March 2014 11:43 AM

Address: 3 GLISMANN ROAD BEACONSFIELD 3807

Lot and Plan Number: Lot 11 LP3783

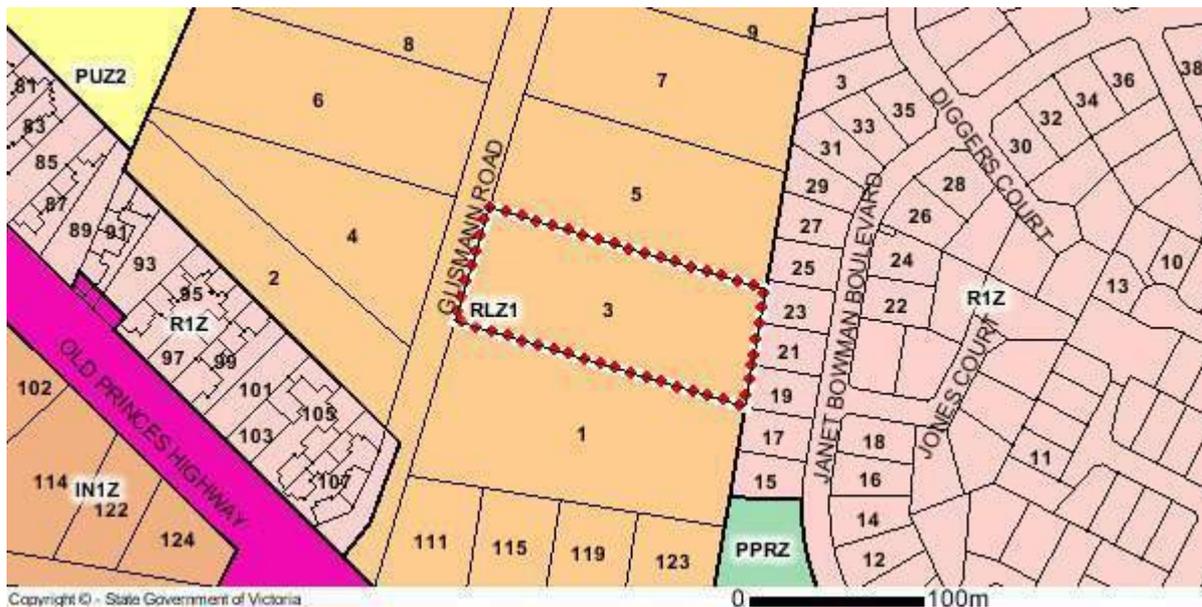
Local Government (Council): CARDINIA **Council Property Number:** 1333950200

Directory Reference: Melway 214 A1

Planning Zone

[RURAL LIVING ZONE - SCHEDULE 1 \(RLZ1\)](#)

[SCHEDULE TO THE RURAL LIVING ZONE - SCHEDULE 1](#)



Note: labels for zones may appear outside the actual zone - please compare the labels with the legend.

Zones Legend

	ACZ - Activity Centre		IN1Z - Industrial 1		R1Z - Residential 1
	B1Z - Commercial 1		IN2Z - Industrial 2		R2Z - Residential 2
	B2Z - Commercial 1		IN3Z - Industrial 3		R3Z - Residential 3
	B3Z - Commercial 2		LDRZ - Low Density Residential		RAZ - Rural Activity
	B4Z - Commercial 2		MUZ - Mixed Use		RCZ - Rural Conservation
	B5Z - Commercial 1		NRZ - Neighbourhood Residential		RDZ1 - Road - Category 1
	C1Z - Commercial 1		PCRZ - Public Conservation & Resource		RDZ2 - Road - Category 2
	C2Z - Commercial 2		PDZ - Priority Development		RGZ - Residential Growth
	CA - Commonwealth Land		PPRZ - Public Park & Recreation		RLZ - Rural Living
	CCZ - Capital City		PUZ1 - Public Use - Service & Utility		RUZ - Rural
	CDZ - Comprehensive Development		PUZ2 - Public Use - Education		SUZ - Special Use
	DZ - Dockland		PUZ3 - Public Use - Health Community		TZ - Township
	ERZ - Environmental Rural		PUZ4 - Public Use - Transport		UFZ - Urban Floodway
	FZ - Farming		PUZ5 - Public Use - Cemetery/Crematorium		UGZ - Urban Growth
	GRZ - General Residential		PUZ6 - Public Use - Local Government		-- Urban Growth Boundary
	GWAZ - Green Wedge A		PUZ7 - Public Use - Other Public Use		
	GWZ - Green Wedge				

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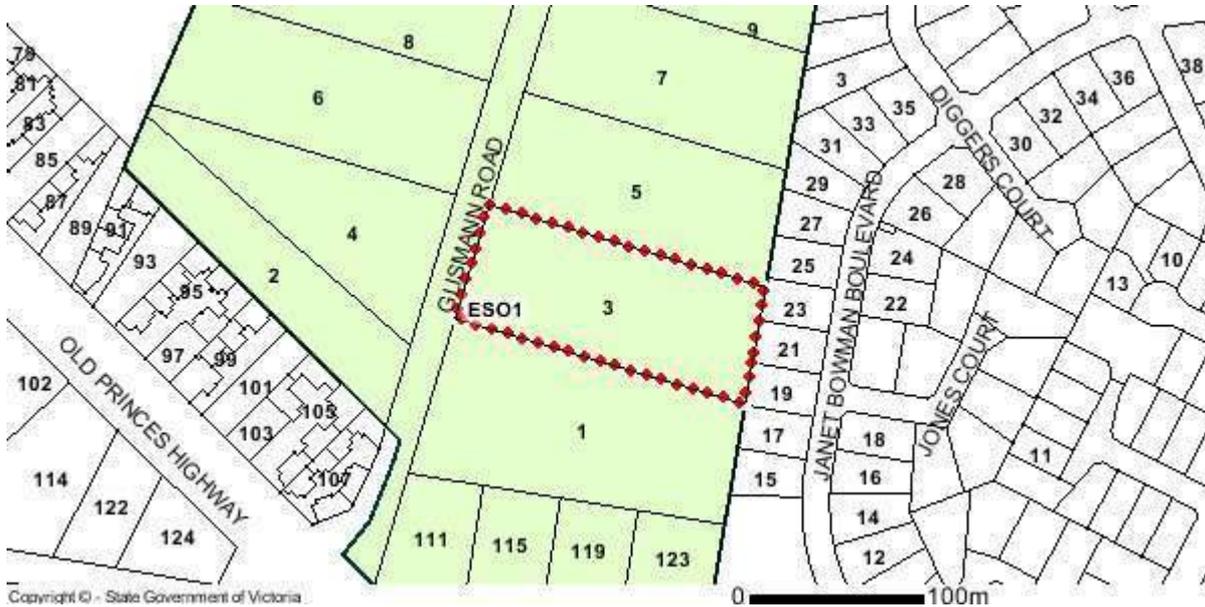
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Planning Overlay

ENVIRONMENTAL SIGNIFICANCE OVERLAY (ESO)

ENVIRONMENTAL SIGNIFICANCE OVERLAY - SCHEDULE 1 (ESO1)

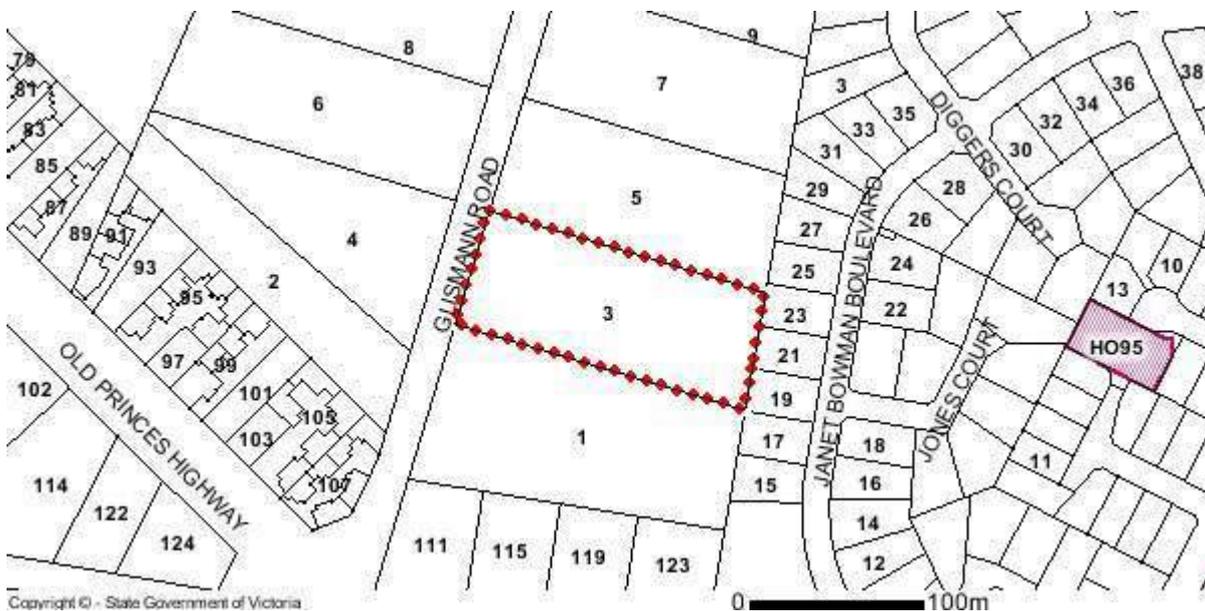


OTHER OVERLAYS

Other overlays in the vicinity not directly affecting this land

DEVELOPMENT PLAN OVERLAY (DPO)

HERITAGE OVERLAY (HO)



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Planning Overlays Legend

Overlays Legend					
	Airport Environs		Erosion Management		Public Acquisition
	City Link Project		Environmental Significance		Restructure
	Development Contributions Plan		Floodway		Road Closure
	Design & Development		Heritage		Special Building
	Design & Development Part		Incorporated Plan		Significant Landscape
	Development Plan		Land Subject to Inundation & Floodway		Salinity Management
	Environmental Audit		Melbourne Airport Environs 1		State Resource
			Melbourne Airport Environs 2		Vegetation Protection
			Neighbourhood Character		Bushfire Management - Wildfire Management

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Further Planning Information

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Planning Property Report

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Address: 4 GLISMANN ROAD BEACONSFIELD 3807

Lot and Plan Number: Lot 1 LP64568

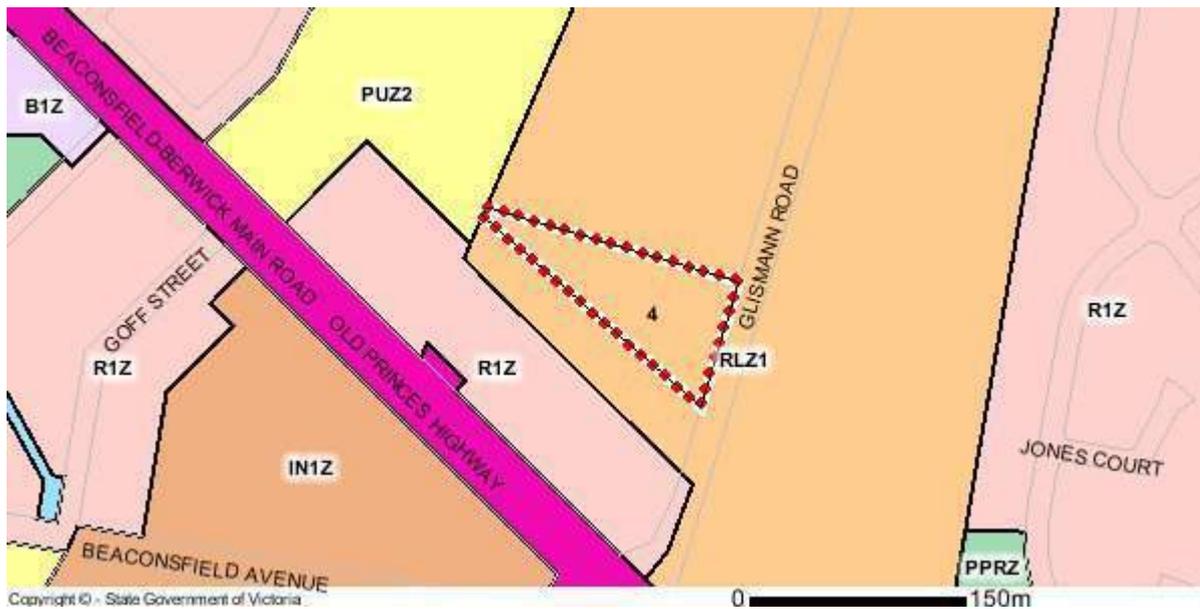
Local Government (Council): CARDINIA **Council Property Number:** 1333900200

Directory Reference: Melway 131 K1

Planning Zone

RURAL LIVING ZONE - SCHEDULE 1 (RLZ1)

SCHEDULE TO THE RURAL LIVING ZONE - SCHEDULE 1



Note: labels for zones may appear outside the actual zone - please compare the labels with the legend.

Zones Legend

	ACZ - Activity Centre		IN1Z - Industrial 1		R1Z - Residential 1
	B1Z - Commercial 1		IN2Z - Industrial 2		R2Z - Residential 2
	B2Z - Commercial 1		IN3Z - Industrial 3		R3Z - Residential 3
	B3Z - Commercial 2		LDRZ - Low Density Residential		RAZ - Rural Activity
	B4Z - Commercial 2		MUZ - Mixed Use		RCZ - Rural Conservation
	B5Z - Commercial 1		NRZ - Neighbourhood Residential		RDZ1 - Road - Category 1
	C1Z - Commercial 1		PCRZ - Public Conservation & Resource		RDZ2 - Road - Category 2
	C2Z - Commercial 2		PDZ - Priority Development		RGZ - Residential Growth
	CA - Commonwealth Land		PPRZ - Public Park & Recreation		RLZ - Rural Living
	CCZ - Capital City		PUZ1 - Public Use - Service & Utility		RUZ - Rural
	CDZ - Comprehensive Development		PUZ2 - Public Use - Education		SUZ - Special Use
	DZ - Dockland		PUZ3 - Public Use - Health Community		TZ - Township
	ERZ - Environmental Rural		PUZ4 - Public Use - Transport		UFZ - Urban Floodway
	FZ - Farming		PUZ5 - Public Use - Cemetery/Crematorium		UGZ - Urban Growth
	GRZ - General Residential		PUZ6 - Public Use - Local Government		-- Urban Growth Boundary
	GWAZ - Green Wedge A		PUZ7 - Public Use - Other Public Use		
	GWZ - Green Wedge				

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Planning Overlay

[ENVIRONMENTAL SIGNIFICANCE OVERLAY \(ESO\)](#)

[ENVIRONMENTAL SIGNIFICANCE OVERLAY - SCHEDULE 1 \(ESO1\)](#)



Overlays Legend

Airport Environs	Environmental Significance	Public Acquisition
City Link Project	Floodway	Restructure
Development Contributions Plan	Heritage	Road Closure
Design & Development	Incorporated Plan	Special Building
Design & Development Part	Land Subject to Inundation & Floodway	Significant Landscape
Development Plan	Melbourne Airport Environs 1	Salinity Management
Environmental Audit	Melbourne Airport Environs 2	State Resource
	Neighbourhood Character	Vegetation Protection
		Bushfire Management - Wildfire Management

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Planning Property Report

from www.dtpli.vic.gov.au/planning on 14 March 2014 11:42 AM

Address: 5 GLISMANN ROAD BEACONSFIELD 3807

Lot and Plan Number: Lot 12 LP3783

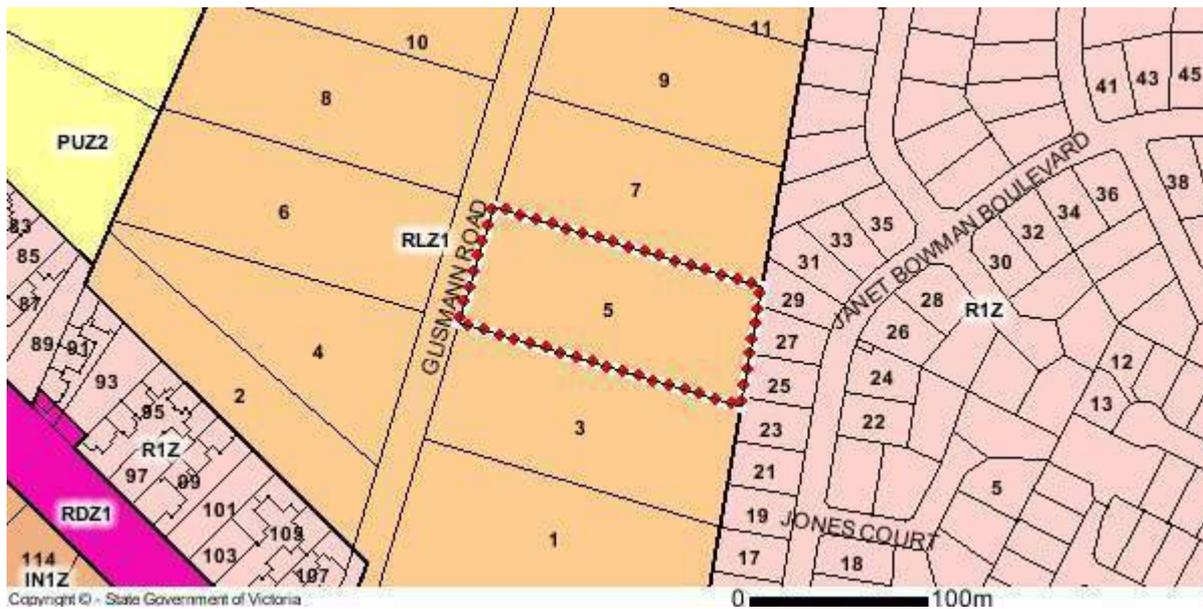
Local Government (Council): CARDINIA **Council Property Number:** 1333950300

Directory Reference: Melway 212 A12

Planning Zone

RURAL LIVING ZONE - SCHEDULE 1 (RLZ1)

SCHEDULE TO THE RURAL LIVING ZONE - SCHEDULE 1



Note: labels for zones may appear outside the actual zone - please compare the labels with the legend.

Zones Legend

ACZ - Activity Centre	IN1Z - Industrial 1	R1Z - Residential 1
B1Z - Commercial 1	IN2Z - Industrial 2	R2Z - Residential 2
B2Z - Commercial 1	IN3Z - Industrial 3	R3Z - Residential 3
B3Z - Commercial 2	LDRZ - Low Density Residential	RAZ - Rural Activity
B4Z - Commercial 2	MUZ - Mixed Use	RCZ - Rural Conservation
B5Z - Commercial 1	NRZ - Neighbourhood Residential	RDZ1 - Road - Category 1
C1Z - Commercial 1	PCRZ - Public Conservation & Resource	RDZ2 - Road - Category 2
C2Z - Commercial 2	PDZ - Priority Development	RGZ - Residential Growth
CA - Commonwealth Land	PPRZ - Public Park & Recreation	RLZ - Rural Living
CCZ - Capital City	PUZ1 - Public Use - Service & Utility	RUZ - Rural
CDZ - Comprehensive Development	PUZ2 - Public Use - Education	SUZ - Special Use
DZ - Dockland	PUZ3 - Public Use - Health Community	TZ - Township
ERZ - Environmental Rural	PUZ4 - Public Use - Transport	UFZ - Urban Floodway
FZ - Farming	PUZ5 - Public Use - Cemetery/Crematorium	UGZ - Urban Growth
GRZ - General Residential	PUZ6 - Public Use - Local Government	
GWAZ - Green Wedge A	PUZ7 - Public Use - Other Public Use	
GWZ - Green Wedge		Urban Growth Boundary

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Planning Overlay

[ENVIRONMENTAL SIGNIFICANCE OVERLAY \(ESO\)](#)

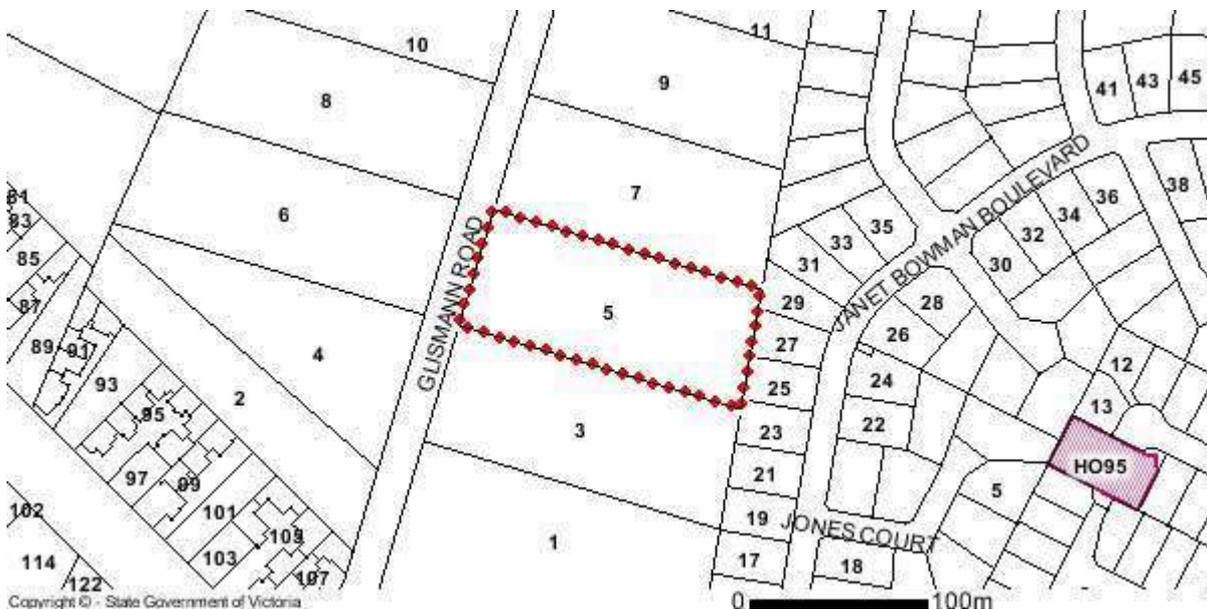
[ENVIRONMENTAL SIGNIFICANCE OVERLAY - SCHEDULE 1 \(ESO1\)](#)



OTHER OVERLAYS

Other overlays in the vicinity not directly affecting this land

[HERITAGE OVERLAY \(HO\)](#)



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Planning Overlays Legend

Overlays Legend		
 Airport Environs	 Erosion Management	 Public Acquisition
 City Link Project	 Environmental Significance	 Restructure
 Development Contributions Plan	 Floodway	 Road Closure
 Design & Development	 Heritage	 Special Building
 Design & Development Part	 Incorporated Plan	 Significant Landscape
 Development Plan	 Land Subject to Inundation & Floodway	 Salinity Management
 Environmental Audit	 Melbourne Airport Environs 1	 State Resource
	 Melbourne Airport Environs 2	 Vegetation Protection
	 Neighbourhood Character	 Bushfire Management - Wildfire Management

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Further Planning Information

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Address: 6 GLISMANN ROAD BEACONSFIELD 3807

Lot and Plan Number: Lot 26 LP3783

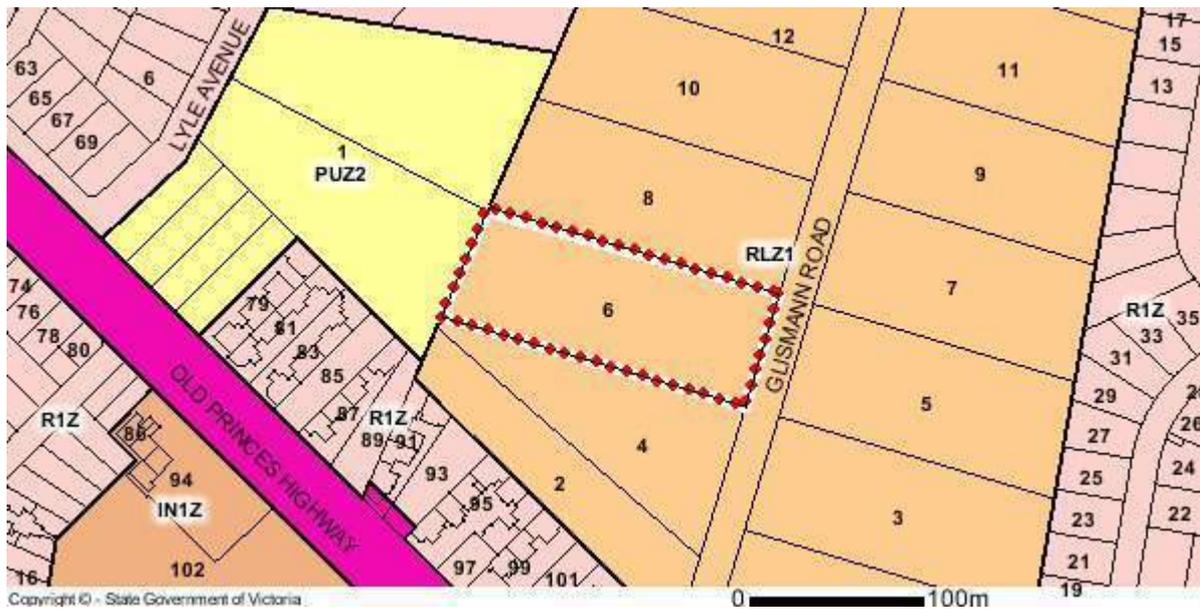
Local Government (Council): CARDINIA **Council Property Number:** 1333900300

Directory Reference: Melway 212 A12

Planning Zone

RURAL LIVING ZONE - SCHEDULE 1 (RLZ1)

SCHEDULE TO THE RURAL LIVING ZONE - SCHEDULE 1



Note: labels for zones may appear outside the actual zone - please compare the labels with the legend.

Zones Legend

ACZ - Activity Centre	IN1Z - Industrial 1	R1Z - Residential 1
B1Z - Commercial 1	IN2Z - Industrial 2	R2Z - Residential 2
B2Z - Commercial 1	IN3Z - Industrial 3	R3Z - Residential 3
B3Z - Commercial 2	LDRZ - Low Density Residential	RAZ - Rural Activity
B4Z - Commercial 2	MUZ - Mixed Use	RCZ - Rural Conservation
B5Z - Commercial 1	NRZ - Neighbourhood Residential	RDZ1 - Road - Category 1
C1Z - Commercial 1	PCRZ - Public Conservation & Resource	RDZ2 - Road - Category 2
C2Z - Commercial 2	PDZ - Priority Development	RGZ - Residential Growth
CA - Commonwealth Land	PPRZ - Public Park & Recreation	RLZ - Rural Living
CCZ - Capital City	PUZ1 - Public Use - Service & Utility	RUZ - Rural
CDZ - Comprehensive Development	PUZ2 - Public Use - Education	SUZ - Special Use
DZ - Dockland	PUZ3 - Public Use - Health Community	TZ - Township
ERZ - Environmental Rural	PUZ4 - Public Use - Transport	UFZ - Urban Floodway
FZ - Farming	PUZ5 - Public Use - Cemetery/Crematorium	UGZ - Urban Growth
GRZ - General Residential	PUZ6 - Public Use - Local Government	
GWAZ - Green Wedge A	PUZ7 - Public Use - Other Public Use	
GWZ - Green Wedge		Urban Growth Boundary

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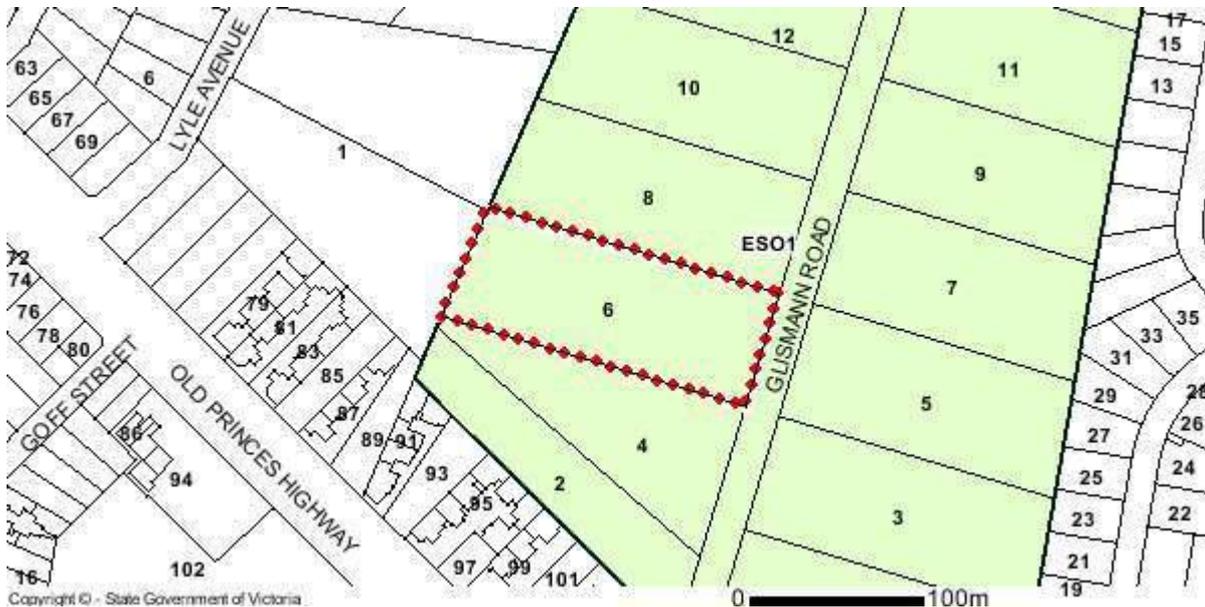
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Planning Overlay

[ENVIRONMENTAL SIGNIFICANCE OVERLAY \(ESO\)](#)

[ENVIRONMENTAL SIGNIFICANCE OVERLAY - SCHEDULE 1 \(ESO1\)](#)



Overlays Legend

Airport Environs	Environmental Significance	Public Acquisition
City Link Project	Floodway	Restructure
Development Contributions Plan	Heritage	Road Closure
Design & Development	Incorporated Plan	Special Building
Design & Development Part	Land Subject to Inundation & Floodway	Significant Landscape
Development Plan	Melbourne Airport Environs 1	Salinity Management
Environmental Audit	Melbourne Airport Environs 2	State Resource
	Neighbourhood Character	Vegetation Protection
		Bushfire Management - Wildfire Management

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Planning Property Report

from www.dtpli.vic.gov.au/planning on 14 March 2014 11:41 AM

Address: 7 GLISMANN ROAD BEACONSFIELD 3807

Lot and Plan Number: Lot 13 LP3783

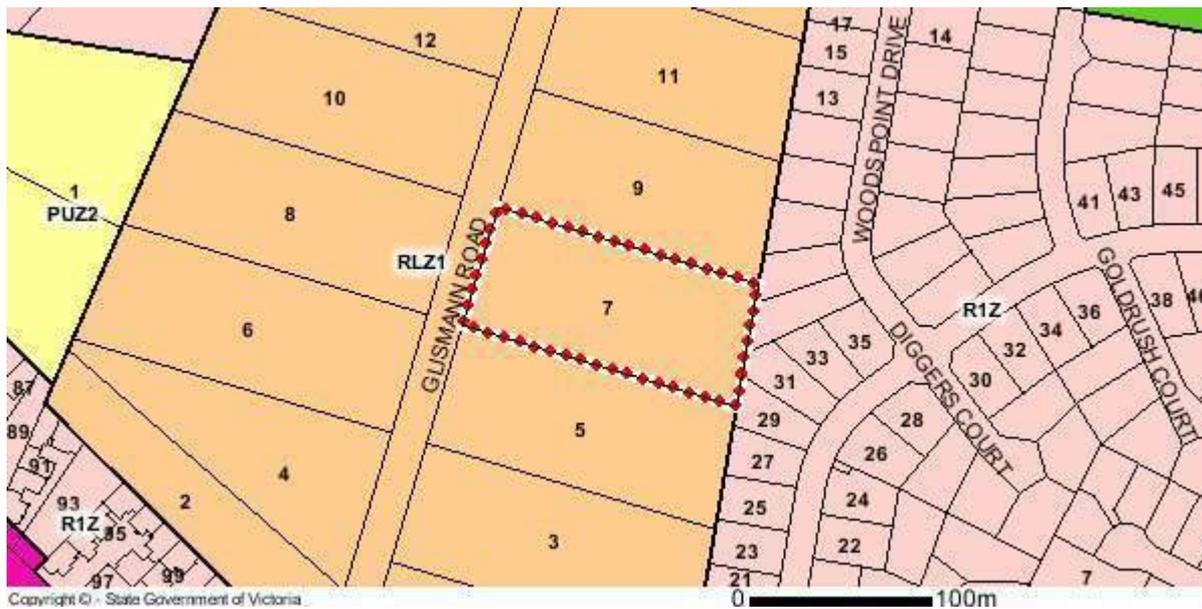
Local Government (Council): CARDINIA **Council Property Number:** 1333950400

Directory Reference: Melway 212 A12

Planning Zone

RURAL LIVING ZONE - SCHEDULE 1 (RLZ1)

SCHEDULE TO THE RURAL LIVING ZONE - SCHEDULE 1



Note: labels for zones may appear outside the actual zone - please compare the labels with the legend.

Zones Legend

ACZ - Activity Centre	IN1Z - Industrial 1	R1Z - Residential 1
B1Z - Commercial 1	IN2Z - Industrial 2	R2Z - Residential 2
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GWAZ - Green Wedge A	PUZ7 - Public Use - Other Public Use	
GWZ - Green Wedge		Urban Growth Boundary

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Planning Overlay

ENVIRONMENTAL SIGNIFICANCE OVERLAY (ESO)

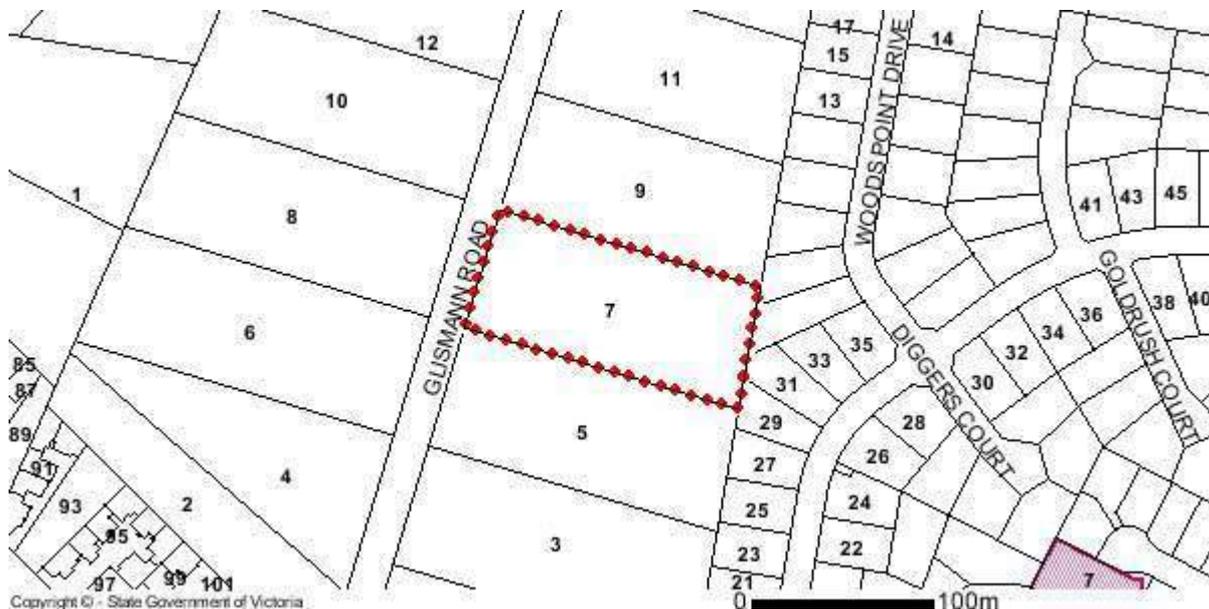
ENVIRONMENTAL SIGNIFICANCE OVERLAY - SCHEDULE 1 (ESO1)



OTHER OVERLAYS

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HERITAGE OVERLAY (HO)



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Planning Overlays Legend

Overlays Legend					
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	City Link Project		Environmental Significance		Restructure
	Development Contributions Plan		Floodway		Road Closure
	Design & Development		Heritage		Special Building
	Design & Development Part		Incorporated Plan		Significant Landscape
	Development Plan		Land Subject to Inundation & Floodway		Salinity Management
	Environmental Audit		Melbourne Airport Environs 1		State Resource
			Melbourne Airport Environs 2		Vegetation Protection
			Neighbourhood Character		Bushfire Management - Wildfire Management

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Planning Property Report

from www.dtpli.vic.gov.au/planning on 14 March 2014 11:36 AM

Address: 8 GLISMANN ROAD BEACONSFIELD 3807

Lot and Plan Number: Lot 25 LP3783

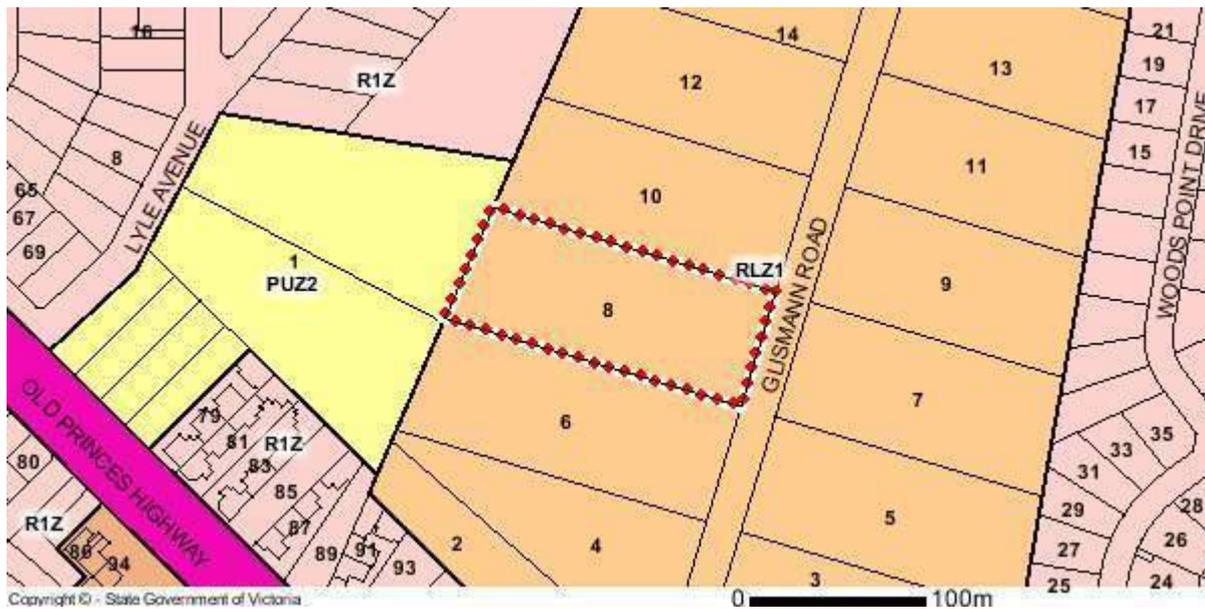
Local Government (Council): CARDINIA **Council Property Number:** 1333900400

Directory Reference: Melway 212 A12

Planning Zone

RURAL LIVING ZONE - SCHEDULE 1 (RLZ1)

SCHEDULE TO THE RURAL LIVING ZONE - SCHEDULE 1



Note: labels for zones may appear outside the actual zone - please compare the labels with the legend.

Zones Legend

ACZ - Activity Centre	IN1Z - Industrial 1	R1Z - Residential 1
B1Z - Commercial 1	IN2Z - Industrial 2	R2Z - Residential 2
B2Z - Commercial 1	IN3Z - Industrial 3	R3Z - Residential 3
B3Z - Commercial 2	LDRZ - Low Density Residential	RAZ - Rural Activity
B4Z - Commercial 2	MUZ - Mixed Use	RCZ - Rural Conservation
B5Z - Commercial 1	NRZ - Neighbourhood Residential	RDZ1 - Road - Category 1
C1Z - Commercial 1	PCRZ - Public Conservation & Resource	RDZ2 - Road - Category 2
C2Z - Commercial 2	PDZ - Priority Development	RGZ - Residential Growth
CA - Commonwealth Land	PPRZ - Public Park & Recreation	RLZ - Rural Living
CCZ - Capital City	PUZ1 - Public Use - Service & Utility	RUZ - Rural
CDZ - Comprehensive Development	PUZ2 - Public Use - Education	SUZ - Special Use
DZ - Dockland	PUZ3 - Public Use - Health Community	TZ - Township
ERZ - Environmental Rural	PUZ4 - Public Use - Transport	UFZ - Urban Floodway
FZ - Farming	PUZ5 - Public Use - Cemetery/Crematorium	UGZ - Urban Growth
GRZ - General Residential	PUZ6 - Public Use - Local Government	
GWAZ - Green Wedge A	PUZ7 - Public Use - Other Public Use	
GWZ - Green Wedge		Urban Growth Boundary

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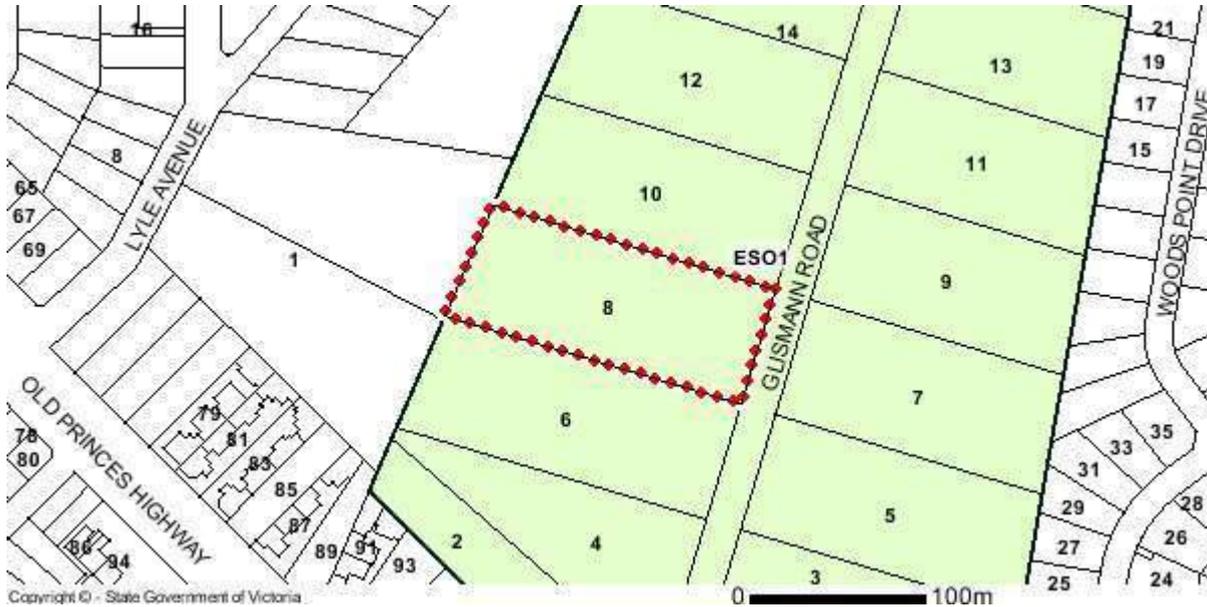
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Planning Overlay

[ENVIRONMENTAL SIGNIFICANCE OVERLAY \(ESO\)](#)

[ENVIRONMENTAL SIGNIFICANCE OVERLAY - SCHEDULE 1 \(ESO1\)](#)



Overlays Legend

Airport Environs	Environmental Significance	Public Acquisition
City Link Project	Floodway	Restructure
Development Contributions Plan	Heritage	Road Closure
Design & Development	Incorporated Plan	Special Building
Design & Development Part	Land Subject to Inundation & Floodway	Significant Landscape
Development Plan	Melbourne Airport Environs 1	Salinity Management
Environmental Audit	Melbourne Airport Environs 2	State Resource
	Neighbourhood Character	Vegetation Protection
		Bushfire Management - Wildfire Management

Note: due to overlaps some colours on the maps may not match those in the legend.

Further Planning Information

Planning scheme data last updated on 13 March 2014.

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Planning Property Report

from www.dtpli.vic.gov.au/planning on 14 March 2014 11:41 AM

Address: 9 GLISMANN ROAD BEACONSFIELD 3807

Lot and Plan Number: Lot 14 LP3783

Local Government (Council): CARDINIA **Council Property Number:** 1333950500

Directory Reference: Melway 212 A12

Planning Zone

RURAL LIVING ZONE - SCHEDULE 1 (RLZ1)

SCHEDULE TO THE RURAL LIVING ZONE - SCHEDULE 1



Note: labels for zones may appear outside the actual zone - please compare the labels with the legend.

Zones Legend

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Planning Overlay

[ENVIRONMENTAL SIGNIFICANCE OVERLAY \(ESO\)](#)

[ENVIRONMENTAL SIGNIFICANCE OVERLAY - SCHEDULE 1 \(ESO1\)](#)



Overlays Legend

Airport Environs	Environmental Significance	Public Acquisition
City Link Project	Floodway	Restructure
Development Contributions Plan	Heritage	Road Closure
Design & Development	Incorporated Plan	Special Building
Design & Development Part	Land Subject to Inundation & Floodway	Significant Landscape
Development Plan	Melbourne Airport Environs 1	Salinity Management
Environmental Audit	Melbourne Airport Environs 2	State Resource
	Neighbourhood Character	Vegetation Protection
		Bushfire Management - Wildfire Management

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Further Planning Information

Planning scheme data last updated on 13 March 2014.

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Planning Property Report

from www.dtpli.vic.gov.au/planning on 14 March 2014 11:36 AM

Address: 10 GLISMANN ROAD BEACONSFIELD 3807

Lot and Plan Number: Lot 24 LP3783

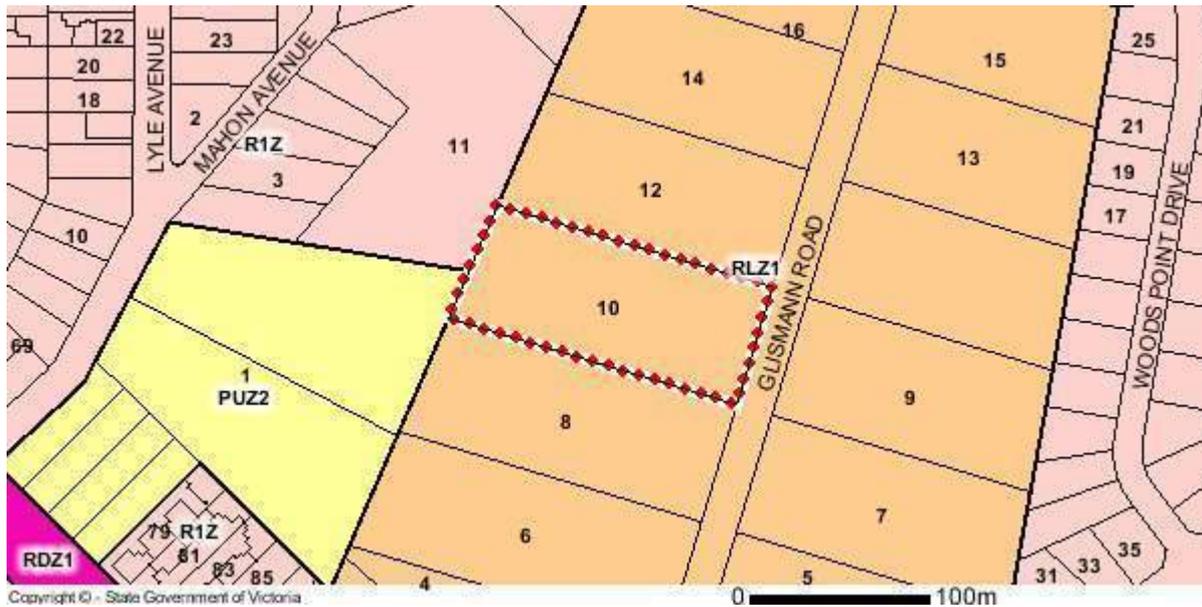
Local Government (Council): CARDINIA **Council Property Number:** 1333900500

Directory Reference: Melway 212 A12

Planning Zone

RURAL LIVING ZONE - SCHEDULE 1 (RLZ1)

SCHEDULE TO THE RURAL LIVING ZONE - SCHEDULE 1



Note: labels for zones may appear outside the actual zone - please compare the labels with the legend.

Zones Legend

	ACZ - Activity Centre		IN1Z - Industrial 1		R1Z - Residential 1
	B1Z - Commercial 1		IN2Z - Industrial 2		R2Z - Residential 2
	B2Z - Commercial 1		IN3Z - Industrial 3		R3Z - Residential 3
	B3Z - Commercial 2		LDRZ - Low Density Residential		RAZ - Rural Activity
	B4Z - Commercial 2		MUZ - Mixed Use		RCZ - Rural Conservation
	B5Z - Commercial 1		NRZ - Neighbourhood Residential		RDZ1 - Road - Category 1
	C1Z - Commercial 1		PCRZ - Public Conservation & Resource		RDZ2 - Road - Category 2
	C2Z - Commercial 2		PDZ - Priority Development		RGZ - Residential Growth
	CA - Commonwealth Land		PPRZ - Public Park & Recreation		RLZ - Rural Living
	CCZ - Capital City		PUZ1 - Public Use - Service & Utility		RUZ - Rural
	CDZ - Comprehensive Development		PUZ2 - Public Use - Education		SUZ - Special Use
	DZ - Dockland		PUZ3 - Public Use - Health Community		TZ - Township
	ERZ - Environmental Rural		PUZ4 - Public Use - Transport		UFZ - Urban Floodway
	FZ - Farming		PUZ5 - Public Use - Cemetery/Crematorium		UGZ - Urban Growth
	GRZ - General Residential		PUZ6 - Public Use - Local Government		-- Urban Growth Boundary
	GWAZ - Green Wedge A		PUZ7 - Public Use - Other Public Use		
	GWZ - Green Wedge				

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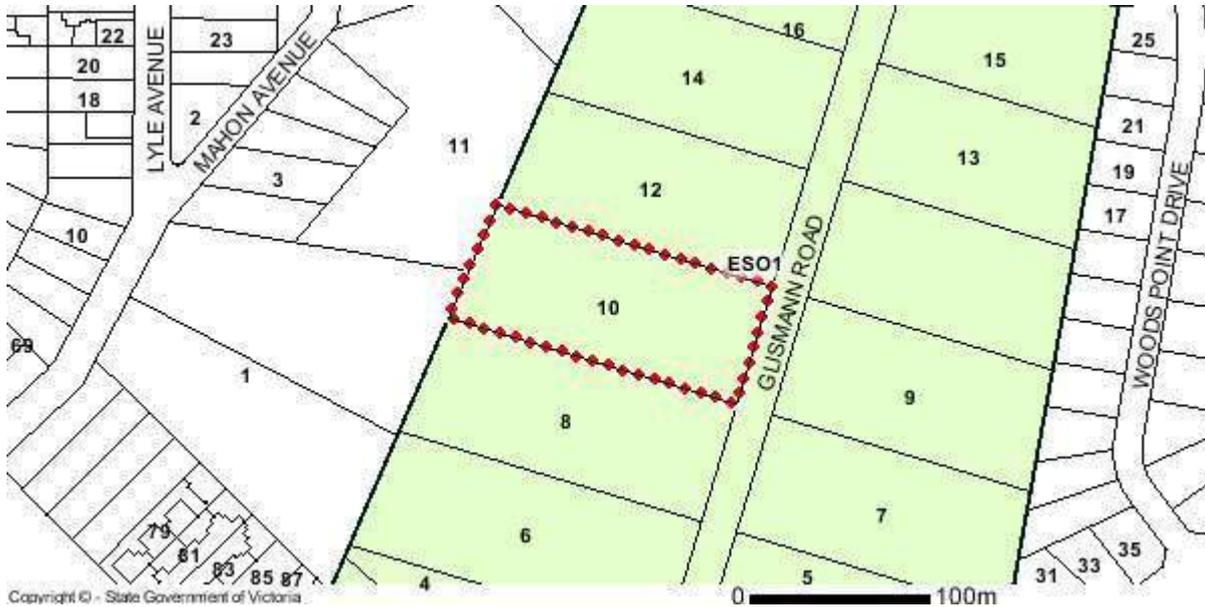
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Planning Overlay

[ENVIRONMENTAL SIGNIFICANCE OVERLAY \(ESO\)](#)

[ENVIRONMENTAL SIGNIFICANCE OVERLAY - SCHEDULE 1 \(ESO1\)](#)



Overlays Legend

Airport Environs	Environmental Significance	Public Acquisition
City Link Project	Floodway	Restructure
Development Contributions Plan	Heritage	Road Closure
Design & Development	Incorporated Plan	Special Building
Design & Development Part	Land Subject to Inundation & Floodway	Significant Landscape
Development Plan	Melbourne Airport Environs 1	Salinity Management
Environmental Audit	Melbourne Airport Environs 2	State Resource
	Neighbourhood Character	Vegetation Protection
		Bushfire Management - Wildfire Management

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Further Planning Information

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Planning Property Report

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Address: 11 GLISMANN ROAD BEACONSFIELD 3807

Lot and Plan Number: Lot 15 LP3783

Local Government (Council): CARDINIA **Council Property Number:** 1333950600

Directory Reference: Melway 212 A12

Planning Zone

RURAL LIVING ZONE - SCHEDULE 1 (RLZ1)

SCHEDULE TO THE RURAL LIVING ZONE - SCHEDULE 1



Note: labels for zones may appear outside the actual zone - please compare the labels with the legend.

Zones Legend

ACZ - Activity Centre	IN1Z - Industrial 1	R1Z - Residential 1
B1Z - Commercial 1	IN2Z - Industrial 2	R2Z - Residential 2
B2Z - Commercial 1	IN3Z - Industrial 3	R3Z - Residential 3
B3Z - Commercial 2	LDRZ - Low Density Residential	RAZ - Rural Activity
B4Z - Commercial 2	MUZ - Mixed Use	RCZ - Rural Conservation
B5Z - Commercial 1	NRZ - Neighbourhood Residential	RDZ1 - Road - Category 1
C1Z - Commercial 1	PCRZ - Public Conservation & Resource	RDZ2 - Road - Category 2
C2Z - Commercial 2	PDZ - Priority Development	RGZ - Residential Growth
CA - Commonwealth Land	PPRZ - Public Park & Recreation	RLZ - Rural Living
CCZ - Capital City	PUZ1 - Public Use - Service & Utility	RUZ - Rural
CDZ - Comprehensive Development	PUZ2 - Public Use - Education	SUZ - Special Use
DZ - Dockland	PUZ3 - Public Use - Health Community	TZ - Township
ERZ - Environmental Rural	PUZ4 - Public Use - Transport	UFZ - Urban Floodway
FZ - Farming	PUZ5 - Public Use - Cemetery/Crematorium	UGZ - Urban Growth
GRZ - General Residential	PUZ6 - Public Use - Local Government	
GWAZ - Green Wedge A	PUZ7 - Public Use - Other Public Use	
GWZ - Green Wedge		Urban Growth Boundary

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Planning Overlay

[ENVIRONMENTAL SIGNIFICANCE OVERLAY \(ESO\)](#)

[ENVIRONMENTAL SIGNIFICANCE OVERLAY - SCHEDULE 1 \(ESO1\)](#)



Overlays Legend

Airport Environs	Environmental Significance	Public Acquisition
City Link Project	Floodway	Restructure
Development Contributions Plan	Heritage	Road Closure
Design & Development	Incorporated Plan	Special Building
Design & Development Part	Land Subject to Inundation & Floodway	Significant Landscape
Development Plan	Melbourne Airport Environs 1	Salinity Management
Environmental Audit	Melbourne Airport Environs 2	State Resource
	Neighbourhood Character	Vegetation Protection
		Bushfire Management - Wildfire Management

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Further Planning Information

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Address: 12 GLISMANN ROAD BEACONSFIELD 3807

Lot and Plan Number: Lot 23 LP3783

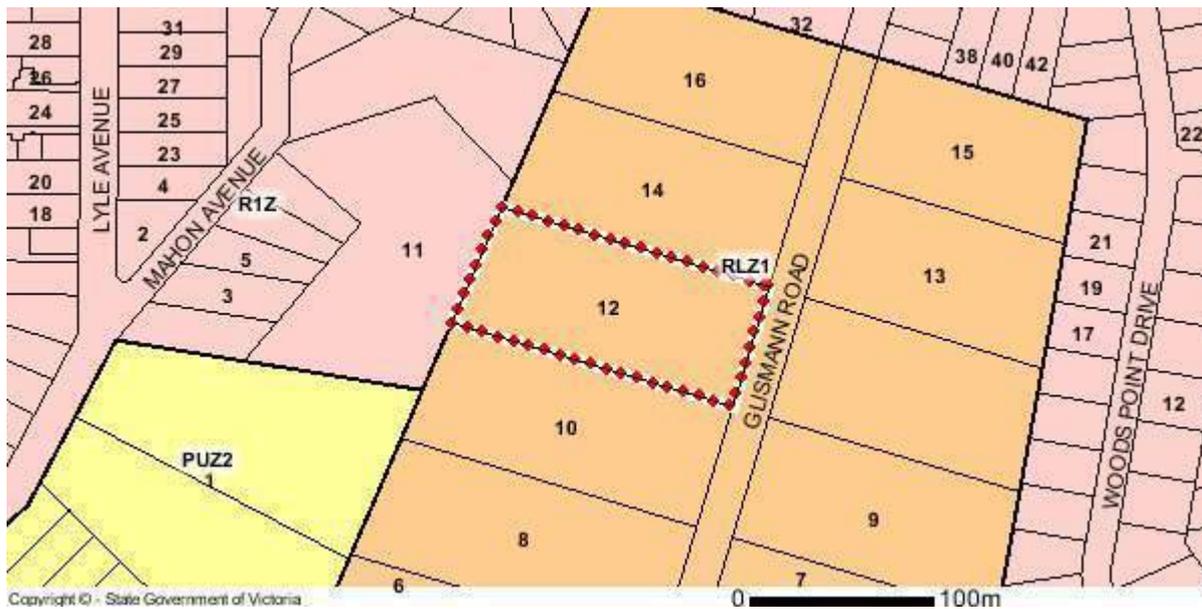
Local Government (Council): CARDINIA **Council Property Number:** 1333900600

Directory Reference: Melway 212 A12

Planning Zone

RURAL LIVING ZONE - SCHEDULE 1 (RLZ1)

SCHEDULE TO THE RURAL LIVING ZONE - SCHEDULE 1



Note: labels for zones may appear outside the actual zone - please compare the labels with the legend.

Zones Legend

	ACZ - Activity Centre		IN1Z - Industrial 1		R1Z - Residential 1
	B1Z - Commercial 1		IN2Z - Industrial 2		R2Z - Residential 2
	B2Z - Commercial 1		IN3Z - Industrial 3		R3Z - Residential 3
	B3Z - Commercial 2		LDRZ - Low Density Residential		RAZ - Rural Activity
	B4Z - Commercial 2		MUZ - Mixed Use		RCZ - Rural Conservation
	B5Z - Commercial 1		NRZ - Neighbourhood Residential		RDZ1 - Road - Category 1
	C1Z - Commercial 1		PCRZ - Public Conservation & Resource		RDZ2 - Road - Category 2
	C2Z - Commercial 2		PDZ - Priority Development		RGZ - Residential Growth
	CA - Commonwealth Land		PPRZ - Public Park & Recreation		RLZ - Rural Living
	CCZ - Capital City		PUZ1 - Public Use - Service & Utility		RUZ - Rural
	CDZ - Comprehensive Development		PUZ2 - Public Use - Education		SUZ - Special Use
	DZ - Dockland		PUZ3 - Public Use - Health Community		TZ - Township
	ERZ - Environmental Rural		PUZ4 - Public Use - Transport		UFZ - Urban Floodway
	FZ - Farming		PUZ5 - Public Use - Cemetery/Crematorium		UGZ - Urban Growth
	GRZ - General Residential		PUZ6 - Public Use - Local Government		-- Urban Growth Boundary
	GWAZ - Green Wedge A		PUZ7 - Public Use - Other Public Use		
	GWZ - Green Wedge				

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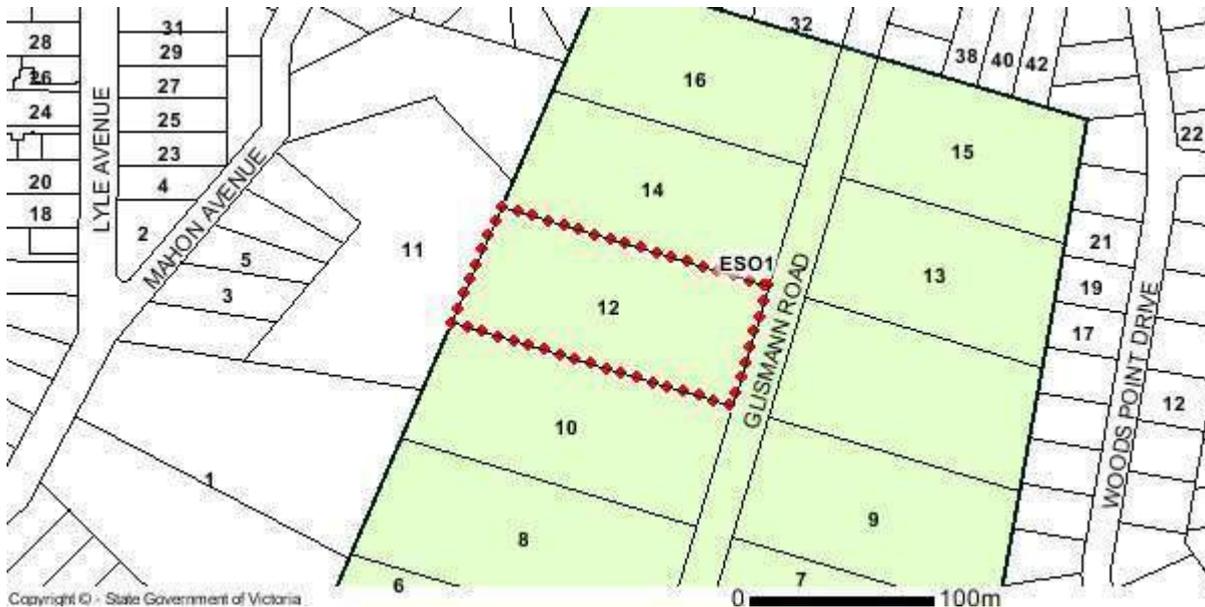
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Planning Overlay

[ENVIRONMENTAL SIGNIFICANCE OVERLAY \(ESO\)](#)

[ENVIRONMENTAL SIGNIFICANCE OVERLAY - SCHEDULE 1 \(ESO1\)](#)



Overlays Legend

Airport Environs	Environmental Significance	Public Acquisition
City Link Project	Floodway	Restructure
Development Contributions Plan	Heritage	Road Closure
Design & Development	Incorporated Plan	Special Building
Design & Development Part	Land Subject to Inundation & Floodway	Significant Landscape
Development Plan	Melbourne Airport Environs 1	Salinity Management
Environmental Audit	Melbourne Airport Environs 2	State Resource
	Neighbourhood Character	Vegetation Protection
		Bushfire Management - Wildfire Management

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Further Planning Information

Planning scheme data last updated on 13 March 2014.

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Address: 13 GLISMANN ROAD BEACONSFIELD 3807

Lot and Plan Number: Lot 16 LP3783

Local Government (Council): CARDINIA **Council Property Number:** 1333950700

Directory Reference: Melway 212 A12

Planning Zone

RURAL LIVING ZONE - SCHEDULE 1 (RLZ1)

SCHEDULE TO THE RURAL LIVING ZONE - SCHEDULE 1



Note: labels for zones may appear outside the actual zone - please compare the labels with the legend.

Zones Legend

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Planning Overlay

[ENVIRONMENTAL SIGNIFICANCE OVERLAY \(ESO\)](#)

[ENVIRONMENTAL SIGNIFICANCE OVERLAY - SCHEDULE 1 \(ESO1\)](#)



Overlays Legend

Airport Environs	Environmental Significance	Public Acquisition
City Link Project	Floodway	Restructure
Development Contributions Plan	Heritage	Road Closure
Design & Development	Incorporated Plan	Special Building
Design & Development Part	Land Subject to Inundation & Floodway	Significant Landscape
Development Plan	Melbourne Airport Environs 1	Salinity Management
Environmental Audit	Melbourne Airport Environs 2	State Resource
	Neighbourhood Character	Vegetation Protection
		Bushfire Management - Wildfire Management

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from www.dtpli.vic.gov.au/planning on 13 March 2014 03:06 PM

Address: 14 GLISMANN ROAD BEACONSFIELD 3807

Lot and Plan Number: Lot 22 LP3783

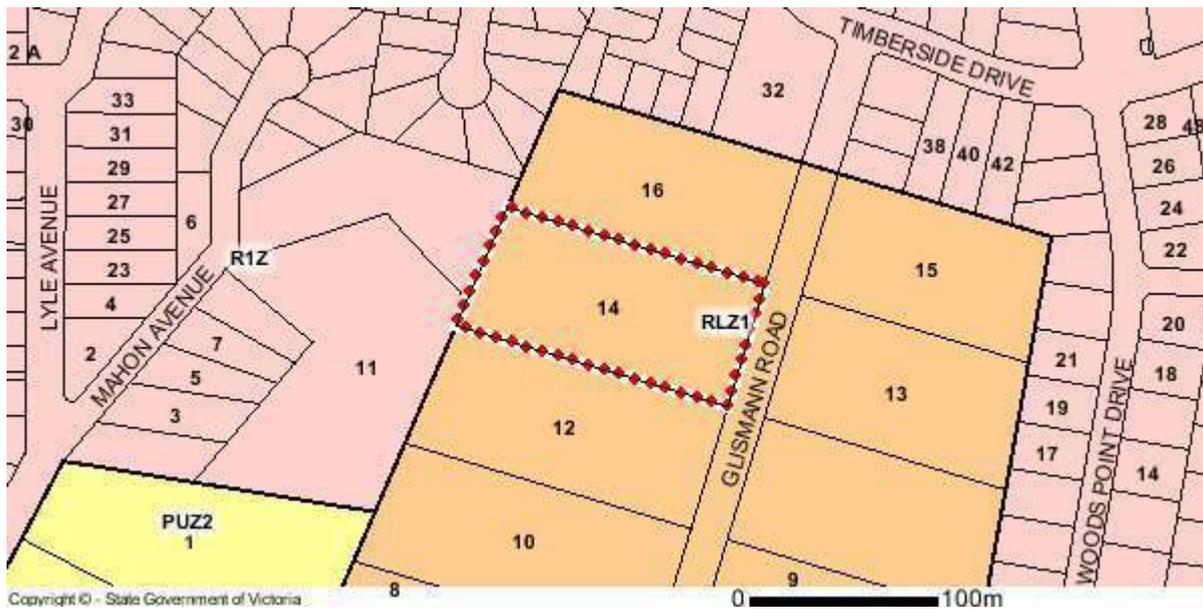
Local Government (Council): CARDINIA **Council Property Number:** 1333900700

Directory Reference: Melway 212 A12

Planning Zone

RURAL LIVING ZONE - SCHEDULE 1 (RLZ1)

SCHEDULE TO THE RURAL LIVING ZONE - SCHEDULE 1



Note: labels for zones may appear outside the actual zone - please compare the labels with the legend.

Zones Legend

ACZ - Activity Centre	IN1Z - Industrial 1	R1Z - Residential 1
B1Z - Commercial 1	IN2Z - Industrial 2	R2Z - Residential 2
B2Z - Commercial 1	IN3Z - Industrial 3	R3Z - Residential 3
B3Z - Commercial 2	LDRZ - Low Density Residential	RAZ - Rural Activity
B4Z - Commercial 2	MUZ - Mixed Use	RCZ - Rural Conservation
B5Z - Commercial 1	NRZ - Neighbourhood Residential	RDZ1 - Road - Category 1
C1Z - Commercial 1	PCRZ - Public Conservation & Resource	RDZ2 - Road - Category 2
C2Z - Commercial 2	PDZ - Priority Development	RGZ - Residential Growth
CA - Commonwealth Land	PPRZ - Public Park & Recreation	RLZ - Rural Living
CCZ - Capital City	PUZ1 - Public Use - Service & Utility	RUZ - Rural
CDZ - Comprehensive Development	PUZ2 - Public Use - Education	SUZ - Special Use
DZ - Dockland	PUZ3 - Public Use - Health Community	TZ - Township
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FZ - Farming	PUZ5 - Public Use - Cemetery/Crematorium	UGZ - Urban Growth
GRZ - General Residential	PUZ6 - Public Use - Local Government	
GWAZ - Green Wedge A	PUZ7 - Public Use - Other Public Use	
GWZ - Green Wedge		Urban Growth Boundary

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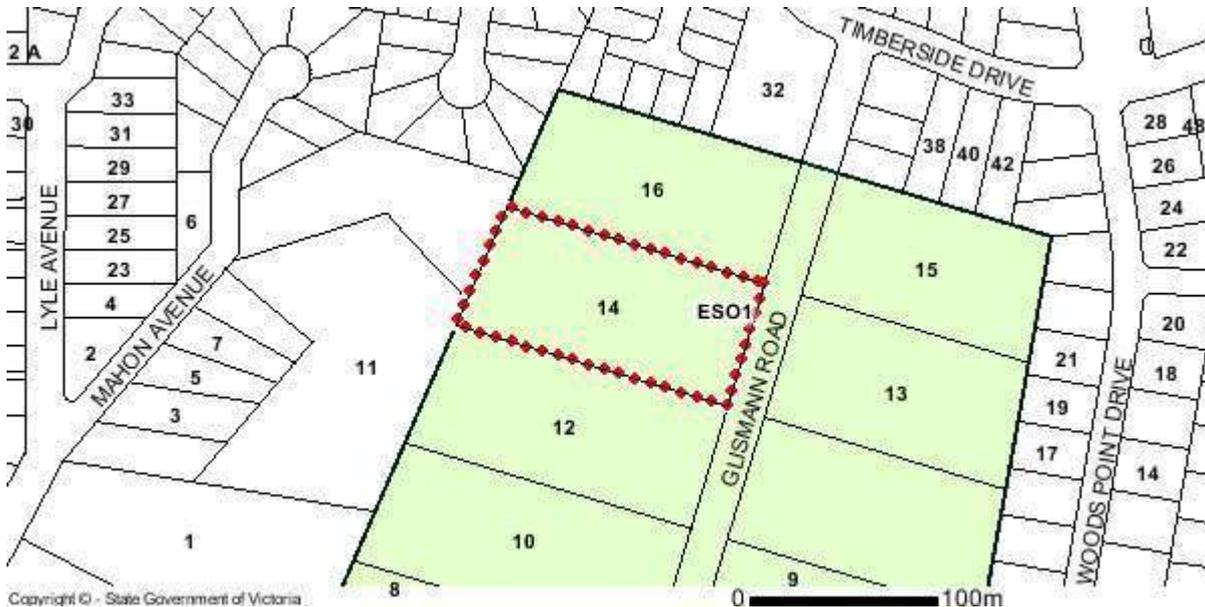
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Planning Overlay

[ENVIRONMENTAL SIGNIFICANCE OVERLAY \(ESO\)](#)

[ENVIRONMENTAL SIGNIFICANCE OVERLAY - SCHEDULE 1 \(ESO1\)](#)



Overlays Legend

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City Link Project	Floodway	Restructure
Development Contributions Plan	Heritage	Road Closure
Design & Development	Incorporated Plan	Special Building
Design & Development Part	Land Subject to Inundation & Floodway	Significant Landscape
Development Plan	Melbourne Airport Environs 1	Salinity Management
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	Neighbourhood Character	Vegetation Protection
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Planning Property Report

from www.dtpli.vic.gov.au/planning on 14 March 2014 11:40 AM

Address: 15 GLISMANN ROAD BEACONSFIELD 3807

Lot and Plan Number: Lot 17 LP3783

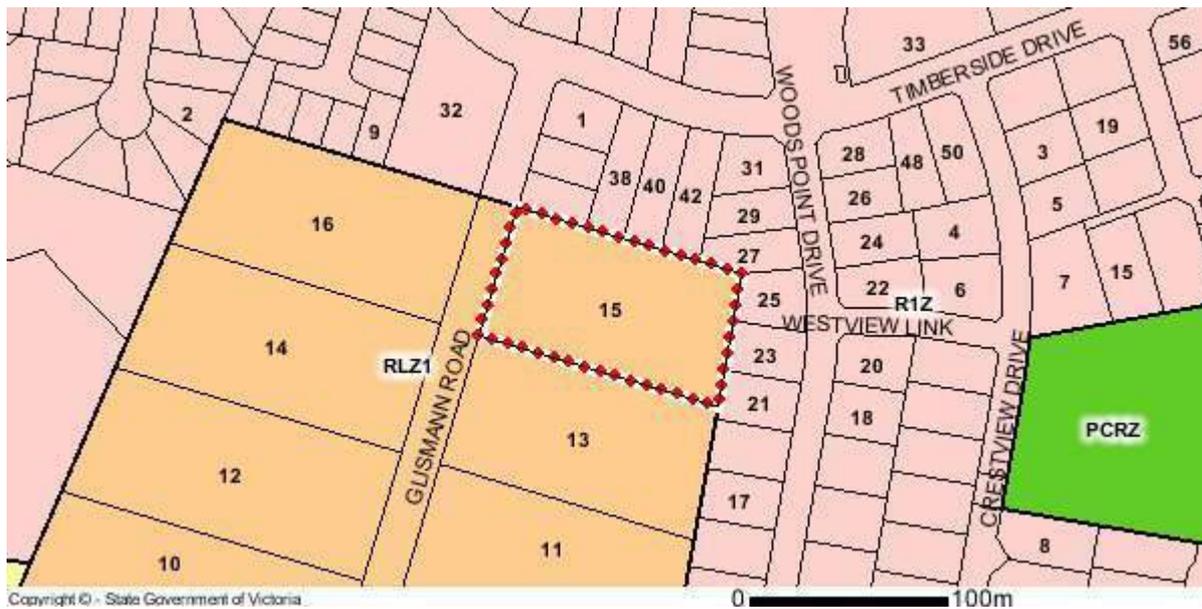
Local Government (Council): CARDINIA **Council Property Number:** 1333950800

Directory Reference: Melway 212 A12

Planning Zone

RURAL LIVING ZONE - SCHEDULE 1 (RLZ1)

SCHEDULE TO THE RURAL LIVING ZONE - SCHEDULE 1



Note: labels for zones may appear outside the actual zone - please compare the labels with the legend.

Zones Legend

ACZ - Activity Centre	IN1Z - Industrial 1	R1Z - Residential 1
B1Z - Commercial 1	IN2Z - Industrial 2	R2Z - Residential 2
B2Z - Commercial 1	IN3Z - Industrial 3	R3Z - Residential 3
B3Z - Commercial 2	LDRZ - Low Density Residential	RAZ - Rural Activity
B4Z - Commercial 2	MUZ - Mixed Use	RCZ - Rural Conservation
B5Z - Commercial 1	NRZ - Neighbourhood Residential	RDZ1 - Road - Category 1
C1Z - Commercial 1	PCRZ - Public Conservation & Resource	RDZ2 - Road - Category 2
C2Z - Commercial 2	PDZ - Priority Development	RGZ - Residential Growth
CA - Commonwealth Land	PPRZ - Public Park & Recreation	RLZ - Rural Living
CCZ - Capital City	PUZ1 - Public Use - Service & Utility	RUZ - Rural
CDZ - Comprehensive Development	PUZ2 - Public Use - Education	SUZ - Special Use
DZ - Dockland	PUZ3 - Public Use - Health Community	TZ - Township
ERZ - Environmental Rural	PUZ4 - Public Use - Transport	UFZ - Urban Floodway
FZ - Farming	PUZ5 - Public Use - Cemetery/Crematorium	UGZ - Urban Growth
GRZ - General Residential	PUZ6 - Public Use - Local Government	
GWAZ - Green Wedge A	PUZ7 - Public Use - Other Public Use	
GWZ - Green Wedge		Urban Growth Boundary

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Planning Overlay

[ENVIRONMENTAL SIGNIFICANCE OVERLAY \(ESO\)](#)

[ENVIRONMENTAL SIGNIFICANCE OVERLAY - SCHEDULE 1 \(ESO1\)](#)



Overlays Legend

Airport Environs	Environmental Significance	Public Acquisition
City Link Project	Floodway	Restructure
Development Contributions Plan	Heritage	Road Closure
Design & Development	Incorporated Plan	Special Building
Design & Development Part	Land Subject to Inundation & Floodway	Significant Landscape
Development Plan	Melbourne Airport Environs 1	Salinity Management
Environmental Audit	Melbourne Airport Environs 2	State Resource
	Neighbourhood Character	Vegetation Protection
		Bushfire Management - Wildfire Management

Note: due to overlaps some colours on the maps may not match those in the legend.

Further Planning Information

Planning scheme data last updated on 13 March 2014.

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Address: 16 GLISMANN ROAD BEACONSFIELD 3807

Lot and Plan Number: Lot 21 LP3783

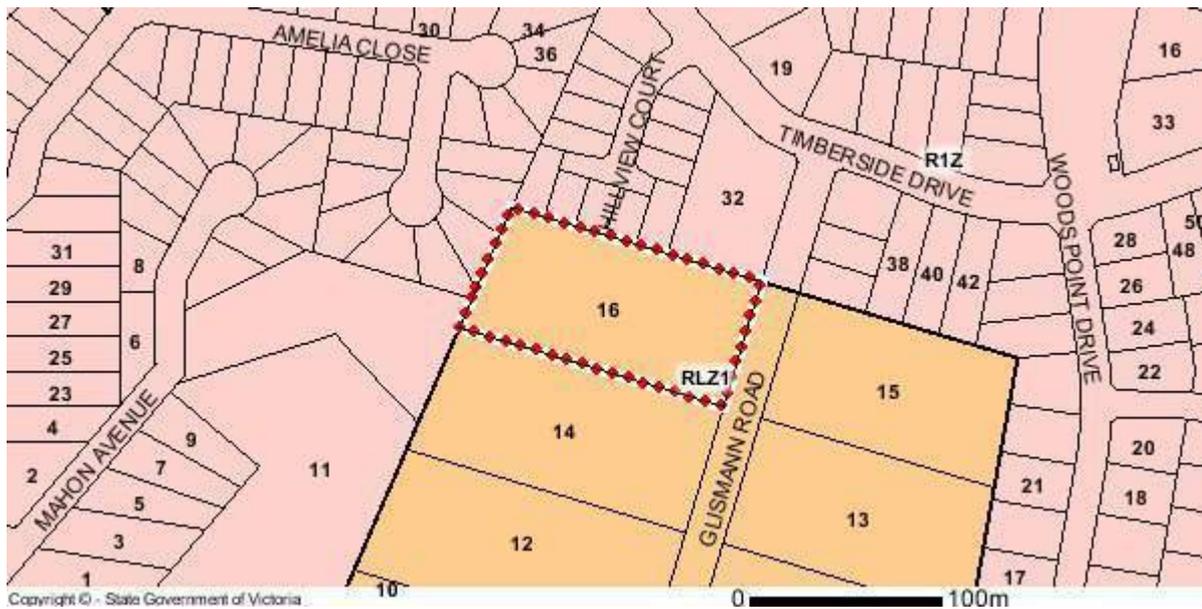
Local Government (Council): CARDINIA **Council Property Number:** 1333900800

Directory Reference: Melway 212 A12

Planning Zone

RURAL LIVING ZONE - SCHEDULE 1 (RLZ1)

SCHEDULE TO THE RURAL LIVING ZONE - SCHEDULE 1



Note: labels for zones may appear outside the actual zone - please compare the labels with the legend.

Zones Legend

ACZ - Activity Centre	IN1Z - Industrial 1	R1Z - Residential 1
B1Z - Commercial 1	IN2Z - Industrial 2	R2Z - Residential 2
B2Z - Commercial 1	IN3Z - Industrial 3	R3Z - Residential 3
B3Z - Commercial 2	LDRZ - Low Density Residential	RAZ - Rural Activity
B4Z - Commercial 2	MUZ - Mixed Use	RCZ - Rural Conservation
B5Z - Commercial 1	NRZ - Neighbourhood Residential	RDZ1 - Road - Category 1
C1Z - Commercial 1	PCRZ - Public Conservation & Resource	RDZ2 - Road - Category 2
C2Z - Commercial 2	PDZ - Priority Development	RGZ - Residential Growth
CA - Commonwealth Land	PPRZ - Public Park & Recreation	RLZ - Rural Living
CCZ - Capital City	PUZ1 - Public Use - Service & Utility	RUZ - Rural
CDZ - Comprehensive Development	PUZ2 - Public Use - Education	SUZ - Special Use
DZ - Dockland	PUZ3 - Public Use - Health Community	TZ - Township
ERZ - Environmental Rural	PUZ4 - Public Use - Transport	UFZ - Urban Floodway
FZ - Farming	PUZ5 - Public Use - Cemetery/Crematorium	UGZ - Urban Growth
GRZ - General Residential	PUZ6 - Public Use - Local Government	
GWAZ - Green Wedge A	PUZ7 - Public Use - Other Public Use	
GWZ - Green Wedge		Urban Growth Boundary

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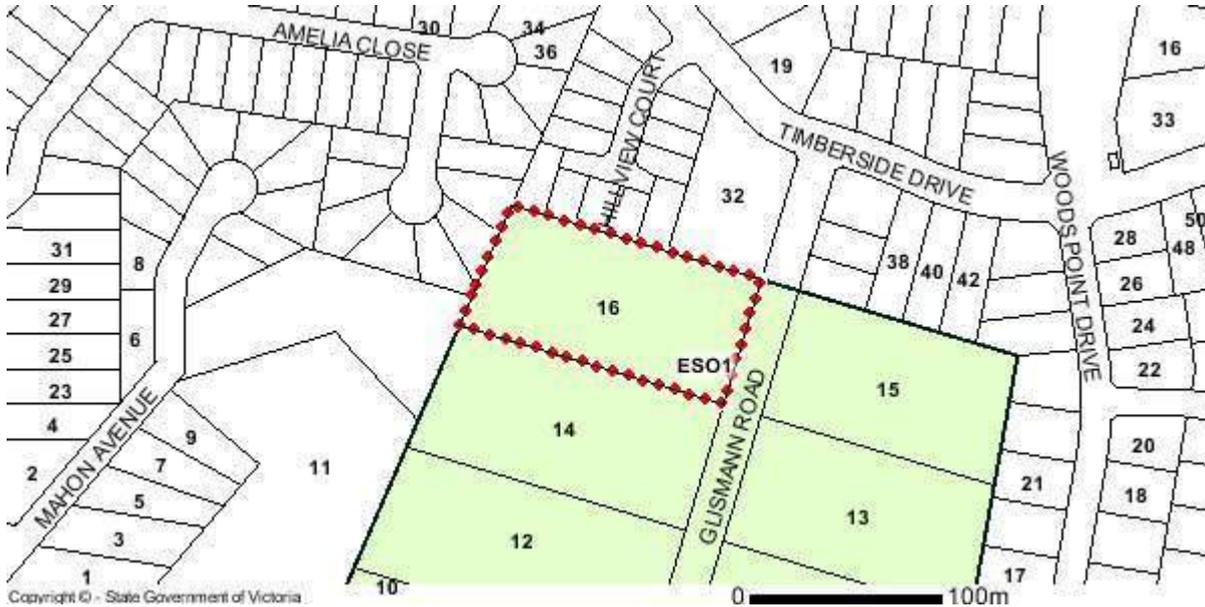
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Planning Overlay

[ENVIRONMENTAL SIGNIFICANCE OVERLAY \(ESO\)](#)

[ENVIRONMENTAL SIGNIFICANCE OVERLAY - SCHEDULE 1 \(ESO1\)](#)



Overlays Legend

Airport Environs	Environmental Significance	Public Acquisition
City Link Project	Floodway	Restructure
Development Contributions Plan	Heritage	Road Closure
Design & Development	Incorporated Plan	Special Building
Design & Development Part	Land Subject to Inundation & Floodway	Significant Landscape
Development Plan	Melbourne Airport Environs 1	Salinity Management
Environmental Audit	Melbourne Airport Environs 2	State Resource
	Neighbourhood Character	Vegetation Protection
		Bushfire Management - Wildfire Management

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Further Planning Information

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Address: 11 MAHON AVENUE BEACONSFIELD 3807

Lot and Plan Number: Lot 1 TP258025

This property has a total of 2 parcels.

For full parcel details get the free Basic Property report at [Property Reports](#)

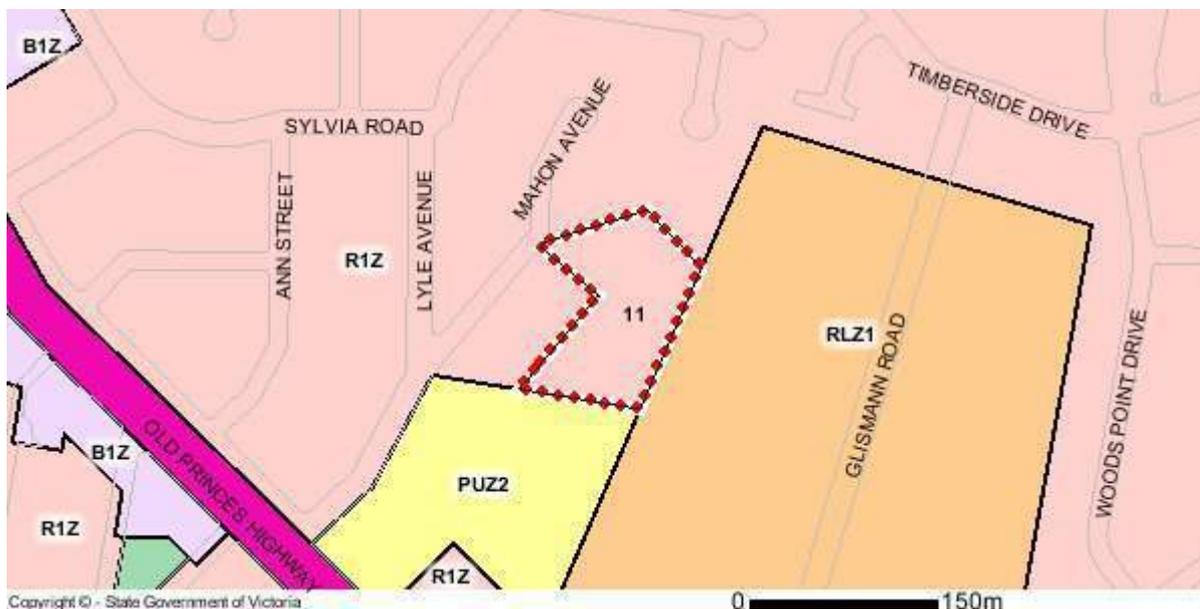
Local Government (Council): CARDINIA **Council Property Number:** 1509450550

Directory Reference: Melway 111 K12

Planning Zone

RESIDENTIAL 1 ZONE (R1Z)

SCHEDULE TO THE RESIDENTIAL 1 ZONE



Note: labels for zones may appear outside the actual zone - please compare the labels with the legend.

Zones Legend

ACZ - Activity Centre	IN1Z - Industrial 1	R1Z - Residential 1
B1Z - Commercial 1	IN2Z - Industrial 2	R2Z - Residential 2
B2Z - Commercial 1	IN3Z - Industrial 3	R3Z - Residential 3
B3Z - Commercial 2	LDRZ - Low Density Residential	RAZ - Rural Activity
B4Z - Commercial 2	MUZ - Mixed Use	RCZ - Rural Conservation
B5Z - Commercial 1	NRZ - Neighbourhood Residential	RDZ1 - Road - Category 1
C1Z - Commercial 1	PCRZ - Public Conservation & Resource	RDZ2 - Road - Category 2
C2Z - Commercial 2	PDZ - Priority Development	RGZ - Residential Growth
CA - Commonwealth Land	PPRZ - Public Park & Recreation	RLZ - Rural Living
CCZ - Capital City	PUZ1 - Public Use - Service & Utility	RUZ - Rural
CDZ - Comprehensive Development	PUZ2 - Public Use - Education	SUZ - Special Use
DZ - Dockland	PUZ3 - Public Use - Health Community	TZ - Township
ERZ - Environmental Rural	PUZ4 - Public Use - Transport	UFZ - Urban Floodway
FZ - Farming	PUZ5 - Public Use - Cemetery/Crematorium	UGZ - Urban Growth
GRZ - General Residential	PUZ6 - Public Use - Local Government	
GWAZ - Green Wedge A	PUZ7 - Public Use - Other Public Use	Urban Growth Boundary
GWZ - Green Wedge		

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Planning Overlay

None affecting this land - there are overlays in the vicinity

[ENVIRONMENTAL SIGNIFICANCE OVERLAY \(ESO\)](#)



Overlays Legend

Airport Environs	Erosion Management	Public Acquisition
City Link Project	Environmental Significance	Restructure
Development Contributions Plan	Floodway	Road Closure
Design & Development	Heritage	Special Building
Design & Development Part	Incorporated Plan	Significant Landscape
Development Plan	Land Subject to Inundation & Floodway	Salinity Management
Environmental Audit	Melbourne Airport Environs 1	State Resource
	Melbourne Airport Environs 2	Vegetation Protection
	Neighbourhood Character	Bushfire Management - Wildfire Management

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Further Planning Information

Planning scheme data last updated on 13 March 2014.

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Address: 13-15 MAHON AVENUE BEACONSFIELD 3807

Lot and Plan Number: Lot 1 LP46245

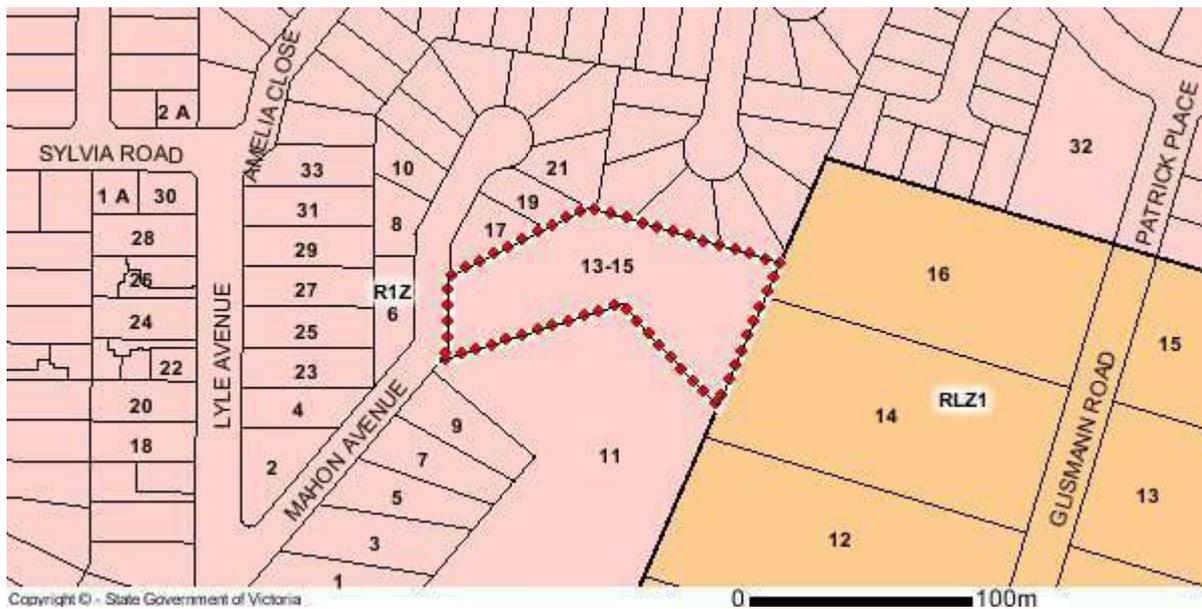
Local Government (Council): CARDINIA **Council Property Number:** 1509450600

Directory Reference: Melway 111 K12

Planning Zone

RESIDENTIAL 1 ZONE (R1Z)

SCHEDULE TO THE RESIDENTIAL 1 ZONE



Note: labels for zones may appear outside the actual zone - please compare the labels with the legend.

Zones Legend

ACZ - Activity Centre	IN1Z - Industrial 1	R1Z - Residential 1
B1Z - Commercial 1	IN2Z - Industrial 2	R2Z - Residential 2
B2Z - Commercial 1	IN3Z - Industrial 3	R3Z - Residential 3
B3Z - Commercial 2	LDRZ - Low Density Residential	RAZ - Rural Activity
B4Z - Commercial 2	MUZ - Mixed Use	RCZ - Rural Conservation
B5Z - Commercial 1	NRZ - Neighbourhood Residential	RDZ1 - Road - Category 1
C1Z - Commercial 1	PCRZ - Public Conservation & Resource	RDZ2 - Road - Category 2
C2Z - Commercial 2	PDZ - Priority Development	RGZ - Residential Growth
CA - Commonwealth Land	PPRZ - Public Park & Recreation	RLZ - Rural Living
CCZ - Capital City	PUZ1 - Public Use - Service & Utility	RUZ - Rural
CDZ - Comprehensive Development	PUZ2 - Public Use - Education	SUZ - Special Use
DZ - Dockland	PUZ3 - Public Use - Health Community	TZ - Township
ERZ - Environmental Rural	PUZ4 - Public Use - Transport	UFZ - Urban Floodway
FZ - Farming	PUZ5 - Public Use - Cemetery/Crematorium	UGZ - Urban Growth
GRZ - General Residential	PUZ6 - Public Use - Local Government	
GWAZ - Green Wedge A	PUZ7 - Public Use - Other Public Use	
GWZ - Green Wedge		Urban Growth Boundary

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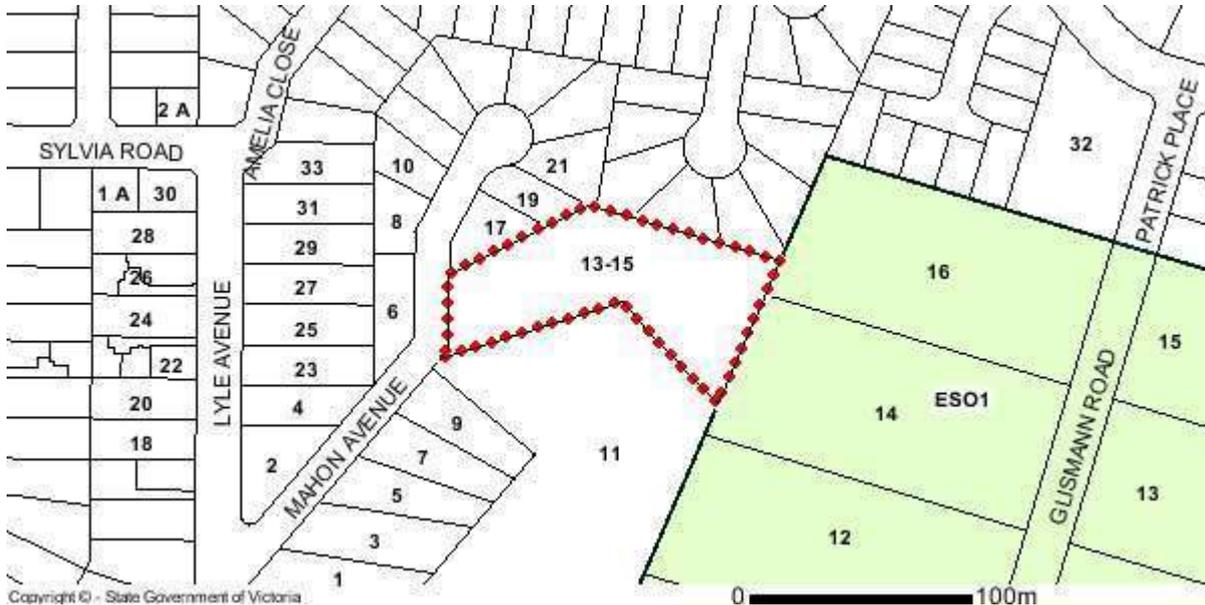
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Planning Overlay

None affecting this land - there are overlays in the vicinity

[ENVIRONMENTAL SIGNIFICANCE OVERLAY \(ESO\)](#)



Overlays Legend

Airport Environs	Environmental Significance	Public Acquisition
City Link Project	Floodway	Restructure
Development Contributions Plan	Heritage	Road Closure
Design & Development	Incorporated Plan	Special Building
Design & Development Part	Land Subject to Inundation & Floodway	Significant Landscape
Development Plan	Melbourne Airport Environs 1	Salinity Management
Environmental Audit	Melbourne Airport Environs 2	State Resource
	Neighbourhood Character	Vegetation Protection
		Bushfire Management - Wildfire Management

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Further Planning Information

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Planning Property Report

from www.dtpli.vic.gov.au/planning on 14 March 2014 11:45 AM

Address: 111-113 OLD PRINCES HIGHWAY BEACONSFIELD 3807

Lot and Plan Number: Lot 1 TP627007

Local Government (Council): CARDINIA **Council Property Number:** 1650705500

Directory Reference: Melway 131 K1

Planning Zone

RURAL LIVING ZONE - SCHEDULE 1 (RLZ1)

SCHEDULE TO THE RURAL LIVING ZONE - SCHEDULE 1



Note: labels for zones may appear outside the actual zone - please compare the labels with the legend.

Zones Legend

	ACZ - Activity Centre		IN1Z - Industrial 1		R1Z - Residential 1
	B1Z - Commercial 1		IN2Z - Industrial 2		R2Z - Residential 2
	B2Z - Commercial 1		IN3Z - Industrial 3		R3Z - Residential 3
	B3Z - Commercial 2		LDRZ - Low Density Residential		RAZ - Rural Activity
	B4Z - Commercial 2		MUZ - Mixed Use		RCZ - Rural Conservation
	B5Z - Commercial 1		NRZ - Neighbourhood Residential		RDZ1 - Road - Category 1
	C1Z - Commercial 1		PCRZ - Public Conservation & Resource		RDZ2 - Road - Category 2
	C2Z - Commercial 2		PDZ - Priority Development		RGZ - Residential Growth
	CA - Commonwealth Land		PPRZ - Public Park & Recreation		RLZ - Rural Living
	CCZ - Capital City		PUZ1 - Public Use - Service & Utility		RUZ - Rural
	CDZ - Comprehensive Development		PUZ2 - Public Use - Education		SUZ - Special Use
	DZ - Dockland		PUZ3 - Public Use - Health Community		TZ - Township
	ERZ - Environmental Rural		PUZ4 - Public Use - Transport		UFZ - Urban Floodway
	FZ - Farming		PUZ5 - Public Use - Cemetery/Crematorium		UGZ - Urban Growth
	GRZ - General Residential		PUZ6 - Public Use - Local Government		
	GWAZ - Green Wedge A		PUZ7 - Public Use - Other Public Use		
	GWZ - Green Wedge				Urban Growth Boundary

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Planning Overlay

[ENVIRONMENTAL SIGNIFICANCE OVERLAY \(ESO\)](#)

[ENVIRONMENTAL SIGNIFICANCE OVERLAY - SCHEDULE 1 \(ESO1\)](#)



Overlays Legend

Airport Environs	Environmental Significance	Public Acquisition
City Link Project	Floodway	Restructure
Development Contributions Plan	Heritage	Road Closure
Design & Development	Incorporated Plan	Special Building
Design & Development Part	Land Subject to Inundation & Floodway	Significant Landscape
Development Plan	Melbourne Airport Environs 1	Salinity Management
Environmental Audit	Melbourne Airport Environs 2	State Resource
	Neighbourhood Character	Vegetation Protection
		Bushfire Management - Wildfire Management

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Address: 115-117 OLD PRINCES HIGHWAY BEACONSFIELD 3807

Lot and Plan Number: Lot 1 TP579082

Local Government (Council): CARDINIA **Council Property Number:** 1650705600

Directory Reference: Melway 214 A1

Planning Zone

RURAL LIVING ZONE - SCHEDULE 1 (RLZ1)

SCHEDULE TO THE RURAL LIVING ZONE - SCHEDULE 1



Note: labels for zones may appear outside the actual zone - please compare the labels with the legend.

Zones Legend

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Planning Overlay

[ENVIRONMENTAL SIGNIFICANCE OVERLAY \(ESO\)](#)

[ENVIRONMENTAL SIGNIFICANCE OVERLAY - SCHEDULE 1 \(ESO1\)](#)



Overlays Legend

Airport Environs	Environmental Significance	Public Acquisition
City Link Project	Floodway	Restructure
Development Contributions Plan	Heritage	Road Closure
Design & Development	Incorporated Plan	Special Building
Design & Development Part	Land Subject to Inundation & Floodway	Significant Landscape
Development Plan	Melbourne Airport Environs 1	Salinity Management
Environmental Audit	Melbourne Airport Environs 2	State Resource
	Neighbourhood Character	Vegetation Protection
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Planning Property Report

from www.dtpli.vic.gov.au/planning on 14 March 2014 11:46 AM

Address: 119-121 OLD PRINCES HIGHWAY BEACONSFIELD 3807

Lot and Plan Number: Lot 8 LP3783

Local Government (Council): CARDINIA **Council Property Number:** 1650705700

Directory Reference: Melway 214 A1

Planning Zone

RURAL LIVING ZONE - SCHEDULE 1 (RLZ1)

SCHEDULE TO THE RURAL LIVING ZONE - SCHEDULE 1



Note: labels for zones may appear outside the actual zone - please compare the labels with the legend.

Zones Legend

ACZ - Activity Centre	IN1Z - Industrial 1	R1Z - Residential 1
B1Z - Commercial 1	IN2Z - Industrial 2	R2Z - Residential 2
B2Z - Commercial 1	IN3Z - Industrial 3	R3Z - Residential 3
B3Z - Commercial 2	LDRZ - Low Density Residential	RAZ - Rural Activity
B4Z - Commercial 2	MUZ - Mixed Use	RCZ - Rural Conservation
B5Z - Commercial 1	NRZ - Neighbourhood Residential	RDZ1 - Road - Category 1
C1Z - Commercial 1	PCRZ - Public Conservation & Resource	RDZ2 - Road - Category 2
C2Z - Commercial 2	PDZ - Priority Development	RGZ - Residential Growth
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CCZ - Capital City	PUZ1 - Public Use - Service & Utility	RUZ - Rural
CDZ - Comprehensive Development	PUZ2 - Public Use - Education	SUZ - Special Use
DZ - Dockland	PUZ3 - Public Use - Health Community	TZ - Township
ERZ - Environmental Rural	PUZ4 - Public Use - Transport	UFZ - Urban Floodway
FZ - Farming	PUZ5 - Public Use - Cemetery/Crematorium	UGZ - Urban Growth
GRZ - General Residential	PUZ6 - Public Use - Local Government	
GWAZ - Green Wedge A	PUZ7 - Public Use - Other Public Use	
GWZ - Green Wedge		Urban Growth Boundary

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Planning Overlay

ENVIRONMENTAL SIGNIFICANCE OVERLAY (ESO)

ENVIRONMENTAL SIGNIFICANCE OVERLAY - SCHEDULE 1 (ESO1)



OTHER OVERLAYS

Other overlays in the vicinity not directly affecting this land

DEVELOPMENT PLAN OVERLAY (DPO)

HERITAGE OVERLAY (HO)



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Planning Overlays Legend

Overlays Legend					
	Airport Environs		Erosion Management		Public Acquisition
	City Link Project		Environmental Significance		Restructure
	Development Contributions Plan		Floodway		Road Closure
	Design & Development		Heritage		Special Building
	Design & Development Part		Incorporated Plan		Significant Landscape
	Development Plan		Land Subject to Inundation & Floodway		Salinity Management
	Environmental Audit		Melbourne Airport Environs 1		State Resource
			Melbourne Airport Environs 2		Vegetation Protection
			Neighbourhood Character		Bushfire Management - Wildfire Management

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Planning Property Report

from www.dtpli.vic.gov.au/planning on 14 March 2014 11:46 AM

Address: 123-125 OLD PRINCES HIGHWAY BEACONSFIELD 3807

Lot and Plan Number: Lot 9 LP3783

Local Government (Council): CARDINIA **Council Property Number:** 1650705800

Directory Reference: Melway 214 A1

Planning Zone

RURAL LIVING ZONE - SCHEDULE 1 (RLZ1)

SCHEDULE TO THE RURAL LIVING ZONE - SCHEDULE 1



Note: labels for zones may appear outside the actual zone - please compare the labels with the legend.

Zones Legend

	ACZ - Activity Centre		IN1Z - Industrial 1		R1Z - Residential 1
	B1Z - Commercial 1		IN2Z - Industrial 2		R2Z - Residential 2
	B2Z - Commercial 1		IN3Z - Industrial 3		R3Z - Residential 3
	B3Z - Commercial 2		LDRZ - Low Density Residential		RAZ - Rural Activity
	B4Z - Commercial 2		MUZ - Mixed Use		RCZ - Rural Conservation
	B5Z - Commercial 1		NRZ - Neighbourhood Residential		RDZ1 - Road - Category 1
	C1Z - Commercial 1		PCRZ - Public Conservation & Resource		RDZ2 - Road - Category 2
	C2Z - Commercial 2		PDZ - Priority Development		RGZ - Residential Growth
	CA - Commonwealth Land		PPRZ - Public Park & Recreation		RLZ - Rural Living
	CCZ - Capital City		PUZ1 - Public Use - Service & Utility		RUZ - Rural
	CDZ - Comprehensive Development		PUZ2 - Public Use - Education		SUZ - Special Use
	DZ - Dockland		PUZ3 - Public Use - Health Community		TZ - Township
	ERZ - Environmental Rural		PUZ4 - Public Use - Transport		UFZ - Urban Floodway
	FZ - Farming		PUZ5 - Public Use - Cemetery/Crematorium		UGZ - Urban Growth
	GRZ - General Residential		PUZ6 - Public Use - Local Government		-- Urban Growth Boundary
	GWAZ - Green Wedge A		PUZ7 - Public Use - Other Public Use		
	GWZ - Green Wedge				

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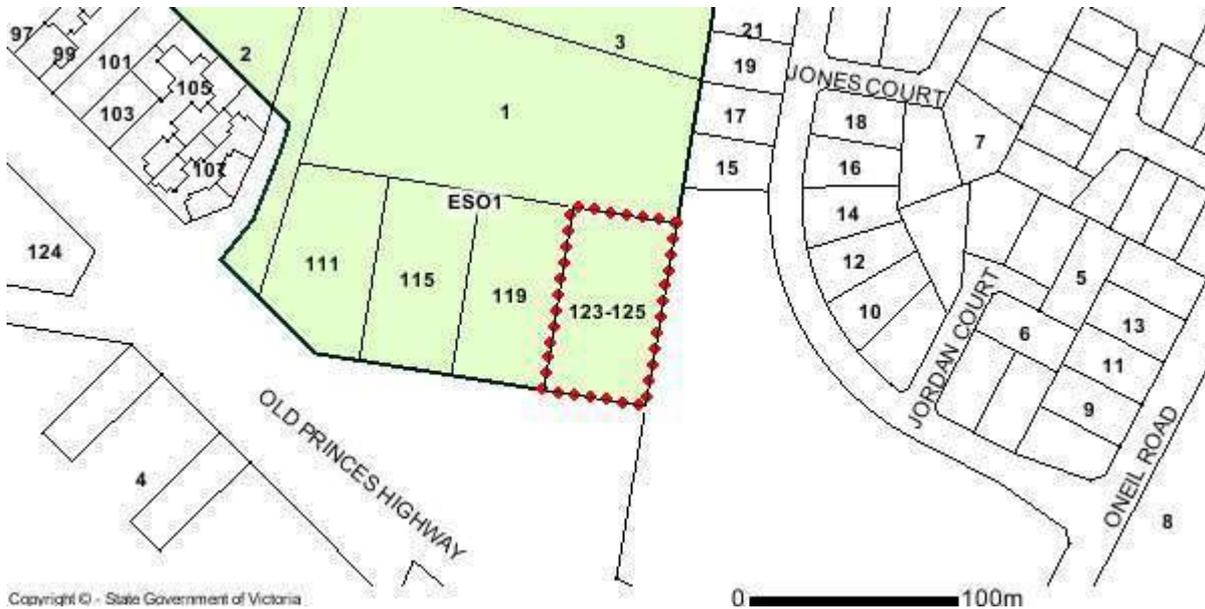
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Planning Overlay

ENVIRONMENTAL SIGNIFICANCE OVERLAY (ESO)

ENVIRONMENTAL SIGNIFICANCE OVERLAY - SCHEDULE 1 (ESO1)

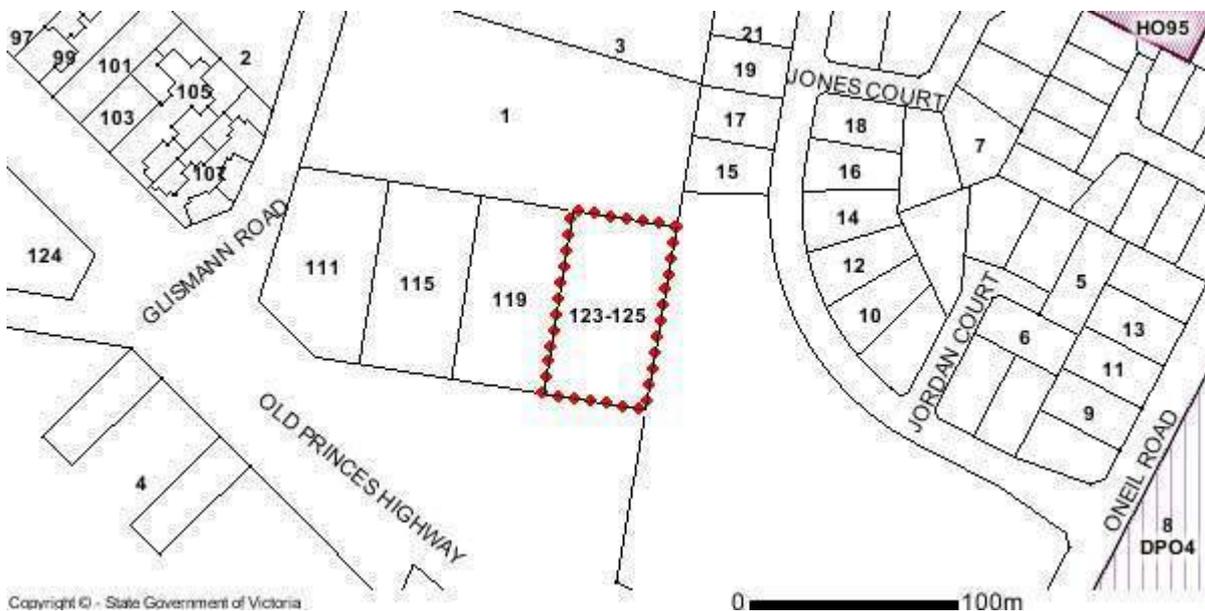


OTHER OVERLAYS

Other overlays in the vicinity not directly affecting this land

DEVELOPMENT PLAN OVERLAY (DPO)

HERITAGE OVERLAY (HO)



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Planning Overlays Legend

Overlays Legend					
	Airport Environs		Environmental Significance		Public Acquisition
	City Link Project		Floodway		Restructure
	Development Contributions Plan		Heritage		Road Closure
	Design & Development		Incorporated Plan		Special Building
	Design & Development Part		Land Subject to Inundation & Floodway		Significant Landscape
	Development Plan		Melbourne Airport Environs 1		Salinity Management
	Environmental Audit		Melbourne Airport Environs 2		State Resource
			Neighbourhood Character		Vegetation Protection
					Bushfire Management - Wildfire Management

Note: due to overlaps some colours on the maps may not match those in the legend.

Further Planning Information

Planning scheme data last updated on 13 March 2014.

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Current Land Titles

GRDP

**FOR CONFIDENTIALITY, TITLE INFORMATION
HAS BEEN OMITTED FROM THE CURRENT
VERSION OF THIS REPORT.**

APPENDIX C

GROUNDWATER INFORMATION

**Groundwater Bore Data
Within 2 km radius of Glismann Road**

DPI WATER MONITORING DATA
GROUNDWATER BORES WITHIN 2KM RADIUS OF GLISMANN RD DEVELOPMENT PROJECT

Bore ID	Type	Status	Latitude	Longitude	Location method	Easting	Northing	Zone	Distance to nominated point (m)	Area	Alias ID	Date commenced	Date completed	Use	Total depth (m)	Max diameter (mm)	Elevation top of casing (mAHD)	Elevation ground level (mAHD)	Date surveyed	Survey desc	Surveyor name	Screen top (m)	Screen bottom (m)	Artesian y/n
130951	DRILLED BORE	Used	-38.03877199	145.3797104	TRANSLATION	357813.2	5788644.1	55	1094	RWC=SOUTHERN RURAL WATER,GMU=NOT KNOWN (GMU),Parish=PAKENHAM	Victorian Water=B130951	6/30/1997	7/2/1997	STOCK,DOMESTIC	71		66.61	66.61	11/9/2011	DSELI	DSE-C/O SKM TATURA	47	71	N
301806	DRILLED BORE	Used	-38.05285434	145.355466	TRANSLATION	355713.2	5787044.1	55	1889	Parish=BERWICK	DITR=3213100080,Victorian Water=B301806	5/17/1974	5/17/1974	NON GROUNDWATER	1.22		84.46	84.46	11/9/2011	DSELI	DSE-C/O SKM TATURA			N
301807	DRILLED BORE	Used	-38.05270332	145.357521	TRANSLATION	355893.2	5787064.1	55	1712	Parish=BERWICK	DITR=3213100081,Victorian Water=B301807	5/17/1974	5/17/1974	NON GROUNDWATER	2.44		71.99	71.99	11/9/2011	DSELI	DSE-C/O SKM TATURA			N
301808	DRILLED BORE	Used	-38.05332326	145.3632059	TRANSLATION	356393.2	5787004.1	55	1273	Parish=BERWICK	DITR=3213100082,Victorian Water=B301808	5/17/1974	5/17/1974	NON GROUNDWATER	2.44		50.96	50.96	11/9/2011	DSELI	DSE-C/O SKM TATURA			N
301809	DRILLED BORE	Used	-38.0408712	145.3621157	TRANSLATION	356273.2	5788384.1	55	1480	Parish=BERWICK	DITR=3213100083,Victorian Water=B301809	5/24/1974	5/24/1974	NON GROUNDWATER	3.35		56.73	56.73	11/9/2011	DSELI	DSE-C/O SKM TATURA			N
301873	DRILLED BORE	Used	-38.05270432	145.357635	TRANSLATION	355903.2	5787064.1	55	1702	Parish=BERWICK	DITR=3213100159,Victorian Water=B301873	1/24/1975	1/24/1975	NON GROUNDWATER	7.32		71.19	71.19	11/9/2011	DSELI	DSE-C/O SKM TATURA			N
301874	DRILLED BORE	Used	-38.05304933	145.356488	TRANSLATION	355803.2	5787024.1	55	1810	Parish=BERWICK	DITR=3213100160,Victorian Water=B301874	1/24/1975	1/24/1975	NON GROUNDWATER	7.32		80.34	80.34	11/9/2011	DSELI	DSE-C/O SKM TATURA			N
87419	DRILLED BORE	Used	-38.03094201	145.3739583	TRANSLATION	357293.2	5789504.1	55	1932	RWC=SOUTHERN RURAL WATER,Parish=PAKENHAM	DITR=B87419	6/30/1972	6/30/1972	STOCK,DOMESTIC	4.87		55.47	55.47	11/9/2011	DSELI	DSE-C/O SKM TATURA	0.6	4.57	N
87433	DRILLED BORE	Used	-38.036308	145.3774974	TRANSLATION	357614.2	5788914.1	55	1329	RWC=SOUTHERN RURAL WATER,Parish=PAKENHAM	DITR=3336310023,Div=1350/065,Victorian Water=B87433	11/26/1977	11/26/1977	STOCK,DOMESTIC	28.23		74.79	74.79	11/9/2011	DSELI	DSE-C/O SKM TATURA	26	28	N
87437	DRILLED BORE	Used	-38.04376095	145.3860044	TRANSLATION	358375.2	5788100.1	55	991	RWC=SOUTHERN RURAL WATER,Parish=PAKENHAM	DITR=3336310027,Div=1350/062,Victorian Water=B87437	4/16/1980	4/18/1980	STOCK,DOMESTIC	31.5		79.18	79.18	11/9/2011	DSELI	DSE-C/O SKM TATURA	12	31.5	N
WRK046845	DRILLED BORE	Not Used	-38.04785733	145.3563734	NOT KNOWN	355783	5787600	55	1738	RWC=SOUTHERN RURAL WATER,Parish=BERWICK	Historic GMS ID=S9024014/1				40		53.87	53.87	11/9/2011	DSELI	DSE-C/O SKM TATURA			N
WRK047151	DRILLED BORE	Decommissioned	-38.04671635	145.3650256	NOT KNOWN	356540	5787740	55	993	RWC=SOUTHERN RURAL WATER,Parish=BERWICK	Historic GMS ID=S9035793/1,Victorian Water=B59035793/1	10/21/2008	10/22/2008	IRRIGATION	72	170	47.65	47.65	11/9/2011	DSELI	DSE-C/O SKM TATURA	66	72	N
WRK062713	DRILLED BORE	Used	-38.04698802	145.3978402	NOT KNOWN	359420	5787760	55	1901	RWC=SOUTHERN RURAL WATER,GMU=UNINCORPORATED (GMU)	Victorian Water=BWRK062713	8/29/2011	8/29/2011	OBSERVATION	5	125						2	5	N
WRK062717	DRILLED BORE	Used	-38.04697979	145.3978973	NOT KNOWN	359425	5787761	55	1906	RWC=SOUTHERN RURAL WATER,GMU=UNINCORPORATED (GMU)	Victorian Water=BWRK062717	8/29/2011	8/29/2011	OBSERVATION	5									N
WRK062718	DRILLED BORE	Used	-38.04698802	145.3978402	NOT KNOWN	359420	5787760	55	1901	RWC=SOUTHERN RURAL WATER,GMU=UNINCORPORATED (GMU)	Victorian Water=BWRK062718	8/29/2011	8/29/2011	OBSERVATION	5									N
WRK966914	DRILLED BORE	Used	-38.05679623	145.3673799	TRANSLATION	356766.2	5786625.1	55	1229	RWC=SOUTHERN RURAL WATER,Parish=BERWICK	Historic GMS ID=S9020758/1,Victorian Water=B59020758/1	2/23/2005	2/24/2005	DOMESTIC AND STOCK	105	177	48.79	48.79	11/9/2011	DSELI	DSE-C/O SKM TATURA			N
WRK970805	DRILLED BORE	Used	-38.05119805	145.3730176	NOT KNOWN	357250	5787255	55	434	RWC=SOUTHERN RURAL WATER,Parish=PAKENHAM	Historic GMS ID=S9023151/1,Victorian Water=B59023151/1	7/25/2005	7/25/2005	DOMESTIC AND STOCK	7	120	50.27	50.27	11/9/2011	DSELI	DSE-C/O SKM TATURA	4	7	N

**Groundwater Resource Report
Glismann Road**

Groundwater Resource Report

Groundwater catchment : Westernport

Easting: 2532991 Northing: 2383504 Depth to Water Table: 5 - 10m

Groundwater Layers (Aquifers and Aquitards)	Depth Below Surface (m)	Groundwater Salinity (mg/L)	Groundwater Management Unit (GMU)	(GMU) Depth Below Surface (m)	PCV (ML/yr)
QA Quaternary Aquifer sand, gravels, clay, silts	0	1001-3500	Unincorporated Area		
BSE Mesozoic and Palaeozoic Bedrock (basement) sedimentary (fractured rock): Sandstone, siltstone, mudstone, shale. Igneous (fractured rock): includes volcanics, granites, granodiorites.	7 207	Unknown	Unincorporated Area		

For further information about this report contact:

Department of Environment and Primary Industries
Email: ground.water@dse.vic.gov.au

For further information on groundwater licensing in this area contact:

Southern Rural Water Corporation
Phone: 1300 139 510
Email: srw@srw.com.au
Website: www.srw.com.au

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August 2012

How to read this report

Introduction

Groundwater is part of the water cycle. When rain or snow falls on land, some of it evaporates, some flows to streams and rivers, and some seeps into the soil. Some of the water in the soil is used by plants but some continues to move down through the soil and rock until all the pores and cracks are full of water. This is known as the water table and this water is called groundwater.

Groundwater is a finite resource that, like surface water, is allocated under the *Water Act (1989)*. A Bore Construction Licence is required to drill for groundwater including for domestic and stock purposes. Taking and using groundwater for commercial or irrigation purposes requires an additional licence.

Purpose of this report

This report has been prepared to provide potential groundwater users with basic information about groundwater beneath their property. This includes the different geological layers, the depths of the layers and the salinity of groundwater in the layers. Information on the groundwater management units (GMU) and any associated caps on the volume that can be licensed (the PCV) are also provided.

Definitions and context

Term	Description
Groundwater Catchment	An identified area of the State within which groundwater resources are connected.
Easting / Northing	The coordinates of the spot that was selected on the interactive map.
Groundwater Salinity	Indicates the possible concentration of salts within the groundwater. The salt content indicates the possible uses of the water (see the Beneficial Use Table below). Fertilisers and other contaminants can also enter groundwater and affect its use. It is up to you to make sure that the groundwater you use is suitable for your purpose.
Aquifer	An aquifer is a layer of soil or rock which stores usable volumes of groundwater. Aquifers are generally limestones, gravels and sands, as well as some fractured rocks where the cracks in the rock are open and connected (some basalts, sandstones and limestones). How much water can be pumped from an aquifer depends on how much water is stored in pores and cracks, how well connected the pores and cracks are, and how thick the layer is. It is more likely that volumes of water for irrigation and urban water supply will come from gravels, sands, limestones and basalts that are at least 30 metres thick. Low volumes of water for domestic and stock use are likely from any aquifer greater than 10 metres thick. The advice above is a guide only, as the amount of water available can be highly variable. Actual pumping volumes can only be determined from drilling, appropriate construction and testing of a bore.
Aquitard	An aquitard is a layer of rock or soil that does not allow water to move through it easily, limiting its capacity to supply water. Aquitards are generally silts, clays and fractured rocks (where there are few cracks in the rock or the cracks are poorly connected).
Groundwater Management Unit (GMU)	A collective term for groundwater management areas (GMAs) and water supply protection areas (WSPAs). GMAs and WSPAs are defined areas and depths below the surface where rules for groundwater use may apply. WSPAs often have caps on groundwater use and plans describing how the resource is managed. GMAs usually have caps on groundwater use and may have local plans and rules. All other areas are managed directly through the Water Act (1989). Always check with your local Rural Water Corporation to be sure that the information on the GMU is correct for your specific location.
Permissible Consumptive Volume (PCV)	A cap that is set under the Water Act (1989) declaring the total volume of groundwater that may be taken from the area. Once the PCV is reached, no additional extraction can be licensed for use within the area unless traded from another groundwater licence holder.
Depth to Water Table	This is an indication of the depth at which groundwater might first be encountered when drilling a bore. The depth can vary from year to year, and from place to place and may vary significantly from that indicated in this report.

Beneficial use table

Salinity Range (mg/L TDS)	Beneficial Use as described by State Environment Protection Policy (Groundwaters of Victoria) s160							
	Potable Water - Preferred	Potable Water - Acceptable	Potable Mineral Water	Irrigation	Stock Water	Industry	Ecosystem Protection	Buildings and Structures
<500	✓	✓	✓	✓	✓	✓	✓	✓
501-1000		✓	✓	✓	✓	✓	✓	✓
1001-3500			✓	✓	✓	✓	✓	✓
3501-13000					✓	✓	✓	✓
13001+						✓	✓	✓

Accessibility

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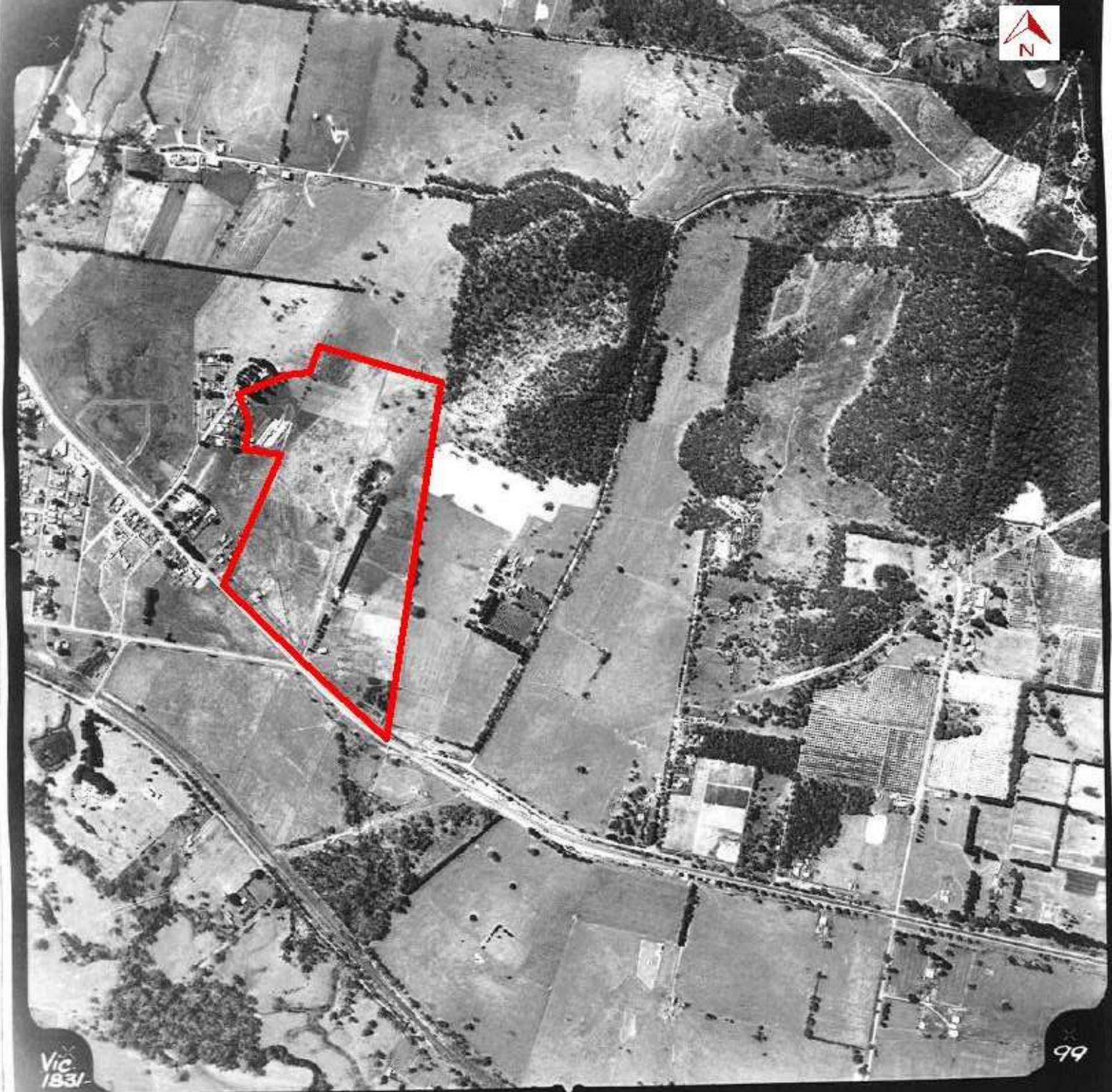
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APPENDIX D

**HISTORICAL AERIAL PHOTOGRAPHS &
MAPS**

**Historical Aerial Photography
Glismann Road**



Vic
1831

99

MELBOURNE 1963 PROJECT RUN 29A 27-2-64 LENS 205 152-70 M/M 5.150 ↑

Indicative Study Area Boundary

1963



Indicative Study Area Boundary

1972



VIC
2568

DEPARTMENT OF CROWN LANDS
AND SURVEY, VICTORIA.

MELBOURNE 1972 PROJECT

RUN 52 E

14.1.72
5.050' ASL

89



Indicative Study Area Boundary

1972



146

DEPARTMENT OF CROWN LANDS
MELBOURNE
PROJECT
RUN 46
17-1-1976 LENS 441

Indicative Study Area Boundary

1976



3855- 21



HALLAM-N'N'GOON 1748 RUN 2



5,200' ASL DLS VIC © 12- 3-84

Indicative Study Area Boundary

1984



MELBOURNE
AND ENVIRONS

GAS 2507c
14.11.86

RUN 21
5713-5746

7,750' FT
1:15,500



Qascope
© Qascope Ltd

5729

UAG 1008 15212

5729

1986



UAG 1008 15212

5729

5729

1986

MELBOURNE
AND ENVIRONS



GAS 2507c
14.11.86

RUN 21
5713-5746

7,750' FT
1:15,500



Qascope
© Qascope Ltd

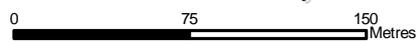


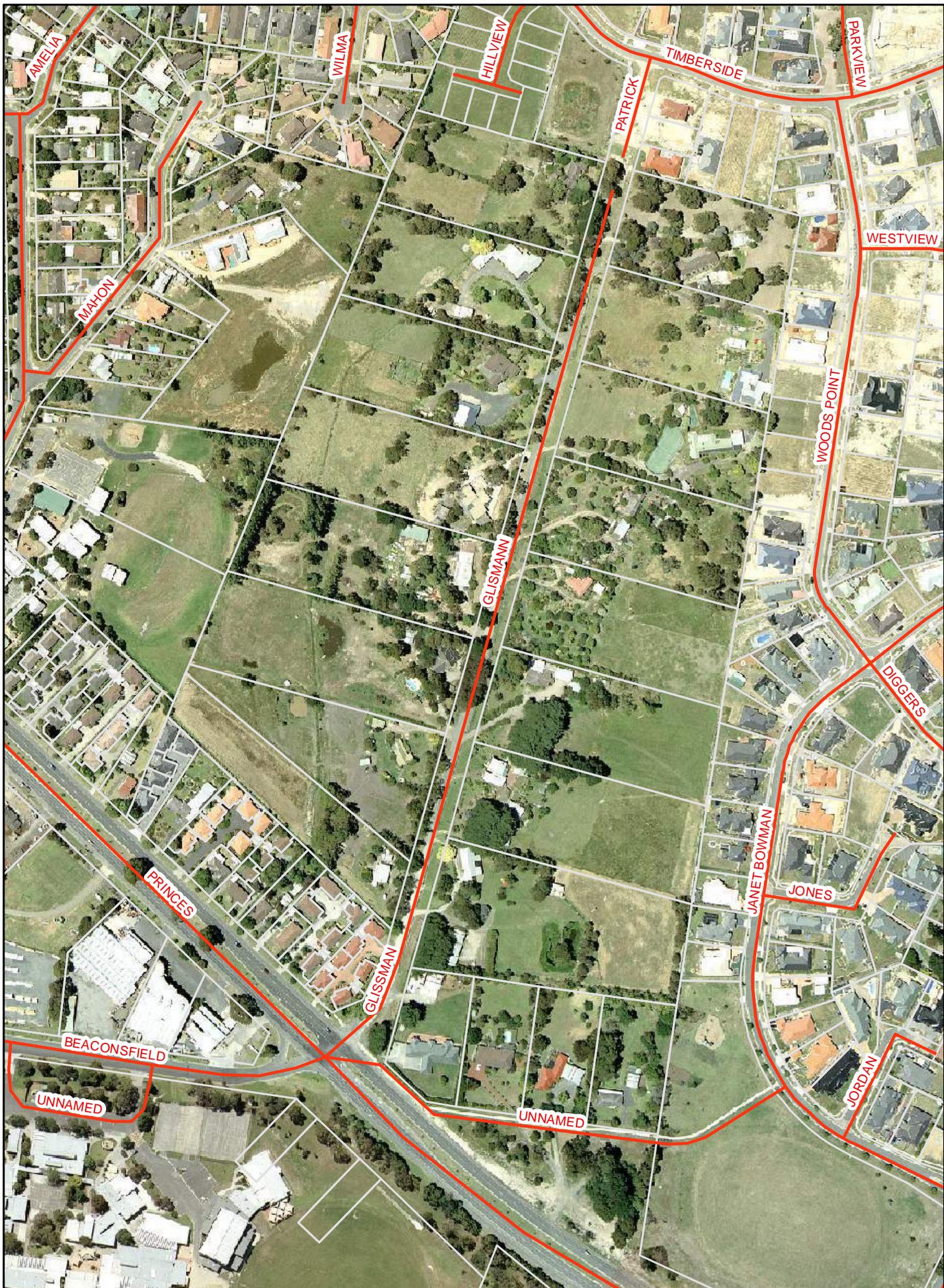
Glissmann Road Study Area 2002



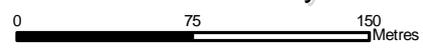


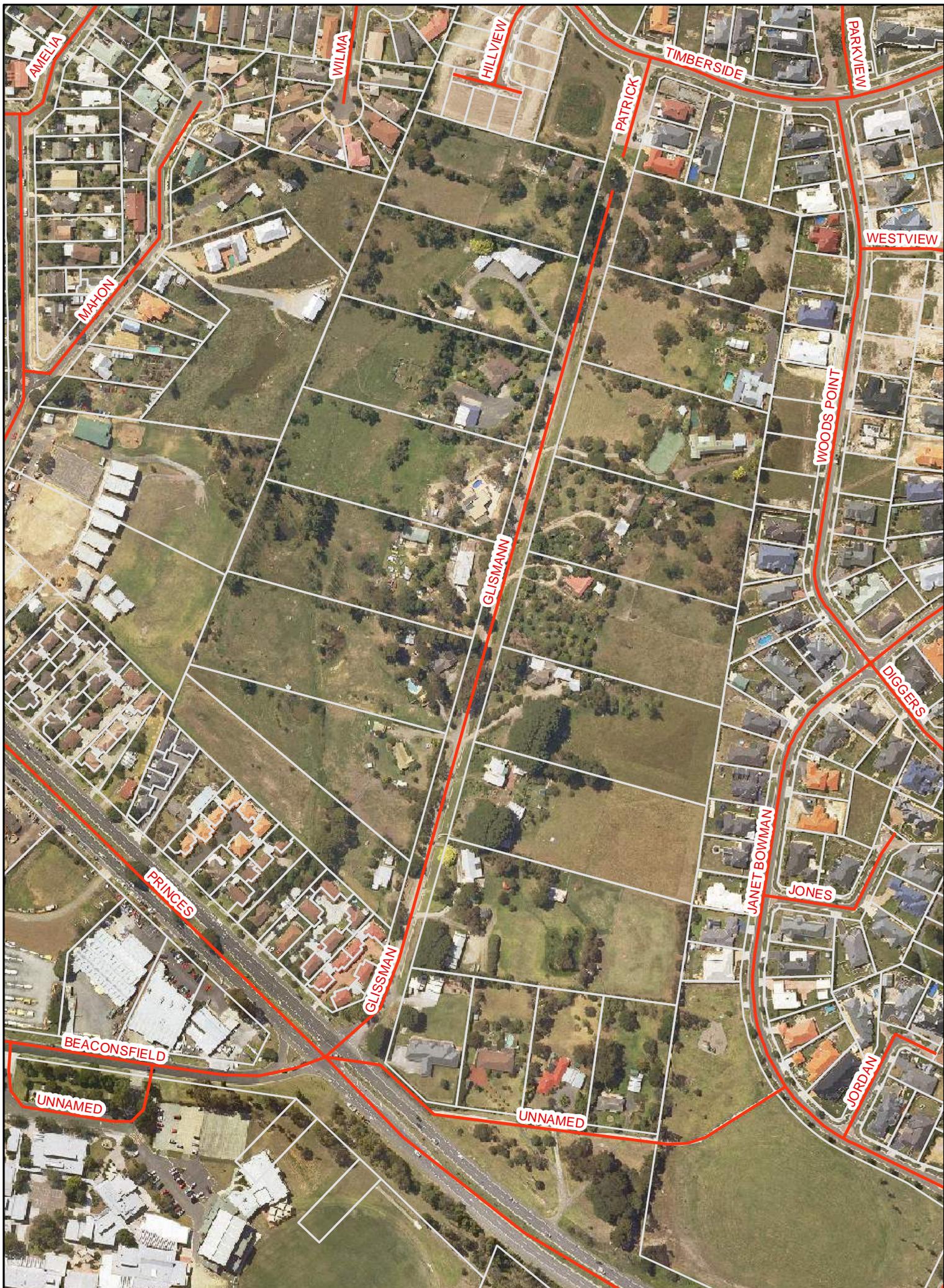
Glismann Road Study Area 2004





Glissmann Road Study Area 2005





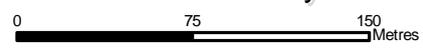
Glissmann Road Study Area 2006

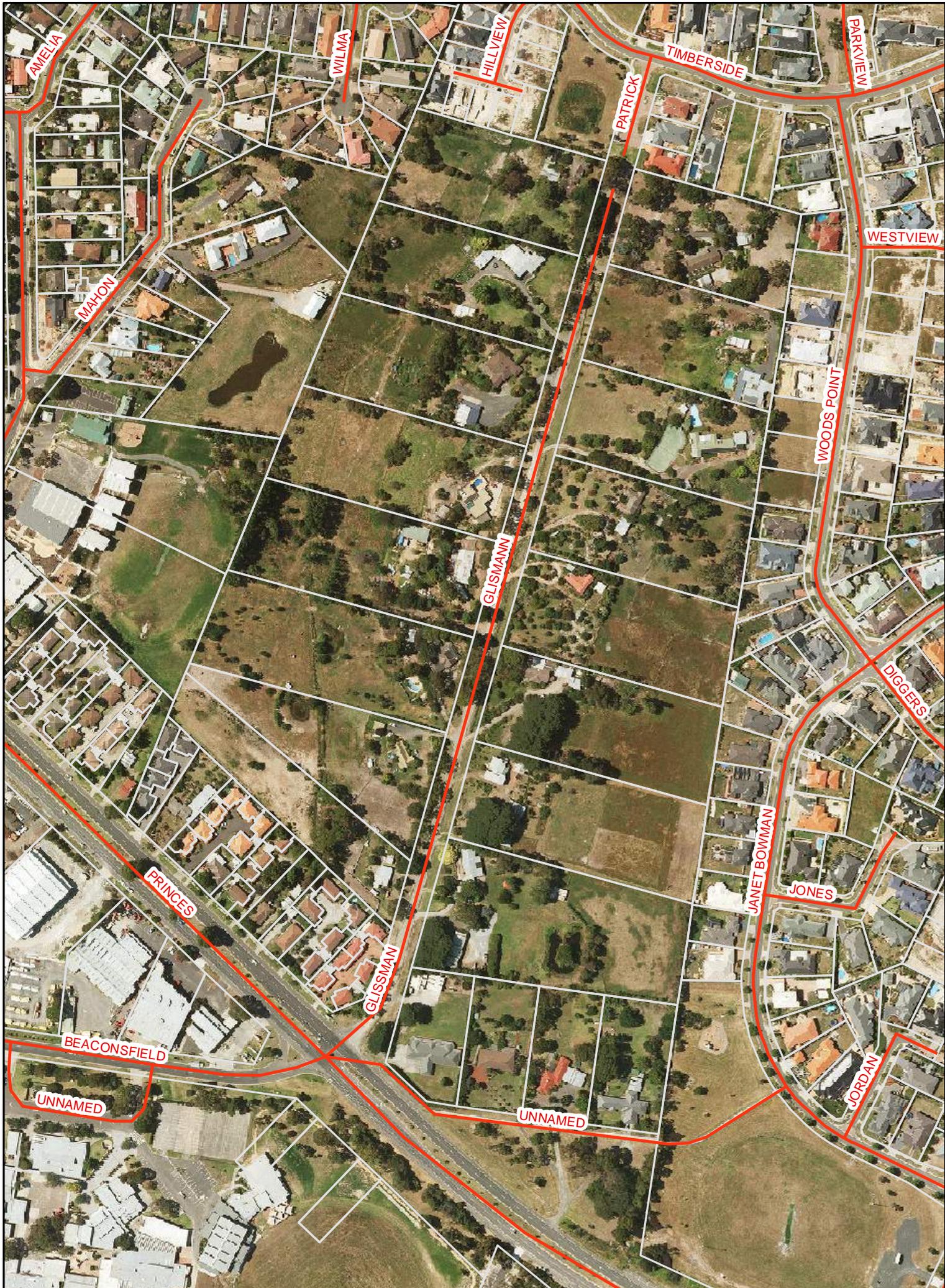
0 75 150 Metres





Glissmann Road Study Area 2007

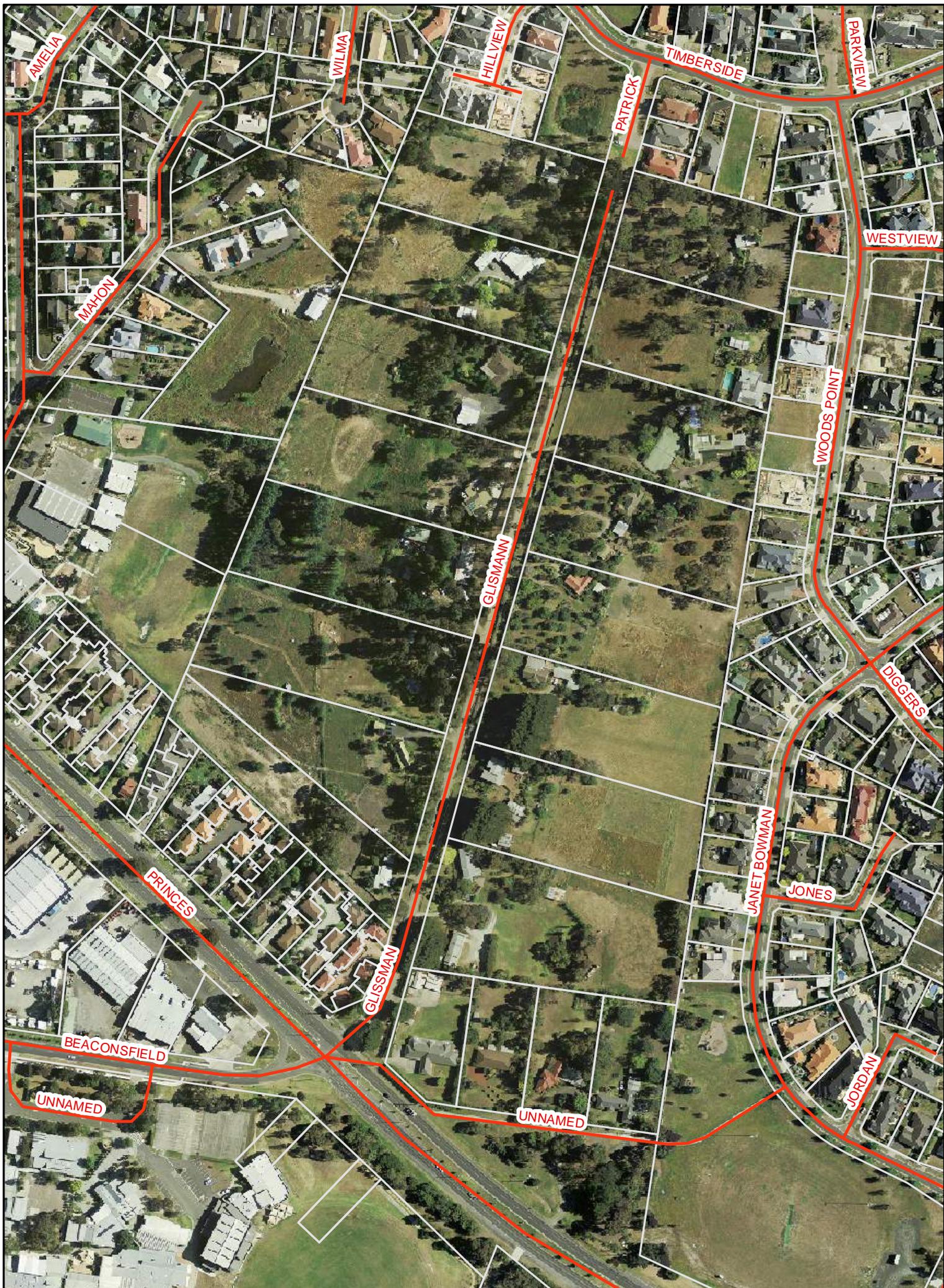




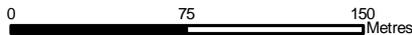
Glissmann Road Study Area 2008

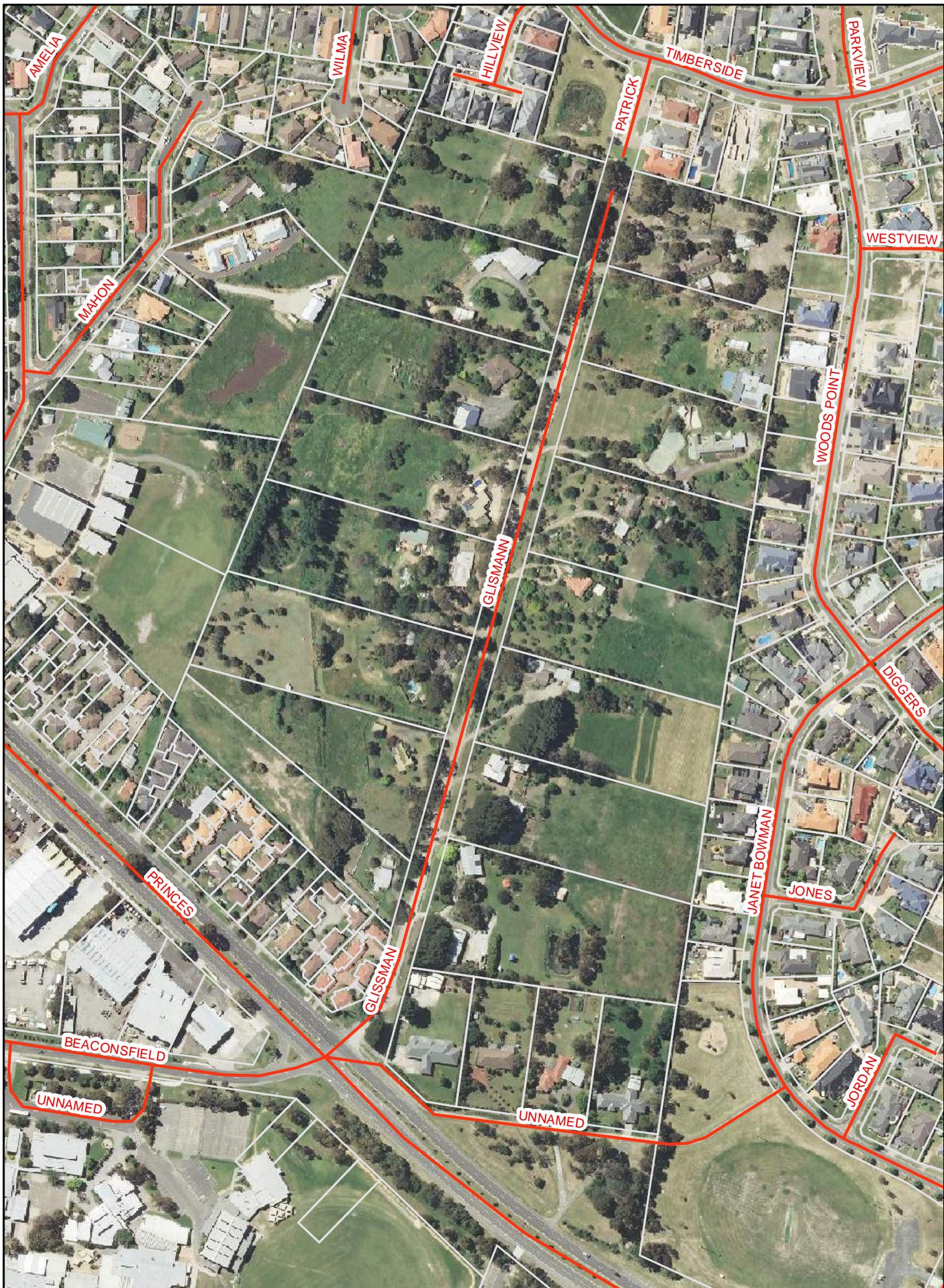
0 75 150 Metres



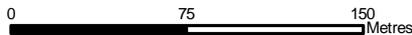


Glissmann Road Study Area 2009





Glissmann Road Study Area 2010



MMBW Beaconsfield Township Plan - 1880

PLAN
OF THE
TOWNSHIP
OF
BEACONSFIELD,
OR
EAST BERWICK.

*Being Subdivision of the Panty Gurn Gurn Estate, Crown
Portion, I A, Parish of Pakenham.*

THE PROPERTY OF

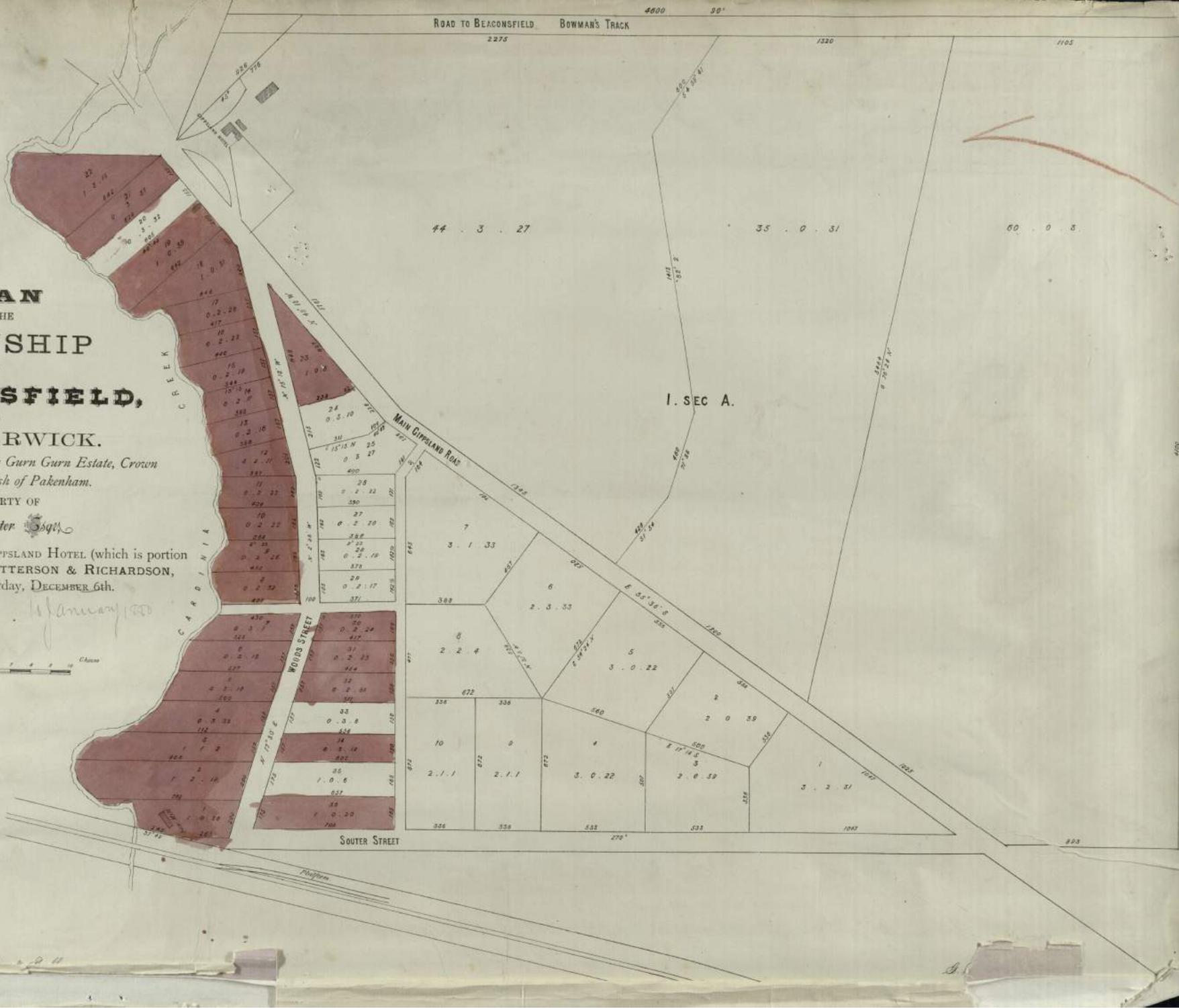
Charles Souter Esq.

to be Sold by Auction, at the GIFFSLAND HOTEL (which is portion
of the Property), by Messrs. PATTERSON & RICHARDSON,
at One o'clock, on Saturday, DECEMBER 6th.

14 January 1880



Giffsland Railway



MMBW Beaconsfield Township Plan 1880

MMBW Beaconsfield Township Plan - 1881



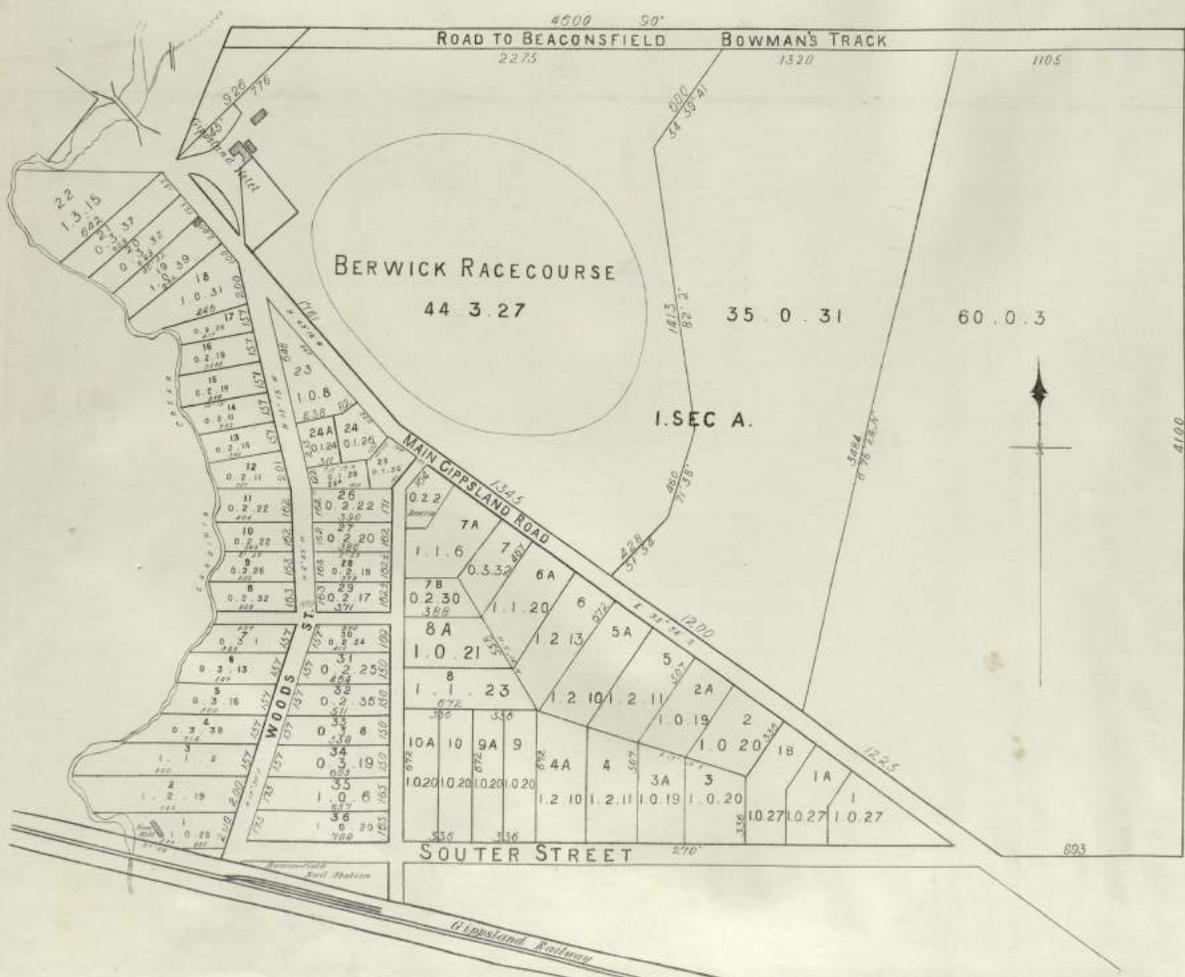
PLAN
OF THE
TOWNSHIP OF BEACONSFIELD,

Being Sub-division of the Panty Gurn Gurn Estate, Crown Portion 1A, Parish of Pakenham,

The Property of Charles Souter, Esq.,

To be Sold by Auction, at the GIPPSLAND HOTEL, which is portion of the Property, by J. B. PATTERSON, Auctioneer,
6 Collins Street East, at One o'Clock, on SATURDAY, 14th May, 1881.

To be offered at the same time, Five Allotments, being Sub-division of Crown Portion 34 & 54.



Messrs. Gifford & Bullen,
Solicitors
25 Collins St. West

A. W. Robinson, C. E.,
Surveyor

Beaconsfield Action Area Plan – Historic Land Use & Soil Contamination – 1990

APPENDIX E

STAKEHOLDER CORRESPONDENCE

From: danielle bourke [mailto:dmb_264@hotmail.com]

Sent: Thursday, 20 March 2014 1:12 PM

To: Marcelle Bell

Subject: @ Glisman/Beaconsfield

Afternoon Marcel,

just catching up with you in regards to the additional soil placed on site at 2 Glisman Road, Beaconsfield.

Melbourne Water did dig up soil on site to install a drain but didn't bring any new soil onto the property.

In 2007, (approximately) we were approached by an earth moving contractor who was part of the Bowmen Track development. He enquired if we would like some fill. Other Glisman owners were also approached at the same time and a number of us took up the offer.

It was council sanctioned.

So the only earth bought onto the land has been from the neighboring development.

Hope this aids in your reaching a determination,

Regards,

Danielle Bourke.

--

From: Marcelle Bell [<mailto:m.bell@cardinia.vic.gov.au>]

Sent: Friday, 21 March 2014 9:25 AM

To: David Corrigan

Subject: FW: @ Glisman/Beaconsfield

Hi David

Re: Glismann Road and landfill at 2 Glismann Road, Beaconsfield

The below email is what I have now received from the landowners from 2 Glismann Road, Beaconsfield

Bowmans track is an estate along O'Neil Road, Beaconsfield

The fill was not Council sanctioned as no planning permit was approved.

If you require any additional information could you please advise

Thank-you

Marcelle

Marcelle Bell | Strategic Planner

Cardinia Shire Council | Strategic Planning

Ph: 03 5945 4287 | Fax: 03 5941 3784

I work Monday, Tuesday, Thursday and Friday

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APPENDIX F

**CONTAMINATED LAND STUDY –
ADDENDUM 2018**

8 November 2018

Lorna Lablache
Cardinia Shire Council
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PAKENHAM
VIC 3810

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Cardinia Shire Council - Glismann Road Development Plan Contaminated Land Study - Addendum 2018

Dear Lorna,

1 Introduction

Meinhardt Infrastructure & Environment Pty Ltd (**Meinhardt**) was contacted by Cardinia Shire Council (**Council**) to assess the suitability to use a 2015 Meinhardt Contaminated Land Study¹ (Meinhardt 2015) to inform a discussion about proceedings in relation to a planning scheme amendment of the properties in the Glismann Road area of Beaconsfield, VIC 3807. A site location plan is included as **Figure 1** in **Attachment A**.

Council were in the process of applying conditions to the development of individual lots based on the findings of the Meinhardt 2015 report and Potential for Contamination (**PFC**) rankings contained therein. The rankings were assigned based on known use of the land historically from a range of searches including aerial imagery, historical Titles searches, historic maps, heritage studies, as well as historical reports and documents pertaining to the land. The results of the information searches led to the assignment of a high, medium or low risk ranking of a total of 22 properties within the development area, including two high PFC risk properties:

- **12 Glismann Road** – noted to be historically used for farming and cattle grazing as well as use of heavy farming equipment. A historical land use map listed the property as being as a truck depot with potential underground fuel storage tanks.
- **11 Mahon Avenue** – site historically used for farming and cattle grazing as well as use of heavy farming equipment. A historical land use map listed the property as being a poultry farm.

As part of the planning scheme amendment, Council proposed to apply an Environmental Audit Overlay (**EAO**) on the two (2) properties and requested Meinhardt to provide advice in regard to the risk rankings assigned and their current validity, three (3) years after the preparation of the Meinhardt 2015 report.

This Addendum has been produced to provide comment on the validity of the Meinhardt 2015 risk rankings for the aforementioned high-risk properties. As such, this Addendum is not a standalone report and should only be read in conjunction with the original Meinhardt 2015 report.

2 Objective and Purpose

The objective of preparing this addendum is:

- To re-assess the findings of the Meinhardt 2015 report with respect to the contamination potential of the land at 12 Glismann Road and 11 Mahon Avenue, Beaconsfield VIC 3807.

¹ Meinhardt, *Glismann Road Development Plan: Contaminated Land Study*, March 2015.

The purpose of this work is:

- To provide Council with sufficient information about the two (2) high PFC risk properties to allow a decision to be made on how to address contamination concerns, whether that be via an EAO or a Development Plan Overlay.

3 Scope of Works

To assist Council in assessing the contamination potential of the 12 Glismann Road and 11 Mahon Avenue properties, Meinhardt completed the following scope of works:

- An assessment of historical aerial photography for the high risk properties, including photography taken after the date of the Meinhardt 2015 report to present day;
- Inspections of the two (2) properties which included discussions with the property owners about the known uses of the properties historically and condition of the land generally and historically when the properties came into their possession; and
- Completion of an assessment of potentially contaminated land at the two properties in accordance with the Department of Sustainability and Environment (DSE) (now Department of Environment, Land, Water and Planning (DELWP)), *Potentially Contaminated Land General Practice Note*, June 2005 (DSE 2005).
- Preparation of this addendum with a description of the works completed and Meinhardt's findings based on these works, including an updated PFC risk ranking for each property.

4 Review of Historical Aerial Imagery

Meinhardt obtained historical aerial imagery for the two (2) properties using LotSearch Spatial Mapping tools. Observations pertaining to the land at 12 Glismann Avenue and 11 Mahon Avenue historically and in more recent times (obtained using Google Earth Pro software) are summarised in **Table 1**.

Table 1 Aerial Photography Review

Image Year	Property	Observations
1939	12 Glismann Road	The site appears vacant with the exception of perhaps a few trees that may have existed near the location of Glismann Road.
	11 Mahon Avenue	The property appears to house part of a homestead, surrounded by trees or other vegetation, however due to the quality of the image, no further details can be ascertained.
1960	12 Glismann Road	There does not appear to be any change from the 1939 image reviewed.
	11 Mahon Avenue	The imagery indicates that a homestead and some sheds exist on the property and/or on the property to the north. The homestead is surrounded by numerous trees. Homes to the south of the property at 11 Mahon Avenue appear to extend into part of the 11 Mahon Avenue site, with unsealed roads or driveways observable in the imagery.
1962	12 Glismann Road	There does not appear to be any change from the 1960 image reviewed.
	11 Mahon Avenue	There does not appear to be any significant change from the 1960 image reviewed with the exception of buildings that appear to have been built at the rear of the properties south of the site that extend onto the site.

Continued over page...

Image Year	Property	Observations
1968	12 Glismann Road	There does not appear to be any change from the 1962 image reviewed.
	11 Mahon Avenue	The homestead in the northern portion of the site remains present at the site. Two (2) large sheds appear to have been built in the southern portion of the site. Large areas of disturbed or exposed soils appear to be present to the north of these buildings. Furthermore, a total of at least seven (7) square structures appear to be present in the south-western corner of the site, with an unsealed track in between them. These may be sheds, shelters or enclosures. Large areas of vegetation appear to be present along the southern boundary and some vegetation also exists along the western boundary of the site.
1972	12 Glismann Road	There does not appear to be any significant change from the 1968 image reviewed with the exception of what appears to be sediment run-off from the 11 Mahon Avenue site along the shared boundary between the two properties.
	11 Mahon Avenue	There does not appear to be a significant change from the 1968 image with the exception of the clearance of some trees from around the homestead in the northern portion of the property. Furthermore, the area in the south-western corner of the site appears to have changed in configuration (the seven (7) structures previously observed are not distinctly observable) and run-off of sediment from the exposed soil north of the two site sheds/ buildings appears to have spread to the 12 Glismann Road property, east of the site.
1974	12 Glismann Road	There does not appear to be any change from the 1972 image reviewed.
	11 Mahon Avenue	There does not appear to be any change from the 1972 image reviewed.
1979	12 Glismann Road	There does not appear to be any change from the 1974 image reviewed. Construction appears to have commenced on the property to the south of 12 Glismann Road.
	11 Mahon Avenue	There does not appear to be any change from the 1974 image reviewed. Mahon Avenue and the streets to the west of the site appear to have been sealed and footpaths created.
1985	12 Glismann Road	There does not appear to be any change from the 1979 image reviewed.
	11 Mahon Avenue	There does not appear to be any change from the 1979 image reviewed.
1989	12 Glismann Road	The property appears to have been split into three (3) distinct areas including an area to the east that contains a residential building and a large shed. This portion of the property appears to be completely stripped or filled as exposed soils are visible at the surface. The other two areas of the site appear to be paddocks of varying vegetation levels and a linear structure (possible fence or service alignment) making its way through the two paddocks.
	11 Mahon Avenue	There does not appear to be any change from the 1985 image. The homestead to the north of the site appears to have been extended.

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Image Year	Property	Observations
1991	12 Glismann Road	The site does not appear to have changed with the exception of there being more vegetation around the house on this site.
	11 Mahon Avenue	There does not appear to be any change from the 1985 imagery with the exception of a significantly greater amount of vegetation across the site including on previously observable tracks. It appears that the unsealed tracks may have become overgrown during this time.
2004	12 Glismann Road	The site appears to be more heavily vegetated around the house and a small vegetated garden appears to have been created to the west of the house.
	11 Mahon Avenue	The site has had at least one residential dwelling built on it with a second building immediately adjacent to it (to the north). Both were connected by what appears to be an unsealed driveway to the south of the buildings. The two large sheds and associated infrastructure is no longer on the site and in their place, a large pond/dam appears to have been constructed in its place. A large area of land appears to have been cleared to the east of the two buildings at the end of a track that runs to the boundary between the property and 12 Glismann Road.
2016	12 Glismann Road	There does not appear to be any change from the 2004 image reviewed.
	11 Mahon Avenue	The site does not appear to have changed significantly. The changes observed between the 2016 imagery and the 2004 imagery include the construction of a shed in the cleared area near the boundary between the site and 12 Glismann Road and the driveway between the two (presumed residential) buildings on site being sealed.
2017 (18 October)	12 Glismann Road	There does not appear to be any change from the 2016 image reviewed.
	11 Mahon Avenue	There does not appear to be any change from the 2016 image reviewed.
2018 (13 September)	12 Glismann Road	There does not appear to be any change from the 2017 image reviewed.
	11 Mahon Avenue	There does not appear to be any change from the 2017 image reviewed.

5 Site Inspection

An experienced Meinhardt Field Scientist attended the properties at 12 Glismann Road and 11 Mahon Avenue on 19 October 2018 to conduct an inspection of the sites and interview the property owners about the history of each of the properties.

5.1 12 Glismann Road

Meinhardt attended the 12 Glismann Road site and observed that the it was a residential property with associated sheds used for storage of garden tools and equipment. The large shed on the property (observable in aerial imagery) was also used to store a range of household items and paintings. Based on conversations with the property owner, it is understood that the shed is used as an area to create artworks using paints and epoxy resins. A range of paints, paint brushes and household chemicals were observed to be stored within the shed. The shed slab was in good condition with an area in the south eastern part of the shed showing indications of staining. Based on conversations with the owner, that portion of the shed slab is slightly lower than its surrounds and water pools within the shed during times of heavy rainfall. Rainwater from the roof of the shed is captured in a water storage tank on the western side of the shed.

Site drainage is understood to be relatively good, with most drains being observed to be clear of blockages and anecdotal evidence suggesting that surface water runoff during heavy rainfall events flows to the fields to the west of the dwelling on the site.

A small vegetable/ garden was located to the west of the house and used as a hobby garden (non-commercial vegetable production). The site was well vegetated and all plants appeared to be in healthy condition.

The paddocks on the site appear to be used for grazing by sheep owned by one of the neighbours of the site. Two open fronted wooden farm sheds with wooden fencing exist on the southern boundary of the property, however the current owners do not own any farm animals and this structure may be from historical presence of domesticated farm animals at the site.

A discussion with the owner about the historical use of the site provided more information on why the property was historically listed as a truck stop. The current owner indicated that the site was previously owned by a trucker who used to own at least one (1) truck. He used to park his truck in the shed and the vehicle was used to make a living. When the site changed hands to the current owners, they did not see evidence of any bowsers or bulk fuel storage tanks and the site inspection conducted also confirmed this.

5.2 11 Mahon Avenue

The land at 11 Mahon Avenue is used by the owner for residential purposes and also for the storage of tools and supplies for a concreting business that the land owner runs. The buildings in the north west of the site are used for residential purposes and comprise of living areas, bedrooms, swimming pool and garages. The topography of the site means that these areas are elevated relative to other parts of the site. The home is approximately 16 years old and was built from scratch on the site.

A driveway to the south of the two residential buildings led down to a large open shed and shipping container where wooden frames, steel grids, Styrofoam and other products in concreting were observed stored neatly in areas within and outside the large shed. Tools and chemicals used in the concreting process and fuels for the operation of generators and other machinery were observed to be stored in a separate enclosed area within the shed, and the concrete in this room was not stained and there were no indications of chemical spills across this area of the site.

A small area of burn residue and ash was observed adjacent to a gate that led to the pond. The site owner indicated that he often burns cardboard and paper waste (from around the house and packaging of products used in his business) there. The pond appeared to be in good condition and water appeared to be clear and free of visible indicators of impact. The soils around the pond were well covered by grass and sheep were observed to be grazing on this portion of the site. The owner indicated that the sheep were owned by a neighbour and the sheep grazed on his property occasionally as they were able to crawl under a fence to access his property.

The land owner indicated that when he purchased the property, it was severely overgrown and there was a steep drop from where his home is currently built and his current shed. Furthermore, the owner indicated that the buildings that were present on the site (the two sheds observed in the aerial imagery) were filled with old hospital beds and hospital furniture which was disposed of prior to the demolition of the sheds. During the demolition of the sheds, the owner engaged A-Class Asbestos Removalists to remove all asbestos-containing materials from the sheds before they were dismantled. A cattle yard-like fence installation in the south western corner of the site, adjacent to the primary school to the south of the south was also removed and taken from the site. Subsequent to this, the owner engaged a contractor to construct a pond on the site which was built within a portion of the footprint of the former sheds. During this work, no significant quantities of waste or other malodorous or impacted material was excavated, and all soils appeared to be natural soils as expected across the general locale. The only non-soil items excavated were some minor fragments of timber, likely from the foundations or structures associated with the former sheds.

To reduce the grade of the steep drop between the residence and the location of the current shed used by the land owner, an earthworks contracting company was engaged to source clean fill which was used to build a slope between the residence and the lower lying area to the east. This was overseen by the owner and the soils were considered to be clean fill soils suitable for his property.

Based on the information gained during the site inspection, discussions with the land owner and the information in the Meinhardt 2015 report, it is possible that the two sheds that were historically at the site were used for some form of farming practice, such as a chicken farm, however anecdotal evidence from the site owner suggests that there were no significant impacts from farming operations noted in the soils beneath the footprint of the sheds (excavated during the construction of the pond) and much of the remainder of the site was historically vacant.

6 Updated Potential for Contamination Rankings

The information obtained from the aerial photography review and site inspection was collated to provide an updated assessment of the PFC at each property, in accordance with the DSE 2005 guidance. A 'traffic light' system (**Green = Low**, **Orange = Medium** and **Red = High**) was used in the PFC assessment of each of the properties investigated. The PFC assessment also identified potential contamination sources and Contaminants of Potential Contamination (CoPC) which may not fall completely within the remit of the DSE 2005 guidance but which may nonetheless pose a potential risk to the future development of a property.

6.1 12 Glismann Road

The land at 12 Glismann Road did not appear to have been developed until some time between 1985 and 1989. It may have been used for grazing, however no built structures appeared on aerial imagery of the site until 1989. After this time, a single dwelling and associated garage or shed was constructed on the property. The site appears to always have been used primarily as a house with associated buildings (sheds) and today also houses a vegetable garden. While historical land use information (Council Land Use Map 1990²) has suggested the property was used as a truck stop, evidence from the walkover suggests that this is not the case and that the property may have housed trucks owned by the previous occupier of the site who was a trucker.

The only areas of concern at the site currently would be the large shed, which is used to store paints, solvents, petrol and other chemicals used on the property for recreational (painting) and site maintenance (mowing) purposes.

6.2 11 Mahon Avenue

The land at Mahon Avenue appears to have historically been used for farming/ agricultural purposes until it was purchased and developed into a residence with an area also used for the storage of tools and materials in a concreting business. When the site was redeveloped, the land owner engaged contractors to remove the former sheds, cattle yard fencing and their contents. These items were either disposed of or salvaged by the demolition contractors. All asbestos-containing building materials were removed by A-Class Removalists. Following the dismantlement/ demolition of the sheds, the land owner engaged a contractor to construct a pond beneath the footprint of the former sheds. During this process, soils were excavated and no evidence of impact were noted by the contractor.

While the description of the works performed on the site to transform it into its current state indicated no impacts to the land from a visual and olfactory standpoint, no chemical information on the condition of soils or groundwater is available to confirm that historical activities had little to no impact on the condition of the site.

The current use of the site largely does not appear to have caused any significant impacts to the site, with the exception of localised areas of incineration where Polycyclic Aromatic Hydrocarbons (PAH) may have been generated. These impacts are unlikely to be extensive and unlikely to have a significant detrimental impact on the land at the site.

6.3 Summary of Potential for Contamination

Based on the information contained within this report, Meinhardt believes that the risk rankings presented in the Meinhardt 2015 report for 12 Glismann Road and 11 Mahon Avenue should be downgraded to low and medium PFC rankings, respectively, as detailed in **Table 2**.

² Extract from KLM Development Consultants, *Beaconsfield Action Area Plan Final Report*, 1990, obtained from Council.

Table 2 Revised Potential for Contamination Ranking

Property	Potential Contaminating Activity	Contaminants of Potential Concern	Revised PFC Ranking	Comment
12 Glismann Road	Potential historical farming/ agricultural activities	Heavy metals, pesticides, herbicides, fertilisers, total recoverable hydrocarbons, PAH, faecal coliforms	Low	Risk ranking has been downgraded from High to Low due to insufficient evidence of the site being used as a truck stop. It is believed that the former owner of the site owned a truck(s) but no evidence of bulk fuel storage was observed.
	Equipment storage and maintenance	Heavy metals, TRH, BTEXN, PAH and VOC		
11 Mahon Avenue	Known historical farming/ agricultural activities	Heavy metals, pesticides, herbicides, fertilisers, total recoverable hydrocarbons, PAH, faecal coliforms	Medium	While the site has historically been used for farming or agricultural purposes, the risk ranking has been downgraded due to the observed condition of the site at present and information provided by the land owner about site condition during removal of former sheds and other above ground structures.
	Equipment storage and maintenance	Heavy metals, TRH, BTEXN, PAH and VOC		

Notes:

PAH = Polycyclic Aromatic Hydrocarbons

TRH = Total Recoverable Hydrocarbons

BTEXN = Benzene, Toluene, Ethylbenzene, Xylene, Naphthalene

VOC = Volatile Organic Compounds

7 Limitations

The assessment in this report was restricted to the agreed scope of works and is subject to the limitations set out below or elsewhere within this report.

The assessment has been undertaken and performed in a professional manner consistent with the skill and care ordinarily exercised by reputable consultants under similar circumstances. No other warranty, expressed or implied, is given.

Where Meinhardt Infrastructure & Environment Pty Ltd (Meinhardt) has relied on verbal information and/or documentation provided by the client and/or third parties, Meinhardt did not attempt to independently verify the accuracy or completeness of that information. To the extent that the conclusions or recommendations in this report are based in whole or in part on such information, they are contingent on its validity. Meinhardt assume no responsibility for any consequences arising from any information or condition that was inaccurate, concealed, withheld, misrepresented, or otherwise not fully disclosed or made available to Meinhardt.

Other than the visual observations and analytical data as stated in this report, no representations or warranties are made concerning the nature or quality of the soil, groundwater, surface water and/or soil vapour on the site. On all sites varying degrees of non-uniformity of the vertical and horizontal, groundwater, surface water and/or soil vapour/landfill gas conditions are encountered. Hence no sampling technique can completely eliminate the possibility that samples are not totally representative of soil and/or groundwater conditions on a site.

It should also be recognised that site conditions, including contaminant extent and concentrations can change with time. Hence, the information in this report is only accurate as at the date of issue. If this report is used after a protracted delay, further investigation of the site may be necessary.

This report has been prepared on behalf of the client for the benefit of the client only (the authorised recipient).

The report and the information contained within it are solely for the use of the authorised recipients and it may not be used, copied or reproduced in whole or in part for any purpose other than that for which it

was supplied by Meinhardt. Meinhardt makes no representation, undertakes no duty and accepts no responsibility to any third party who may use or rely upon this report or the information contained within it.

8 Closing

We trust that this addendum provides Cardinia Shire Council with sufficient information to make a decision on how best to address potential contamination concerns at the 12 Glismann Road and 11 Mahon Avenue properties using planning instruments including overlays.

Should you have any comments or queries regarding this report or any other projects please contact the undersigned on (03) 8676 1225 or via email at sid.paleri@meinhardtgroup.com.

Yours sincerely,

Meinhardt Infrastructure & Environment Pty Ltd



Sid Paleri
Senior Environmental Scientist

Attachments:
Attachment A – Figures

Attachment A – Figures



LEGEND

Property Boundaries

MEINHARDT
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 © Copyright

Title
Figure 1 – Site Location Plan

Project CSC – Glismann Road Desktop Update

Client Cardinia Shire Council

Project Number 120139
 Reference Number F01
 Revision A



DATA SOURCE: Aerial Imagery, Google Earth Pro, Image date: 18/10/2017, obtained 2018; Site Boundaries, Meinhardt, 2018.
 X:\120139 - CSC - Glismann Road - Desktop Update\6_ENV4_REP\2_Working

APPENDIX G

**CONTAMINATED LAND STUDY REPORT
JUSTIFICATION AND NEXT STEPS**

19 March 2020

Lorna Lablache
Cardinia Shire Council
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Cardinia Shire Council - Glismann Road Development Plan Contaminated Land Study - Report Justification and Next Steps

Dear Lorna,

1 Introduction

Meinhardt Infrastructure & Environment Pty Ltd (**Meinhardt**) was contacted by Cardinia Shire Council (**Council**) on 12 March 2020 to discuss a response by EPA Victoria (**EPA**) in relation to a planning scheme amendment for the Glismann Road Development project submitted by Council, which refers to the Meinhardt, *Glismann Road Development Plan: Contaminated Land Study*, November 2018 (Meinhardt 2018). EPA provided Council with comments on Council's proposal, noting that it had concerns about the methodology used in the Contaminated Land Study completed by Meinhardt.

Subsequent telephone conversations between Council, EPA and Meinhardt occurred to understand the concerns expressed by EPA and this letter aims to further explain the methodology Meinhardt adopted in the Meinhardt 2018 report and summarise the risk ratings prescribed by Meinhardt, including recommendations for further assessment.

2 Meinhardt 2018 Report - Discussion

The works completed for the Meinhardt 2018 report were initially conducted and issued to Council in 2014 and later updated in 2018 following site inspections conducted at two (2) properties within the Development Area initially rated as having a high potential for contamination (**PfC**) rating. In deriving risk ratings, Meinhardt adopted the recommendations in the Department of Sustainability and Environment, *Potentially Contaminated Land – General Practice Note*, June 2005 (**PPN30**) guidance document on identifying contaminated land potential based on historical land uses including adopting ratings based on Table 1 of PPN30 where appropriate. In assessing the PfC at the properties within the Glismann Road Development Area, Meinhardt noted that properties often did not fit well into any specific risk category (high, medium or low risk) based on historical use of the land. Nonetheless, Meinhardt initially assigned a risk rating to each property based on the guidance provided in PPN30, before fine tuning ratings based on experience with contaminated sites and the types of materials, chemicals and activities that may give rise to contaminated land issues.

As such, Meinhardt considers that the methodology adopted not only fulfils the standard set by PPN30, but exceeds it by assessing risk-based on factors other than current or historical use and providing a more robust assessment of individual properties. However, Meinhardt notes that in accordance with PPN30, that Council may be required to complete additional assessment of properties based on proposed future use of the land within the Development Area.

3 Summary of Risk Ratings and Actions

Meinhardt understands that Council intends on re-zoning the Glismann Road Development area from Rural Living Zone (**RLZ**) to Neighbourhood Residential zone for residential use. Based on this, and in accordance with Table 2 of PPN30, the PfC ratings for the properties within the Glismann Road Development Area are detailed in **Table 1**, along with any further actions required to be taken by Council.

Table 1 PfC Risk Ratings and Requirements for Further Action

Property ID	Property Address	Historical Use	PPN30 PfC Risk Rating	Further Assessment Required?
1	1 Glismann Road	Farming activities, equipment storage and maintenance	Historical use not listed in PPN30 – however, assigned a Medium PfC rating.	Yes – A site assessment (as per PPN30) is required prior to making conclusion on need for Environmental Audit.
2	2 Glismann Road	Farming activities, infilling.	Historical use not listed in PPN30 – however, assigned a Medium PfC rating.	Yes – A site assessment (as per PPN30) is required prior to making conclusion on need for Environmental Audit.
3	3 Glismann Road	Farming activities, equipment storage and maintenance	Historical use not listed in PPN30 – assigned a Low PfC rating.	No.
4	4 Glismann Road	Farming activities	Historical use not listed in PPN30 – assigned a Low PfC rating.	No.
5	5 Glismann Road	Farming activities, equipment storage and maintenance	Historical use not listed in PPN30 – assigned a Low PfC rating.	No.
6	6 Glismann Road	Farming activities, equipment storage and maintenance	Historical use not listed in PPN30 – assigned a Low PfC rating.	No.
7	7 Glismann Road	Farming activities, equipment storage and maintenance	Historical use not listed in PPN30 – assigned a Low PfC rating.	No.
8	8 Glismann Road	Farming activities, equipment storage and maintenance	Historical use not listed in PPN30 – however, assigned a Medium PfC rating.	Yes – A site assessment (as per PPN30) is required prior to making conclusion on need for Environmental Audit.
9	9 Glismann Road	Farming activities, equipment storage and maintenance	Historical use not listed in PPN30 – assigned a Low PfC rating.	No.
10	10 Glismann Road	Farming activities, equipment storage and maintenance	Historical use not listed in PPN30 – however, assigned a Medium PfC rating.	Yes – A site assessment (as per PPN30) is required prior to making conclusion on need for Environmental Audit.
11	11 Glismann Road	Farming activities	Historical use not listed in PPN30 – assigned a Low PfC rating.	No.
12	12 Glismann Road	Farming activities, equipment storage and maintenance	Historical use not listed in PPN30 – assigned a Low PfC rating.	No.
13	13 Glismann Road	Farming activities, equipment storage and maintenance	Historical use not listed in PPN30 – assigned a Low PfC rating.	No.
14	14 Glismann Road	Farming activities, equipment storage and maintenance	Historical use not listed in PPN30 – assigned a Low PfC rating.	No.

(Continued over page...)

Property ID	Property Address	Historical Use	PPN30 PfC Risk Rating	Further Assessment Required?
15	15 Glismann Road	Farming activities, equipment storage and maintenance	Historical use not listed in PPN30 – assigned a Low PfC rating.	No.
16	16 Glismann Road	Farming activities, equipment storage and maintenance	Historical use not listed in PPN30 – assigned a Low PfC rating.	No.
17	11 Mahon Avenue	Farming/ agricultural activities, equipment storage and maintenance	Historical use not listed in PPN30 – however, assigned a Medium PfC rating.	Yes – A site assessment (as per PPN30) is required prior to making conclusion on need for Environmental Audit.
18	13-15 Mahon Avenue	Farming activities, equipment storage and maintenance	Historical use not listed in PPN30 – assigned a Low PfC rating.	No.
19	111-113 Old Princes Highway	Farming activities, equipment storage and maintenance	Historical use not listed in PPN30 – assigned a Low PfC rating.	No.
20	115-117 Old Princes Highway	Farming activities	Historical use not listed in PPN30 – assigned a Low PfC rating.	No.
21	119-121 Old Princes Highway	Farming activities	Historical use not listed in PPN30 – assigned a Low PfC rating.	No.
22	123-125 Old Princes Highway	Farming activities, equipment storage and maintenance	Historical use not listed in PPN30 – assigned a Low PfC rating.	No.

Meinhardt notes that a total of five (5) properties have been assigned a Medium PfC rating, which would translate into further site assessments being required on those properties to assess whether an Environmental Audit is appropriate. Meinhardt refers Council to Table 6-1 and Table 2 of the Addendum in Appendix F of the Meinhardt 2018 report for further information on the rationale behind the medium PfC ratings.

For properties 1, 8 and 10, the rating is based on the potential for storage of chemicals used in agriculture or other maintenance activities at those sites. Meinhardt has not inspected these properties and as such cannot exclude the possibility of this use of the properties without further inspection/ information.

At properties 2 and 17, the rating assigned is based on filling and improvement works conducted at these properties, where information about the materials within and/or chemical constituents of soils used to fill the sites is unknown.

4 Closing

We trust that this addendum provides Cardinia Shire Council with a summary of Meinhardt's position on the Meinhardt 2018 report and guidance on further works that may be required on how best to address potential contaminated land concerns within the Glismann Road Development area.

Should you have any comments or queries regarding this letter or any other projects please contact the undersigned on (03) 8676 1225 or via email at sid.paleri@meinhardtgroup.com.

Yours sincerely,

Meinhardt Infrastructure & Environment Pty Ltd



Sid Paleri
Associate - Environment

APPENDIX H

**CONTAMINATED LAND STUDY REPORT
PPN30 UPDATE ADDENDUM**

Cardinia Shire Council

Contaminated Land Study - Glismann Road Development Plan *Planning Practice Note 30 Update Addendum*

Project No: 120139
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Prepared For:

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Rev	Date	Details	Written	Reviewed	Approved
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1 Introduction

1.1 Background

Meinhardt Infrastructure & Environment Pty Ltd (**Meinhardt**) was engaged by Cardinia Shire Council in late April 2022 to update a Contaminated Land Study completed for Council on selected land parcels comprising 22 properties on Glismann Road, Mahon Avenue and Old Princes Highway, Beaconsfield (**the Study Area**). The land within this area comprised land parcels that will be developed as part of the Glismann Road Development Plan (**GRDP**).

Meinhardt has assisted Council with the preparation of a Contaminated Land Study for the properties within the Study Area commencing in 2013, with the most recent iteration of the document completed in 2022.

However, following the introduction of the Victorian Government, *Environment Protection Act, 2017 (the Act)* on 1 July 2021, the PPN30-2005 was superseded by the Department of Environment, Land, Water and Planning (**DELWP**), *Potentially Contaminated Land Planning Practice Note 30*, July 2021 guidance (**PPN30-2021**), updated to incorporate the principles of the Act and risk screening outcomes. A copy of PPN30-2021 is included in **Appendix A**. As a result of this update to the Planning Practice Note for Potentially Contaminated Land, Council is seeking this addendum to detail any changes to outcomes of the Contaminated Land Study completed for the GRDP.

The current report therefore should be read in conjunction with the Meinhardt, *Glismann Road Development Plan: Contaminated Land Study*, May 2015 (updated July 2022) (**Contaminated Land Study report**), and any outcomes of risk ratings provided in the Contaminated Land Study are superseded by those within this report.

Note: Since the preparation of the Meinhardt, *Glismann Road Development Plan, Contaminated Land Study, 2015 (updated May 2020) report*, the Cardinia Planning Scheme Amendment C238card has rezoned land in the Glismann Road Development Plan area to facilitate infill urban development. The amendment responds to the recommendations and mitigation measures outlined in the 2020 Contaminated Land Study report. The Cardinia Planning Scheme Amendment C238card, Corrected Panel Report, 25 January 2022 (Panel Report) accepted the conclusions of the Contaminated Land Study report and noted that relevant legislation had changed on the identification of potentially contaminated land in response to the updated Planning Practice Note 30 (PPN30-2021). It is also noted that the Panel Report also addressed the inclusion of 11 Mahon Avenue Beaconsfield in the Glismann Road Development Plan. The Panel recommended that the only development plan requirement for 11 Mahon Avenue be regarding the pedestrian connection to the Glismann Road area. Based on this recommendation, the response to the updated PPN30-2021 did not include an assessment of 11 Mahon Avenue property. As such, this report should be read in conjunction with Meinhardt, *Glismann Road Development Plan: Contaminated Land Study, May 2015 (updated July 2022)*.

1.2 Objectives and Purpose

Meinhardt understands that the objective of the works detailed herein is to produce an updated guidance on the outcomes of identification of potentially contaminated land within the GRDP to understand capability of residential land uses and to inform strategic decisions on the future growth of the Glismann Road Development Area.

The purpose of the assessment is to bring the outcomes and recommendations of the Contaminated Land Study report previously prepared for Council into line with the updated PPN30-2021 guidance.

2 Scope of Work and Methodology

2.1 Scope of Work

In order to meet the objectives of this investigation, Meinhardt completed the following scope of work:

- Review of PPN30-2021;
- Review of Contaminated Land Study report against PPN30-2021 framework, with a re-assignment of potential for contamination based on the industries and land uses detailed in Table 2 of PPN30-2021;
- Screen potential for contamination rating against Table 3 of PPN30-2021 to establish a recommended approach to assess potentially contaminated land, including any recommendations that may apply for planning scheme amendments or planning permit applications.;
- Preparation of this addendum detailing the above items and how they relate to the GRDP.

2.2 Methodology

Meinhardt completed the works in general accordance with the following guidelines and current applicable industry best practice:

- DELWP, *Potentially Contaminated Land Planning Practice Note 30*, 2021 (PPN30-2021);
- National Environment Protection Council, *National Environment Protection (Assessment of Site Contamination) Measure*, 1999 (as amended 2013) (**NEMP 2013**);
- Victorian Government, *Environment Reference Standard*, Victoria Government Gazette No. S245, 2021. (**the ERS**)

2.2.1 Contaminated Land Study Assessment

As detailed in **Section 1.1**, a Contaminated Land Study was completed for the GRDP area by Meinhardt between 2013 – 2022. The results of historical information searches as well as targeted site inspections were collated to provide an assessment of the Potential for Contamination (**PfC**) at each property, in accordance with the PPN30-2021 guidance, further detailed in *Sections 2 and 3* of the Contaminated Land Study.

A 'traffic light' system (**Green = Low**, **Yellow = Medium** and **Red = High**) was used in the PfC assessment of the potential for contamination for each Property.

The PfC assessment also identified potential contamination sources and Contaminants of Potential Concern (**CoPC**) which may not fall completely within the remit of the PPN30-2021 guidance, but which may nonetheless pose a potential risk to the future development of a property.

No sampling and analysis of soils, surface water, groundwater or soil vapour/ ground gas was performed as part of the scope of works for the Contaminated Land Study or current report.

The PfC information was then used in conjunction with future land use (assumed at the time to be sensitive land uses in lieu of detailed plans) to assign each property within the Study Area with indicative level of assessment recommended for each should the PfC be deemed "Medium" or "High".

2.2.2 Reporting

In preparing this addendum to meet the requirements of the Scope of Work detailed herein, Meinhardt used the information in *Sections 2, 3 and 4* of the Contaminated Land Study report and compared it to the PPN30-2021 guidance, to draw conclusions on the PfC for the properties within the Study Area and the recommended level of assessment, if required.

3 Land Capability Desktop Assessment

As part of the desktop component of work completed and documented in the Contaminated Land Study report, historical information searches to investigate the potential for contaminating activities to have occurred over time within the Study Area. The Study Area Layout and Property Plan is presented in **Plate 3-1**. Details on the findings of the historical searches are included in the Meinhardt, Contaminated Land Study report.

The current report should be read in conjunction with the Contaminated Land Study report.



Plate 3-1 Study Area Map and Property Numbers

4 Contaminants of Potential Concern

Based on the desktop review in *Section 3* of the Contaminated Land Study report, Meinhardt considered that a number of potentially contaminating activities may have existed or have occurred on and/or in the vicinity of the Study Area, which may have had the potential to lead to contamination of soil and/or the underlying groundwater and/or may have/ continue to pose a vapour risk.

These activities are summarised in **Table 4-1**, along with their location and Contaminants of Potential Concern (CoPC) typically associated with the types of land use noted. Typically, these activities are related to Properties that have been assigned a “Low” to “Medium” Risk.

Please note: Due the high-level nature of this assessment (time between the aerial photographs, poor resolution of some imagery and no intrusive investigations forming part of this assessment), there is potential for actual or assumed activities not listed as occurring at an individual Property to have taken place. The list of potentially affected properties and CoPC as assessed in **Table 4-1** is not considered to be comprehensive and further activities may be assessed as having taken place in a more detailed and property-specific assessment that should be conducted to confirm that individual Properties are in fact fit for proposed redevelopment.

Further, where potentially contaminating activities has been identified at an individual Property, Meinhardt’s observations should be considered as subjective and that there is no definitive evidence that contamination actually exists or has occurred at any property. The list of potentially affected Properties and CoPC may be downgraded or upgraded as further information becomes available through more detailed and Property-specific assessment.

Table 4-1 Potentially Contaminating Activities Identified (Actual or Assumed)

Land Use	Contaminants of Potential Concern	Properties Affected
Cropping, other non-intensive agricultural or farming activities	Metals, herbicides, pesticides (OCP/OPP), nutrients	All Properties
Equipment Storage and Maintenance	Heavy metals, PAH, TRH, BTEXN	1, 3, 5 – 10, 12 – 19, 22
Importation of fill material for earthworks / construction	Heavy metals, ACM, PAH, TRH, BTEXN	2, 17
Burning or burial of wastes on rural properties	Heavy metals, TRH, BTEXN, PAH, VOC	All Properties

Notes

- TRH - Total Recoverable Hydrocarbons
- BTEXN - Benzene, Toluene, Ethylbenzene, Xylenes and Naphthalene.
- PAH - Poly-Aromatic Hydrocarbons
- Heavy metals - As, Ba, Be, Bo, Cd, Co, Cr, Cu, Mn, Mo, Ni, Pb, Sb, Se, Sn, V, Zn and Hg.
- OCP/OPP - Organochlorine / Organophosphate Pesticides
- ACM – Asbestos-Containing Materials
- VOC – Volatile Organic Compounds

Meinhardt notes that cropping or farming activities alone, as observed at many of the properties within the Study Area, is considered unlikely to contribute significant potential for contamination.

Meinhardt understands that due to the use of land within the Study Area for rural living, some of the properties may have the potential (as a result of their historical rural siting) to contain localised areas of waste burial or burning pits that would lead to requirement for assessment of potential impacts or contamination from these. While the PPN30-2021 guidance lists farm waste disposal as a potential medium-risk activity, no definitive evidence of such behaviour was noted in historical photography or searches conducted for the properties. It is intended that the actual or potential presence of these within the Study Area would be confirmed during any property-specific investigations as may be required prior to any redevelopment.

It is also noted that a septic tank system is assumed to be located at any Property with identified actual or assumed rural-residential or residential uses. While noted, the assumed presence of a septic tank has not resulted in an increase in the PFC rating for that Property; if the septic system is in good condition and functioning properly, no risk to human or environmental health is expected.

Where properties have had a significant history of development and redevelopment, there may be a risk of the presence of building and demolition wastes being present through soils in the areas where this activity has occurred. Due to the nature of building materials used historically through Australia, properties constructed prior to the early 1990s may pose a greater risk due to the presence of asbestos fibre cement sheeting, as well as other asbestos-containing products, and also lead-based paint. While not necessarily a risk at present, future development of the Study Area may warrant further assessment of any built structures that may need to be demolished for development to proceed.

As detailed in **Table 4-1**, the importation of fill material has been identified as a potential contaminating activity. The PPN30-2021 guidance lists 'fill sites' as sites of high risk of potential contamination, which is higher than the medium risk of potential contamination recommended in PPN30-2005. Despite this, Meinhardt has considered filling at sites to be a medium risk to the Study Area as no large scale filling activities have been noted, and where filling may have occurred, the soils are considered likely to have been brought onto site from neighbouring sites where soils may have been excess to requirement. While Meinhardt acknowledges the potential for contamination as a result of filling exists, taking into consideration the scale and likelihood of contamination being present in soils sourced for filling, the risk is thought to be real, however not a high risk based on the Site history.

5 Potential for Contamination Assessment

5.1 Planning System Considerations

As per the PPN30-2021 guidance, it is understood that the *Planning and Environment Act 1987* requires a planning authority to take into consideration any significant effects which a planning scheme or amendment may have on the environment, or which it considers the environment may have an impact on any use or development envisaged in a planning scheme or amendment.

Further, *Ministerial Direction No.1* of the *Planning and Environment Act 1987* specifies additional requirements for land that has been determined to be potentially contaminated. Requirements exist for land proposed to be used for sensitive purposes such as residential, childcare, kindergarten, pre-school, primary and secondary school and playground use scenarios. In cases where these uses are proposed in a planning scheme amendment, a process under the environmental audit system (administered by Environment Protection Authority (EPA) Victoria) is necessary to demonstrate that land is suitable for its intended use.

In the past, and currently (under certain circumstances), where land is deemed potentially contaminated and it is difficult to meet the requirements of the environmental audit system at the amendment stage, the application of an Environmental Audit Overlay (EAO) allows for the deferment of this requirement. However, under the *Environment Protection Act 2017*, the environmental audit system provides for the appointment of EPA accredited auditor and a system of preliminary risk screen assessment (PRSA) and/or environmental audits to inform land use planning for potentially contaminated land, prior to the application of an EAO.

The PRSA process was not available under the PPN30-2005 and has been introduced as part of the *Environment Protection Act 2017*. As detailed in the PPN30-2021, the purpose of the PRSA is to:

- *Assess the likelihood of the presence of contaminated land;*
- *Determine if an environmental audit is required; and*
- *If an environmental audit is required, to recommend a scope for the environmental audit.*

As such, it acts as an initial screen should a property be deemed to have sufficient potential for contamination to exist. Should an audit be deemed necessary, the purpose of the audit is to:

- *Assess the nature and extent of the risk of harm to human health or the environment from the contaminated land;*
- *Recommend measures to manage the risk of harm to human health of the environment from the contaminated land; and*
- *Make recommendations to manage the contaminated land, waste, pollution or activity.*

To make an assessment on whether a PRSA or environmental audit is necessary, a Potential for Contamination (Pfc) assessment was undertaken for each Property within the Study Area. Pfc ratings were derived based on the outcomes of the desktop review of historical information for the properties within the GRDP, as detailed in the Contaminated Land Study report.

The Pfc assessment for Properties located within the Study Area was completed in accordance with Table 2 of PPN30-2021 and collated into the Pfc assessment table in **Section 5.3**.

Notable changes (from PPN30-2005 to PPN30-2021) to activities that have a high and medium potential for contamination include the addition of the following land uses to the list of potentially contaminating activities:

High Potential for Contamination

- Chemical treatment / destruction
- Fertiliser manufacture/ storage
- Fill sites
- Firefighting or training
- Materials recycling/ transfer stations
- Mass animal burial
- Shooting or gun club

Medium Potential for Contamination

- Waste disposal such as illegal dumping
- Stockpiles of imported fill
- Commercial use of pesticides
- Biosolids application to land
- Farm waste disposal

Further, the PPN30-2021 guidance also provides a list of activity types adjacent to the Study Area that may have the potential for contamination on or beneath the Study Area. This list of activities includes land that is used for:

- Automotive repair/ engine works
- Bitumen manufacturing
- Chemical manufacturing, storage and blending
- Council works depot
- Gasworks
- Defence works
- Dry cleaning
- Electrical/ electrical components manufacturer
- Electroplating
- Landfill
- Service station
- Fuel storage depot
- Tannery
- Underground storage tanks

With consideration of the above, Meinhardt reviewed the PfC ratings for properties within the Study Area as detailed in the following sections of this report.

5.2 Potential for Contamination (PfC)

A 'traffic light' system (**Green = Low**, **Yellow = Medium** and **Red = High**) was used in the PfC assessment for each property.

Results obtained from the desktop review indicate the Study Area and much of the surrounding areas have been predominantly used for farming including generally non-intensive agricultural and potentially stock grazing purposes however this is based on observations of the land rather than specific information to suggest as such.

Residential homesteads and associated infrastructure (sheds, water tanks etc.) were identified on several of the Properties located within the Study Area, of varying ages and composition. Some properties contained areas that were used for the storage of old machinery, solid waste materials and other scrap items.

Evidence of earthworks associated with the construction and alteration of properties as well as land cultivation activities were identified on two (2) of the Properties located within the Study Area during the site inspection.

Many of the Properties within the Study Area were assessed to contain land uses or activities (whether actual or assumed) that have the potential to lead to contamination of soil and/or groundwater and/or pose a vapour risk. These activities included:

- Earthworks / stockpiling / importation and use of possibly uncontrolled fill material/ waste materials;
- Structures / buildings with unknown use;
- Storage and maintenance of heavy machinery associated with farming / agricultural practices;
- Use of agricultural sprays and irrigation of crops;
- Storage of chemicals / fuel / oil, chemical mixing;
- Use of land for waste disposal/ burning;
- Potential asbestos containing materials (**ACM**) in structures or buildings, especially those constructed before 1990 when the domestic use of ACM was phased out. These structures/buildings may still be present at the Property, or were demolished and/or removed; and

- Livestock grazing – though possible, non-intensive grazing or pasturing of non-carnivorous animals is not considered to contribute to significant potential for the presence of contamination.

While these activities were identified as being a risk, the scale and extent of any noted potential impact was considered prior to prescribing PFC ratings for each property.

The PFC assessment for Properties located within the Study Area was reviewed and considered in accordance with PPN30-2021 and collated into the PFC assessment table located in **Table 5-1**.

Table 5-1 PFC Assessment Table

PfC Rating	Applicable Properties
High	None
Medium	Properties 1, 2, 8 and 10
Low	Properties 3-7, 9, 11-16, 18-22.

Based on the review of previous land uses and the PPN30-2021, Meinhardt did not consider it necessary to alter the PFC of any of the properties within the GRDP Study Area.

5.3 Assessment Levels

In accordance with the PPN30-2021 guidance, Assessment Levels can be derived using the PFC ratings. Assessment Levels based on PFC ratings and proposed land-use are summarised in **Table 5-2**.

Table 5-2 Assessment Levels Matrix

Proposed Land-Use		Potential for Contamination	
		High	Medium
Uses defined in Ministerial Direction No. 1, the EAO, and clause 13.94-1S			
<ul style="list-style-type: none"> • Sensitive uses: Residential use, childcare centre, kindergarten, pre-school centre, primary school, even if ancillary to another use • Children’s playground • Secondary school 	New use, or buildings and works associated with a new use	A	B
	Buildings and works associated with an existing use	B	B
Other land use			
<ul style="list-style-type: none"> • Open space • Agriculture • Retail or office • Industry or warehouse 	New use, or buildings and works associated with a new or existing use	C	D

5.3.1 High Potential for Contamination

Where the PFC of a property or site is designated as high, Assessment Levels ‘A’, ‘B’ and ‘C’ may be applicable based on the proposed future use of land.

No properties located within the Study Area were classified as having a PFC of high and as such, there were no Properties designated as requiring Assessment Level ‘A’ or ‘C’.

5.3.2 Medium Potential for Contamination

A total of four (4) properties within the Study Area was designated as having a medium PFC. Where the PFC of a property or site is designated as medium, Assessment Levels ‘B’ and ‘D’ may be applicable based on the proposed future use of land.

The PPN30-2021 states the following requirements for a Site designated as Assessment Level ‘B’:

“PRSA or audit option applies. PRSA to determine need for audit is recommended.”

To meet Assessment Level ‘B’ requirements where the future use of land is for a sensitive land use, an EPA-accredited Environmental Auditor must be engaged to complete a PRSA¹ in accordance with the *Environment Protection Act 2017* to determine the need to complete an environmental audit.

A total of four properties (Properties 1, 2, 8 and 10) located within the Study Area were classified as requiring Assessment Level ‘B’ as summarised in **Table 5-3**.

Table 5-3 Assessment Level B Summary

Meinhardt Property ID	Assessment Level	Rationale
1, 8 and 10	B (or ‘D’ if non-sensitive land use)	These Properties were based on the potential for the storage of chemicals at these properties based on historical review of site information.
2		Property 2 is understood to have had historical filling materials brought to the Site during development of the property. The nature of this material and extent of filling conducted at the property is unknown.

These Properties would require Assessment Level ‘D’ to confirm its suitability for less sensitive uses such as open space, agriculture, retail or office (commercial use) or industry or warehouse (noting that in accordance with PPN30-2021.

For Assessment Level ‘D’ PPN30-2021 recommends for a planning scheme amendment that “*Planning authority to document consideration of potential for contamination to impact proposal.*” Where a planning permit application is submitted, the “*responsible authority to document consideration of potential for contamination to impact proposal.*”

5.3.3 Low Potential for Contamination

A total of 17 of 22 Properties were classified as having a low PfC. In accordance with the PPN30-2021 guidance, “...if the review of the current and historical use of the land and surrounds shows a history of non-contaminating activities and there is no other evidence or suspicion for contamination, further investigation is not required.”

As such, all properties with the exception of Properties 1, 2, 8 and 10, located within the Study Area were considered to unlikely to require further investigation from an environmental contamination perspective. Meinhardt notes that Property 17, located at 11 Mahon Avenue has been excluded from the Amendment to the Planning Scheme upon request by the landowner. This has been supported by Council. Meinhardt understands that the property has exchanged hands since the commencement of the GRDP and that the current owner does not wish to be included in any amendment.

¹EPA Victoria, *Preliminary screen risk assessments*, 17 July 2020, obtained from <https://www.epa.vic.gov.au/for-business/find-a-topic/environmental-audit/preliminary-risk-screen-assessments>

6 Conclusions and Recommendations

6.1 Conclusions

Meinhardt has reviewed information relevant to each of the properties within the Study Area to assess the risk of contamination affecting each property and any further works required to assess the level of contamination in light of the PPN30-2021 guidance.

After the review of site history and screening against potentially contaminating industries as detailed in PPN30-2021, Meinhardt conclude there were no properties given a “High” PfC within the Study Area.

Four properties (Properties 1, 2, 8 and 10) were deemed to have a “Medium” PfC as a result of a history that has included being used for the suspected storage of commercial pesticides, herbicides and other chemicals. In accordance with PPN30-2021 guidance, these sites are considered to require further assessment under Assessment Level ‘B’ (if the land is to be zone for sensitive use) or Assessment Level ‘D’ (for non-sensitive use).

Under Assessment Level ‘B’, a PRSA is recommended to determine whether an audit is necessary for the site. For non-sensitive land use, the planning or responsible authority must document the consideration of PfC to impact any planning proposal.

All other properties within the Study Area (Properties 3-7, 9, 11-16, 18-22) were deemed to have a “Low” PfC, and as such, no further investigations are considered necessary at the planning stage.

Due the high-level nature of any land capability assessment (time between the aerial photographs, poor resolution of some imagery, no access to individual properties for site inspections and no intrusive investigations forming part of this assessment), there is potential for actual or assumed activities not listed as occurring at an individual property to have taken place. The list of potentially affected properties and contaminants of potential concern (**CoPC**) as assessed in **Table 4-1** of this report is not considered to be comprehensive and further activities may be assessed as having taken place in a more detailed and Property-specific assessment that should be conducted to confirm that individual Properties are in fact fit for proposed redevelopment.

Further, where potentially contaminating activities have been identified at an individual Property, Meinhardt’s observations should be considered as subjective and that there is no definitive evidence that contamination actually exists or has occurred at any property. The list of potentially affected Properties and CoPC may be downgraded or upgraded as further information becomes available through more detailed and Property-specific assessment.

6.2 Recommendations

Based on the conclusions detailed in **Section 6.1**, Meinhardt makes the following recommendations:

- Completion of a PRSA for Properties 1, 2, 8 and 10 should the land be proposed for a sensitive future use, or consideration should be given and documented about the PfC to impact any planning proposal. A PRSA may be conducted at any time, however it may be in the interests of Council to action this once a final proposed land use has been decided for these properties.
- While no immediate requirements are necessary for properties assigned as “Low” PfC, Meinhardt notes that due to the high-level nature of Contaminated Land Study searches, there is potential for existing contamination, or activities that may have caused contamination to have occurred, that are not able to be identified at the current stage. Should unexpected contamination findings be discovered during future site works (identification of buried wastes, evidence of heavy chemical staining, unnatural chemical odours, visible asbestos, etc.), then additional investigations may be required. In such a situation, a suitably qualified and experienced Environmental Consultant may need to be notified, and appropriate actions taken.
- During development works any contaminated soil (including those with aesthetic impacts including odour) must be managed as a Prescribed Industrial Waste where they are to be removed from site. Producers of contaminated soil must categorise their waste into one of five categories, Category A, B, C, D or clean fill (EPA Publication 1828.2, *Waste disposal categories – characteristics and thresholds*, 2021) (**Publication 1828.2**). Descriptions of the threshold limit values (upper limits) of contaminants for these categories are outlined in Publication 1828.2.

Other

- This report should be read in conjunction with the Meinhardt, *Glismann Road Development Plan: Contaminated Land Study*, March 2015 (updated July 2022) report. Any conclusions and recommendations pertaining to potential for contamination and assessment levels detailed in this report supersede those detailed in the aforementioned report. All other information in the Contaminated Land Study report is assumed to be valid and current at the time this report is published.

Note: *Since the preparation of the Meinhardt, Glismann Road Development Plan, Contaminated Land Study, 2015 (updated May 2020) report, the Cardinia Planning Scheme Amendment C238card has rezoned land in the Glismann Road Development Plan area to facilitate infill urban development. The amendment responds to the recommendations and mitigation measures outlined in the 2020 Contaminated Land Study report. The Cardinia Planning Scheme Amendment C238card, Corrected Panel Report, 25 January 2022 (Panel Report) accepted the conclusions of the Contaminated Land Study report and noted that relevant legislation had changed on the identification of potentially contaminated land in response to the updated Planning Practice Note 30 (PPN30-2021). It is also noted that the Panel Report also addressed the inclusion of 11 Mahon Avenue Beaconsfield in the Glismann Road Development Plan. The Panel recommended that the only development plan requirement for 11 Mahon Avenue be regarding the pedestrian connection to the Glismann Road area. Based on this recommendation, the response to the updated PPN30-2021 did not include an assessment of 11 Mahon Avenue property. As such, this report should be read in conjunction with Meinhardt, Glismann Road Development Plan: Contaminated Land Study, May 2015 (updated July 2022).*

7 References

- Australian and New Zealand Environment and Conservation Council (ANZECC) and the National Health and Medical Research Council (NHMRC), *Australian and New Zealand Guideline for the Assessment and Management of Contaminated Sites*, January 1992;
- Department of Environment, Land, Water and Planning, *Spatial Datamart Victoria – VicMap Easements*, obtained 21/12/2020 from <https://services.land.vic.gov.au/SpatialDatamart/>
- Department of Sustainability and Environment (DSE) (now Department of Environment, Land, Water and Planning (DELWP)), *Potentially Contaminated Land General Practice Note*, 2005;
- DELWP, *Potentially Contaminated Land Planning Practice Note 30*, 2021;
- EPA Victoria, *EPA Publication 1828.2, Waste disposal categories – characteristics and thresholds*, 2021;
- National Environment Protection Council, *National Environment Protection (Assessment of Site Contamination) Measure*, 1999 (as amended 2013);
- Meinhardt, *Glismann Road Development Plan: Contaminated Land Study*, May 2015 (updated July 2022);
- Standards Australia, *Australian Standard AS4482.1-2005: Guide to the Investigation and Sampling of Sites with Potentially Contaminated Soil – Part 1: Non-Volatile and Semi-Volatile Compounds*, 2005;
- Victorian Government, *Environment Protection Act 2017*, 2017;
- Victorian Government, *Environment Reference Standard*, Victoria Government Gazette No. S245, 2021.

8 Limitations

The assessment in this report was restricted to the agreed scope of works and is subject to the limitations set out below or elsewhere within this report.

The assessment has been undertaken and performed in a professional manner consistent with the skill and care ordinarily exercised by reputable consultants under similar circumstances. No other warranty, expressed or implied, is given.

Where Meinhardt Infrastructure & Environment Pty Ltd (Meinhardt) has relied on verbal information and/or documentation provided by the client and/or third parties, Meinhardt did not attempt to independently verify the accuracy or completeness of that information. To the extent that the conclusions or recommendations in this report are based in whole or in part on such information, they are contingent on its validity. Meinhardt assume no responsibility for any consequences arising from any information or condition that was inaccurate, concealed, withheld, misrepresented, or otherwise not fully disclosed or made available to Meinhardt.

Other than the visual observations and analytical data as stated in this report, no representations or warranties are made concerning the nature or quality of the soil, groundwater, surface water and/or soil vapour on the Site. On all sites varying degrees of non-uniformity of the vertical and horizontal, groundwater, surface water and/or soil vapour/landfill gas conditions are encountered. Hence no sampling technique can completely eliminate the possibility that samples are not totally representative of soil and/or groundwater conditions on a site.

It should also be recognised that site conditions, including contaminant extent and concentrations can change with time. Hence, the information in this report is only accurate as at the date of issue. If this report is used after a protracted delay, further investigation of the Site may be necessary.

This report has been prepared on behalf of the client for the benefit of Cardinia Shire Council only (the authorised recipient).

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APPENDIX A

PLANNING PRACTICE NOTE 30 (2021)

Potentially Contaminated Land

Planning Practice Note 30

July 2021

The purpose of this practice note is to provide guidance for planners and applicants on:

- How to identify potentially contaminated land
- The appropriate level of assessment of contamination in different circumstances
- Appropriate provisions in planning scheme amendments
- Appropriate conditions on planning permits

Introduction and overview

Land use planning and potentially contaminated land

Development of land provides an opportunity to address contamination and mitigate any risks posed to human health, the environment, and building and structures. Contaminated land can often be safely used and developed following appropriate remediation, provided any necessary controls to manage residual contamination are implemented.

While many parties have obligations in managing potentially contaminated land, including duties under the *Environment Protection Act 2017*, this practice note provides advice about the role of the planning system and applies to situations where a planning approval or control applies.

What is potentially contaminated land?

Potentially contaminated land is defined in *Ministerial Direction No. 1 – Potentially Contaminated Land* and Clause 73.01 General Terms of the *Victoria Planning Provisions (VPP)* as land:

(a) used or known to have been used for industry or mining;

(b) used or known to have been used for the storage of chemicals, gas, waste or liquid fuel (other than minor above-ground storage that is ancillary to another use of the land); or

(c) where a known past or present activity or event (occurring on or off the land) may have caused contamination on the land.

How is potentially contaminated land considered in the planning system?

Planning scheme amendments

Section 12 of the *Planning and Environment Act 1987* requires a planning authority, when preparing a planning scheme or planning scheme amendment to 'take into account any significant effects which it considers the scheme or amendment might have on the environment or which it considers the environment might have on any use or development envisaged in the scheme or amendment'.

Ministerial Direction No. 1 – Potentially Contaminated Land contains more specific requirements for land which is determined to be potentially contaminated. Additional requirements apply for land proposed to be used for sensitive uses, defined as residential uses, child care centres, kindergartens, pre-school centres or primary schools, even if ancillary to another use, and for secondary schools and children's playgrounds. Where an amendment allows these uses (whether or not subject to a permit) a process under the



environmental audit system, administered by the Environment Protection Authority (EPA), is required to demonstrate that the land is suitable for its intended use. *Ministerial Direction No. 1* also details requirements for amendments relating to public open space and agriculture.

Where land has been determined to be potentially contaminated, but it is difficult or inappropriate to meet environmental audit system requirements at the amendment stage, the application of the *Environmental Audit Overlay* (EAO) to the land allows deferment of these requirements. The EAO is a mechanism provided in the VPP and planning schemes to ensure that requirements under *Ministerial Direction No. 1* are met before the commencement of a sensitive use (or children's playground or secondary school), or the construction or carrying out of any buildings and works associated with those uses. Applying the overlay ensures the requirements will be met in the future but does not prevent the assessment and approval of a planning scheme amendment.

Ministerial Direction No. 19 – Preparation and Content of Amendments that May Significantly Impact the Environment, Amenity and Human Health requires a planning authority to seek the views of EPA when undertaking a strategic planning process and preparing a planning scheme amendment that may significantly impact Victoria's environment, amenity and/or human health due to pollution and waste, including those relating to potentially contaminated land.

A planning authority must also consider the Planning Policy Framework of the VPP, including clause 13.04-1S *Contaminated and potentially contaminated land*. Clause 13.04 -1S aims to ensure that contaminated and potentially contaminated land is or will be suitable for its intended future use and development, and that this land is used and developed safely.

Planning permits and planning scheme requirements

Section 60 of the *Planning and Environment Act 1987* requires a responsible authority, before deciding on a permit application, to consider 'any significant effects which the responsible authority considers the use or development may have on the environment or which the responsible authority considers the environment may have on the use or development'. Section 60 is applicable to potentially contaminated land, which may affect, or be affected by, use or development.

Clause 65.01 of the VPP requires a responsible authority, before deciding on a permit application or approval of a plan to consider as appropriate 'Any significant effects the environment, including the contamination of land, may have on the use or development'. A responsible authority must also consider relevant planning policy including clause 13.04-1S within the Planning Policy Framework of the VPP. Clause 13.04-1S aims to ensure that contaminated and potentially contaminated land is or will be suitable for its intended future use and development, and that this land is used and developed safely. Clause 13.04-1S defines sensitive uses, warranting additional protection, as residential uses, child care centres, kindergartens, pre-school centres or primary schools, even if ancillary to another use, and also for secondary schools and children's playgrounds.

In some cases, potentially contaminated land will have been previously identified through a planning scheme amendment process under *Ministerial Direction No. 1* and included in an EAO or other appropriate measure. The presence of an EAO means a determination has already been made that land is potentially contaminated, and that a process under the environmental audit system will be required before the land is used or developed for a sensitive use, a secondary school or children's playground.

Please refer to Appendix 1 and Appendix 3 for a summary of the planning regulatory framework and an overview of roles and responsibilities. Further information regarding the broader legislative and policy framework for managing contaminated and potentially contaminated land can be found at

<https://www.planning.vic.gov.au/policy-and-strategy/planning-for-environment-protection>



What is the environmental audit system?

The environmental audit system is legislated under the *Environment Protection Act 2017*, and provides for the appointment of environmental auditors by EPA, and a system of preliminary risk screen assessments (PRSA) and environmental audits, which may be used to inform land use planning for potentially contaminated land. These processes provide a high level of assurance as auditors must be independent and are responsible to EPA and the people of Victoria.

Under s 204 of the *Environment Protection Act 2017*, the purpose of a PRSA is to:

- *assess the likelihood of the presence of contaminated land; and*
- *determine if an environmental audit is required; and*
- *if an environmental audit is required, to recommend a scope for the environmental audit.*

Under s 208 of the *Environment Protection Act 2017*, the purpose of an environmental audit for land use planning purposes is to:

- *assess the nature and extent of the risk of harm to human health or the environment from the contaminated land*
- *recommend measures to manage the risk of harm to human health of the environment from the contaminated land*
- *make recommendations to manage the contaminated land, waste, pollution or activity*

When an environmental audit is specifically for land use planning purposes, the scope of the audit must identify the proposed use of the site. Where an audit assesses the use or proposed use of the site, an auditor must include a statement regarding the suitability of the site. The auditor will make one of the following three statements:

- *the site is suitable for the purposes specified in the statement; or*
- *the site is suitable for the purposes specified in the statement if the recommendations made in the statement are complied with; or*
- *the site is not suitable for the purposes specified in the statement at the time the statement was prepared.*

Both a PRSA and environmental audit result in the issue of a formal statement and accompanying

report which is publicly available on the EPA website. Under s 210 of the *Environment Protection Act 2017*, the statement must be provided to the relevant planning and responsible authority within five business days of issue. The person in management or control of the site must also provide a copy of any statement to any person who proposes to become the person in management or control of the site (for example a potential purchaser). An environmental audit or PRSA statement reflects the condition of the site at the date of issue.

Further information on the environmental audit system can be found in Appendix 2 and on the [EPA website](#).

What is the National Environment Protection (Assessment of Site Contamination) Measure?

The *National Environment Protection (Assessment of Site Contamination Measure 1999 (ASC NEPM))* establishes a nationally consistent approach to the assessment of site contamination by regulators, site assessors, auditors, landowners and developers. Processes under the environmental audit system follow the ASC NEPM methodology, and other contaminated land investigations conducted by suitably qualified environmental consultants should also adhere to it.

The ASC NEPM establishes the first stage of investigations for contaminated sites as the *Preliminary Site Investigation (PSI)*, a primarily desktop investigation to establish the site history, and develop a conceptual site model (CSM). The CSM will identify likely sources of contamination, and any pathways for contamination to reach receptors (such as site occupants), under the land use/development scenario. The purpose of the PSI is to recommend whether the land warrants further field investigation. Where this is the case, the NEPM provides standards for further assessment.

Further information on investigations defined under the NEPM can be found in Appendix 2 of this practice note or on the [NEPC website](#).



Assessing strategic and statutory planning proposals for potentially contaminated land

Three key steps are involved in assessing a planning proposal relating to potentially contaminated land, as set out in Figure 1 below. The following sections provide context on each step. Where applicable, this is divided into sections specific to strategic or statutory planning.

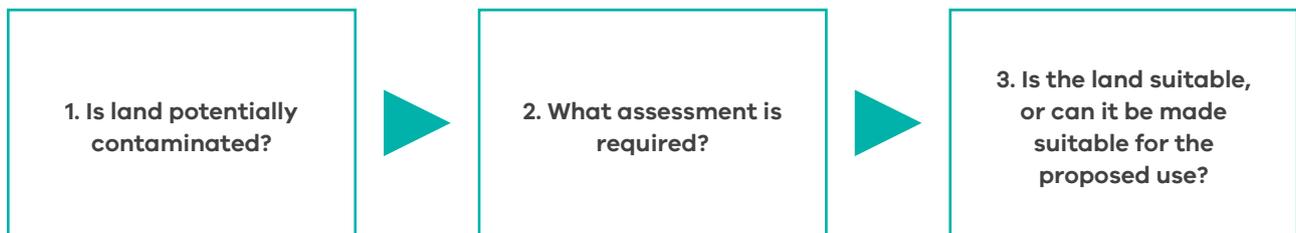


Figure 1: Process for assessing a planning proposal for potentially contaminated land.

1. Is land potentially contaminated?

To determine whether land is potentially contaminated land, it is necessary to obtain information on current and past land uses and identify any which are potentially contaminating. Many planning and responsible authorities determine potentially contaminated land systematically across their area of jurisdiction and maintain a spatial database. This approach is encouraged, but potential contamination may also be determined on a case-by-case basis when preparing an amendment or assessing a permit application.

How is potentially contaminated land identified?

A range of information sources exists on potentially contaminating land uses. Information sources set out in Table 1 should be consulted. These include council records, EPA/DELWP publicly available databases, and applicant information. Other sources, such as the additional resources in the references section, may also be utilised.

Table 1: Basic information sources for identifying potentially contaminated land

Planning/ responsible authority information	<ul style="list-style-type: none"> • Presence of EAO (while noting that not all potentially contaminated sites will have an EAO). • Current and previous zoning, planning or building permits, ownership or activities for the site and surrounds. • Any known contamination investigations or other relevant environmental assessments.
Public databases	<ul style="list-style-type: none"> • Victoria Unearthed https://mapshare.vic.gov.au/victoriaunearthed/ which brings together existing information on potential land and groundwater information, including EPA datasets and historical land use information from Sands and McDougall. • Databases on the EPA website www.epa.vic.gov.au, including EPA's Public Register, which provides access to PRSA and environmental audit statements, information on licenced businesses, court proceedings and other regulatory information. EPA's database of groundwater quality restricted use zones also includes information on past land uses.



Table 1: Basic information sources for identifying potentially contaminated land

<p>Application/proposal information</p>	<ul style="list-style-type: none"> Information from a site analysis presented in accordance with clauses 54.01-1 or 55.01-1 of the VPP. Observations by responsible authority officers during a site inspection.
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Obtaining this information is a shared responsibility and every effort should be made by the applicant or proponent to obtain this information prior to submitting an application or planning scheme amendment.

When should additional information be required from the applicant?

If there is insufficient information to determine the current and historical uses of land and its surrounds following the review of information sources in Table 1, a site history review (as described in Appendix 2) may be commissioned to gather further information. The site history review may be obtained through a request to the proponent or applicant under s 54 of the *Planning and Environment Act 1987*. A request for a site history review must be made prior to a decision on a planning scheme amendment or permit application, to ensure that a determination on whether land is potentially contaminated can be reached.

If the review of the current and historical use of the land and surrounds shows a history of non-contaminating activities and there is no other evidence or suspicion for contamination, further investigation is not required.

What land uses or activities might indicate potential contamination?

Table 2 lists the types of land uses that may have potential for contaminating land.

Land defined as contaminated land under the *Environment Protection Act 2017* will generally also meet the broader definition of potentially contaminated land.



Table 2: Land uses with potential to contaminate land

High potential for contamination		Medium potential for contamination
Abattoir	Fuel storage depot	Ancillary use or activities
Abrasive blasting	Gasworks	In some cases, while the land use onsite may be benign, an ancillary land use or even a one-off activity or event has the potential to cause contamination. Examples include:
Airport	Glass manufacture	<ul style="list-style-type: none"> Above ground storage of chemicals or fuels (where such storage is ancillary to the primary site activities but is not minor) Waste disposal such as illegal dumping Stockpiles of imported fill
Asbestos production/disposal	Iron and steel works	Adjacent contaminating activity
Asphalt manufacturing	Landfill sites/waste depots	For the activities listed below, potential for contamination from adjoining land, and, if there is reason to suspect further offsite contamination, other nearby land, should be considered.
Automotive repair/engine works	Lime works	Automotive repair/engine works
Battery manufacturing/recycling	Materials recycling and transfer stations	Bitumen Manufacturing
Bitumen manufacturing	Mass animal burial on agricultural sites	Chemical Manufacturing/storage/blending
Boat building/maintenance	Metal coating / electroplating	Council Works Depot
Breweries/distilleries	Metal finishing and treatments	Gasworks
Brickworks	Metal smelting/refining/finishing	Defence works
Cement manufacture	Mining and extractive industries ¹	Dry Cleaning
Ceramic works	Oil or gas production/refining	Electrical/ electrical components manufacturer
Chemical manufacturing/storage/blending	Pest control depots	Electroplating
Chemical treatment / destruction facilities	Printing shops	Landfill
Coke works	Pulp or paper works	Service station
Compost manufacturing	Railway yards	Fuel storage depot
Concrete batching	Scrap metal recovery	Tannery
Council works depot	Service stations/fuel storage	Underground storage tanks
Defence works	Sewage treatment plant	
Drum re-conditioning facility	Ship building/breaking yards	Agriculture and animal production
Dry cleaning	Shipping facilities – bulk (rate <100 t/day)	While most agricultural land is not likely to be contaminated, the potential for specific contaminating activities to have occurred over time should be considered, including:
Electrical/electrical components manufacture	Shooting or gun clubs	<ul style="list-style-type: none"> Commercial use of pesticides (including herbicides, fungicides etc) Biosolids application to land Farm waste disposal
Electricity generation/power station	Stock dipping sites	See also activities in the ‘high’ category.
Electroplating	Tannery (and associated trades)	
Explosives industry	Textile operations	
Fertiliser manufacture or storage	Timber preserving/treatment	
Fibreglass reinforced plastic manufacture	Tyre manufacturing	
Fill sites	Underground storage tanks	
Firefighting or training (use of foams)	Utility depots	
Foundry	Waste treatment/incineration/disposal	
	Wool scouring	

This list is advisory in nature and is not exhaustive.

¹ Strategies or programs may apply for regional historical goldmining activities.



2. What assessment is required?

If land is determined to be potentially contaminated, the planning or responsible authority must require appropriate assessment as part of a planning scheme amendment or permit application.

Which assessment approach is appropriate?

For proposals involving sensitive uses, children’s playgrounds or secondary schools on potentially contaminated land, *Ministerial Direction No. 1* and the EAO allow for either an environmental audit or a PRSA to be undertaken. Under the provisions of clause 13.04-1S an audit or PRSA may also be required for permit applications where no EAO applies. The role of a PRSA is to determine the need for an environmental audit.

The decision whether to undertake a PRSA or proceed directly to audit will depend on the potential for contamination and the proposal, as set out in Table 3 below. A PRSA is recommended for scenarios where it is uncertain whether an audit is warranted: specifically those with lower potential for contamination (in the medium category in Table 2) or for sites where the proposal is relatively minor – i.e. involving modifications to an existing use, rather than a change in use. For sites in the ‘high’ contamination category, where a new sensitive use is established, proceeding directly to audit is recommended, as there will usually be reasonable certainty that an audit will be required, and this approach is likely to provide the most efficient outcome.

Where the land has been identified as having a ‘high’ potential for contamination, but a use other than a sensitive use, children’s playground, or secondary school is proposed, a planning or responsible authority may require a preliminary site investigation (PSI), to inform decision making on next steps, including whether an environmental audit is warranted.

As the purpose of the PSI is to inform decision making on what (if any) requirements should be applied to a planning approval to address potential contamination, the PSI should be requested prior to notice being given for an amendment, or prior to a permit decision.

When requiring a PSI, the planning or responsible authority may specify that the limitations section of the PSI does not preclude reliance on the PSI by the planning or responsible authority. If a planning or responsible authority needs assistance in reviewing a PSI, further guidance on managing PSI requirements in land use planning can be found at <https://www.planning.vic.gov.au/policy-and-strategy/planning-for-environment-protection> or the advice of a suitably qualified professional may be sought.

Table 3 on the next page guides planners and applicants on identifying the appropriate assessment approach for potentially contaminated land.



Table 3: Recommended approach to assessing potentially contaminated land

Planning Proposal		Potential for Contamination	
		High	Medium
Uses defined in Ministerial Direction No. 1, the EAO, and clause 13.04-1S			
<ul style="list-style-type: none"> Sensitive uses: Residential use, childcare centre, kindergarten, pre-school centre, primary school, even if ancillary to another use. Children’s playground Secondary school 	New use, or buildings and works associated with a new use	A	B
	Buildings and works associated with an existing use	B	B
Other land use			
Open space Agriculture Retail or office Industry or warehouse	New use, or buildings and works associated with a new or existing use	C	D

	Planning Scheme Amendment	Planning Permit Application
A	PRSA or audit option applies Proceeding directly to an audit is recommended.	PRSA or audit option applies Proceeding directly to an audit is recommended.
B	PRSA or audit option applies PRSA to determine need for audit is recommended.	PRSA or audit option applies PRSA to determine need for audit is recommended.
C	PSI to inform need for audit is recommended	PSI to inform need for audit is recommended
D	Planning authority to document consideration of potential for contamination to impact proposal	Responsible authority to document consideration of potential for contamination to impact proposal

Note: Where land is used for more than one purpose, the most sensitive land use should be used to inform the approach to determining if an audit is required.

When does the environmental audit system apply to a planning scheme amendment?

For planning scheme amendments that propose to allow, whether or not by permit, a sensitive use, children’s playground or secondary school on land that is potentially contaminated, *Ministerial Direction No. 1* requires a planning authority to satisfy itself that the land is suitable for the use by:

- 1) A PRSA statement stating that no audit is required; or
- 2) An environmental audit statement stating that the land is suitable for the proposed use; or
- 3) Where complying with 1) or 2) is difficult or inappropriate, deferring these requirements through application of an EAO or other appropriate measure.

Whether the audit system requirements are met at the time of amendment or deferred, the determination of whether land is potentially contaminated must always be made at the time of the amendment and be documented in the Explanatory Report.



Is assessment required at the time of the amendment?

Audit system requirements must be met at the time of the amendment unless the planning authority determines that compliance with this requirement is difficult or inappropriate, noting that assessment time and costs are not in themselves sufficient reasons to defer assessment.

Meeting a PRSA requirement prior to amendment is preferred because the PRSA can support consideration of the effects of the environment on the amendment pursuant to s 12 of the *Planning and Environment Act 1987* and may avoid unnecessary encumbrances on the land, where the PRSA concludes no environmental audit is required for the range of uses allowed by the amendment. The outcomes of a PRSA can also assist a planning authority in determining appropriate planning controls to be included in the amendment.

Meeting an environmental audit requirement prior to amendment is preferred, while acknowledging that in some instances this will be difficult or inappropriate, for example where:

- the rezoning relates to a large strategic planning exercise or involves multiple sites in separate ownership
- it would be hazardous to access the site to take samples – for example, there is an operational industry on the site and safety risks are present.

For proposed amendments on potentially contaminated land where requirements under the environmental audit system need to be deferred, the planning authority should consider:

- a) Whether there is reasonable confidence that the land can be made suitable for its proposed use – i.e. that contamination will not preclude that use.
- b) Whether there will be a practical mechanism available to mitigate or manage any contamination identified during the environmental audit process (for example, through the design of the development).
- c) Whether there will be a subsequent planning approval required; this may afford an opportunity to include any restrictions on use or conditions on development recommended by the environmental audit.

While most land can be made suitable for its proposed use through appropriate remediation,

some highly contaminated land types (such as a landfill, or gasworks site) may never be feasible for certain zones such as residential zones, because complex and restrictive management measures are likely to be required to make this land safe for these purposes. Consideration of this aspect may be informed by EPA’s written view of a planning scheme amendment proposal provided under *Ministerial Direction No. 19 – Preparation and Content of Amendments that May Significantly Impact the Environment, Amenity and Human Health*.

Where an environmental audit is to be completed in response to an EAO, it is necessary to carefully draft the planning provisions in the planning scheme amendment to address implementation of the environmental audit statement recommendations.

The requirements of the EAO operate for both existing and new sensitive uses. Alternative options which address the risk of potentially contaminated land should be exhausted before an EAO is applied to land with established sensitive uses. In this circumstance, there may be a risk to current occupants that needs to be addressed, and notification to EPA may be warranted.



Can an exemption be requested?

Ministerial Direction No. 1 provides for an exemption to be granted from the need to comply with the Direction. Examples of where such an exemption may be appropriate are:

- Potentially contaminated land is already used for a sensitive use, agriculture or open space.
- Prior industry use of the land was benign and unlikely to result in any contamination.
- If there is a regional strategy to manage contamination (for example former gold mining activities).

A planning authority may request an exemption from the Minister or Executive Director, Statutory Planning Services, Department of Environment, Land, Water and Planning. The Minister or Executive Director must consult with EPA before making a decision. The planning authority should consult with EPA before requesting an exemption.

When does the environmental audit system apply to a planning permit application?

For permit applications relating to land that has been identified as potentially contaminated, the responsible authority must seek appropriate environmental assessment. In some, but not all cases, an EAO may already exist over the land.

If an EAO has been applied, and the proposed use is a sensitive use, secondary school, or children's playground, the required assessment is set out in the EAO provisions: a PRSA statement that no audit is required, or an environmental audit statement that the land is suitable, is required before a sensitive use or the construction or carrying out of buildings and works associated with the sensitive use can commence.

Where a proposal involves both buildings and works and establishment of a sensitive use, the environmental audit requirement must be met prior

to whichever of these commences first. For example, if buildings and works are undertaken to prepare a site for use as a child care centre, the audit must be undertaken prior to the commencement of construction or carrying out of buildings and works, not just prior to the commencement of the use.

Where EAO requirements do not apply, s 60 of the *Planning and Environment Act 1987*, and clauses 65 and 13.04-1S of the VPP provide a basis for the responsible authority to consider the effect of potential contamination on a proposed use or development. At the time of the decision, the responsible authority must determine whether the land is potentially contaminated and identify the appropriate level of assessment.

As set out in Table 3, an assessment under the environmental audit system is recommended for permit applications relating to sensitive uses, secondary schools, or children's playgrounds. For other uses, if there is high potential for contamination, a PSI is recommended to inform the need for further action, which may include an audit.

Generally, environmental assessment, including as appropriate a PRSA or environmental audit, should be provided as early as possible in the planning process. A PRSA requirement will usually be feasible to undertake prior to the issue of a permit, but this may not always be possible or reasonable for an audit requirement. Requiring an environmental audit as a condition of a permit may be acceptable if the responsible authority is satisfied that the land can be made suitable for its proposed use or development – i.e. that contamination will not preclude the proposal.

This is usually the case where the site is a higher density residential or mixed-use redevelopment, where the management of contamination issues can be addressed as part of overall design or construction. It may not be the case for lower density development forms such as single dwellings where there are limited options to control the ongoing use or development. In disputed cases, one option may be to undertake a PRSA as part of the application process to understand the likely contamination and help inform decision making on whether the audit can be deferred to a permit condition.

Where an audit is made a condition of permit, guidance and a model condition to ensure that audit recommendations to make the land safe are provided for is included on page 13.



Remediation works

Works that are associated with a development and that might also be remediation works (such as excavation or basement construction), should not commence before the completion of an environmental audit if a planning permit has not been issued for the development.

Where a permit has been issued for a development and a requirement for an environmental audit is a condition of permit, the responsible authority should consider carefully wording the permit conditions to allow early building works that facilitate remediation of the site.

3. Is the land suitable, or can it be made suitable?

How do assessment outcomes inform planning approvals?

A planning or responsible authority must ensure that the effects of the environment on the proposal are considered, and that potentially contaminated land is suitable for its proposed use. The conclusions of assessments undertaken inform the planning or responsible authority in meeting this obligation.

If a PRSA process has been undertaken, the PRSA statement may either conclude that (1) no environmental audit is needed or (2) may conclude that an environmental audit is warranted to determine site suitability. If a PSI has been undertaken, findings can inform the planning or responsible authority in deciding whether an environmental audit, or alternative assessment or management measures, are appropriate, or in concluding that no further action is needed.

For sites where an environmental audit is required, the environmental audit statement:

- (1) provides an opinion on whether the land is suitable for the planning proposal and
- (2) makes recommendations on any conditions to be placed on the use/development to ensure contamination risks are managed. For example, for an apartment proposal, the audit may state the land is suitable subject to compliance with a recommendation to construct landscaped areas above ground level using imported soils.

To ensure that the site is made suitable for the proposal, applicable recommendations of the environmental audit must be translated into requirements of a planning approval. The legal basis for the planning or responsible authority to give effect to outcomes of an environmental audit is set out in s 12 and s 60 of the *Planning and Environment Act 1987*, and clauses 65.01 and 13.04-1S of the VPP.

Where a planning scheme amendment applies, provision needs to be made for applicable recommendations to be given effect, or where possible used to inform the drafting of planning provisions. Where a planning permit applies, any environmental audit recommendations that apply to the construction or the design of the development must be included as requirements in that approval.

Where requirements are technical in nature, the planning or responsible authority may require written confirmation of compliance provided by an environmental auditor or suitably qualified environmental consultant. This requirement may already be prescribed within the environmental audit recommendation.

Recommendations that relate to long-term contamination management during ongoing occupation of the site do not usually need to be translated into the planning decision. They are managed by being incorporated, where appropriate, into tools available under the *Environment Protection Act 2017*. More detail is provided in Table 4 below.



Table 4: Responsibility for managing environmental audit statement recommendations

Planning or responsible authority is responsible for:

- Implementing restrictions on permitted land uses.
- Giving effect to environmental audit statement recommendations that relate to the use and development of the land regulated by the planning scheme and apply prior to commencement of use, development or occupancy.

EPA is responsible for:

- Enforcement of obligations associated with the duty to manage and environmental audit recommendations that are listed in a mechanism under the *Environment Protection Act 2017*, including:
 - A site management order
 - A remedial notice

These typically relate to long term or ongoing monitoring or management.

The following sections provide more specific guidance on considering audit recommendations in circumstances where the audit is available prior to a decision on a planning scheme amendment or permit application, and where it is required as a condition of a planning permit.

Environmental audit statement available at time of decision

Where an environmental audit statement is available at the time of decision, the planning or responsible authority must first review the statement to confirm whether the land is suitable for the proposal. Second, the planning or responsible authority must consider any recommendations in an environmental audit statement.

Where recommendations relate to design or construction, provisions in a planning scheme amendment or conditions in a planning permit must reflect the recommendations in the statement. The applicant is required to demonstrate that the applicable recommendations included in the statement have been or will be met before the use commences.

For planning scheme amendments, the audit recommendations must inform the drafting of the relevant planning provisions including schedules, overlays and table of uses to give effect to and address the outcomes of the environmental audit statement.

If the recommendations of an environmental audit statement are impractical or inappropriate to include as requirements in a planning approval, this should be discussed with the environmental auditor who may choose to either re-issue the environmental audit statement or to confirm that the intent of the recommendations are adequately captured in the planning decision.

For any recommendations which are ongoing in nature, such as those requiring maintenance or monitoring, the planning or responsible authority should liaise with EPA or other agencies of appropriate jurisdiction where the nature of the conditions means that they are more properly considered by that agency (for example, liaise with EPA about conditions requiring ongoing management of groundwater). Where no other option is available, a s 173 agreement under the *Planning and Environment Act 1987* can be considered.



Requirements where an environmental audit is a condition of permit

Where an environmental audit is to be completed in response to a condition of a planning permit, it is necessary to carefully word the planning permit conditions to not only require an environmental audit statement to be issued but to also address the implementation of environmental audit statement recommendations which relate to design or construction. An example of a condition that might be placed on a planning permit is provided below. More detail is at: <https://www.planning.vic.gov.au/policy-and-strategy/planning-for-environment-protection>.

1. Prior to the commencement of the use or buildings and works associated with the use (or the certification or issue of a statement of compliance under the *Subdivision Act 1988*) the permit holder must provide:

An environmental audit statement under Part 8.3, Division 3 of the *Environment Protection Act 2017* which states that the site is suitable for the use and development allowed by this permit; or

An environmental audit statement under Part 8.3, Division 3 of the *Environment Protection Act 2017* which states that the site is suitable for the use and development allowed by this permit if the recommendations made in the statement are complied with.

2. All the recommendations of the environmental audit statement must be complied with to the satisfaction of the responsible authority, prior to commencement of use of the site. Written confirmation of compliance must be provided by a suitably qualified environmental consultant or other suitable person acceptable to the responsible authority.

Compliance sign off must be in accordance with any requirements in the environmental audit statement recommendations regarding verification of works.

In the absence of a site management order and where there are recommendations on an environmental audit statement that require significant ongoing maintenance and/or monitoring, the following condition may also be used:

3. The applicant must enter into a Section 173 Agreement under the *Planning and Environment Act 1987*. The s 173 Agreement must be executed

on the title of the relevant land prior to the commencement of the use and prior to the issue of a statement of compliance under the *Subdivision Act 1988*. The applicant must meet all costs associated with drafting and execution of the Agreement, including those incurred by the responsible authority.

The below planning permit note might also be included:

A suitably qualified environmental consultant acceptable to the responsible authority may include an environmental auditor appointed under the *Environment Protection Act 2017* or an environmental professional with qualifications and competence consistent with Schedule B9 of the National Environment Protection (Assessment of Site Contamination Measure 1999) (as amended 2013).

Where an EAO applies to the site, it is not necessary to duplicate the requirement to obtain an environmental audit statement in a planning permit condition. However, where a planning permit is triggered, a responsible authority should consider including a planning permit condition to compel compliance with applicable environmental audit recommendations.

How are environmental audit recommendations enforced?

Where a responsible authority becomes aware that an occupier is failing to comply with requirements set out in the planning scheme or planning permit, enforcement procedures under the *Planning and Environment Act 1987* are available. These may include planning infringement notices, enforcement orders or prosecution through the Magistrates Court.

EPA is responsible for enforcing site management orders and remedial notices, including those that incorporate environmental audit statement recommendations. Where there is a failure to address matters identified in environmental audit statement recommendations this may also constitute a breach of the duty to manage by the person in management or control of the land.

EPA may issue a remedial notice under the *Environment Protection Act 2017*. Depending on the nature of the recommendations, other agencies may also have a role in enforcement.



References

Contacts

- Specific Development/Planning Scheme Amendment enquiries:
 - development.approvals@delwp.vic.gov.au or stateplanning.services@delwp.vic.gov.au
 - DELWP regional Office: <https://www.planning.vic.gov.au/contact-planning>
 - EPA office Environment Protection Authority: free call 1300 372 842 or contact@epa.vic.gov.au
- General enquiries and web content about this topic: planning.systems@delwp.vic.gov.au
- Planning Practice Note: planning.systems@delwp.vic.gov.au

Websites

- <https://www.epa.vic.gov.au/>
- <https://www.planning.vic.gov.au/policy-and-strategy/planning-for-environment-protection>
- <https://www.environment.vic.gov.au/sustainability/victoria-unearthed>
- <http://nepc.gov.au/nepms/assessment-site-contamination>

Further information resources for identifying potentially contaminated land

- https://www.vvg.org.au/vvg_map.php
- Historical aerial images on VicPlan which includes historical planning zoning and aerial photos: <https://mapshare.maps.vic.gov.au/vicplan>
- Land title information Land Data - <http://landata.vic.gov.au>
- Victoria Unearthed - <https://mapshare.vic.gov.au/victoriaunearthed>

Planning legislation, policies and guidelines

- *Ministerial Direction No. 1 – Potentially Contaminated Land 2021.*
- *Victoria Planning Provisions*, particularly clauses 13.04 -1S, 15.06, 45.03, 54.01, 55.01, 65 and 73.01. Planning schemes may have local policies and schedules that reference contaminated land.

Environment Protection legislation, policy and guidelines

- *Environment Protection Act 2017*
- *Environment Protection Regulations 2021*
- *Environment Reference Standard*

Information on the Environmental Audit System

- <https://www.epa.vic.gov.au/>

National Standards for the Assessment of Contaminated Land

- *National Environment Protection (Assessment of Site Contamination) Measure* (National Environment Protection Council, 1999)
- *AS44821 - 2005 Guide to the investigation and sampling of sites with potentially contaminated soil*

Guidance on the Assessment of Contaminated land in specific applications

- *Assessing the soil in children's services – guidelines for environmental consultants* Department of Education and Training 2011



Appendix 1: Planning Regulatory Framework Overview

Planning and Environment Act 1987	
Planning Authority	For a planning scheme amendment: ‘take into account any significant effects which it considers the scheme or amendment might have on the environment or which it considers the environment might have on any use or development envisaged in the scheme or amendment’ – s 12(2)(b).
Responsible Authority	For a planning permit application: consider ‘any significant effects which the responsible authority considers the use or development may have on the environment or which the responsible authority considers the environment may have on the use or development’ – s 60(1)(e).
Ministerial Direction No. 1 – Potentially Contaminated Land	
Planning Authority	<p>When preparing planning scheme amendments, to satisfy themselves that the environmental conditions of land are, or will be, suitable for that use. The planning authority must document their determination of whether land is potentially contaminated in the Explanatory Report.</p> <p>Additional specific requirements apply to sensitive uses, secondary schools or children’s playgrounds. For these uses the planning authority must apply the environmental audit system. In cases where it is difficult or inappropriate to do this at the time of the amendment, deferment of requirements under the EAO is permitted.</p>
Victoria Planning Provisions – Planning Policy Framework – Environmental Risks and Amenity	
Clause 13.04-1S Contaminated and Potentially Contaminated Land	
Planning or responsible authority	Aims to ensure that contaminated and potentially contaminated land is suitable for its intended future use and development, and that contaminated land is used in a manner that does not create a risk of harm to human health or the environment.
Victoria Planning Provisions – Overlays – Other Overlays Clause 45.03 Environmental Audit Overlay	
Planning authorities and applicants	A provision in the VPP and planning schemes which is designed to ensure the requirement for an environmental audit or preliminary risk screen assessment under <i>Ministerial Direction No. 1</i> is met before the commencement of the sensitive use or any buildings and works associated with that use.
Victoria Planning Provisions – General Provisions – Decision Guidelines	
Clause 65.01 Approval of An Application or Plan	
Responsible authorities	<p>Before deciding on an application or plan the responsible authority must consider, as appropriate:</p> <p>Any significant effects the environment, including the contamination of land may have on the use or development.</p>



Victoria Planning Provisions – Operational Provisions – Meaning of Terms

Clause 73.01 General Terms

Planning and responsible authorities and applicants	<p>Definition of potentially contaminated land as land:</p> <p>a) used or known to have been used for industry or mining</p> <p>b) used or known to have been used for the storage of chemicals, gas, waste or liquid fuel (other than minor above-ground storage that is ancillary to another use of the land); or</p> <p>c) where a known past or present activity or event (occurring on or off the land) may have caused contamination of the land.</p>
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Appendix 2: Summary of key processes used to inform land use planning for potentially contaminated land

Purpose	Identifying potentially contaminated land	Assessing potentially contaminated land		
		Preliminary Site Investigation (PSI)	Preliminary risk screen assessment (PRSA)	Environmental Audit
Assessment	Site history review			
Summary	A review of past land uses at the site and surrounds	A consultant's primarily desktop assessment of likelihood of site contamination, and its potential to affect the planning proposal	An assessment similar to a PSI, but which additionally is conducted with oversight by an EPA appointed environmental auditor, and provides a determination of whether an environmental audit is required	A desktop and field assessment of a site, along with appropriate remediation, including independent review by an EPA appointed environmental auditor. The audit will make a statement on site suitability, along with recommendations on any measures needed to make the site suitable for the planning proposal.
Conducted by	Suitably qualified environmental consultant or urban planner	Suitably qualified environmental consultant	EPA appointed environmental auditor	EPA appointed environmental auditor



<p>Method</p>	<p>Desktop review of sources listed in the NEPM Section 3.3, Schedule B2 or Australian Standard AS 4482.1-2005. Section 3.2.2</p>	<ul style="list-style-type: none"> • Desktop investigation • Site inspection • May include limited field investigations and soil sampling • Conducted to the standard established in the NEPM, Schedule B2 	<p>As for PSI, but also:</p> <p>Conducted in accordance with Part 8.3 of the <i>Environment Protection Act 2017</i></p> <p>Involving an EPA appointed independent auditor to confirm the reliability of the information</p>	<ul style="list-style-type: none"> • Desktop and field investigation, may include remediation • Review by an EPA appointed independent auditor to confirm the reliability of the information • Conducted in accordance with the Environment Protection Act & NEPM
<p>Outcome</p>	<p>A recommendation on whether the land meets the definition of potentially contaminated land.</p>	<p>A recommendation as to:</p> <ul style="list-style-type: none"> • The likelihood of contamination and its potential to affect the planning proposal • Whether a risk-based remediation or management strategy can be derived or further investigation (such as an audit) is recommended 	<p>A PRSA statement specifying:</p> <p>a) the need for an environmental audit; and</p> <p>b) if an environmental audit is required, the proposed scope for the environmental audit</p>	<p>An environmental audit statement providing a conclusion on whether the site is suitable for the proposal or can be made suitable if the auditor’s recommendations are implemented.</p>

Notes:

- While this table summarises and compares assessment types most commonly used in land use planning, other types of assessment are provided for under the NEPM, such as the Detailed Site Investigation. Further information is available from the [NEPC website](#).
- For information on suitably qualified environmental consultants: [Work with an environmental consultant | Environment Protection Authority Victoria \(epa.vic.gov.au\)](#).



Appendix 3: Roles and responsibilities in managing contaminated and potentially contaminated land

Applicants, proponents, landowners and occupants

- Provide adequate information on the existing or potential for contamination to have future adverse effects, to enable a planning or responsible authority to make an informed decision, including through undertaking required environmental investigations, and comply with requirements of the planning scheme and planning approvals.
- Comply with contaminated land duties under the *Environment Protection Act 2017*, including the duty to notify and duty to manage contaminated land.

Planning and Responsible Authorities

Administering the planning scheme

A responsible authority must consider the potential for land to be contaminated when proposing land use changes (including changes to permitted land uses or through rezoning proposals) and when assessing planning permit applications and ensure that the site is suitable for its proposed use.

Enforcement of planning scheme

Where a responsible authority becomes aware that an occupier is failing to comply with requirements set out in the planning scheme or planning permit, enforcement procedures under the *Planning and Environment Act 1987* are available. These may include planning infringement notices, enforcement orders or prosecution through the Magistrates Court.

Outside remit

Managing risks from contaminated land where no planning approval or control applies, for example, risks to an existing or as-of-right use.

Environmental Auditors

An environmental auditor performs functions under the *Environment Protection Act 2017*, including the conduct of preliminary risk screen assessments and environmental audits. The auditor is required to have regard to guidelines and standards that ensure the environmental audit provides the best assurance available that the site is suitable for its intended use. Their primary role is to produce an independent environmental report for the site.

Outside remit

Provide advice on matters outside of their prescribed functions under the Environment Protection legislation

Suitably qualified environmental consultants

Suitably qualified environmental consultants have expertise in environmental science or engineering and can undertake assessments, studies and conduct cleanup programs for contaminated sites. Consultants may:

- take and test samples
- conduct data modelling or analysis
- prepare an assessment report or other report
- contribute to the auditing process.

Outside remit

Suitably qualified environmental consultants cannot conduct environmental audits.



EPA

Regulates contaminated land

EPA is responsible for administering the *Environment Protection Act 2017* and is the lead agency responsible for the regulation of contaminated land in Victoria, including preventing new contamination from occurring.

Provides advice to planning and responsible authorities

Under Ministerial Direction No. 19, EPA advises planning and responsible authorities on planning policies and decisions where there is a potential impact on the environment, amenity and human health due to pollution and waste. This advice is made in accordance with the *Planning and Environment Act 1987*.

As the environmental audit system provides the mechanism for planning and responsible authorities to obtain independent site specific advice on site suitability and recommendations for controls on use and development, EPA is not a referral authority, however, for matters not addressed by the environmental audit process, referrals to EPA can be made under s 52 of the *Planning and Environment Act 1987*.

Administers the environmental audit system

EPA administers the environmental audit system in Victoria, which includes appointing environmental auditors and quality assurance of their work.

Outside remit

Whilst EPA can provide advice to planning authorities, EPA is not the lead agency in decisions regarding changes in land uses on sites where land is contaminated, as it does not have jurisdiction over land use and development.

Prepared in conjunction with [EPA Victoria](#).

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