

Preliminary site investigation of Lot 5 DP 838497, Sutton, NSW



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Executive summary

Rural and residential subdivision is proposed on Lot 5 DP 838497, Sutton, NSW (the Site) by the Cartwright Family (the Client). A desktop assessment and site inspection identified several potential areas of environmental concern (AECs) at the Site. An understanding of the potential areas of environmental concern, their associated contaminants of concern and potential transport and exposure pathways at the Site were determined based on an understanding of the following: site history, site geology and hydrogeology, past and current land-use derived from historical aerial photo interpretation, anecdotal evidence from the Cartwright family, and surrounding land-use.

The geology and hydrogeology of the Site indicates that the concentration of metals may be naturally elevated in soils at the Site; and that there is a fractured aquifer beneath the Site. The former finding has implications for interpretation of any future soil testing results and the latter, indicates that there is a pathway for potential groundwater contamination. In addition, perched groundwater is also likely to occur beneath the Site, indicating there is the potential for contaminants of concern to occur in groundwater.

The AECs identified included the areas of the property adjacent to the Federal Highway and Sutton Road, areas associated with current and former stockyards, old telegraph poles, car tyres and remnant structures associated with an old temporary camp and septic tank system. The potential contaminants of concern considered to be associated with these areas included builders' rubble, trace foreign materials / aesthetic contaminants, organochlorine pesticides, organophosphate pesticides, carbamates, polychlorinated biphenyls, total recoverable hydrocarbons, polycyclic aromatic hydrocarbons, metals (lead, arsenic, chromium), faecal coliforms, *Salmonella*, synthetic pyrethroid pesticides, triazine pesticides, and arsenic and mercury-based pesticides. Although no asbestos containing material was observed at the Site, it is unknown if there is any such material buried within the builders' rubble found at the Site. Hence, asbestos containing material was also identified as a potential contaminant of concern. The media considered likely to be impacted by these contaminants of concern is the soil, followed by water bodies (dams and Yass River) and groundwater as secondary receptors.

A desktop assessment and site inspection of the Site has found ID that contaminants of concern potentially occur at a number of locations on the Site. Based on Site observations and desktop information, Murrang Earth Sciences considers there be a low risk that this of contamination is significant of the severity or extent that it would to limit the proposed residential development of the Site. A sampling and quality analysis plan and detailed site investigation including an unexpected finds protocol is recommended to verify that the Site is suitable for its proposed use.

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Preliminary site investigation of Lot 5 DP 838497, Sutton, NSW

1. Introduction and background

Rural and residential subdivision is proposed on Lot 5 DP 838497, Sutton, NSW by the Client. The Site is located in Sutton, NSW (Figure 1). The extent of the site boundary encompasses one land parcel, Lot 5 DP 838497. The Site has an area of 170.4 ha (1.88 km²) and is located on land zoned as RU1 (Primary Production), under the Yass Valley Local Environmental Plan 2013 (Appendix A).

Murrang Earth Sciences was engaged to undertake preliminary assessment of contamination at this location as part of development application requirements. The preliminary site investigation presented herein is a largely desktop-based assessment undertaken to meet these requirements.

The aim of this preliminary investigation is to assess the contamination status of the Site by meeting the following objectives:

1. Identify potential sources of contamination and determine potential contaminants of concern
2. Identify areas of potential contamination
3. Identify potential human and ecological receptors
4. Identify potentially affected media (soil, sediment, groundwater, surface water, indoor and/or ambient air).

The works undertaken to meet these objectives will now be outlined in the following sections.



Figure 1. The Site is located in Sutton, New South Wales, Australia.

2. Assessment framework

The assessment presented below is framed in accordance with the National Environment Protection (Assessment of Site Contamination) Measure (ASC NEPM) 1999¹ (amended 2013). Schedules B1 (and others) under the ASC NEPM, potential risks associated with site contamination are assessed based on if there are sources of contamination, receptors of this contamination, and if there are exposure and/or transport pathways between these sources and receptors. On this basis, this report is divided into two main parts: sources and receptors of potential contamination; and potential transport and exposure pathways. This is followed by a summary of potentially affected media, gaps and limitations of the investigation and conclusions and recommendations.

3. Sources of contamination

Contamination sources at the Site can be classified as environmental contamination sources and human contamination sources. Environmental contamination sources refer to contaminants of concern that occur at the Site due to natural processes. Human contamination sources are those which arise due to some form of current or previous human intervention. These sources of contamination will be discussed in the following subsections.

3.1 Environmental contamination sources

The potential for contaminants of concern to naturally occur at the Site was assessed by reviewing information available on the Site's geology, hydrogeology and soils.

The soil landscapes of the Site include Ginnindera Creek, Winunga and Queanbeyan soils. The key soil characteristics of these soil landscape units are described briefly in Table 1 below². These soils are influenced by volcanic intrusions of Sutton Granodiorite, which is a Palaeozoic rock of the Sutton Suite (Appendix A). This geological unit is characterised by granodiorite, adamellite and quartz-feldspar porphyry.

Soils at the Site are known to be characterised by localised poor drainage, high watertables, and waterlogging. This indicates there is a high potential for seasonal or permanent perched groundwater tables beneath the Site.

The New South Wales Planning Metallogenic Map for Canberra (1:250 000) indicates that a gold deposit is located near to (within approximately 500 metres) of the southern boundary of the Site³. Based on this, it would be reasonable to expect concentrations of metals associated with sulphide deposits (Ni, Pb, Au, As) to be naturally elevated at the Site. Thus, elevated concentrations of metals in the soil at the Site could be attributed to natural causes rather than the result of any contamination. Any metal contamination detected at the Site in any further investigations will therefore be considered in the context of this information.

An aquifer occurs beneath the Site within the Silurian and Ordovician metasediments which includes the following rock types: quartz arenite, siltstone, shale, sandstone, greywacke, minor black shale, quartzite, chert and granitoids¹². These metasediments are known to be fractured in this area and high yielding groundwater zones are associated with the lower parts of high relief areas¹². Based on this information, there is potential for contamination to be transported *via* fractures in the aquifer to potential receptors offsite.

Table 1. Key soil characteristics of soil landscape units at the Site.

| Soil Landscape Unit | Characteristics |
|---------------------|--|
| Ginnindera Creek | Relatively calcium-deficient and low available phosphorus in topsoils. Typically highly susceptible to water flow erosion. Low susceptibility to wind erosion. Widespread seasonal waterlogging, indicating a potential for perched groundwater. |
| Winunga | Low available phosphorus in topsoils. Subsoil may be magnesian – a characteristic which favours dispersion. Typically moderate to high susceptibility to water flow erosion. Very low susceptibility to wind erosion. Localised poor drainage, localised permanently high watertables, localised permanent waterlogging, and localised seasonal waterlogging, indicating a high potential for perched groundwater. |
| Queanbeyan | Low available phosphorus in topsoils. Subsoil may be magnesian – a characteristic which favours dispersion. Moderate to very high susceptibility to water flow erosion. Low to moderate susceptibility to wind erosion. Localised waterlogging, indicating the potential for perched groundwater |

3.2 Human contamination sources

Human contamination sources were assessed by identifying past and present activities at the Site and its surrounds. This was achieved by examining historical aerial photographs and interviewing the owner of the property to understand past and present land-use.

3.2.1 Aerial photographs

Aerial photographs of the Site were obtained for 1967, 1976, 1985, 1992, 2005, 2009, 2013. Aerial photographs of the Site are presented in Appendix A. The aerial photographs and anecdotal evidence from the Cartwright family⁴, indicate that the property was used for livestock grazing since the 1860s. Evidence of livestock grazing – tracks and dams – were visible in aerial photographs since 1967. Aerial photos since 1967 indicated that the Site was consistently vegetated, with ground cover appearing consistent across the site over the years. Thus,

there has likely been low potential for Aeolian (wind) transport of airborne dust contaminants from the Site to surrounding areas. Aerial photos also indicated that dams were consistently full from year to year. This suggests that the dams may receive recharge from groundwater sources. Other man-made potential sources or sinks of contamination were not visible from aerial photographs. There are no indications the Site was used for cropping.

3.2.2 Current and proposed land-use

The Site, DP 838497, Lot 5, is currently used for grazing cattle. Evidence of livestock grazing on the property include a cattle stock yard that is in current use, and a former sheep yard. The Site also supports apiary activity, with beehives situated onsite. Most of the vegetation of the Site is pasture, with scattered mature remnant native trees (mostly *Eucalyptus spp*). No other current land-uses were identified within the Site.

The proposed development for the Site involves subdivision into rural and residential lots. The development proposal indicates the delineation of a variety of lot sizes that recognise the site and soil constraints of the Site, accommodate biodiversity values and reflect the proximity and nature of neighbouring Sutton village. The range of lot sizes proposed include:

- an extended village core, with a proposed minimum lot size of 2000 m²,
- rural residential lots with a proposed minimum lot size of 4000m² and an average of over 1.5 ha,
- and stewardship lots, which encompass areas of identified biodiversity value

Based on this information, the proposed development would be considered a low density residential and rural development. To the extent of our knowledge, the development proposal does not include plans for schools, childcare centres or recreational facilities/areas.

3.2.3 Historical records of the Site

Searches of historical records and land titles were not conducted for the purposes of this limited investigation.

The current owner of the property, P. Cartwright, is known to be a fifth generation owner of the Site. Given that the property has been owned by the same family since the 1860s, the need for historical records searches is negated. The property had historically been used for sheep grazing since the 1860s. The Cartwright family moved to grazing cattle during the 1970s; and this has remained the main purpose of the property since that period. This is with the exception of a Camp consisting of a portable building that was temporarily set up at the Site more than 50 years ago to accommodate workers during installation of high voltage power lines within the vicinity of the property⁴. Some structures associated with the Camp remain on the Site. These will be discussed in greater detail in Section 2.1.3.

3.2.4 Surrounding land-uses

Surrounding land-uses were assessed in terms of their potential impact to impact the Site. The Site is located on the edge of Sutton village. As Sutton village is positioned downslope of the Site, it is unlikely to be a source of groundwater contamination. Historical aerial photos also indicate consistent groundcover in the vicinity of Sutton village; hence, the village is also unlikely to be a source of airborne contamination.

The Site is a corner lot, with the Federal Highway running along its southern boundary and Sutton Road running along its western edge. As these are major roads, they are potentially sources of lead contamination. The areas of the Site adjacent to these major roads are potentially impacted. The Site is separated on its eastern edge from more grazing pasture by Yass River, which bounds the site to the east and south. This surrounding land-use is unlikely to be a source of contamination to the Site.

3.3 Sensitive receptors

The Site was also assessed in terms of its potential to impact surrounding land-uses. Potential environmental receptors of contamination in the vicinity of the Site include:

- the Yass River and groundwater aquifers; and
- residents and users of Sutton village.
- According to the Groundwater Dependent Ecosystems Atlas, Yass River is considered likely to be a groundwater dependent ecosystem (Appendix A). Hence, Yass River and groundwater aquifers are considered a potential environmental receptor of any onsite contamination.
- As Sutton village is located downslope of the Site, residents and users of Sutton village may potentially be impacted by Aeolian transport of airborne contamination during construction activities.

It is planned that the Site be developed into residential subdivision. Based on current plans, potential receptors within the Site include:

- Residents of the proposed residential development
- Workers who develop the Site
- Native vegetation currently present on the Site

3.3 Site inspection and potential areas of environmental concern

Jielian Beh and Julia Jasonsmith of Murrang Earth Sciences undertook an inspection of the Site on 11 May 2018.

Potential areas of environmental concern (AECs) identified at the Site based on this site inspection are indicated in Figure 2⁵. These included areas associated with a current and former stockyard, old telegraph poles, car tyres, and remnant structures associated with a former camp. Typical sources of contamination associated with

agricultural land-use such as above or below ground storage tanks were not observed at the Site during its inspection. Other prominent features on the Site included beehives and Telstra pits. Although Telstra pits are considered to have the potential to contain asbestos, responsibility for the remediation and delineation of contamination associated with these Telstra pits is considered to remain with Telstra. Beehives are considered to be not of concern.

The potential AECs identified and their associated contaminants of concern will now be discussed in greater detail in the following subsections.

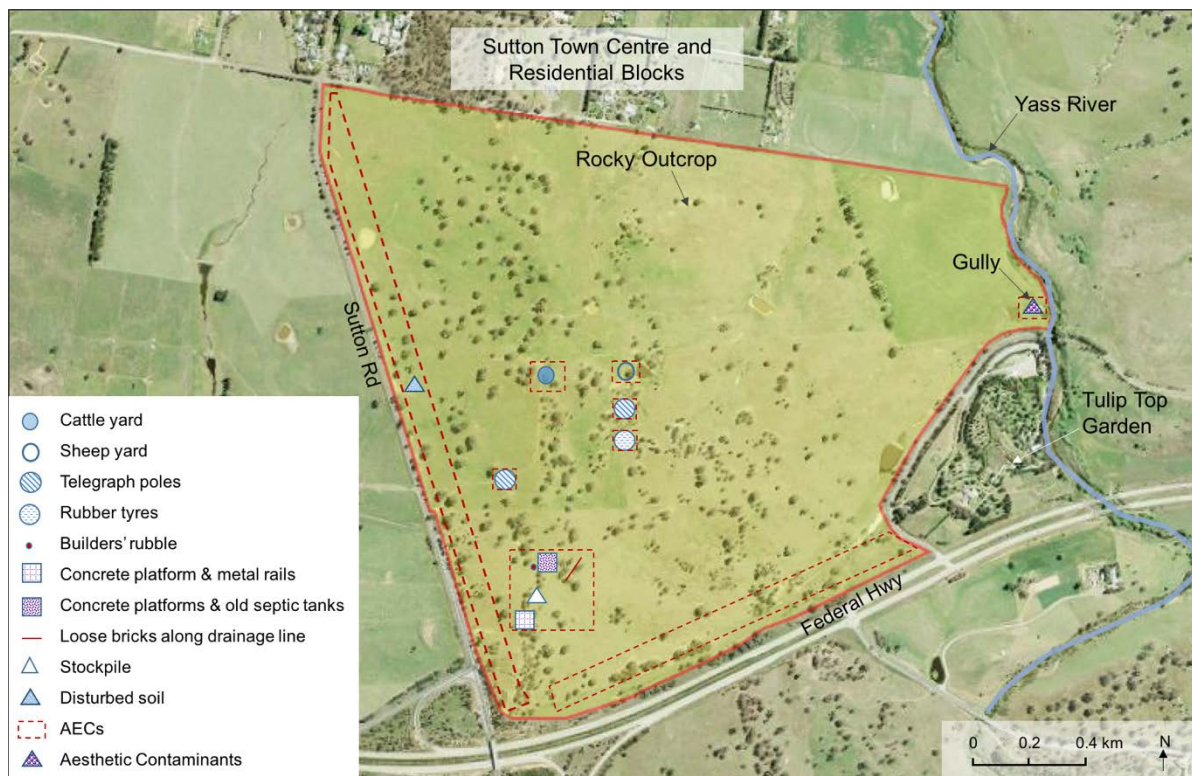


Figure 2. Approximate location of potential AECs and other key features of the Site

Stockyards

A cattle yard and former sheep yard were located on the Site. The cattle yard is in current use, with this confirmed by the Site owner.

Loose bricks were scattered within the vicinity of the cattle yard (Figure 3). There were no indications of asbestos containing material at the site surface, however there is potential for buried asbestos to occur based on the presence of this builders' rubble.

Trace amounts of aesthetic contaminants (e.g. barbed wire fencing) were visible. Empty vegetable oil drums and an empty tank used for transport of water to the Site were located next to the cattle yard.

The main use of the cattle yard is to sort cattle for transport to market. Prior to transport, cattle are drenched with backliner—a pour-on chemical formulation used for treating parasitic internal worms⁴. These chemical formulations contain mostly synthetic pyrethroids (e.g. cypermethrin, deltamethrin, flumethrin, permethrin) and macrocyclic lactones (e.g. ivermectin, abamectin, doramectin, eprinomectin, etc.). Some products include tick development inhibitors (e.g. fluazuron)⁶. Synthetic pyrethroids are broad spectrum insecticides that are highly toxic to bees exposed to direct treatment or residues on blooming vegetation; and fish and aquatic invertebrates⁷. Pyrethroids must not be released indiscriminately into the environment, particularly aquatic systems. As the cattle stock yard is located almost 1 km away from the closest waterway (Yass River), it is considered likely that any environmental release would have attenuated, undergone photodegradation or been degraded by microbial action in the soil before reaching a waterway⁸.

Although information at hand indicates chemicals of concern used at the cattle yards were limited to pyrethroids, there is considered to be the potential for other chemicals of concern to have been used by another family member, or to have been forgotten. Based on this triazine pesticides, organochlorine pesticides, organophosphate pesticides, and arsenic and mercury-based pesticides are also considered contaminants of potential concern.:

Potential contaminants of concern associated with the cattle stockyard include:

- Triazine pesticides
- Pyrethroid pesticides
- Organochlorine pesticides
- Organophosphate pesticides
- Arsenic and mercury-based pesticides
- Macrocyclic lactones
- Asbestos



Figure 3. Trace aesthetic (foreign materials- plastic etc?)contamination was visible in the area around the cattle stock yard

The former sheep yard has not been in use since the 1970s. Trace amounts of aesthetic contamination including sheet metal and empty drums were present around the sheep yard (Figure 4).

Based on anecdotal evidence, the sheep yard was only used for sorting sheep when in operation and no sheep dip has ever located on the Site. Although there has been no known chemical treatment of sheep occurring onsite, potential environmental contamination may have occurred in the past *via* chemicals being washed off the sheep or defaecation. For this reason, potential chemicals of concern associated with past use of the sheep yard include:

- Triazine pesticides
- Pyrethroid pesticides
- Organochlorine pesticides
- Organophosphate pesticides
- Arsenic and mercury-based pesticides



Figure 4. Evidence of a former sheep yard on the Site

In general, there was no evidence of poor plant growth, staining or odours at the soil surface, which may indicate contaminants of concern, around the cattle yard or sheep yard. Observation of pasture vegetation indicated that grazing activities on the Site are low intensity.

Tyres and past fertiliser application

Approximately 30 car tyres were found scattered in a localized area on the Site (Figure 5). Based on communications with P. Cartwright, these were used to weigh down tarps during past application of superphosphate. The tyres were brought onsite for this purpose more than 20 years ago. According to the NSW EPA, tyres that are used, rejected or unwanted are classified as 'waste tyres' and need to be disposed of responsibly⁹. *Section 143 of the Protection of the Environment Operations Act 1997* requires that such waste be transported to a place that can lawfully accept it. In addition, it is now a requirement under the *Protection of the Environment Operations (Waste) Regulation (2014)* that loads of waste tyres greater than 20 tyres are tracked and accounted for. As heavy machinery may have been involved in the application of fertiliser to the Site, hydrocarbon contamination including total recoverable hydrocarbons, polycyclic aromatic hydrocarbons, and lead are considered potential contaminants of concern at the Site.



Figure 5. Car tyres were brought onsite more than 20 years ago

Potential contaminants of concern associated with car tyres and past fertiliser application include:

- Aesthetic contamination
- total recoverable hydrocarbons
- Polycyclic aromatic hydrocarbons
- Lead

Structures associated with former camp

Remnant structures associated with a former camp used as a base to accommodate workers during installation of high voltage power lines are present on Site more than 50 years ago. These structures include a septic tank system, a stock pile of fill material, an old drainage line filled with builders' rubble, a concrete slab (associated with a portable building) and steel rails (associated with an access ramp) (Figure 6). Power transformers are known to be associated with polychlorinated biphenyls (PCBs), a toxic, bioaccumulative, and persistent group of chemicals. Based on the past use of the Site as a depot for the installation of high voltage power lines, PCBs are considered to be a potential contaminant of concern at the former camp.



Figure 6. A concrete slab and steel rails associated with an old camp were located onsite

Based on communication with the Site owner, the stockpile of fill material originates from the Site, likely from excavations associated with the construction of the septic tank (Figure 7). The source of the builders' rubble used to fill in the drainage line is unknown, but it is understood that no fill or rubble has been brought onto the Site in the last 50 years. Trace amounts of aesthetic contaminants were observed around the former camp, including pieces of metal and plastic pipe. Some quartz and dacite aggregate were observed at the soil surface near the concrete slab.



Figure 7. An old septic tank system is located onsite

The septic tank system consisted of two partially interred tanks approximately 2 m in diameter and two completely interred concrete tanks, measuring approximately 3 m x 8 m. Drainage lines leading out from the concrete tanks appeared to be filled with builders' rubble, including three types of brick and pieces of sheet metal. The origin of the builders' rubble is unknown. No surface signs of asbestos containing material were observed in this area.

There was no evidence of poor plant growth, staining or odours on the soil surface to indicate contamination within the vicinity of the camp or septic tank system. It is unknown based on this initial inspection if there is contamination below the soil surface such as any asbestos containing material. According to *Section 143 of the Protection of the Environment Operations Act 1997*, the lawful disposal of these waste materials will be required. There is potential for faecal coliforms and / or *Salmonella* to be present in association with the septic tank system, and as such these are considered potential contaminants of concern. It is noted that there is a natural background of both faecal coliforms and *Salmonella* in the environment.

Potential contaminants of concern associated with former camp include:

- Asbestos containing material
- Aesthetic contamination
- PCBs
- Faecal coliforms / *Salmonella*

Telegraph Poles

Old telegraph poles (2 to 10 poles) were located in two areas at the Site (Figure 8). Telegraph poles pose a potential site contamination risk as they are typically treated with copper chrome arsenate, which can leach from the timber into soil over time. Cresols may also have been used to treat the telegraph poles. Based on this information, arsenic, copper, chromium, and cresols are potential chemicals of concern associated with telegraph poles. Based on the site geology, arsenic and copper levels may be potentially naturally elevated in the soil so any further analysis must be considered within this context.

Potential contaminants of concern associated with old telegraph poles include:

- Copper contamination
- Chromium contamination
- Arsenic contamination
- Cresols



Figure 8. One of the areas where telegraph poles were located on the Site

Land adjacent to roads

The tracts of land situated nearest to Sutton Road and Federal Highway are susceptible to a range of contamination sources. These include: debris coming off passing trucks, pesticides or herbicides from council spraying of roadside vegetation, loose bitumen and lead contamination from lead-based fuel combustion by motor vehicles. There were no indications of debris (prominent) during the site inspection; however, only selected areas along the roadside were observed. There were some indications of disturbed soil observed (Figure 2). Organochlorine pesticides (OCPs), organophosphate pesticides (OPPs), triazine, and carbamate pesticides are potential contaminants of concern from council spraying of roadside vegetation.

Lead contamination of the Site may occur in the areas immediately adjacent to the roadside (Figure 9). These areas of environmental concern are located on the western and southern boundaries of the Site. It is well established that the combustion of lead-containing fuels by motor vehicles can lead to elevated levels of lead in the atmospheric, soil and vegetative components of roadside ecosystems¹⁰. For instance, lead in the upper 5 cm of the soil profile of roadside areas within several metres of a street or highway can be elevated by more than 30 times that of non-roadside soil¹⁰. Air concentrations of lead in roadside ecosystems have been known to be 2 to 20 atm higher than non-roadside ecosystem atmospheres. Similarly, the lead burden on plants can range from 5 to 200 times the baseline lead levels for crops, grasses and trees along a roadside¹⁰.

Potential contaminants of concern associated with land adjacent to roads include:

- OCP and OCP
- Triazines
- Carbamates
- Lead



Figure 9. Tracts of land along the roadside are potential AECs

3.4 Summary of contamination sources

Based on geology, soil and hydrogeology of the Site, concentrations of metals associated with sulfide deposits may be naturally elevated in soils at the Site. These include nickel, lead, gold and arsenic.

Following inspection of the Site, areas of environmental concern from human activities considered to occur at the Site include:

- stockyards,
- tyres,
- remnant structures associated with former camp,
- telegraph poles,
- and land adjacent to roads

It is recommended that sampling take place to confirm the level of contamination presented by these areas.

4. Site conceptual model (transport and exposure pathways)

Some of the potential transport and exposure pathways of the previously identified AECs will be discussed in this section. Transport and exposure pathways refer to the processes by which a human or environmental receptor may be exposed to or impacted by a contaminant of concern.

Mobilisation of contaminants by water or wind

Soils at the Site are considered to be relatively susceptible to erosion by water flow, but not by Aeolian (wind) transport (Table 1). Erosion by water could lead to the mobilisation of contaminants from the soil into downslope waterbodies (dams) and waterways (Yass River). Hence, nearby dams and the Yass River are potential environmental receptors of natural and human sources of contamination.

Pesticides applied to cattle and to sheep in the past within the vicinity of the stockyards may persist in the soil. Aquatic systems are particularly vulnerable to these chemicals. Nearby water bodies downslope of the stockyards could be impacted if these chemicals are mobilised by water throughflow or overflow. It is considered likely however that a combination of abiotic and biotic processes would have caused the degradation of these chemicals over time. The presence of a healthy population of bees on the Site also indicates that any residual pesticides on Site vegetation have not had an impact or are not present.

Human exposure *via* direct handling, inhalation or ingestion

Future residents of the Site and users of the Site could be exposed to contaminants of concern through direct contact with sources of contamination, inhalation of atmospheric contaminants or ingestion of vegetables grown in contaminated soils. The tracts of land along the roadside may contain elevated levels of lead in the soil, air (including *via* dust), and plant ecosystem components. This could result in human exposure to lead *via* all three of the aforementioned pathways. There is also a potential for asbestos to occur within the builders' rubble noted to occur at the Site, with human exposure to this asbestos occurring through inhalation of asbestos fibres.

The chemicals used to treat telegraph poles may have resulted in the leaching of copper, arsenic, chromium, and cresols into the soil profile. Groundwater may also potentially be affected, especially if there is a perched groundwater table at the Site. However, it is unknown if this is the case and further investigation is required. It should also be noted that copper chrome arsenate (CCA) treated timbers are highly toxic when handled or burnt. The arsenic from CCA treated timbers can harm people and animals by absorption through the skin during direct handling, inhalation or swallowing of excessive amounts of CCA treated timber sawdust, exposure to ash from burning CCA timber, or frequent contact with soil mulched with CCA treated timber woodchips or sawdust¹¹.

5. Summary of affected media and receptors

Areas of environmental concern and potential pathways between contamination sources and receptors have been identified in the previous sections. A range of potentially affected media/environmental receptors were identified in this process. A summary of the potentially affected environmental media and receptors for each AEC are presented in Table 2 below.

Table 2. Summary of potentially affected media and environmental receptors at the Site

| AEC | Contaminants of concern | Potential affected media/environmental receptor |
|--|--------------------------------------|---|
| <i>Areas associate with agricultural equipment</i> | Total recoverable hydrocarbons | Soil |
| | Polycyclic aromatic hydrocarbons | |
| | Lead | |
| <i>Stockyards – Cattle</i> | Pyrethroid pesticides | Primary - Soil |
| | Aesthetic contaminants | Secondary - Surface Water |
| <i>Stockyards – Sheep</i> | Aesthetic contaminants | Primary - Soil |
| | Pyrethroid pesticides | |
| | Triazine pesticides | |
| | Organochlorine pesticides | |
| | Organophosphate pesticides | |
| | Arsenic and Mercury-based pesticides | |
| <i>Former Camp</i> | Aesthetic contamination | Primary - Soil |
| | Asbestos containing material | |
| <i>Tyres</i> | Aesthetic contamination | Primary - Soil |
| | Hydrocarbon contamination | |

| AEC | Contaminants of concern | Potential affected media/environmental receptor |
|-------------------------------|----------------------------|---|
| <i>Telegraph poles</i> | Arsenic | Primary - Soil |
| | Copper | Secondary - Vegetation |
| | Chromium | Secondary - Groundwater |
| <i>Land adjacent to roads</i> | Lead | Primary - Soil |
| | Organochlorine pesticides | Secondary - Vegetation |
| | Organophosphate pesticides | Secondary - Atmosphere |
| | Aesthetic contamination | |

6. Information gaps and limitations

The findings of this report are subject to the following information gaps and limitations:

- As this is a preliminary site investigation, no samples were collected during this phase of work. This is in accordance with the National Environmental Protection Council (1999) and the NSW Contaminated Sites guidelines. Samples will be required in the future however, to better ascertain the level of risk presented by contaminants of potential concern within the areas of environmental concern identified.
- Findings from the site inspection are based on what was observed on the day. Key areas throughout the Site were visited, but not every area of the Site could practicably be observed. This is considered to have low impact on the findings of this investigation, as aerial photographs and Google Earth imagery were used to corroborate the findings of the site inspection.
- No council title search or Section 149 were prepared as part of this report in accordance with the developer's wishes. This is considered to have low impact on the findings of this investigation, as site interviews indicate one family across five generations has owned the Site. The property has only been used for agricultural purposes by this family.
- Owners of neighbouring properties were not interviewed. This is considered to have low impact on the outcomes of this report, due to the lines of evidence attained regarding contamination at the Site from other sources.

7. Conclusions and recommendations

A desktop assessment and site inspection of the Site has found that contaminants of concern potentially occur at a number of locations across the Site. Based on Site observations and desktop information, Murrang Earth Sciences considers there be a low risk that this contamination is of the severity or extent that it would limit the proposed residential development of the Site.

As the contamination of soil and ground water cannot be identified through olfactory and visual indications alone, further investigation which includes sampling and laboratory analysis is required to confirm the contamination status of the Site prior to Site development. It is recommended that a sampling and quality analysis plan, which presents the sampling and analysis regime for the AECs identified, be developed. Following this, it is recommended that sampling, as part of a detailed site investigation (DSI) for the Site, be undertaken to verify that the Site is suitable for its proposed use. An unexpected finds protocol, outlining the process to be followed in the event that potentially contaminated materials beneath the soil surface are uncovered, should be prepared together with the DSI. Should any contamination be detected, further site investigations, management and/or remediation would be required to address risk to human health or the environment. Based on this, Murrang Earth Sciences concludes that a:

- Sampling and quality analysis plan; followed by a
- Detailed site investigation including an unexpected finds protocol

should be prepared for the Site. The sampling and quality analysis plan can be prepared as part of detailed site investigation works.

This report has been the subject of external review by Dino Parisotto, a Certified Practitioner (17017) of the Site Contamination Practitioners Australia Scheme.

8. References

1. National Environment Protection Council. *National Environment Protection (Assessment of Site Contamination) Measure 1999: Guideline on Site Characterisation*. (Australian Government, 2013).
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11. NSW EPA, Copper Chrome Arsenate Treated Timber. Accessed on 20 May 2018 at <https://www.epa.nsw.gov.au/your-environment/household-building-and-renovation/treated-timber/timber-treatments/copper-chrome-arsenate-treated-timber>
12. Hydrogeology of the Australian Capital Territory and Environs. Accessed on 21 May 2018 at https://d28rz98at9flks.cloudfront.net/15184/Rep_263_map.pdf

Appendix A.

Government Searches, Lotsearch Pty Ltd



LOTSEARCH

LOTSEARCH ENVIRO PROFESSIONAL

Date: 08 May 2018 10:41:37

Reference: LS003293

Address: Sutton Road & Old Federal Highway, Sutton, NSW 2621 (East Section)

Disclaimer:

The purpose of this report is to provide an overview of some of the site history, environmental risk and planning information available, affecting an individual address or geographical area in which the property is located. It is not a substitute for an on-site inspection or review of other available reports and records. It is not intended to be, and should not be taken to be, a rating or assessment of the desirability or market value of the property or its features. You should obtain independent advice before you make any decision based on the information within the report. The detailed terms applicable to use of this report are set out at the end of this report.

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Location Confidences

Where Lotsearch has had to georeference features from supplied addresses, a location confidence has been assigned to the data record. This indicates a confidence to the positional accuracy of the feature. Where applicable, a code is given under the field heading “LC” or “LocConf”. These codes lookup to the following location confidences:

| LC Code | Location Confidence |
|---------|---|
| 1 | Georeferenced to the site location / premise or part of site |
| 2 | Georeferenced with the confidence of the general/approximate area |
| 3 | Georeferenced to the road or rail |
| 4 | Georeferenced to the road intersection |
| 5 | Feature is a buffered point |
| 6 | Land adjacent to Georeferenced Site |
| 7 | Georeferenced to a network of features |

Dataset Listing

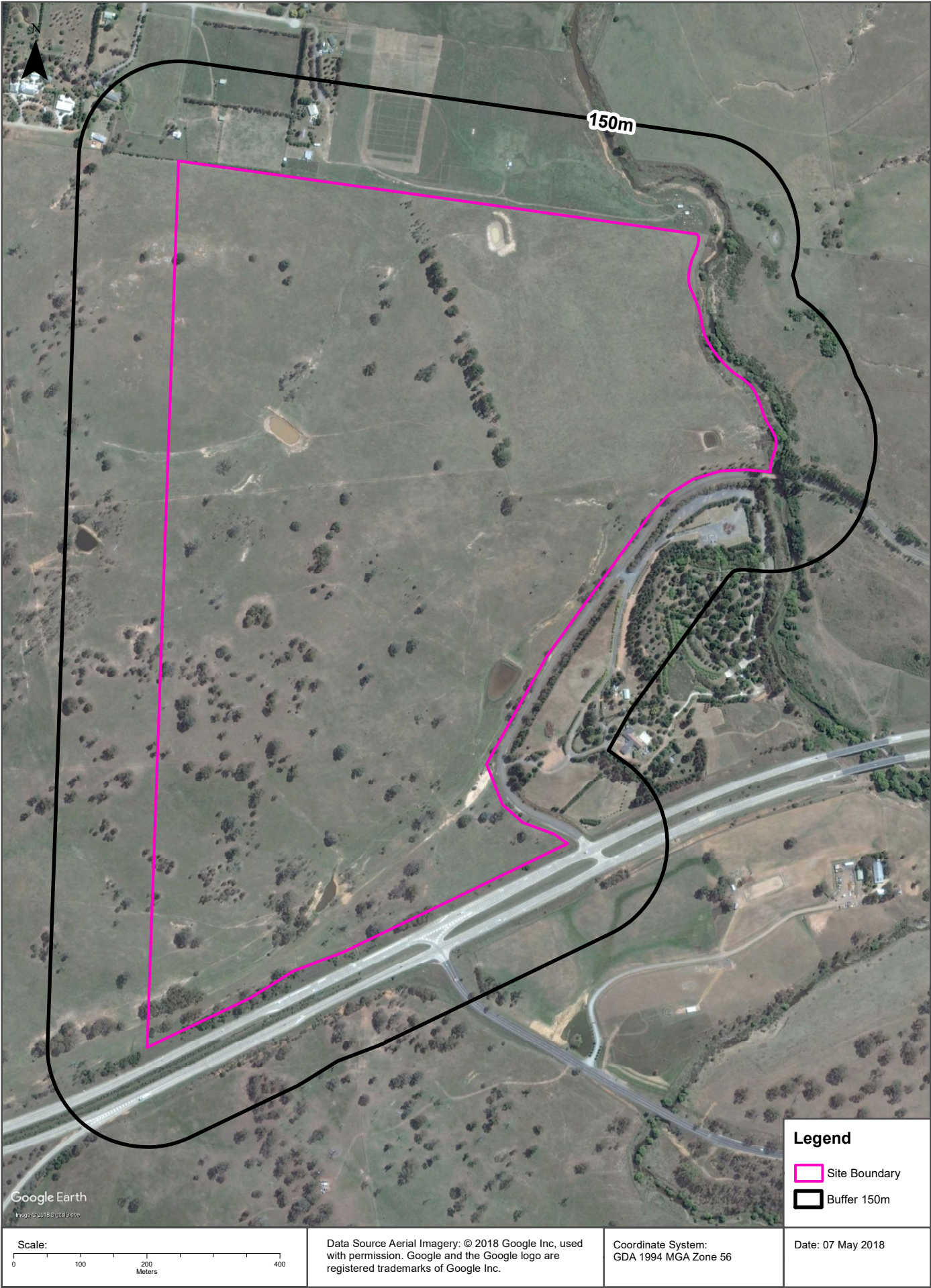
Datasets contained within this report, detailing their source and data currency:

| Dataset Name | Custodian | Supply Date | Currency Date | Update Frequency | Dataset Buffer (m) | No. Features Onsite | No. Features within 100m | No. Features within Buffer |
|--|--|-------------|---------------|------------------|--------------------|---------------------|--------------------------|----------------------------|
| Cadastre Boundaries | Dept. Finance, Services & Innovation | 08/05/2018 | 08/05/2018 | Daily | - | - | - | - |
| Topographic Data | Dept. Finance, Services & Innovation | 09/04/2018 | 09/04/2018 | As required | - | - | - | - |
| List of NSW contaminated sites notified to EPA | Environment Protection Authority | 03/05/2018 | 16/04/2018 | Monthly | 1000 | 0 | 0 | 0 |
| Contaminated Land: Records of Notice | Environment Protection Authority | 10/04/2018 | 10/04/2018 | Monthly | 1000 | 0 | 0 | 0 |
| Former Gasworks | Environment Protection Authority | 24/04/2018 | 11/10/2017 | Monthly | 1000 | 0 | 0 | 0 |
| National Waste Management Site Database | Geoscience Australia | 02/02/2018 | 07/03/2017 | Quarterly | 1000 | 0 | 0 | 0 |
| EPA PFAS Investigation Program | Environment Protection Authority | 12/04/2018 | 12/04/2018 | Monthly | 2000 | 0 | 0 | 0 |
| EPA Other Sites with Contamination Issues | Environment Protection Authority | 11/01/2018 | 11/01/2018 | Quarterly | 1000 | 0 | 0 | 0 |
| Licensed Activities under the POEO Act 1997 | Environment Protection Authority | 10/04/2018 | 10/04/2018 | Monthly | 1000 | 0 | 0 | 0 |
| Delicensed POEO Activities still Regulated by the EPA | Environment Protection Authority | 10/04/2018 | 10/04/2018 | Monthly | 1000 | 0 | 0 | 0 |
| Former POEO Licensed Activities now revoked or surrendered | Environment Protection Authority | 10/04/2018 | 10/04/2018 | Monthly | 1000 | 3 | 3 | 3 |
| UPSS Environmentally Sensitive Zones | Environment Protection Authority | 14/04/2015 | 12/01/2010 | As required | 1000 | 1 | 1 | 1 |
| UBD Business Directory 1982 (Premise & Intersection Matches) | Hardie Grant | | | Not required | 150 | 0 | 0 | 0 |
| UBD Business Directory 1982 (Road & Area Matches) | Hardie Grant | | | Not required | 150 | - | 0 | 0 |
| UBD Business Directory 1970 (Premise & Intersection Matches) | Hardie Grant | | | Not required | 150 | 0 | 0 | 0 |
| UBD Business Directory 1970 (Road & Area Matches) | Hardie Grant | | | Not required | 150 | - | 0 | 0 |
| UBD Business Directory 1961 (Premise & Intersection Matches) | Hardie Grant | | | Not required | 150 | 0 | 0 | 0 |
| UBD Business Directory 1961 (Road & Area Matches) | Hardie Grant | | | Not required | 150 | - | 0 | 0 |
| UBD Business Directory 1950 (Premise & Intersection Matches) | Hardie Grant | | | Not required | 150 | 0 | 0 | 0 |
| UBD Business Directory 1950 (Road & Area Matches) | Hardie Grant | | | Not required | 150 | - | 0 | 0 |
| UBD Business Directory Drycleaners & Motor Garages/Service Stations (Premise & Intersection Matches) | Hardie Grant | | | Not required | 1000 | 0 | 0 | 0 |
| UBD Business Directory Drycleaners & Motor Garages/Service Stations (Road & Area Matches) | Hardie Grant | | | Not required | 1000 | - | 0 | 0 |
| Points of Interest | Dept. Finance, Services & Innovation | 09/04/2018 | 09/04/2018 | Annually | 1000 | 0 | 0 | 8 |
| Tanks (Areas) | Dept. Finance, Services & Innovation | 09/04/2018 | 09/04/2018 | Annually | 1000 | 0 | 0 | 0 |
| Tanks (Points) | Dept. Finance, Services & Innovation | 09/04/2018 | 09/04/2018 | Annually | 1000 | 0 | 0 | 1 |
| Major Easements | Dept. Finance, Services & Innovation | 09/04/2018 | 09/04/2018 | As required | 1000 | 0 | 1 | 5 |
| State Forest | Dept. Finance, Services & Innovation | 18/01/2018 | 18/01/2018 | As required | 1000 | 0 | 0 | 0 |
| NSW National Parks and Wildlife Service Reserves | NSW Office of Environment & Heritage | 18/01/2018 | 30/09/2017 | Annually | 1000 | 0 | 0 | 0 |
| Hydrogeology Map of Australia | Commonwealth of Australia (Geoscience Australia) | 08/10/2014 | 17/03/2000 | As required | 1000 | 1 | 1 | 1 |

| Dataset Name | Custodian | Supply Date | Currency Date | Update Frequency | Dataset Buffer (m) | No. Features Onsite | No. Features within 100m | No. Features within Buffer |
|--|---|-------------|---------------|------------------|--------------------|---------------------|--------------------------|----------------------------|
| Botany Groundwater Management Zones | NSW Department of Primary Industries | 15/03/2018 | 01/10/2005 | As required | 1000 | 0 | 0 | 0 |
| Groundwater Boreholes | NSW Dept. of Primary Industries - Office of Water / Water Administration Ministerial Corporation; Commonwealth of Australia (Bureau of Meteorology) | 21/03/2016 | 01/12/2015 | Annually | 2000 | 1 | 2 | 100 |
| Geological Units 1:250,000 | NSW Dept. of Industry, Resources & Energy | 20/08/2014 | | None planned | 1000 | 4 | - | 5 |
| Geological Structures 1:250,000 | NSW Dept. of Industry, Resources & Energy | 20/08/2014 | | None planned | 1000 | 0 | - | 3 |
| Naturally Occurring Asbestos Potential | NSW Dept. of Industry, Resources & Energy | 04/12/2015 | 24/09/2015 | Unknown | 1000 | 0 | 0 | 0 |
| Soil Landscapes | NSW Office of Environment & Heritage | 12/08/2014 | | None planned | 1000 | 4 | - | 6 |
| Atlas of Australian Soils | CSIRO | 19/05/2017 | 17/02/2011 | As required | 1000 | 1 | 1 | 2 |
| Standard Local Environmental Plan Acid Sulfate Soils | NSW Planning and Environment | 07/10/2016 | 07/10/2016 | As required | 500 | 0 | - | - |
| Atlas of Australian Acid Sulfate Soils | CSIRO | 19/01/2017 | 21/02/2013 | As required | 1000 | 1 | 1 | 1 |
| Dryland Salinity - National Assessment | National Land and Water Resources Audit | 18/07/2014 | 12/05/2013 | None planned | 1000 | 0 | 1 | 1 |
| Dryland Salinity Potential of Western Sydney | NSW Office of Environment & Heritage | 12/05/2017 | 01/01/2002 | None planned | 1000 | - | - | - |
| Mining Subsidence Districts | Dept. Finance, Services & Innovation | 13/07/2017 | 01/07/2017 | As required | 1000 | 0 | 0 | 0 |
| SEPP 14 - Coastal Wetlands | NSW Planning and Environment | 17/12/2015 | 24/10/2008 | Annually | 1000 | 0 | 0 | 0 |
| SEPP 26 - Littoral Rainforest | NSW Planning and Environment | 17/12/2015 | 05/02/1988 | Annually | 1000 | 0 | 0 | 0 |
| SEPP 71 - Coastal Protection | NSW Planning and Environment | 17/12/2015 | 01/08/2003 | Annually | 1000 | 0 | 0 | 0 |
| SEPP Major Developments 2005 | NSW Planning and Environment | 09/03/2013 | 25/05/2005 | Under Review | 1000 | 0 | 0 | 0 |
| SEPP Strategic Land Use Areas | NSW Planning and Environment | 01/08/2017 | 28/01/2014 | Annually | 1000 | 0 | 0 | 1 |
| LEP - Land Zoning | NSW Planning and Environment | 11/04/2018 | 16/03/2018 | Quarterly | 1000 | 1 | 6 | 11 |
| LEP - Minimum Subdivision Lot Size | NSW Planning and Environment | 04/04/2018 | 23/03/2018 | Quarterly | 0 | 1 | - | - |
| LEP - Height of Building | NSW Planning and Environment | 04/04/2018 | 23/03/2018 | Quarterly | 0 | 0 | - | - |
| LEP - Floor Space Ratio | NSW Planning and Environment | 04/04/2018 | 23/03/2018 | Quarterly | 0 | 0 | - | - |
| LEP - Land Application | NSW Planning and Environment | 04/04/2018 | 23/03/2018 | Quarterly | 0 | 1 | - | - |
| LEP - Land Reservation Acquisition | NSW Planning and Environment | 04/04/2018 | 09/03/2018 | Quarterly | 0 | 0 | - | - |
| State Heritage Items | NSW Office of Environment & Heritage | 04/04/2018 | 30/09/2016 | Quarterly | 1000 | 0 | 0 | 0 |
| Local Heritage Items | NSW Planning and Environment | 04/04/2018 | 23/03/2018 | Quarterly | 1000 | 0 | 0 | 1 |
| Bush Fire Prone Land | NSW Rural Fire Service | 05/02/2018 | 23/01/2018 | Quarterly | 1000 | 0 | 2 | 3 |
| Vegetation of Southern Forests | NSW Office of Environment & Heritage | 09/12/2014 | 10/10/2011 | Unknown | 1000 | 0 | 0 | 0 |
| RAMSAR Wetlands | Commonwealth of Australia Department of the Environment | 08/10/2014 | 24/06/2011 | As required | 1000 | 0 | 0 | 0 |
| Groundwater Dependent Ecosystems | Bureau of Meteorology | 14/08/2017 | 15/05/2017 | Unknown | 1000 | 1 | 1 | 2 |
| Inflow Dependent Ecosystems Likelihood | Bureau of Meteorology | 14/08/2017 | 15/05/2017 | Unknown | 1000 | 1 | 1 | 3 |
| NSW BioNet Species Sightings | NSW Office of Environment & Heritage | 08/05/2018 | 08/05/2018 | Daily | 10000 | - | - | - |

Aerial Imagery 2016

Sutton Road & Old Federal Highway, Sutton, NSW 2621 (East Section)



Contaminated Land & Waste Management Facilities

Sutton Road & Old Federal Highway, Sutton, NSW 2621 (East Section)

List of NSW contaminated sites notified to EPA

Records from the NSW EPA Contaminated Land list within the dataset buffer:

| Map Id | Site | Address | Suburb | Activity | Management Class | Status | Location Confidence | Dist (m) | Direction |
|--------|----------------------|---------|--------|----------|------------------|--------|---------------------|----------|-----------|
| N/A | No records in buffer | | | | | | | | |

The values within the EPA site management class in the table above, are given more detailed explanations in the table below:

| EPA site management class | Explanation |
|---|---|
| Contamination being managed via the planning process (EP&A Act) | The EPA has completed an assessment of the contamination and decided that the contamination is significant enough to warrant regulation. The contamination of this site is managed by the consent authority under the Environmental Planning and Assessment Act 1979 (EP&A Act) planning approval process, with EPA involvement as necessary to ensure significant contamination is adequately addressed. The consent authority is typically a local council or the Department of Planning and Environment. |
| Contamination currently regulated under CLM Act | The EPA has completed an assessment of the contamination and decided that the contamination is significant enough to warrant regulation under the Contaminated Land Management Act 1997 (CLM Act). Management of the contamination is regulated by the EPA under the CLM Act. Regulatory notices are available on the EPA's Contaminated Land Public Record of Notices. |
| Contamination currently regulated under POEO Act | The EPA has completed an assessment of the contamination and decided that the contamination is significant enough to warrant regulation. Management of the contamination is regulated under the Protection of the Environment Operations Act 1997 (POEO Act). The EPA's regulatory actions under the POEO Act are available on the POEO public register. |
| Contamination formerly regulated under the CLM Act | The EPA has determined that the contamination is no longer significant enough to warrant regulation under the Contaminated Land Management Act 1997 (CLM Act). The contamination was addressed under the CLM Act. |
| Contamination formerly regulated under the POEO Act | The EPA has determined that the contamination is no longer significant enough to warrant regulation. The contamination was addressed under the Protection of the Environment Operations Act 1997 (POEO Act). |
| Contamination was addressed via the planning process (EP&A Act) | The EPA has determined that the contamination is no longer significant enough to warrant regulation. The contamination was addressed by the appropriate consent authority via the planning process under the Environmental Planning and Assessment Act 1979 (EP&A Act). |
| Ongoing maintenance required to manage residual contamination (CLM Act) | The EPA has determined that ongoing maintenance, under the Contaminated Land Management Act 1997 (CLM Act), is required to manage the residual contamination. Regulatory notices under the CLM Act are available on the EPA's Contaminated Land Public Record of Notices. |
| Regulation being finalised | The EPA has completed an assessment of the contamination and decided that the contamination is significant enough to warrant regulation under the Contaminated Land Management Act 1997. A regulatory approach is being finalised. |
| Regulation under the CLM Act not required | The EPA has completed an assessment of the contamination and decided that regulation under the Contaminated Land Management Act 1997 is not required. |
| Under assessment | The contamination is being assessed by the EPA to determine whether regulation is required. The EPA may require further information to complete the assessment. For example, the completion of management actions regulated under the planning process or Protection of the Environment Operations Act 1997. Alternatively, the EPA may require information via a notice issued under s77 of the Contaminated Land Management Act 1997 or issue a Preliminary Investigation Order. |

NSW EPA Contaminated Land List Data Source: Environment Protection Authority
 © State of New South Wales through the Environment Protection Authority

Contaminated Land & Waste Management Facilities

Sutton Road & Old Federal Highway, Sutton, NSW 2621 (East Section)

Contaminated Land: Records of Notice

Record of Notices within the dataset buffer:

| Map Id | Name | Address | Suburb | Notices | Area No | Location Confidence | Distance | Direction |
|--------|----------------------|---------|--------|---------|---------|---------------------|----------|-----------|
| N/A | No records in buffer | | | | | | | |

Contaminated Land Records of Notice Data Source: Environment Protection Authority
© State of New South Wales through the Environment Protection Authority
Terms of use and disclaimer for Contaminated Land: Record of Notices, please visit
<http://www.epa.nsw.gov.au/clm/clmdisclaimer.htm>

Former Gasworks

Former Gasworks within the dataset buffer:

| Map Id | Location | Council | Further Info | Location Confidence | Distance | Direction |
|--------|----------------------|---------|--------------|---------------------|----------|-----------|
| N/A | No records in buffer | | | | | |

Former Gasworks Data Source: Environment Protection Authority
© State of New South Wales through the Environment Protection Authority

National Waste Management Site Database

Sites on the National Waste Management Site Database within the dataset buffer:

| Site Id | Owner | Name | Address | Suburb | Class | Landfill | Reprocess | Transfer | Comments | Loc Conf | Dist (m) | Direction |
|---------|----------------------|------|---------|--------|-------|----------|-----------|----------|----------|----------|----------|-----------|
| N/A | No records in buffer | | | | | | | | | | | |

Waste Management Facilities Data Source: Geoscience Australia
Creative Commons 3.0 © Commonwealth of Australia <http://creativecommons.org/licenses/by/3.0/au/deed.en>

EPA PFAS Investigation Program

Sutton Road & Old Federal Highway, Sutton, NSW 2621 (East Section)

EPA PFAS Investigation Program

Sites that are part of the EPA PFAS investigation program, within the dataset buffer:

| Id | Site | Address | Location Confidence | Distance | Direction |
|-----|----------------------|---------|---------------------|----------|-----------|
| N/A | No records in buffer | | | | |

EPA PFAS Investigation Program: Environment Protection Authority
© State of New South Wales through the Environment Protection Authority

EPA Other Sites with Contamination Issues

Sutton Road & Old Federal Highway, Sutton, NSW 2621 (East Section)

EPA Other Sites with Contamination Issues

This dataset contains other sites identified on the EPA website as having contamination issues. This dataset currently includes:

- James Hardie asbestos manufacturing and waste disposal sites
- Radiological investigation sites in Hunter's Hill

Sites within the dataset buffer:

| Site Id | Site Name | Site Address | Dataset | Comments | Location Confidence | Distance | Direction |
|---------|----------------------|--------------|---------|----------|---------------------|----------|-----------|
| N/A | No records in buffer | | | | | | |

EPA Other Sites with Contamination Issues: Environment Protection Authority
© State of New South Wales through the Environment Protection Authority

EPA Activities

Sutton Road & Old Federal Highway, Sutton, NSW 2621 (East Section)

Licensed Activities under the POEO Act 1997

Licensed activities under the Protection of the Environment Operations Act 1997, within the dataset buffer:

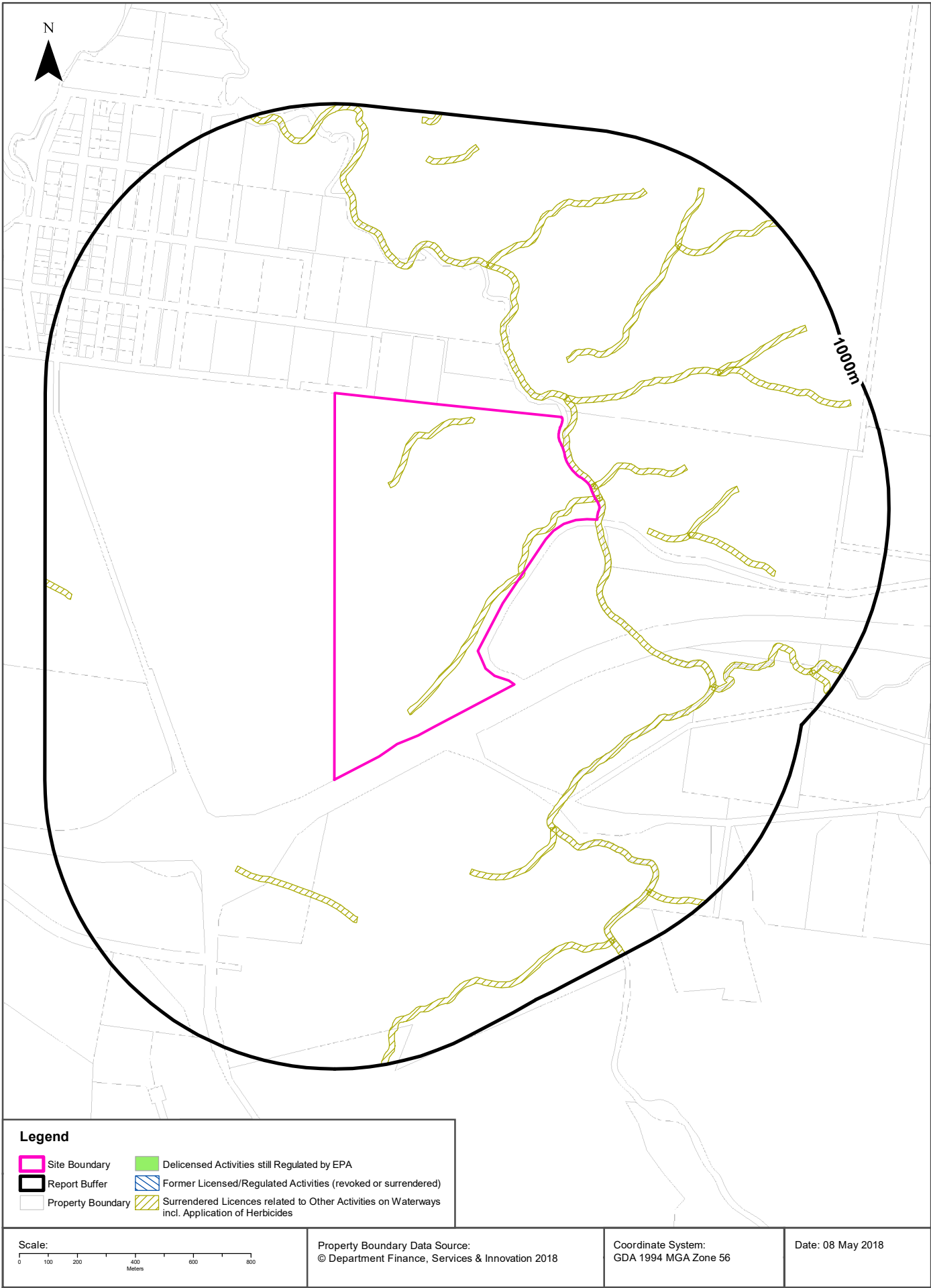
| EPL | Organisation | Name | Address | Suburb | Activity | Loc Conf | Distance | Direction |
|-----|----------------------|------|---------|--------|----------|----------|----------|-----------|
| N/A | No records in buffer | | | | | | | |

POEO Licence Data Source: Environment Protection Authority

© State of New South Wales through the Environment Protection Authority

Delicensed & Former Licensed EPA Activities

Sutton Road & Old Federal Highway, Sutton, NSW 2621 (East Section)



EPA Activities

Sutton Road & Old Federal Highway, Sutton, NSW 2621 (East Section)

Delicensed Activities still regulated by the EPA

Delicensed activities still regulated by the EPA, within the dataset buffer:

| Licence No | Organisation | Name | Address | Suburb | Activity | Loc Conf | Distance | Direction |
|------------|----------------------|------|---------|--------|----------|----------|----------|-----------|
| N/A | No records in buffer | | | | | | | |

Delicensed Activities Data Source: Environment Protection Authority
© State of New South Wales through the Environment Protection Authority

Former Licensed Activities under the POEO Act 1997, now revoked or surrendered

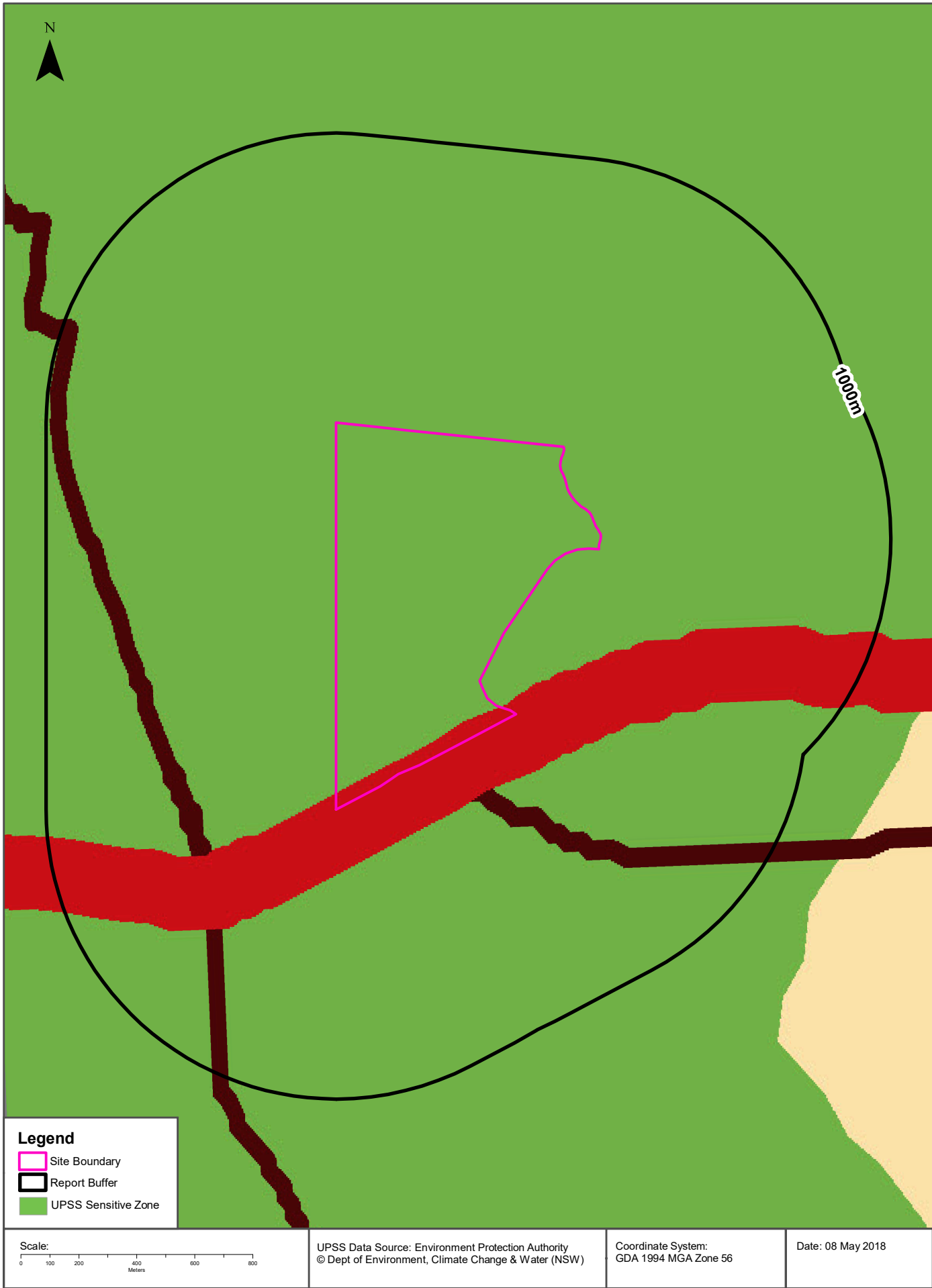
Former Licensed activities under the Protection of the Environment Operations Act 1997, now revoked or surrendered, within the dataset buffer:

| Licence No | Organisation | Location | Status | Issued Date | Activity | Loc Conf | Distance | Direction |
|------------|---|--|-------------|-------------|---|---------------------|----------|-----------|
| 4653 | LUHRMANN ENVIRONMENT MANAGEMENT PTY LTD | WATERWAYS THROUGHOUT NSW | Surrendered | | Other Activities / Non Scheduled Activity - Application of Herbicides | Network of Features | 0m | Onsite |
| 4838 | Robert Orchard | Various Waterways throughout New South Wales - SYDNEY NSW 2000 | Surrendered | | Other Activities / Non Scheduled Activity - Application of Herbicides | Network of Features | 0m | Onsite |
| 6630 | SYDNEY WEED & PEST MANAGEMENT PTY LTD | WATERWAYS THROUGHOUT NSW - PROSPECT, NSW, 2148 | Surrendered | | Other Activities / Non Scheduled Activity - Application of Herbicides | Network of Features | 0m | Onsite |

Former Licensed Activities Data Source: Environment Protection Authority
© State of New South Wales through the Environment Protection Authority

UPSS Sensitive Zones

Sutton Road & Old Federal Highway, Sutton, NSW 2621 (East Section)



Historical Business Directories

Sutton Road & Old Federal Highway, Sutton, NSW 2621 (East Section)

1982 Business Directory Records Premise or Road Intersection Matches

Records from the 1982 UBD Business Directory, mapped to a premise or road intersection, within the dataset buffer:

| Business Activity | Premise | Ref No. | Location Confidence | Distance to Feature Point | Direction |
|-------------------|----------------------|---------|---------------------|---------------------------|-----------|
| N/A | No records in buffer | | | | |

Business Directory Content Derived from Universal Business Directories (UBD) - Licensed from Hardie Grant

1982 Business Directory Records Road or Area Matches

Records from the 1982 UBD Business Directory, mapped to a road or an area, within the dataset buffer. Records are mapped to the road when a building number is not supplied, cannot be found, or the road has been renumbered since the directory was published:

| Business Activity | Premise | Ref No. | Location Confidence | Distance to Road Corridor or Area |
|-------------------|----------------------|---------|---------------------|-----------------------------------|
| N/A | No records in buffer | | | |

Business Directory Content Derived from Universal Business Directories (UBD) - Licensed from Hardie Grant

Historical Business Directories

Sutton Road & Old Federal Highway, Sutton, NSW 2621 (East Section)

1970 Business Directory Records Premise or Road Intersection Matches

Records from the 1970 UBD Business Directory, mapped to a premise or road intersection, within the dataset buffer:

| Business Activity | Premise | Ref No. | Location Confidence | Distance to Feature Point | Direction |
|-------------------|----------------------|---------|---------------------|---------------------------|-----------|
| N/A | No records in buffer | | | | |

Business Directory Content Derived from Universal Business Directories (UBD) - Licensed from Hardie Grant

1970 Business Directory Records Road or Area Matches

Records from the 1970 UBD Business Directory, mapped to a road or an area, within the dataset buffer. Records are mapped to the road when a building number is not supplied, cannot be found, or the road has been renumbered since the directory was published:

| Business Activity | Premise | Ref No. | Location Confidence | Distance to Road Corridor or Area |
|-------------------|----------------------|---------|---------------------|-----------------------------------|
| N/A | No records in buffer | | | |

Business Directory Content Derived from Universal Business Directories (UBD) - Licensed from Hardie Grant

Historical Business Directories

Sutton Road & Old Federal Highway, Sutton, NSW 2621 (East Section)

1961 Business Directory Records Premise or Road Intersection Matches

Records from the 1961 UBD Business Directory, mapped to a premise or road intersection, within the dataset buffer:

| Business Activity | Premise | Ref No. | Location Confidence | Distance to Feature Point | Direction |
|-------------------|----------------------|---------|---------------------|---------------------------|-----------|
| N/A | No records in buffer | | | | |

Business Directory Content Derived from Universal Business Directories (UBD) - Licensed from Hardie Grant

1961 Business Directory Records Road or Area Matches

Records from the 1961 UBD Business Directory, mapped to a road or an area, within the dataset buffer. Records are mapped to the road when a building number is not supplied, cannot be found, or the road has been renumbered since the directory was published:

| Business Activity | Premise | Ref No. | Location Confidence | Distance to Road Corridor or Area |
|-------------------|----------------------|---------|---------------------|-----------------------------------|
| N/A | No records in buffer | | | |

Business Directory Content Derived from Universal Business Directories (UBD) - Licensed from Hardie Grant

Historical Business Directories

Sutton Road & Old Federal Highway, Sutton, NSW 2621 (East Section)

1950 Business Directory Records Premise or Road Intersection Matches

Records from the 1950 UBD Business Directory, mapped to a premise or road intersection, within the dataset buffer:

| Business Activity | Premise | Ref No. | Location Confidence | Distance to Feature Point | Direction |
|-------------------|----------------------|---------|---------------------|---------------------------|-----------|
| N/A | No records in buffer | | | | |

Business Directory Content Derived from Universal Business Directories (UBD) - Licensed from Hardie Grant

1950 Business Directory Records Road or Area Matches

Records from the 1950 UBD Business Directory, mapped to a road or an area, within the dataset buffer. Records are mapped to the road when a building number is not supplied, cannot be found, or the road has been renumbered since the directory was published:

| Business Activity | Premise | Ref No. | Location Confidence | Distance to Road Corridor or Area |
|-------------------|----------------------|---------|---------------------|-----------------------------------|
| N/A | No records in buffer | | | |

Business Directory Content Derived from Universal Business Directories (UBD) - Licensed from Hardie Grant

Historical Business Directories

Sutton Road & Old Federal Highway, Sutton, NSW 2621 (East Section)

Dry Cleaners, Motor Garages & Service Stations Premise or Road Intersection Matches

Dry Cleaners, Motor Garages & Service Stations from UBD Business Directories, mapped to a premise or road intersection, within the dataset buffer:

| Business Activity | Premise | Ref No. | Year | Location Confidence | Distance to Feature Point | Direction |
|-------------------|----------------------|---------|------|---------------------|---------------------------|-----------|
| N/A | No records in buffer | | | | | |

Business Directory Content Derived from Universal Business Directories (UBD) - Licensed from Hardie Grant

Dry Cleaners, Motor Garages & Service Stations Road or Area Matches

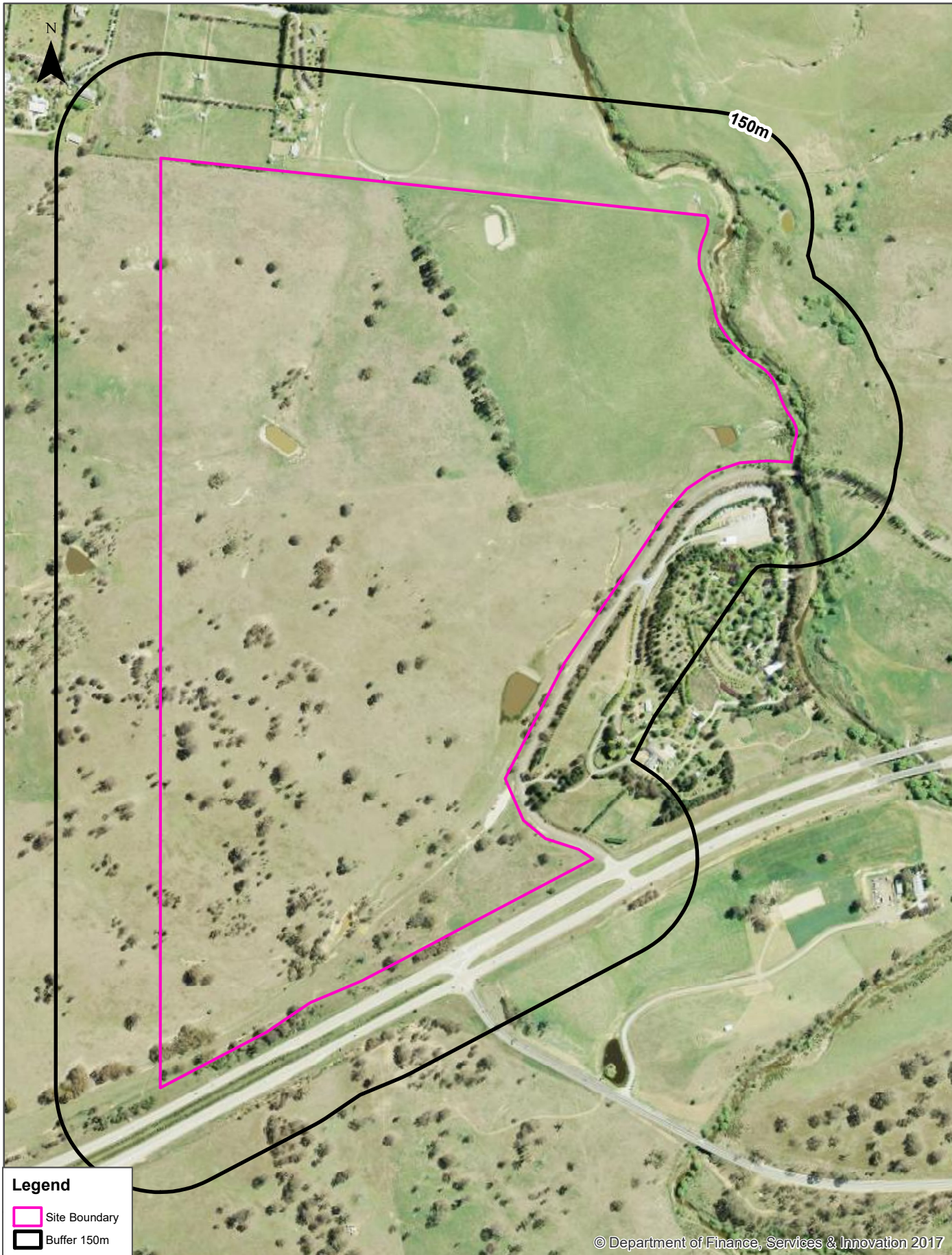
Dry Cleaners, Motor Garages & Service Stations from UBD Business Directories, mapped to a road or an area, within the dataset buffer. Records are mapped to the road when a building number is not supplied, cannot be found, or the road has been renumbered since the directory was published:

| Business Activity | Premise | Ref No. | Year | Location Confidence | Distance to Road Corridor or Area |
|-------------------|----------------------|---------|------|---------------------|-----------------------------------|
| N/A | No records in buffer | | | | |

Business Directory Content Derived from Universal Business Directories (UBD) - Licensed from Hardie Grant

Aerial Imagery 2013

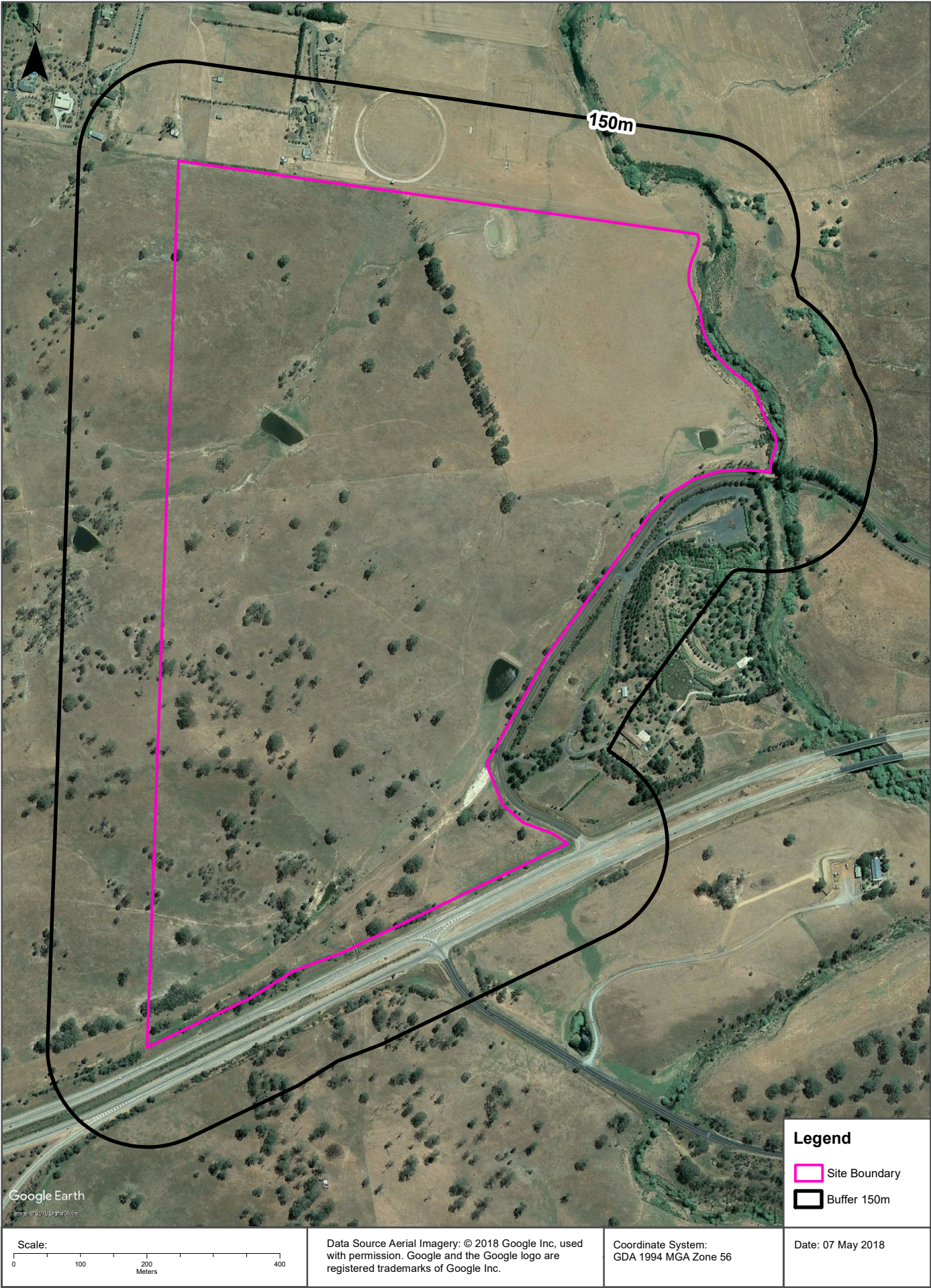
Sutton Road & Old Federal Highway, Sutton, NSW 2621 (East Section)



| | | |
|--|---|-------------------|
| Data Sources: Aerial Imagery © Department Finance, Services & Innovation | Coordinate System: GDA 1994 MGA Zone 56 | Date: 08 May 2018 |
|--|---|-------------------|

Aerial Imagery 2009

Sutton Road & Old Federal Highway, Sutton, NSW 2621 (East Section)



Aerial Imagery 2005

Sutton Road & Old Federal Highway, Sutton, NSW 2621 (East Section)



Aerial Imagery 1992

Sutton Road & Old Federal Highway, Sutton, NSW 2621 (East Section)



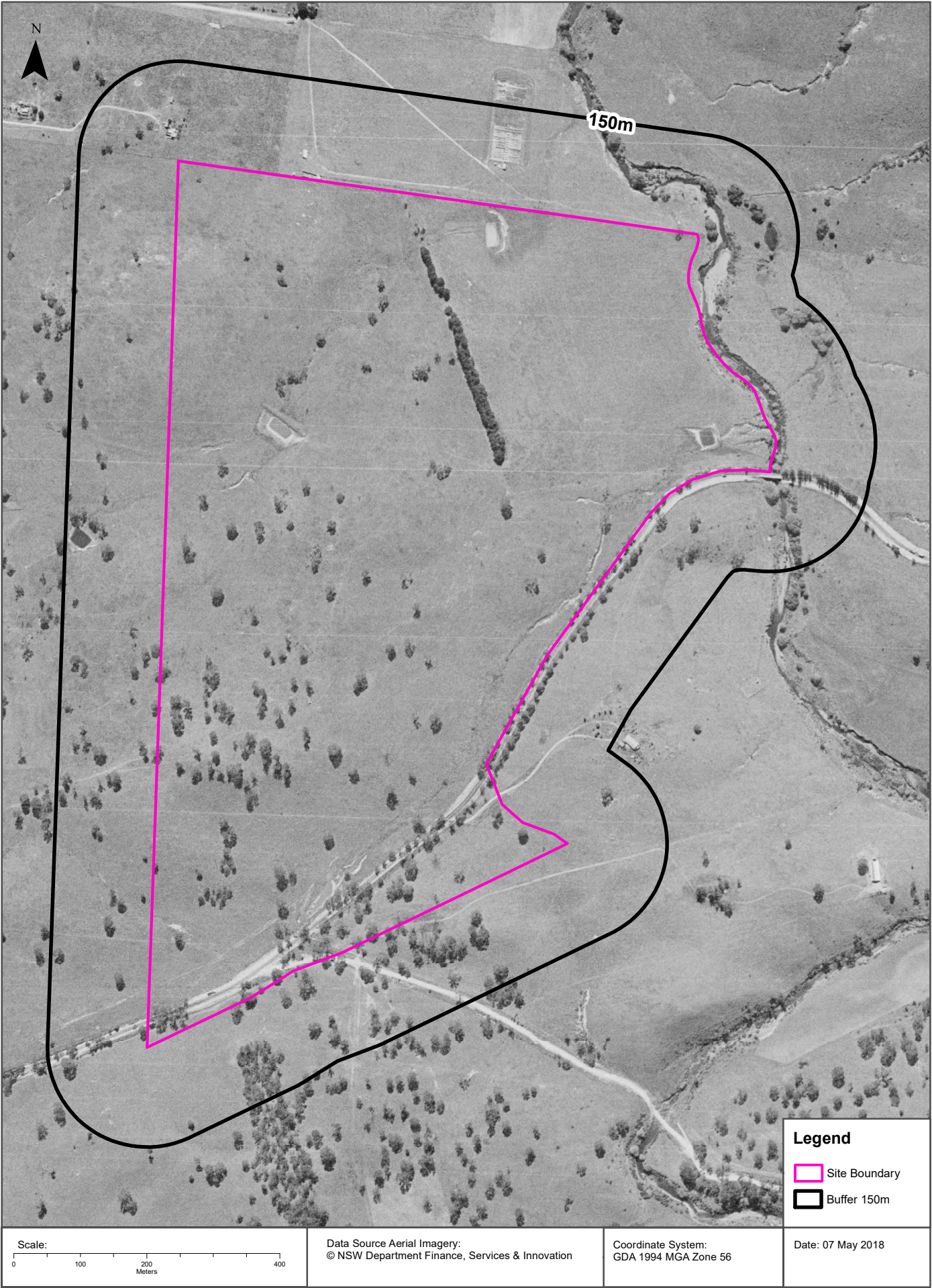
Aerial Imagery 1985

Sutton Road & Old Federal Highway, Sutton, NSW 2621 (East Section)



Aerial Imagery 1976

Sutton Road & Old Federal Highway, Sutton, NSW 2621 (East Section)



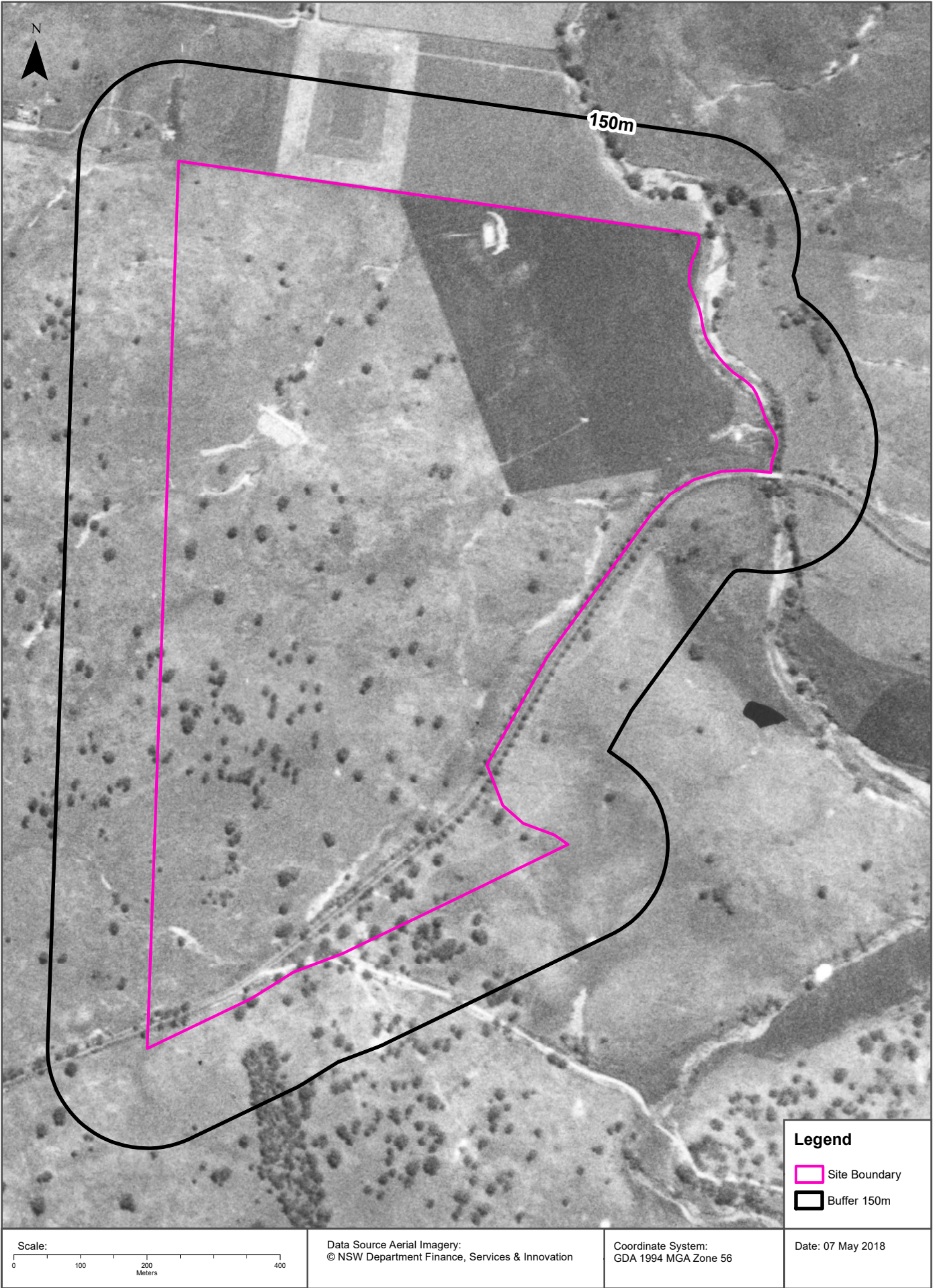
Aerial Imagery 1967

Sutton Road & Old Federal Highway, Sutton, NSW 2621 (East Section)



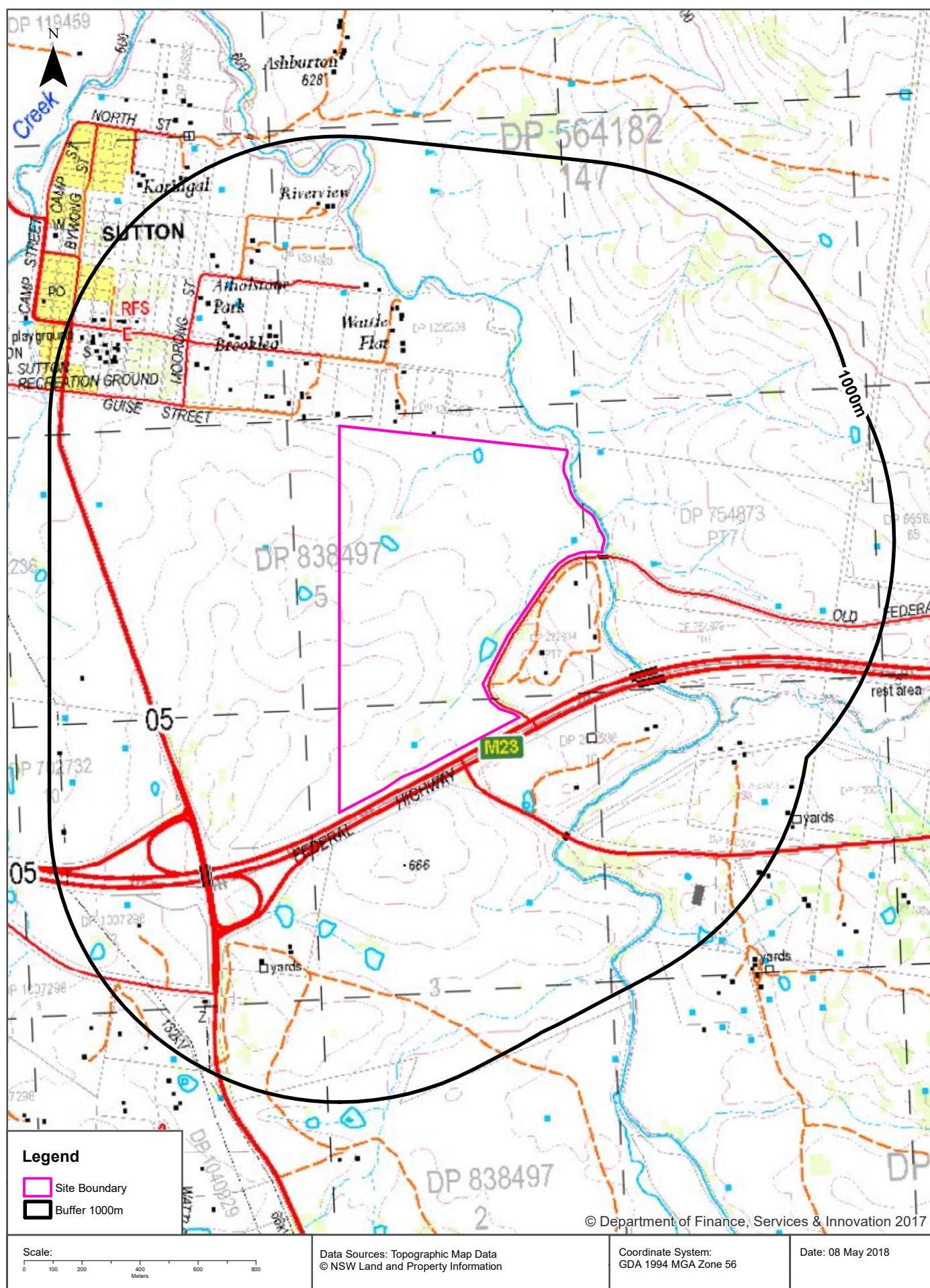
Aerial Imagery 1959

Sutton Road & Old Federal Highway, Sutton, NSW 2621 (East Section)



Topographic Map 2015

Sutton Road & Old Federal Highway, Sutton, NSW 2621 (East Section)



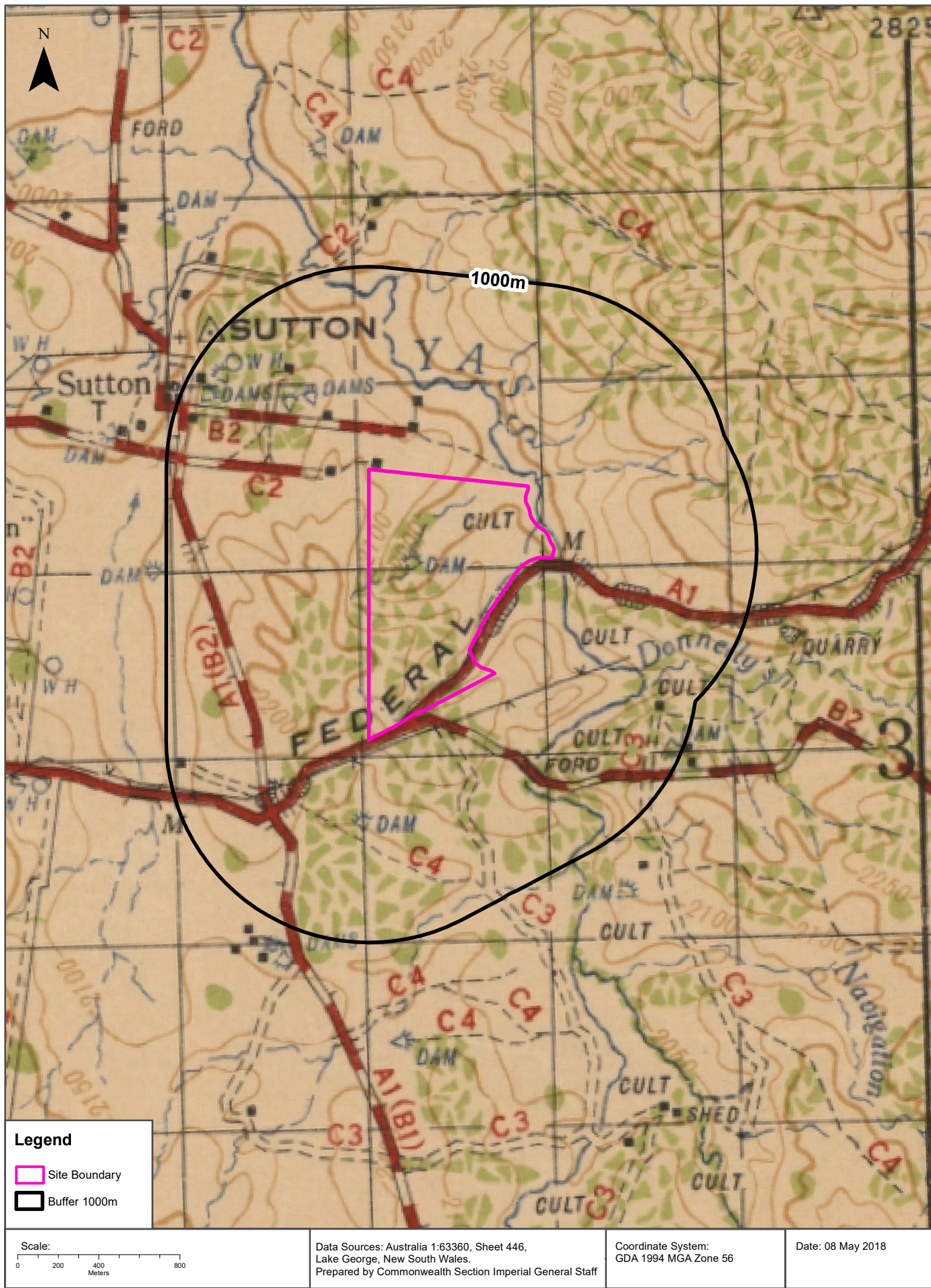
Historical Map 1987

Sutton Road & Old Federal Highway, Sutton, NSW 2621 (East Section)



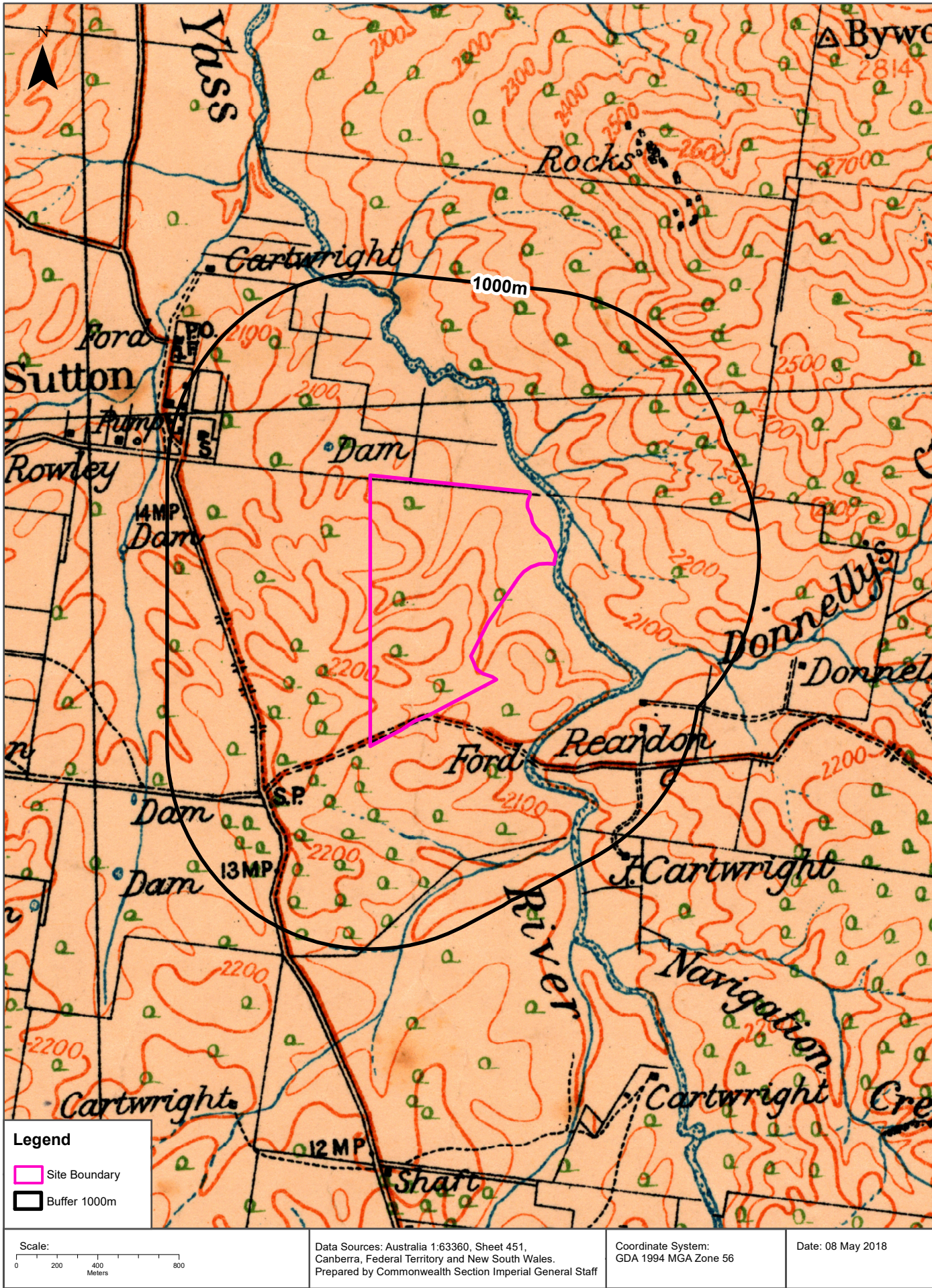
Historical Map 1944

Sutton Road & Old Federal Highway, Sutton, NSW 2621 (East Section)



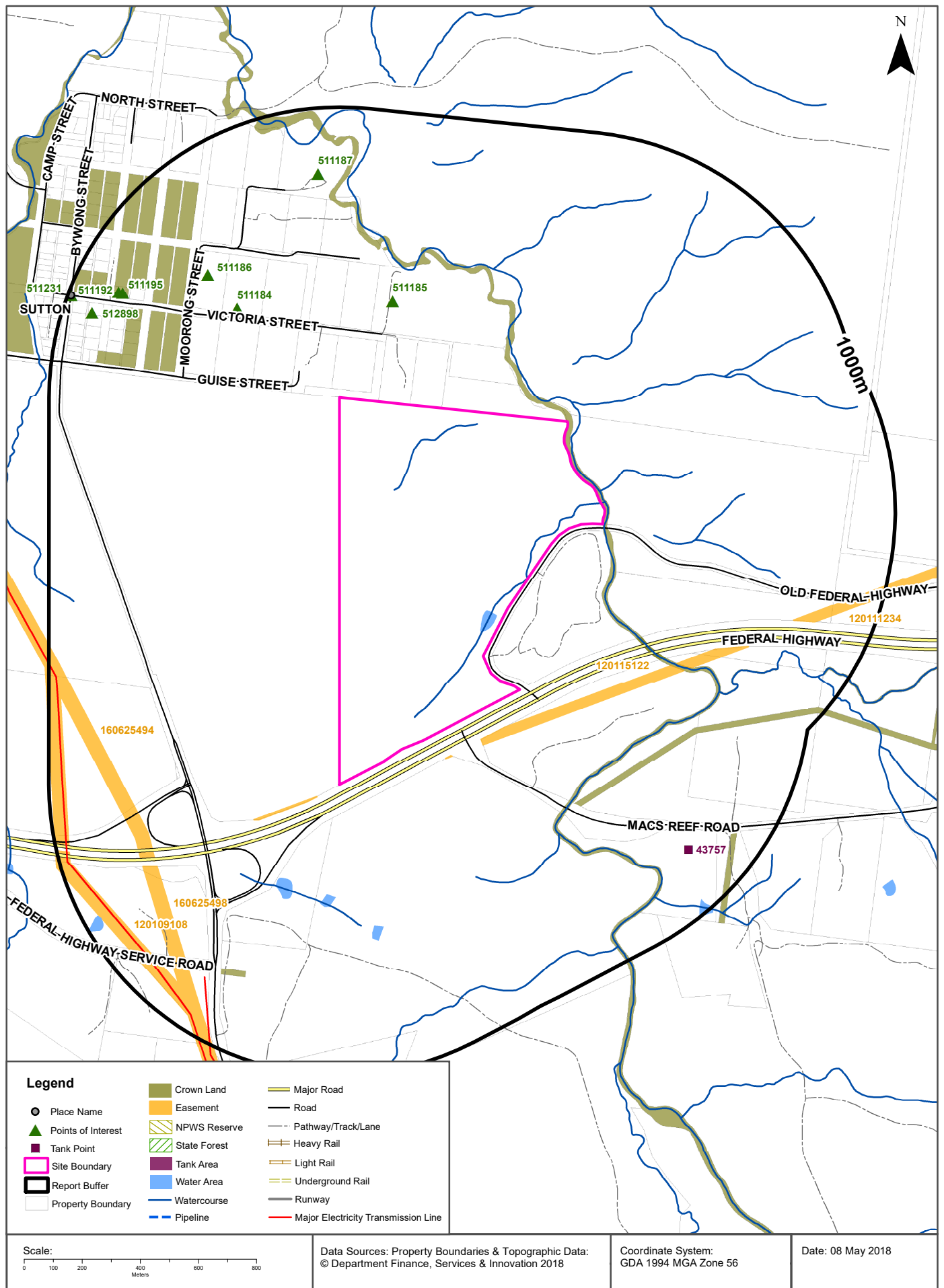
Historical Map 1914

Sutton Road & Old Federal Highway, Sutton, NSW 2621 (East Section)



Topographic Features

Sutton Road & Old Federal Highway, Sutton, NSW 2621 (East Section)



Topographic Features

Sutton Road & Old Federal Highway, Sutton, NSW 2621 (East Section)

Points of Interest

What Points of Interest exist within the dataset buffer?

| Map Id | Feature Type | Label | Distance | Direction |
|--------|--------------------|----------------------|----------|------------|
| 511185 | Homestead | WATTLE FLAT | 347m | North |
| 511184 | Homestead | BROOKLEA | 466m | North West |
| 511186 | Homestead | ATHOLSTONE PARK | 619m | North West |
| 511187 | Homestead | RIVERVIEW | 774m | North |
| 511192 | SES Facility | SUTTON SES | 828m | North West |
| 511195 | Firestation - Bush | SUTTON RFB | 842m | North West |
| 512898 | Primary School | SUTTON PUBLIC SCHOOL | 899m | North West |
| 511231 | Village | SUTTON | 988m | North West |

Topographic Data Source: © Land and Property Information (2015)

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Topographic Features

Sutton Road & Old Federal Highway, Sutton, NSW 2621 (East Section)

Tanks (Areas)

What are the Tank Areas located within the dataset buffer?

Note. The large majority of tank features provided by LPI are derived from aerial imagery & are therefore primarily above ground tanks.

| Map Id | Tank Type | Status | Name | Feature Currency | Distance | Direction |
|--------|----------------------|--------|------|------------------|----------|-----------|
| | No records in buffer | | | | | |

Tanks (Points)

What are the Tank Points located within the dataset buffer?

Note. The large majority of tank features provided by LPI are derived from aerial imagery & are therefore primarily above ground tanks.

| Map Id | Tank Type | Status | Name | Feature Currency | Distance | Direction |
|--------|-----------|-------------|------|------------------|----------|------------|
| 43757 | Water | Operational | | 02/07/2001 | 801m | South East |

Tanks Data Source: © Land and Property Information (2015)

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Major Easements

What Major Easements exist within the dataset buffer?

Note. Easements provided by LPI are not at the detail of local governments. They are limited to major easements such as Right of Carriageway, Electrical Lines (66kVa etc.), Easement to drain water & Significant subterranean pipelines (gas, water etc.).

| Map Id | Easement Class | Easement Type | Easement Width | Distance | Direction |
|-----------|----------------|---------------|----------------|----------|------------|
| 120115122 | Primary | Undefined | | 87m | South West |
| 120111234 | Primary | Undefined | | 544m | East |
| 160625494 | Primary | Undefined | | 678m | West |
| 160625498 | Primary | Undefined | | 688m | South West |
| 120109108 | Primary | Undefined | | 870m | South West |

Easements Data Source: © Land and Property Information (2015)

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Topographic Features

Sutton Road & Old Federal Highway, Sutton, NSW 2621 (East Section)

State Forest

What State Forest exist within the dataset buffer?

| State Forest Number | State Forest Name | Distance | Direction |
|---------------------|----------------------|----------|-----------|
| N/A | No records in buffer | | |

State Forest Data Source: © Land and Property Information (2015)

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National Parks and Wildlife Service Reserves

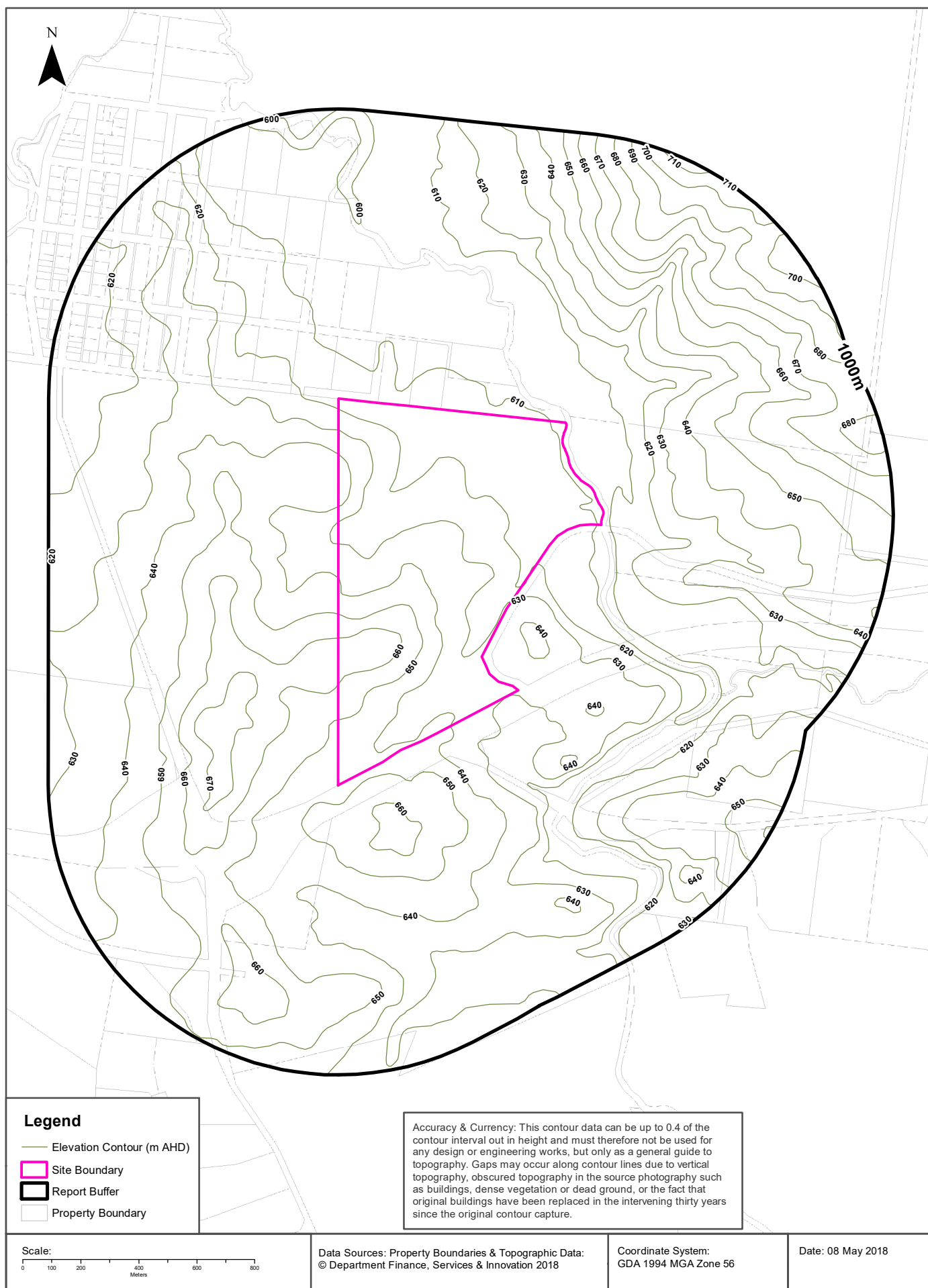
What NPWS Reserves exist within the dataset buffer?

| Reserve Number | Reserve Type | Reserve Name | Gazetted Date | Distance | Direction |
|----------------|----------------------|--------------|---------------|----------|-----------|
| N/A | No records in buffer | | | | |

NPWS Data Source: © Land and Property Information (2015)

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Sutton Road & Old Federal Highway, Sutton, NSW 2621 (East Section)



Hydrogeology & Groundwater

Sutton Road & Old Federal Highway, Sutton, NSW 2621 (East Section)

Hydrogeology

Description of aquifers on-site:

| Description |
|---|
| Fractured or fissured, extensive aquifers of low to moderate productivity |

Description of aquifers within the dataset buffer:

| Description |
|---|
| Fractured or fissured, extensive aquifers of low to moderate productivity |

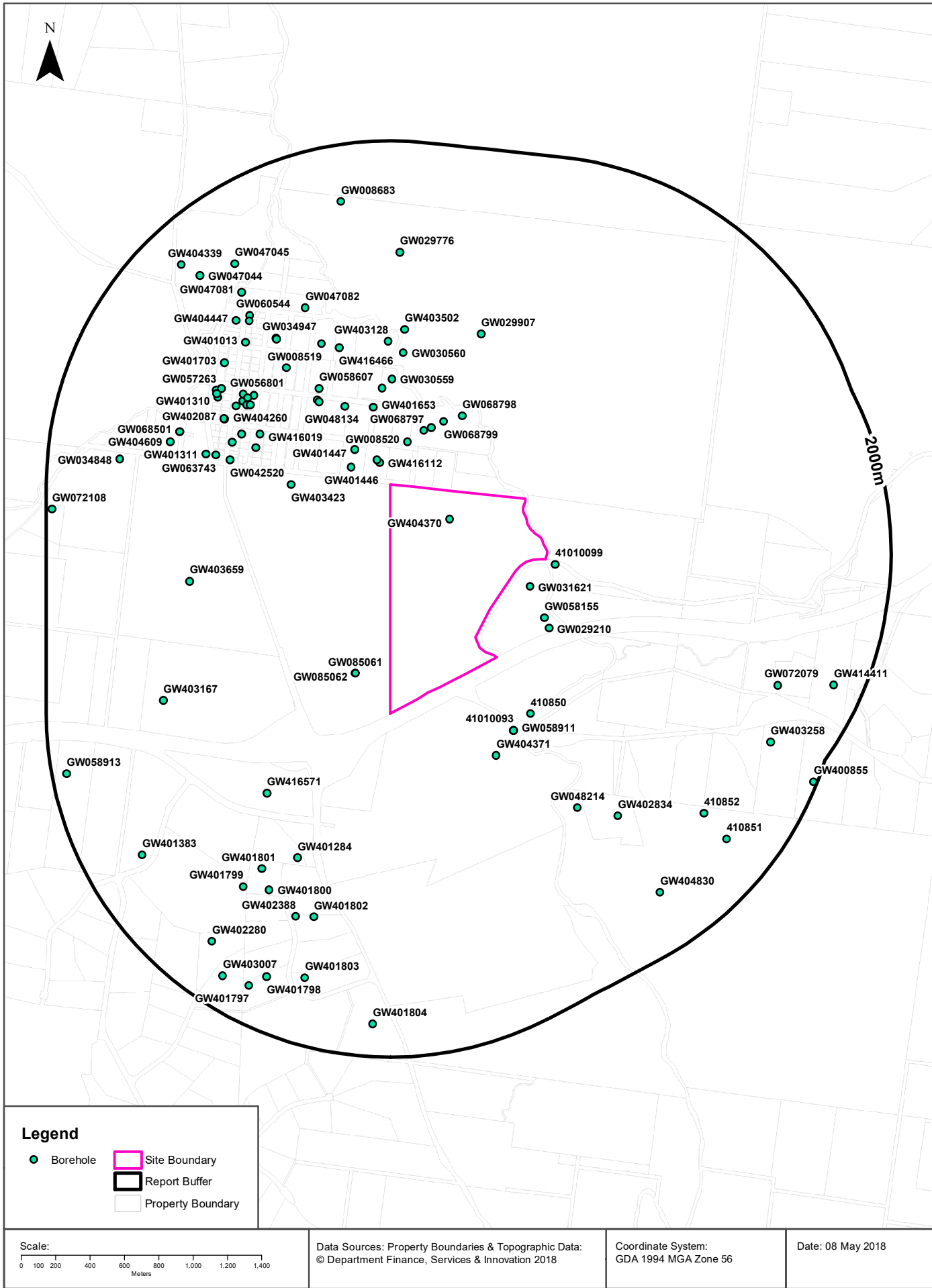
Hydrogeology Map of Australia : Commonwealth of Australia (Geoscience Australia)
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Botany Groundwater Management Zones

Groundwater management zones relating to the Botany Sand Beds aquifer within the dataset buffer:

| Management Zone No. | Restriction | Distance | Direction |
|---------------------|----------------------|----------|-----------|
| N/A | No records in buffer | | |

Botany Groundwater Management Zones Data Source : NSW Department of Primary Industries



Hydrogeology & Groundwater

Sutton Road & Old Federal Highway, Sutton, NSW 2621 (East Section)

Groundwater Boreholes

Boreholes within the dataset buffer:

| GW No. | Licence No | Work Type | Owner Type | Purpose | Contractor | Complete Date | Final Depth (m) | Drilled Depth (m) | Salinity (mg/L) | SWL (m) | Yield (L/s) | Elev (AHD) | Dist | Dir |
|----------|------------------------|---------------------|------------|-----------------|---------------------------|---------------|-----------------|-------------------|-----------------|---------|-------------|------------|------|------------|
| GW404370 | 40BL189172 | Bore | Private | Stock | M & D Water Bores | 17/11/2006 | 101.00 | 101.00 | | | | | 0m | Onsite |
| 41010099 | | | | UNK | | | | | | | | 616.78 | 64m | East |
| GW031621 | | Bore | Private | General Use | | 01/04/1968 | 5.20 | 5.20 | | | | | 122m | East |
| GW416112 | 40WA405820 | Bore | Private | Domestic, Stock | | 12/02/2013 | 90.00 | | good | 9.60 | 0.380 | | 139m | North West |
| GW402043 | 40BL188510, 40WA406610 | Bore | | Domestic, Stock | Watermin Drillers Pty Ltd | 19/01/2002 | 112.00 | 112.00 | | 14.00 | 0.263 | | 159m | North West |
| GW085062 | | Bore | | Monitoring | | 15/06/1992 | 3.10 | | | | | | 201m | South West |
| GW085061 | | Bore | | Monitoring | | 15/06/1992 | 7.77 | | | | | | 202m | South West |
| GW401446 | 40BL153176, 40WA406359 | Bore | | Domestic | Bungendore Water Bores | 16/02/1994 | 30.00 | | | | 10.000 | | 246m | North West |
| GW008520 | | Bore | Private | | | 01/02/1950 | 18.60 | 18.60 | | | | | 255m | North |
| GW401447 | 40BL154916 | Bore | | Domestic | Bungendore Water Bores | 09/06/1994 | 30.00 | | | | 0.170 | | 287m | North West |
| GW058155 | 40BL024546, 40BL126575 | Bore | Private | Domestic | | 01/01/1983 | 38.10 | 38.10 | | | | | 293m | East |
| GW068797 | 40BL141976 | Bore open thru rock | Private | GW Exploration | | 17/05/1990 | 44.00 | 44.00 | | | | | 330m | North |
| GW029210 | 40BL021852 | Bore | Private | Domestic, Stock | | 01/04/1968 | 10.40 | 10.40 | | | | | 347m | South East |
| GW416015 | 40BL190671, 40WA407019 | Bore | Private | Domestic, Stock | | 03/11/2005 | 30.00 | 30.00 | | | | | 354m | North |
| 410850 | | | | UNK | | | | | | | | 626.08 | 385m | South East |
| GW068799 | | Bore open thru rock | Private | GW Exploration | | 22/05/1990 | 20.00 | 20.00 | | | | | 396m | North |
| GW058911 | 40BL130985, 40WA406143 | Bore | Private | Domestic | | 01/02/1984 | 24.40 | 24.40 | Good | | | | 424m | South East |
| 41010093 | | | | UNK | | | | | | | | 627.44 | 424m | South East |
| GW068798 | | Bore open thru rock | Private | GW Exploration | | 18/05/1990 | 25.00 | 25.00 | | | | | 439m | North |
| GW401653 | 40BL188223, 40WA406563 | Bore | | | Toproll Pty. Ltd. | 26/04/2001 | 42.00 | 42.00 | | 6.00 | 0.250 | | 458m | North West |
| GW404371 | 40BL190188 | Bore | Private | Stock | M & D Water Bores | 19/11/2006 | 61.00 | 61.00 | Good | 35.00 | 0.375 | | 505m | South |
| GW048134 | 40BL106773, 40WA405982 | Bore open thru rock | Private | General Use | | 01/10/1977 | 53.40 | 53.40 | Fresh | | | | 523m | North West |
| GW030556 | | Well | Local Govt | Municipal | | 01/04/1971 | 12.80 | 14.30 | 501-1000 ppm | | | | 561m | North |

| GW No. | Licence No | Work Type | Owner Type | Purpose | Contractor | Complete Date | Final Depth (m) | Drilled Depth (m) | Salinity (mg/L) | SWL (m) | Yield (L/s) | Elev (AHD) | Dist | Dir |
|----------|------------------------------------|---------------------|------------|-----------------|-----------------------------|---------------|-----------------|-------------------|-----------------|---------|-------------|------------|-------|------------|
| GW403423 | 40BL188724, 40WA406651 | Bore | Private | Domestic, Stock | Bungendore Water Bores | 12/03/2003 | 66.00 | 66.00 | | 24.00 | 0.125 | | 576m | North West |
| GW030559 | | Well | Local Govt | Municipal | | 01/02/1971 | 23.20 | 23.20 | | | | | 611m | North |
| GW065663 | | Bore open thru rock | Private | Domestic, Stock | | 29/01/1988 | 33.00 | | Fresh | | | | 633m | North West |
| GW401351 | 40BL138488, 40WA406290 | Bore | | Domestic, Stock | Murrumbidgee Water Supply | 29/10/1988 | 33.00 | 33.00 | Fresh | | 0.570 | | 647m | North West |
| GW058607 | 40BL128731, 40WA406120 | Bore open thru rock | Private | General Use | | 01/09/1983 | 28.10 | 28.10 | Good | | | | 692m | North West |
| GW030560 | 40BL028590, 40WA405906 | Well | Private | Municipal | | 01/04/1971 | 30.50 | 43.30 | 0-500 ppm | | | | 768m | North |
| GW046903 | | Bore | Other Govt | Domestic | | 01/04/1978 | 83.80 | 83.80 | Good | | | | 809m | North West |
| GW416019 | 40BL190907, 40WA407055 | Bore | Private | Domestic | | 14/09/2006 | 110.00 | 110.00 | | 17.00 | 0.380 | | 810m | North West |
| GW403128 | 40BL190348, 40WA406954 | Bore | | Domestic | Central West Water Drillers | 08/03/2005 | 60.00 | 60.00 | | | 0.100 | | 831m | North |
| GW416466 | 40BL192552, 40WA407281 | Bore | Private | Domestic | Capital Drilling | 09/06/2011 | 60.00 | 60.00 | | 3.00 | 5.000 | | 848m | North West |
| GW416571 | 40WA416253 | Bore | Private | Domestic | (Unknown) | 18/11/2014 | 75.00 | 75.00 | | | 1.600 | | 852m | South West |
| GW403502 | 40BL190792, 40WA407032 | Bore | | Domestic, Stock | Bungendore Water Bores | 29/03/2006 | 23.00 | 23.00 | | 5.00 | 2.750 | | 904m | North |
| GW066762 | 40BL141978 | Bore | Local Govt | Test Bore | | 25/05/1990 | 34.80 | 34.80 | | 0.40 | 10.260 | 625.00 | 906m | North West |
| GW008519 | | Bore | Private | | | 01/02/1950 | 10.70 | 10.70 | | | | | 908m | North West |
| GW035591 | 40BL029145 | Bore | P.W.D. | Domestic | | 01/04/1973 | 29.80 | 29.90 | Good | | | | 911m | North West |
| GW029907 | 40BL020212, 40WA405882 | Bore | Private | Stock | | 01/06/1967 | 33.10 | 33.10 | | | | | 925m | North |
| GW065185 | 40BL137680, 40WA406273 | Bore | Private | Domestic | | 30/04/1988 | 41.10 | | Good | | | | 935m | North West |
| GW042520 | 40BL102030, 40BL110911, 40WA406028 | Bore open thru rock | Private | Irrigation | | 01/03/1975 | 38.40 | 38.40 | Fresh | | | | 941m | North West |
| GW055603 | 40BL120758, 40WA406076 | Bore open thru rock | Private | Domestic | | 01/09/1981 | 54.00 | 54.00 | | | | | 944m | North West |
| GW046902 | | Bore | Other Govt | Domestic | | 01/04/1978 | 106.70 | 106.70 | | | | | 950m | North West |
| GW404260 | 40BL189176 | Bore | Private | Domestic | | 01/05/2001 | 30.00 | | | | | | 953m | North West |
| GW416448 | 40WA416077 | Bore | Private | Domestic | Bungendore Water Bores | 20/01/2014 | 48.00 | 48.00 | | 14.00 | 0.400 | | 968m | North West |
| GW043913 | 40BL100393, 40WA405928 | Bore open thru rock | Private | Domestic | | 01/09/1974 | 51.80 | 51.80 | Fresh | | | | 982m | North West |
| GW048214 | | Bore | Private | Irrigation | | 01/01/1976 | 48.80 | | | | | | 994m | South East |
| GW401284 | 40BL187670, 40CA407422 | Bore | | Irrigation | Watermin Drillers Pty Ltd | 24/05/2000 | 72.00 | 72.00 | Good | 19.00 | 2.530 | | 998m | South West |
| GW056801 | 40BL123834, 40WA406091 | Bore open thru rock | Private | Domestic, Stock | | 01/01/1983 | 53.00 | 53.00 | Bad | | | | 1000m | North West |
| GW403179 | 40BL188543, 40WA406619 | Bore | | Domestic | Bungendore Water Bores | 06/08/2005 | 30.00 | | | 9.00 | | | 1004m | North West |
| GW063743 | 40BL135398, 40WA406223 | Bore | Private | Domestic | | 01/11/1986 | 36.90 | 36.90 | | | | | 1028m | North West |

| GW No. | Licence No | Work Type | Owner Type | Purpose | Contractor | Complete Date | Final Depth (m) | Drilled Depth (m) | Salinity (mg/L) | SWL (m) | Yield (L/s) | Elev (AHD) | Dist | Dir |
|----------|------------------------|---------------------|------------|-----------------|--|---------------|-----------------|-------------------|-----------------|---------|-------------|------------|--------|------------|
| GW402087 | 40BL188722, 40WA406650 | Bore | | Domestic | | 26/09/2002 | 20.00 | | | 9.00 | 0.188 | | 1036 m | North West |
| GW402071 | 40BL188696, 40WA406645 | Bore | | Domestic | Watermin Drillers Pty Ltd | 16/05/2002 | 24.00 | 24.00 | | 5.00 | 0.227 | | 1039 m | North West |
| GW402696 | 40BL189578, 40WA406820 | Bore | | Domestic, Stock | | 23/09/2003 | 90.00 | 90.00 | | 32.00 | 0.150 | | 1071 m | North West |
| GW034947 | 40BL027809, 40WA405900 | Bore open thru rock | Private | Domestic | | 01/10/1972 | 47.20 | 47.20 | Fresh | | | | 1078 m | North West |
| GW401311 | 40BL187911, 40WA406528 | Bore | | Domestic | Watermin Drillers Pty Ltd | 05/05/2000 | 32.00 | 32.00 | Good | 6.00 | 0.315 | | 1086 m | North West |
| GW401310 | 40BL187910, 40WA406527 | Bore | | Domestic | Watermin Drillers Pty Ltd | 04/05/2000 | 24.00 | 24.00 | Good | 6.00 | 0.315 | | 1121 m | North West |
| GW414712 | 40BL189179 | Bore | Private | Domestic, Stock | Monaro Irrigation & Pumping Services P/L | 23/06/2011 | 10.00 | | | | 1.390 | | 1128 m | North West |
| GW055520 | 40BL120666, 40WA406075 | Bore open thru rock | Private | Domestic | | 01/10/1981 | 22.00 | 22.00 | | | | | 1137 m | North West |
| GW047082 | 40BL105784 | Bore | Private | Irrigation | | 01/02/1978 | 68.60 | 68.60 | | | | | 1139 m | North West |
| GW057263 | 40BL123746, 40WA406090 | Bore open thru rock | Private | Domestic | | 01/12/1982 | 23.00 | 23.00 | | | | | 1149 m | North West |
| GW402834 | 40BL189834, 40WA406865 | Bore | | | Central West Water Drillers | 08/12/2004 | 54.00 | 54.00 | | 18.00 | 1.875 | | 1163 m | South East |
| GW403659 | 40BL190836 | Bore | Private | Domestic, Stock | Bungendore Water Bores | 03/05/2006 | 54.00 | 54.00 | | 7.00 | 1.500 | | 1166 m | West |
| GW401801 | 40BL188407, 40WA406590 | Bore | | Domestic, Stock | Dalton Water Drilling Services Pty Ltd | 17/05/2001 | 53.34 | 53.34 | | 6.10 | 4.420 | | 1171 m | South West |
| GW401013 | 40BL187618, 40WA406496 | Bore | | Domestic | Bungendore Water Bores | 28/05/1999 | 60.00 | 60.00 | | 24.00 | 0.720 | | 1177 m | North West |
| GW401703 | 40BL188336, 40WA406581 | Bore | | Domestic | Sanderson Water Search | 21/10/1993 | 30.40 | 30.40 | | 3.00 | 1.000 | | 1195 m | North West |
| GW401800 | 40BL188408, 40WA406591 | Bore | | Domestic, Stock | Dalton Water Drilling Services Pty Ltd | 17/05/2001 | 76.20 | 76.20 | | 42.70 | 0.660 | | 1243 m | South West |
| GW403692 | 40BL191053 | Bore | Private | Domestic | Bungendore Water Bores | 17/10/1997 | 60.00 | 60.00 | | 38.00 | 0.370 | | 1254 m | North West |
| GW068501 | | Bore open thru rock | Local Govt | Recreation | | 27/08/1984 | 54.00 | 54.00 | Fair | | | | 1262 m | North West |
| GW405027 | 40BL141975 | Bore | Private | Recreation | | 26/08/2009 | 20.00 | | | 6.00 | | | 1262 m | North West |
| GW401802 | 40BL188406, 40WA406589 | Bore | | Domestic, Stock | Dalton Water Drilling Services Pty Ltd | 17/05/2001 | 61.00 | 61.00 | | 6.10 | 1.520 | | 1265 m | South |
| GW060544 | 40BL131758, 40WA406150 | Bore open thru rock | Private | Domestic, Stock | | 01/09/1984 | 36.50 | 36.50 | Good | | | | 1277 m | North West |
| GW402388 | 40BL189248, 40WA406753 | Bore | | Domestic | J & L Drilling Pty Ltd | 15/03/2003 | 75.00 | 75.00 | | | 0.500 | | 1303 m | South West |
| GW404609 | 40BL189685 | Bore | Private | Domestic, Stock | Bungendore Water Bores | 18/11/2004 | 30.00 | 30.00 | Fair | 7.00 | 1.750 | | 1303 m | North West |
| GW404447 | 40BL186872 | Bore | Private | Domestic | Bungendore Water Bores | 01/12/1997 | 50.00 | | | 21.00 | 0.630 | | 1306 m | North West |
| GW403167 | 40BL190635, 40WA407015 | Bore | | Domestic, Stock | Bungendore Water Bores | 21/07/2005 | 54.00 | 54.00 | | 6.00 | 4.250 | | 1319 m | South West |

| GW No. | Licence No | Work Type | Owner Type | Purpose | Contractor | Complete Date | Final Depth (m) | Drilled Depth (m) | Salinity (mg/L) | SWL (m) | Yield (L/s) | Elev (AHD) | Dist | Dir |
|----------|------------------------------------|---------------------|------------|-------------------|--|---------------|-----------------|-------------------|-----------------|---------|-------------|------------|--------|------------|
| GW401799 | 40BL188409, 40WA406592 | Bore | | Domestic, Stock | Dalton Water Drilling Services Pty Ltd | 17/05/2001 | 53.34 | 53.34 | | 15.24 | 1.520 | | 1322 m | South West |
| GW029776 | 40BL022291, 40WA405885 | Bore | Private | Domestic, Stock | | 01/05/1968 | 16.00 | 16.00 | | | | | 1351 m | North |
| GW047081 | 40BL105783, 40BL138330, 40WA406287 | Bore | Private | Irrigation | | 01/02/1978 | 39.70 | 39.70 | 1001-3000 ppm | | | | 1412 m | North West |
| 410852 | | | | UNK | | | | | | | | 673.30 | 1511 m | South East |
| GW072079 | | Bore open thru rock | Private | Domestic, Farming | | 03/02/1994 | 65.50 | 65.50 | Good | | | | 1536 m | East |
| GW047045 | 40BL104796 | Bore | Private | Irrigation | | 01/04/1975 | 16.50 | 16.50 | Fresh | | | | 1570 m | North West |
| GW034848 | 40BL030201, 40BL130078 | Bore open thru rock | Private | Domestic, Stock | | 01/08/1972 | 47.20 | 47.20 | | | | | 1578 m | West |
| GW401803 | 40BL188405, 40WA406588 | Bore | | Domestic, Stock | Dalton Water Drilling Services Pty Ltd | 17/05/2001 | 53.34 | 53.34 | | 4.57 | 1.770 | | 1618 m | South |
| GW047044 | 40BL104168 | Bore open thru rock | Private | Irrigation | | 01/03/1975 | 30.50 | 30.50 | | | | | 1641 m | North West |
| GW401383 | 40BL187843, 40WA406516 | Bore | | Irrigation | Bungendore Water Bores | 01/05/2000 | 60.00 | 60.00 | Fair | 7.00 | 1.600 | | 1660 m | South West |
| GW404830 | 40BL191673 | Bore | Private | Domestic, Stock | Watermin Drillers Pty Ltd | 05/11/2008 | 72.00 | 72.00 | | 8.00 | 0.252 | | 1668 m | South East |
| GW403258 | 40BL189482, 40WA406804 | Bore | | Domestic, Stock | Central West Water Drillers | 22/09/2005 | 120.00 | 120.00 | | 70.00 | 0.313 | | 1669 m | South East |
| GW008683 | | Bore | Private | | | 01/04/1950 | 44.90 | 44.90 | | | | | 1670 m | North |
| GW402280 | 40BL188990, 40WA406697 | Bore | | Stock | J & L Drilling Pty Ltd | 15/02/2003 | 70.00 | 70.00 | | | 0.570 | | 1684 m | South West |
| GW401798 | 40BL188410, 40WA406593 | Bore | | Domestic, Stock | Dalton Water Drilling Services Pty Ltd | 17/05/2001 | 45.72 | 45.72 | | 6.10 | 3.000 | | 1692 m | South West |
| 410851 | | | | UNK | | | | | | | | 686.56 | 1707 m | South East |
| GW404339 | 40BL188576 | Bore | Private | Domestic, Stock | Bungendore Water Bores | 12/08/2003 | 10.10 | 101.00 | 1800 | 3.60 | 4.400 | | 1762 m | North West |
| GW401797 | 40BL188411, 40WA406594 | Bore | | Domestic, Stock | Dalton Water Drilling Services Pty Ltd | 17/05/2001 | 61.00 | 61.00 | | 35.00 | 1.520 | | 1784 m | South West |
| GW401804 | 40BL188404, 40WA406587 | Bore | | Domestic, Stock | Dalton Water Drilling Services Pty Ltd | 17/05/2001 | 53.34 | 53.34 | | 9.14 | 6.320 | | 1809 m | South |
| GW403007 | 40BL188003, 40WA406539 | Bore | | Domestic | Bungendore Drilling Pty Ltd | 12/04/2005 | 90.00 | 90.00 | | | | | 1811 m | South West |
| GW414411 | 40BL191261 | Bore | Private | Domestic | Highland Drilling Pty Ltd | 31/03/2008 | 36.00 | 36.00 | | 6.00 | | | 1828 m | East |
| GW058913 | 40BL130991, 40WA406144 | Bore | Private | Domestic | | 01/06/1984 | 87.00 | 87.00 | 501-1000 ppm | | | | 1914 m | South West |
| GW072108 | 40BL154681, 40WA406371 | Bore | | | Watermin Drillers Pty Ltd | 09/05/1994 | 41.00 | 41.00 | Good | | 3.160 | | 1966 m | West |
| GW400855 | 40BL187526, 40WA406485 | Bore | | Domestic, Stock | Bungendore Water Bores | 27/02/1999 | 78.00 | 78.00 | Fair | 18.00 | 0.188 | | 1980 m | South East |

Borehole Data Source : NSW Department of Primary Industries - Office of Water / Water Administration Ministerial Corporation for all bores prefixed with GW. All other bores © Commonwealth of Australia (Bureau of Meteorology) 2015. Creative Commons 3.0 © Commonwealth of Australia <http://creativecommons.org/licenses/by/3.0/au/deed.en>

Hydrogeology & Groundwater

Sutton Road & Old Federal Highway, Sutton, NSW 2621 (East Section)

Driller's Logs

Drill log data relevant to the boreholes within the dataset buffer:

| Groundwater No | Drillers Log | Distance | Direction |
|----------------|--|----------|------------|
| GW404370 | 0.00m-3.00m TOPSOIL 3.00m-6.00m SHALE - BLUE 6.00m-9.00m SANDS 9.00m-23.00m SHALE - BLUE/BLACK 23.00m-101.00m QUARTZ - WHITE AND BLACK | 0m | Onsite |
| GW031621 | 0.00m-1.52m Topsoil 1.52m-2.13m Clay 2.13m-3.35m Clay Sandy 3.35m-4.57m Silt 4.57m-5.18m Rock Hard | 122m | East |
| GW402043 | 0.00m-1.00m Topsoil, brown 1.00m-4.00m Clay, brown 4.00m-10.00m Clay, white 10.00m-11.00m Quartz 11.00m-24.00m Granite, brown 24.00m-112.00m Granite, blue hard | 159m | North West |
| GW008520 | 0.00m-0.91m Humus 0.91m-6.10m Clay 6.10m-8.23m Gravel 8.23m-9.14m Clay 9.14m-10.36m Gravel 10.36m-11.58m Clay Grit 11.58m-18.59m Clay | 255m | North |
| GW058155 | 0.00m-0.60m Topsoil 0.60m-2.40m Clay 2.40m-3.00m Clay Sandy 3.00m-4.60m Sand 4.60m-6.00m Gravel Boulder 6.00m-11.00m Granite Soft 11.00m-38.10m Granite | 293m | East |
| GW068797 | 0.00m-1.00m Brown Clay 1.00m-4.00m Brown Silty Clay 4.00m-10.00m Brown Clay - Large Gravel Limonite Stain Waterworn Decomposed Granite 10.00m-12.00m Decomposed Granite 12.00m-23.00m Grey/green Clay-quartz Gravel 23.00m-26.00m Weathered Grey Granite-quartz 26.00m-41.00m Fractured Pink/grey Granite-quartz 41.00m-44.00m Fresh Grey Granite | 330m | North |
| GW029210 | 0.00m-2.13m Clay Black Topsoil 2.13m-3.05m Clay Black 3.05m-5.18m Clay Sandy 5.18m-5.79m Sand 5.79m-9.14m Sand Consolidated 9.14m-10.36m Granite Water Supply | 347m | South East |
| GW416015 | 0.00m-1.00m clay 1.00m-22.00m sandy clay 22.00m-30.00m granite | 354m | North |
| GW068799 | 0.00m-4.00m Brown Clay 4.00m-6.00m Brown Clay & Gravel 6.00m-18.00m Weathered Granite 18.00m-20.00m Fractured Granite | 396m | North |
| GW058911 | 0.00m-3.60m Topsoil 3.60m-4.60m Sand Coarse Clay 4.60m-5.20m Granite Broken 5.20m-24.40m Granite Fresh | 424m | South East |

| Groundwater No | Drillers Log | Distance | Direction |
|----------------|--|----------|------------|
| GW068798 | 0.00m-2.00m Dark Brown Clay 2.00m-4.00m Brown Clay & Gravel 4.00m-7.00m Pink Weathered Granite 7.00m-13.00m Highly Fractured Granite 13.00m-15.00m Grey Granite & Quartz 15.00m-20.00m Fractured Grey Granite 20.00m-25.00m Fresh Granite | 439m | North |
| GW401653 | 0.00m-3.00m CLAY, LOAMY 3.00m-10.00m SHALES & CLAYS, WEATHERED 10.00m-21.00m DACITE, GREY BLUE 21.00m-24.00m GRANITE, WHITE 24.00m-42.00m DACITE, GREY BLUE FRACTURED | 458m | North West |
| GW404371 | 0.00m-3.00m CLAY 3.00m-7.00m CLAY/SAND/SOIL 7.00m-61.00m SHALE - BLUE | 505m | South |
| GW048134 | 0.00m-0.60m Topsoil 0.60m-2.00m Clay 2.00m-3.00m Clay Sandy 3.00m-6.00m Shale 6.00m-16.80m Sandstone 16.80m-50.00m Granite Water Supply 50.00m-53.40m Basalt Water Supply | 523m | North West |
| GW030556 | 0.00m-2.13m Clay Grey Hard 2.13m-3.05m Clay Yellow 3.05m-3.96m Sand Medium Stones Large 3.96m-5.18m Clay 5.18m-7.01m Clay Stoney 7.01m-7.62m Gravel Sandy Stones Water Supply 7.62m-8.53m Granite Decomposed 8.53m-12.19m Clay Fine Sandy 12.19m-12.80m Sand Fine Water Bearing 12.80m-13.41m Sand Medium Water Bearing Stones Small 13.41m-14.33m Sand Grey Fine 14.33m-14.34m Granite | 561m | North |
| GW403423 | 0.00m-1.00m Topsoil 1.00m-3.00m Clays, red 3.00m-36.00m Shale, soft brown 36.00m-66.00m Dacite, black | 576m | North West |
| GW030559 | 0.00m-0.61m Clay Grey 0.61m-4.88m Clay Grey Yellow 4.88m-5.79m Clay 5.79m-9.14m Clay Stoney 9.14m-10.67m Clay Yellow Stoney 10.67m-12.19m Clay Stoney 12.19m-13.11m Sand Medium 13.11m-13.72m Clay Stoney 13.72m-14.63m Granite Decomposed 14.63m-19.20m Clay Sandy 19.20m-19.81m Clay Sandy 19.81m-23.16m Clay Fine Sandy 23.16m-23.18m Granite | 611m | North |
| GW401351 | 0.00m-3.00m TOPSOIL 3.00m-7.00m SHALE 7.00m-33.00m GRANITE, BLACK SHALE | 647m | North West |
| GW058607 | 0.00m-0.40m Topsoil 0.40m-1.80m Clay 0.40m-1.80m Shale 1.80m-10.60m Shale Broken 10.60m-21.20m Sandstone Cemented 21.20m-24.40m Shale Fractured Water Supply 24.40m-28.10m Shale Grey Hard | 692m | North West |
| GW030560 | 0.00m-2.44m Clay Grey Black Puggy 2.44m-3.35m Clay Grey Large Stones 3.35m-4.57m Clay Stoney 4.57m-5.79m Clay Stoney Soak 5.79m-7.92m Clay Yellow Sandy Stones 7.92m-9.14m Clay Yellow Sandy 9.14m-43.28m Clay Fine Sandy Water Supply 43.28m-43.30m Granite Grey | 768m | North |
| GW046903 | 0.00m-0.30m Topsoil 0.30m-0.90m Clay 0.90m-38.10m Shale Soft Water Supply 38.10m-83.80m Shale Grey | 809m | North West |

| Groundwater No | Drillers Log | Distance | Direction |
|----------------|--|----------|------------|
| GW416019 | 0.00m-2.00m clay, soil 2.00m-32.00m shale, soft, brown 32.00m-110.00m shale, grey black, siltstone | 810m | North West |
| GW403128 | 0.00m-16.00m Clay, brown 16.00m-24.00m Granite, decomposed 24.00m-30.00m Granite, grey 30.00m-60.00m Granite, grey | 831m | North |
| GW416466 | 0.00m-1.00m topsoil 1.00m-7.00m clay 7.00m-60.00m granite | 848m | North West |
| GW403502 | 0.00m-3.00m Clay, brown 3.00m-9.00m Loam, orange, light brown 9.00m-15.00m Granite, soft weathered 15.00m-23.00m Volcanics, brown, white | 904m | North |
| GW008519 | 0.00m-0.91m Humus 0.91m-4.57m Clay 4.57m-7.62m Gravel 4.57m-7.62m Quartz Clay 7.62m-10.67m Granite Decomposed | 908m | North West |
| GW035591 | 0.00m-0.60m Humus 0.60m-3.35m Clay 3.35m-6.09m Clay Sandy 6.09m-9.14m Clay 9.14m-15.24m Clay Dark 15.24m-18.28m Clay Sandy 18.28m-29.87m Shale Black Water Supply | 911m | North West |
| GW029907 | 0.00m-0.30m Topsoil 0.30m-2.44m Clay Gravel 2.44m-6.10m Granite Decomposed Soft 6.10m-14.63m Granite Decomposed 14.63m-16.76m Granite Hard 16.76m-21.64m Granite Green 21.64m-29.26m Granite Grey 29.26m-33.07m Granite Very Hard | 925m | North |
| GW042520 | 0.00m-1.21m Topsoil 1.21m-4.57m Topsoil Clay 4.57m-8.53m Clay Sandy 8.53m-18.59m Shale Decomposed 18.59m-38.40m Shale Fractured Bands Water Supply | 941m | North West |
| GW055603 | 0.00m-26.00m Slate 26.00m-54.00m Slate Water Supply | 944m | North West |
| GW046902 | 0.00m-0.30m Topsoil 0.30m-2.40m Clay 2.40m-5.50m Shale Soft 5.50m-16.50m Shale Hard 16.50m-106.70m Slate Hard | 950m | North West |
| GW416448 | 0.00m-2.00m clay, soil, brown 2.00m-12.00m shale, soft, brown 12.00m-22.00m shale, volcanic, light grey 22.00m-48.00m volcanic, grey black | 968m | North West |
| GW043913 | 0.00m-1.22m Topsoil 1.22m-5.49m Clay Topsoil 5.49m-12.19m Shale Grey Decomposed 12.19m-43.28m Shale Grey Decomposed Some Hard Bands Water Supply 43.28m-51.82m Shale Grey Water Supply Quartz Bands | 982m | North West |
| GW401284 | 0.00m-7.00m GRANITE BOULDERS & SOIL 7.00m-16.00m WEATHERED GRANITE 16.00m-29.50m SHALE, BLUE 29.50m-34.00m SHALE, SOFT 34.00m-72.00m SHALE, BLUE | 998m | South West |
| GW056801 | 0.00m-1.00m Topsoil 1.00m-4.00m Clay 4.00m-6.00m Rock Decomposed 6.00m-53.00m Shale Siltstone Water Supply | 1000m | North West |
| GW063743 | 0.00m-2.50m Topsoil Clay 2.50m-11.10m Granite Decomposed Water Supply 11.10m-36.90m Granite Water Supply | 1028m | North West |

| Groundwater No | Drillers Log | Distance | Direction |
|----------------|--|----------|------------|
| GW402071 | 0.00m-5.00m Topsoil 5.00m-23.00m Shale, yellow 23.00m-24.00m Shale, grey | 1039m | North West |
| GW402696 | 0.00m-1.00m Soil, loamy clay 1.00m-12.00m Weathered brown shale 12.00m-90.00m Slates, siltstone | 1071m | North West |
| GW034947 | 0.00m-0.60m Topsoil 0.60m-6.09m Topsoil Clay 6.09m-8.22m Slate Decomposed Shale 8.22m-47.24m Slate Grey Fractured Seams Water Supply | 1078m | North West |
| GW401311 | 0.00m-4.00m CLAY, BROWN 4.00m-18.00m SHALE, BROWN 18.00m-32.00m SHALE, GREY | 1086m | North West |
| GW401310 | 0.00m-3.00m sandy clay 3.00m-18.00m shale, brown 18.00m-24.00m shale, grey | 1121m | North West |
| GW055520 | 0.00m-0.20m Soil 0.20m-3.00m Clay 3.00m-22.00m Shale Fractured Water Supply | 1137m | North West |
| GW047082 | 0.00m-0.30m Topsoil 0.30m-4.60m Clay 4.60m-13.70m Shale Soft 13.70m-68.60m Shale Water Supply | 1139m | North West |
| GW057263 | 0.00m-1.00m Soil 1.00m-10.00m Clay 10.00m-23.00m Shale Water Supply | 1149m | North West |
| GW402834 | 0.00m-2.00m Clay 2.00m-16.00m Shale, weathered 16.00m-54.00m Shale, grey | 1163m | South East |
| GW403659 | 0.00m-2.00m LOAMY CLAY 2.00m-17.00m LIGHT GREY SOFT SHALE 17.00m-54.00m GREY/BLACK SILTSTONE | 1166m | West |
| GW401801 | 0.00m-1.00m TOPSOIL 1.00m-5.50m CLAY, YELLOW BROWN 5.50m-11.60m SHALE, WEATHERED 11.60m-53.34m SHALE, HARD BLUE | 1171m | South West |
| GW401013 | 0.00m-0.20m Topsoil 0.20m-1.50m Yellow brown shale 1.50m-27.00m Light brown shale 27.00m-60.00m Grey black shales | 1177m | North West |
| GW401703 | 0.00m-0.30m TOPSOIL 0.30m-23.00m SHALE, BROKEN 23.00m-30.40m SHALES & SLATES, BLACK | 1195m | North West |
| GW401800 | 0.00m-0.62m TOPSOIL 0.62m-2.44m CLAY, YELLOW 2.44m-12.20m SHALE, BROKEN YELLOW 12.20m-76.20m SHALE, HARD BLUE | 1243m | South West |
| GW068501 | 4.50m-6.50m Gravels/weathered 6.50m-18.00m Soft To Medium Slate 18.00m-54.00m Slate And Quartz | 1262m | North West |
| GW401802 | 0.00m-1.00m TOPSOIL 1.00m-2.20m CLAY, YELLOW 2.20m-6.10m SHALE, BROKEN YELLOW 6.10m-61.00m SHALE, HIGHLY FRACTURED BLUE | 1265m | South |
| GW060544 | 0.00m-0.60m Topsoil 0.60m-2.10m Clay 2.10m-5.70m Shale Soft 5.70m-10.90m Shale Hard 5.70m-10.90m Some Broken Band 10.90m-36.50m Shale Hard Water Supply | 1277m | North West |
| GW402388 | 0.00m-0.20m Topsoil 0.20m-3.00m Clay 3.00m-5.00m Shale, yellow 5.00m-18.00m Shale, brown 18.00m-28.00m Shale, grey 28.00m-75.00m Shale, black | 1303m | South West |

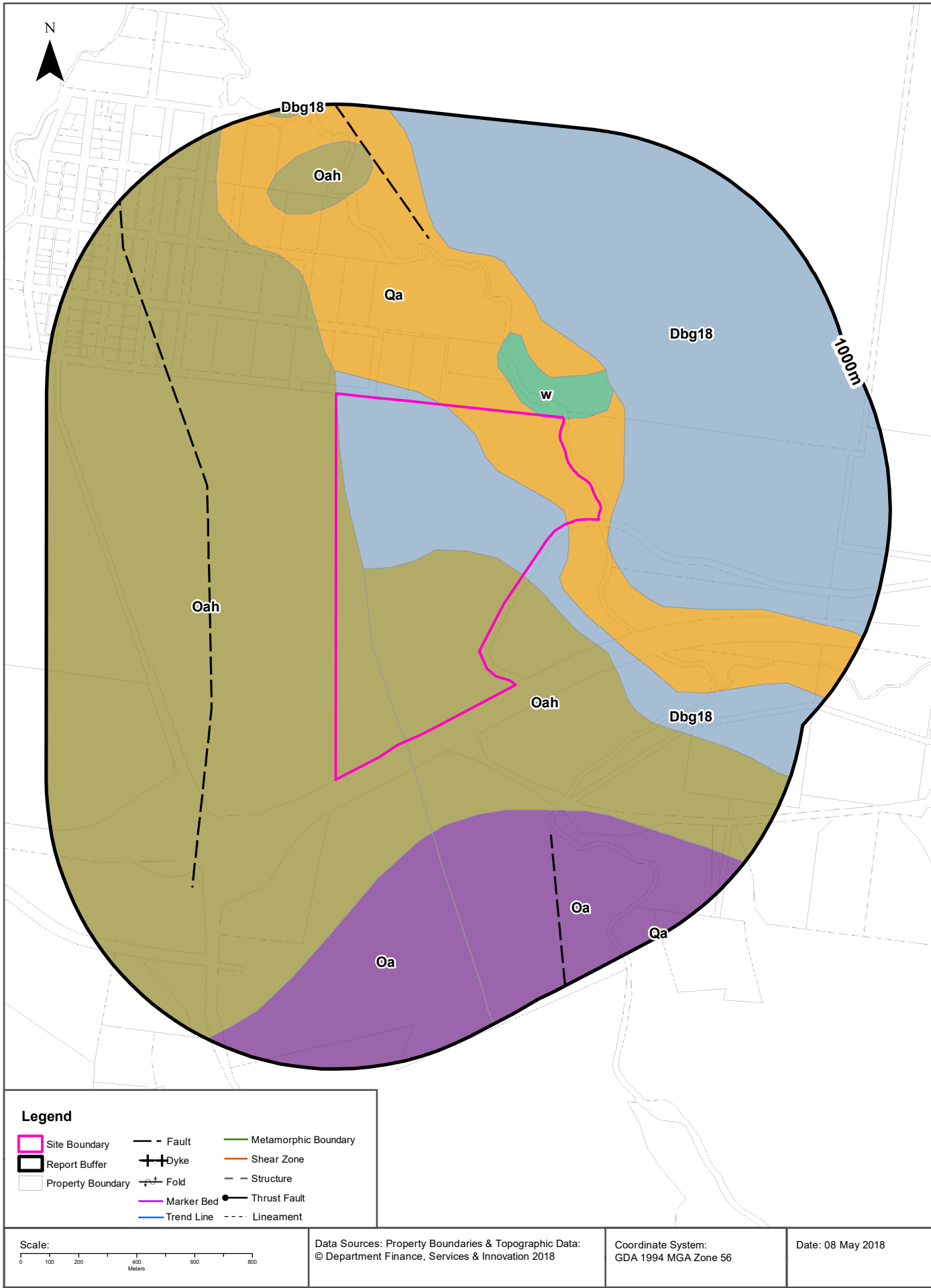
| Groundwater No | Drillers Log | Distance | Direction |
|----------------|--|----------|------------|
| GW404609 | 0.00m-4.00m SOIL - BROWN CLAY 4.00m-12.00m SHALE - BROWN - SOFT 12.00m-30.00m SHALE - GREY/BLUE | 1303m | North West |
| GW403167 | 0.00m-3.00m Clay, brown 3.00m-22.00m Shale, soft brown 22.00m-54.00m Shale, blue black | 1319m | South West |
| GW401799 | 0.00m-0.62m TOPSOIL 0.62m-4.57m CLAY, BROWN 4.57m-13.70m SHALE, BROKEN YELLOW 13.70m-53.34m SHALE, HIGHLY FRACTURED BLUE | 1322m | South West |
| GW029776 | 0.00m-1.52m Topsoil 1.52m-6.10m Clay Sandy 6.10m-15.24m Clay Sandy Gravel Water Supply 15.24m-16.00m Granite | 1351m | North |
| GW047081 | 0.00m-0.30m Topsoil 0.30m-3.10m Clay 3.10m-10.10m Shale 10.10m-20.70m Shale Broken Water Supply 20.70m-39.70m Shale Water Supply | 1412m | North West |
| GW072079 | 2.70m-5.20m Soft Brown Shale 5.20m-30.50m Blue Granite 30.50m-42.70m Blue Granite With Quartz. 42.70m-65.50m Blue & Grey Granite | 1536m | East |
| GW047045 | 0.00m-1.20m Topsoil 1.20m-4.90m Sand 4.90m-6.40m Clay Sandy 6.40m-9.40m Gravel Water Supply 9.40m-12.50m Shale Decomposed 12.50m-15.50m Shale Weathered Water Supply 15.50m-16.50m Shale | 1570m | North West |
| GW034848 | 0.00m-0.30m Topsoil 0.30m-3.35m Topsoil Clay 3.35m-8.83m Shale Decomposed 8.83m-47.24m Shale Grey Water Supply | 1578m | West |
| GW401803 | 0.00m-1.00m TOPSOIL 1.00m-3.00m CLAY, YELLOW 3.00m-6.70m SHALE, YELLOW BROKEN 6.70m-53.34m SHALE, HIGHLY FRACTURED BLUE | 1618m | South |
| GW047044 | 0.00m-0.91m Topsoil 0.91m-4.57m Clay Topsoil 4.57m-7.62m Shale 7.62m-9.14m Clay Red 9.14m-13.72m Shale Water Supply 9.14m-13.72m Clay Bands 13.72m-30.48m Shale Some Broken Bands Water Supply | 1641m | North West |
| GW401383 | 0.00m-0.30m TOPSOIL 0.30m-1.50m CLAY, LOAM 1.50m-5.00m VOLCANIC, YELLOW DECOMPOSED 5.00m-25.00m VOLCANIC, GREY SOFT 25.00m-60.00m VOLCANIC, GREY BLACK | 1660m | South West |
| GW404830 | 0.00m-1.00m TOPSOIL 1.00m-3.00m CLAY 3.00m-20.00m SHALE - SOFT 20.00m-53.00m SHALE - HARD 53.00m-72.00m SHALE - BLACK - HARD | 1668m | South East |
| GW403258 | 0.00m-36.00m Shale 36.00m-120.00m Shale, black | 1669m | South East |
| GW008683 | 0.00m-2.44m Alluvium 2.44m-32.61m Slate Hard 32.61m-33.53m Granite 33.53m-40.23m Quartz 40.23m-44.90m Quartz Slate | 1670m | North |
| GW402280 | 0.00m-0.10m Topsoil 0.10m-4.00m Shale, yellow 4.00m-70.00m Shale, grey | 1684m | South West |

| Groundwater No | Drillers Log | Distance | Direction |
|----------------|---|----------|------------|
| GW401798 | 0.00m-0.62m TOPSOIL 0.62m-5.50m CLAY, YELLOW 5.50m-17.07m SHALE, BROKEN YELLOW 17.07m-45.72m SHALE, HIGHLY FRACTURED BLUE | 1692m | South West |
| GW404339 | 0.00m-6.00m SOIL - LOAMY - CLAYEY 6.00m-12.00m SHALE - WEATHERED 12.00m-52.00m SHALES - SLATEY - THIN SILTSTONE INTERBEDS 52.00m-62.00m SILTSTONES/SLATE 62.00m-93.00m SLATEY SHALES - THIN SILTSTONE INTERBEDS 93.00m-101.00m SILTSTONE/SLATE | 1762m | North West |
| GW401797 | 0.00m-0.62m TOPSOIL 0.62m-23.80m CLAY, YELLOW & WEATHERED SHALE 23.80m-61.00m SHALE, HIGHLY FRACTURED | 1784m | South West |
| GW401804 | 0.00m-1.00m TOPSOIL 1.00m-4.27m CLAY, YELLOW 4.27m-6.70m SHALE, BROKEN YELLOW 6.70m-53.34m SHALE, HARD BLUE | 1809m | South |
| GW403007 | 0.00m-0.40m Topsoil 0.40m-2.50m Clay, brown 2.50m-12.00m Shale, yellow brown 12.00m-90.00m Dacite, blue black fractures | 1811m | South West |
| GW414411 | 0.00m-3.00m Clay 3.00m-36.00m Granite, blue black | 1828m | East |
| GW058913 | 0.00m-10.00m Soil 10.00m-40.00m Shale Ordovician Moderately W 40.00m-87.00m Shale Ordovician Fresh Water Supply | 1914m | South West |
| GW072108 | 0.00m-1.00m TOPSOIL & CLAY 1.00m-10.00m SHALE 10.00m-41.00m BLUE DYRITE | 1966m | West |
| GW400855 | 0.00m-0.30m Topsoil 0.30m-6.00m Light brown shale 6.00m-40.00m Soft blue shale 40.00m-78.00m Black daycite | 1980m | South East |

Drill Log Data Source: NSW Department of Primary Industries - Office of Water / Water Administration Ministerial Corp
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Geology 1:250,000

Sutton Road & Old Federal Highway, Sutton, NSW 2621 (East Section)



Geology

Sutton Road & Old Federal Highway, Sutton, NSW 2621 (East Section)

Geological Units

What are the Geological Units onsite?

| Symbol | Description | Unit Name | Group | Sub Group | Age | Dom Lith | Map Sheet | Dataset |
|--------|---|---------------------|-----------------|-----------|------------|----------|-----------|-----------|
| Dbg18 | Granodiorite, adamellite and quartz-feldspar porphyry | Sutton Granodiorite | Sutton Suite | | Palaeozoic | | | 1:250,000 |
| Oah | Spotted hornfels/metasediment (contact metamorphic) | Adaminaby Group | Adaminaby Group | | Palaeozoic | | | 1:250,000 |
| Qa | Alluvium, fluvial deposits: gravel, sand, silt and clay | undifferentiated | | | Cainozoic | | | 1:250,000 |
| w | Water | water | water | | Cainozoic | | | 1:250,000 |

What are the Geological Units within the dataset buffer?

| Symbol | Description | Unit Name | Group | Sub Group | Age | Dom Lith | Map Sheet | Dataset |
|--------|--|---------------------|-----------------|-----------|------------|----------|-----------|-----------|
| Dbg18 | Granodiorite, adamellite and quartz-feldspar porphyry | Sutton Granodiorite | Sutton Suite | | Palaeozoic | | | 1:250,000 |
| Oa | Turbiditic sequence; sandstone, mudstone, shale; quartzite, quartz phyllite, phyllite, slate | Adaminaby Group | Adaminaby Group | | Palaeozoic | | | 1:250,000 |
| Oah | Spotted hornfels/metasediment (contact metamorphic) | Adaminaby Group | Adaminaby Group | | Palaeozoic | | | 1:250,000 |
| Qa | Alluvium, fluvial deposits: gravel, sand, silt and clay | undifferentiated | | | Cainozoic | | | 1:250,000 |
| w | Water | water | water | | Cainozoic | | | 1:250,000 |

Geological Structures

What are the Geological Structures onsite?

| Feature | Name | Description | Map Sheet | Dataset |
|-------------|------|-------------|-----------|-----------|
| No features | | | | 1:250,000 |

What are the Geological Structures within the dataset buffer?

| Feature | Name | Description | Map Sheet | Dataset |
|---------|------|--------------------|-----------|-----------|
| Fault | | Fault, Approximate | SCRA | 1:250,000 |
| Fault | | Fault, Approximate | SCRA | 1:250,000 |
| Fault | | Fault, Approximate | SCRA | 1:250,000 |

Geological Data Source : NSW Department of Industry, Resources & Energy

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Naturally Occurring Asbestos Potential

Sutton Road & Old Federal Highway, Sutton, NSW 2621 (East Section)

Naturally Occurring Asbestos Potential

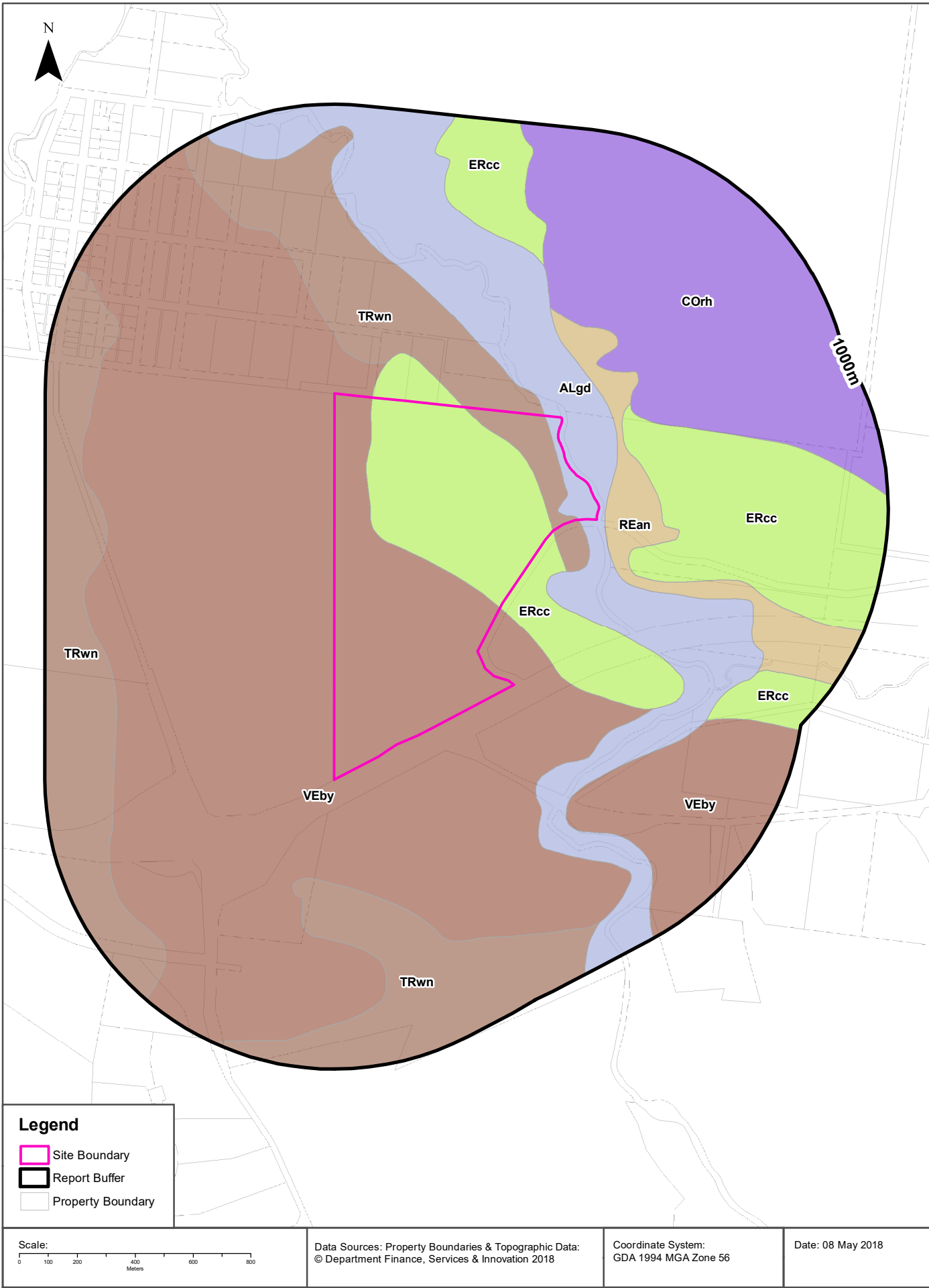
Naturally Occurring Asbestos Potential within the dataset buffer:

| Potential | Sym | Strat Name | Group | Formation | Scale | Min Age | Max Age | Rock Type | Dom Lith | Description | Dist | Dir |
|----------------------|-----|------------|-------|-----------|-------|---------|---------|-----------|----------|-------------|------|-----|
| No records in buffer | | | | | | | | | | | | |

Mining Subsidence District Data Source: © State of New South Wales through NSW Department of Industry, Resources & Energy

Soil Landscapes

Sutton Road & Old Federal Highway, Sutton, NSW 2621 (East Section)



Soils

Sutton Road & Old Federal Highway, Sutton, NSW 2621 (East Section)

Soil Landscapes

What are the onsite Soil Landscapes?

| Soil Code | Name | Group | Process | Map Sheet | Scale |
|-----------|--------------|-------|-------------|-----------|-----------|
| ALgd | GUNDAROO | | ALLUVIAL | Canberra | 1:100,000 |
| ERcc | CELEYS CREEK | | EROSIONAL | Canberra | 1:100,000 |
| TRwn | WINNUNGA | | TRANSFERRAL | Canberra | 1:100,000 |
| VEby | BYWONG | | VESTIGIAL | Canberra | 1:100,000 |

What are the Soil Landscapes within the dataset buffer?

| Soil Code | Name | Group | Process | Map Sheet | Scale |
|-----------|--------------|-------|-------------|-----------|-----------|
| ALgd | GUNDAROO | | ALLUVIAL | Canberra | 1:100,000 |
| COrh | ROUND HILL | | COLLUVIAL | Canberra | 1:100,000 |
| ERcc | CELEYS CREEK | | EROSIONAL | Canberra | 1:100,000 |
| REan | ANEMBO | | RESIDUAL | Canberra | 1:100,000 |
| TRwn | WINNUNGA | | TRANSFERRAL | Canberra | 1:100,000 |
| VEby | BYWONG | | VESTIGIAL | Canberra | 1:100,000 |

Soils Landscapes Data Source : NSW Office of Environment and Heritage

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Soils

Sutton Road & Old Federal Highway, Sutton, NSW 2621 (East Section)

Atlas of Australian Soils

Soil mapping units and Australian Soil Classification orders within the dataset buffer:

| Map Unit Code | Soil Order | Map Unit Description | Distance |
|---------------|------------|--|----------|
| Ub37 | Sodosol | Areas of subdued relief: plains or very gently sloping basins of hard neutral yellow mottled soils (Dy3.42) separated by rolling areas, ridges, and hills of unit Ub31 soils, especially the (Dr2.22), (Dr3.42), and (Um4) soils, and traversed by stream valleys of variable width and development as for stream terraces of unit Mu4. | 0m |
| Ub31 | Sodosol | Low step-like range country--stepped rolling country with scarps, hills, and valleys: chief soils are hard neutral yellow and yellow mottled soils (Dy3.42), (Dy2.42), (Dy2.22), and (Dy3.22) with a variety of other (D) soils and some (Gn2) and (Um4) soils, generally associated as follows: irregularly spaced cuesta-like ranges with (i) moderate to steep scarps of rock outcrops, (Um4.1), (Dr3.42), (Dr2.22), and other (D) soils passing to (iia) long rolling back slopes of (Dy3.42), (Dy2.42), (Dy3.22) with (Dr2.22 and Dr2.42) and sometimes (Gn2.1 and Gn2.2) soils through the mid and upper slope positions, which in turn merge with (iib) undulating basins of (Dy3.42 and Dy3.43) soils sometimes with (Gn2.7) soils, and gullies of (Dy3.42) and/or (Gn2.7) and (Gn2.9) soils; this sequence may be broken by (iii) hills and mountains with slopes and/or scarps of (Um4.1), (Um4.2), (Dr2.21), (Dy3.41), and other (D) soils, also sometimes with belts of partially dissected upland basins of (Dy3.42) soils along the crests--i.e. with areas similar to (iib) but at a relatively higher elevation (compare unit Ub38); the whole area is traversed by (iv) narrow stream valleys of (Um1) soils on flood-plains, (Um6.11) and (Gn2) soils respectively on the next two terraces; and finally there are (v) minor occurrences of other soils, such as (Dr4.12) (e.g. Red Hill) and (Db3.12) on some basaltic areas. Saline patches are fairly common in low-lying situations, especially the (iib) areas. | 149m |

Atlas of Australian Soils Data Source: CSIRO

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Acid Sulfate Soils

Sutton Road & Old Federal Highway, Sutton, NSW 2621 (East Section)

Standard Local Environmental Plan Acid Sulfate Soils

What is the on-site Acid Sulfate Soil Plan Class that presents the largest environmental risk?

| Soil Class | Description | LEP |
|------------|-------------|-----|
| N/A | | |

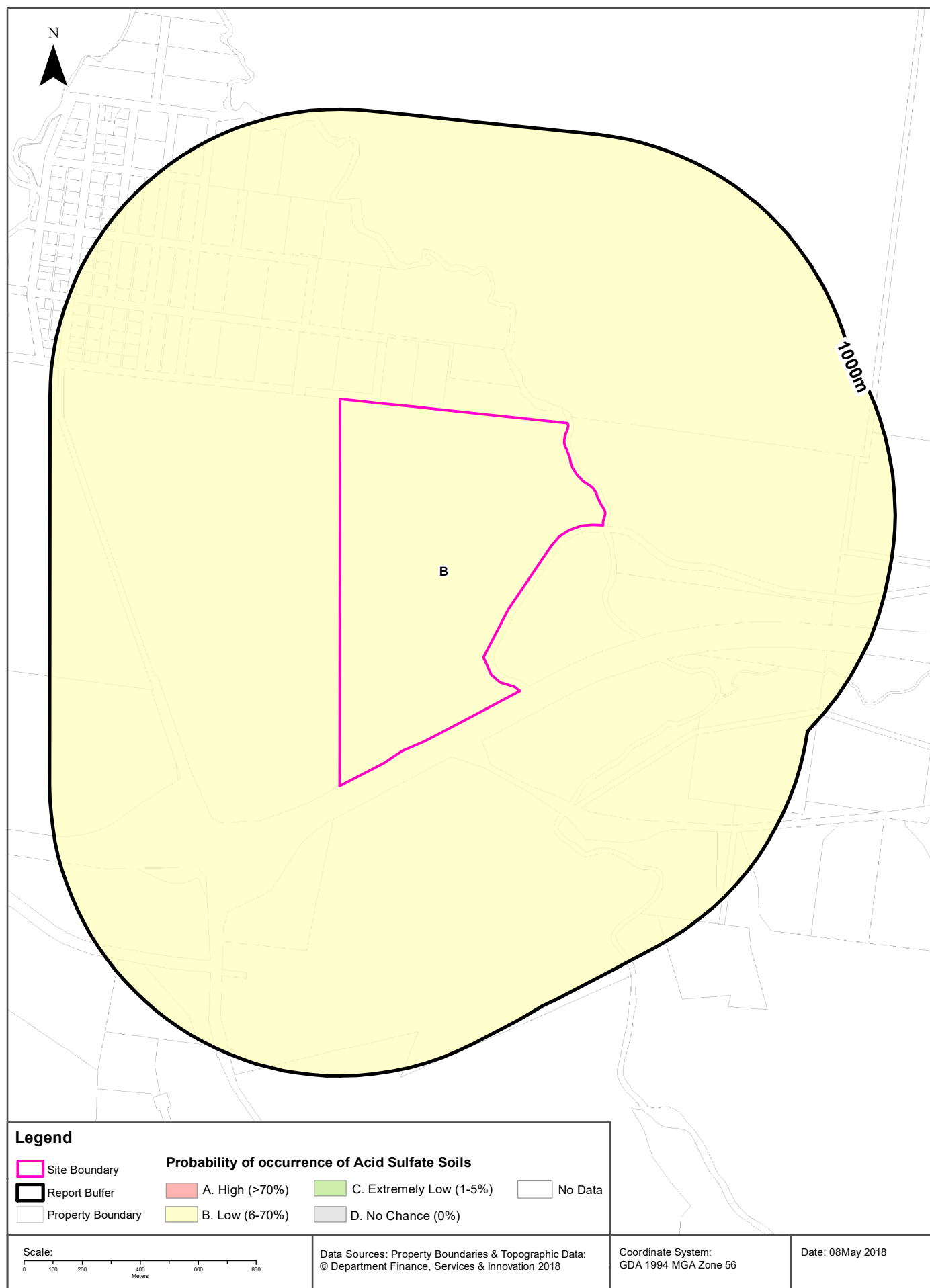
If the on-site Soil Class is 5, what other soil classes exist within 500m?

| Soil Class | Description | LEP | Distance | Direction |
|------------|-------------|-----|----------|-----------|
| N/A | | | | |

Acid Sulfate Data Source Accessed 07/10/2016: NSW Crown Copyright - Planning and Environment
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Atlas of Australian Acid Sulfate Soils

Sutton Road & Old Federal Highway, Sutton, NSW 2621 (East Section)



Acid Sulfate Soils

Sutton Road & Old Federal Highway, Sutton, NSW 2621 (East Section)

Atlas of Australian Acid Sulfate Soils

Atlas of Australian Acid Sulfate Soil categories within the dataset buffer:

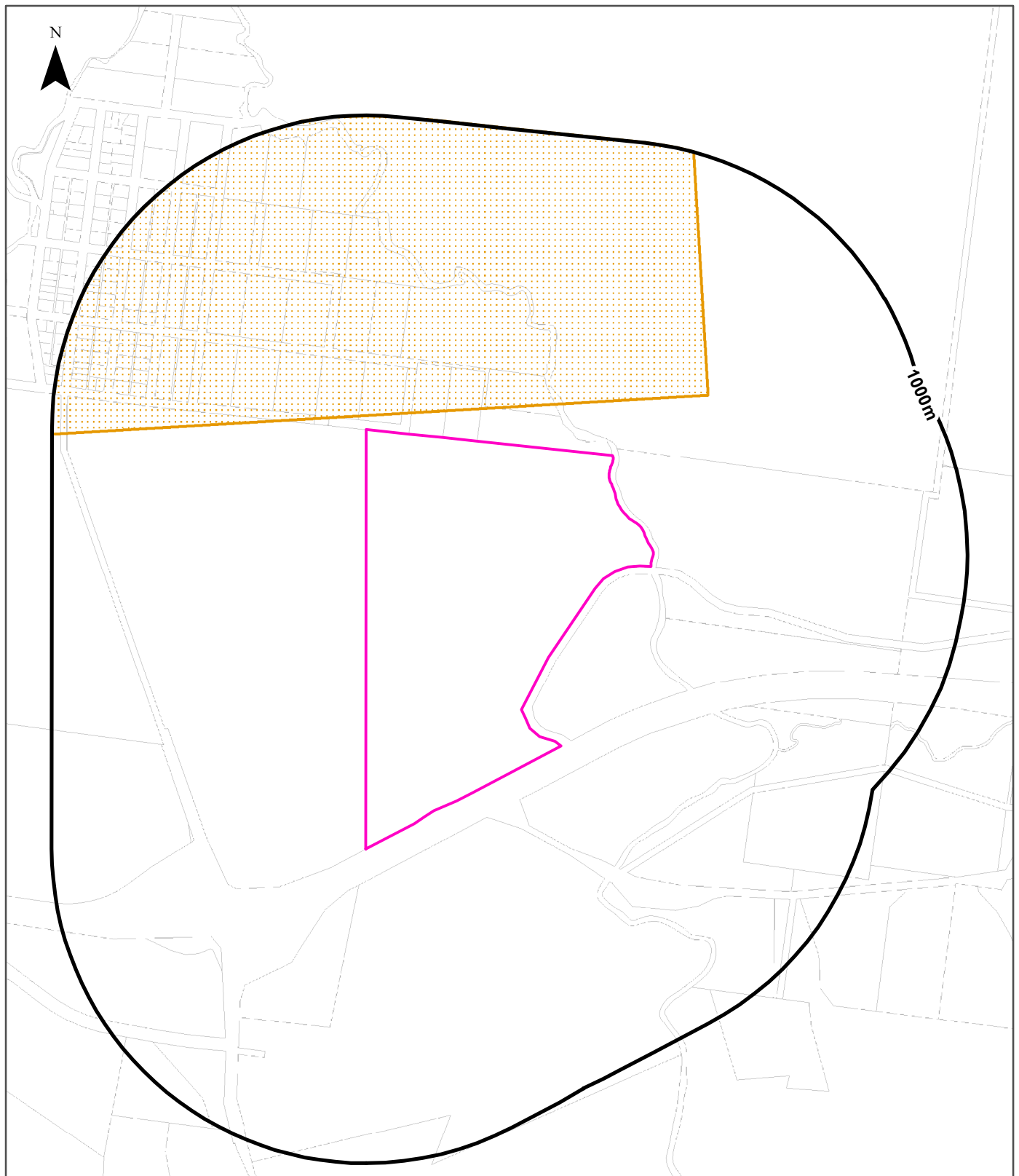
| Class | Description | Distance |
|-------|--|----------|
| B | Low Probability of occurrence. 6-70% chance of occurrence. | 0m |

Atlas of Australian Acid Sulfate Soils Data Source: CSIRO

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Dryland Salinity

Sutton Road & Old Federal Highway, Sutton, NSW 2621 (East Section)



Legend

- Site Boundary
- Report Buffer
- Property Boundary

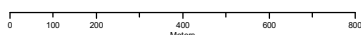
Dryland Salinity - National Assessment

- Delineated risk area but no high hazard or risk rating for either 2000, 2020, 2050
- High hazard or risk in 2050 only
- High hazard or risk defined for 2050, but no assessment made for 2000 or 2020
- High hazard or risk in 2020 and 2050
- High hazard or risk in 2000 and 2050. 2020 not defined as high hazard
- High hazard or risk defined for all years: 2000, 2020, 2050

Salinity Potential of Western Sydney

- Area of Known Salinity
- Area of High Salinity Potential
- Area of Moderate Salinity Potential
- Area of Very Low Salinity Potential
- Area of Water

Scale:



Data Sources: Property Boundaries & Topographic Data:
© Department Finance, Services & Innovation 2018

Coordinate System:
GDA 1994 MGA Zone 56

Date: 08 May 2018

Dryland Salinity

Sutton Road & Old Federal Highway, Sutton, NSW 2621 (East Section)

Dryland Salinity - National Assessment

Is there Dryland Salinity - National Assessment data onsite?

No

Is there Dryland Salinity - National Assessment data within the dataset buffer?

Yes

What Dryland Salinity assessments are given?

| Assessment 2000 | Assessment 2020 | Assessment 2050 | Distance | Direction |
|-----------------|---------------------|---------------------|----------|------------|
| - | High hazard or risk | High hazard or risk | 45m | North West |

Dryland Salinity Data Source : National Land and Water Resources Audit

The Commonwealth and all suppliers of source data used to derive the maps of "Australia, Forecast Areas Containing Land of High Hazard or Risk of Dryland Salinity from 2000 to 2050" do not warrant the accuracy or completeness of information in this product. Any person using or relying upon such information does so on the basis that the Commonwealth and data suppliers shall bear no responsibility or liability whatsoever for any errors, faults, defects or omissions in the information. Any persons using this information do so at their own risk.

In many cases where a high risk is indicated, less than 100% of the area will have a high hazard or risk.

Dryland Salinity Potential of Western Sydney

Dryland Salinity Potential of Western Sydney within the dataset buffer?

| Feature Id | Classification | Description | Distance | Direction |
|------------|-----------------------|-------------|----------|-----------|
| N/A | Outside Data Coverage | | | |

Dryland Salinity Potential of Western Sydney Data Source : NSW Office of Environment and Heritage

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Mining Subsidence Districts

Sutton Road & Old Federal Highway, Sutton, NSW 2621 (East Section)

Mining Subsidence Districts

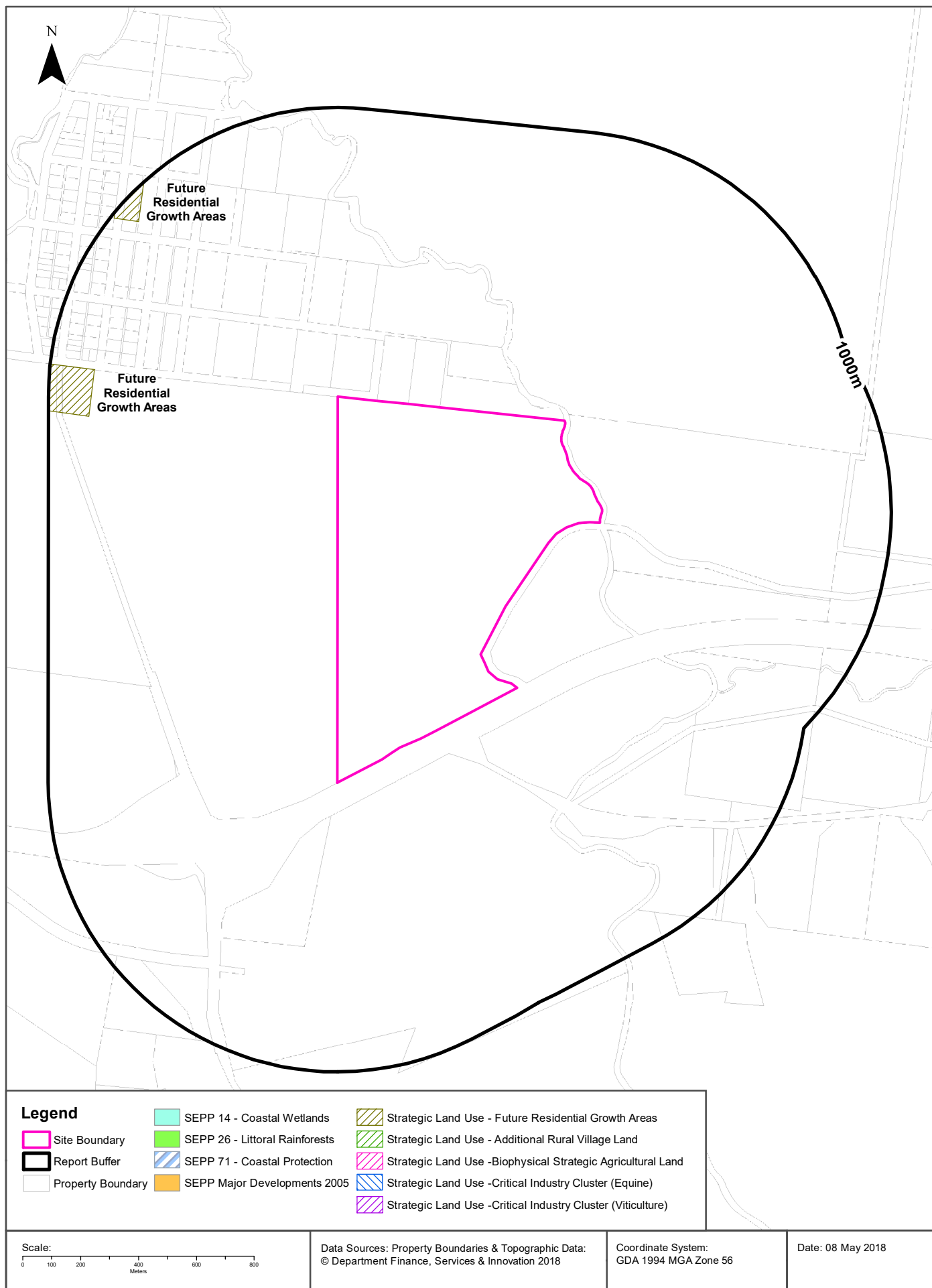
Mining Subsidence Districts within the dataset buffer:

| District | Distance | Direction |
|---|----------|-----------|
| There are no Mining Subsidence Districts within the report buffer | | |

Mining Subsidence District Data Source: © Land and Property Information (2016)
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State Environmental Planning Policy

Sutton Road & Old Federal Highway, Sutton, NSW 2621 (East Section)



Environmental Zoning

Sutton Road & Old Federal Highway, Sutton, NSW 2621 (East Section)

State Environmental Planning Policy Protected Areas

Are there any State Environmental Planning Policy Protected Areas onsite or within the dataset buffer?

| Dataset | Onsite | Within Site Buffer | Distance |
|----------------------------------|--------|--------------------|----------|
| SEPP14 - Coastal Wetlands | No | No | N/A |
| SEPP26 - Littoral Rainforests | No | No | N/A |
| SEPP71 - Coastal Protection Zone | No | No | N/A |

SEPP Protected Areas Data Source: NSW Department of Planning & Environment
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State Environmental Planning Policy Major Developments (2005)

State Environmental Planning Policy Major Developments within the dataset buffer:

| Map Id | Feature | Effective Date | Distance | Direction |
|--------|--------------------------|----------------|----------|-----------|
| N/A | No records within buffer | | | |

SEPP Major Development Data Source: NSW Department of Planning & Environment
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State Environmental Planning Policy Strategic Land Use Areas

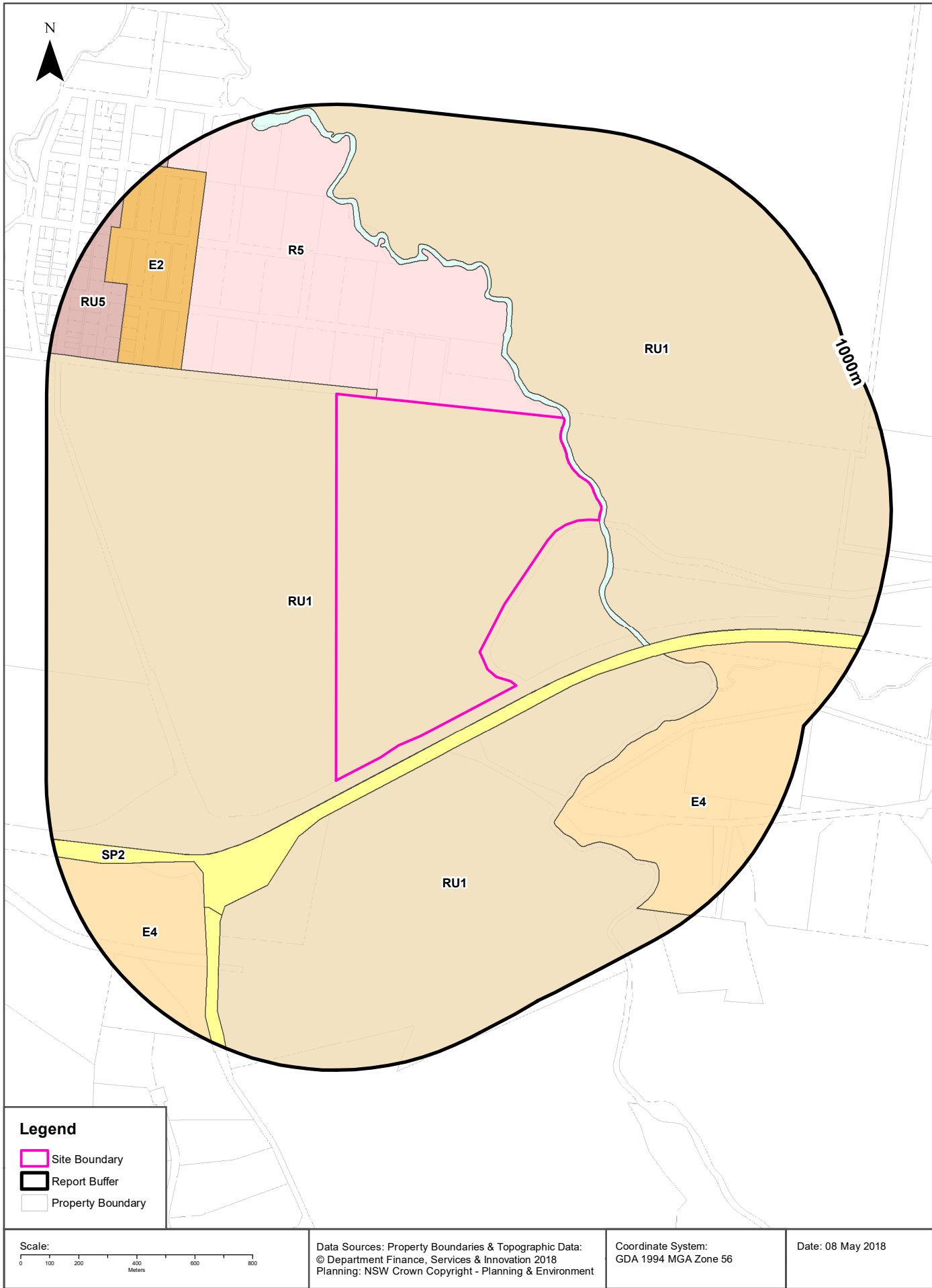
State Environmental Planning Policy Strategic Land Use Areas onsite or within the dataset buffer:

| Strategic Land Use | SEPPNo | Effective Date | Amendment | Amendment Year | Distance | Direction |
|---------------------------------|--------|----------------|---------------|----------------|----------|------------|
| Future Residential Growth Areas | 2007 | 28/01/2014 | Coal Seam Gas | 2014 | 845m | North West |

SEPP Strategic Land Use Data Source: NSW Department of Planning & Environment
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LEP Planning Zones

Sutton Road & Old Federal Highway, Sutton, NSW 2621 (East Section)



Local Environmental Plan

Sutton Road & Old Federal Highway, Sutton, NSW 2621 (East Section)

Land Zoning

What Local Environmental Plan Land Zones exist within the dataset buffer?

| Zone | Description | Purpose | LEP or SEPP | Published Date | Commenced Date | Currency Date | Amendment | Distance | Direction |
|------|----------------------------|-----------------|---|----------------|----------------|---------------|----------------|----------|------------|
| RU1 | Primary Production | | Yass Valley Local Environmental Plan 2013 | 19/07/2013 | 19/07/2013 | 02/03/2018 | | 0m | Onsite |
| R5 | Large Lot Residential | | Yass Valley Local Environmental Plan 2013 | 19/07/2013 | 19/07/2013 | 02/03/2018 | | 1m | North West |
| W1 | Natural Waterways | | Yass Valley Local Environmental Plan 2013 | 19/07/2013 | 19/07/2013 | 02/03/2018 | | 1m | North West |
| RU1 | Primary Production | | Yass Valley Local Environmental Plan 2013 | 02/03/2018 | 02/03/2018 | 02/03/2018 | Amendment No 2 | 16m | North |
| SP2 | Infrastructure | Classified Road | Palerang Local Environmental Plan 2014 | 19/09/2014 | 31/10/2014 | 19/05/2017 | | 44m | North East |
| RU1 | Primary Production | | Palerang Local Environmental Plan 2014 | 19/09/2014 | 31/10/2014 | 19/05/2017 | | 89m | South |
| E4 | Environmental Living | | Palerang Local Environmental Plan 2014 | 19/09/2014 | 31/10/2014 | 19/05/2017 | | 392m | East |
| E2 | Environmental Conservation | | Yass Valley Local Environmental Plan 2013 | 19/07/2013 | 19/07/2013 | 02/03/2018 | | 543m | North West |
| E4 | Environmental Living | | Palerang Local Environmental Plan 2014 | 19/09/2014 | 31/10/2014 | 19/05/2017 | | 559m | South West |
| SP2 | Infrastructure | Classified Road | Palerang Local Environmental Plan 2014 | 19/09/2014 | 31/10/2014 | 19/05/2017 | | 609m | South |
| RU5 | Village | | Yass Valley Local Environmental Plan 2013 | 19/07/2013 | 19/07/2013 | 02/03/2018 | | 765m | North West |

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Local Environmental Plan

Sutton Road & Old Federal Highway, Sutton, NSW 2621 (East Section)

Minimum Subdivision Lot Size

What are the onsite Local Environmental Plan Minimum Subdivision Lot Sizes?

| Symbol | Minimum Lot Size | LEP or SEPP | Published Date | Commenced Date | Currency Date | Amendment | Percentage of Site Area |
|--------|------------------|---|----------------|----------------|---------------|----------------|-------------------------|
| AB5 | 40 ha | Yass Valley Local Environmental Plan 2013 | 12/08/2016 | 12/08/2016 | 02/03/2018 | Amendment No 1 | 100 |

Maximum Height of Building

What are the onsite Local Environmental Plan Maximum Height of Buildings?

| Symbol | Maximum Height of Building | LEP or SEPP | Published Date | Commenced Date | Currency Date | Amendment | Percentage of Site Area |
|---------|----------------------------|-------------|----------------|----------------|---------------|-----------|-------------------------|
| No Data | | | | | | | |

Floor Space Ratio

What are the onsite Local Environmental Plan Floor Space Ratios?

| Symbol | Floor Space Ratio | LEP or SEPP | Published Date | Commenced Date | Currency Date | Amendment | Percentage of Site Area |
|---------|-------------------|-------------|----------------|----------------|---------------|-----------|-------------------------|
| No Data | | | | | | | |

Land Application

What are the onsite Local Environmental Plan Land Applications?

| Application Type | LEP or SEPP | Published Date | Commenced Date | Currency Date | Amendment | Percentage of Site Area |
|------------------|---|----------------|----------------|---------------|-----------|-------------------------|
| Included | Yass Valley Local Environmental Plan 2013 | 19/07/2013 | 19/07/2013 | 19/07/2013 | | 100 |

Land Reservation Acquisition

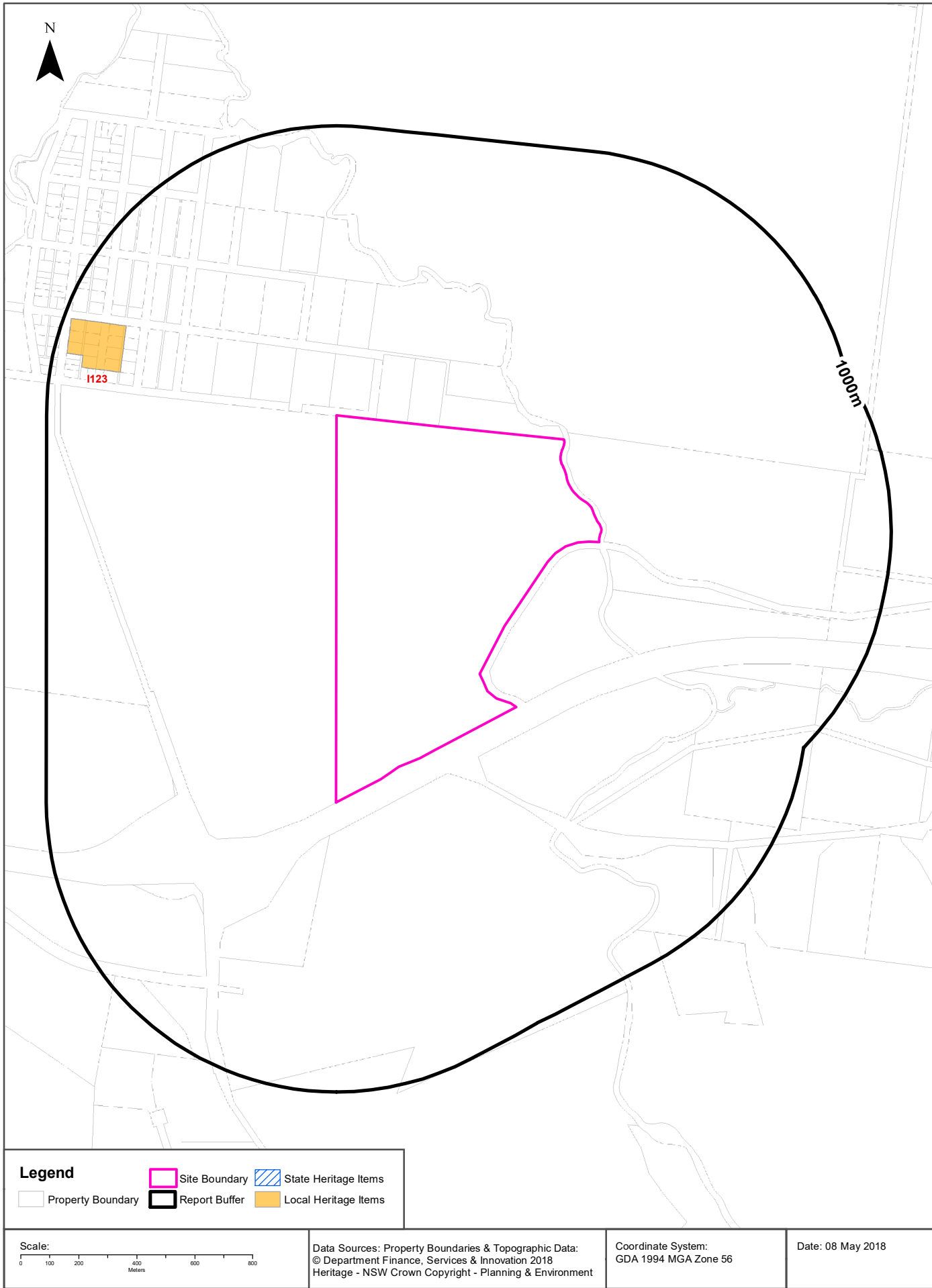
What are the onsite Local Environmental Plan Land Reservation Acquisitions?

| Reservation | LEP | Published Date | Commenced Date | Currency Date | Amendment | Comments | Percentage of Site Area |
|-------------|-----|----------------|----------------|---------------|-----------|----------|-------------------------|
| No Data | | | | | | | |

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Heritage Items

Sutton Road & Old Federal Highway, Sutton, NSW 2621 (East Section)



Heritage

Sutton Road & Old Federal Highway, Sutton, NSW 2621 (East Section)

State Heritage Items

What are the State Heritage Items located within the dataset buffer?

| Map Id | Name | Address | LGA | Listing Date | Listing No | Plan No | Distance | Direction |
|--------|----------------------|---------|-----|--------------|------------|---------|----------|-----------|
| N/A | No records in buffer | | | | | | | |

Heritage Data Source: NSW Crown Copyright - Planning & Environment

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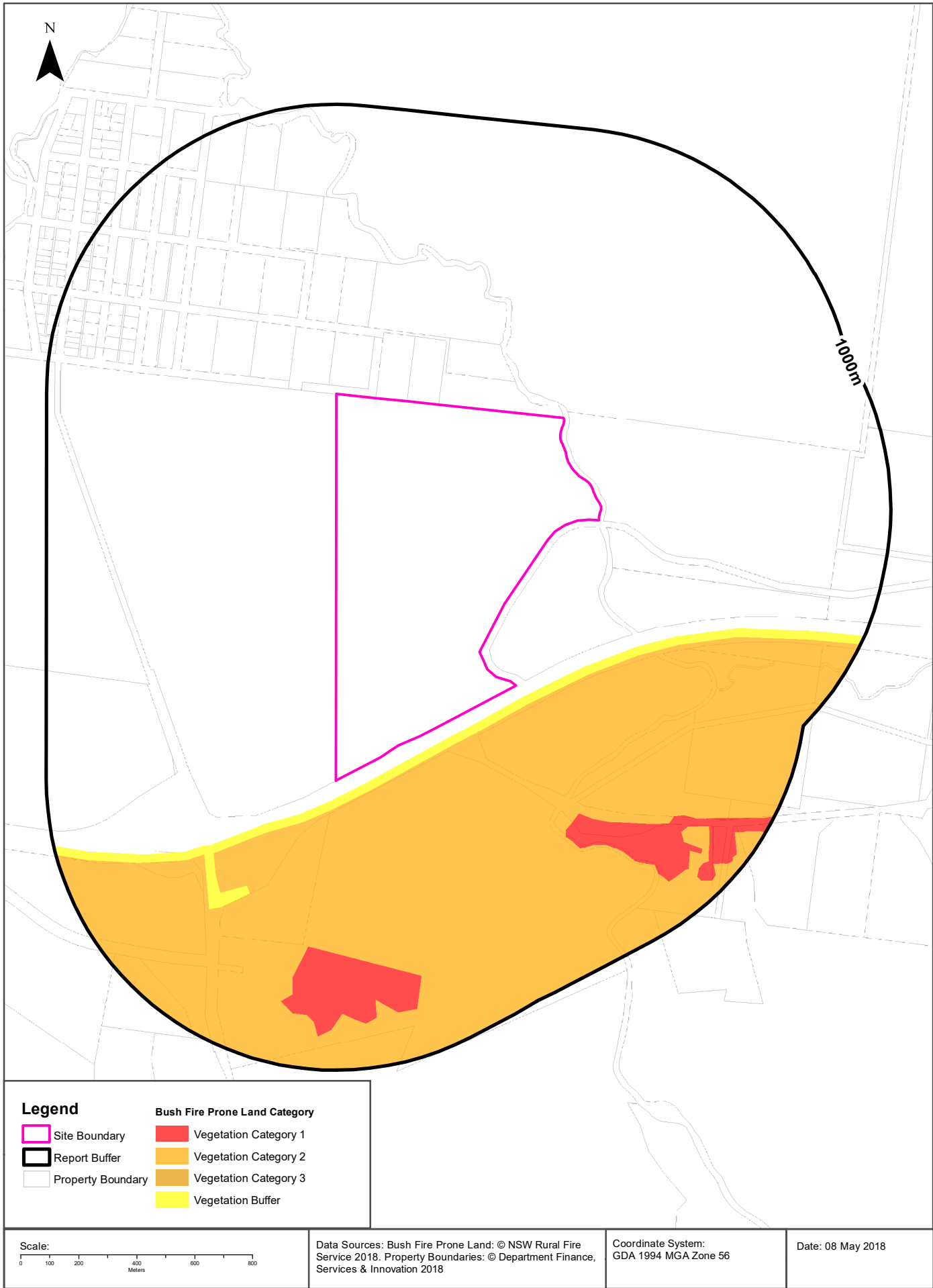
Local Heritage Items

What are the Local Heritage Items located within the dataset buffer?

| Map Id | Name | Classification | Significance | LEP or Act | Published Date | Commenced Date | Currency Date | Distance | Direction |
|--------|---|----------------|--------------|---|----------------|----------------|---------------|----------|------------|
| I123 | Sutton Public School, residence and grounds | Item - General | Local | Yass Valley Local Environmental Plan 2013 | 19/07/2013 | 19/07/2013 | 19/07/2013 | 761m | North West |

Heritage Data Source: NSW Crown Copyright - Planning & Environment

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Natural Hazards

Sutton Road & Old Federal Highway, Sutton, NSW 2621 (East Section)

Bush Fire Prone Land

What are the nearest Bush Fire Prone Land Categories that exist within the dataset buffer?

| Bush Fire Prone Land Category | Distance | Direction |
|-------------------------------|----------|------------|
| Vegetation Buffer | 43m | South East |
| Vegetation Category 2 | 73m | East |
| Vegetation Category 1 | 489m | South East |

NSW Bush Fire Prone Land - © NSW Rural Fire Service under Creative Commons 4.0 International Licence

Ecological Constraints

Sutton Road & Old Federal Highway, Sutton, NSW 2621 (East Section)

Vegetation of the Southern Forests

What vegetation of the Southern Forests exists within the dataset buffer?

| Map Id | Veg Code | Formation | Class | Group | Distance | Direction |
|--------|--------------------------|-----------|-------|-------|----------|-----------|
| N/A | No records within buffer | | | | | |

Vegetation of the Southern Forests: NSW Office of Environment and Heritage
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RAMSAR Wetlands

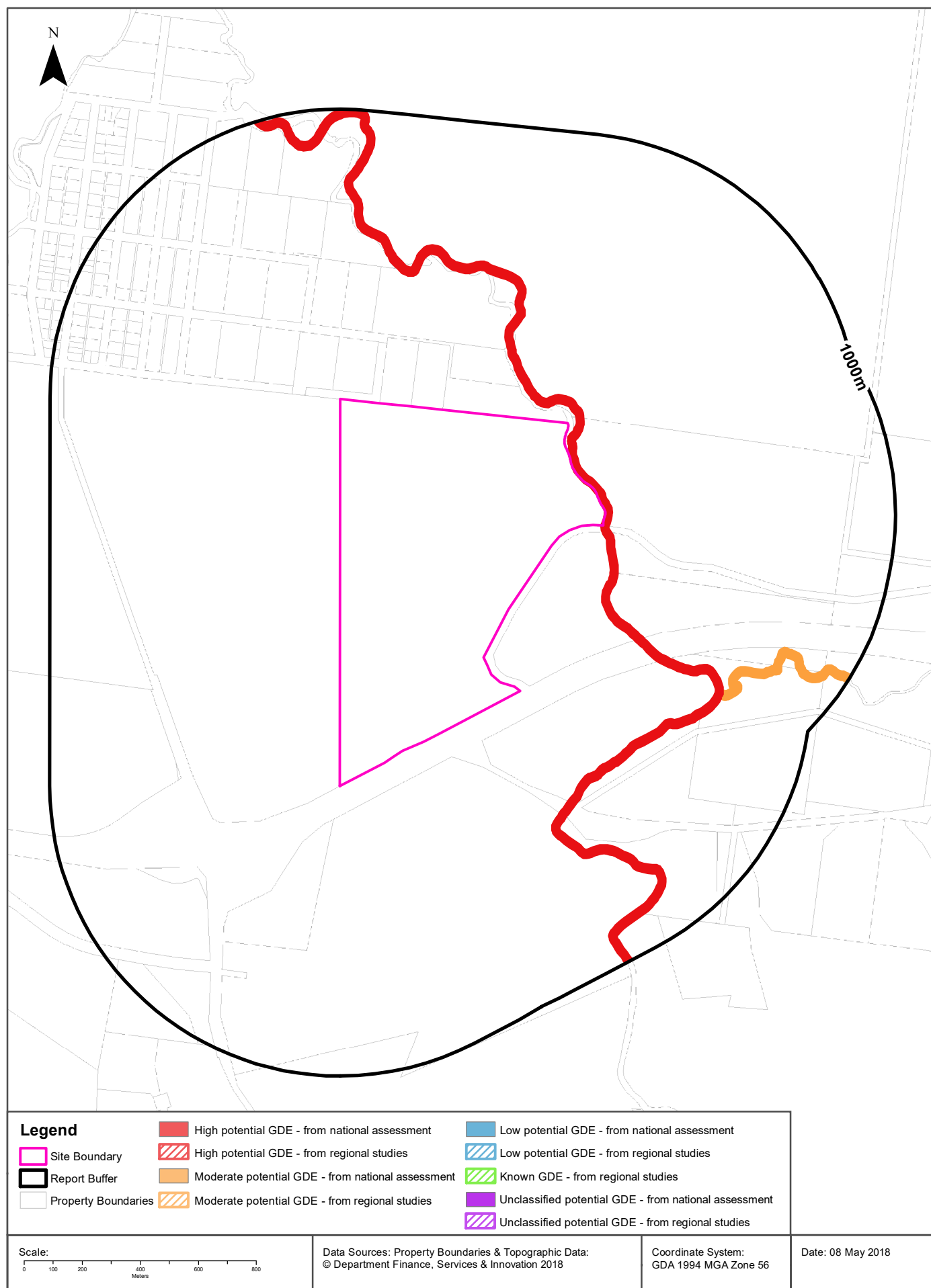
What RAMSAR Wetland areas exist within the dataset buffer?

| Map Id | RAMSAR Name | Wetland Name | Designation Date | Source | Distance | Direction |
|--------|----------------------|--------------|------------------|--------|----------|-----------|
| N/A | No records in buffer | | | | | |

RAMSAR Wetlands Data Source: © Commonwealth of Australia - Department of Environment

Ecological Constraints - Groundwater Dependent Ecosystems Atlas

Sutton Road & Old Federal Highway, Sutton, NSW 2621 (East Section)



Ecological Constraints

Sutton Road & Old Federal Highway, Sutton, NSW 2621 (East Section)

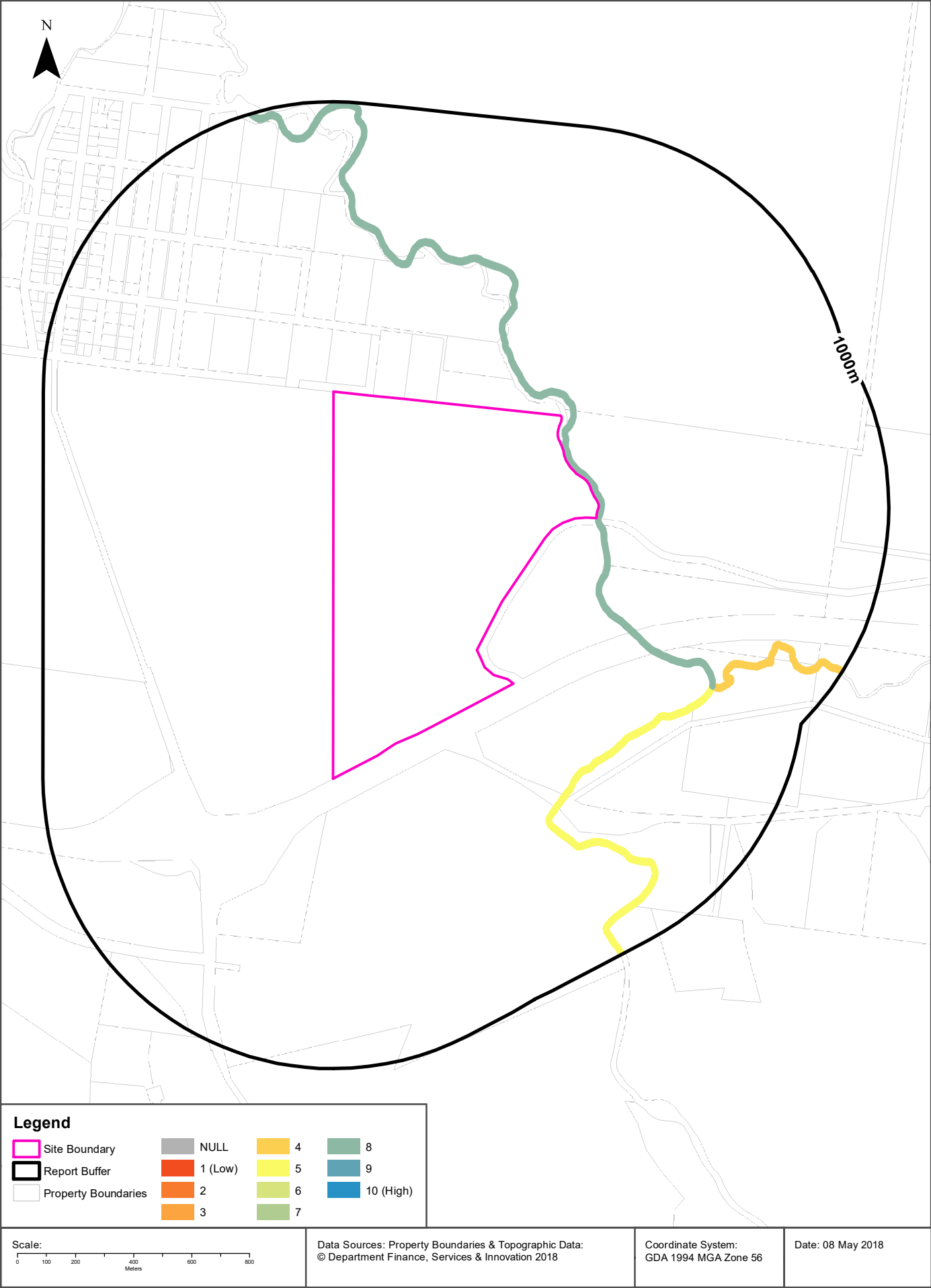
Groundwater Dependent Ecosystems Atlas

| Type | GDE Potential | Geomorphology | Ecosystem Type | Aquifer Geology | Distance |
|---------|---|---|----------------|-----------------|----------|
| Aquatic | High potential GDE - from national assessment | Upland plains with separating strike-aligned hills, closed lake basins. | River | | 0m |
| Aquatic | Moderate potential GDE - from national assessment | Upland plains with separating strike-aligned hills, closed lake basins. | River | | 675m |

Groundwater Dependent Ecosystems Atlas Data Source: The Bureau of Meteorology
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Ecological Constraints - Inflow Dependent Ecosystems Likelihood

Sutton Road & Old Federal Highway, Sutton, NSW 2621 (East Section)



Ecological Constraints

Sutton Road & Old Federal Highway, Sutton, NSW 2621 (East Section)

Inflow Dependent Ecosystems Likelihood

| Type | IDE Likelihood | Geomorphology | Ecosystem Type | Aquifer Geology | Distance |
|---------|----------------|---|----------------|-----------------|----------|
| Aquatic | 8 | Upland plains with separating strike-aligned hills, closed lake basins. | River | | 0m |
| Aquatic | 5 | Upland plains with separating strike-aligned hills, closed lake basins. | River | | 370m |
| Aquatic | 4 | Upland plains with separating strike-aligned hills, closed lake basins. | River | | 675m |

Inflow Dependent Ecosystems Likelihood Data Source: The Bureau of Meteorology
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Ecological Constraints

Sutton Road & Old Federal Highway, Sutton, NSW 2621 (East Section)

NSW BioNet Atlas

Species on the NSW BioNet Atlas that have a NSW or federal conservation status, a NSW sensitivity status, or are listed under a migratory species agreement, and are within 10km of the site?

| Kingdom | Class | Scientific | Common | NSW Conservation Status | NSW Sensitivity Class | Federal Conservation Status | Migratory Species Agreements |
|----------|----------|---------------------------------------|--|-------------------------|-----------------------|-----------------------------|------------------------------|
| Animalia | Amphibia | Litoria aurea | Green and Golden Bell Frog | Endangered | Not Sensitive | Vulnerable | |
| Animalia | Aves | Anthochaera phrygia | Regent Honeyeater | Critically Endangered | Not Sensitive | Critically Endangered | |
| Animalia | Aves | Ardea ibis | Cattle Egret | Not Listed | Not Sensitive | Not Listed | CAMBA;JAMBA |
| Animalia | Aves | Artamus cyanopterus cyanopterus | Dusky Woodswallow | Vulnerable | Not Sensitive | Not Listed | |
| Animalia | Aves | Callocephalon fimbriatum | Gang-gang Cockatoo | Vulnerable | Category 3 | Not Listed | |
| Animalia | Aves | Chthonicola sagittata | Speckled Warbler | Vulnerable | Not Sensitive | Not Listed | |
| Animalia | Aves | Climacteris picumnus victoriae | Brown Treecreeper (eastern subspecies) | Vulnerable | Not Sensitive | Not Listed | |
| Animalia | Aves | Daphoenositta chrysoptera | Varied Sittella | Vulnerable | Not Sensitive | Not Listed | |
| Animalia | Aves | Glossopsitta pusilla | Little Lorikeet | Vulnerable | Not Sensitive | Not Listed | |
| Animalia | Aves | Grantiella picta | Painted Honeyeater | Vulnerable | Not Sensitive | Vulnerable | |
| Animalia | Aves | Hieraaetus morphnoides | Little Eagle | Vulnerable | Not Sensitive | Not Listed | |
| Animalia | Aves | Melanodryas cucullata cucullata | Hooded Robin (south-eastern form) | Vulnerable | Not Sensitive | Not Listed | |
| Animalia | Aves | Merops ornatus | Rainbow Bee-eater | Not Listed | Not Sensitive | Not Listed | JAMBA |
| Animalia | Aves | Petroica boodang | Scarlet Robin | Vulnerable | Not Sensitive | Not Listed | |
| Animalia | Aves | Petroica phoenicea | Flame Robin | Vulnerable | Not Sensitive | Not Listed | |
| Animalia | Aves | Polytelis swainsonii | Superb Parrot | Vulnerable | Category 3 | Vulnerable | |
| Animalia | Aves | Stagonopleura guttata | Diamond Firetail | Vulnerable | Not Sensitive | Not Listed | |
| Animalia | Insecta | Synemon plana | Golden Sun Moth | Endangered | Not Sensitive | Critically Endangered | |
| Animalia | Mammalia | Bettongia gaimardi | Tasmanian Bettong | Presumed Extinct | Not Sensitive | Extinct | |
| Animalia | Mammalia | Cercartetus nanus | Eastern Pygmy-possum | Vulnerable | Not Sensitive | Not Listed | |
| Animalia | Mammalia | Dasyurus maculatus | Spotted-tailed Quoll | Vulnerable | Not Sensitive | Endangered | |
| Animalia | Mammalia | Phascogale cinerea | Koala | Vulnerable | Not Sensitive | Vulnerable | |
| Animalia | Reptilia | Suta flagellum | Little Whip Snake | Vulnerable | Not Sensitive | Not Listed | |
| Animalia | Reptilia | Varanus rosenbergi | Rosenberg's Goanna | Vulnerable | Not Sensitive | Not Listed | |
| Plantae | Flora | Leucochrysum albicans subsp. tricolor | Hoary Sunray | Not Listed | Not Sensitive | Endangered | |
| Plantae | Flora | Rutidosia leptorrhynchoidea | Button Wrinklewort | Endangered | Not Sensitive | Endangered | |

| Kingdom | Class | Scientific | Common | NSW Conservation Status | NSW Sensitivity Class | Federal Conservation Status | Migratory Species Agreements |
|---------|-------|-------------------|--------------------|-------------------------|-----------------------|-----------------------------|------------------------------|
| Plantae | Flora | Swainsona sericea | Silky Swainson-pea | Vulnerable | Not Sensitive | Not Listed | |

Data does not include NSW category 1 sensitive species.

NSW BioNet: © State of NSW and Office of Environment and Heritage

Data obtained 08/05/2018

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LOTSEARCH

LOTSEARCH ENVIRO PROFESSIONAL

Date: 08 May 2018 11:12:52

Reference: LS003293

Address: Sutton Road & Old Federal Highway, Sutton, NSW 2621 (West Section)

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The purpose of this report is to provide an overview of some of the site history, environmental risk and planning information available, affecting an individual address or geographical area in which the property is located. It is not a substitute for an on-site inspection or review of other available reports and records. It is not intended to be, and should not be taken to be, a rating or assessment of the desirability or market value of the property or its features. You should obtain independent advice before you make any decision based on the information within the report. The detailed terms applicable to use of this report are set out at the end of this report.

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Location Confidences

Where Lotsearch has had to georeference features from supplied addresses, a location confidence has been assigned to the data record. This indicates a confidence to the positional accuracy of the feature. Where applicable, a code is given under the field heading “LC” or “LocConf”. These codes lookup to the following location confidences:

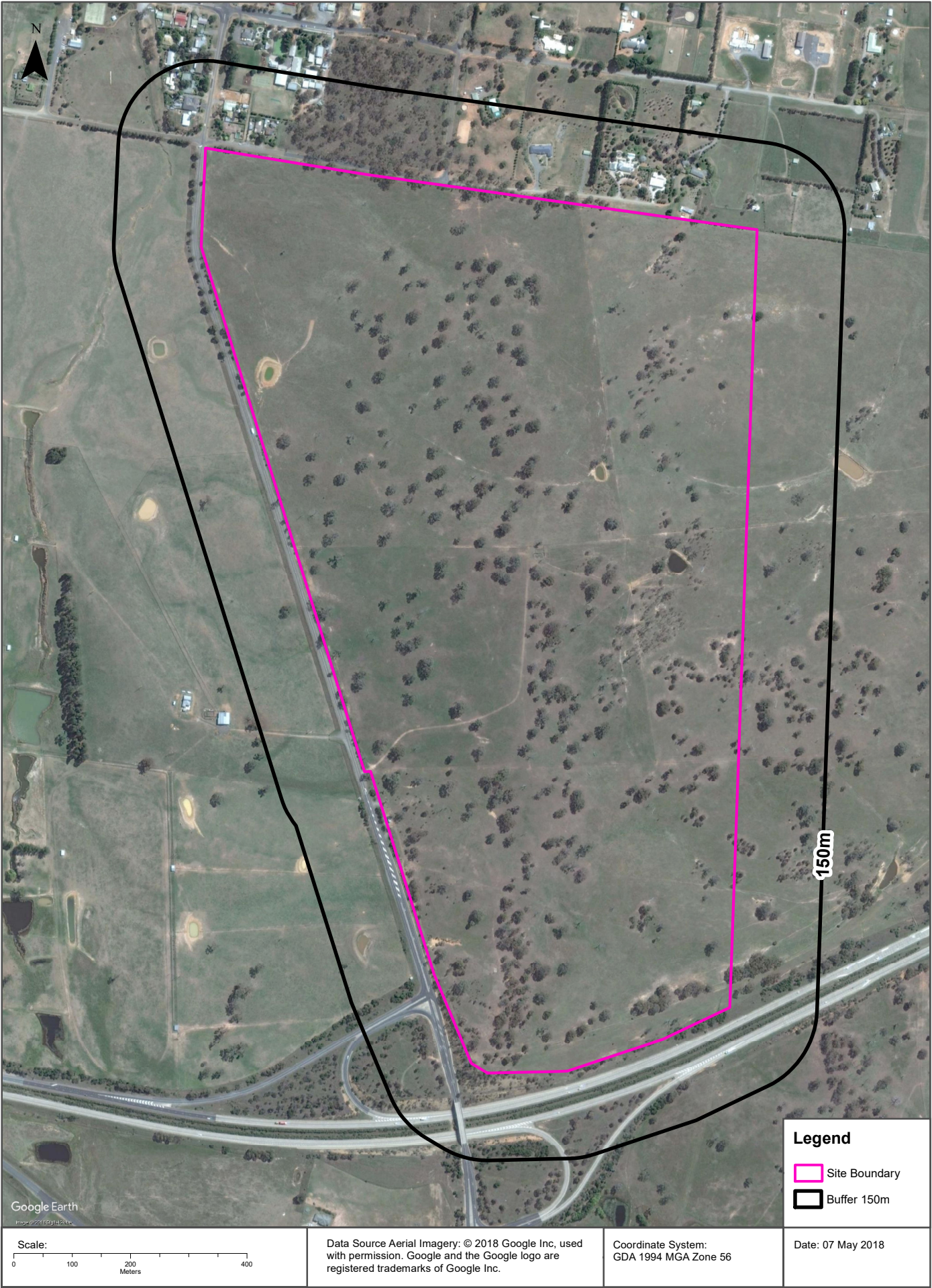
| LC Code | Location Confidence |
|---------|---|
| 1 | Georeferenced to the site location / premise or part of site |
| 2 | Georeferenced with the confidence of the general/approximate area |
| 3 | Georeferenced to the road or rail |
| 4 | Georeferenced to the road intersection |
| 5 | Feature is a buffered point |
| 6 | Land adjacent to Georeferenced Site |
| 7 | Georeferenced to a network of features |

Dataset Listing

Datasets contained within this report, detailing their source and data currency:

| Dataset Name | Custodian | Supply Date | Currency Date | Update Frequency | Dataset Buffer (m) | No. Features Onsite | No. Features within 100m | No. Features within Buffer |
|--|--|-------------|---------------|------------------|--------------------|---------------------|--------------------------|----------------------------|
| Cadastre Boundaries | Dept. Finance, Services & Innovation | 08/05/2018 | 08/05/2018 | Daily | - | - | - | - |
| Topographic Data | Dept. Finance, Services & Innovation | 09/04/2018 | 09/04/2018 | As required | - | - | - | - |
| List of NSW contaminated sites notified to EPA | Environment Protection Authority | 03/05/2018 | 16/04/2018 | Monthly | 1000 | 0 | 0 | 0 |
| Contaminated Land: Records of Notice | Environment Protection Authority | 10/04/2018 | 10/04/2018 | Monthly | 1000 | 0 | 0 | 0 |
| Former Gasworks | Environment Protection Authority | 24/04/2018 | 11/10/2017 | Monthly | 1000 | 0 | 0 | 0 |
| National Waste Management Site Database | Geoscience Australia | 02/02/2018 | 07/03/2017 | Quarterly | 1000 | 0 | 0 | 0 |
| EPA PFAS Investigation Program | Environment Protection Authority | 12/04/2018 | 12/04/2018 | Monthly | 2000 | 0 | 0 | 0 |
| EPA Other Sites with Contamination Issues | Environment Protection Authority | 11/01/2018 | 11/01/2018 | Quarterly | 1000 | 0 | 0 | 0 |
| Licensed Activities under the POEO Act 1997 | Environment Protection Authority | 10/04/2018 | 10/04/2018 | Monthly | 1000 | 0 | 0 | 0 |
| Delicensed POEO Activities still Regulated by the EPA | Environment Protection Authority | 10/04/2018 | 10/04/2018 | Monthly | 1000 | 0 | 0 | 0 |
| Former POEO Licensed Activities now revoked or surrendered | Environment Protection Authority | 10/04/2018 | 10/04/2018 | Monthly | 1000 | 0 | 3 | 3 |
| UPSS Environmentally Sensitive Zones | Environment Protection Authority | 14/04/2015 | 12/01/2010 | As required | 1000 | 1 | 1 | 1 |
| UBD Business Directory 1982 (Premise & Intersection Matches) | Hardie Grant | | | Not required | 150 | 0 | 0 | 0 |
| UBD Business Directory 1982 (Road & Area Matches) | Hardie Grant | | | Not required | 150 | - | 0 | 0 |
| UBD Business Directory 1970 (Premise & Intersection Matches) | Hardie Grant | | | Not required | 150 | 0 | 0 | 0 |
| UBD Business Directory 1970 (Road & Area Matches) | Hardie Grant | | | Not required | 150 | - | 0 | 0 |
| UBD Business Directory 1961 (Premise & Intersection Matches) | Hardie Grant | | | Not required | 150 | 0 | 0 | 0 |
| UBD Business Directory 1961 (Road & Area Matches) | Hardie Grant | | | Not required | 150 | - | 1 | 1 |
| UBD Business Directory 1950 (Premise & Intersection Matches) | Hardie Grant | | | Not required | 150 | 0 | 0 | 0 |
| UBD Business Directory 1950 (Road & Area Matches) | Hardie Grant | | | Not required | 150 | - | 0 | 0 |
| UBD Business Directory Drycleaners & Motor Garages/Service Stations (Premise & Intersection Matches) | Hardie Grant | | | Not required | 1000 | 0 | 0 | 0 |
| UBD Business Directory Drycleaners & Motor Garages/Service Stations (Road & Area Matches) | Hardie Grant | | | Not required | 1000 | - | 0 | 0 |
| Points of Interest | Dept. Finance, Services & Innovation | 09/04/2018 | 09/04/2018 | Annually | 1000 | 0 | 0 | 19 |
| Tanks (Areas) | Dept. Finance, Services & Innovation | 09/04/2018 | 09/04/2018 | Annually | 1000 | 0 | 0 | 0 |
| Tanks (Points) | Dept. Finance, Services & Innovation | 09/04/2018 | 09/04/2018 | Annually | 1000 | 0 | 0 | 0 |
| Major Easements | Dept. Finance, Services & Innovation | 09/04/2018 | 09/04/2018 | As required | 1000 | 1 | 1 | 7 |
| State Forest | Dept. Finance, Services & Innovation | 18/01/2018 | 18/01/2018 | As required | 1000 | 0 | 0 | 0 |
| NSW National Parks and Wildlife Service Reserves | NSW Office of Environment & Heritage | 18/01/2018 | 30/09/2017 | Annually | 1000 | 0 | 0 | 0 |
| Hydrogeology Map of Australia | Commonwealth of Australia (Geoscience Australia) | 08/10/2014 | 17/03/2000 | As required | 1000 | 1 | 1 | 1 |

| Dataset Name | Custodian | Supply Date | Currency Date | Update Frequency | Dataset Buffer (m) | No. Features Onsite | No. Features within 100m | No. Features within Buffer |
|--|---|-------------|---------------|------------------|--------------------|---------------------|--------------------------|----------------------------|
| Botany Groundwater Management Zones | NSW Department of Primary Industries | 15/03/2018 | 01/10/2005 | As required | 1000 | 0 | 0 | 0 |
| Groundwater Boreholes | NSW Dept. of Primary Industries - Office of Water / Water Administration Ministerial Corporation; Commonwealth of Australia (Bureau of Meteorology) | 21/03/2016 | 01/12/2015 | Annually | 2000 | 3 | 6 | 113 |
| Geological Units 1:250,000 | NSW Dept. of Industry, Resources & Energy | 20/08/2014 | | None planned | 1000 | 2 | - | 6 |
| Geological Structures 1:250,000 | NSW Dept. of Industry, Resources & Energy | 20/08/2014 | | None planned | 1000 | 1 | - | 3 |
| Naturally Occurring Asbestos Potential | NSW Dept. of Industry, Resources & Energy | 04/12/2015 | 24/09/2015 | Unknown | 1000 | 0 | 0 | 0 |
| Soil Landscapes | NSW Office of Environment & Heritage | 12/08/2014 | | None planned | 1000 | 2 | - | 8 |
| Atlas of Australian Soils | CSIRO | 19/05/2017 | 17/02/2011 | As required | 1000 | 1 | 2 | 2 |
| Standard Local Environmental Plan Acid Sulfate Soils | NSW Planning and Environment | 07/10/2016 | 07/10/2016 | As required | 500 | 0 | - | - |
| Atlas of Australian Acid Sulfate Soils | CSIRO | 19/01/2017 | 21/02/2013 | As required | 1000 | 1 | 1 | 1 |
| Dryland Salinity - National Assessment | National Land and Water Resources Audit | 18/07/2014 | 12/05/2013 | None planned | 1000 | 1 | 1 | 1 |
| Dryland Salinity Potential of Western Sydney | NSW Office of Environment & Heritage | 12/05/2017 | 01/01/2002 | None planned | 1000 | - | - | - |
| Mining Subsidence Districts | Dept. Finance, Services & Innovation | 13/07/2017 | 01/07/2017 | As required | 1000 | 0 | 0 | 0 |
| SEPP 14 - Coastal Wetlands | NSW Planning and Environment | 17/12/2015 | 24/10/2008 | Annually | 1000 | 0 | 0 | 0 |
| SEPP 26 - Littoral Rainforest | NSW Planning and Environment | 17/12/2015 | 05/02/1988 | Annually | 1000 | 0 | 0 | 0 |
| SEPP 71 - Coastal Protection | NSW Planning and Environment | 17/12/2015 | 01/08/2003 | Annually | 1000 | 0 | 0 | 0 |
| SEPP Major Developments 2005 | NSW Planning and Environment | 09/03/2013 | 25/05/2005 | Under Review | 1000 | 0 | 0 | 0 |
| SEPP Strategic Land Use Areas | NSW Planning and Environment | 01/08/2017 | 28/01/2014 | Annually | 1000 | 1 | 1 | 1 |
| LEP - Land Zoning | NSW Planning and Environment | 11/04/2018 | 16/03/2018 | Quarterly | 1000 | 1 | 6 | 15 |
| LEP - Minimum Subdivision Lot Size | NSW Planning and Environment | 04/04/2018 | 23/03/2018 | Quarterly | 0 | 1 | - | - |
| LEP - Height of Building | NSW Planning and Environment | 04/04/2018 | 23/03/2018 | Quarterly | 0 | 0 | - | - |
| LEP - Floor Space Ratio | NSW Planning and Environment | 04/04/2018 | 23/03/2018 | Quarterly | 0 | 0 | - | - |
| LEP - Land Application | NSW Planning and Environment | 04/04/2018 | 23/03/2018 | Quarterly | 0 | 1 | - | - |
| LEP - Land Reservation Acquisition | NSW Planning and Environment | 04/04/2018 | 09/03/2018 | Quarterly | 0 | 0 | - | - |
| State Heritage Items | NSW Office of Environment & Heritage | 04/04/2018 | 30/09/2016 | Quarterly | 1000 | 0 | 0 | 0 |
| Local Heritage Items | NSW Planning and Environment | 04/04/2018 | 23/03/2018 | Quarterly | 1000 | 0 | 1 | 4 |
| Bush Fire Prone Land | NSW Rural Fire Service | 05/02/2018 | 23/01/2018 | Quarterly | 1000 | 0 | 3 | 4 |
| Vegetation of Southern Forests | NSW Office of Environment & Heritage | 09/12/2014 | 10/10/2011 | Unknown | 1000 | 0 | 0 | 0 |
| RAMSAR Wetlands | Commonwealth of Australia Department of the Environment | 08/10/2014 | 24/06/2011 | As required | 1000 | 0 | 0 | 0 |
| Groundwater Dependent Ecosystems | Bureau of Meteorology | 14/08/2017 | 15/05/2017 | Unknown | 1000 | 0 | 0 | 1 |
| Inflow Dependent Ecosystems Likelihood | Bureau of Meteorology | 14/08/2017 | 15/05/2017 | Unknown | 1000 | 0 | 0 | 3 |
| NSW BioNet Species Sightings | NSW Office of Environment & Heritage | 08/05/2018 | 08/05/2018 | Daily | 10000 | - | - | - |



Contaminated Land & Waste Management Facilities

Sutton Road & Old Federal Highway, Sutton, NSW 2621 (West Section)

List of NSW contaminated sites notified to EPA

Records from the NSW EPA Contaminated Land list within the dataset buffer:

| Map Id | Site | Address | Suburb | Activity | Management Class | Status | Location Confidence | Dist (m) | Direction |
|--------|----------------------|---------|--------|----------|------------------|--------|---------------------|----------|-----------|
| N/A | No records in buffer | | | | | | | | |

The values within the EPA site management class in the table above, are given more detailed explanations in the table below:

| EPA site management class | Explanation |
|---|---|
| Contamination being managed via the planning process (EP&A Act) | The EPA has completed an assessment of the contamination and decided that the contamination is significant enough to warrant regulation. The contamination of this site is managed by the consent authority under the Environmental Planning and Assessment Act 1979 (EP&A Act) planning approval process, with EPA involvement as necessary to ensure significant contamination is adequately addressed. The consent authority is typically a local council or the Department of Planning and Environment. |
| Contamination currently regulated under CLM Act | The EPA has completed an assessment of the contamination and decided that the contamination is significant enough to warrant regulation under the Contaminated Land Management Act 1997 (CLM Act). Management of the contamination is regulated by the EPA under the CLM Act. Regulatory notices are available on the EPA's Contaminated Land Public Record of Notices. |
| Contamination currently regulated under POEO Act | The EPA has completed an assessment of the contamination and decided that the contamination is significant enough to warrant regulation. Management of the contamination is regulated under the Protection of the Environment Operations Act 1997 (POEO Act). The EPA's regulatory actions under the POEO Act are available on the POEO public register. |
| Contamination formerly regulated under the CLM Act | The EPA has determined that the contamination is no longer significant enough to warrant regulation under the Contaminated Land Management Act 1997 (CLM Act). The contamination was addressed under the CLM Act. |
| Contamination formerly regulated under the POEO Act | The EPA has determined that the contamination is no longer significant enough to warrant regulation. The contamination was addressed under the Protection of the Environment Operations Act 1997 (POEO Act). |
| Contamination was addressed via the planning process (EP&A Act) | The EPA has determined that the contamination is no longer significant enough to warrant regulation. The contamination was addressed by the appropriate consent authority via the planning process under the Environmental Planning and Assessment Act 1979 (EP&A Act). |
| Ongoing maintenance required to manage residual contamination (CLM Act) | The EPA has determined that ongoing maintenance, under the Contaminated Land Management Act 1997 (CLM Act), is required to manage the residual contamination. Regulatory notices under the CLM Act are available on the EPA's Contaminated Land Public Record of Notices. |
| Regulation being finalised | The EPA has completed an assessment of the contamination and decided that the contamination is significant enough to warrant regulation under the Contaminated Land Management Act 1997. A regulatory approach is being finalised. |
| Regulation under the CLM Act not required | The EPA has completed an assessment of the contamination and decided that regulation under the Contaminated Land Management Act 1997 is not required. |
| Under assessment | The contamination is being assessed by the EPA to determine whether regulation is required. The EPA may require further information to complete the assessment. For example, the completion of management actions regulated under the planning process or Protection of the Environment Operations Act 1997. Alternatively, the EPA may require information via a notice issued under s77 of the Contaminated Land Management Act 1997 or issue a Preliminary Investigation Order. |

NSW EPA Contaminated Land List Data Source: Environment Protection Authority
© State of New South Wales through the Environment Protection Authority

Contaminated Land & Waste Management Facilities

Sutton Road & Old Federal Highway, Sutton, NSW 2621 (West Section)

Contaminated Land: Records of Notice

Record of Notices within the dataset buffer:

| Map Id | Name | Address | Suburb | Notices | Area No | Location Confidence | Distance | Direction |
|--------|----------------------|---------|--------|---------|---------|---------------------|----------|-----------|
| N/A | No records in buffer | | | | | | | |

Contaminated Land Records of Notice Data Source: Environment Protection Authority
© State of New South Wales through the Environment Protection Authority
Terms of use and disclaimer for Contaminated Land: Record of Notices, please visit
<http://www.epa.nsw.gov.au/clm/clmdisclaimer.htm>

Former Gasworks

Former Gasworks within the dataset buffer:

| Map Id | Location | Council | Further Info | Location Confidence | Distance | Direction |
|--------|----------------------|---------|--------------|---------------------|----------|-----------|
| N/A | No records in buffer | | | | | |

Former Gasworks Data Source: Environment Protection Authority
© State of New South Wales through the Environment Protection Authority

National Waste Management Site Database

Sites on the National Waste Management Site Database within the dataset buffer:

| Site Id | Owner | Name | Address | Suburb | Class | Landfill | Reprocess | Transfer | Comments | Loc Conf | Dist (m) | Direction |
|---------|----------------------|------|---------|--------|-------|----------|-----------|----------|----------|----------|----------|-----------|
| N/A | No records in buffer | | | | | | | | | | | |

Waste Management Facilities Data Source: Geoscience Australia
Creative Commons 3.0 © Commonwealth of Australia <http://creativecommons.org/licenses/by/3.0/au/deed.en>

EPA PFAS Investigation Program

Sutton Road & Old Federal Highway, Sutton, NSW 2621 (West Section)

EPA PFAS Investigation Program

Sites that are part of the EPA PFAS investigation program, within the dataset buffer:

| Id | Site | Address | Location Confidence | Distance | Direction |
|-----|----------------------|---------|---------------------|----------|-----------|
| N/A | No records in buffer | | | | |

EPA PFAS Investigation Program: Environment Protection Authority
© State of New South Wales through the Environment Protection Authority

EPA Other Sites with Contamination Issues

Sutton Road & Old Federal Highway, Sutton, NSW 2621 (West Section)

EPA Other Sites with Contamination Issues

This dataset contains other sites identified on the EPA website as having contamination issues. This dataset currently includes:

- James Hardie asbestos manufacturing and waste disposal sites
- Radiological investigation sites in Hunter's Hill

Sites within the dataset buffer:

| Site Id | Site Name | Site Address | Dataset | Comments | Location Confidence | Distance | Direction |
|---------|----------------------|--------------|---------|----------|---------------------|----------|-----------|
| N/A | No records in buffer | | | | | | |

EPA Other Sites with Contamination Issues: Environment Protection Authority
© State of New South Wales through the Environment Protection Authority

EPA Activities

Sutton Road & Old Federal Highway, Sutton, NSW 2621 (West Section)

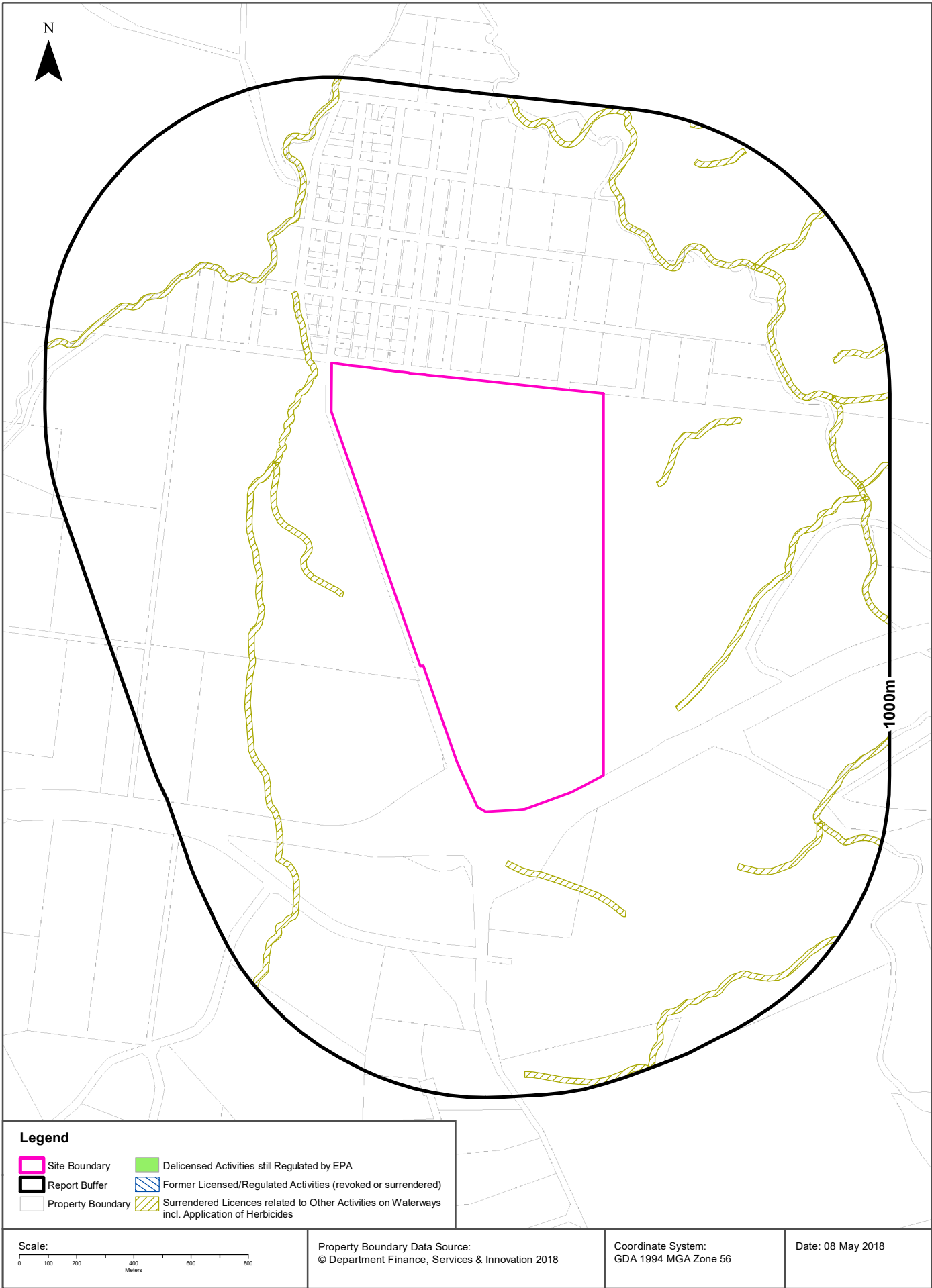
Licensed Activities under the POEO Act 1997

Licensed activities under the Protection of the Environment Operations Act 1997, within the dataset buffer:

| EPL | Organisation | Name | Address | Suburb | Activity | Loc Conf | Distance | Direction |
|-----|----------------------|------|---------|--------|----------|----------|----------|-----------|
| N/A | No records in buffer | | | | | | | |

POEO Licence Data Source: Environment Protection Authority

© State of New South Wales through the Environment Protection Authority



EPA Activities

Sutton Road & Old Federal Highway, Sutton, NSW 2621 (West Section)

Delicensed Activities still regulated by the EPA

Delicensed activities still regulated by the EPA, within the dataset buffer:

| Licence No | Organisation | Name | Address | Suburb | Activity | Loc Conf | Distance | Direction |
|------------|----------------------|------|---------|--------|----------|----------|----------|-----------|
| N/A | No records in buffer | | | | | | | |

Delicensed Activities Data Source: Environment Protection Authority

© State of New South Wales through the Environment Protection Authority

Former Licensed Activities under the POEO Act 1997, now revoked or surrendered

Former Licensed activities under the Protection of the Environment Operations Act 1997, now revoked or surrendered, within the dataset buffer:

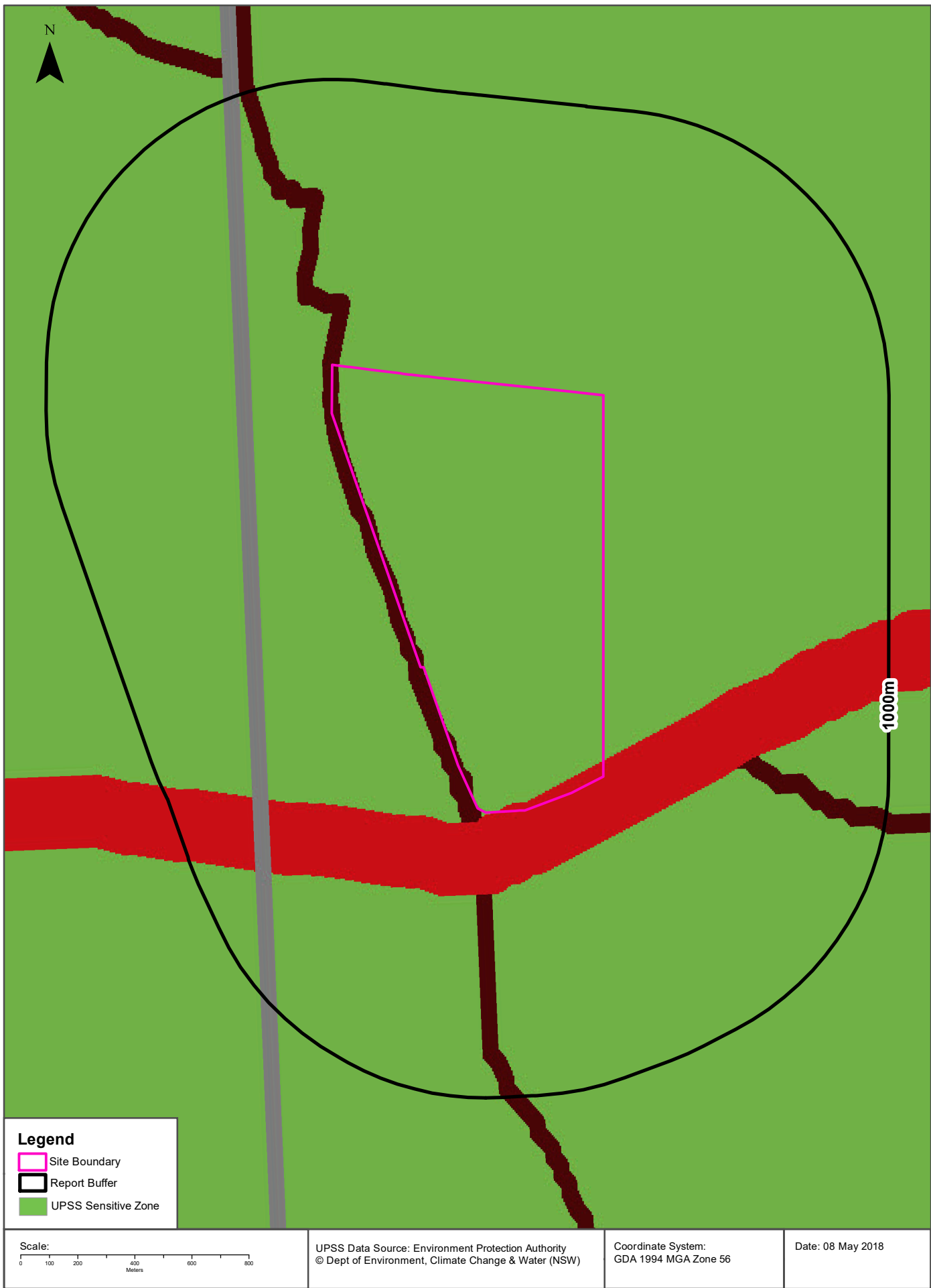
| Licence No | Organisation | Location | Status | Issued Date | Activity | Loc Conf | Distance | Direction |
|------------|---|--|-------------|-------------|---|---------------------|----------|-----------|
| 4653 | LUHRMANN ENVIRONMENT MANAGEMENT PTY LTD | WATERWAYS THROUGHOUT NSW | Surrendered | | Other Activities / Non Scheduled Activity - Application of Herbicides | Network of Features | 48m | - |
| 4838 | Robert Orchard | Various Waterways throughout New South Wales - SYDNEY NSW 2000 | Surrendered | | Other Activities / Non Scheduled Activity - Application of Herbicides | Network of Features | 48m | - |
| 6630 | SYDNEY WEED & PEST MANAGEMENT PTY LTD | WATERWAYS THROUGHOUT NSW - PROSPECT, NSW, 2148 | Surrendered | | Other Activities / Non Scheduled Activity - Application of Herbicides | Network of Features | 48m | - |

Former Licensed Activities Data Source: Environment Protection Authority

© State of New South Wales through the Environment Protection Authority

UPSS Sensitive Zones

Sutton Road & Old Federal Highway, Sutton, NSW 2621 (West Section)



Historical Business Directories

Sutton Road & Old Federal Highway, Sutton, NSW 2621 (West Section)

1982 Business Directory Records Premise or Road Intersection Matches

Records from the 1982 UBD Business Directory, mapped to a premise or road intersection, within the dataset buffer:

| Business Activity | Premise | Ref No. | Location Confidence | Distance to Feature Point | Direction |
|-------------------|----------------------|---------|---------------------|---------------------------|-----------|
| N/A | No records in buffer | | | | |

Business Directory Content Derived from Universal Business Directories (UBD) - Licensed from Hardie Grant

1982 Business Directory Records Road or Area Matches

Records from the 1982 UBD Business Directory, mapped to a road or an area, within the dataset buffer. Records are mapped to the road when a building number is not supplied, cannot be found, or the road has been renumbered since the directory was published:

| Business Activity | Premise | Ref No. | Location Confidence | Distance to Road Corridor or Area |
|-------------------|----------------------|---------|---------------------|-----------------------------------|
| N/A | No records in buffer | | | |

Business Directory Content Derived from Universal Business Directories (UBD) - Licensed from Hardie Grant

Historical Business Directories

Sutton Road & Old Federal Highway, Sutton, NSW 2621 (West Section)

1970 Business Directory Records Premise or Road Intersection Matches

Records from the 1970 UBD Business Directory, mapped to a premise or road intersection, within the dataset buffer:

| Business Activity | Premise | Ref No. | Location Confidence | Distance to Feature Point | Direction |
|-------------------|----------------------|---------|---------------------|---------------------------|-----------|
| N/A | No records in buffer | | | | |

Business Directory Content Derived from Universal Business Directories (UBD) - Licensed from Hardie Grant

1970 Business Directory Records Road or Area Matches

Records from the 1970 UBD Business Directory, mapped to a road or an area, within the dataset buffer. Records are mapped to the road when a building number is not supplied, cannot be found, or the road has been renumbered since the directory was published:

| Business Activity | Premise | Ref No. | Location Confidence | Distance to Road Corridor or Area |
|-------------------|----------------------|---------|---------------------|-----------------------------------|
| N/A | No records in buffer | | | |

Business Directory Content Derived from Universal Business Directories (UBD) - Licensed from Hardie Grant

1961 Historical Business Directory Records

Sutton Road & Old Federal Highway, Sutton, NSW 2621 (West Section)



Historical Business Directories

Sutton Road & Old Federal Highway, Sutton, NSW 2621 (West Section)

1961 Business Directory Records Premise or Road Intersection Matches

Records from the 1961 UBD Business Directory, mapped to a premise or road intersection, within the dataset buffer:

| Business Activity | Premise | Ref No. | Location Confidence | Distance to Feature Point | Direction |
|-------------------|----------------------|---------|---------------------|---------------------------|-----------|
| N/A | No records in buffer | | | | |

Business Directory Content Derived from Universal Business Directories (UBD) - Licensed from Hardie Grant

1961 Business Directory Records Road or Area Matches

Records from the 1961 UBD Business Directory, mapped to a road or an area, within the dataset buffer. Records are mapped to the road when a building number is not supplied, cannot be found, or the road has been renumbered since the directory was published:

| Business Activity | Premise | Ref No. | Location Confidence | Distance to Road Corridor or Area |
|--------------------------------|------------------------------|---------|---------------------|-----------------------------------|
| CARRIERS & CARTAGE CONTRACTORS | Butt, M., Bywong St., Sutton | 225304 | Road Match | 28m |

Business Directory Content Derived from Universal Business Directories (UBD) - Licensed from Hardie Grant

Historical Business Directories

Sutton Road & Old Federal Highway, Sutton, NSW 2621 (West Section)

1950 Business Directory Records Premise or Road Intersection Matches

Records from the 1950 UBD Business Directory, mapped to a premise or road intersection, within the dataset buffer:

| Business Activity | Premise | Ref No. | Location Confidence | Distance to Feature Point | Direction |
|-------------------|----------------------|---------|---------------------|---------------------------|-----------|
| N/A | No records in buffer | | | | |

Business Directory Content Derived from Universal Business Directories (UBD) - Licensed from Hardie Grant

1950 Business Directory Records Road or Area Matches

Records from the 1950 UBD Business Directory, mapped to a road or an area, within the dataset buffer. Records are mapped to the road when a building number is not supplied, cannot be found, or the road has been renumbered since the directory was published:

| Business Activity | Premise | Ref No. | Location Confidence | Distance to Road Corridor or Area |
|-------------------|----------------------|---------|---------------------|-----------------------------------|
| N/A | No records in buffer | | | |

Business Directory Content Derived from Universal Business Directories (UBD) - Licensed from Hardie Grant

Historical Business Directories

Sutton Road & Old Federal Highway, Sutton, NSW 2621 (West Section)

Dry Cleaners, Motor Garages & Service Stations Premise or Road Intersection Matches

Dry Cleaners, Motor Garages & Service Stations from UBD Business Directories, mapped to a premise or road intersection, within the dataset buffer:

| Business Activity | Premise | Ref No. | Year | Location Confidence | Distance to Feature Point | Direction |
|-------------------|----------------------|---------|------|---------------------|---------------------------|-----------|
| N/A | No records in buffer | | | | | |

Business Directory Content Derived from Universal Business Directories (UBD) - Licensed from Hardie Grant

Dry Cleaners, Motor Garages & Service Stations Road or Area Matches

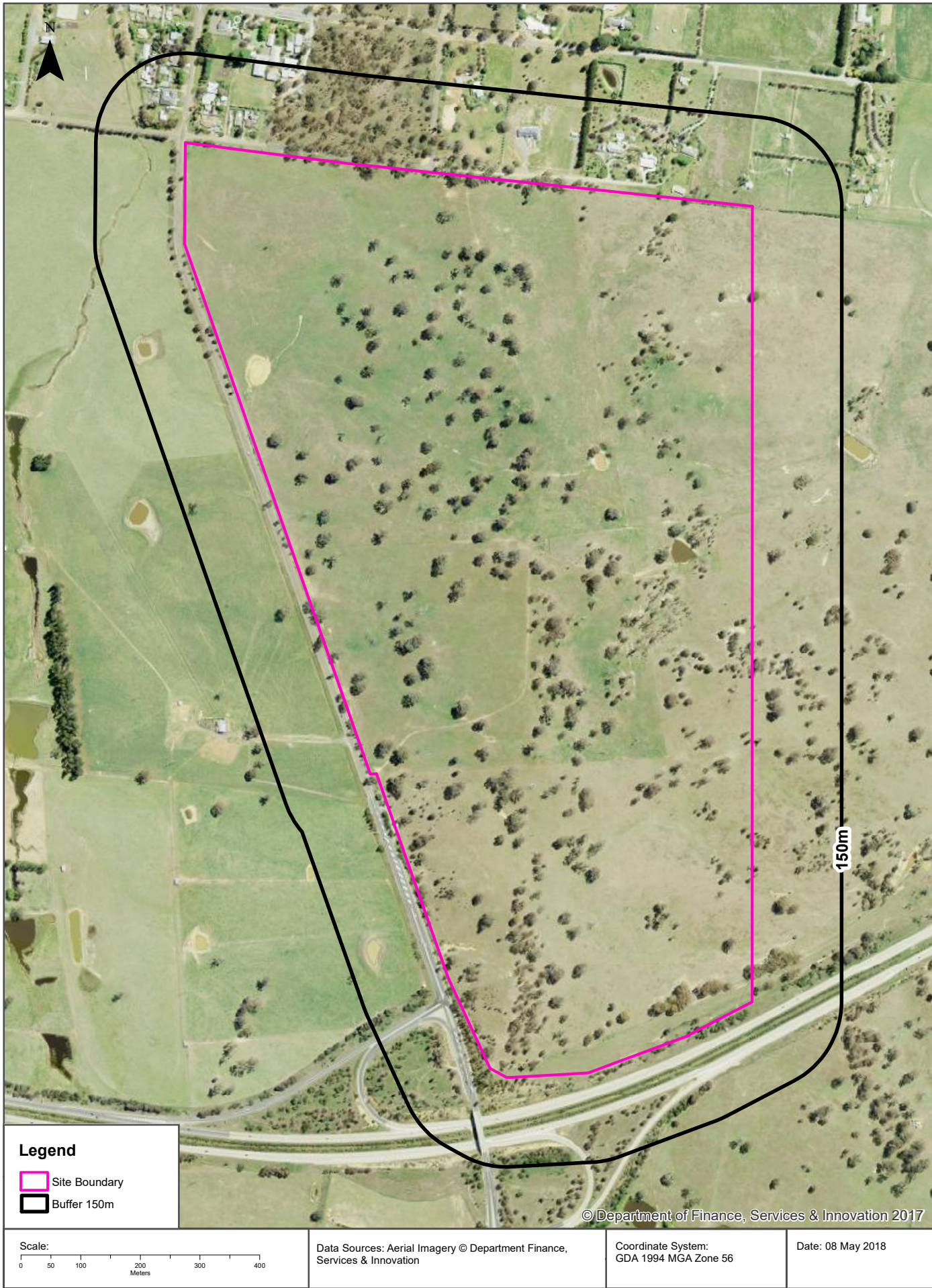
Dry Cleaners, Motor Garages & Service Stations from UBD Business Directories, mapped to a road or an area, within the dataset buffer. Records are mapped to the road when a building number is not supplied, cannot be found, or the road has been renumbered since the directory was published:

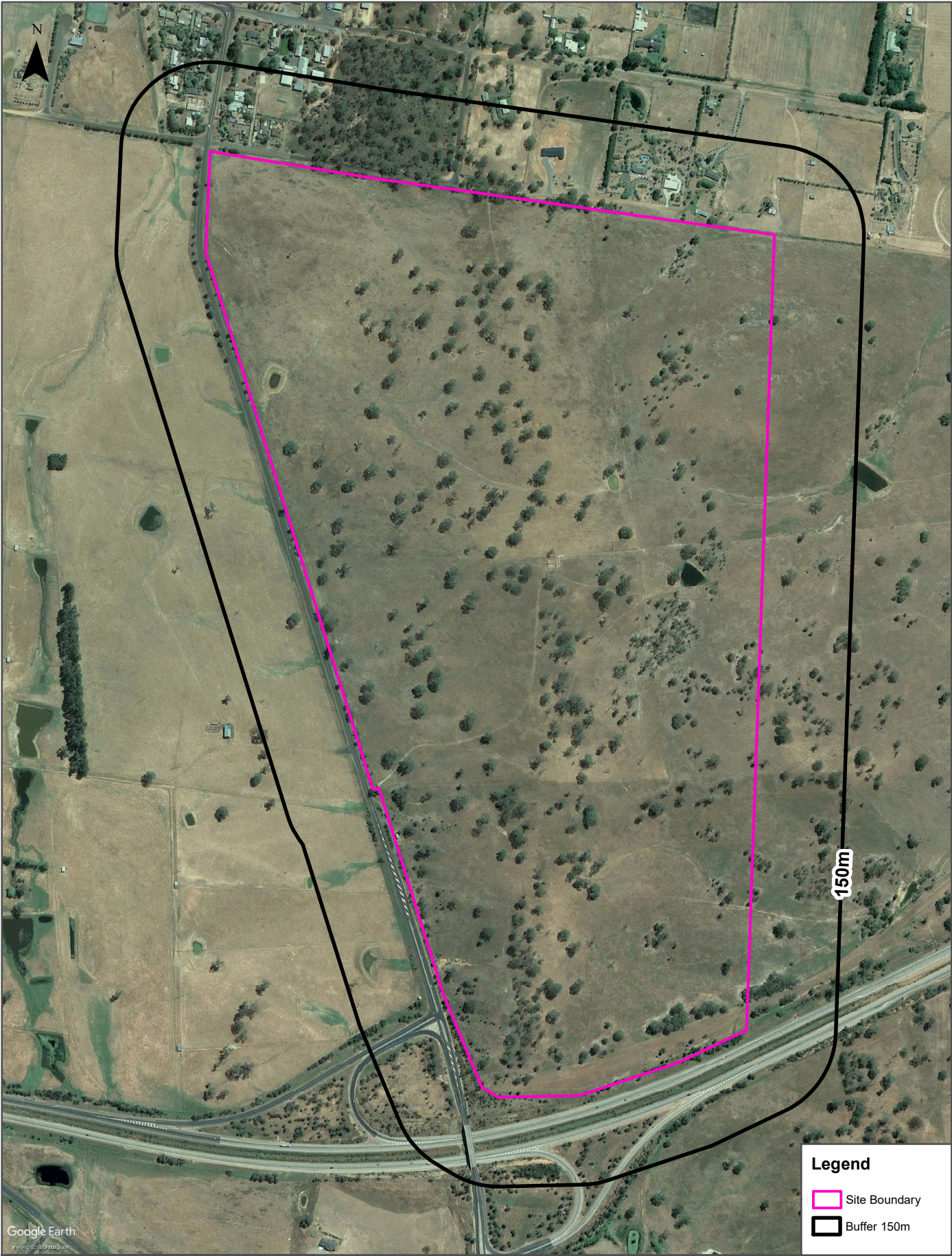
| Business Activity | Premise | Ref No. | Year | Location Confidence | Distance to Road Corridor or Area |
|-------------------|----------------------|---------|------|---------------------|-----------------------------------|
| N/A | No records in buffer | | | | |

Business Directory Content Derived from Universal Business Directories (UBD) - Licensed from Hardie Grant

Aerial Imagery 2013

Sutton Road & Old Federal Highway, Sutton, NSW 2621 (West Section)

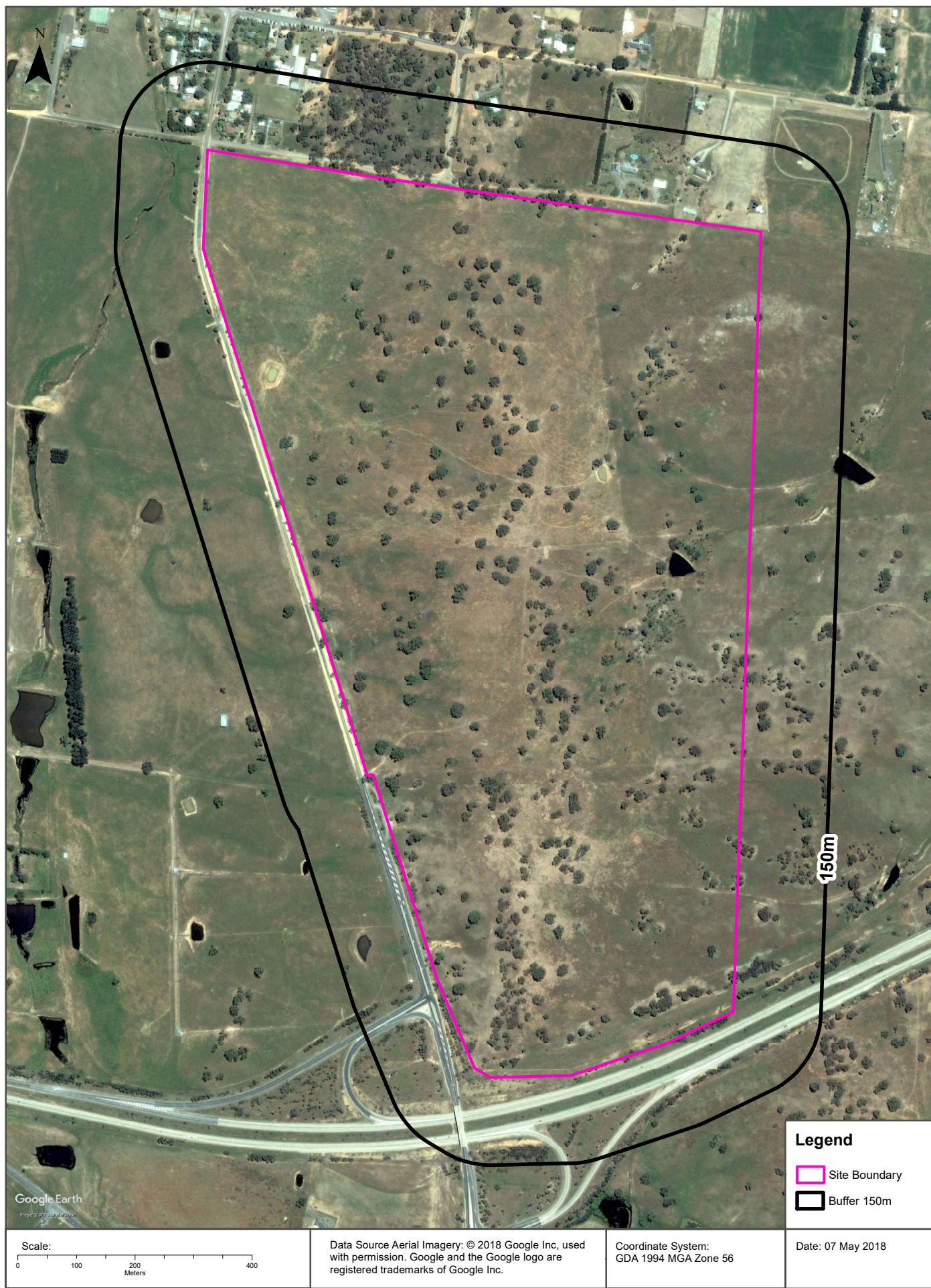




| | | | |
|--|---|---|--------------------------|
| <p>Scale:</p> <p>0 100 200 400</p> <p>Meters</p> | <p>Data Source Aerial Imagery: © 2018 Google Inc, used with permission. Google and the Google logo are registered trademarks of Google Inc.</p> | <p>Coordinate System:</p> <p>GDA 1994 MGA Zone 56</p> | <p>Date: 07 May 2018</p> |
|--|---|---|--------------------------|

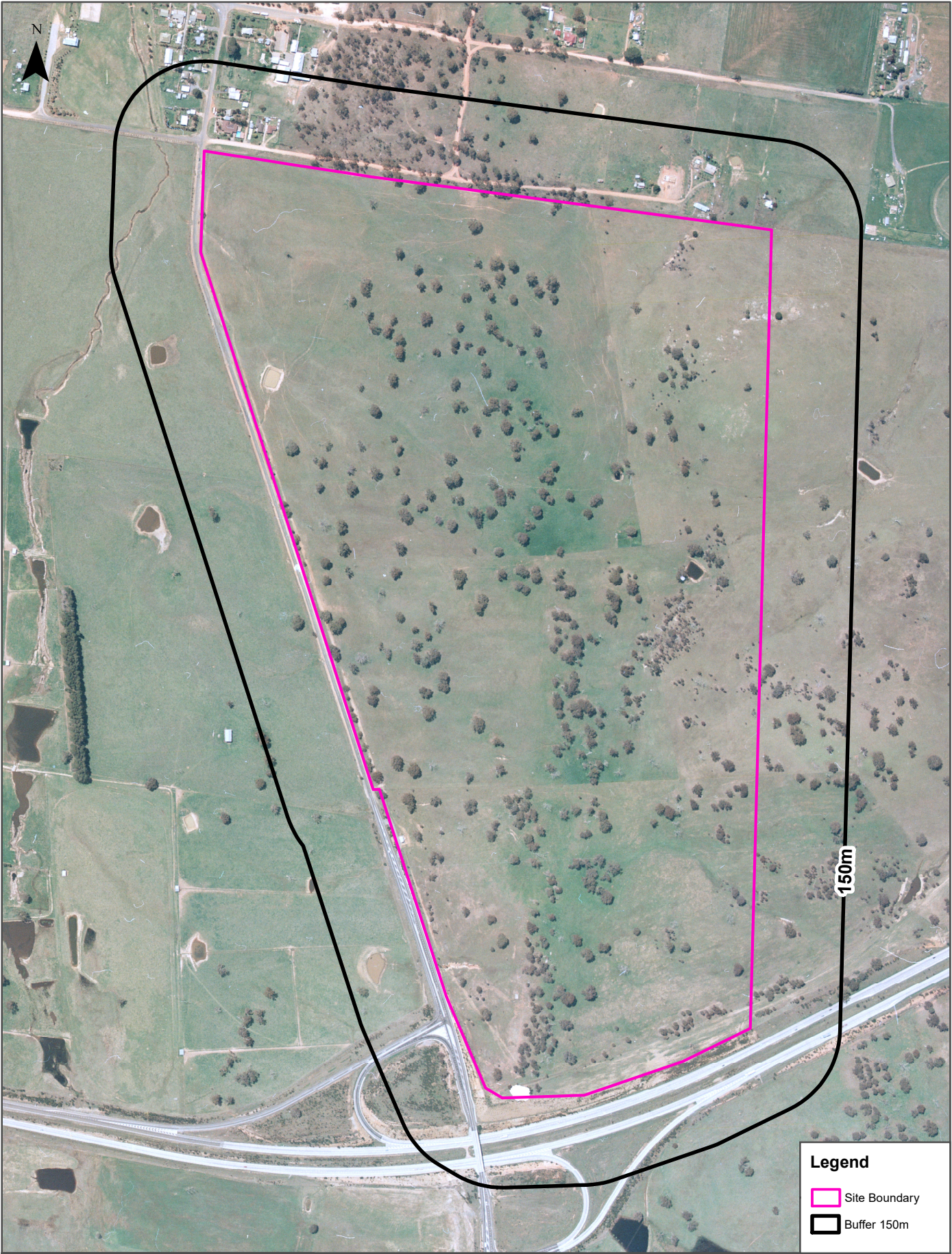
Aerial Imagery 2005

Sutton Road & Old Federal Highway, Sutton, NSW 2621 (West Section)



Aerial Imagery 1992

Sutton Road & Old Federal Highway, Sutton, NSW 2621 (West Section)



| | | | |
|--|---|---|--------------------------|
| <p>Scale:</p> <p>0 100 200 400</p> <p>Meters</p> | <p>Data Source Aerial Imagery:</p> <p>© NSW Department Finance, Services & Innovation</p> | <p>Coordinate System:</p> <p>GDA 1994 MGA Zone 56</p> | <p>Date: 07 May 2018</p> |
|--|---|---|--------------------------|

Aerial Imagery 1985

Sutton Road & Old Federal Highway, Sutton, NSW 2621 (West Section)



Aerial Imagery 1976

Sutton Road & Old Federal Highway, Sutton, NSW 2621 (West Section)



Aerial Imagery 1967

Sutton Road & Old Federal Highway, Sutton, NSW 2621 (West Section)



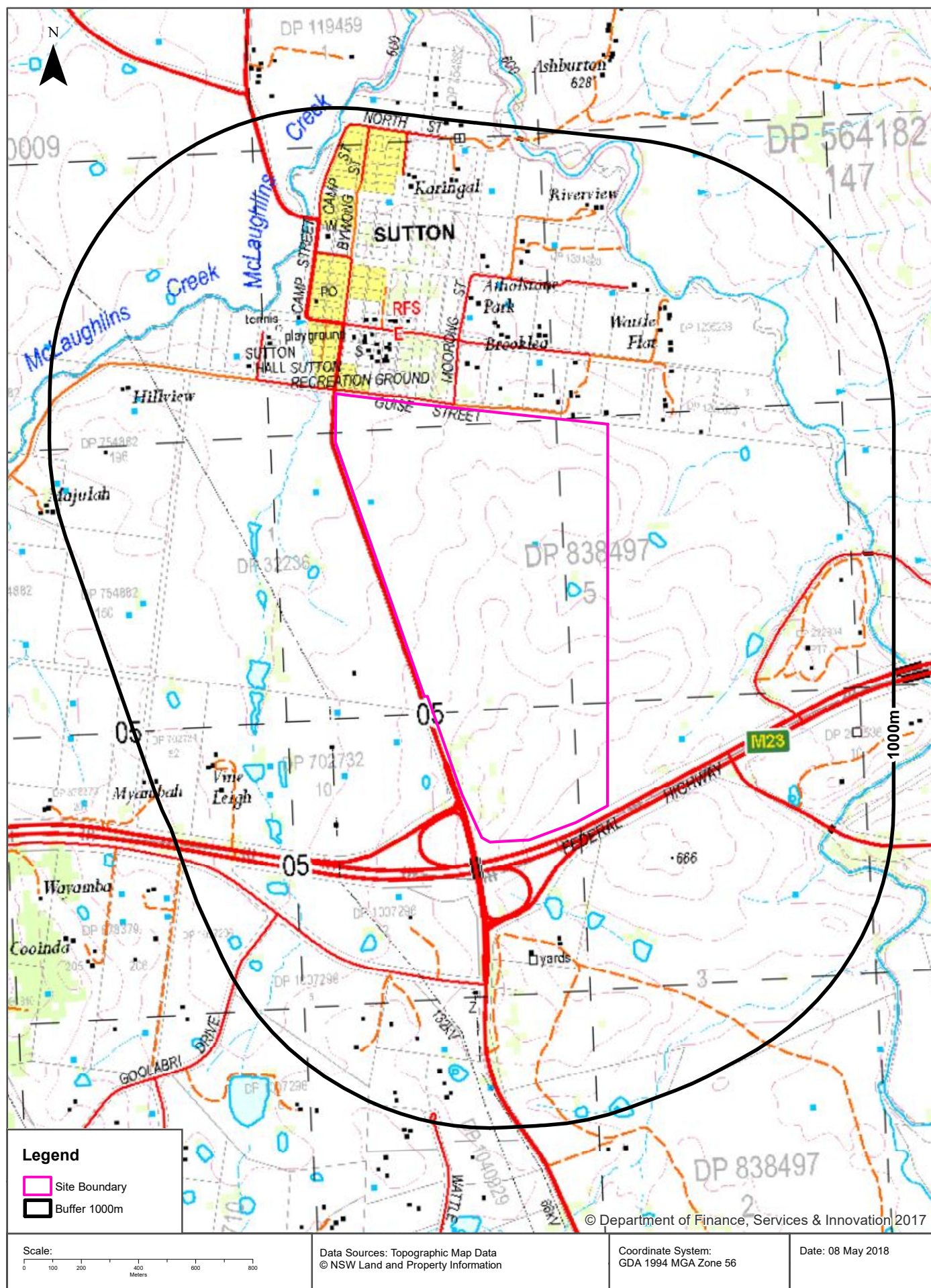
Aerial Imagery 1959

Sutton Road & Old Federal Highway, Sutton, NSW 2621 (West Section)



Topographic Map 2015

Sutton Road & Old Federal Highway, Sutton, NSW 2621 (West Section)



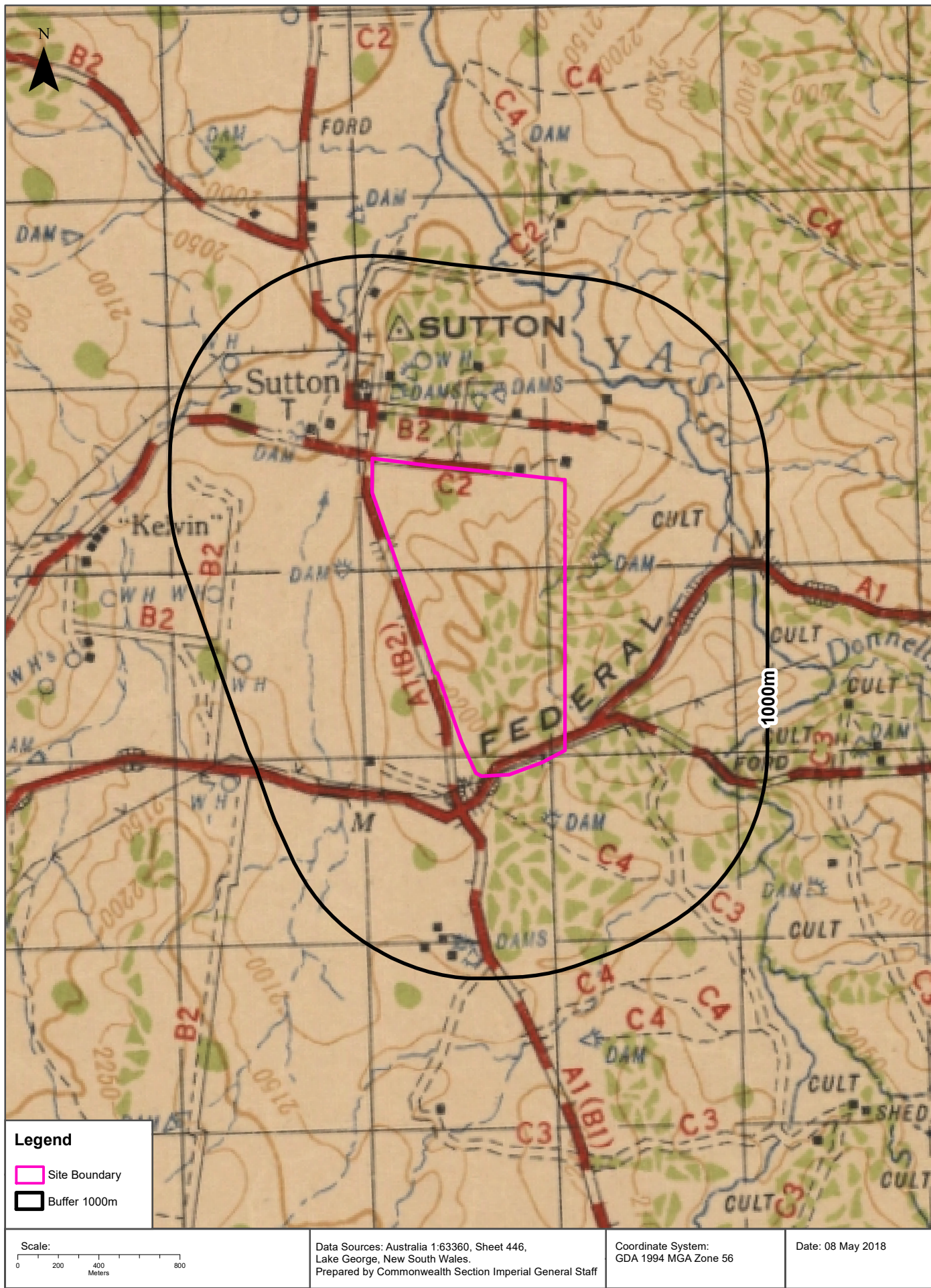
Historical Map 1987

Sutton Road & Old Federal Highway, Sutton, NSW 2621 (West Section)



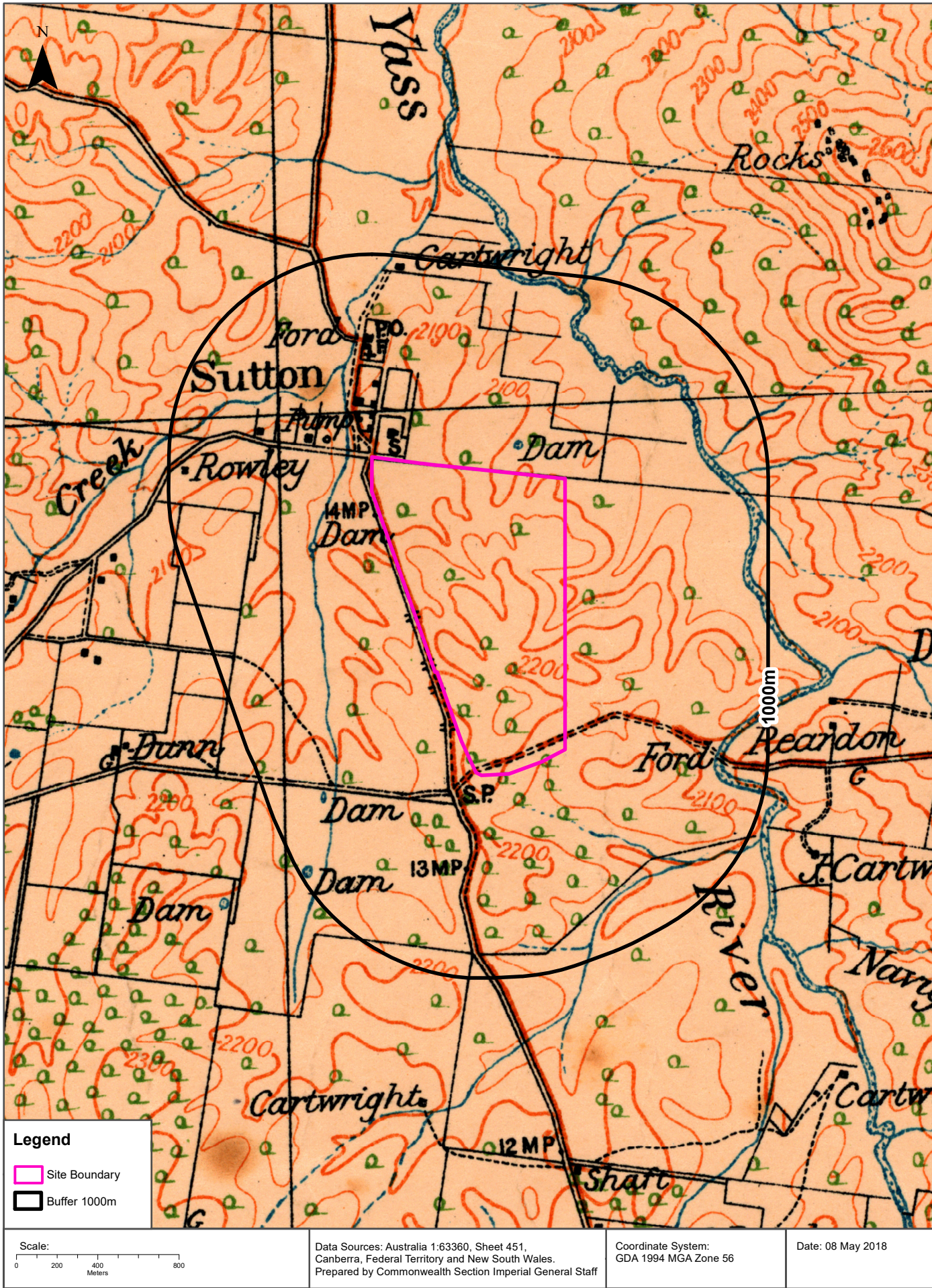
Historical Map 1944

Sutton Road & Old Federal Highway, Sutton, NSW 2621 (West Section)



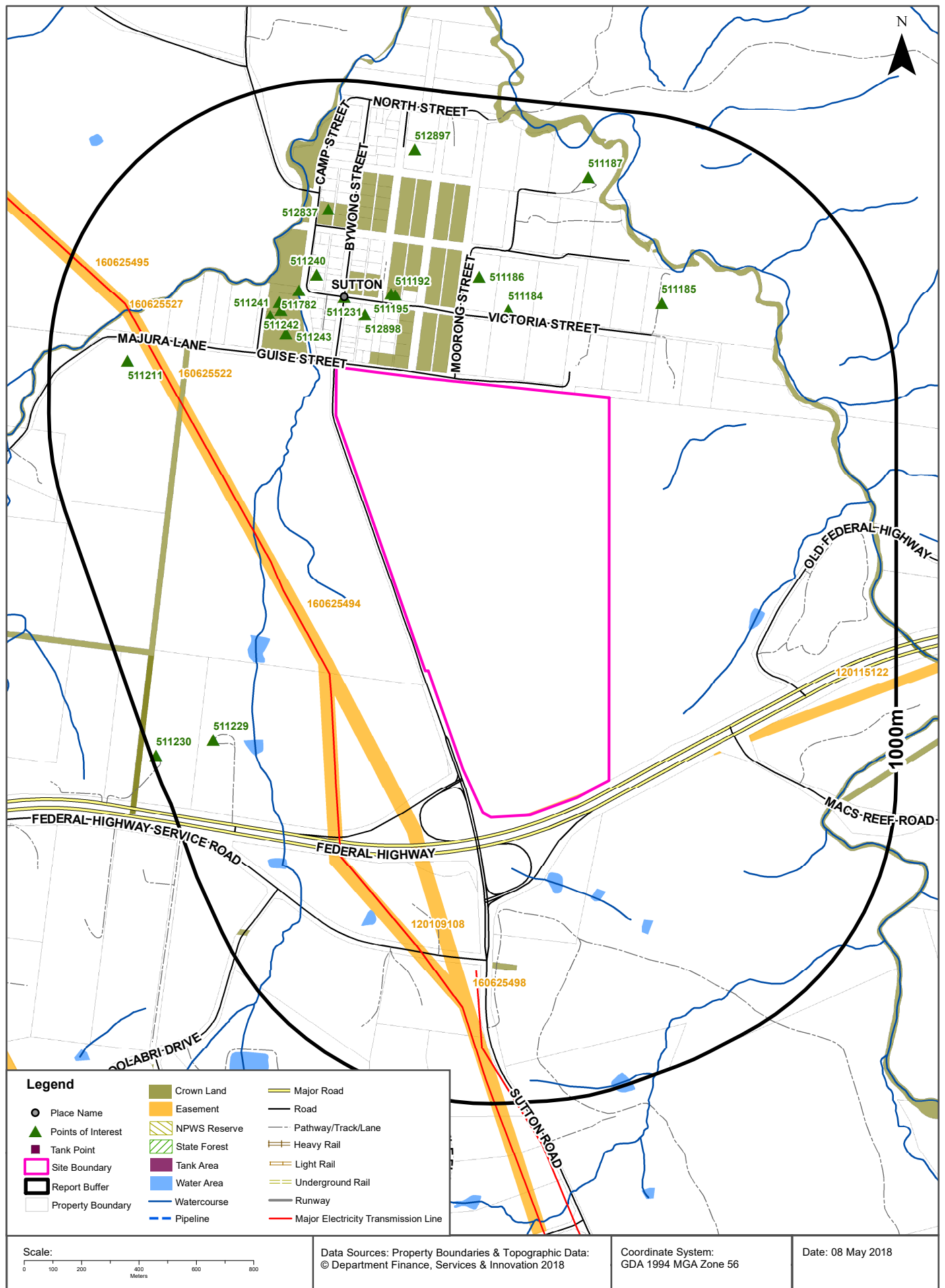
Historical Map 1914

Sutton Road & Old Federal Highway, Sutton, NSW 2621 (West Section)



Topographic Features

Sutton Road & Old Federal Highway, Sutton, NSW 2621 (West Section)



Topographic Features

Sutton Road & Old Federal Highway, Sutton, NSW 2621 (West Section)

Points of Interest

What Points of Interest exist within the dataset buffer?

| Map Id | Feature Type | Label | Distance | Direction |
|--------|--------------------|--------------------------|----------|------------|
| 512898 | Primary School | SUTTON PUBLIC SCHOOL | 195m | North West |
| 511243 | Sports Field | SUTTON RECREATION GROUND | 211m | North West |
| 511231 | Village | SUTTON | 245m | North West |
| 511184 | Homestead | BROOKLEA | 267m | North |
| 511192 | SES Facility | SUTTON SES | 277m | North |
| 511242 | Park | PLAYGROUND | 277m | North West |
| 511195 | Firestation - Bush | SUTTON RFB | 278m | North |
| 511780 | Community Facility | SUTTON HALL | 291m | North West |
| 511782 | Community Facility | SUTTON PONY CLUB | 298m | North West |
| 511241 | Sports Court | TENNIS | 301m | North West |
| 511240 | Post Office | SUTTON POST OFFICE | 330m | North West |
| 511186 | Homestead | ATHOLSTONE PARK | 372m | North |
| 511185 | Homestead | WATTLE FLAT | 377m | North East |
| 512837 | Place Of Worship | ANGLICAN CHURCH | 552m | North West |
| 511211 | Homestead | HILLVIEW | 727m | North West |
| 511187 | Homestead | RIVERVIEW | 758m | North |
| 511229 | Homestead | VINE LEIGH | 776m | South West |
| 512897 | Homestead | KARINGAL | 788m | North |
| 511230 | Homestead | MYAMBAH | 982m | South West |

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Topographic Features

Sutton Road & Old Federal Highway, Sutton, NSW 2621 (West Section)

Tanks (Areas)

What are the Tank Areas located within the dataset buffer?

Note. The large majority of tank features provided by LPI are derived from aerial imagery & are therefore primarily above ground tanks.

| Map Id | Tank Type | Status | Name | Feature Currency | Distance | Direction |
|--------|----------------------|--------|------|------------------|----------|-----------|
| | No records in buffer | | | | | |

Tanks (Points)

What are the Tank Points located within the dataset buffer?

Note. The large majority of tank features provided by LPI are derived from aerial imagery & are therefore primarily above ground tanks.

| Map Id | Tank Type | Status | Name | Feature Currency | Distance | Direction |
|--------|----------------------|--------|------|------------------|----------|-----------|
| | No records in buffer | | | | | |

Tanks Data Source: © Land and Property Information (2015)

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Major Easements

What Major Easements exist within the dataset buffer?

Note. Easements provided by LPI are not at the detail of local governments. They are limited to major easements such as Right of Carriageway, Electrical Lines (66kVa etc.), Easement to drain water & Significant subterranean pipelines (gas, water etc.).

| Map Id | Easement Class | Easement Type | Easement Width | Distance | Direction |
|-----------|----------------|---------------|----------------|----------|------------|
| 120115122 | Primary | Undefined | | 0m | Onsite |
| 160625494 | Primary | Undefined | | 221m | West |
| 160625498 | Primary | Undefined | | 253m | South |
| 120109108 | Primary | Undefined | | 295m | South West |
| 160625522 | Primary | Undefined | | 544m | North West |
| 160625527 | Primary | Undefined | | 658m | North West |
| 160625495 | Primary | Undefined | | 728m | North West |

Easements Data Source: © Land and Property Information (2015)

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Topographic Features

Sutton Road & Old Federal Highway, Sutton, NSW 2621 (West Section)

State Forest

What State Forest exist within the dataset buffer?

| State Forest Number | State Forest Name | Distance | Direction |
|---------------------|----------------------|----------|-----------|
| N/A | No records in buffer | | |

State Forest Data Source: © Land and Property Information (2015)

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National Parks and Wildlife Service Reserves

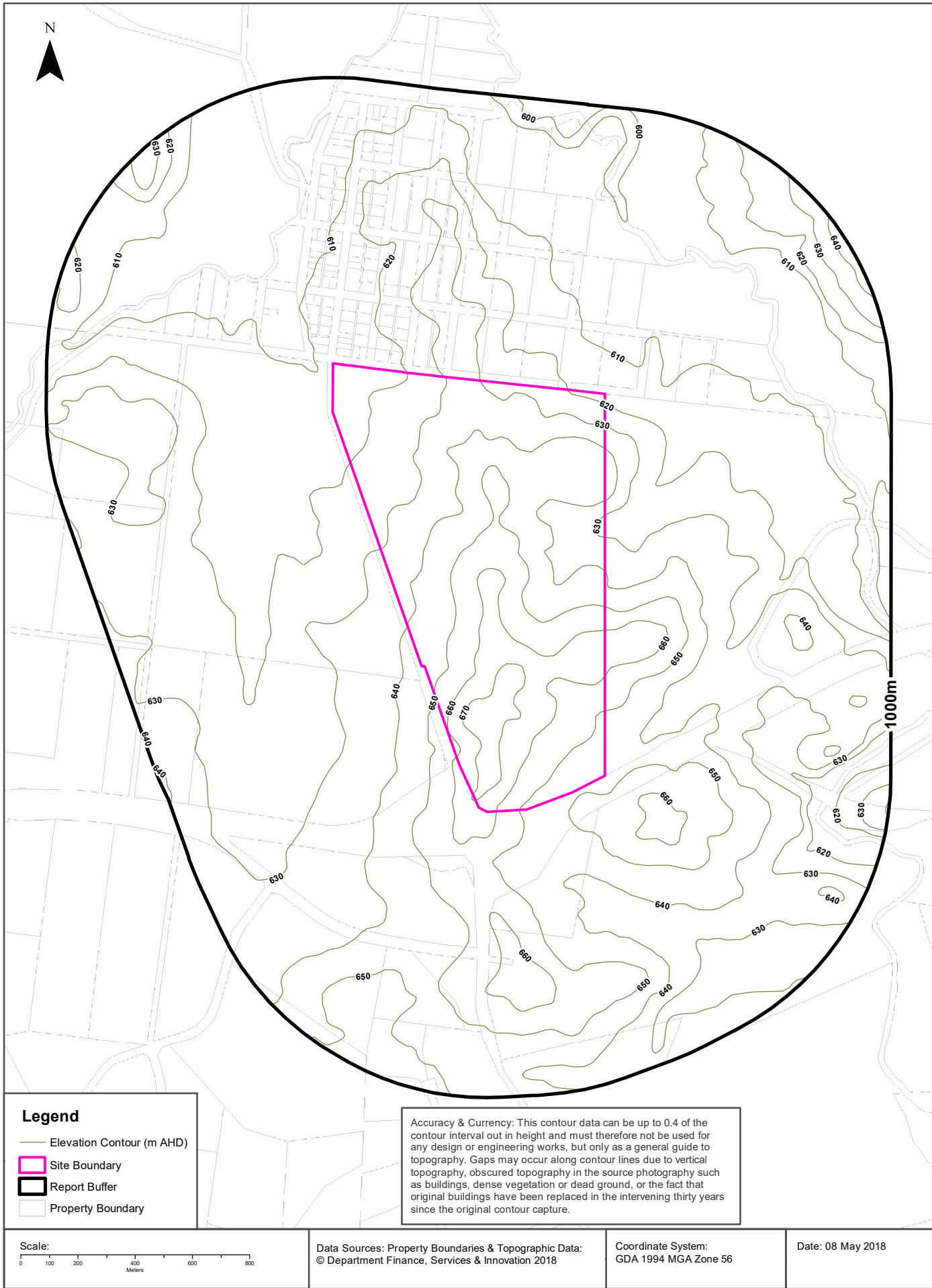
What NPWS Reserves exist within the dataset buffer?

| Reserve Number | Reserve Type | Reserve Name | Gazetted Date | Distance | Direction |
|----------------|----------------------|--------------|---------------|----------|-----------|
| N/A | No records in buffer | | | | |

NPWS Data Source: © Land and Property Information (2015)

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Elevation Contours (m AHD)
Sutton Road & Old Federal Highway, Sutton, NSW 2621 (West Section)



Hydrogeology & Groundwater

Sutton Road & Old Federal Highway, Sutton, NSW 2621 (West Section)

Hydrogeology

Description of aquifers on-site:

| Description |
|---|
| Fractured or fissured, extensive aquifers of low to moderate productivity |

Description of aquifers within the dataset buffer:

| Description |
|---|
| Fractured or fissured, extensive aquifers of low to moderate productivity |

Hydrogeology Map of Australia : Commonwealth of Australia (Geoscience Australia)
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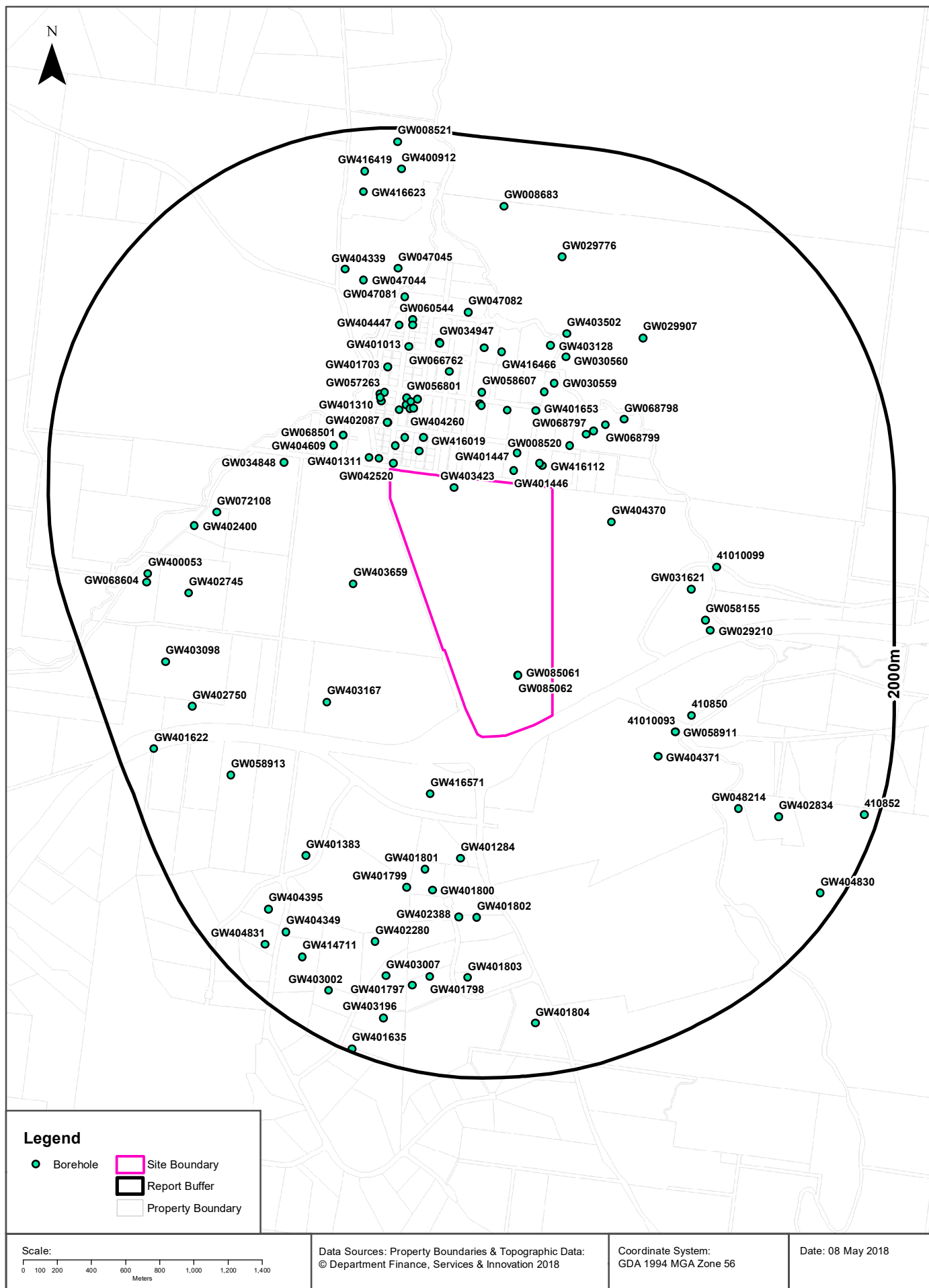
Botany Groundwater Management Zones

Groundwater management zones relating to the Botany Sand Beds aquifer within the dataset buffer:

| Management Zone No. | Restriction | Distance | Direction |
|---------------------|----------------------|----------|-----------|
| N/A | No records in buffer | | |

Botany Groundwater Management Zones Data Source : NSW Department of Primary Industries

Sutton Road & Old Federal Highway, Sutton, NSW 2621 (West Section)



Hydrogeology & Groundwater

Sutton Road & Old Federal Highway, Sutton, NSW 2621 (West Section)

Groundwater Boreholes

Boreholes within the dataset buffer:

| GW No. | Licence No | Work Type | Owner Type | Purpose | Contractor | Complete Date | Final Depth (m) | Drilled Depth (m) | Salinity (mg/L) | SWL (m) | Yield (L/s) | Elev (AHD) | Dist | Dir |
|----------|------------------------------------|---------------------|------------|-----------------|---------------------------|---------------|-----------------|-------------------|-----------------|---------|-------------|------------|------|------------|
| GW085061 | | Bore | | Monitoring | | 15/06/1992 | 7.77 | | | | | | 0m | Onsite |
| GW403423 | 40BL188724, 40WA406651 | Bore | Private | Domestic, Stock | Bungendore Water Bores | 12/03/2003 | 66.00 | 66.00 | | 24.00 | 0.125 | | 0m | Onsite |
| GW085062 | | Bore | | Monitoring | | 15/06/1992 | 3.10 | | | | | | 0m | Onsite |
| GW042520 | 40BL102030, 40BL110911, 40WA406028 | Bore open thru rock | Private | Irrigation | | 01/03/1975 | 38.40 | 38.40 | Fresh | | | | 37m | North West |
| GW401446 | 40BL153176, 40WA406359 | Bore | | Domestic | Bungendore Water Bores | 16/02/1994 | 30.00 | | | | 10.00 | 0 | 75m | North |
| GW063743 | 40BL135398, 40WA406223 | Bore | Private | Domestic | | 01/11/1986 | 36.90 | 36.90 | | | | | 89m | North West |
| GW416112 | 40WA405820 | Bore | Private | Domestic, Stock | | 12/02/2013 | 90.00 | | good | 9.60 | 0.380 | | 118m | North East |
| GW046903 | | Bore | Other Govt | Domestic | | 01/04/1978 | 83.80 | 83.80 | Good | | | | 126m | North West |
| GW402043 | 40BL188510, 40WA406610 | Bore | | Domestic, Stock | Watermin Drillers Pty Ltd | 19/01/2002 | 112.00 | 112.00 | | 14.00 | 0.263 | | 132m | North East |
| GW401311 | 40BL187911, 40WA406528 | Bore | | Domestic | Watermin Drillers Pty Ltd | 05/05/2000 | 32.00 | 32.00 | Good | 6.00 | 0.315 | | 138m | North West |
| GW046902 | | Bore | Other Govt | Domestic | | 01/04/1978 | 106.70 | 106.70 | | | | | 141m | North West |
| GW401447 | 40BL154916 | Bore | | Domestic | Bungendore Water Bores | 09/06/1994 | 30.00 | | | | 0.170 | | 178m | North |
| GW035591 | 40BL029145 | Bore | P.W.D. | Domestic | | 01/04/1973 | 29.80 | 29.90 | Good | | | | 195m | North West |
| GW416019 | 40BL190907, 40WA407055 | Bore | Private | Domestic | | 14/09/2006 | 110.00 | 110.00 | | 17.00 | 0.380 | | 209m | North |
| GW008520 | | Bore | Private | | | 01/02/1950 | 18.60 | 18.60 | | | | | 266m | North East |
| GW402087 | 40BL188722, 40WA406650 | Bore | | Domestic | | 26/09/2002 | 20.00 | | | 9.00 | 0.188 | | 273m | North West |
| GW402071 | 40BL188696, 40WA406645 | Bore | | Domestic | Watermin Drillers Pty Ltd | 16/05/2002 | 24.00 | 24.00 | | 5.00 | 0.227 | | 274m | North West |
| GW068501 | | Bore open thru rock | Local Govt | Recreation | | 27/08/1984 | 54.00 | 54.00 | Fair | | | | 337m | North West |
| GW405027 | 40BL141975 | Bore | Private | Recreation | | 26/08/2009 | 20.00 | | | 6.00 | | | 338m | North West |
| GW404370 | 40BL189172 | Bore | Private | Stock | M & D Water Bores | 17/11/2006 | 101.00 | 101.00 | | | | | 347m | North East |
| GW403179 | 40BL188543, 40WA406619 | Bore | | Domestic | Bungendore Water Bores | 06/08/2005 | 30.00 | | | 9.00 | | | 352m | North West |
| GW404609 | 40BL189685 | Bore | Private | Domestic, Stock | Bungendore Water Bores | 18/11/2004 | 30.00 | 30.00 | Fair | 7.00 | 1.750 | | 357m | North West |
| GW404260 | 40BL189176 | Bore | Private | Domestic | | 01/05/2001 | 30.00 | | | | | | 367m | North West |
| GW403659 | 40BL190836 | Bore | Private | Domestic, Stock | Bungendore Water Bores | 03/05/2006 | 54.00 | 54.00 | | 7.00 | 1.500 | | 368m | West |

| GW No. | Licence No | Work Type | Owner Type | Purpose | Contractor | Complete Date | Final Depth (m) | Drilled Depth (m) | Salinity (mg/L) | SWL (m) | Yield (L/s) | Elev (AHD) | Dist | Dir |
|----------|------------------------|---------------------|------------|-----------------|--|---------------|-----------------|-------------------|-----------------|---------|-------------|------------|------|------------|
| GW068797 | 40BL141976 | Bore open thru rock | Private | GW Exploration | | 17/05/1990 | 44.00 | 44.00 | | | | | 368m | North East |
| GW065185 | 40BL137680, 40WA406273 | Bore | Private | Domestic | | 30/04/1988 | 41.10 | | Good | | | | 370m | North |
| GW043913 | 40BL100393, 40WA405928 | Bore open thru rock | Private | Domestic | | 01/09/1974 | 51.80 | 51.80 | Fresh | | | | 387m | North West |
| GW401310 | 40BL187910, 40WA406527 | Bore | | Domestic | Watermin Drillers Pty Ltd | 04/05/2000 | 24.00 | 24.00 | Good | 6.00 | 0.315 | | 400m | North West |
| GW416448 | 40WA416077 | Bore | Private | Domestic | Bungendore Water Bores | 20/01/2014 | 48.00 | 48.00 | | 14.00 | 0.400 | | 406m | North |
| GW416015 | 40BL190671, 40WA407019 | Bore | Private | Domestic, Stock | | 03/11/2005 | 30.00 | 30.00 | | | | | 409m | North East |
| GW048134 | 40BL106773, 40WA405982 | Bore open thru rock | Private | General Use | | 01/10/1977 | 53.40 | 53.40 | Fresh | | | | 422m | North |
| GW055520 | 40BL120666, 40WA406075 | Bore open thru rock | Private | Domestic | | 01/10/1981 | 22.00 | 22.00 | | | | | 424m | North West |
| GW055603 | 40BL120758, 40WA406076 | Bore open thru rock | Private | Domestic | | 01/09/1981 | 54.00 | 54.00 | | | | | 426m | North |
| GW056801 | 40BL123834, 40WA406091 | Bore open thru rock | Private | Domestic, Stock | | 01/01/1983 | 53.00 | 53.00 | Bad | | | | 426m | North |
| GW065663 | | Bore open thru rock | Private | Domestic, Stock | | 29/01/1988 | 33.00 | | Fresh | | | | 433m | North |
| GW401653 | 40BL188223, 40WA406563 | Bore | | | Toproll Pty. Ltd. | 26/04/2001 | 42.00 | 42.00 | | 6.00 | 0.250 | | 435m | North |
| GW401351 | 40BL138488, 40WA406290 | Bore | | Domestic, Stock | Murrumbateman Water Supply | 29/10/1988 | 33.00 | 33.00 | Fresh | | 0.570 | | 441m | North |
| GW057263 | 40BL123746, 40WA406090 | Bore open thru rock | Private | Domestic | | 01/12/1982 | 23.00 | 23.00 | | | | | 443m | North West |
| GW416571 | 40WA416253 | Bore | Private | Domestic | (Unknown) | 18/11/2014 | 75.00 | 75.00 | | | 1.600 | | 447m | South |
| GW414712 | 40BL189179 | Bore | Private | Domestic, Stock | Monaro Irrigation & Pumping Services P/L | 23/06/2011 | 10.00 | | | | 1.390 | | 450m | North West |
| GW068799 | | Bore open thru rock | Private | GW Exploration | | 22/05/1990 | 20.00 | 20.00 | | | | | 481m | North East |
| GW058607 | 40BL128731, 40WA406120 | Bore open thru rock | Private | General Use | | 01/09/1983 | 28.10 | 28.10 | Good | | | | 510m | North |
| GW030556 | | Well | Local Govt | Municipal | | 01/04/1971 | 12.80 | 14.30 | 501-1000 ppm | | | | 551m | North |
| GW068798 | | Bore open thru rock | Private | GW Exploration | | 18/05/1990 | 25.00 | 25.00 | | | | | 577m | North East |
| GW401703 | 40BL188336, 40WA406581 | Bore | | Domestic | Sanderson Water Search | 21/10/1993 | 30.40 | 30.40 | | 3.00 | 1.000 | | 600m | North West |
| GW030559 | | Well | Local Govt | Municipal | | 01/02/1971 | 23.20 | 23.20 | | | | | 609m | North |
| GW066762 | 40BL141978 | Bore | Local Govt | Test Bore | | 25/05/1990 | 34.80 | 34.80 | | 0.40 | 10.260 | 625.00 | 610m | North |

| GW No. | Licence No | Work Type | Owner Type | Purpose | Contractor | Complete Date | Final Depth (m) | Drilled Depth (m) | Salinity (mg/L) | SWL (m) | Yield (L/s) | Elev (AHD) | Dist | Dir |
|----------|------------------------------------|---------------------|------------|-----------------|--|---------------|-----------------|-------------------|-----------------|---------|-------------|------------|-------|------------|
| GW034848 | 40BL030201, 40BL130078 | Bore open thru rock | Private | Domestic, Stock | | 01/08/1972 | 47.20 | 47.20 | | | | | 622m | North West |
| GW404371 | 40BL190188 | Bore | Private | Stock | M & D Water Bores | 19/11/2006 | 61.00 | 61.00 | Good | 35.00 | 0.375 | | 665m | South East |
| GW401013 | 40BL187618, 40WA406496 | Bore | | Domestic | Bungendore Water Bores | 28/05/1999 | 60.00 | 60.00 | | 24.00 | 0.720 | | 725m | North |
| GW401284 | 40BL187670, 40CA407422 | Bore | | Irrigation | Watermin Drillers Pty Ltd | 24/05/2000 | 72.00 | 72.00 | Good | 19.00 | 2.530 | | 725m | South |
| 41010093 | | | | UNK | | | | | | | | 627.44 | 726m | South East |
| GW058911 | 40BL130985, 40WA406143 | Bore | Private | Domestic | | 01/02/1984 | 24.40 | 24.40 | Good | | | | 726m | South East |
| GW403167 | 40BL190635, 40WA407015 | Bore | | Domestic, Stock | Bungendore Water Bores | 21/07/2005 | 54.00 | 54.00 | | 6.00 | 4.250 | | 745m | South West |
| GW416466 | 40BL192552, 40WA407281 | Bore | Private | Domestic | Capital Drilling | 09/06/2011 | 60.00 | 60.00 | | 3.00 | 5.000 | | 759m | North |
| GW030560 | 40BL028590, 40WA405906 | Well | Private | Municipal | | 01/04/1971 | 30.50 | 43.30 | 0-500 ppm | | | | 768m | North |
| GW402696 | 40BL189578, 40WA406820 | Bore | | Domestic, Stock | | 23/09/2003 | 90.00 | 90.00 | | 32.00 | 0.150 | | 768m | North |
| GW008519 | | Bore | Private | | | 01/02/1950 | 10.70 | 10.70 | | | | | 769m | North |
| GW034947 | 40BL027809, 40WA405900 | Bore open thru rock | Private | Domestic | | 01/10/1972 | 47.20 | 47.20 | Fresh | | | | 774m | North |
| GW031621 | | Bore | Private | General Use | | 01/04/1968 | 5.20 | 5.20 | | | | | 814m | East |
| 410850 | | | | UNK | | | | | | | | 626.08 | 817m | South East |
| GW403128 | 40BL190348, 40WA406954 | Bore | | Domestic | Central West Water Drillers | 08/03/2005 | 60.00 | 60.00 | | | 0.100 | | 825m | North |
| GW401801 | 40BL188407, 40WA406590 | Bore | | Domestic, Stock | Dalton Water Drilling Services Pty Ltd | 17/05/2001 | 53.34 | 53.34 | | 6.10 | 4.420 | | 845m | South |
| GW404447 | 40BL186872 | Bore | Private | Domestic | Bungendore Water Bores | 01/12/1997 | 50.00 | | | 21.00 | 0.630 | | 846m | North |
| GW403692 | 40BL191053 | Bore | Private | Domestic | Bungendore Water Bores | 17/10/1997 | 60.00 | 60.00 | | 38.00 | 0.370 | | 854m | North |
| GW060544 | 40BL131758, 40WA406150 | Bore open thru rock | Private | Domestic, Stock | | 01/09/1984 | 36.50 | 36.50 | Good | | | | 885m | North |
| GW058155 | 40BL024546, 40BL126575 | Bore | Private | Domestic | | 01/01/1983 | 38.10 | 38.10 | | | | | 897m | East |
| GW403502 | 40BL190792, 40WA407032 | Bore | | Domestic, Stock | Bungendore Water Bores | 29/03/2006 | 23.00 | 23.00 | | 5.00 | 2.750 | | 904m | North |
| GW029210 | 40BL021852 | Bore | Private | Domestic, Stock | | 01/04/1968 | 10.40 | 10.40 | | | | | 925m | East |
| GW401800 | 40BL188408, 40WA406591 | Bore | | Domestic, Stock | Dalton Water Drilling Services Pty Ltd | 17/05/2001 | 76.20 | 76.20 | | 42.70 | 0.660 | | 945m | South |
| 41010099 | | | | UNK | | | | | | | | 616.78 | 962m | East |
| GW047082 | 40BL105784 | Bore | Private | Irrigation | | 01/02/1978 | 68.60 | 68.60 | | | | | 969m | North |
| GW401799 | 40BL188409, 40WA406592 | Bore | | Domestic, Stock | Dalton Water Drilling Services Pty Ltd | 17/05/2001 | 53.34 | 53.34 | | 15.24 | 1.520 | | 987m | South |
| GW047081 | 40BL105783, 40BL138330, 40WA406287 | Bore | Private | Irrigation | | 01/02/1978 | 39.70 | 39.70 | 1001-3000 ppm | | | | 1015m | North |
| GW072108 | 40BL154681, 40WA406371 | Bore | | | Watermin Drillers Pty Ltd | 09/05/1994 | 41.00 | 41.00 | Good | | 3.160 | | 1017m | West |

| GW No. | Licence No | Work Type | Owner Type | Purpose | Contractor | Complete Date | Final Depth (m) | Drilled Depth (m) | Salinity (mg/L) | SWL (m) | Yield (L/s) | Elev (AHD) | Dist | Dir |
|----------|------------------------|---------------------|------------|-----------------|--|---------------|-----------------|-------------------|-----------------|---------|-------------|------------|--------|------------|
| GW029907 | 40BL020212, 40WA405882 | Bore | Private | Stock | | 01/06/1967 | 33.10 | 33.10 | | | | | 1023 m | North East |
| GW401802 | 40BL188406, 40WA406589 | Bore | | Domestic, Stock | Dalton Water Drilling Services Pty Ltd | 17/05/2001 | 61.00 | 61.00 | | 6.10 | 1.520 | | 1059 m | South |
| GW402388 | 40BL189248, 40WA406753 | Bore | | Domestic | J & L Drilling Pty Ltd | 15/03/2003 | 75.00 | 75.00 | | | 0.500 | | 1064 m | South |
| GW047044 | 40BL104168 | Bore open thru rock | Private | Irrigation | | 01/03/1975 | 30.50 | 30.50 | | | | | 1117 m | North |
| GW402400 | 40BL189314, 40WA406762 | Bore | | Domestic | Bungendore Water Bores | 20/03/2003 | 36.00 | 36.00 | 900 | 3.50 | 0.813 | | 1155 m | West |
| GW047045 | 40BL104796 | Bore | Private | Irrigation | | 01/04/1975 | 16.50 | 16.50 | Fresh | | | | 1177 m | North |
| GW404339 | 40BL188576 | Bore | Private | Domestic, Stock | Bungendore Water Bores | 12/08/2003 | 10.10 | 101.00 | 1800 | 3.60 | 4.400 | | 1199 m | North West |
| GW048214 | | Bore | Private | Irrigation | | 01/01/1976 | 48.80 | | | | | | 1221 m | South East |
| GW401383 | 40BL187843, 40WA406516 | Bore | | Irrigation | Bungendore Water Bores | 01/05/2000 | 60.00 | 60.00 | Fair | 7.00 | 1.600 | | 1229 m | South West |
| GW402745 | 40BL190175, 40CA407526 | Bore | | Stock | | 30/12/1973 | 70.00 | | | | | | 1295 m | West |
| GW029776 | 40BL022291, 40WA405885 | Bore | Private | Domestic, Stock | | 01/05/1968 | 16.00 | 16.00 | | | | | 1348 m | North |
| GW402280 | 40BL188990, 40WA406697 | Bore | | Stock | J & L Drilling Pty Ltd | 15/02/2003 | 70.00 | 70.00 | | | 0.570 | | 1354 m | South |
| GW401803 | 40BL188405, 40WA406588 | Bore | | Domestic, Stock | Dalton Water Drilling Services Pty Ltd | 17/05/2001 | 53.34 | 53.34 | | 4.57 | 1.770 | | 1415 m | South |
| GW058913 | 40BL130991, 40WA406144 | Bore | Private | Domestic | | 01/06/1984 | 87.00 | 87.00 | 501-1000 ppm | | | | 1425 m | South West |
| GW401798 | 40BL188410, 40WA406593 | Bore | | Domestic, Stock | Dalton Water Drilling Services Pty Ltd | 17/05/2001 | 45.72 | 45.72 | | 6.10 | 3.000 | | 1439 m | South |
| GW402834 | 40BL189834, 40WA406865 | Bore | | | Central West Water Drillers | 08/12/2004 | 54.00 | 54.00 | | 18.00 | 1.875 | | 1453 m | South East |
| GW400053 | 40BL186307, 40WA406415 | Bore | | Domestic, Stock | Watermin Drillers Pty Ltd | 09/04/1996 | 54.80 | 54.80 | | | | | 1483 m | West |
| GW402750 | 40BL189984, 40WA406895 | Bore | | Domestic | Watermin Drillers Pty Ltd | 30/05/2004 | 76.00 | 76.00 | | | 2.654 | | 1494 m | West |
| GW068604 | 40BL141869 | Bore | Private | Domestic, Stock | | 31/12/1992 | 80.00 | | | | | | 1508 m | West |
| GW403007 | 40BL188003, 40WA406539 | Bore | | Domestic | Bungendore Drilling Pty Ltd | 12/04/2005 | 90.00 | 90.00 | | | | | 1509 m | South |
| GW401797 | 40BL188411, 40WA406594 | Bore | | Domestic, Stock | Dalton Water Drilling Services Pty Ltd | 17/05/2001 | 61.00 | 61.00 | | 35.00 | 1.520 | | 1513 m | South |
| GW403098 | 40BL190093 | Bore | | Domestic, Stock | Watermin Drillers Pty Ltd | 15/12/2004 | 82.00 | 82.00 | | | 0.101 | | 1557 m | West |
| GW404395 | 40BL187909 | Bore | Private | Domestic | | 18/05/2000 | 80.00 | | Good | 25.00 | 0.500 | | 1596 m | South West |
| GW008683 | | Bore | Private | | | 01/04/1950 | 44.90 | 44.90 | | | | | 1607 m | North |
| GW404349 | 40BL189016 | Bore | Private | Stock | Bungendore Water Bores | 31/03/2004 | 60.00 | 60.00 | 850 | 13.00 | 0.875 | | 1612 m | South West |
| GW416623 | 40CA415942 | Bore | Private | Commercial | Ace Drilling | 28/09/2014 | 48.00 | 48.00 | | 10.00 | 11.690 | | 1633 m | North |
| GW414711 | 40BL188970 | Bore | Private | Domestic, Stock | J & L Drilling Pty Ltd | 22/01/2003 | 50.00 | | | | 800.000 | | 1659 m | South West |

| GW No. | Licence No | Work Type | Owner Type | Purpose | Contractor | Complete Date | Final Depth (m) | Drilled Depth (m) | Salinity (mg/L) | SWL (m) | Yield (L/s) | Elev (AHD) | Dist | Dir |
|----------|------------------------|-----------|------------|------------------------|--|---------------|-----------------|-------------------|-----------------|---------|-------------|------------|--------|------------|
| GW401804 | 40BL188404, 40WA406587 | Bore | | Domestic, Stock | Dalton Water Drilling Services Pty Ltd | 17/05/2001 | 53.34 | 53.34 | | 9.14 | 6.320 | | 1697 m | South |
| GW403002 | 40BL190075, 40WA406909 | Bore | | Domestic | | 21/04/2005 | 55.00 | 55.00 | | | 0.400 | | 1737 m | South |
| GW403196 | 40BL188624, 40WA406633 | Bore | | Domestic | Bungendore Water Bores | 01/09/2004 | 55.00 | | | | 0.305 | | 1747 m | South |
| GW404831 | 40BL190310 | Bore | Private | Domestic, Stock | M & D Water Bores | 06/10/2007 | 101.00 | 101.00 | | 29.00 | 1.000 | | 1749 m | South West |
| GW416419 | 40CA415942 | Bore | Private | Commercial, Irrigation | Ace Drilling & Central West Water Drillers | 05/12/2013 | 54.00 | 54.00 | | 16.00 | 0.630 | | 1753 m | North |
| GW400912 | 40BL187086, 40WA406456 | Bore | | Domestic, Stock | Watermin Drillers Pty Ltd | 02/07/1998 | 67.00 | 67.00 | Good | | 1.390 | | 1759 m | North |
| GW401622 | 40BL187814 | Bore | | Commercial | Bungendore Water Bores | 08/12/1999 | 85.00 | 85.00 | 1400 | 15.00 | 2.125 | | 1788 m | South West |
| GW404830 | 40BL191673 | Bore | Private | Domestic, Stock | Watermin Drillers Pty Ltd | 05/11/2008 | 72.00 | 72.00 | | 8.00 | 0.252 | | 1885 m | South East |
| GW008521 | | Bore | Private | | | 01/12/1949 | 21.90 | 22.00 | | | | | 1917 m | North |
| 410852 | | | | UNK | | | | | | | | 673.30 | 1918 m | South East |
| GW401635 | 40BL188130, 40WA406553 | Bore | | Domestic | J & L Drilling Pty Ltd | 24/01/2001 | 50.00 | 50.00 | | 17.00 | 0.600 | | 1982 m | South |

Borehole Data Source : NSW Department of Primary Industries - Office of Water / Water Administration Ministerial Corporation for all bores prefixed with GW. All other bores © Commonwealth of Australia (Bureau of Meteorology) 2015. Creative Commons 3.0 © Commonwealth of Australia <http://creativecommons.org/licenses/by/3.0/au/deed.en>

Hydrogeology & Groundwater

Sutton Road & Old Federal Highway, Sutton, NSW 2621 (West Section)

Driller's Logs

Drill log data relevant to the boreholes within the dataset buffer:

| Groundwater No | Drillers Log | Distance | Direction |
|----------------|---|----------|------------|
| GW403423 | 0.00m-1.00m Topsoil 1.00m-3.00m Clays, red 3.00m-36.00m Shale, soft brown 36.00m-66.00m Dacite, black | 0m | Onsite |
| GW042520 | 0.00m-1.21m Topsoil 1.21m-4.57m Topsoil Clay 4.57m-8.53m Clay Sandy 8.53m-18.59m Shale Decomposed 18.59m-38.40m Shale Fractured Bands Water Supply | 37m | North West |
| GW063743 | 0.00m-2.50m Topsoil Clay 2.50m-11.10m Granite Decomposed Water Supply 11.10m-36.90m Granite Water Supply | 89m | North West |
| GW046903 | 0.00m-0.30m Topsoil 0.30m-0.90m Clay 0.90m-38.10m Shale Soft Water Supply 38.10m-83.80m Shale Grey | 126m | North West |
| GW402043 | 0.00m-1.00m Topsoil, brown 1.00m-4.00m Clay, brown 4.00m-10.00m Clay, white 10.00m-11.00m Quartz 11.00m-24.00m Granite, brown 24.00m-112.00m Granite, blue hard | 132m | North East |
| GW401311 | 0.00m-4.00m CLAY, BROWN 4.00m-18.00m SHALE, BROWN 18.00m-32.00m SHALE, GREY | 138m | North West |
| GW046902 | 0.00m-0.30m Topsoil 0.30m-2.40m Clay 2.40m-5.50m Shale Soft 5.50m-16.50m Shale Hard 16.50m-106.70m Slate Hard | 141m | North West |
| GW035591 | 0.00m-0.60m Humus 0.60m-3.35m Clay 3.35m-6.09m Clay Sandy 6.09m-9.14m Clay 9.14m-15.24m Clay Dark 15.24m-18.28m Clay Sandy 18.28m-29.87m Shale Black Water Supply | 195m | North West |
| GW416019 | 0.00m-2.00m clay, soil 2.00m-32.00m shale, soft, brown 32.00m-110.00m shale, grey black, siltstone | 209m | North |
| GW008520 | 0.00m-0.91m Humus 0.91m-6.10m Clay 6.10m-8.23m Gravel 8.23m-9.14m Clay 9.14m-10.36m Gravel 10.36m-11.58m Clay Grit 11.58m-18.59m Clay | 266m | North East |
| GW402071 | 0.00m-5.00m Topsoil 5.00m-23.00m Shale, yellow 23.00m-24.00m Shale, grey | 274m | North West |
| GW068501 | 4.50m-6.50m Gravels/weathered 6.50m-18.00m Soft To Medium Slate 18.00m-54.00m Slate And Quartz | 337m | North West |

| Groundwater No | Drillers Log | Distance | Direction |
|----------------|--|----------|------------|
| GW404370 | 0.00m-3.00m TOPSOIL 3.00m-6.00m SHALE - BLUE 6.00m-9.00m SANDS 9.00m-23.00m SHALE - BLUE/BLACK 23.00m-101.00m QUARTZ - WHITE AND BLACK | 347m | North East |
| GW404609 | 0.00m-4.00m SOIL - BROWN CLAY 4.00m-12.00m SHALE - BROWN - SOFT 12.00m-30.00m SHALE - GREY/BLUE | 357m | North West |
| GW068797 | 0.00m-1.00m Brown Clay 1.00m-4.00m Brown Silty Clay 4.00m-10.00m Brown Clay - Large Gravel Limonite Stain Waterworn Decomposed Granite 10.00m-12.00m Decomposed Granite 12.00m-23.00m Grey/green Clay-quartz Gravel 23.00m-26.00m Weathered Grey Granite-quartz 26.00m-41.00m Fractured Pink/grey Granite-quartz 41.00m-44.00m Fresh Grey Granite | 368m | North East |
| GW403659 | 0.00m-2.00m LOAMY CLAY 2.00m-17.00m LIGHT GREY SOFT SHALE 17.00m-54.00m GREY/BLACK SILTSTONE | 368m | West |
| GW043913 | 0.00m-1.22m Topsoil 1.22m-5.49m Clay Topsoil 5.49m-12.19m Shale Grey Decomposed 12.19m-43.28m Shale Grey Decomposed Some Hard Bands Water Supply 43.28m-51.82m Shale Grey Water Supply Quartz Bands | 387m | North West |
| GW401310 | 0.00m-3.00m sandy clay 3.00m-18.00m shale, brown 18.00m-24.00m shale, grey | 400m | North West |
| GW416448 | 0.00m-2.00m clay, soil, brown 2.00m-12.00m shale, soft, brown 12.00m-22.00m shale, volcanic, light grey 22.00m-48.00m volcanic, grey black | 406m | North |
| GW416015 | 0.00m-1.00m clay 1.00m-22.00m sandy clay 22.00m-30.00m granite | 409m | North East |
| GW048134 | 0.00m-0.60m Topsoil 0.60m-2.00m Clay 2.00m-3.00m Clay Sandy 3.00m-6.00m Shale 6.00m-16.80m Sandstone 16.80m-50.00m Granite Water Supply 50.00m-53.40m Basalt Water Supply | 422m | North |
| GW055520 | 0.00m-0.20m Soil 0.20m-3.00m Clay 3.00m-22.00m Shale Fractured Water Supply | 424m | North West |
| GW055603 | 0.00m-26.00m Slate 26.00m-54.00m Slate Water Supply | 426m | North |
| GW056801 | 0.00m-1.00m Topsoil 1.00m-4.00m Clay 4.00m-6.00m Rock Decomposed 6.00m-53.00m Shale Siltstone Water Supply | 426m | North |
| GW401653 | 0.00m-3.00m CLAY, LOAMY 3.00m-10.00m SHALES & CLAYS, WEATHERED 10.00m-21.00m DACITE, GREY BLUE 21.00m-24.00m GRANITE, WHITE 24.00m-42.00m DACITE, GREY BLUE FRACTURED | 435m | North |
| GW401351 | 0.00m-3.00m TOPSOIL 3.00m-7.00m SHALE 7.00m-33.00m GRANITE, BLACK SHALE | 441m | North |
| GW057263 | 0.00m-1.00m Soil 1.00m-10.00m Clay 10.00m-23.00m Shale Water Supply | 443m | North West |
| GW068799 | 0.00m-4.00m Brown Clay 4.00m-6.00m Brown Clay & Gravel 6.00m-18.00m Weathered Granite 18.00m-20.00m Fractured Granite | 481m | North East |

| Groundwater No | Drillers Log | Distance | Direction |
|----------------|--|----------|------------|
| GW058607 | 0.00m-0.40m Topsoil 0.40m-1.80m Clay 0.40m-1.80m Shale 1.80m-10.60m Shale Broken 10.60m-21.20m Sandstone Cemented 21.20m-24.40m Shale Fractured Water Supply 24.40m-28.10m Shale Grey Hard | 510m | North |
| GW030556 | 0.00m-2.13m Clay Grey Hard 2.13m-3.05m Clay Yellow 3.05m-3.96m Sand Medium Stones Large 3.96m-5.18m Clay 5.18m-7.01m Clay Stoney 7.01m-7.62m Gravel Sandy Stones Water Supply 7.62m-8.53m Granite Decomposed 8.53m-12.19m Clay Fine Sandy 12.19m-12.80m Sand Fine Water Bearing 12.80m-13.41m Sand Medium Water Bearing Stones Small 13.41m-14.33m Sand Grey Fine 14.33m-14.34m Granite | 551m | North |
| GW068798 | 0.00m-2.00m Dark Brown Clay 2.00m-4.00m Brown Clay & Gravel 4.00m-7.00m Pink Weathered Granite 7.00m-13.00m Highly Fractured Granite 13.00m-15.00m Grey Granite & Quartz 15.00m-20.00m Fractured Grey Granite 20.00m-25.00m Fresh Granite | 577m | North East |
| GW401703 | 0.00m-0.30m TOPSOIL 0.30m-23.00m SHALE, BROKEN 23.00m-30.40m SHALES & SLATES, BLACK | 600m | North West |
| GW030559 | 0.00m-0.61m Clay Grey 0.61m-4.88m Clay Grey Yellow 4.88m-5.79m Clay 5.79m-9.14m Clay Stoney 9.14m-10.67m Clay Yellow Stoney 10.67m-12.19m Clay Stoney 12.19m-13.11m Sand Medium 13.11m-13.72m Clay Stoney 13.72m-14.63m Granite Decomposed 14.63m-19.20m Clay Sandy 19.20m-19.81m Clay Sandy 19.81m-23.16m Clay Fine Sandy 23.16m-23.18m Granite | 609m | North |
| GW034848 | 0.00m-0.30m Topsoil 0.30m-3.35m Topsoil Clay 3.35m-8.83m Shale Decomposed 8.83m-47.24m Shale Grey Water Supply | 622m | North West |
| GW404371 | 0.00m-3.00m CLAY 3.00m-7.00m CLAY/SAND/SOIL 7.00m-61.00m SHALE - BLUE | 665m | South East |
| GW401013 | 0.00m-0.20m Topsoil 0.20m-1.50m Yellow brown shale 1.50m-27.00m Light brown shale 27.00m-60.00m Grey black shales | 725m | North |
| GW401284 | 0.00m-7.00m GRANITE BOULDERS & SOIL 7.00m-16.00m WEATHERED GRANITE 16.00m-29.50m SHALE, BLUE 29.50m-34.00m SHALE, SOFT 34.00m-72.00m SHALE, BLUE | 725m | South |
| GW058911 | 0.00m-3.60m Topsoil 3.60m-4.60m Sand Coarse Clay 4.60m-5.20m Granite Broken 5.20m-24.40m Granite Fresh | 726m | South East |
| GW403167 | 0.00m-3.00m Clay, brown 3.00m-22.00m Shale, soft brown 22.00m-54.00m Shale, blue black | 745m | South West |
| GW416466 | 0.00m-1.00m topsoil 1.00m-7.00m clay 7.00m-60.00m granite | 759m | North |

| Groundwater No | Drillers Log | Distance | Direction |
|----------------|--|----------|-----------|
| GW030560 | 0.00m-2.44m Clay Grey Black Puggy 2.44m-3.35m Clay Grey Large Stones 3.35m-4.57m Clay Stoney 4.57m-5.79m Clay Stoney Soak 5.79m-7.92m Clay Yellow Sandy Stones 7.92m-9.14m Clay Yellow Sandy 9.14m-43.28m Clay Fine Sandy Water Supply 43.28m-43.30m Granite Grey | 768m | North |
| GW402696 | 0.00m-1.00m Soil, loamy clay 1.00m-12.00m Weathered brown shale 12.00m-90.00m Slates, siltstone | 768m | North |
| GW008519 | 0.00m-0.91m Humus 0.91m-4.57m Clay 4.57m-7.62m Gravel 4.57m-7.62m Quartz Clay 7.62m-10.67m Granite Decomposed | 769m | North |
| GW034947 | 0.00m-0.60m Topsoil 0.60m-6.09m Topsoil Clay 6.09m-8.22m Slate Decomposed Shale 8.22m-47.24m Slate Grey Fractured Seams Water Supply | 774m | North |
| GW031621 | 0.00m-1.52m Topsoil 1.52m-2.13m Clay 2.13m-3.35m Clay Sandy 3.35m-4.57m Silt 4.57m-5.18m Rock Hard | 814m | East |
| GW403128 | 0.00m-16.00m Clay, brown 16.00m-24.00m Granite, decomposed 24.00m-30.00m Granite, grey 30.00m-60.00m Granite, grey | 825m | North |
| GW401801 | 0.00m-1.00m TOPSOIL 1.00m-5.50m CLAY, YELLOW BROWN 5.50m-11.60m SHALE, WEATHERED 11.60m-53.34m SHALE, HARD BLUE | 845m | South |
| GW060544 | 0.00m-0.60m Topsoil 0.60m-2.10m Clay 2.10m-5.70m Shale Soft 5.70m-10.90m Shale Hard 5.70m-10.90m Some Broken Band 10.90m-36.50m Shale Hard Water Supply | 885m | North |
| GW058155 | 0.00m-0.60m Topsoil 0.60m-2.40m Clay 2.40m-3.00m Clay Sandy 3.00m-4.60m Sand 4.60m-6.00m Gravel Boulder 6.00m-11.00m Granite Soft 11.00m-38.10m Granite | 897m | East |
| GW403502 | 0.00m-3.00m Clay, brown 3.00m-9.00m Loam, orange, light brown 9.00m-15.00m Granite, soft weathered 15.00m-23.00m Volcanics, brown, white | 904m | North |
| GW029210 | 0.00m-2.13m Clay Black Topsoil 2.13m-3.05m Clay Black 3.05m-5.18m Clay Sandy 5.18m-5.79m Sand 5.79m-9.14m Sand Consolidated 9.14m-10.36m Granite Water Supply | 925m | East |
| GW401800 | 0.00m-0.62m TOPSOIL 0.62m-2.44m CLAY, YELLOW 2.44m-12.20m SHALE, BROKEN YELLOW 12.20m-76.20m SHALE, HARD BLUE | 945m | South |
| GW047082 | 0.00m-0.30m Topsoil 0.30m-4.60m Clay 4.60m-13.70m Shale Soft 13.70m-68.60m Shale Water Supply | 969m | North |
| GW401799 | 0.00m-0.62m TOPSOIL 0.62m-4.57m CLAY, BROWN 4.57m-13.70m SHALE, BROKEN YELLOW 13.70m-53.34m SHALE, HIGHLY FRACTURED BLUE | 987m | South |
| GW047081 | 0.00m-0.30m Topsoil 0.30m-3.10m Clay 3.10m-10.10m Shale 10.10m-20.70m Shale Broken Water Supply 20.70m-39.70m Shale Water Supply | 1015m | North |

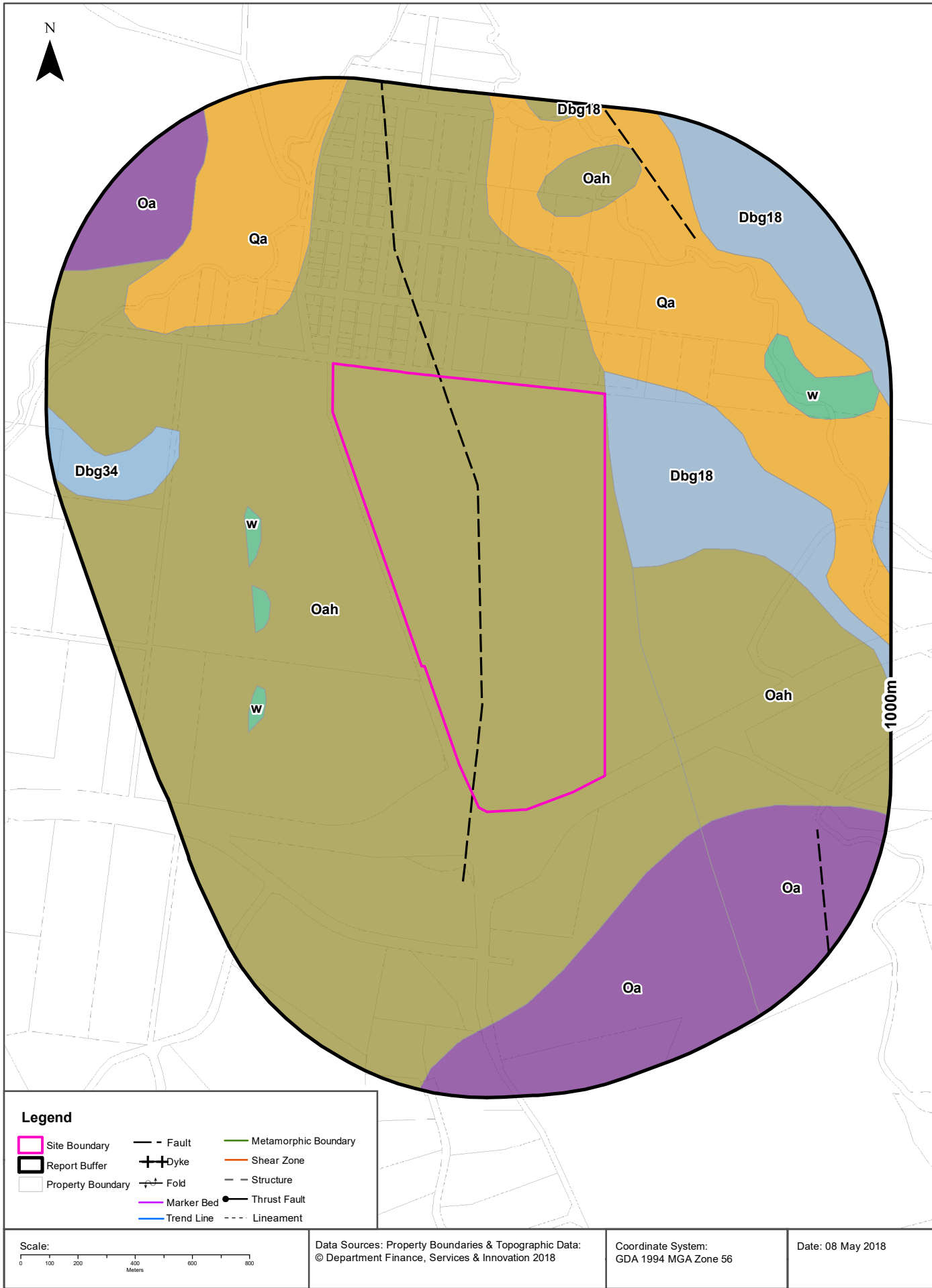
| Groundwater No | Drillers Log | Distance | Direction |
|----------------|---|----------|------------|
| GW072108 | 0.00m-1.00m TOPSOIL & CLAY 1.00m-10.00m SHALE 10.00m-41.00m BLUE DYRITE | 1017m | West |
| GW029907 | 0.00m-0.30m Topsoil 0.30m-2.44m Clay Gravel 2.44m-6.10m Granite Decomposed Soft 6.10m-14.63m Granite Decomposed 14.63m-16.76m Granite Hard 16.76m-21.64m Granite Green 21.64m-29.26m Granite Grey 29.26m-33.07m Granite Very Hard | 1023m | North East |
| GW401802 | 0.00m-1.00m TOPSOIL 1.00m-2.20m CLAY, YELLOW 2.20m-6.10m SHALE, BROKEN YELLOW 6.10m-61.00m SHALE, HIGHLY FRACTURED BLUE | 1059m | South |
| GW402388 | 0.00m-0.20m Topsoil 0.20m-3.00m Clay 3.00m-5.00m Shale, yellow 5.00m-18.00m Shale, brown 18.00m-28.00m Shale, grey 28.00m-75.00m Shale, black | 1064m | South |
| GW047044 | 0.00m-0.91m Topsoil 0.91m-4.57m Clay Topsoil 4.57m-7.62m Shale 7.62m-9.14m Clay Red 9.14m-13.72m Shale Water Supply 9.14m-13.72m Clay Bands 13.72m-30.48m Shale Some Broken Bands Water Supply | 1117m | North |
| GW402400 | 0.00m-2.00m Soil, loamy clay 2.00m-5.00m Volcanics, soft 5.00m-36.00m Volcanic, grey blue with shale | 1155m | West |
| GW047045 | 0.00m-1.20m Topsoil 1.20m-4.90m Sand 4.90m-6.40m Clay Sandy 6.40m-9.40m Gravel Water Supply 9.40m-12.50m Shale Decomposed 12.50m-15.50m Shale Weathered Water Supply 15.50m-16.50m Shale | 1177m | North |
| GW404339 | 0.00m-6.00m SOIL - LOAMY - CLAYEY 6.00m-12.00m SHALE - WEATHERED 12.00m-52.00m SHALES - SLATEY - THIN SILTSTONE INTERBEDS 52.00m-62.00m SILTSTONES/SLATE 62.00m-93.00m SLATEY SHALES - THIN SILTSTONE INTERBEDS 93.00m-101.00m SILTSTONE/SLATE | 1199m | North West |
| GW401383 | 0.00m-0.30m TOPSOIL 0.30m-1.50m CLAY, LOAM 1.50m-5.00m VOLCANIC, YELLOW DECOMPOSED 5.00m-25.00m VOLCANIC, GREY SOFT 25.00m-60.00m VOLCANIC, GREY BLACK | 1229m | South West |
| GW029776 | 0.00m-1.52m Topsoil 1.52m-6.10m Clay Sandy 6.10m-15.24m Clay Sandy Gravel Water Supply 15.24m-16.00m Granite | 1348m | North |
| GW402280 | 0.00m-0.10m Topsoil 0.10m-4.00m Shale, yellow 4.00m-70.00m Shale, grey | 1354m | South |
| GW401803 | 0.00m-1.00m TOPSOIL 1.00m-3.00m CLAY, YELLOW 3.00m-6.70m SHALE, YELLOW BROKEN 6.70m-53.34m SHALE, HIGHLY FRACTURED BLUE | 1415m | South |
| GW058913 | 0.00m-10.00m Soil 10.00m-40.00m Shale Ordovician Moderately W 40.00m-87.00m Shale Ordovician Fresh Water Supply | 1425m | South West |
| GW401798 | 0.00m-0.62m TOPSOIL 0.62m-5.50m CLAY, YELLOW 5.50m-17.07m SHALE, BROKEN YELLOW 17.07m-45.72m SHALE, HIGHLY FRACTURED BLUE | 1439m | South |
| GW402834 | 0.00m-2.00m Clay 2.00m-16.00m Shale, weathered 16.00m-54.00m Shale, grey | 1453m | South East |

| Groundwater No | Drillers Log | Distance | Direction |
|----------------|---|----------|------------|
| GW400053 | 0.00m-0.30m TOPSOIL 0.30m-1.80m CLAY 1.80m-54.80m SHALE | 1483m | West |
| GW402750 | 0.00m-0.50m TOPSOIL 0.50m-25.00m SHALE, BROWN 25.00m-33.00m SHALE, BLUE 33.00m-36.00m SHALE, BROKEN 36.00m-76.00m SHALE, FRESH BLUE | 1494m | West |
| GW403007 | 0.00m-0.40m Topsoil 0.40m-2.50m Clay, brown 2.50m-12.00m Shale, yellow brown 12.00m-90.00m Dacite, blue black fractures | 1509m | South |
| GW401797 | 0.00m-0.62m TOPSOIL 0.62m-23.80m CLAY, YELLOW & WEATHERED SHALE 23.80m-61.00m SHALE, HIGHLY FRACTURED | 1513m | South |
| GW403098 | 0.00m-1.00m Topsoil 1.00m-19.00m Clay 19.00m-56.00m Shale, soft 56.00m-82.00m Shale, hard | 1557m | West |
| GW008683 | 0.00m-2.44m Alluvium 2.44m-32.61m Slate Hard 32.61m-33.53m Granite 33.53m-40.23m Quartz 40.23m-44.90m Quartz Slate | 1607m | North |
| GW404349 | 0.00m-2.00m SOIL - CLAY 2.00m-18.00m DACITE - YELLOW - SOFT 18.00m-60.00m DACITE - BLUE - HARD | 1612m | South West |
| GW416623 | 0.00m-1.00m topsoil 1.00m-16.00m clay, light tan 16.00m-17.00m faulty zone 17.00m-48.00m granite | 1633m | North |
| GW401804 | 0.00m-1.00m TOPSOIL 1.00m-4.27m CLAY, YELLOW 4.27m-6.70m SHALE, BROKEN YELLOW 6.70m-53.34m SHALE, HARD BLUE | 1697m | South |
| GW403002 | 0.00m-0.50m Topsoil 0.50m-6.00m Clay 6.00m-20.00m Shale, yellow 20.00m-55.00m Shale, grey | 1737m | South |
| GW404831 | 0.00m-1.00m CLAY 1.00m-15.00m SHALE 15.00m-101.00m BLUE | 1749m | South West |
| GW416419 | 0.00m-1.00m topsoil 1.00m-14.00m clay 14.00m-54.00m granite with shale | 1753m | North |
| GW400912 | 36.60m-51.80m Grey shale 51.80m-67.00m Grey shale | 1759m | North |
| GW401622 | 0.00m-0.30m TOPSOIL 0.30m-1.20m CLAY, BROWN 1.20m-15.00m SHALE, DECOMPOSED L/BROWN 15.00m-30.00m SHALE, SOFT GREY 30.00m-58.00m SHALE, FRACTURED GREY BLACK WITH QUARTZ 58.00m-85.00m SHALE SLATES, HARD BLACK | 1788m | South West |
| GW404830 | 0.00m-1.00m TOPSOIL 1.00m-3.00m CLAY 3.00m-20.00m SHALE - SOFT 20.00m-53.00m SHALE - HARD 53.00m-72.00m SHALE - BLACK - HARD | 1885m | South East |
| GW008521 | 0.00m-12.19m Clay 12.19m-21.95m Shale | 1917m | North |
| GW401635 | 0.00m-14.00m SHALE, SOFT YELLOW 14.00m-18.00m SHALE, SOFT BROWN 18.00m-34.00m SHALE, HARD BROWN 34.00m-46.00m SHALE, GREY 46.00m-50.00m SHALE, BLACK | 1982m | South |

Drill Log Data Source: NSW Department of Primary Industries - Office of Water / Water Administration Ministerial Corp
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Geology 1:250,000

Sutton Road & Old Federal Highway, Sutton, NSW 2621 (West Section)



Geology

Sutton Road & Old Federal Highway, Sutton, NSW 2621 (West Section)

Geological Units

What are the Geological Units onsite?

| Symbol | Description | Unit Name | Group | Sub Group | Age | Dom Lith | Map Sheet | Dataset |
|--------|---|---------------------|-----------------|-----------|------------|----------|-----------|-----------|
| Dbg18 | Granodiorite, adamellite and quartz-feldspar porphyry | Sutton Granodiorite | Sutton Suite | | Palaeozoic | | | 1:250,000 |
| Oah | Spotted hornfels/metasediment (contact metamorphic) | Adaminaby Group | Adaminaby Group | | Palaeozoic | | | 1:250,000 |

What are the Geological Units within the dataset buffer?

| Symbol | Description | Unit Name | Group | Sub Group | Age | Dom Lith | Map Sheet | Dataset |
|--------|--|---------------------|-----------------|------------------|------------|----------|-----------|-----------|
| Dbg18 | Granodiorite, adamellite and quartz-feldspar porphyry | Sutton Granodiorite | Sutton Suite | | Palaeozoic | | | 1:250,000 |
| Dbg34 | Minor granitoid stocks | | | undifferentiated | Palaeozoic | | | 1:250,000 |
| Oa | Turbiditic sequence; sandstone, mudstone, shale; quartzite, quartz phyllite, phyllite, slate | Adaminaby Group | Adaminaby Group | | Palaeozoic | | | 1:250,000 |
| Oah | Spotted hornfels/metasediment (contact metamorphic) | Adaminaby Group | Adaminaby Group | | Palaeozoic | | | 1:250,000 |
| Qa | Alluvium, fluvial deposits: gravel, sand, silt and clay | undifferentiated | | | Cainozoic | | | 1:250,000 |
| w | Water | water | water | | Cainozoic | | | 1:250,000 |

Geological Structures

What are the Geological Structures onsite?

| Feature | Name | Description | Map Sheet | Dataset |
|---------|------|--------------------|-----------|-----------|
| Fault | | Fault, Approximate | SCRA | 1:250,000 |

What are the Geological Structures within the dataset buffer?

| Feature | Name | Description | Map Sheet | Dataset |
|---------|------|--------------------|-----------|-----------|
| Fault | | Fault, Approximate | SCRA | 1:250,000 |
| Fault | | Fault, Approximate | SCRA | 1:250,000 |
| Fault | | Fault, Approximate | SCRA | 1:250,000 |

Geological Data Source : NSW Department of Industry, Resources & Energy

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Naturally Occurring Asbestos Potential

Sutton Road & Old Federal Highway, Sutton, NSW 2621 (West Section)

Naturally Occurring Asbestos Potential

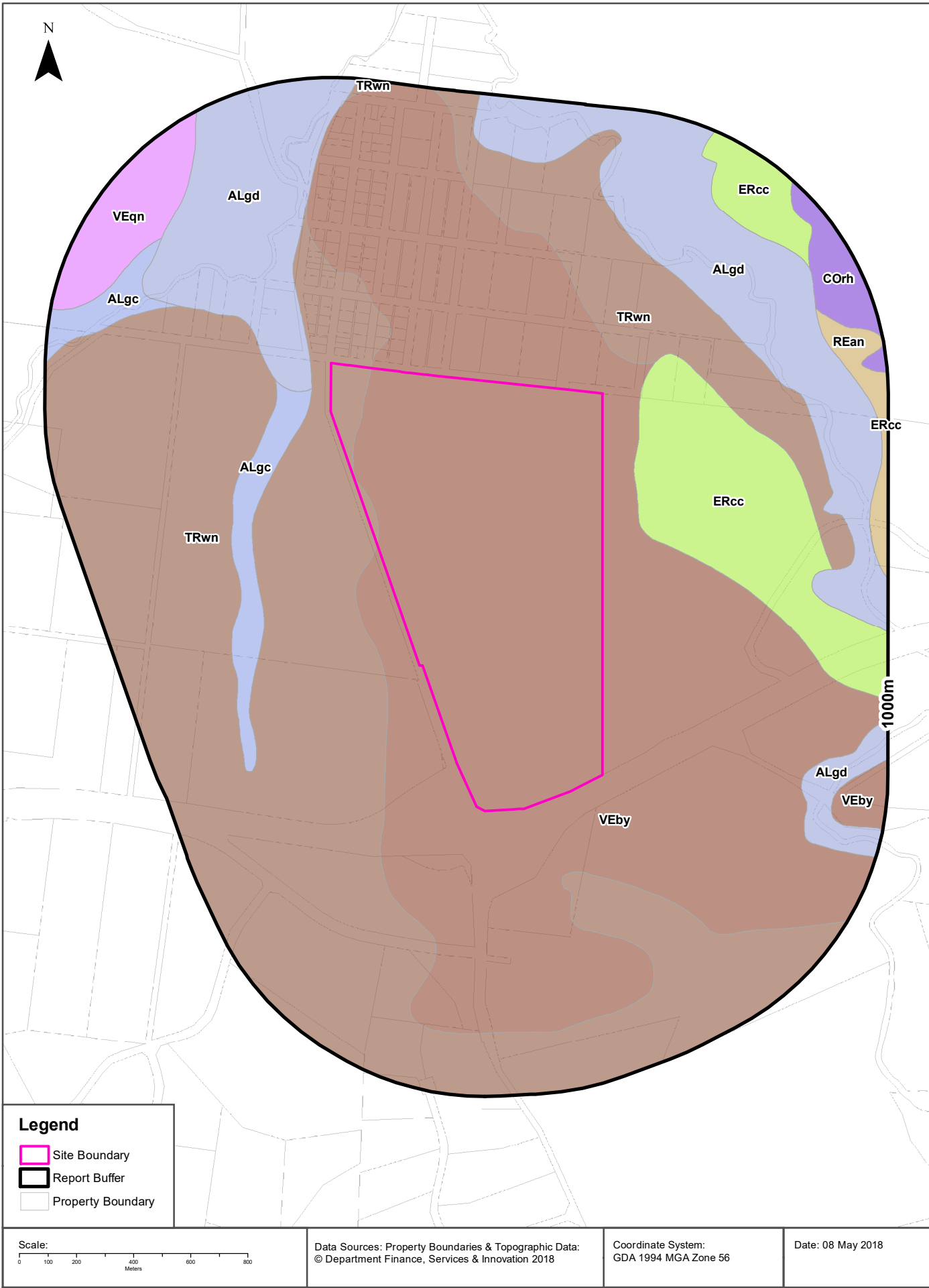
Naturally Occurring Asbestos Potential within the dataset buffer:

| Potential | Sym | Strat Name | Group | Formation | Scale | Min Age | Max Age | Rock Type | Dom Lith | Description | Dist | Dir |
|----------------------|-----|------------|-------|-----------|-------|---------|---------|-----------|----------|-------------|------|-----|
| No records in buffer | | | | | | | | | | | | |

Mining Subsidence District Data Source: © State of New South Wales through NSW Department of Industry, Resources & Energy

Soil Landscapes

Sutton Road & Old Federal Highway, Sutton, NSW 2621 (West Section)



Soils

Sutton Road & Old Federal Highway, Sutton, NSW 2621 (West Section)

Soil Landscapes

What are the onsite Soil Landscapes?

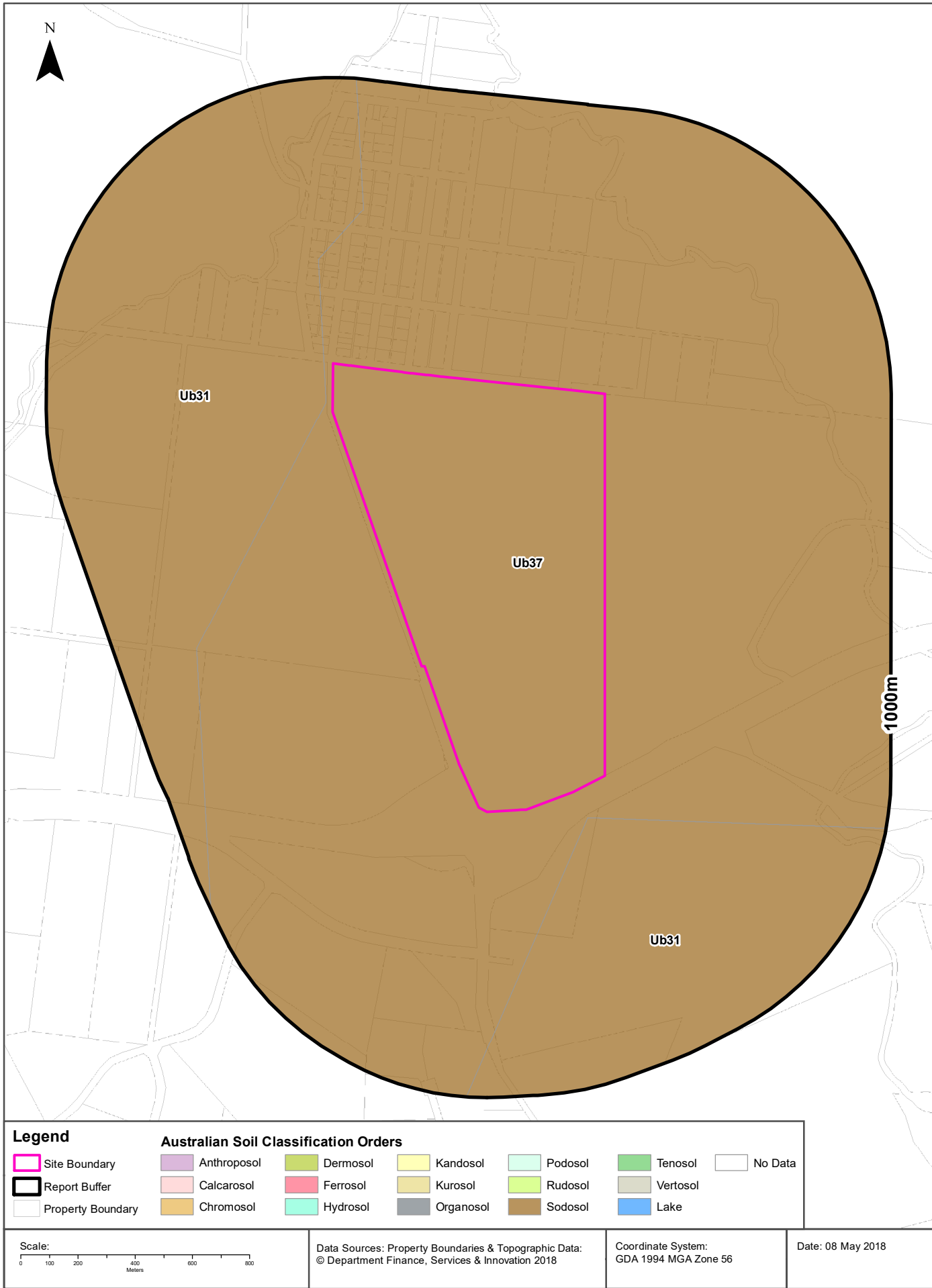
| Soil Code | Name | Group | Process | Map Sheet | Scale |
|-----------|----------|-------|-------------|-----------|-----------|
| TRwn | WINNUNGA | | TRANSFERRAL | Canberra | 1:100,000 |
| VEby | BYWONG | | VESTIGIAL | Canberra | 1:100,000 |

What are the Soil Landscapes within the dataset buffer?

| Soil Code | Name | Group | Process | Map Sheet | Scale |
|-----------|-------------------|-------|-------------|-----------|-----------|
| ALgc | GINNINDERRA CREEK | | ALLUVIAL | Canberra | 1:100,000 |
| ALgd | GUNDAROO | | ALLUVIAL | Canberra | 1:100,000 |
| COrh | ROUND HILL | | COLLUVIAL | Canberra | 1:100,000 |
| ERcc | CELEYS CREEK | | EROSIONAL | Canberra | 1:100,000 |
| REan | ANEMBO | | RESIDUAL | Canberra | 1:100,000 |
| TRwn | WINNUNGA | | TRANSFERRAL | Canberra | 1:100,000 |
| VEby | BYWONG | | VESTIGIAL | Canberra | 1:100,000 |
| VEqn | QUEANBEYAN | | VESTIGIAL | Canberra | 1:100,000 |

Soils Landscapes Data Source : NSW Office of Environment and Heritage

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Soils

Sutton Road & Old Federal Highway, Sutton, NSW 2621 (West Section)

Atlas of Australian Soils

Soil mapping units and Australian Soil Classification orders within the dataset buffer:

| Map Unit Code | Soil Order | Map Unit Description | Distance |
|---------------|------------|--|----------|
| Ub37 | Sodosol | Areas of subdued relief: plains or very gently sloping basins of hard neutral yellow mottled soils (Dy3.42) separated by rolling areas, ridges, and hills of unit Ub31 soils, especially the (Dr2.22), (Dr3.42), and (Um4) soils, and traversed by stream valleys of variable width and development as for stream terraces of unit Mu4. | 0m |
| Ub31 | Sodosol | Low step-like range country--stepped rolling country with scarps, hills, and valleys: chief soils are hard neutral yellow and yellow mottled soils (Dy3.42), (Dy2.42), (Dy2.22), and (Dy3.22) with a variety of other (D) soils and some (Gn2) and (Um4) soils, generally associated as follows: irregularly spaced cuesta-like ranges with (i) moderate to steep scarps of rock outcrops, (Um4.1), (Dr3.42), (Dr2.22), and other (D) soils passing to (iia) long rolling back slopes of (Dy3.42), (Dy2.42), (Dy3.22) with (Dr2.22 and Dr2.42) and sometimes (Gn2.1 and Gn2.2) soils through the mid and upper slope positions, which in turn merge with (iib) undulating basins of (Dy3.42 and Dy3.43) soils sometimes with (Gn2.7) soils, and gullies of (Dy3.42) and/or (Gn2.7) and (Gn2.9) soils; this sequence may be broken by (iii) hills and mountains with slopes and/or scarps of (Um4.1), (Um4.2), (Dr2.21), (Dy3.41), and other (D) soils, also sometimes with belts of partially dissected upland basins of (Dy3.42) soils along the crests--i.e. with areas similar to (iib) but at a relatively higher elevation (compare unit Ub38); the whole area is traversed by (iv) narrow stream valleys of (Um1) soils on flood-plains, (Um6.11) and (Gn2) soils respectively on the next two terraces; and finally there are (v) minor occurrences of other soils, such as (Dr4.12) (e.g. Red Hill) and (Db3.12) on some basaltic areas. Saline patches are fairly common in low-lying situations, especially the (iib) areas. | 24m |

Atlas of Australian Soils Data Source: CSIRO

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Acid Sulfate Soils

Sutton Road & Old Federal Highway, Sutton, NSW 2621 (West Section)

Standard Local Environmental Plan Acid Sulfate Soils

What is the on-site Acid Sulfate Soil Plan Class that presents the largest environmental risk?

| Soil Class | Description | LEP |
|------------|-------------|-----|
| N/A | | |

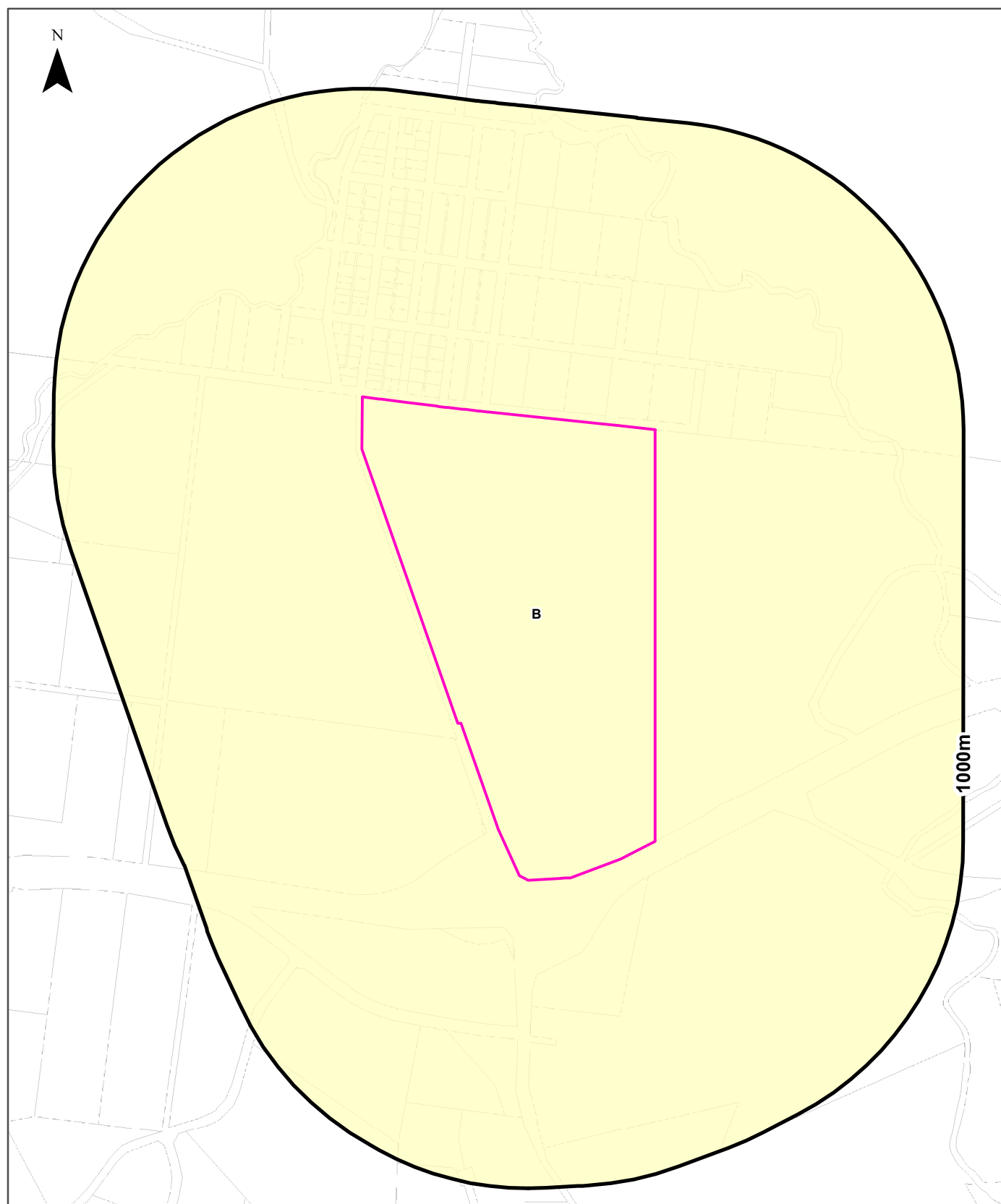
If the on-site Soil Class is 5, what other soil classes exist within 500m?

| Soil Class | Description | LEP | Distance | Direction |
|------------|-------------|-----|----------|-----------|
| N/A | | | | |

Acid Sulfate Data Source Accessed 07/10/2016: NSW Crown Copyright - Planning and Environment
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Atlas of Australian Acid Sulfate Soils

Sutton Road & Old Federal Highway, Sutton, NSW 2621 (West Section)



Legend

 Site Boundary

 Report Buffer

Property Boundary

Probability of occurrence of Acid Sulfate Soils

A. High (>70%)

B. Low (6-70%)

C. Extremely Low (1-5%)

D. No Chance (0%)

No Data

Scale:

0 100 200 400 600 800
Meters

Data Sources: Property Boundaries & Topographic Data:
© Department Finance, Services & Innovation 2018

Coordinate System:
GDA 1994 MGA Zone 56

Date: 08May 2018

Acid Sulfate Soils

Sutton Road & Old Federal Highway, Sutton, NSW 2621 (West Section)

Atlas of Australian Acid Sulfate Soils

Atlas of Australian Acid Sulfate Soil categories within the dataset buffer:

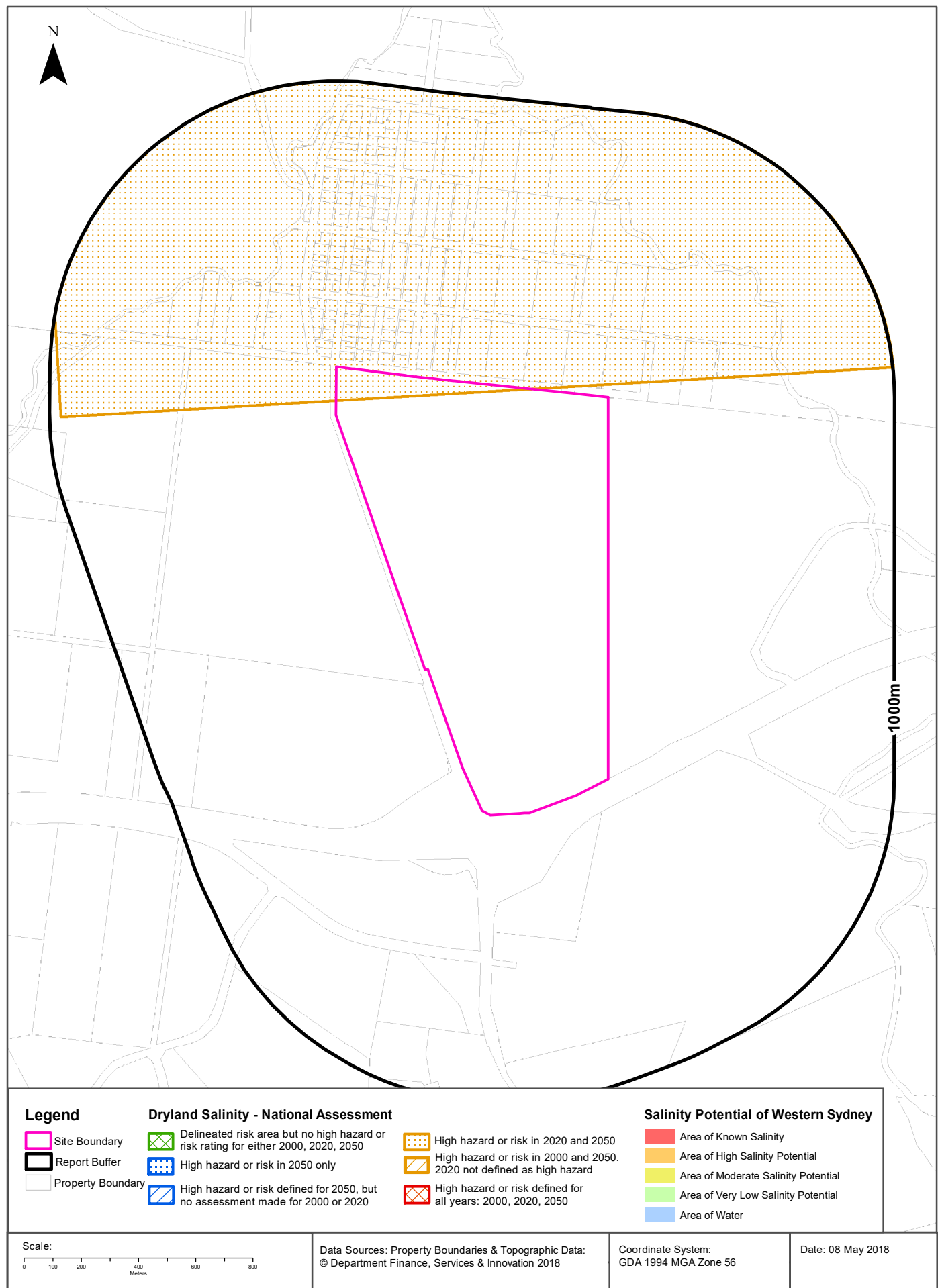
| Class | Description | Distance |
|-------|--|----------|
| B | Low Probability of occurrence. 6-70% chance of occurrence. | 0m |

Atlas of Australian Acid Sulfate Soils Data Source: CSIRO

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Dryland Salinity

Sutton Road & Old Federal Highway, Sutton, NSW 2621 (West Section)



Dryland Salinity

Sutton Road & Old Federal Highway, Sutton, NSW 2621 (West Section)

Dryland Salinity - National Assessment

Is there Dryland Salinity - National Assessment data onsite?

Yes

Is there Dryland Salinity - National Assessment data within the dataset buffer?

Yes

What Dryland Salinity assessments are given?

| Assessment 2000 | Assessment 2020 | Assessment 2050 | Distance | Direction |
|-----------------|---------------------|---------------------|----------|-----------|
| - | High hazard or risk | High hazard or risk | 0m | Onsite |

Dryland Salinity Data Source : National Land and Water Resources Audit

The Commonwealth and all suppliers of source data used to derive the maps of "Australia, Forecast Areas Containing Land of High Hazard or Risk of Dryland Salinity from 2000 to 2050" do not warrant the accuracy or completeness of information in this product. Any person using or relying upon such information does so on the basis that the Commonwealth and data suppliers shall bear no responsibility or liability whatsoever for any errors, faults, defects or omissions in the information. Any persons using this information do so at their own risk.

In many cases where a high risk is indicated, less than 100% of the area will have a high hazard or risk.

Dryland Salinity Potential of Western Sydney

Dryland Salinity Potential of Western Sydney within the dataset buffer?

| Feature Id | Classification | Description | Distance | Direction |
|------------|-----------------------|-------------|----------|-----------|
| N/A | Outside Data Coverage | | | |

Dryland Salinity Potential of Western Sydney Data Source : NSW Office of Environment and Heritage

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Mining Subsidence Districts

Sutton Road & Old Federal Highway, Sutton, NSW 2621 (West Section)

Mining Subsidence Districts

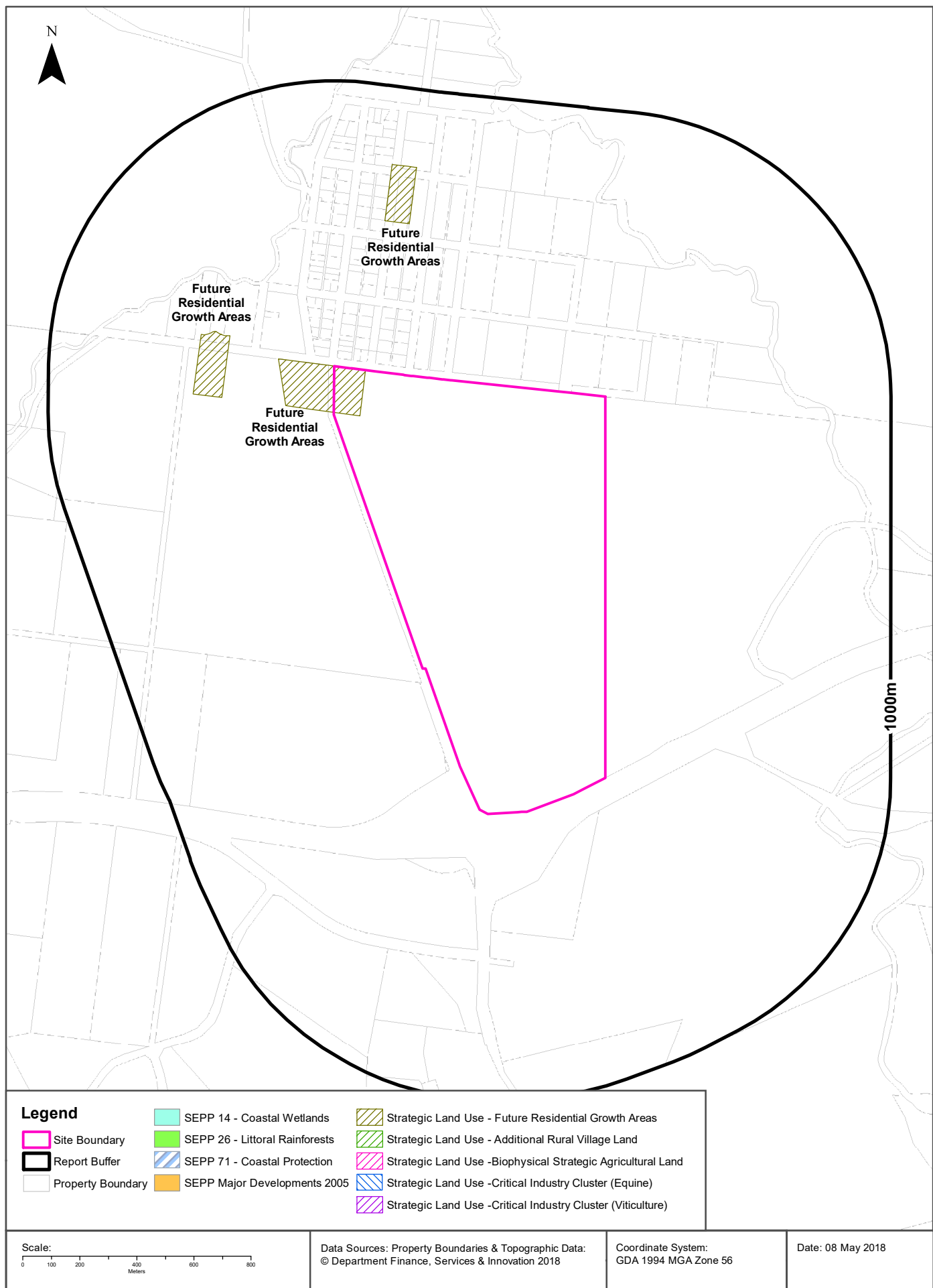
Mining Subsidence Districts within the dataset buffer:

| District | Distance | Direction |
|---|----------|-----------|
| There are no Mining Subsidence Districts within the report buffer | | |

Mining Subsidence District Data Source: © Land and Property Information (2016)
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State Environmental Planning Policy

Sutton Road & Old Federal Highway, Sutton, NSW 2621 (West Section)



Environmental Zoning

Sutton Road & Old Federal Highway, Sutton, NSW 2621 (West Section)

State Environmental Planning Policy Protected Areas

Are there any State Environmental Planning Policy Protected Areas onsite or within the dataset buffer?

| Dataset | Onsite | Within Site Buffer | Distance |
|----------------------------------|--------|--------------------|----------|
| SEPP14 - Coastal Wetlands | No | No | N/A |
| SEPP26 - Littoral Rainforests | No | No | N/A |
| SEPP71 - Coastal Protection Zone | No | No | N/A |

SEPP Protected Areas Data Source: NSW Department of Planning & Environment
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State Environmental Planning Policy Major Developments (2005)

State Environmental Planning Policy Major Developments within the dataset buffer:

| Map Id | Feature | Effective Date | Distance | Direction |
|--------|--------------------------|----------------|----------|-----------|
| N/A | No records within buffer | | | |

SEPP Major Development Data Source: NSW Department of Planning & Environment
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State Environmental Planning Policy Strategic Land Use Areas

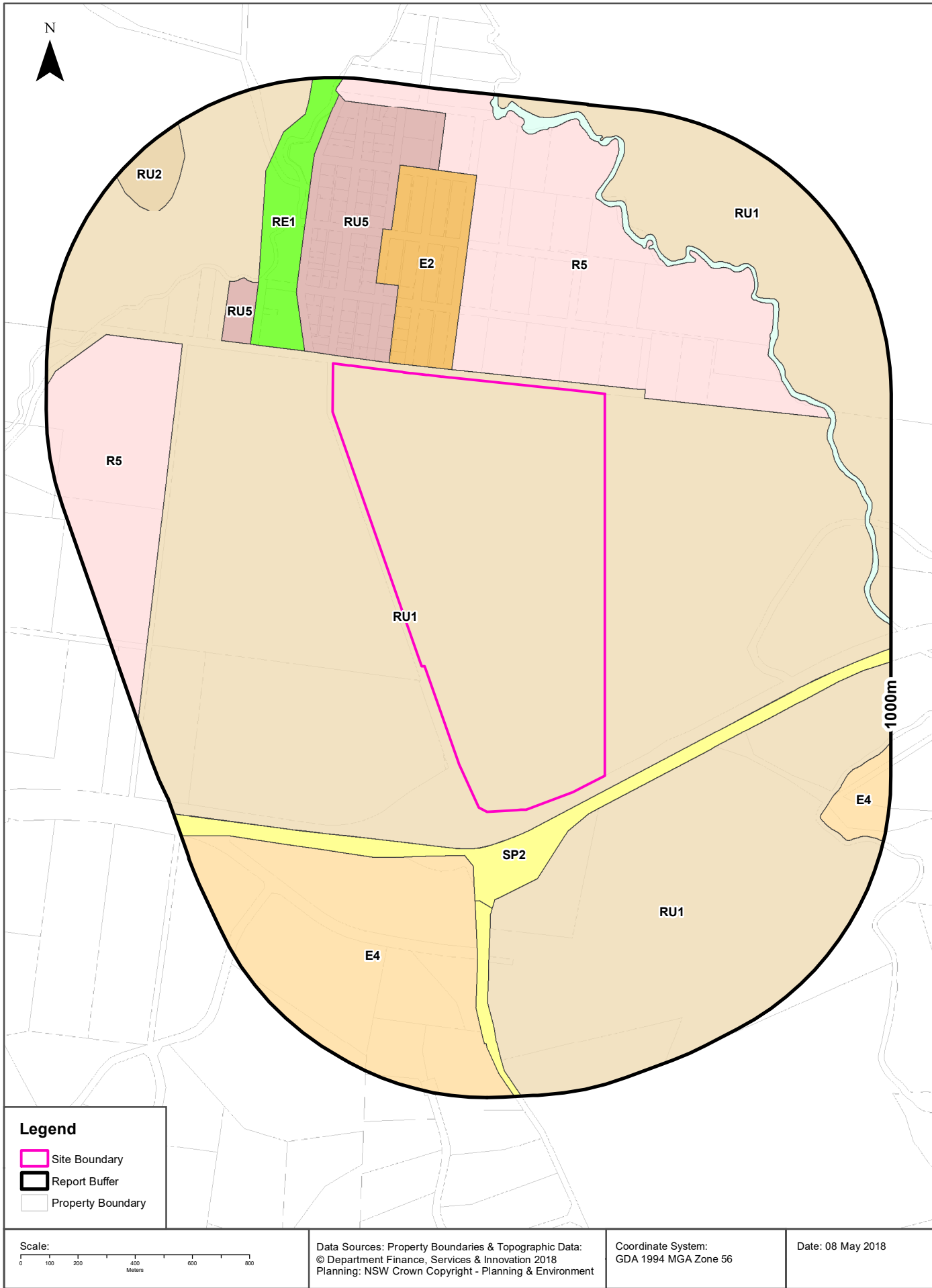
State Environmental Planning Policy Strategic Land Use Areas onsite or within the dataset buffer:

| Strategic Land Use | SEPPNo | Effective Date | Amendment | Amendment Year | Distance | Direction |
|---------------------------------|--------|----------------|---------------|----------------|----------|-----------|
| Future Residential Growth Areas | 2007 | 28/01/2014 | Coal Seam Gas | 2014 | 0m | Onsite |

SEPP Strategic Land Use Data Source: NSW Department of Planning & Environment
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LEP Planning Zones

Sutton Road & Old Federal Highway, Sutton, NSW 2621 (West Section)



Local Environmental Plan

Sutton Road & Old Federal Highway, Sutton, NSW 2621 (West Section)

Land Zoning

What Local Environmental Plan Land Zones exist within the dataset buffer?

| Zone | Description | Purpose | LEP or SEPP | Published Date | Commenced Date | Currency Date | Amendment | Distance | Direction |
|------|----------------------------|-----------------|---|----------------|----------------|---------------|----------------|----------|------------|
| RU1 | Primary Production | | Yass Valley Local Environmental Plan 2013 | 19/07/2013 | 19/07/2013 | 02/03/2018 | | 0m | Onsite |
| E2 | Environmental Conservation | | Yass Valley Local Environmental Plan 2013 | 19/07/2013 | 19/07/2013 | 02/03/2018 | | 28m | North |
| R5 | Large Lot Residential | | Yass Valley Local Environmental Plan 2013 | 19/07/2013 | 19/07/2013 | 02/03/2018 | | 28m | North |
| RU5 | Village | | Yass Valley Local Environmental Plan 2013 | 19/07/2013 | 19/07/2013 | 02/03/2018 | | 28m | North |
| SP2 | Infrastructure | Classified Road | Palerang Local Environmental Plan 2014 | 19/09/2014 | 31/10/2014 | 19/05/2017 | | 45m | North East |
| RU1 | Primary Production | | Palerang Local Environmental Plan 2014 | 19/09/2014 | 31/10/2014 | 19/05/2017 | | 90m | South East |
| RE1 | Public Recreation | | Yass Valley Local Environmental Plan 2013 | 19/07/2013 | 19/07/2013 | 02/03/2018 | | 109m | North West |
| E4 | Environmental Living | | Palerang Local Environmental Plan 2014 | 19/09/2014 | 31/10/2014 | 19/05/2017 | | 172m | South West |
| RU5 | Village | | Yass Valley Local Environmental Plan 2013 | 19/07/2013 | 19/07/2013 | 02/03/2018 | | 297m | North West |
| SP2 | Infrastructure | Classified Road | Palerang Local Environmental Plan 2014 | 19/09/2014 | 31/10/2014 | 19/05/2017 | | 311m | South |
| W1 | Natural Waterways | | Yass Valley Local Environmental Plan 2013 | 19/07/2013 | 19/07/2013 | 02/03/2018 | | 496m | North West |
| RU1 | Primary Production | | Yass Valley Local Environmental Plan 2013 | 02/03/2018 | 02/03/2018 | 02/03/2018 | Amendment No 2 | 519m | North |
| R5 | Large Lot Residential | | Yass Valley Local Environmental Plan 2013 | 19/07/2013 | 19/07/2013 | 02/03/2018 | | 531m | West |
| E4 | Environmental Living | | Palerang Local Environmental Plan 2014 | 19/09/2014 | 31/10/2014 | 19/05/2017 | | 764m | East |
| RU2 | Rural Landscape | | Yass Valley Local Environmental Plan 2013 | 19/07/2013 | 19/07/2013 | 02/03/2018 | | 806m | North West |

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Local Environmental Plan

Sutton Road & Old Federal Highway, Sutton, NSW 2621 (West Section)

Minimum Subdivision Lot Size

What are the onsite Local Environmental Plan Minimum Subdivision Lot Sizes?

| Symbol | Minimum Lot Size | LEP or SEPP | Published Date | Commenced Date | Currency Date | Amendment | Percentage of Site Area |
|--------|------------------|---|----------------|----------------|---------------|----------------|-------------------------|
| AB5 | 40 ha | Yass Valley Local Environmental Plan 2013 | 12/08/2016 | 12/08/2016 | 02/03/2018 | Amendment No 1 | 100 |

Maximum Height of Building

What are the onsite Local Environmental Plan Maximum Height of Buildings?

| Symbol | Maximum Height of Building | LEP or SEPP | Published Date | Commenced Date | Currency Date | Amendment | Percentage of Site Area |
|---------|----------------------------|-------------|----------------|----------------|---------------|-----------|-------------------------|
| No Data | | | | | | | |

Floor Space Ratio

What are the onsite Local Environmental Plan Floor Space Ratios?

| Symbol | Floor Space Ratio | LEP or SEPP | Published Date | Commenced Date | Currency Date | Amendment | Percentage of Site Area |
|---------|-------------------|-------------|----------------|----------------|---------------|-----------|-------------------------|
| No Data | | | | | | | |

Land Application

What are the onsite Local Environmental Plan Land Applications?

| Application Type | LEP or SEPP | Published Date | Commenced Date | Currency Date | Amendment | Percentage of Site Area |
|------------------|---|----------------|----------------|---------------|-----------|-------------------------|
| Included | Yass Valley Local Environmental Plan 2013 | 19/07/2013 | 19/07/2013 | 19/07/2013 | | 100 |

Land Reservation Acquisition

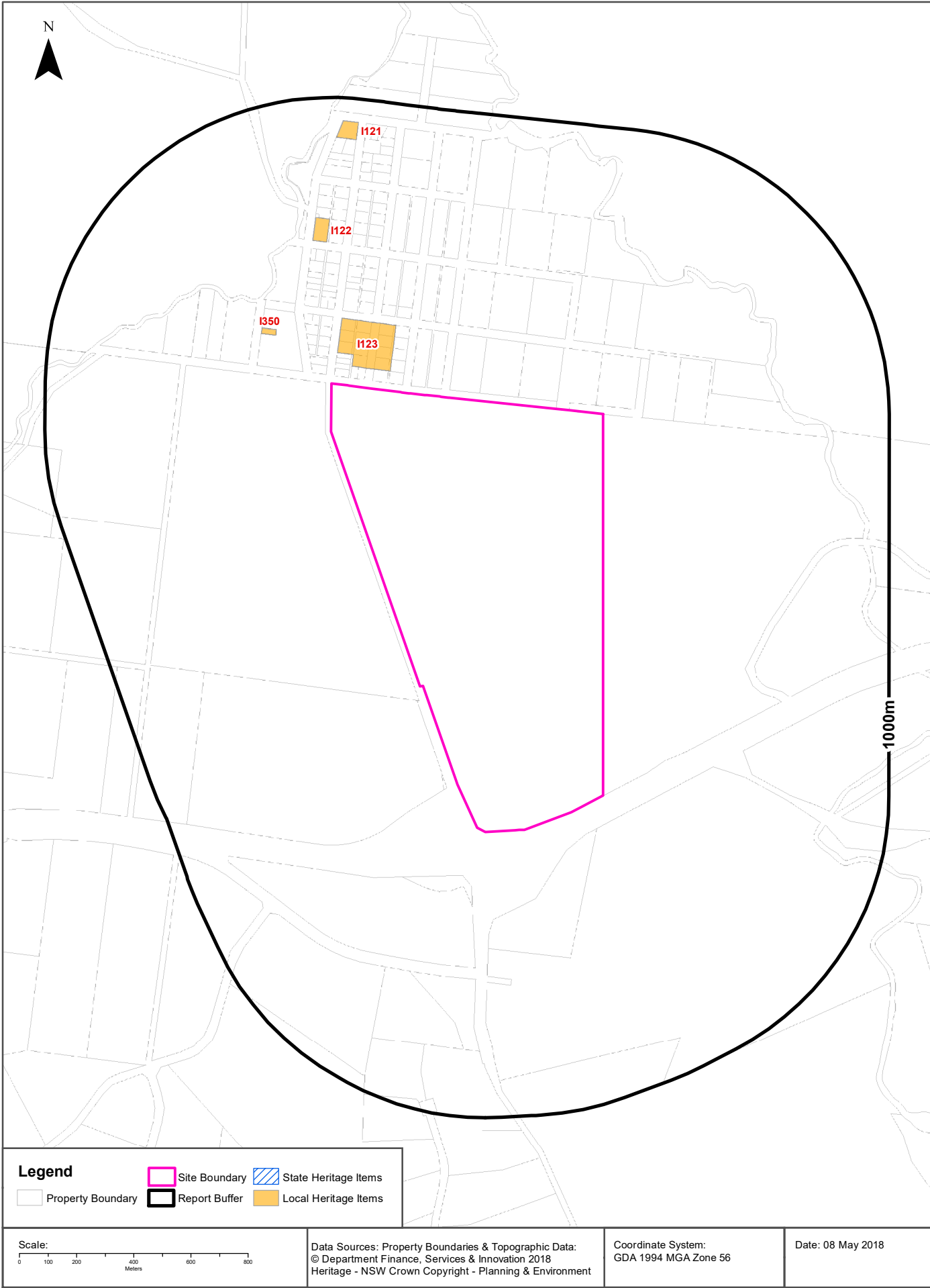
What are the onsite Local Environmental Plan Land Reservation Acquisitions?

| Reservation | LEP | Published Date | Commenced Date | Currency Date | Amendment | Comments | Percentage of Site Area |
|-------------|-----|----------------|----------------|---------------|-----------|----------|-------------------------|
| No Data | | | | | | | |

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Heritage Items

Sutton Road & Old Federal Highway, Sutton, NSW 2621 (West Section)



Heritage

Sutton Road & Old Federal Highway, Sutton, NSW 2621 (West Section)

State Heritage Items

What are the State Heritage Items located within the dataset buffer?

| Map Id | Name | Address | LGA | Listing Date | Listing No | Plan No | Distance | Direction |
|--------|----------------------|---------|-----|--------------|------------|---------|----------|-----------|
| N/A | No records in buffer | | | | | | | |

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Local Heritage Items

What are the Local Heritage Items located within the dataset buffer?

| Map Id | Name | Classification | Significance | LEP or Act | Published Date | Commenced Date | Currency Date | Distance | Direction |
|--------|---|----------------|--------------|---|----------------|----------------|---------------|----------|------------|
| I123 | Sutton Public School, residence and grounds | Item - General | Local | Yass Valley Local Environmental Plan 2013 | 19/07/2013 | 19/07/2013 | 19/07/2013 | 69m | North West |
| I350 | Sutton Hall | Item - General | Local | Yass Valley Local Environmental Plan 2013 | 19/07/2013 | 19/07/2013 | 19/07/2013 | 257m | North West |
| I122 | St Peter's Anglican Church | Item - General | Local | Yass Valley Local Environmental Plan 2013 | 19/07/2013 | 19/07/2013 | 19/07/2013 | 494m | North West |
| I121 | Weatherboard cottage and slab shed | Item - General | Local | Yass Valley Local Environmental Plan 2013 | 19/07/2013 | 19/07/2013 | 19/07/2013 | 857m | North |

Heritage Data Source: NSW Crown Copyright - Planning & Environment

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Natural Hazards

Sutton Road & Old Federal Highway, Sutton, NSW 2621 (West Section)

Bush Fire Prone Land

What are the nearest Bush Fire Prone Land Categories that exist within the dataset buffer?

| Bush Fire Prone Land Category | Distance | Direction |
|-------------------------------|----------|-----------|
| Vegetation Buffer | 36m | South |
| Vegetation Category 2 | 66m | East |
| Vegetation Category 2 | 66m | South |
| Vegetation Category 1 | 485m | South |

NSW Bush Fire Prone Land - © NSW Rural Fire Service under Creative Commons 4.0 International Licence

Ecological Constraints

Sutton Road & Old Federal Highway, Sutton, NSW 2621 (West Section)

Vegetation of the Southern Forests

What vegetation of the Southern Forests exists within the dataset buffer?

| Map Id | Veg Code | Formation | Class | Group | Distance | Direction |
|--------|--------------------------|-----------|-------|-------|----------|-----------|
| N/A | No records within buffer | | | | | |

Vegetation of the Southern Forests: NSW Office of Environment and Heritage
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RAMSAR Wetlands

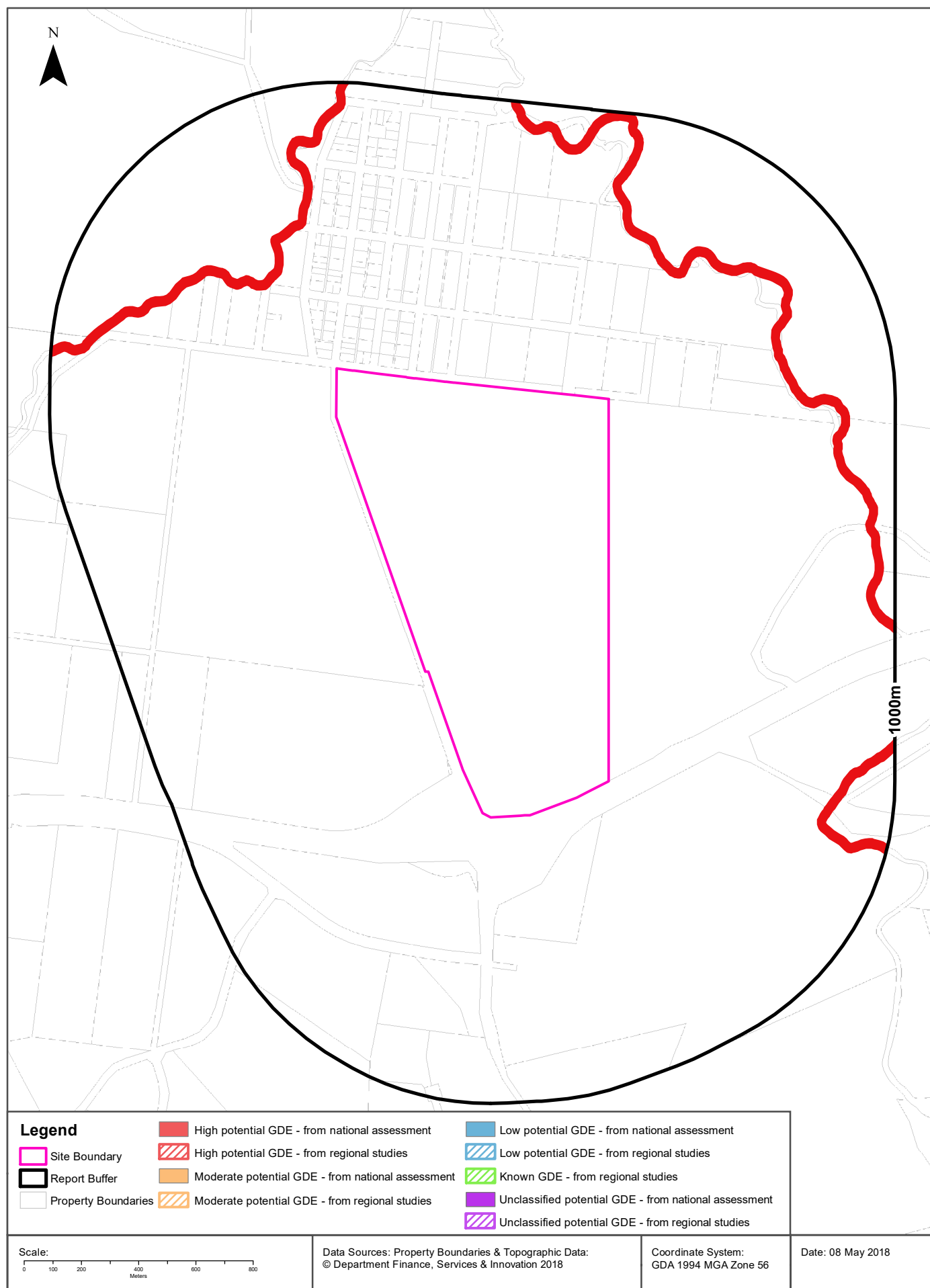
What RAMSAR Wetland areas exist within the dataset buffer?

| Map Id | RAMSAR Name | Wetland Name | Designation Date | Source | Distance | Direction |
|--------|----------------------|--------------|------------------|--------|----------|-----------|
| N/A | No records in buffer | | | | | |

RAMSAR Wetlands Data Source: © Commonwealth of Australia - Department of Environment

Ecological Constraints - Groundwater Dependent Ecosystems Atlas

Sutton Road & Old Federal Highway, Sutton, NSW 2621 (West Section)



Ecological Constraints

Sutton Road & Old Federal Highway, Sutton, NSW 2621 (West Section)

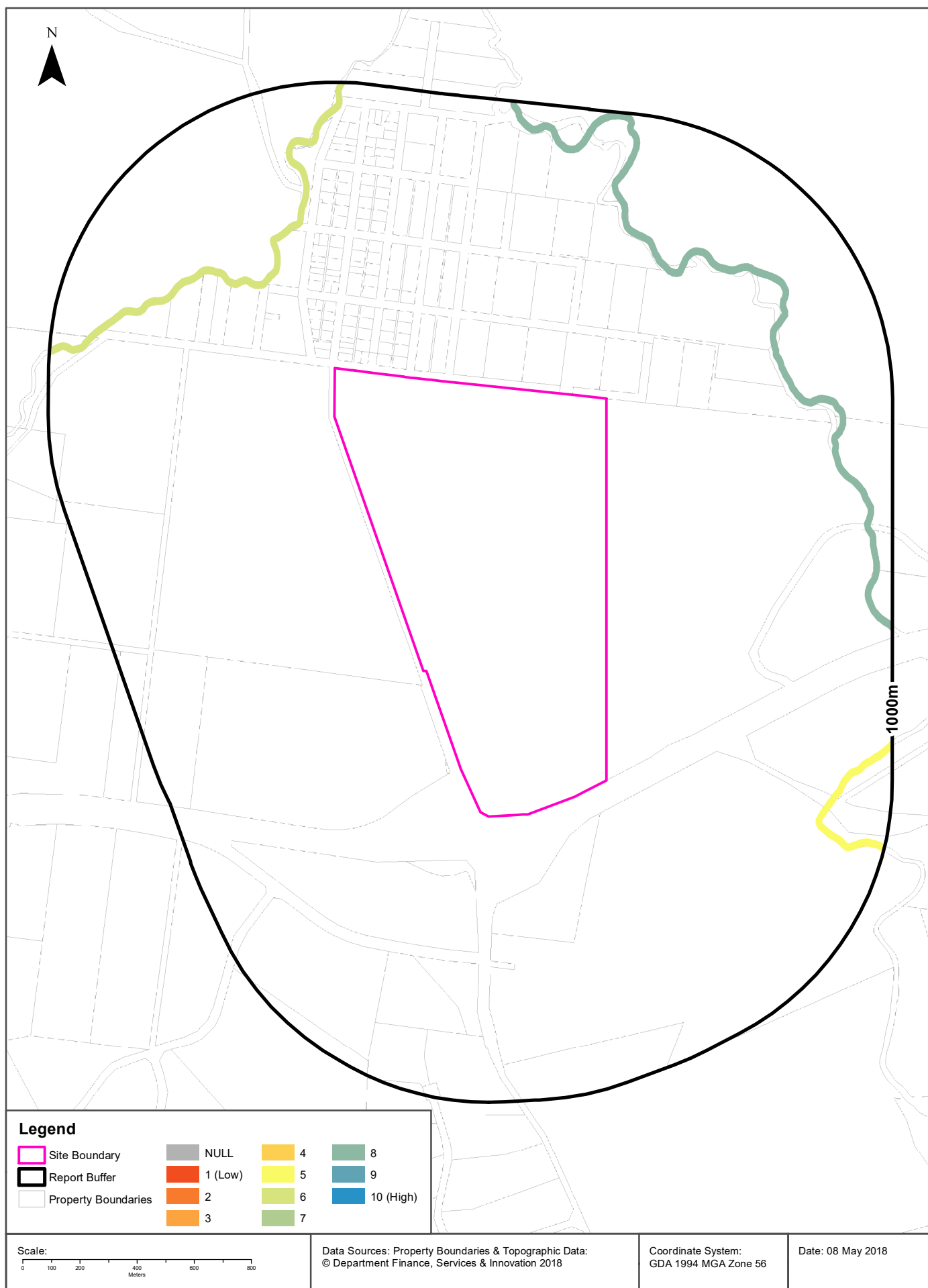
Groundwater Dependent Ecosystems Atlas

| Type | GDE Potential | Geomorphology | Ecosystem Type | Aquifer Geology | Distance |
|---------|---|---|----------------|-----------------|----------|
| Aquatic | High potential GDE - from national assessment | Upland plains with separating strike-aligned hills, closed lake basins. | River | | 371m |

Groundwater Dependent Ecosystems Atlas Data Source: The Bureau of Meteorology
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Ecological Constraints - Inflow Dependent Ecosystems Likelihood

Sutton Road & Old Federal Highway, Sutton, NSW 2621 (West Section)



Ecological Constraints

Sutton Road & Old Federal Highway, Sutton, NSW 2621 (West Section)

Inflow Dependent Ecosystems Likelihood

| Type | IDE Likelihood | Geomorphology | Ecosystem Type | Aquifer Geology | Distance |
|---------|----------------|---|----------------|-----------------|----------|
| Aquatic | 6 | Upland plains with separating strike-aligned hills, closed lake basins. | River | | 371m |
| Aquatic | 8 | Upland plains with separating strike-aligned hills, closed lake basins. | River | | 483m |
| Aquatic | 5 | Upland plains with separating strike-aligned hills, closed lake basins. | River | | 744m |

Inflow Dependent Ecosystems Likelihood Data Source: The Bureau of Meteorology
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Ecological Constraints

Sutton Road & Old Federal Highway, Sutton, NSW 2621 (West Section)

NSW BioNet Atlas

Species on the NSW BioNet Atlas that have a NSW or federal conservation status, a NSW sensitivity status, or are listed under a migratory species agreement, and are within 10km of the site?

| Kingdom | Class | Scientific | Common | NSW Conservation Status | NSW Sensitivity Class | Federal Conservation Status | Migratory Species Agreements |
|----------|----------|---------------------------------------|--|-------------------------|-----------------------|-----------------------------|------------------------------|
| Animalia | Amphibia | Litoria aurea | Green and Golden Bell Frog | Endangered | Not Sensitive | Vulnerable | |
| Animalia | Aves | Anthochaera phrygia | Regent Honeyeater | Critically Endangered | Not Sensitive | Critically Endangered | |
| Animalia | Aves | Ardea ibis | Cattle Egret | Not Listed | Not Sensitive | Not Listed | CAMBA;JAMBA |
| Animalia | Aves | Artamus cyanopterus cyanopterus | Dusky Woodswallow | Vulnerable | Not Sensitive | Not Listed | |
| Animalia | Aves | Callocephalon fimbriatum | Gang-gang Cockatoo | Vulnerable | Category 3 | Not Listed | |
| Animalia | Aves | Chthonicola sagittata | Speckled Warbler | Vulnerable | Not Sensitive | Not Listed | |
| Animalia | Aves | Climacteris picumnus victoriae | Brown Treecreeper (eastern subspecies) | Vulnerable | Not Sensitive | Not Listed | |
| Animalia | Aves | Daphoenositta chrysoptera | Varied Sittella | Vulnerable | Not Sensitive | Not Listed | |
| Animalia | Aves | Glossopsitta pusilla | Little Lorikeet | Vulnerable | Not Sensitive | Not Listed | |
| Animalia | Aves | Grantiella picta | Painted Honeyeater | Vulnerable | Not Sensitive | Vulnerable | |
| Animalia | Aves | Hieraaetus morphnoides | Little Eagle | Vulnerable | Not Sensitive | Not Listed | |
| Animalia | Aves | Melanodryas cucullata cucullata | Hooded Robin (south-eastern form) | Vulnerable | Not Sensitive | Not Listed | |
| Animalia | Aves | Merops ornatus | Rainbow Bee-eater | Not Listed | Not Sensitive | Not Listed | JAMBA |
| Animalia | Aves | Petroica boodang | Scarlet Robin | Vulnerable | Not Sensitive | Not Listed | |
| Animalia | Aves | Petroica phoenicea | Flame Robin | Vulnerable | Not Sensitive | Not Listed | |
| Animalia | Aves | Polytelis swainsonii | Superb Parrot | Vulnerable | Category 3 | Vulnerable | |
| Animalia | Aves | Stagonopleura guttata | Diamond Firetail | Vulnerable | Not Sensitive | Not Listed | |
| Animalia | Insecta | Synemon plana | Golden Sun Moth | Endangered | Not Sensitive | Critically Endangered | |
| Animalia | Mammalia | Bettongia gaimardi | Tasmanian Bettong | Presumed Extinct | Not Sensitive | Extinct | |
| Animalia | Mammalia | Cercartetus nanus | Eastern Pygmy-possum | Vulnerable | Not Sensitive | Not Listed | |
| Animalia | Mammalia | Dasyurus maculatus | Spotted-tailed Quoll | Vulnerable | Not Sensitive | Endangered | |
| Animalia | Mammalia | Phascogale cinerea | Koala | Vulnerable | Not Sensitive | Vulnerable | |
| Animalia | Reptilia | Suta flagellum | Little Whip Snake | Vulnerable | Not Sensitive | Not Listed | |
| Animalia | Reptilia | Varanus rosenbergi | Rosenberg's Goanna | Vulnerable | Not Sensitive | Not Listed | |
| Plantae | Flora | Leucochrysum albicans subsp. tricolor | Hoary Sunray | Not Listed | Not Sensitive | Endangered | |
| Plantae | Flora | Rutidosia leptorrhynchoidea | Button Wrinklewort | Endangered | Not Sensitive | Endangered | |

| Kingdom | Class | Scientific | Common | NSW Conservation Status | NSW Sensitivity Class | Federal Conservation Status | Migratory Species Agreements |
|---------|-------|-------------------|--------------------|-------------------------|-----------------------|-----------------------------|------------------------------|
| Plantae | Flora | Swainsona sericea | Silky Swainson-pea | Vulnerable | Not Sensitive | Not Listed | |

Data does not include NSW category 1 sensitive species.

NSW BioNet: © State of NSW and Office of Environment and Heritage

Data obtained 08/05/2018

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