



## AUSTRALIAN CONSTRUCTION EXPERTS PTY LTD



## Preliminary Site Investigation




12-16 Francis Street & 121 Minto Road, Minto NSW

# Document Control

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# Table of Contents

	Page Number
<b>EXECUTIVE SUMMARY</b>	<b>I</b>
<b>1. INTRODUCTION</b>	<b>1</b>
1.1 Background and Purpose	1
1.2 Proposed Development	1
1.3 Regulatory Framework	1
1.4 Project Objectives	1
1.5 Scope of Works	2
1.5.1 Desktop Study	2
1.5.2 Data Analysis and Reporting	2
<b>2. SITE DESCRIPTION</b>	<b>3</b>
2.1 Property Identification, Location, and Physical Setting	3
2.2 Local Land Use	4
2.3 Regional Setting	4
2.4 Groundwater Bore Records and Local Groundwater Use	5
2.5 Site Walkover Inspection	5
<b>3. PREVIOUS INVESTIGATIONS</b>	<b>7</b>
<b>4. SITE HISTORY AND SEARCHES</b>	<b>8</b>
4.1 Historical Information / Historical Aerial Review	8
4.2 Council Information	9
4.3 EPA Online Records	9
4.3.1 Contaminated Land - Record of Notices under Section 58 of CLM Act (1997)	9
4.3.2 List of NSW contaminated sites notified to EPA	9
4.3.3 POEO Public Register	9
<b>5. SITE CHARACTERISATION</b>	<b>10</b>
5.1 Overview	10
5.2 Historical Site Use and Generic Risks	10
5.3 PFAS Assessment	11
5.4 Emerging Chemicals	11
5.5 Conceptual Site Model	12
5.5.1 Overview	12
5.5.2 Potential Contamination Sources	12
5.5.3 Contaminants of Potential Concern	12
5.5.4 Potential contamination in the context of the site	13
5.5.5 Potential Pollutant Linkages	13
5.6 Data Gaps	13
<b>6. CONCLUSIONS</b>	<b>15</b>

<b>7. RECOMMENDATIONS</b>	<b>16</b>
<b>8. STATEMENT OF LIMITATIONS</b>	<b>17</b>
<b>REFERENCES</b>	<b>18</b>
<b>ABBREVIATIONS</b>	<b>19</b>

## Schedule of Tables

Table 2-1	Site Identification	3
Table 2-2	Local Land Use	4
Table 2-3	Regional Setting	4
Table 4-1	Summary of Aerial Photograph History	8
Table 5-1	Assessment of Potential Contamination Risk	10
Table 5-2	PFAS Decision Tree	11
Table 5-3	Emerging or Controlled Chemicals	12
Table 5-4	Conceptual Site Model	14

## Appendices

### **APPENDIX A - FIGURES**

### **APPENDIX B – PROPOSED DEVELOPMENT PLANS**

### **APPENDIX C – SITE PHOTOGRAPHS**

### **APPENDIX D – GROUNDWATER BORE SEARCH**

### **APPENDIX E – LOTSEARCH REPORT**

# Executive Summary

## Background and Objectives

Mr Matthew Pisarkiewicz of Urban Link Pty Ltd, on behalf of Australian Construction Experts Pty Ltd, engaged EI Australia (EI) to conduct a Preliminary Site Investigation (PSI) for the property located at address 12-16 Francis Street & 121 Minto Road, Minto NSW ('the site'). This environmental assessment was completed as part of the Development Application to Campbelltown City Council for the redevelopment of the site involving demolition of existing structures and construction of 23 residential townhouses with associated one-level basement car parking.

The main objective of this investigation is to provide a qualitative assessment of the environmental conditions of the site by appraising the potential for site contamination on the basis of field observations, historical land uses and anecdotal and documentary evidence.

## Key Findings

- The site known as 12-16 Francis Street & 121 Minto Road, Minto NSW comprises of four allotments (as Lots 6, 7, 8, and 22 in Section 12 DP1186) and is situated in the Local Government Area (LGA) of Campbelltown City Council;
- The site is currently occupied by four residential dwellings and associated sheds. The remainder of the site was covered by hardstand pavement and grass, covering a total area of 4,200 m<sup>2</sup>;
- There is no evidence to suggest that the site was previously used for commercial purposes. Review of historic aerial photography indicated that the site was a vacant land at least until 1965 and later was used for residential purposes to date;
- A search through the record of notices for contaminated land indicated that the site and neighbouring sites were free of statutory notices issued by the NSW EPA. The site was not identified on the List of NSW contaminated sites notified to the EPA;
- A conceptual site model (CSM) was produced for the site, which identified low potential contamination risk on the site.

## Conclusions and Recommendations

Taking into account the above considerations and subject to the statement of limitations (**Section 8**), EI consider that the site can be made suitable for its proposed use, subject to the implementation of recommendations detailed in **Section 7**.

Based on the findings presented above, EI provide the following recommendations:

- A Hazardous Materials Survey should be completed by a suitably qualified and experienced consultant, before commencement of demolition works, to identify any hazardous materials present within the building structure. All identified hazardous materials must be appropriately managed to maintain worker health and safety during site construction works;
- Following demolition, a Clearance Inspection and Certificate should be prepared by a suitably qualified and experienced consultant;

- Removal of the identified septic tank and its contents identified at 121 Minto Road, Minto. Following removal an assessment should be carried out by a suitably qualified environmental consultant to demonstrate effective removal;
- Removal of the shallow soil profile (i.e. anthropogenic fill / topsoil) from areas of proposed landscaping to ensure any impacted soil (including undesirable aesthetic impacts) are removed from the site;
- Soil materials being removed from site (including virgin excavated natural materials or VENM) as part of any excavation works are to be classified for off-site disposal in accordance the EPA (2014) *Waste Classification Guidelines*;
- Any material being imported to the site (i.e. for landscaping purposes) should be assessed for potential contamination in accordance with NSW EPA guidelines as being suitable for the intended use or be classified as VENM;
- Should undiscovered contamination (i.e. hazardous materials including asbestos, UST, odorous and stained soils) be identified during redevelopment, all works should cease and a suitability qualified environmental consultant engaged to suitably address the issue.



# 1. Introduction

## 1.1 Background and Purpose

Mr Matthew Pisarkiewicz of Urban Link Pty Ltd, on behalf of Australian Construction Experts Pty Ltd, engaged EI Australia (EI) to conduct a Preliminary Site Investigation (PSI) of the land parcel located at 12-16 Francis Street & 121 Minto Road, Minto NSW (herein referred to as the 'the site'). EI understand that this PSI will accompany a Development Application (DA) to Campbelltown City Council for proposed redevelopment of the property.

The site is located within the Local Government Area (LGA) of Campbelltown City Council approximately 6.1 km north-east of the Campbelltown Central Business District (CBD), as shown in **Figure 1**. The site is further identified as Lots 6, 7, 8, and 22 in Section 12 DP1186, covering a total area of approximately 4,200 m<sup>2</sup>, as shown on the demolition plan attached in **Appendix B**. At the time of this investigation the site was occupied by four residential dwellings and associated sheds. The remainder of the site was covered by hardstand pavement and grass.

## 1.2 Proposed Development

Proposed development plans (Ref. Urban Link, Project number: 18-19, dated 19 September 2019) indicate the site redevelopment will include demolition of existing structures and construction of 23 two-level residential townhouses with associated one-level basement car parking, as shown in **Appendix B**.

## 1.3 Regulatory Framework

The following regulatory framework and guidelines were considered during the preparation of this report:

- *Contaminated Land Management Act 1997* (the CLM Act);
- NSW EPA (2017) *Contaminated Land Management: Guidelines for the NSW Site Auditor Scheme (3<sup>rd</sup> Edition)*;
- Campbelltown Local Environmental Plan 2015;
- NEPC (2013) *Schedule B(2) Guideline on Site Characterisation*, in Amended National Environmental Protection (Assessment of Site Contamination) Measure 1999;
- OEH (2011) *Guidelines for Consultants Reporting on Contaminated Sites*, NSW Office of Environment and Heritage (OEH), August 2011; and
- State Environment Protection Policy 55 (SEPP 55) *Remediation of Land, under the NSW Environmental Planning and Assessment Act 1997*.

## 1.4 Project Objectives

The primary objectives of this PSI is to provide a qualitative assessment of the environmental conditions of the site by appraising the potential for site contamination on the basis of field observations, historical land uses, anecdotal and documentary evidence.

## 1.5 Scope of Works

### 1.5.1 Desktop Study

- A review of existing underground services on site ('Dial-before-you-dig' - DBYD);
- A review of relevant hydrogeological and soil landscape maps for the project area;
- A search of historical aerial photographs archived at the NSW Land and Property Information in order to review previous site use and the historical sequence of land development in the neighbouring area;
- A site history survey involving a detailed search of Council for information relating to operational site history;
- A land titles search, also conducted through NSW Land and Property Information;
- A search through the OEH Land Information records to confirm that there are no statutory notices current on the site under the Contaminated Land Management Act (1997);
- A detailed site walkover inspection; and
- Data interpretation and reporting.

### 1.5.2 Data Analysis and Reporting

The final task of the assessment involves the preparation of this PSI report, in accordance with OEH (2011) reporting guidelines, to document investigation works, with discussion of search findings in regards to potential risks to human health, the environment, and the aesthetic enjoyment of the land.

## 2. Site Description

### 2.1 Property Identification, Location, and Physical Setting

The site identification details and associated information are presented in **Table 2-1**, while the site locality is shown in **Figure 1**.

**Table 2-1 Site Identification**

Attribute	Description
Street Address	12-16 Francis Street & 121 Minto Road, Minto NSW
Location Description	<p>Approx. 6.1 km north-east of Campbelltown CBD, bound by:</p> <ul style="list-style-type: none"> <li>▪ <b>North:</b> Francis Street, followed by residential properties;</li> <li>▪ <b>East:</b> Residential properties, followed by Burford Street;</li> <li>▪ <b>South:</b> Residential properties and Minto Road; and</li> <li>▪ <b>West:</b> Residential properties</li> </ul>
Site Coordinates	<p>Northern-eastern corner of site (GDA94-MGA56):</p> <ul style="list-style-type: none"> <li>▪ Easting: 301775.47</li> <li>▪ Northing: 6233790.9</li> </ul> <p>(Source: <a href="http://maps.six.nsw.gov.au">http://maps.six.nsw.gov.au</a>)</p>
Site Area	<p>Approx. 4,200 m<sup>2</sup></p> <p>(Ref. Urban Link, 2019. <i>Demolition Plan</i>, dated 19 September 2019.)</p>
Lot and Deposited Plan (DP)	Lots 6, 7, 8, and 22 in Section 12 DP1186
State Survey Marks	<p>Three State Survey (SS) marks and seven Permanent Mark (PM) are situated within close proximity (approx. 200m) to the site:</p> <ul style="list-style-type: none"> <li>▪ SS9032, PM52271, PM16632D, PM2608D and PM52270: on the corner of Minto Road and Pembroke Road (approx. 150m south-west);</li> <li>▪ PM72470D: on the Collis Place (approx. 100m south-east);</li> <li>▪ PM52283: on the Minto Road (approx. 160m east);</li> <li>▪ PM52284N: on the Burford Street (approx. 150m north-east);</li> <li>▪ SS50902: on the corner of Burford Street and Nelson Street (approx. 180m north-east); and</li> <li>▪ SS50901: on the corner of Nelson Street and Bunker Street (approx. 160m north-west)</li> </ul> <p>(Source: <a href="http://maps.six.nsw.gov.au">http://maps.six.nsw.gov.au</a>).</p>
Local Government Authority	Campbelltown City Council
Parish	Minto
County	Cumberland
Current Zoning	<p>R2 – Low Density Residential;</p> <p>(Campbelltown Local Environmental Plan 2015)</p>

## 2.2 Local Land Use

The site is situated within a low density residential area as described in **Table 2-2**. The local sensitive receptors within close proximity to the site are also identified.

**Table 2-2 Local Land Use**

Direction	Land Use Description	Sensitive Receptors (& distance from site)
North	<ul style="list-style-type: none"> <li>Low density residential properties</li> <li>Byram Reserve</li> </ul>	<ul style="list-style-type: none"> <li>Residential properties (approx. 30m N)</li> <li>Byram Reserve (approx. 250m NW)</li> <li>Bow Bowing Creek (approx. 350m NW)</li> </ul>
South	<ul style="list-style-type: none"> <li>Low density residential properties</li> </ul>	<ul style="list-style-type: none"> <li>Residential properties (approx. 130m S)</li> <li>Un-named Watercourse (approx. 120m S)</li> </ul>
East	<ul style="list-style-type: none"> <li>Low density residential properties</li> </ul>	<ul style="list-style-type: none"> <li>Residential properties (direct adjacent)</li> </ul>
West	<ul style="list-style-type: none"> <li>Low density residential properties</li> <li>Bunker Reserve</li> </ul>	<ul style="list-style-type: none"> <li>Residential properties (direct adjacent)</li> <li>Bunker Reserve (&lt;180m W)</li> <li>Un-named Watercourse (approx. 200m W)</li> </ul>

## 2.3 Regional Setting

Local topography, geology, soil landscape, and hydrogeological information are summarised in **Table 2-3**.

**Table 2-3 Regional Setting**

Attribute	Description
Topography	The site has gently sloping (<5%) topography towards the west. The regional topography slopes from south-east towards the north-west.
Site Drainage	<p>Site drainage (i.e. municipal stormwater) is likely to be consistent with the regional topography.</p> <p>Stormwater is likely collected by pit and pipe drainage flowing into the municipal stormwater system, which likely flows to the Bow Bowing Creek approx. 350m north-west to the site.</p> <p>Additionally, large portions of the site have accessible soils, which allow water to infiltrate into the ground.</p>
Regional Geology	<p>Information on regional sub-surface conditions, referenced from the Department of Mineral Resources Wollongong-Port Hacking 1:100,000 <i>Geological Series Sheet 9029-9129</i> indicated the site is underlain by Ashfield Shale (Rwa) consisting of laminite and dark-grey siltstone. However, the site is close to the geological boundary with Hawksbury Sandstone, described as medium to coarse grained quartz Sandstone with very minor shale and laminite lenses.</p> <p>Previous investigations by EI undertaken in the area have indicated silty to sandy clay overlying shale (to the south-west of the site) or sandstone (to the north-east of the site).</p>



Attribute	Description
Soil Landscapes	<p>The Soil Conservation Service of NSW Soil Landscapes of the Wollongong-Port Hacking 1:100,000 Sheet (Hazelton PA and Tille PJ, 1990) indicates that the site overlies the residual Blacktown (bt) soil landscape.</p> <p>This landscape type is characterised by gently undulating rises on Wianamatta Group shale. Broad rounded crests and ridges with gently inclined slopes. Almost completely cleared eucalypt woodland, open-forest and tall open-forest.</p>
Acid Sulfate Soil (ASS) Risk	<p>With reference to the Acid Sulfate Soil Risk Map (1:25,000 scale; Murphy, 1997) and the Campbelltown LEP (2015), the site is not mapped with respect to ASS.</p> <p>The Atlas of Australian Acid Sulfate Soils (Ref. CSIRO 2011) shows the site is within an area which is classified as Class C “Extremely Low”, with 1-5% chance of occurrence with occurrences in small localised areas.</p>
Salinity Potential	The DIPNR Salinity Potential in Western Sydney (2002) map indicates that the site is within an area of Moderate Salinity Potential.
Nearest Surface Water Feature	The Bow Bowling Creek approx. 350m north-west to the site.
Anticipated Groundwater Flow Direction	Inferred to be towards the Bow Bowling Creek located approximately 350m north-west to the site.

## 2.4 Groundwater Bore Records and Local Groundwater Use

An online search of registered groundwater bores was conducted by EI on 16 October 2019 through the WaterNSW (Ref. <https://realtimedata.waternsw.com.au/water.stm>). There were no registered bores within a 500 m radius of the site, as shown in **Appendix D**.

## 2.5 Site Walkover Inspection

Site observations were recorded during a site walkover inspection of the site on 8 October 2019. A summary of site observations is detailed below and site photographs taken during the inspection are present in **Appendix C**. Site observations indicated that:

- The site was occupied by four residential dwellings and associated sheds. The remainder of the site consisted of accessible soils and hardstand pavements.
- Property number 121 Minto Road (Lot 22 in Section 12 DP1186) was a two-storey residential dwelling; ground level was constructed with brick walls and first level was constructed with timber cladding. Two metal awnings, a single storey building and two metal sheds were located at the eastern boundary of the site; a concrete driveway was located in the south-eastern portion of the site, accessible from Minto Road;
  - A covered possible septic tank was observed next to the house, in the eastern portion of the site (Photo 3);
  - Small amounts of timber were stored under the metal awning, in the south-eastern portion of the site (Photo 2);
- Property number 12 Francis Street (Lot 8 in Section 12 DP1186) was a single storey residential dwelling, constructed with brick walls and a tiled roof; a paved driveway was located in the north-western portion of the site, accessible from Francis Street;

- A groundwater monitoring well (marked as BH4), which was possibly recently constructed, was observed in the front yard of the house (Photo 5);
- Property number 14 Francis Street (Lot 7 in Section 12 DP1186) was a single storey brick house with a tiled roof. A metal garage with a metal awning, a metal shed and a pool were located at the backyard area of the site. A paved driveway was located in the north-western portion of the site, accessible from Francis Street; large portions of the backyard area were paved with hardstand; all paved areas were in good condition;
- Property number 16 Francis Street (Lot 6 in Section 12 DP1186) was a single storey brick house with a tiled roof. A metal shed was located in the backyard. A paved driveway was located in the north-eastern portion of the site, accessible from Francis Street. Large portions of the backyard area consisted of accessible soils; a concrete slab used as a carpark was located at the south-eastern corner of the site;
- A groundwater monitoring well (marked as BH6), which was possibly recently constructed, was observed in the front yard of the house (Photo 9);
- The vegetation on the site did not appear stressed;
- Surrounding land uses were low density residential properties;
- No unusual odours were detected during the inspection; and
- No evidence of an underground petroleum storage system (UPSS) was observed.

### 3. Previous Investigations

EI are unaware of any previous environmental investigations having been completed at the site.

## 4. Site History and Searches

### 4.1 Historical Information / Historical Aerial Review

A historical search was conducted through Lotsearch on 2 October 2019. Copies of relevant documents resulting from this search are presented in **Appendix E**. A summary of information obtained from the available historical aerial photographs, in relation to past potential land uses are presented in **Table 4-1**. The historical aerial photographs reviewed as part of this PSI included:

- **1956:** NSW 240 5051, Cumberland Camden, 2-7-56, Run 31, Lands Photo;
- **1965:** NSW 1412 5074, Cumberland 1965 Series, 3-10-65, Run 27w, Lands Photo;
- **1984:** NSW 3410 66, Wollongong 1984, 1: 16000 Colour NSW 3410 (M1623), 8-10-84, Run 2, Department of Lands;
- **1990:** Wollongong 1: 16000 Colour NSW 3762, 11-11-90, Run 2, Surveyor-General's Department;
- **2002:** Wollongong 1: 25000 Approx. Scale NSW 4723 (M2300), 15-03-02, Run 1, Department of Lands;
- **2019:** Google Earth.

**Table 4-1 Summary of Aerial Photograph History**

Aerial Photograph	Site description based on historical aerial photographs	Land use
1956	The site appeared to be a vacant land. Surrounding areas appeared to be vacant lands and a railway had been constructed approx. 650 west to the site, in a northeast to southwest direction.	Vacant land
1965	The site appeared to be unchanged. Surrounding areas appeared to be unchanged.	Vacant land
1984	A house had been constructed on site (121 Minto Road). Surrounding areas appeared to have been developed into low density residential properties.	Residential
1990	Residential dwellings had constructed on site (12, 14, and 16 Francis Road). Surrounding areas appeared to be unchanged.	Residential
2002, 2019	The site appeared to be unchanged. Surrounding areas appeared to be unchanged.	Residential

In summary, there is no evidence to suggest that the site was previously used for commercial purposes. Review of historic aerial photography indicated that the site was a vacant land at least until 1965 and later was used for residential purposes to date.



## 4.2 Council Information

An application to access records held by Campbelltown City Council was still pending at the time of the report writing. Should pertinent information be identified upon receipt of council records, an addendum to the PSI will be prepared and issued.

## 4.3 EPA Online Records

### 4.3.1 Contaminated Land - Record of Notices under Section 58 of CLM Act (1997)

An on-line search of the contaminated land public record of EPA Notices was conducted on 16 October 2019. The contaminated land public record is a searchable database of:

- Orders made under Part 3 of the *Contaminated Land Management Act 1997* (CLM Act);
- Notices available to the public under Section 58 of the CLM Act;
- Approved voluntary management proposals under the CLM Act that have not been fully carried out and where the approval of the Environment Protection Authority (EPA) has not been revoked;
- Site audit statements provided to the NSW EPA under section 53B of the CLM Act that relate to significantly contaminated land;
- Where practicable, copies of anything formerly required to be part of the public record; and
- Actions taken by NSW EPA under section 35 or 36 of the *Environmentally Hazardous Chemicals Act 1985* (EHC Act).

The search confirmed that the site known as 12-16 Francis Street & 121 Minto Road, Minto NSW and surrounding lands within close proximity (within 250 m) were not subject to any regulatory notices relevant to the above legislation.

### 4.3.2 List of NSW contaminated sites notified to EPA

A search through the List of NSW Contaminated Sites notified to the EPA under Section 60 of the CLM Act 1997 was conducted on 16 October 2019. This list is maintained by NSW EPA and includes properties on which contamination has been identified. Not all notified land is deemed to be impacted significantly enough to warrant regulation by the NSW EPA. The site or localities in proximity ( $\leq 250$  m) to the site have not been notified as contaminated to the EPA.

### 4.3.3 POEO Public Register

A search of the Protection of the Environment Operations (POEO) Act public register was conducted on 16 October 2019. The public register contains records related to environmental protection licences, applications, notices, audits, pollution studies, and reduction programmes. The search for Minto, Ingleburn, Minto Heights and Bow Bowing did not identify any properties within close proximity (approx. 250 m) to the site on the POEO Public register.

## 5. Site Characterisation

### 5.1 Overview

In accordance with NEPM (2013) *Schedule B2 – Guideline on Site Characterisation* and to aid in the assessment of data collection for the site, EI developed a conceptual site model (CSM) that assessed plausible pollutant linkages between potential contamination sources, migration pathways, and receptors. EI has reviewed this model and it has further developed the CSM so as to provide a framework for the review of the reliability and useability of the data collected and to identify data gaps in the existing site characterisation.

### 5.2 Historical Site Use and Generic Risks

Based on the historical information available, the site was used for rural residential purposes to date (see **Table 4-1**).

The assessment of these risks in relation to this site is outlined in **Table 5-1**.

**Table 5-1 Assessment of Potential Contamination Risk**

Potential Sources	Impacted Media	Potential Contaminants of Concern	Likelihood for Contamination
Importation of fill of unknown origin and quality placed at the site	Shallow Soil	HM, TRH, PAH, BTEX, OC/OP Pesticides, PCB and asbestos	<b>Low</b> While significant filling was not observed during site walkover, there is the possibility that filling material may have been used for levelling purposes during the construction of the structures.
Hazardous building products contained in existing site structures	Building fabrics	HM, asbestos and PCB	<b>Low</b> Hazardous building products are may be present in the existing structure and should be managed appropriately during demolition. A hazardous materials survey should be conducted prior to demolition.
Weathering of exposed building fabrics, painted surfaces and metallic objects from site structures	Near surface soil	HM and asbestos	<b>Low</b> Given the age of the structures, potential lead-based paints and asbestos-containing building materials may be used in existing site buildings.
Potential contamination of site soils from previous pesticide use	Near surface soil beneath existing buildings	HM, PCB, OCP	<b>Low</b> Any impacts, should they be present, would likely be present within the perimeter of existing structures. If present, pesticides are expected to be limited to shallow soils considering the nature of the application.

Potential Sources	Impacted Media	Potential Contaminants of Concern	Likelihood for Contamination
On-site Septic Tank	Soil directly adjacent to the tank	Pathogens	<b>Low</b> Any impacts, if present, will be limited to the area surrounding the septic tank structure.
<p>Note 1 HM – Heavy Metals (arsenic, cadmium, chromium, copper, lead, mercury, nickel, and zinc) unless otherwise indicated, TRH – Total Recoverable Hydrocarbons, PAH – Polycyclic Aromatic Hydrocarbons, BTEX – Benzene, Toluene, Ethylene and Xylene, OC/OP pesticides - Organochlorine and Organophosphorus Pesticides, PCB - Poly-chlorinated Biphenyls, Pathogens – Faecal Streptococci, E Coli, Salmonella.</p>			

### 5.3 PFAS Assessment

EPA (2017) requires that PFAS is considered in assessing contamination. EI use the following decision tree (**Table 5-2**) based on EnRisk (2016) for prioritising the potential for PFAS to be present on site and whether PFAS sampling of soil and groundwater is required.

**Table 5-2 PFAS Decision Tree**

Preliminary Screening	Probability	Justification
Did fire training occur on-site?	Low	The site was used for residential purposes.
Is an airport or fire station up gradient of or adjacent to the site? <sup>1</sup>	Low	Fire and Rescue NSW St. Andrews Fire Station is located approximate 2 km south-west to the site. The risk of migration of PFAS contamination to the site is low due to long distance, topography and underlying geology.
Have “fuel” fires ever occurred on-site? (e.g. ignition of fuel (solvent, petrol, diesel, kerosene)	Low	The site has being used as residential land, no evidence suggests a fire occurred onsite.
Have PFAS been used in manufacturing or stored on-site? <sup>2</sup>	Low	PFAS contamination not expected to be associated with the specific land uses of the site.

Note 1 Runoff from fire training areas may impact surface water, sediment and groundwater.

Note 2 PFAS is used wide range of industrial processes and consumer products, including in the manufacture of non-stick cookware, specialised garments and textiles, Scotchguard™ and similar products (used to protect fabric, furniture, leather and carpets from oils and stains), metal plating and in some types of fire-fighting foam (<https://www.nicnas.gov.au/chemical-information/factsheets/chemical-name/perfluorinated-chemicals-pfas>)

Note 3 If medium or high probability is applicable to any of the preliminary screening questions, the site analytical suite will be optimised to include preliminary sampling and testing for PFAS in soil (ASLP Testing) and water.

### 5.4 Emerging Chemicals

The NSW EPA uses Chemical Control Orders (CCOs) as a primary legislative tool under the EHC Act (1985) to selectively and specifically control chemicals of concern and limit their potential impact on the environment. CCOs provide the EPA a rapid and flexible mechanism for responding to emerging chemical issues. As with PFAS compounds, EI has considered chemicals controlled by CCOs and other potential emerging chemicals in this assessment as outlined in **Table 5-3** below.

**Table 5-3 Emerging or Controlled Chemicals**

Chemicals of Concern (CCO or emerging)	Decision
Were aluminium smelter wastes used or stored on site (CCO, 1986)?	No
Do dioxin contaminated wastes (CCO, 1986) have the potential to impact the site? <sup>1</sup>	No
Were organotin products (CCO, 1989) used or stored on site? <sup>2</sup>	No
Were polychlorinated biphenyls (PCBs) used or PCB wastes (CCO, 1997) stored on-site? <sup>3</sup>	No
Were scheduled chemical or wastes (CCO, 2004) used or stored <sup>4</sup>	No
Are other emerging chemicals suspected? <sup>5</sup>	No
If Yes to any questions, has site sampling suite been optimised to include specific sampling for other chemicals of concern in soil, air and water	-

Note 1 From burning of certain chemicals, smelting or chemical manufacturing or fire on or near the Site.

Note 2 From anti-fouling paints used or removed at boat & ship yards and marinas.

Note 3 From older transformer oils & electrical capacitors

Note 4 Twenty-four mostly organochlorine pesticides and industrial by-products

Note 5 Other chemicals considered as emerging e.g. 1,4 dioxane (associated with some cVOCs).

## 5.5 Conceptual Site Model

### 5.5.1 Overview

In accordance with NEPM (2013) *Schedule B2 – Guideline on Site Characterisation* and to aid in the assessment of data collection for the site, EI developed a conceptual site model (CSM) assessing plausible pollutant linkages between potential contamination sources, migration pathways and receptors. The CSM provides a framework for identifying data gaps in the existing site characterisation and future site assessments. Potential contamination sources, exposure pathways and receptors that were considered relevant for this assessment are summarised along with a qualitative assessment of the potential risks posed by complete exposure pathways.

### 5.5.2 Potential Contamination Sources

On the basis of the PSI findings potential contamination sources are as follows:

- Unknown type and concentration of contaminants within imported fill soils beneath site structures;
- Hazardous building materials (including potential ACM) present within the site structures;
- Weathering of exposed building structures (including, painted surfaces, metallic objects, cement-fibre sheeting etc.);
- Application of pesticides onsite, particularly beneath building footprints; and
- On-site septic tank.

### 5.5.3 Contaminants of Potential Concern

Based on the findings of the PSI, the contaminants of potential concern (COPC) at the site are considered to be:



- Heavy Metals (HM);
- Total Recoverable Hydrocarbons (TRH);
- Benzene, Toluene, Ethylbenzene, and xylene (BTEX);
- Polycyclic Aromatic Hydrocarbons (PAH);
- Organochlorine and Organophosphorus Pesticides (OCP/ OPP);
- Polychlorinated Biphenyls (PCB);
- Asbestos; and
- Pathogens

#### **5.5.4 Potential contamination in the context of the site**

Given that the identified potential sources of contamination at the site all affect the shallow soil profile or existing building structures (i.e. above ground), and given the expected presence of cohesive soil below the site that would inhibit the vertical migration of any contaminants through the soil profile, it is considered extremely unlikely that groundwater will have been adversely impacted by historical or current uses of the site.

#### **5.5.5 Potential Pollutant Linkages**

Potential contamination sources, exposure pathways and human and environmental receptors that were considered relevant for this assessment are summarised in **Table 5-4**.

### **5.6 Data Gaps**

Based on the CSM derived for the site and the above qualitative assessment of risks, the following data gaps have been identified, which are considered to warrant closure by limited additional investigation:

- The presence of hazardous building materials within the site structures.

**Table 5-4 Conceptual Site Model**

Source	Contaminant of Concern	Potential Pathway	Receptor
Imported fill soils Contamination derived Current and historical site uses	<ul style="list-style-type: none"> <li>Metals</li> <li>PAH</li> <li>Asbestos</li> </ul>	<ul style="list-style-type: none"> <li>Ingestion</li> <li>Inhalation (dust)</li> <li>Dermal Contact</li> </ul>	<ul style="list-style-type: none"> <li>Construction Workers</li> <li>Future Site Users</li> <li>Adjacent Site Users</li> </ul>
		<ul style="list-style-type: none"> <li>Root Uptake</li> </ul>	<ul style="list-style-type: none"> <li>Planting within proposed landscaping</li> </ul>
Hazardous materials present within the site structures or from the demolished structures  Weathering of exposed building structures	<ul style="list-style-type: none"> <li>Asbestos</li> <li>Metals</li> </ul>	<ul style="list-style-type: none"> <li>Ingestion</li> <li>Inhalation (dust)</li> <li>Dermal Contact</li> </ul>	<ul style="list-style-type: none"> <li>Construction Workers</li> <li>Future Site Users</li> <li>Adjacent Site Users</li> </ul>
		<ul style="list-style-type: none"> <li>Root Uptake</li> </ul>	<ul style="list-style-type: none"> <li>Planting within proposed landscaping</li> </ul>
Application of pesticides on site	<ul style="list-style-type: none"> <li>Pesticides</li> <li>PCBs</li> </ul>	<ul style="list-style-type: none"> <li>Ingestion</li> <li>Inhalation (dust)</li> <li>Dermal Contact</li> </ul>	<ul style="list-style-type: none"> <li>Construction Workers</li> <li>Future Site Users</li> <li>Adjacent Site Users</li> </ul>
		<ul style="list-style-type: none"> <li>Root Uptake</li> </ul>	<ul style="list-style-type: none"> <li>Planting within proposed landscaping</li> </ul>
Identified Septic Tank	<ul style="list-style-type: none"> <li>Pathogens</li> </ul>	<ul style="list-style-type: none"> <li>Ingestion</li> <li>Inhalation (dust)</li> <li>Dermal Contact</li> </ul>	<ul style="list-style-type: none"> <li>Construction Workers</li> <li>Future Site Users</li> <li>Adjacent Site Users</li> </ul>

## 6. Conclusions

The property located at 12-16 Francis Street & 121 Minto Road, Minto NSW was the subject of a Preliminary Site Investigation. The investigation was prepared to accompany a Development Application to Campbelltown City Council for the redevelopment of the site, including demolition of existing structures and construction of 23 residential townhouses with associated one-level basement car parking, as shown in **Appendix B**.

Based on the findings of this assessment, it is concluded that:

- The site was occupied by four residential brick dwellings and associated sheds. The remainder of the site consisted of accessible soils and hardstand pavements.
  - Two groundwater monitoring wells were observed in the front yard of 12 and 16 Francis Street respectively;
  - A covered possible septic tank was observed in the eastern portion of the site at 121 Minto Road.
- There is no evidence suggested that the site was previously used for commercial purposes. Review of historic aerial photography indicated that the site was a vacant land at least until 1965 and later was used for residential purposes to date.
- A search through the record of notices for contaminated land indicated that the site and neighbouring site were free of statutory notices issued by the NSW EPA. The site was not identified on the List of NSW contaminated sites notified to the EPA.
- A conceptual site model (CSM) was produced for the site, which identified low potential contamination risk on the site.

Taking into account the above considerations and subject to the statement of limitations (**Section 8**), EI consider that the site can be made suitable for its proposed use, subject to the implementation of recommendations detailed in **Section 7**.

## 7. Recommendations

Based on the CSM developed for the site and the findings presented above, EI provide the following recommendations:

- A Hazardous Materials Survey should be completed by a suitably qualified and experienced consultant, before commencement of demolition works, to identify any hazardous materials present within the building structure. All identified hazardous materials must be appropriately managed to maintain worker health and safety during site construction works;
  - Following demolition, a Clearance Inspection and Certificate should be prepared by a suitably qualified and experienced consultant;
- Removal of the identified septic tank and its contents identified at 121 Minto Road, Minto. Following removal an assessment should be carried out by a suitably qualified environmental consultant to demonstrate effective removal;
- Removal of the shallow soil profile (i.e. anthropogenic fill / topsoil) from areas of proposed landscaping to ensure any impacted soil (including undesirable aesthetic impacts) are removed from the site;
- Soil materials being removed from site (including virgin excavated natural materials or VENM) as part of any excavation works are to be classified for off-site disposal in accordance the EPA (2014) *Waste Classification Guidelines*;
- Any material being imported to the site (i.e. for landscaping purposes) should be assessed for potential contamination in accordance with NSW EPA guidelines as being suitable for the intended use or be classified as VENM;
- Should undiscovered contamination (i.e. hazardous materials including asbestos, UST, odorous and stained soils) be identified during redevelopment, all works should cease and a suitability qualified environmental consultant engaged to suitably address the issue.

## 8. Statement of Limitations

This report has been prepared for the exclusive use of Australian Construction Experts Pty Ltd, who is the only intended beneficiary of EI's work. The scope of the investigations carried out for the purpose of this report is limited to those agreed with Urban Link Pty Ltd (on behalf of Australian Construction Experts Pty Ltd) on 26 September 2019.

No other party should rely on the document without the prior written consent of EI, and EI undertakes no duty, or accepts any responsibility or liability, to any third party who purports to rely upon this document without EI's approval.

EI has used a degree of care and skill ordinarily exercised in similar investigations by reputable members of the environmental industry in Australia as at the date of this document. No other warranty, expressed or implied, is made or intended. Each section of this report must be read in conjunction with the whole of this report, including its appendices and attachments.

The conclusions presented in this report are based on a limited assessment of historical site use and current use of the site. Due to the preliminary nature of this assessment, findings are not based on actual samples collected or testing conducted. EI has relied upon information provided by the Client and other third parties to prepare this document, some of which could not be verified by EI due to the anecdotal or historical nature of the information.

EI's professional opinions are reasonable and based on its professional judgment, experience and training.

EI's professional opinions contained in this document are subject to modification if additional information is obtained through the data searches that have been initiated with government authorities, but for which the requested information is still pending.

Technical opinions may also be amended in the light of further investigation, observations, or validation testing and analysis during remedial activities. In some cases, further testing and analysis may be required, which may result in a further report with different conclusions.

## References

- Campbelltown Local Environmental Plan 2015;
- DIPNR (2003) *Salinity Potential in Western Sydney 2002 Map*, dated March 2003;
- DMR (1985) Wollongong-Port Hacking 1:100,000 Geological Series Sheet 9029-9129 (Edition 1) *Geological Survey of New South Wales*, Department of Mineral Resources;
- EPA (2017) *Contaminated Land Management: Guidelines for the NSW Site Auditor Scheme* (3rd Edition), NSW EPA, October 2017;
- Fitzpatrick Rob., Powell, Bernie, Marvanek and Steve (2011) *Atlas of Australian Acid Sulphate Soils*, v2, CSIRO, Data Collection;
- Hazelton, P.A. and Tille, P.J. (1990) *Soil Landscapes of the Wollongong-Port Hacking 1:100,000 Sheet map and report*, Soil Conservation Service of NSW, Sydney;
- Murphy CL (1997) *Acid Sulfate Soil Risk*, Department of Land and Water Conservation, Sydney, Second Edition. Supplied by the Sydney South Coast, Geographical Information Systems Unit;
- NEPM (2013) Schedule B1 Guideline on Investigation Levels for Soil and Groundwater, Schedule B2 Guideline on Site Characterisation and Schedule B4 Guideline on site-specific health risk assessments, National Environmental Protection (Assessment of Site Contamination) Measure 1999, National Environmental Protection Council, December 1999, Amendment 2013;
- NSW Government (1997) *Contaminated Land Management Act* 1997 No 140;
- OEH (2011) *Guidelines for Consultants Reporting on Contaminated Sites*, NSW Office of Environment and Heritage (OEH), OEH 2011/0650, 23 p;
- SEPP 55 (1997) *State Environment Protection Policy 55, Remediation of Land under the Environmental Planning and Assessment Act 1997*; and
- Urban Link (2019) *Development Application*, Townhouse building development 12-16 Francis St & 121 Minto St, Minto NSW, dated 19 September 2019.

## Abbreviations

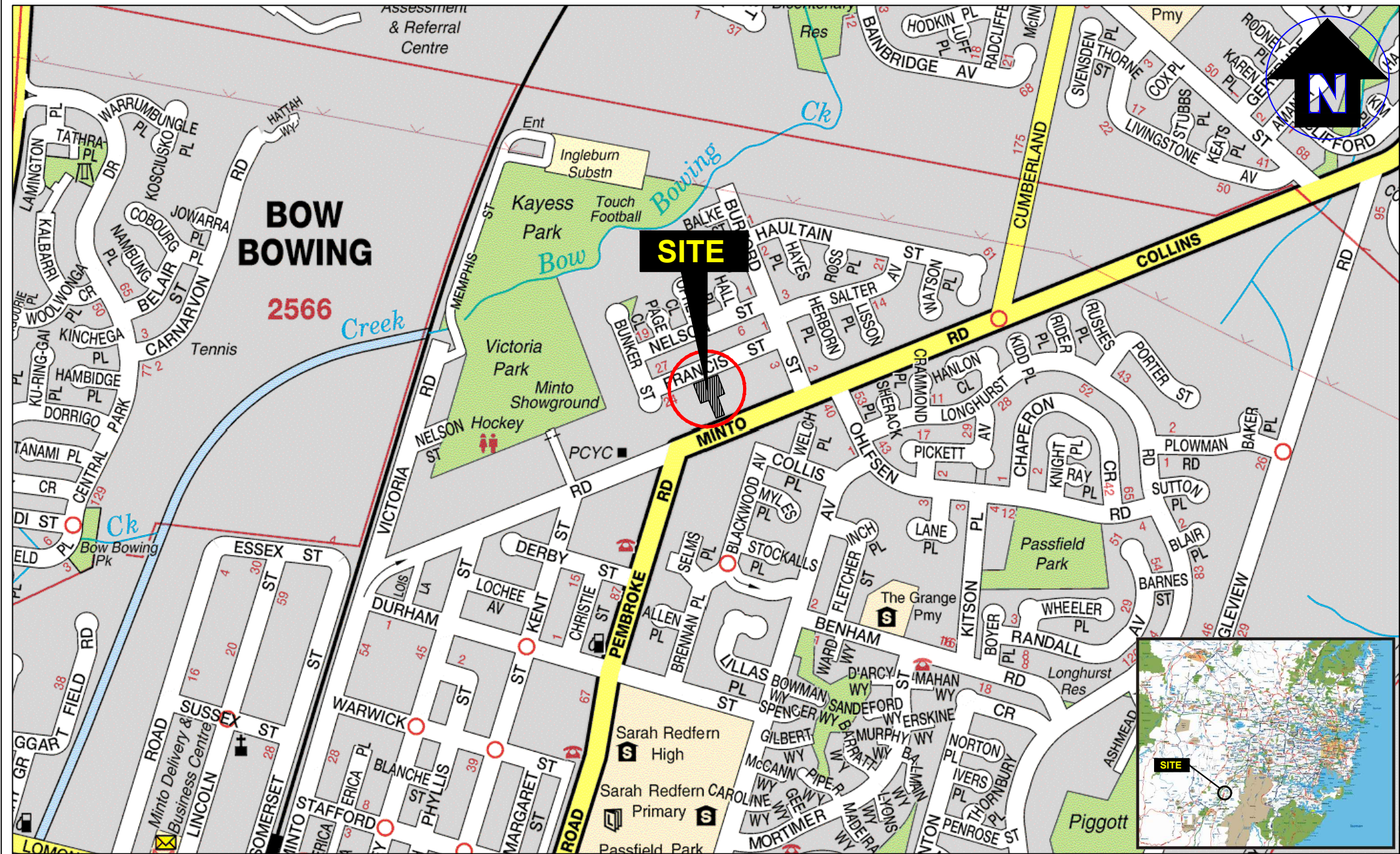
ACM	Asbestos-containing materials
ASS	Acid sulfate soils
BTEX	Benzene, Toluene, Ethylbenzene, Xylene
CBD	Central Business District
CFS	Cement Fibre Sheeting
COPC	Contaminants of Potential Concern
CSM	Conceptual Site Model
DA	Development Application
DEC	Department of Environment and Conservation, NSW (see OEH)
DECC	Department of Environment and Climate Change, NSW (see OEH)
DP	Deposited Plan
EI	EI Australia
EPA	Environment Protection Authority
km	Kilometres
LEP	Local Environmental Plan
LGA	Local Government Area
m	Metres
mAHD	Metres Australian Height Datum
mBGL	Metres Below Ground Level
NEPC	National Environmental Protection Council
NEPM	National Environmental Protection Measure
NSW	New South Wales
OCP	Organochlorine Pesticides
OEH	Office of Environment and Heritage, NSW (formerly DEC, DECC, DECCW)
OPP	Organophosphorus Pesticides
PAHs	Polycyclic Aromatic Hydrocarbons
PCB	Polychlorinated Biphenyls
PFAS	Per- and poly-fluoroalkyl substances
PSI	Preliminary Site Investigation
TRH	Total Recoverable Hydrocarbons (non-specific analysis of organic compounds)
UPSS	Underground Petroleum Storage System



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## Appendix A - Figures

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Drawn:	L.W.
Approved:	C.S.
Date:	23-10-19
Scale:	Not To Scale

Australian Construction Experts Pty Ltd  
Preliminary Site Investigation  
12 - 16 Francis Street & 121 Minto Road, Minto NSW  
Site Locality Plan

Figure:

1





LEGEND

- Approximate site boundary
- Approximate basement boundary
- Observed approximate groundwater monitoring well location
- Observed approximate septic tank location



Suite 6.01, 55 Miller Street, PYRMONT 2009  
Ph (02) 9516 0722 Fax (02) 9518 5088

Drawn:	L.W.
Approved:	C.S.
Date:	23-10-19

Australian Construction Experts Pty Ltd  
Preliminary Site Investigation  
12 - 16 Francis Street & 121 Minto Road, Minto  
NSW  
Site Layout Plan

Figure: 2
Project: E24391.E01



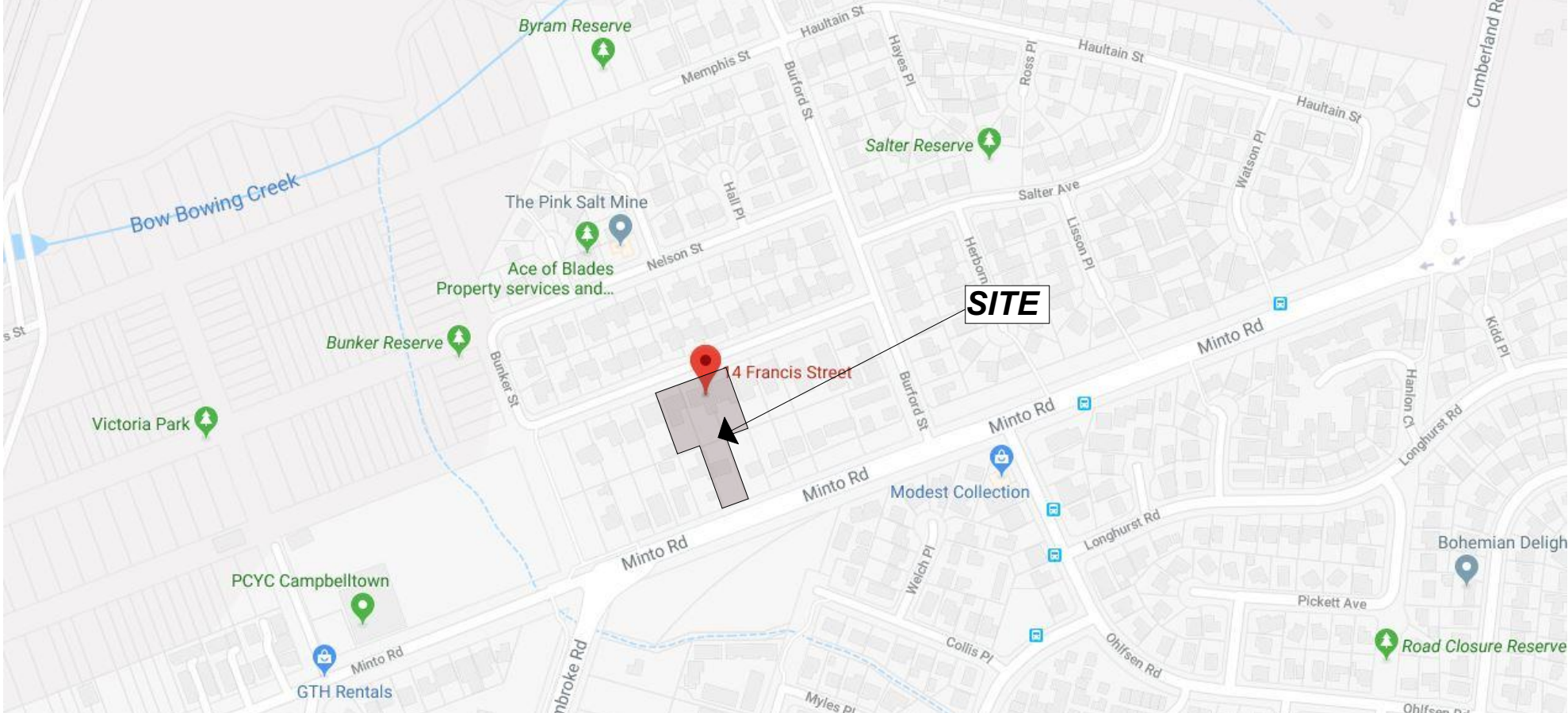
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## Appendix B – Proposed Development Plans

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PROPOSED TOWNHOUSE DEVELOPMENT COMPRISING OF  
A 2 STOREY, 23 RESIDENTIAL DWELLINGS  
AND 1 LEVEL OF BASEMENT PARKING  
@ 12 - 16 FRANCIS ST & 21 MINTO ST, MINTO FOR DA



LOCATION MAP

DEVELOPMENT APPLICATION  
TOWNHOUSE BUILDING DEVELOPMENT  
12 - 16 FRANCIS ST & 21 MINTO ST,  
MINTO NSW

DRAWING INDEX

DA1001 - SITE ANALYSIS PLAN

DA2001 - BASEMENT 1  
DA2002 - GROUND FLOOR  
DA2003 - FIRST FLOOR  
DA2004 - ROOF LAYOUT  
DA2005 - ROOF PLAN

DA3001 - ELEVATIONS

DA4001 - SECTIONS

DA5001 - SHADOWS IN PLAN (JUNE)  
DA5002 - SHADOWS IN PLAN (JUNE)

DA6001 - GFA DIAGRAMS

DA7001 - DEMOLITION PLAN



B DA Submission 28/03/2019  
A Client Sketch 11/04/2018  
Issue Amendment Date

Project  
12 - 16 FRANCIS STREET, MINTO

URBAN LINK PTY LTD  
LEVEL 10, 11-15 DEANE ST,  
BURWOOD NSW 2134  
P.O.BOX 2223, BURWOOD NORTH  
NSW 2134  
p 02-9745 2014 f 02-9745 0984  
e info@urbanlink.com.au

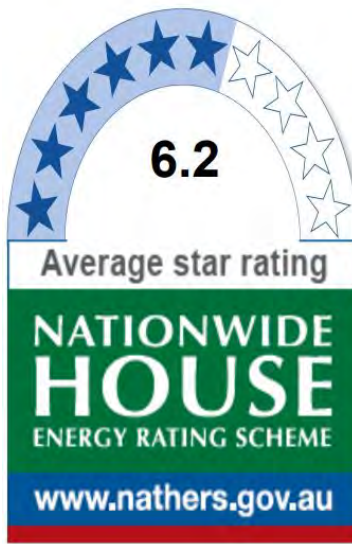
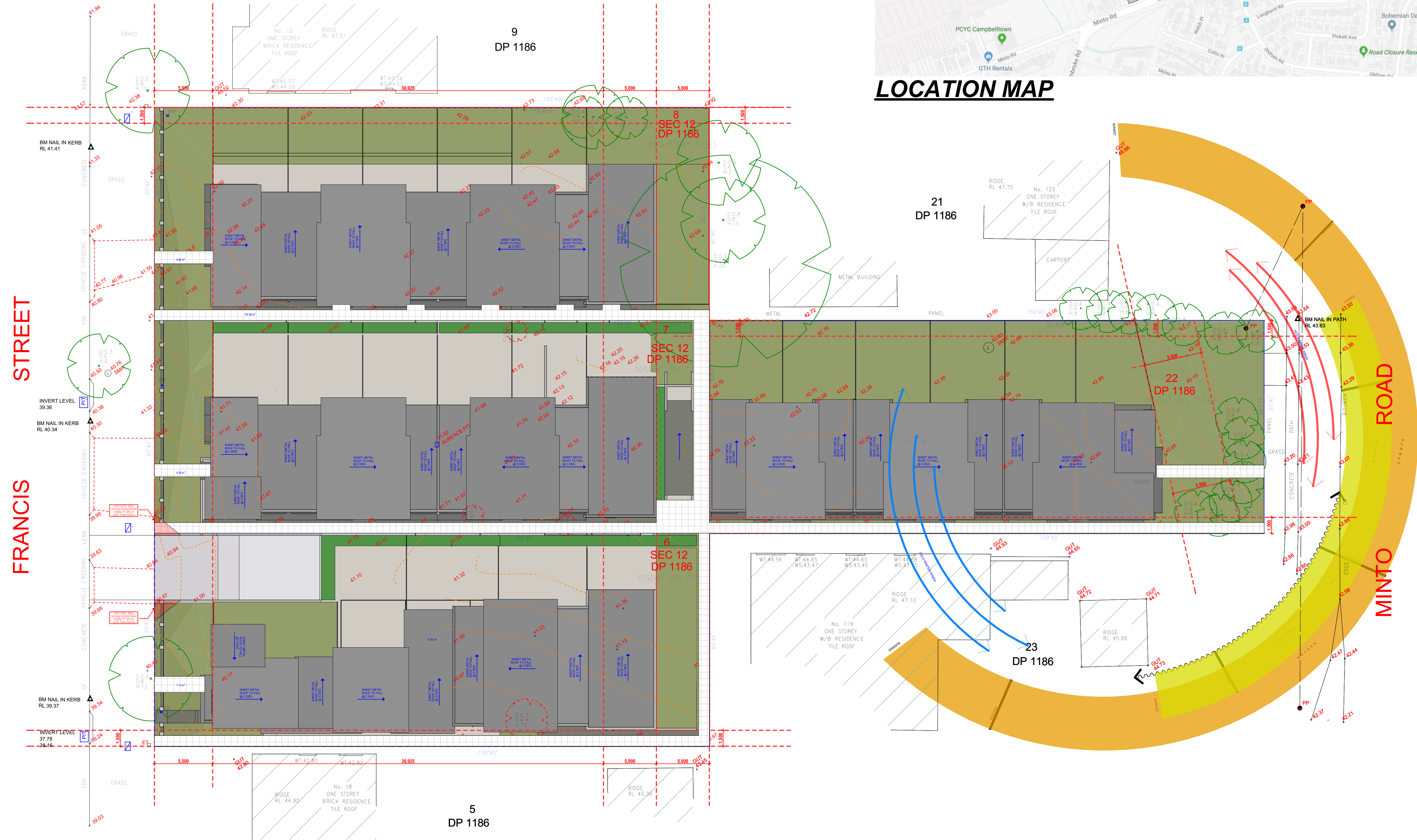
Nominated Architects:  
Ziad Boumelhem Reg:8008  
Youssef El Khawaja Reg:8933  
Nicolas Toubia Reg:9336

Drawing title

SITE / ANALYSIS PLAN

Date generated 19/09/2019 Drawn M.P. Checked Z.B.  
Scale 1:100  
@ A1 sheet size 50mm on original  
Project number 18- 19 Drawing number 1001 Revision B  
Status

DA APPLICATION



Certificate no.: 0003729280  
Assessor Name: Christina Silman  
Accreditation no.: 20753  
Certificate date: 28 March 2019  
Dwelling Address: 12-16 Francis Street MINTO, NSW 2566  
www.nathers.gov.au





The site plan for DP 1186 illustrates a proposed multi-unit residential development. The central building is divided into several sections, including a carport and a unit storage area. The plan also shows surrounding properties with existing buildings and vegetation. Key features include:

- Building Layout:** The central building is divided into multiple units, with a carport and a unit storage area. The plan also shows surrounding properties with existing buildings and vegetation.
- Surrounding Properties:** The plan shows surrounding properties with existing buildings and vegetation. Key features include:
  - SEC 12 DP 1186:** The central building is divided into several sections, including a carport and a unit storage area.
  - UNIT STORAGE:** A designated area for unit storage.
  - CARPORT:** A designated area for car parking.
- Street Layout:** The plan shows the layout of Francis Street, Minto Road, and Minto Street.
- Topographic Details:** The plan includes spot heights, contours, and drainage details.
- Labels:** Various labels are used throughout the plan, including 'SEC 12 DP 1186', 'UNIT STORAGE', and 'CARPORT'.

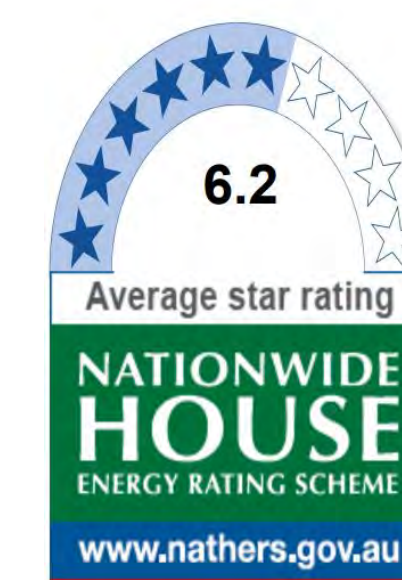


**ABSA**  
Australian Building  
Sustainability Alliance


<b>Accreditation Period</b>	2018-2019
<b>Assessor Name</b>	Christine Sisman
<b>Assessor Number</b>	20753
<b>Assessor Signature</b>	<i>Christine Sisman</i>

HERS Assessments completed within the accreditation period are part of the ABSA quality audit system.

 This Accredited Assessor is qualified to use **NAABERS Accredited Software** and has been verified by follow an Assessor Code of Practice

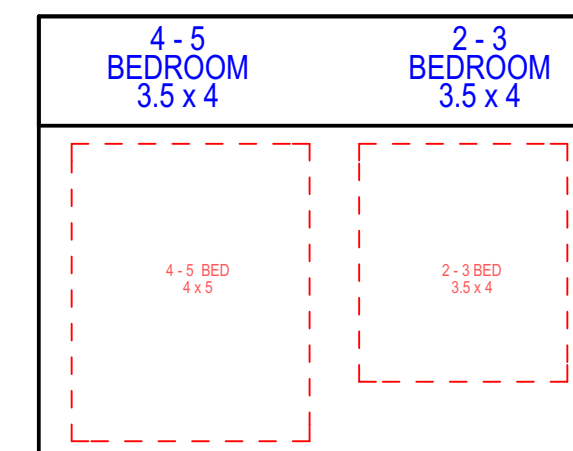


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Project number 18- 19		Drawing number 2001	Revision B
Status			

DA APPLICATION





GFA BREAKDOWN				
LEVEL	BLOCK A	BLOCK B	BLOCK C	TOTAL
GROUND	418m²	418m²	305m²	1041m²
LEVEL 1	366m²	366m²	295m²	1027m²
TOTAL	784m²	784m²	600m²	2068m²

GFA CALCULATION			SITE AREA = 4106m²		
FSR = 0.45 x 4106 = 1847.7	LEVEL	AREA	COURTYARD		
FSR = 0.45 + 0.50 = 0.95	GROUND	1027m²			
= 0.95 x 4106 = 3900m²	LEVEL 1	1417m²	YES		
PROPOSED					
FSR = 0.729 : 1	CR 2000m²				
FSR = 0.279 : 1	CR 1147.3m²	TOTAL	2000m²		

TABLE OF COMPLIANCE				SITE AREA 4106m²	
DCP ITEMS	REQUIREMENT	PROPOSED	COMPLY		
FSR	3900 m2	2995m2	YES		
BUILDING HEIGHT	8.5m	<8.5m	YES		
COURTYARDS	60 m2	60 m2	YES		
LANDSCAPED AREA	MIN 20% 1112.65m²	33.3% 1369m²	YES		
DEEP SOIL	MIN 20% 1112.65m²	33.3% 1369m²	YES		
DISABLED	MIN 10% OR 2.3	3 PROVIDED UNIT 8,9,10	YES		

UNIT BREAKDOWN									
UNIT	1 BED	2 BED	3 BED	4 BED	5 BED	STORAGE	SOLAR		
UNIT 1	0	0	0	0	1	10m²	8kW - 3PH		
UNIT 2	0	0	0	0	1	11m²	8kW - 3PH		
UNIT 3	0	0	0	0	1	11m²	8kW - 3PH		
UNIT 4	0	0	0	0	1	11m²	8kW - 3PH		
UNIT 5	0	0	0	0	1	11m²	8kW - 3PH		
UNIT 6	0	1	0	0	0	8.5m²	8kW - 3PH		
UNIT 7	0	0	0	0	1	10m²	11kW - 3PH		
UNIT 8	0	0	0	0	1	10m²	11kW - 3PH		
UNIT 9	0	0	0	0	1	10m²	11kW - 3PH		
UNIT 10	0	0	0	0	1	10m²	11kW - 3PH		
UNIT 11	0	0	0	0	1	11m²	11kW - 3PH		
UNIT 12	0	1	0	0	0	8.5m²	11kW - 3PH		
UNIT 13	0	0	0	0	1	10m²	10kW - 1PH		
UNIT 14	0	0	0	0	1	10m²	10kW - 1PH		
UNIT 15	0	0	0	0	1	10m²	11kW - 3PH		
UNIT 16	0	0	0	0	1	10m²	11kW - 3PH		
UNIT 17	0	1	0	0	0	8.5m²	11kW - 3PH		
UNIT 18	0	0	0	0	1	11m²	8kW - 3PH		
UNIT 19	0	0	0	1	0	11m²	8kW - 3PH		
UNIT 20	0	0	0	5	0	11m²	8kW - 3PH		
UNIT 21	0	0	0	5	0	11m²	8kW - 3PH		
UNIT 22	0	0	0	5	0	11m²	8kW - 3PH		
UNIT 23	0	0	0	0	1	10m²	8kW - 3PH		
TOTAL	0	3	0	4	16				

PARKING			
REQUIREMENT	PROPOSED		
3 x 6 BEDS 1	3	3	
4 x 6 BEDS 1	2	2	
16 x 6 BEDS 1	18	36	
VISION 1 PER 2	11	11	
CAR WASH	1	1	
TOTAL	34	48	

B DA Submission 28/03/2019  
A Client Sketch 11/04/2018  
Issue Amendment Date

Project  
12 - 16 FRANCIS STREET, MINTO

**URBAN LINK** PTY LTD  
LEVEL 10, 11-15 DEANE ST,  
BURWOOD NSW 2134  
P.O. BOX 2223, BURWOOD NORTH  
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e info@urbanlink.com.au

Nominated Architects:  
Ziad Boumelhem  
Youssef El Khawaja  
Nicolas Toubia  
Reg:8008  
Reg:8933  
Reg:9336

Drawing title

## GENERATED FLOOR PLAN

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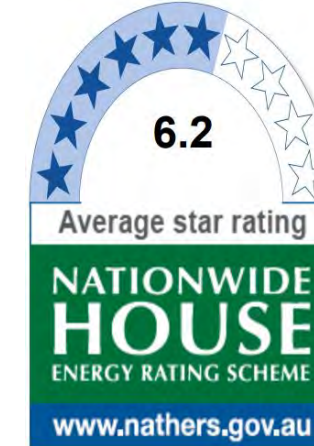
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Status  
Drawing number 2002  
Revision B

## DA APPLICATION

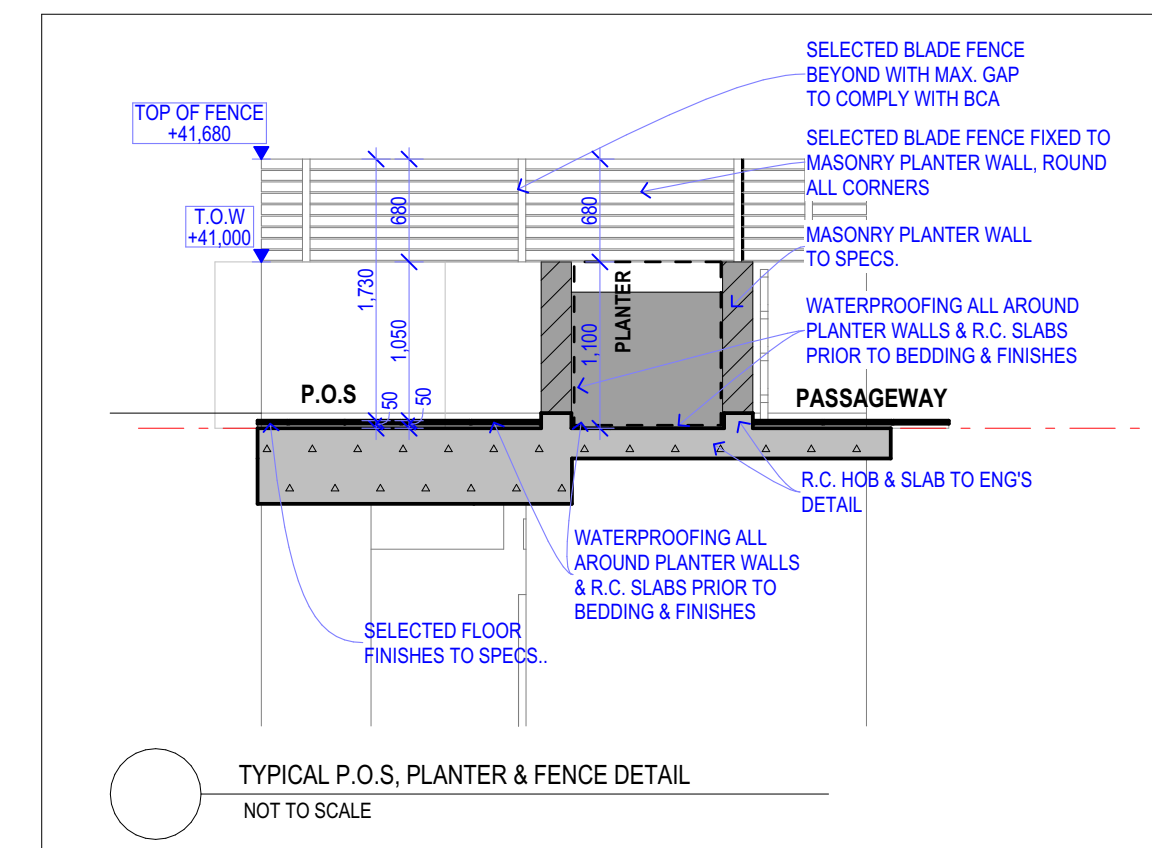
STREET  
FRANCIS STREET

ROAD  
MINTO ROAD

GROUND FLOOR PLAN  
@ A1 1:200



Certificate no.: 0003729280  
Assessor Name: Christina Silman  
Accreditation no.: 20753  
Certificate date: 28 March 2019  
Dwelling Address: 12-16 Francis Street  
MINTO, NSW 2566  
www.nathers.gov.au



163 m²

88 m²

8 m²

Table 4: BASIX Energy Commitments for each Dwelling

Component	Commitment
Hot Water System	Individual HWS
Lifts	All lifts to use Gearless traction with VVVF motor servicing all levels
Alternative Energy Supply	Install a minimum of 1.75 kW Photovoltaic System (approx 7 panels (around 11.2 m² roof area if using 1.6m x 1.0m panel), assuming using 250W panel)
Ventilation	Car park: Ventilation (exhaust) with a CO monitor & VSD fan Garage Rooms: Ventilation (exhaust only), continuous Other Hallways & lobbies: No mechanical ventilation Car park: LED lighting with time clocks and motion sensors Lift Cars: LED lighting, connected to lift call button Garage Rooms: LED lighting with motion sensors Hallways & lobbies: LED lighting with motion sensors + time clock
Lighting	Individual Gas Instantaneous Hot Water System (6 Stars Rating)
Hot Water System	Kitchen Exhaust: Individual fan, ducted to roof or façade, with manual on/off switch Bathroom Exhaust: Individual fan, ducted to roof or façade, with manual on/off switch Laundry Exhaust: Individual fan, ducted to roof or façade, with manual on/off switch
Ventilation	Heating: Living & Beds to have individual 1-phase air-conditioning with minimum 2 Stars Rating (New Rating) Cooling: Living & Beds to have individual 1-phase air-conditioning with minimum 2 Stars Rating (New Rating) Must be Day/Night Zoned
Heating & Cooling	At least 80% of light fittings (including the main light fitting) in all hallways, laundries, bathrooms, bedrooms, kitchens and 1 of the Living rooms to use LED lights with dedicated fittings¹
Lighting	Gas cook top and electric oven
Other	Install Private Outdoor Clothes Drying Lines

Table 3: BERS Pro Thermal Loads

Lot No.	Additional Treatments Required	Heating Load (MJ/m².yr)	Cooling Load (MJ/m².yr)	Stars	Pass/Fail
1	Total Window System U-value 5.6 & SHGC 0.41 for sliding windows OR SHGC 0.36 for awning windows throughout	57.4	58.9	4.9	Pass
2	None	47.6	35.4	6.3	Pass
3	None	43.4	40.3	6.2	Pass
4	None	46.0	38.0	6.2	Pass
5	None	47.8	43.9	5.9	Pass
6	R1.0 added insulation to floor adjacent basement carpark	35.9	59.3	5.8	Pass
7	Total Window System U-value 5.6 & SHGC 0.41 for sliding windows OR SHGC 0.36 for awning windows throughout	61.0	58.1	4.8	Pass
8	None	55.8	33.0	5.9	Pass
9	Total Window System U-value 5.6 & SHGC 0.38 throughout	60.9	28.4	5.9	Pass
10	None	57.1	37.1	5.8	Pass
11	None	58.7	42.6	5.4	Pass
12	R1.0 added insulation to floor adjacent basement carpark	40.6	54.2	5.7	Pass
13	Total Window System U-value 5.6 & SHGC 0.41 for sliding windows OR SHGC 0.36 for awning windows EXCEPT to bathroom, all glazing to stair, stair/dressroom, bed/dressroom glazing can use normal clear windows	53.9	57.0	5.1	Pass
14	None	54.7	49.2	5.4	Pass
15	R1.0 added insulation to floor adjacent basement carpark	43.6	20.1	7.2	Pass
16	R1.0 added insulation to floor adjacent basement carpark	40.4	23.3	7.2	Pass
17	R1.0 added insulation to floor adjacent basement carpark	41.2	37.8	6.4	Pass
18	None	36.1	36.7	6.7	Pass
19	None	23.6	34.2	7.4	Pass
20	None	27.9	29.2	7.4	Pass
21	None	22.2	39.3	7.3	Pass
22	None	28.0	29.3	7.4	Pass
23	Total Window System U-value 5.6 & SHGC 0.41 for sliding windows OR SHGC 0.36 for awning windows throughout	50.2	45.8	5.7	Pass

Table 1: BASIX Water Commitments for each Dwelling

Common Areas and Central Systems	
Area of Indigenous or low water species	Please refer to Appendix B
Rainwater collection	No Common Rain Water Tank
Fire Sprinkler	No Fire Sprinkler
Private Dwellings	
Fixtures for dwellings	3-star (Water Rating) showerheads with a flow rate > 6.0L/min & ≤ 7.5L/min 4-star (Water Rating) toilets 6-star (Water Rating) kitchen taps 6-star (Water Rating) bathroom taps Individual 2500L Rain Water Tank, collecting from minimum 50m² of roof area. RWT will be used for landscape irrigation.

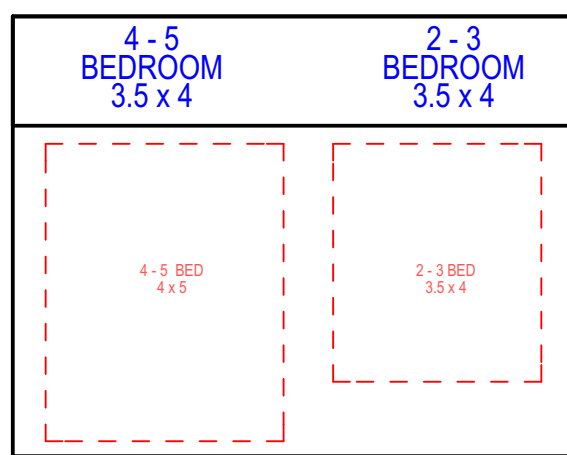
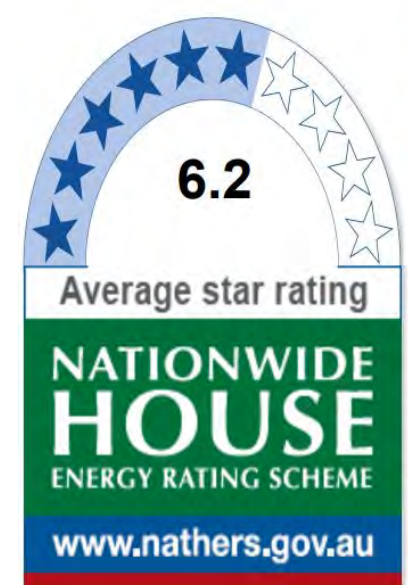
Table 2: Base Case Assumptions on Construction and Fabric

Element	Material	Detail
External walls	Brick Veneer	Insulation: R2.0 Bulk Insulation Medium colour
Internal walls	Plasterboard	R2.5 Bulk Insulation to internal wall areas adjacent to garage
Party walls	Plasterboard	With Neighbour
Windows	See Table 3 for total window properties If not specified in Table 3, window properties should be specified as per the details in this Table	For sliding doors, sliding & fixed windows: Total Window System Properties U-value 6.7 & SHGC 0.70 For glass doors & awning windows: Total Window System Properties U-value 6.7 & SHGC 0.57 Bedroom windows: 10% (RCA 3.9.2.5) As per plans & elevations
Window Operability		As per plans & elevations
Shading device		None
Skylight	None	Insulation: R1.3 Anticon for Metal Roof & Sarking under Roofing Tiles
Roof	Metal roof	Medium colour
Ceilings	Plasterboard	Insulation: R2.5 Bulk Insulation to all exposed areas
Floors	Concrete & Timber (Upper)	Insulation: See Table 3 Wet areas only: Tiles Bedrooms: Carpet Living/Dining/Kitchen: Tiles
Recessed downlights assessed		YES
Exhaust fans (kitchens, bathrooms, laundry)		All assumed to be sealed



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GFA BREAKDOWN					
LEVEL	BLOCK A	BLOCK B	BLOCK C	BLOCK D	TOTAL
GROUND	418m <sup>2</sup>	418m <sup>2</sup>	305m <sup>2</sup>	305m <sup>2</sup>	1547m <sup>2</sup>
LEVEL 1	306m <sup>2</sup>	306m <sup>2</sup>	295m <sup>2</sup>	410m <sup>2</sup>	1417m <sup>2</sup>
TOTAL	724m <sup>2</sup>	724m <sup>2</sup>	600m <sup>2</sup>	715m <sup>2</sup>	2963m <sup>2</sup>

GFA CALCULATION				SITE AREA = 4106.0m <sup>2</sup>	
FSR = 0.45	x 4106	= 1847.7	LEVEL	AREA	COMPLY
FSR = 0.45	+ 0.50	= 3900m <sup>2</sup>	GROUND	1578m <sup>2</sup>	YES
			LEVEL 1	1417m <sup>2</sup>	
PROPOSED					
FSR = 0.729	: 1	CR 2000m <sup>2</sup>			
FSR = 0.279	: 1	CR 1147.3m <sup>2</sup>	TOTAL	2995m <sup>2</sup>	

TABLE OF COMPLIANCE				SITE AREA 4106m <sup>2</sup>	
DCP ITEMS	REQUIREMENT	PROPOSED	COMPLY		
FSR	3900 m <sup>2</sup>	2995m <sup>2</sup>	YES		
BUILDING HEIGHT	8.5m	<8.5m	YES		
COURTYARDS	60 m <sup>2</sup>	60 m <sup>2</sup>	YES		
LANDSCAPED AREA	MIN 20%	33.3%	YES		
DEEP SOIL	1112.65m <sup>2</sup>	1369m <sup>2</sup>	YES		
DISABLED	MIN 10% OR 2.3	3 PROVIDED UNIT 8,9,10	YES		

UNIT BREAKDOWN							
UNIT	1 BED	2 BED	3 BED	4 BED	5 BED	STORAGE	SOLAR
UNIT 1	0	0	0	0	1	10m <sup>2</sup>	8kW - 3PM
UNIT 2	0	0	0	0	1	11m <sup>2</sup>	8kW - 3PM
UNIT 3	0	0	0	0	1	11m <sup>2</sup>	8kW - 3PM
UNIT 4	0	0	0	0	1	11m <sup>2</sup>	8kW - 3PM
UNIT 5	0	0	0	0	1	11m <sup>2</sup>	8kW - 3PM
UNIT 6	0	1	0	0	0	8.5m <sup>2</sup>	8kW - 3PM
UNIT 7	0	0	0	0	1	10m <sup>2</sup>	11kW - 1PM
UNIT 8	0	0	0	0	1	10m <sup>2</sup>	11kW - 1PM
UNIT 9	0	0	0	0	1	10m <sup>2</sup>	11kW - 1PM
UNIT 10	0	0	0	0	1	10m <sup>2</sup>	11kW - 1PM
UNIT 11	0	0	0	0	1	11m <sup>2</sup>	11kW - 1PM
UNIT 12	0	1	0	0	0	8.5m <sup>2</sup>	11kW - 1PM
UNIT 13	0	0	0	0	1	10m <sup>2</sup>	10kW - 1PM
UNIT 14	0	0	0	0	1	10m <sup>2</sup>	10kW - 1PM
UNIT 15	0	0	0	0	1	10m <sup>2</sup>	11.5kW - 2.30 PM
UNIT 16	0	0	0	0	1	10m <sup>2</sup>	11.5kW - 2.30 PM
UNIT 17	0	1	0	0	0	8.5m <sup>2</sup>	11.5kW - 2.30 PM
UNIT 18	0	0	0	0	1	11m <sup>2</sup>	8kW - 3PM
UNIT 19	0	0	0	1	0	11m <sup>2</sup>	8kW - 3PM
UNIT 20 (3bed)	0	0	0	5	0	11m <sup>2</sup>	8kW - 3PM
UNIT 21 (3bed)	0	0	0	5	0	11m <sup>2</sup>	8kW - 3PM
UNIT 22 (3bed)	0	0	0	5	0	11m <sup>2</sup>	8kW - 3PM
UNIT 23	0	0	0	0	1	10m <sup>2</sup>	8kW - 3PM
TOTAL	0	3	0	4	16		

PARKING		
REQUIREMENT	PROPOSED	
3 x 6 BED 1	3	3
4 x 4 BED 1	2	2
16 x 6 BED 1	16	16
VISION 1 PER 2	11	11
CAR WASH	1	1
TOTAL	34	48

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Drawing title

## LEVEL 1

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LEVEL 01 PLAN  
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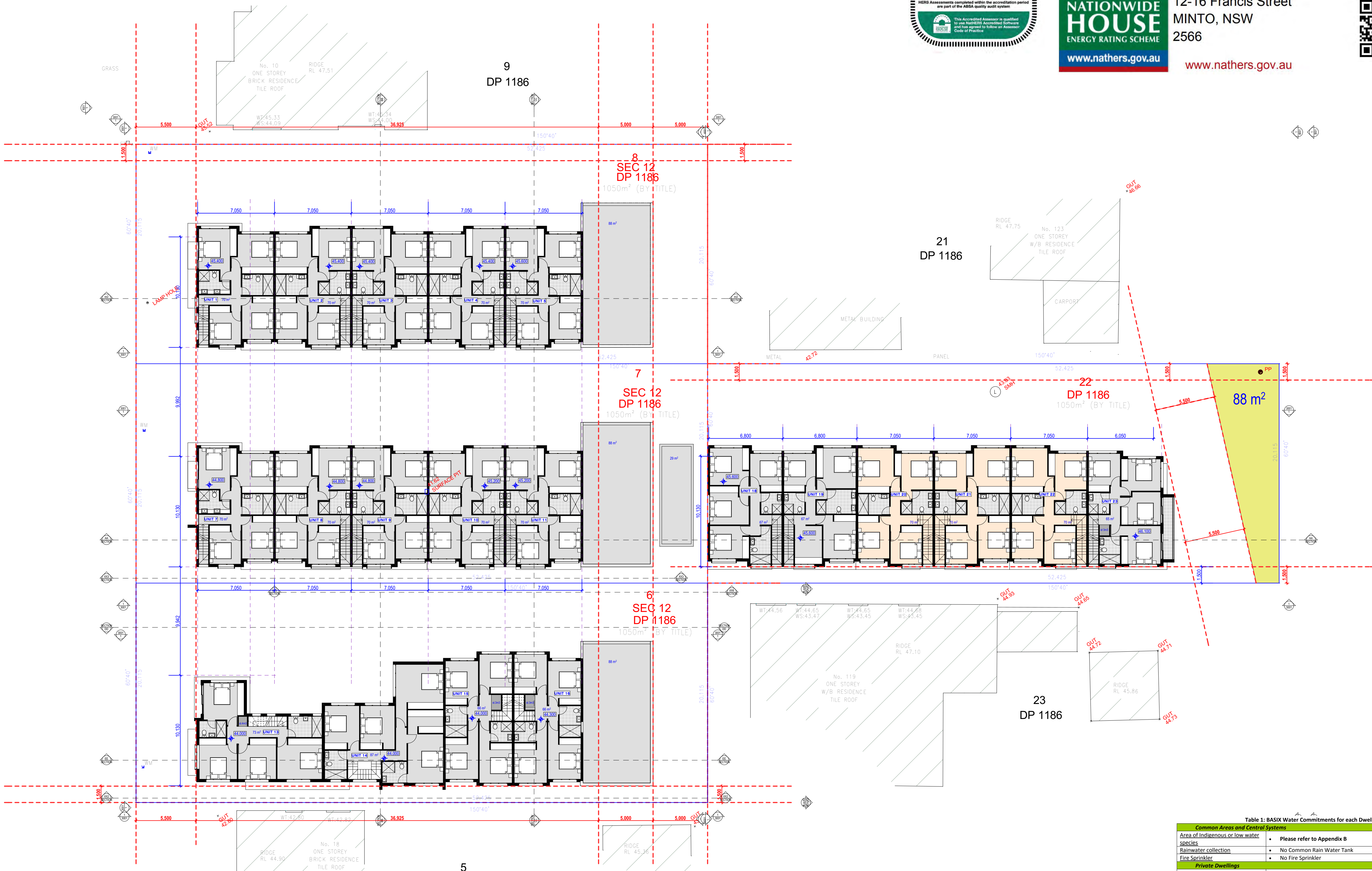


Table 4: BASIX Energy Commitments for each Dwelling

Component	Commitment
Hot Water System	Individual HWS
Lifts	All lifts to use Gearless traction with VVVF motor servicing all levels
Alternative Energy Supply	Install a minimum of 1.75 kW Photovoltaic System (approx 7 panels (around 11.2 m <sup>2</sup> roof area if using 1.6m x 1.0m panel), assuming using 250W panel)
Ventilation	Car park: Ventilation (exhaust) with a CO monitor & VSD fan Garage Rooms: Ventilation (exhaust only), continuous Other Hallways & lobbies: No mechanical ventilation Car park: LED lighting with time clocks and motion sensors Lift Cars: LED lighting, connected to lift call button Garage Rooms: LED lighting with motion sensors Hallways & lobbies: LED lighting with motion sensors + time clock Individual Gas Instantaneous Hot Water System (6 Stars Rating)
Lighting	Kitchen Exhaust: Individual fan, ducted to roof or façade, with manual on/off switch Bathroom Exhaust: Individual fan, ducted to roof or façade, with manual on/off switch Laundry Exhaust: Individual fan, ducted to roof or façade, with manual on/off switch Heating & Cooling
Heating & Cooling	Heating: Living & Beds to have individual 1-phase air-conditioning with minimum 2 Stars Rating (New Rating) Cooling: Living & Beds to have individual 1-phase air-conditioning with minimum 2 Stars Rating (New Rating) Must be Day/Night Zoned
Lighting	At least 80% of light fittings (including the main light fitting) in all hallways, laundries, bathrooms, bedrooms, kitchens and 1 of the Living rooms to use LED lights with dedicated fittings <sup>1</sup>
Other	Gas cook top and electric oven Install Private Outdoor Clothes Drying Lines

Table 3: BERS Pro Thermal Loads

Lot No.	Additional Treatments Required	Heating Load (MJ/m <sup>2</sup> .yr)	Cooling Load (MJ/m <sup>2</sup> .yr)	Stars	Pass/Fail
1	Total Window System U-value 5.6 & SHGC 0.41 for sliding windows OR SHGC 0.36 for awning windows throughout	57.4	58.9	4.9	Pass
2	None	47.6	35.4	6.3	Pass
3	None	43.4	40.3	6.2	Pass
4	None	46.0	38.0	6.2	Pass
5	None	47.8	43.9	5.9	Pass
6	R1.0 added insulation to floor adjacent basement carpark	35.9	59.3	5.8	Pass
7	Total Window System U-value 5.6 & SHGC 0.41 for sliding windows OR SHGC 0.36 for awning windows throughout	61.0	58.1	4.8	Pass
8	None	55.8	33.0	5.9	Pass
9	Total Window System U-value 5.4 & SHGC 0.58 throughout	60.9	28.4	5.9	Pass
10	None	57.1	37.1	5.8	Pass
11	None	58.7	42.6	5.4	Pass
12	R1.0 added insulation to floor adjacent basement carpark	40.6	54.2	5.7	Pass
13	Total Window System U-value 5.6 & SHGC 0.41 for sliding windows OR SHGC 0.36 for awning windows EXCEPT to bathroom, all glazing to stair, stair/alfrresco glazing, bed/alfrresco glazing can use normal clear windows	53.9	57.0	5.1	Pass
14	None	54.7	49.2	5.4	Pass
15	R1.0 added insulation to floor adjacent basement carpark	43.6	20.1	7.2	Pass
16	R1.0 added insulation to floor adjacent basement carpark	40.4	23.3	7.2	Pass
17	R1.0 added insulation to floor adjacent basement carpark	41.2	37.8	6.4	Pass
18	None	36.1	36.7	6.7	Pass
19	None	23.6	34.2	7.4	Pass
20	None	27.9	29.2	7.4	Pass
21	None	22.2	39.3	7.3	Pass
22	None	28.0	29.3	7.4	Pass
23	Total Window System U-value 5.6 & SHGC 0.41 for sliding windows OR SHGC 0.36 for awning windows throughout	50.2	45.8	5.7	Pass

Table 1: BASIX Water Commitments for each Dwelling

Common Areas and Central Systems	
Area of Indigenous or low water species	Please refer to Appendix B
Rainwater collection	No Common Rain Water Tank
Fire Sprinkler	No Fire Sprinkler
Private Dwellings	
3-star (Water Rating) showerheads with a flow rate > 6.0L/min & ≤ 7.5L/min	
4-star (Water Rating) toilets	
6-star (Water Rating) kitchen taps	
6-star (Water Rating) bathroom taps	
Individual 2,500L Rain Water Tank, collecting from minimum 50m <sup>2</sup> of roof area. RWT will be used for landscape irrigation.	
Fixtures for dwellings	

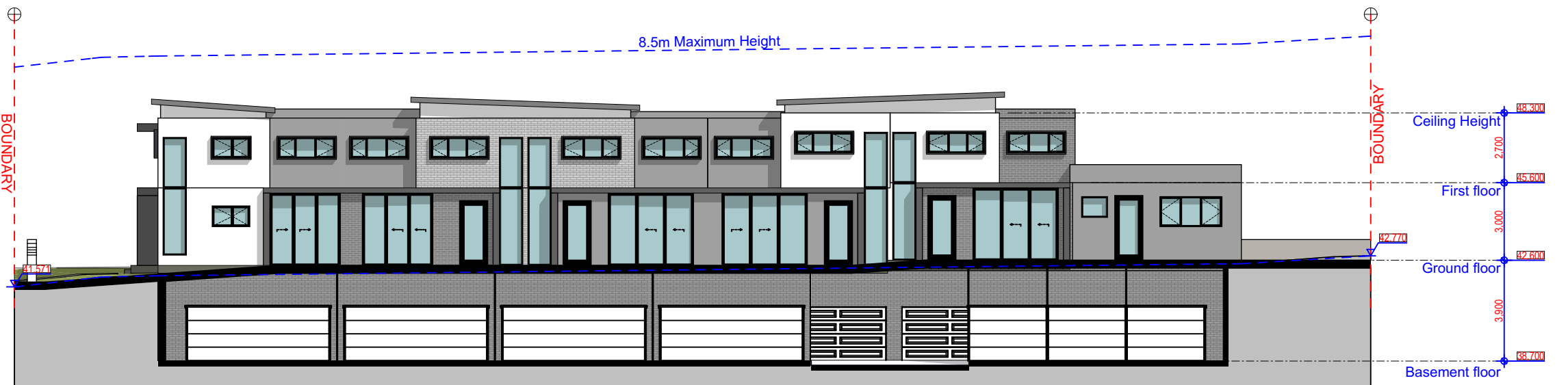
Table 2: Base Case Assumptions on Construction and Fabric

Element	Material	Detail
External walls	Brick Veneer	Insulation: R2.0 Bulk Insulation Medium colour
Internal walls	Plasterboard	R2.5 Bulk Insulation to internal wall areas adjacent to garage
Party walls	Plasterboard	With Neighbour
Windows	See Table 3 for total window properties	For sliding doors, sliding & fixed windows: Total Window System Properties U-value 6.7 & SHGC 0.70 For glass doors & awning windows: Total Window System Properties U-value 6.7 & SHGC 0.57 Bedroom windows: 10% (RCA 3.9.2.5) As per plans & elevations
Skylight	None	As per plans & elevations
Roof	Metal roof	Insulation: R1.3 Anticon for Metal Roof & Sarking under Roofing Tiles
Ceilings	Plasterboard	Insulation: R2.5 Bulk Insulation to all exposed areas
Floors	Concrete & Timber (Upper)	Insulation: See Table 3 Wet areas only: Tiles Bedrooms: Carpet Living/Dining/Kitchen: Tiles
Recessed downlights assessed	YES	
Exhaust fans (kitchens, bathrooms, laundry)	All assumed to be sealed	

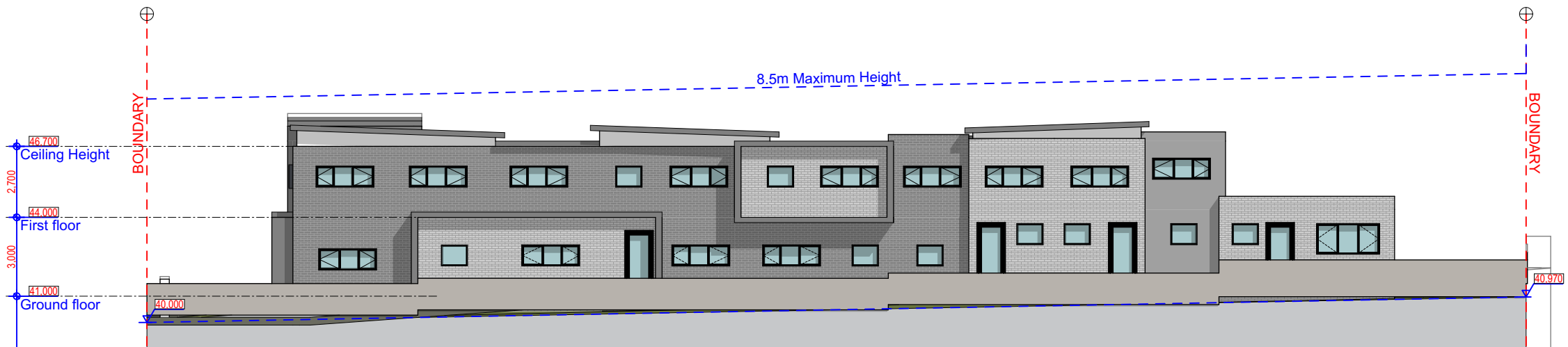




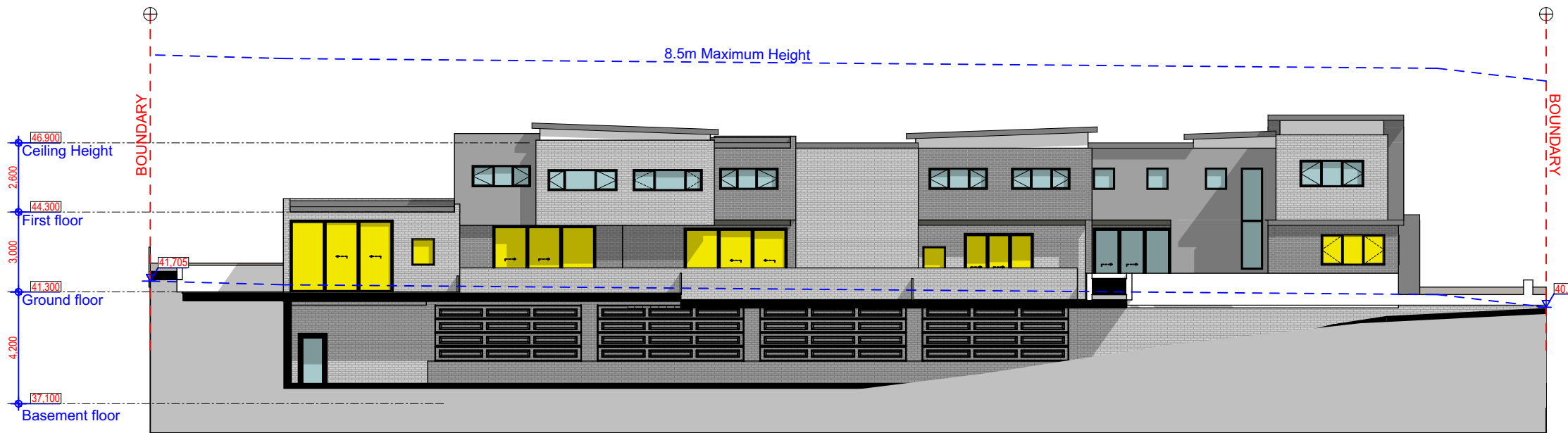
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WEST ELEVATION (BUILDING A)  
@ A1 1:200



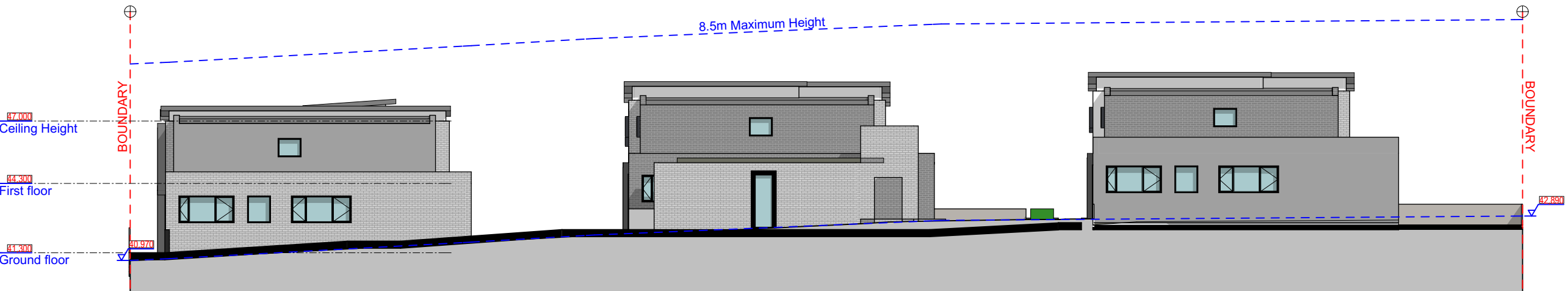
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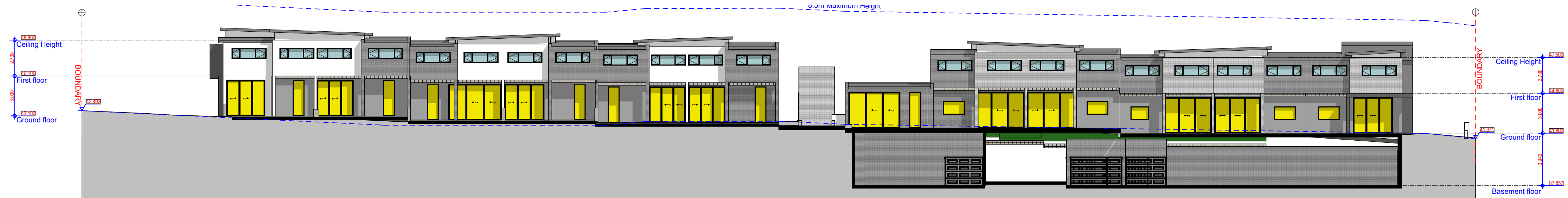
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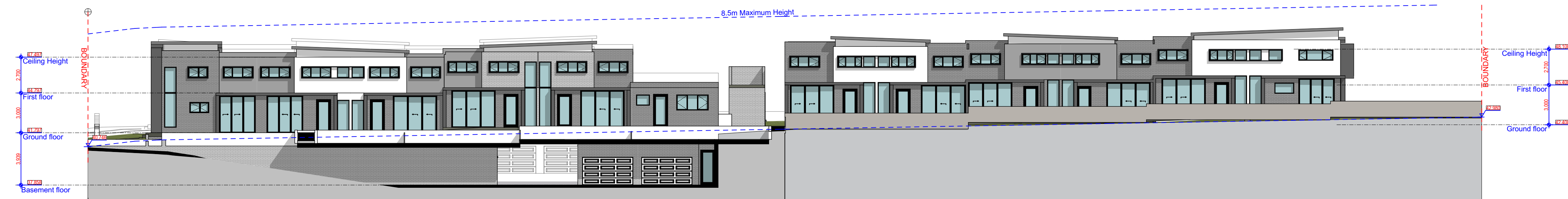
NORTH ELEVATION BUILD (A,B,C)  
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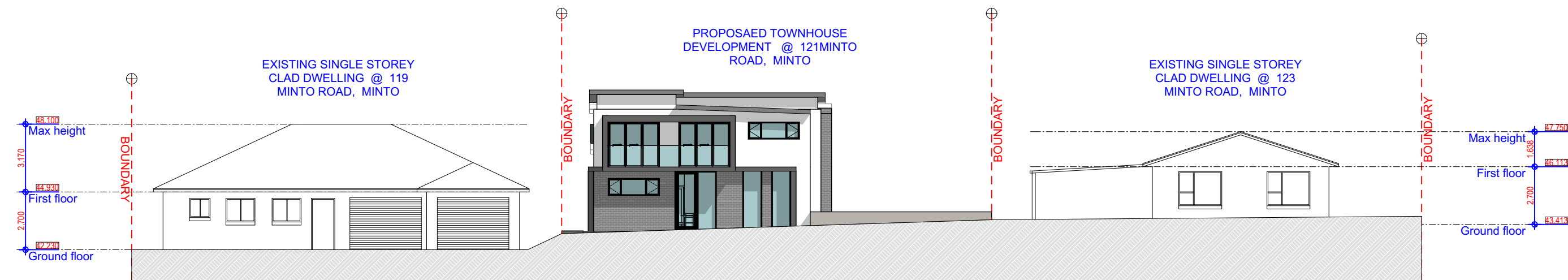
SOUTH ELEVATION BUILD (A,B,C)  
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EAST ELEVATION (BUILD B & D)  
@ A1 1:200



WEST ELEVATION (BUILD B & D)  
@ A1 1:200



STREETSCAPE - MINTO ROAD  
@ A1 1:200

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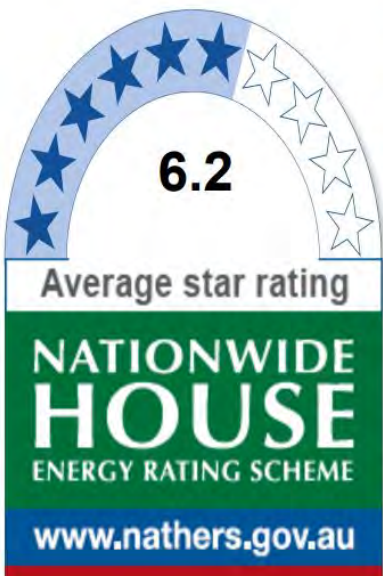
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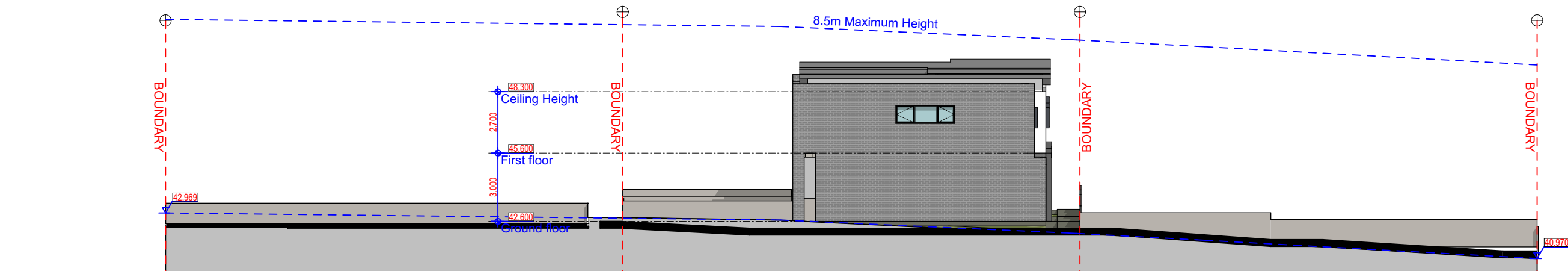


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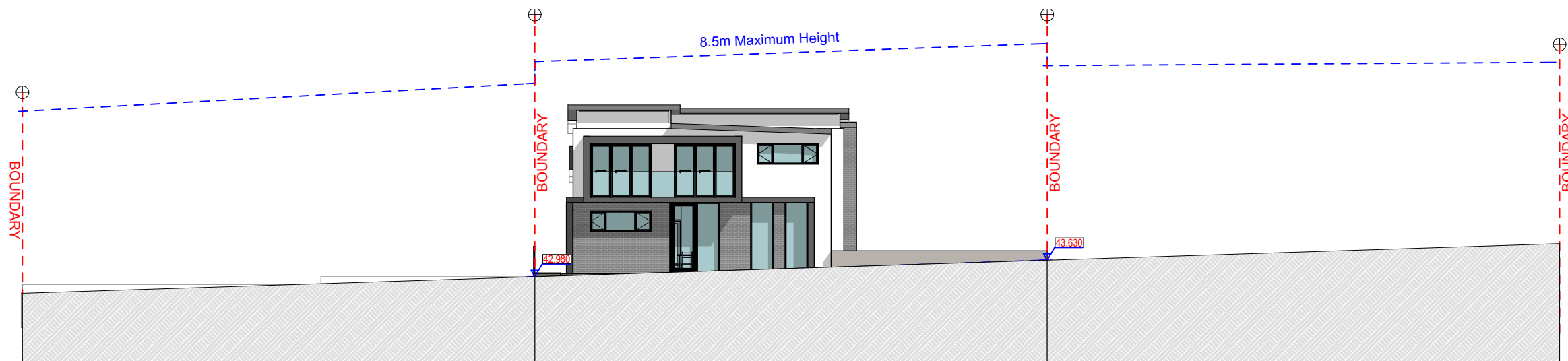
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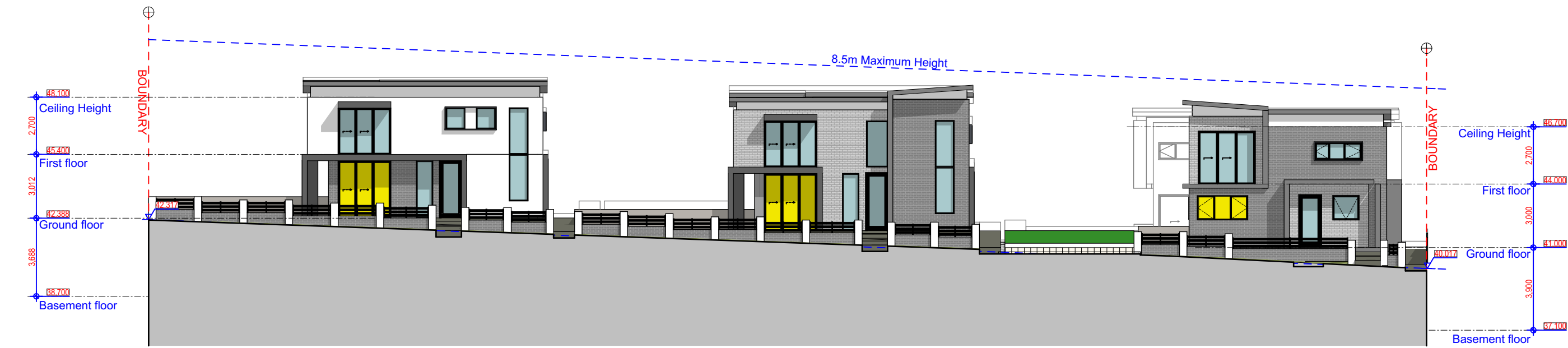




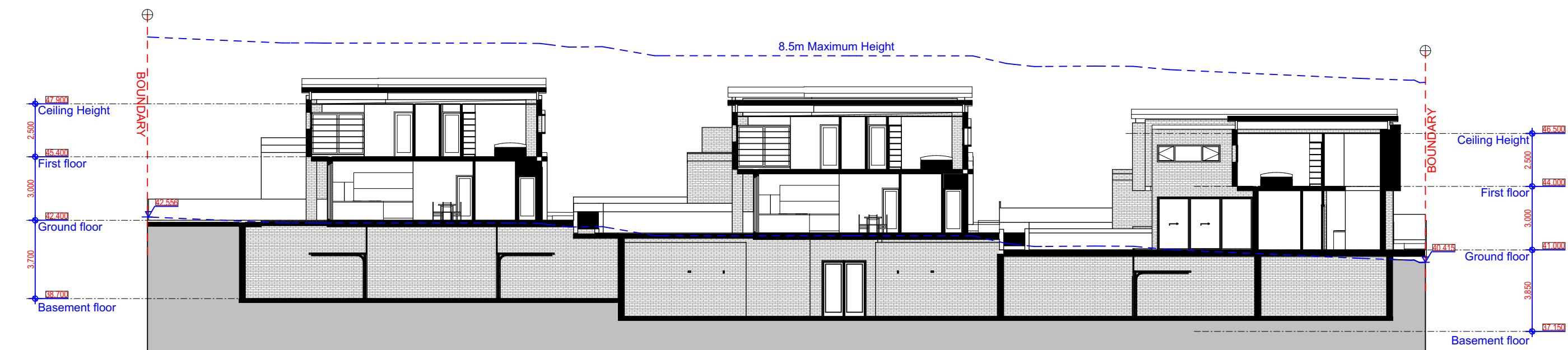
NORTH ELEVATION (BUILD D)  
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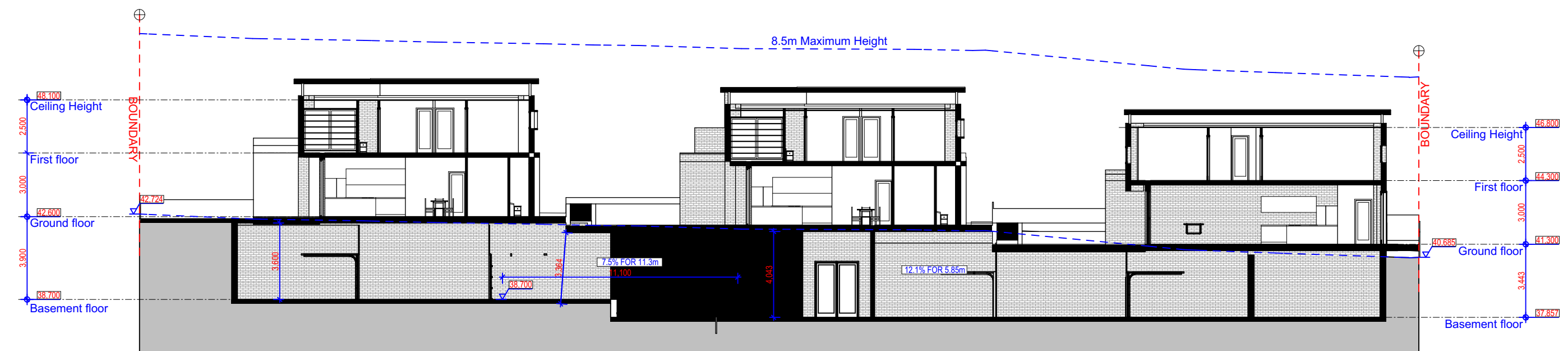
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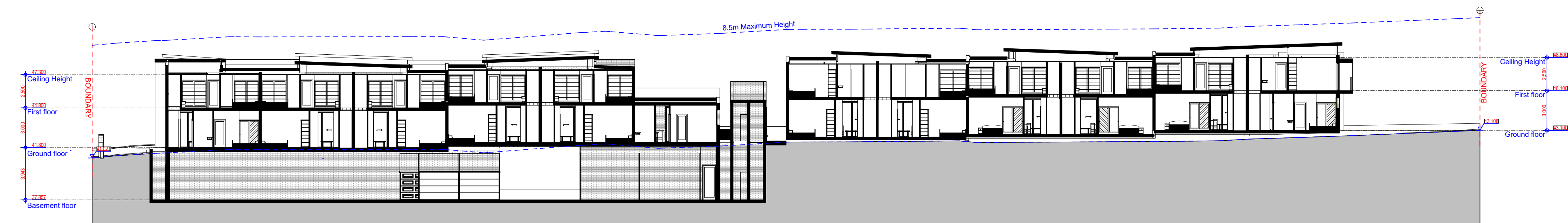
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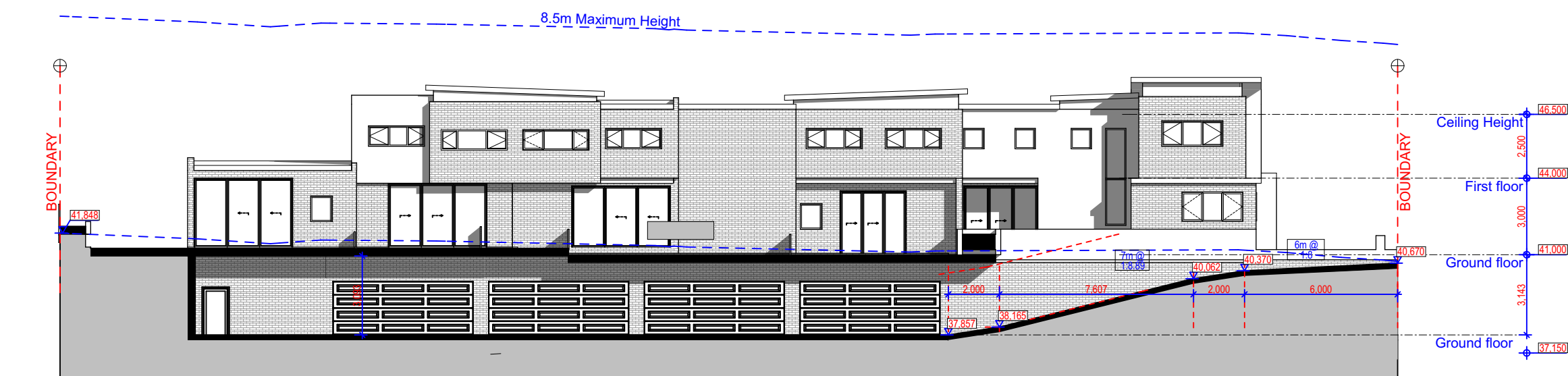
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SECTION C - C  
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SECTION A - A  
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SECTION D - D  
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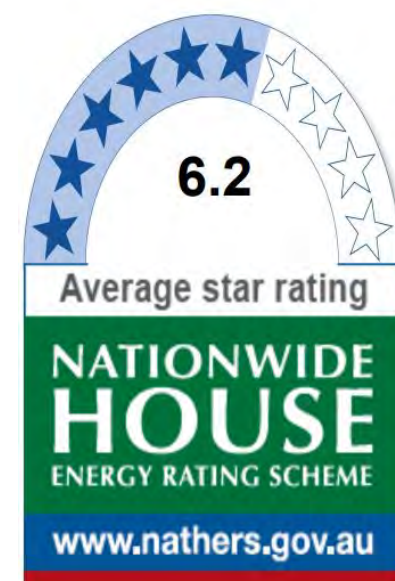
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Drawing title

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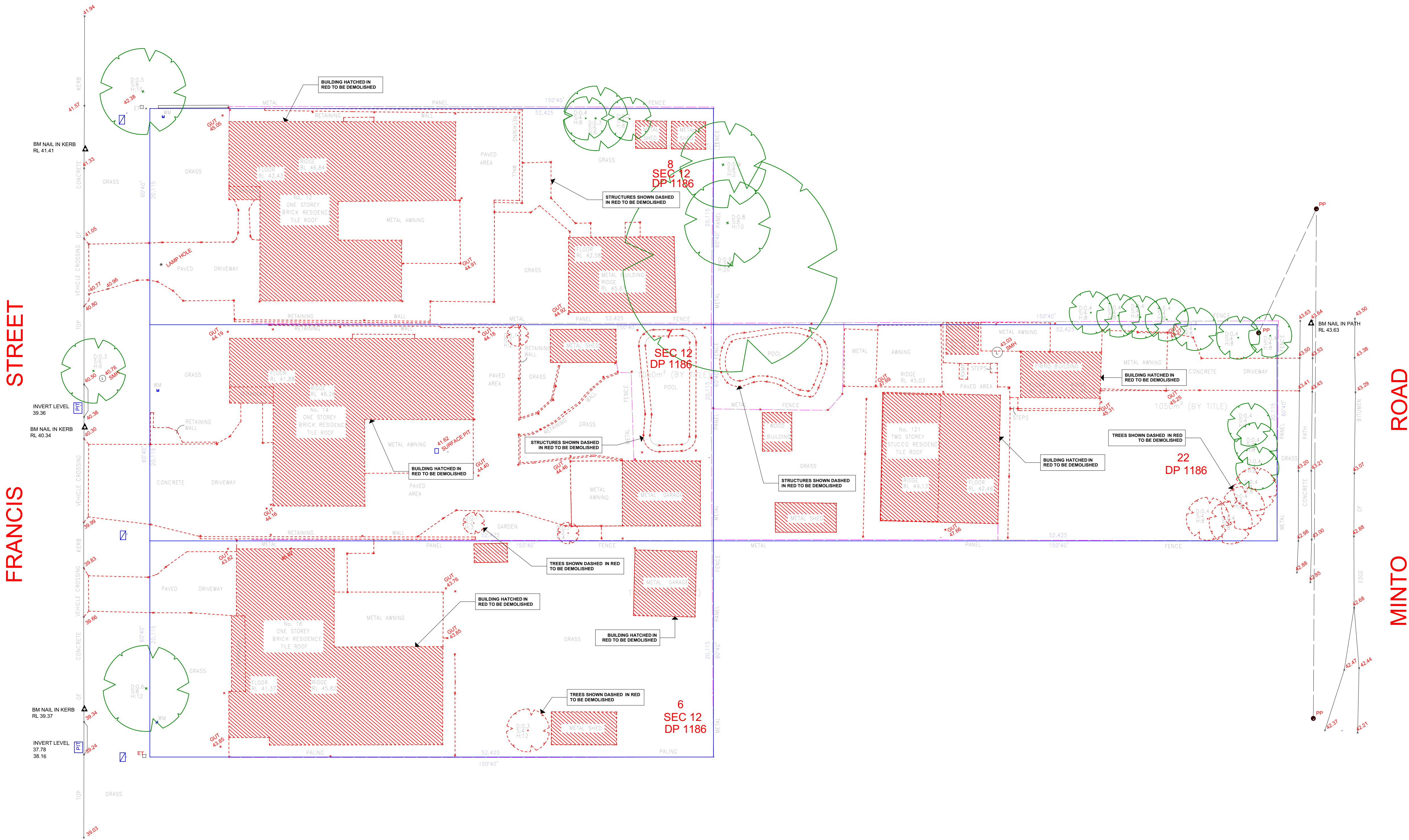


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## DEMOLITION PLAN

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## Appendix C – Site Photographs

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**Photograph 1:** Front yard area, with a concrete driveway and accessible soils (121 Minto Road).



**Photograph 2:** Small amounts of timber were stored under the metal awning (121 Minto Road).





**Photograph 3:** Possible covered septic tank next to the house, in the eastern portion of the site (121 Minto Road).



**Photograph 4:** Front yard area and a paved driveway (12 Francis Street).





**Photograph 5:** Groundwater monitoring well (BH4), located in the front yard (12 Francis Street).



**Photograph 6:** Front yard area and a paved driveway (14 Francis Street).





**Photograph 7:** Paved backyard area (14 Francis Street).



**Photograph 8:** Front yard area of the house (16 Francis Street).





**Photograph 9:** Groundwater monitoring well (BH6), located in the front yard (16 Francis Street).



**Photograph 10:** Backyard area of the site, mainly consisted of accessible soils (16 Francis Street).





**Photograph 11:** A concrete slab used as a carpark located at the south-eastern corner of the site (16 Francis Street).



**Photograph 12:** Francis Street and surrounding areas: low density residential properties.

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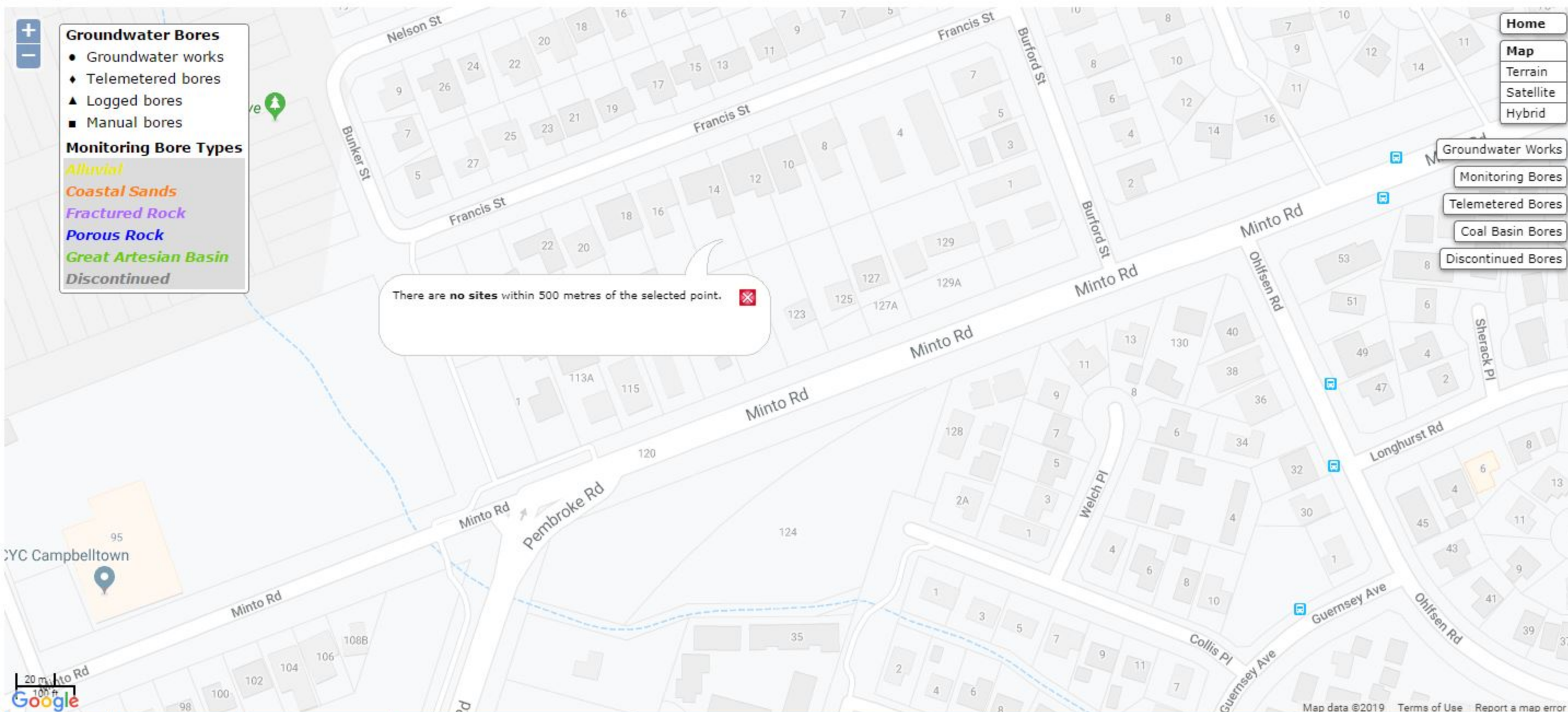
## Appendix D – Groundwater Bore Search

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All data times are Eastern Standard Time

Map



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## Appendix E – Lotsearch Report

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# LOTSEARCH

LOTSEARCH ENVIRO LITE

**Date: 02 Oct 2019 16:54:56**

**Reference: LS008784 EL**

**Address: 12-16 Francis Street & 121 Minto Road, Minto, NSW 2566**

**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.

## Table of Contents

Location Confidences.....	2
Dataset Listings.....	3
Site Location Aerial .....	5
Contaminated Land & Waste Management Facilities.....	6
PFAS Investigation Programs .....	9
Defence Sites .....	10
EPA Other Sites with Contamination Issues .....	11
EPA Current Licensed Activities.....	12
EPA Delicensed & Former Licensed Activities.....	14
UPSS Sensitive Zones.....	16
Historical Business Activities.....	17
Historical Maps.....	32
Topographic Features .....	36
Elevation Contours.....	40
Hydrogeology & Groundwater .....	41
Geology.....	47
Naturally Occurring Asbestos Potential.....	49
Soils .....	50
Acid Sulfate Soils .....	54
Dryland Salinity .....	57
Mining Subsidence Districts .....	59
State Environmental Planning.....	60
Environmental Planning Instruments.....	61
Heritage .....	64
Natural Hazards .....	66
Ecological Constraints.....	68
Terms & Conditions.....	78

## 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
Premise match	Georeferenced to the site location / premise or part of site
General area or suburb match	Georeferenced with the confidence of the general/approximate area
Road match	Georeferenced to the road or rail
Road intersection	Georeferenced to the road intersection
Feature is a buffered point	Feature is a buffered point
Land adjacent to geocoded site	Land adjacent to Georeferenced Site
Network of features	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	NSW Department of Finance, Services & Innovation	02/10/2019	02/10/2019	Daily	-	-	-	-
Topographic Data	NSW Department of Finance, Services & Innovation	25/06/2019	25/06/2019	As required	-	-	-	-
List of NSW contaminated sites notified to EPA	Environment Protection Authority	18/09/2019	17/09/2019	Monthly	1000	0	0	1
Contaminated Land Records of Notice	Environment Protection Authority	12/09/2019	12/09/2019	Monthly	1000	0	0	0
Former Gasworks	Environment Protection Authority	02/10/2019	11/10/2017	Monthly	1000	0	0	0
National Waste Management Facilities Database	Geoscience Australia	06/08/2019	07/03/2017	Quarterly	1000	0	0	0
EPA PFAS Investigation Program	Environment Protection Authority	02/10/2019	02/10/2019	Monthly	2000	0	0	0
Defence PFAS Investigation & Management Program	Department of Defence	02/10/2019	02/10/2019	Monthly	2000	0	0	0
Airservices Australia National PFAS Management Program	Airservices Australia	02/10/2019	02/10/2019	Monthly	2000	0	0	0
Defence 3 Year Regional Contamination Investigation Program	Department of Defence	02/10/2019	02/10/2019	Monthly	2000	0	0	0
EPA Other Sites with Contamination Issues	Environment Protection Authority	13/12/2018	13/12/2018	Annually	1000	0	0	0
Licensed Activities under the POEO Act 1997	Environment Protection Authority	26/09/2019	26/09/2019	Monthly	1000	0	0	2
Delicensed POEO Activities still regulated by the EPA	Environment Protection Authority	26/09/2019	26/09/2019	Monthly	1000	0	0	1
Former POEO Licensed Activities now revoked or surrendered	Environment Protection Authority	26/09/2019	26/09/2019	Monthly	1000	0	4	5
UPSS Environmentally Sensitive Zones	Environment Protection Authority	14/04/2015	12/01/2010	As required	1000	1	1	1
UBD Business to Business Directory 1991 (Premise & Intersection Matches)	Hardie Grant			Not required	150	0	0	0
UBD Business to Business Directory 1991 (Road & Area Matches)	Hardie Grant			Not required	150	-	0	1
UBD Business to Business Directory 1986 (Premise & Intersection Matches)	Hardie Grant			Not required	150	0	0	0
UBD Business to Business Directory 1986 (Road & Area Matches)	Hardie Grant			Not required	150	-	0	5
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	-	6	46
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	-	4	4
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	-	1	2
UBD Business Directory Drycleaners & Motor Garages/Service Stations (Premise & Intersection Matches)	Hardie Grant			Not required	500	0	0	0
UBD Business Directory Drycleaners & Motor Garages/Service Stations (Road & Area Matches)	Hardie Grant			Not required	500	-	0	10



Dataset Name	Custodian	Supply Date	Currency Date	Update Frequency	Dataset Buffer (m)	No. Features Onsite	No. Features within 100m	No. Features within Buffer
Points of Interest	NSW Department of Finance, Services & Innovation	25/06/2019	25/06/2019	Quarterly	1000	0	0	25
Tanks (Areas)	NSW Department of Finance, Services & Innovation	25/06/2019	25/06/2019	Quarterly	1000	0	0	0
Tanks (Points)	NSW Department of Finance, Services & Innovation	25/06/2019	25/06/2019	Quarterly	1000	0	0	0
Major Easements	NSW Department of Finance, Services & Innovation	25/06/2019	25/06/2019	Quarterly	1000	0	0	10
State Forest	NSW Department of 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	16/01/2019	14/11/2018	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
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 - Water NSW; Commonwealth of Australia (Bureau of Meteorology)	24/07/2018	23/07/2018	Annually	2000	0	0	71
Geological Units 1:100,000	NSW Dept. of Industry, Resources & Energy	20/08/2014		None planned	1000	1	-	4
Geological Structures 1:100,000	NSW Dept. of Industry, Resources & Energy	20/08/2014		None planned	1000	0	-	4
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	1	-	2
Atlas of Australian Soils	ABARES	19/05/2017	17/02/2011	As required	1000	1	1	1
Environmental Planning Instrument Acid Sulfate Soils	NSW Department of Planning and Environment	27/09/2019	09/08/2019	Weekly	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	0	0
Dryland Salinity Potential of Western Sydney	NSW Office of Environment & Heritage	12/05/2017	01/01/2002	None planned	1000	1	2	4
Mining Subsidence Districts	NSW Department of Finance, Services & Innovation	11/04/2019	11/04/2019	Quarterly	1000	0	0	0
Environmental Planning Instrument SEPP State Significant Precincts	NSW Department of Planning and Environment	27/09/2019	07/12/2018	Weekly	1000	0	0	0
Environmental Planning Instrument Land Zoning	NSW Department of Planning and Environment	27/09/2019	13/09/2019	Weekly	1000	2	4	44
Commonwealth Heritage List	Australian Government Department of the Environment and Energy - Heritage Branch	16/01/2019	31/07/2018	Unknown	1000	0	0	0
National Heritage List	Australian Government Department of the Environment and Energy - Heritage Branch	16/01/2019	28/09/2018	Unknown	1000	0	0	0
State Heritage Register - Curtilages	NSW Office of Environment & Heritage	15/07/2019	09/11/2018	Quarterly	1000	0	0	0
Environmental Planning Instrument Heritage	NSW Department of Planning and Environment	27/09/2019	13/09/2019	Weekly	1000	0	0	1
Bush Fire Prone Land	NSW Rural Fire Service	28/08/2019	03/06/2019	Quarterly	1000	0	1	3
Native Vegetation of the Sydney Metropolitan Area	NSW Office of Environment & Heritage	01/03/2017	16/12/2016	As required	1000	1	2	5
Ramsar Wetlands of Australia	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	3
Inflow Dependent Ecosystems Likelihood	Bureau of Meteorology	14/08/2017	15/05/2017	Unknown	1000	0	0	7
NSW BioNet Species Sightings	NSW Office of Environment & Heritage	02/10/2019	02/10/2019	Weekly	10000	-	-	-



# Aerial Imagery 2018

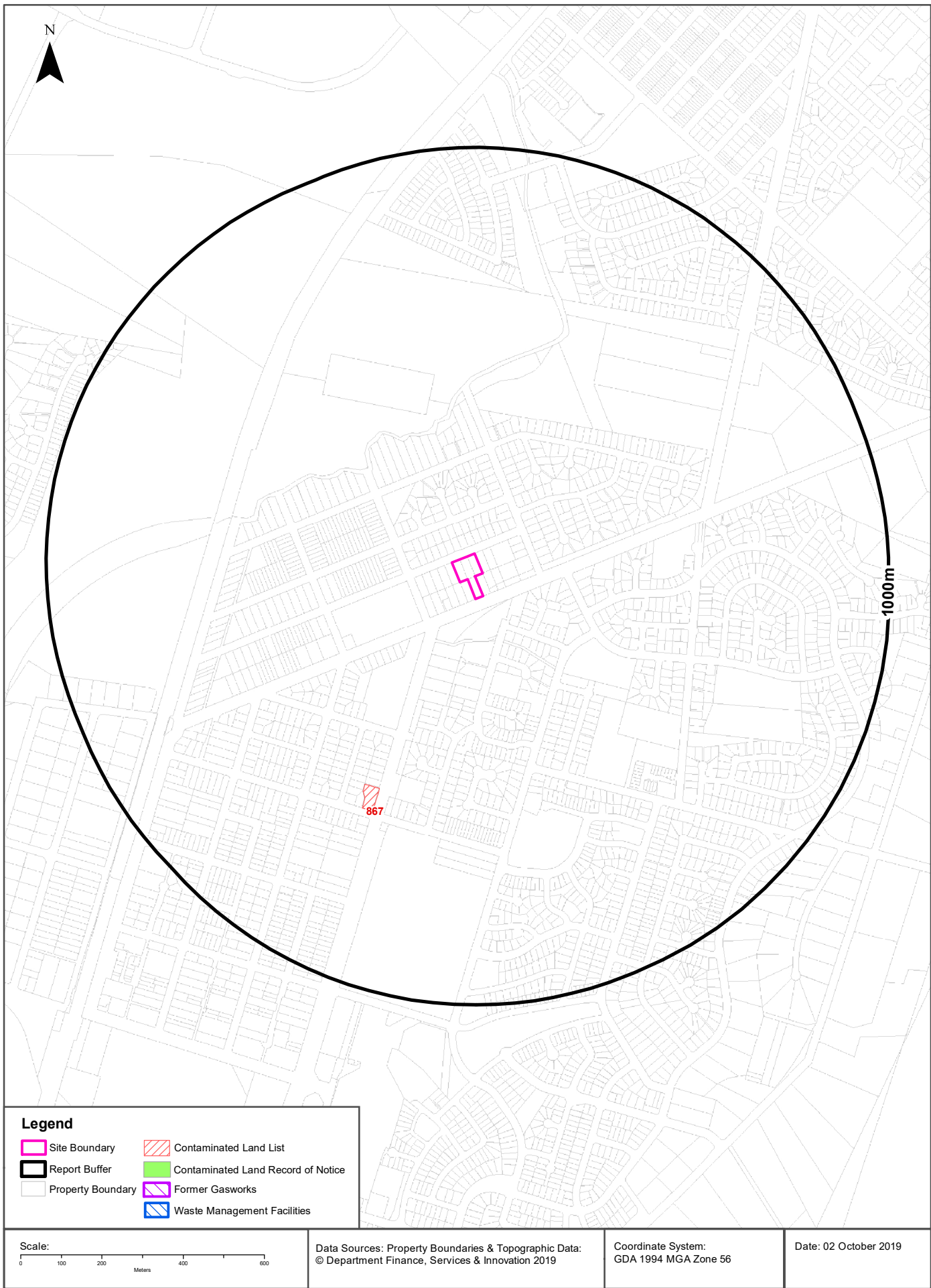
12-16 Francis Street & 121 Minto Road, Minto, NSW 2566





# Contaminated Land & Waste Management Facilities

12-16 Francis Street & 121 Minto Road, Minto, NSW 2566



# Contaminated Land & Waste Management Facilities

12-16 Francis Street & 121 Minto Road, Minto, NSW 2566

## 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
867	Shell Coles Express Service Station	73 Pembroke Street	Minto	Service Station	Regulation under CLM Act not required	Current EPA List	Premise Match	523m	South West

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

12-16 Francis Street & 121 Minto Road, Minto, NSW 2566

## 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>

## PFAS Investigation Sites

12-16 Francis Street & 121 Minto Road, Minto, NSW 2566

### EPA PFAS Investigation Program

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

Id	Site	Address	Loc Conf	Dist	Dir
N/A	No records in buffer				

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

### Defence PFAS Investigation & Management Program

Sites being investigated or managed by the Department of Defence for PFAS contamination within the dataset buffer:

Map ID	Base Name	Address	Loc Conf	Dist	Dir
N/A	No records in buffer				

Defence PFAS Investigation & Management Program Data Custodian: Department of Defence, Australian Government

### Airservices Australia National PFAS Management Program

Sites being investigated or managed by Airservices Australia for PFAS contamination within the dataset buffer:

Map ID	Site Name	Impacts	Loc Conf	Dist	Dir
N/A	No records in buffer				

Airservices Australia National PFAS Management Program Data Custodian: Airservices Australia

## Defence Sites

12-16 Francis Street & 121 Minto Road, Minto, NSW 2566

### Defence 3 Year Regional Contamination Investigation Program

Sites which have been assessed as part of the Defence 3 Year Regional Contamination Investigation Program within the dataset buffer:

Property ID	Base Name	Address	Known Contamination	Loc Conf	Dist	Dir
N/A	No records in buffer					

Defence 3 Year Regional Contamination Investigation Program, Data Custodian: Department of Defence, Australian Government

## EPA Other Sites with Contamination Issues

12-16 Francis Street & 121 Minto Road, Minto, NSW 2566

### EPA Other Sites with Contamination Issues

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

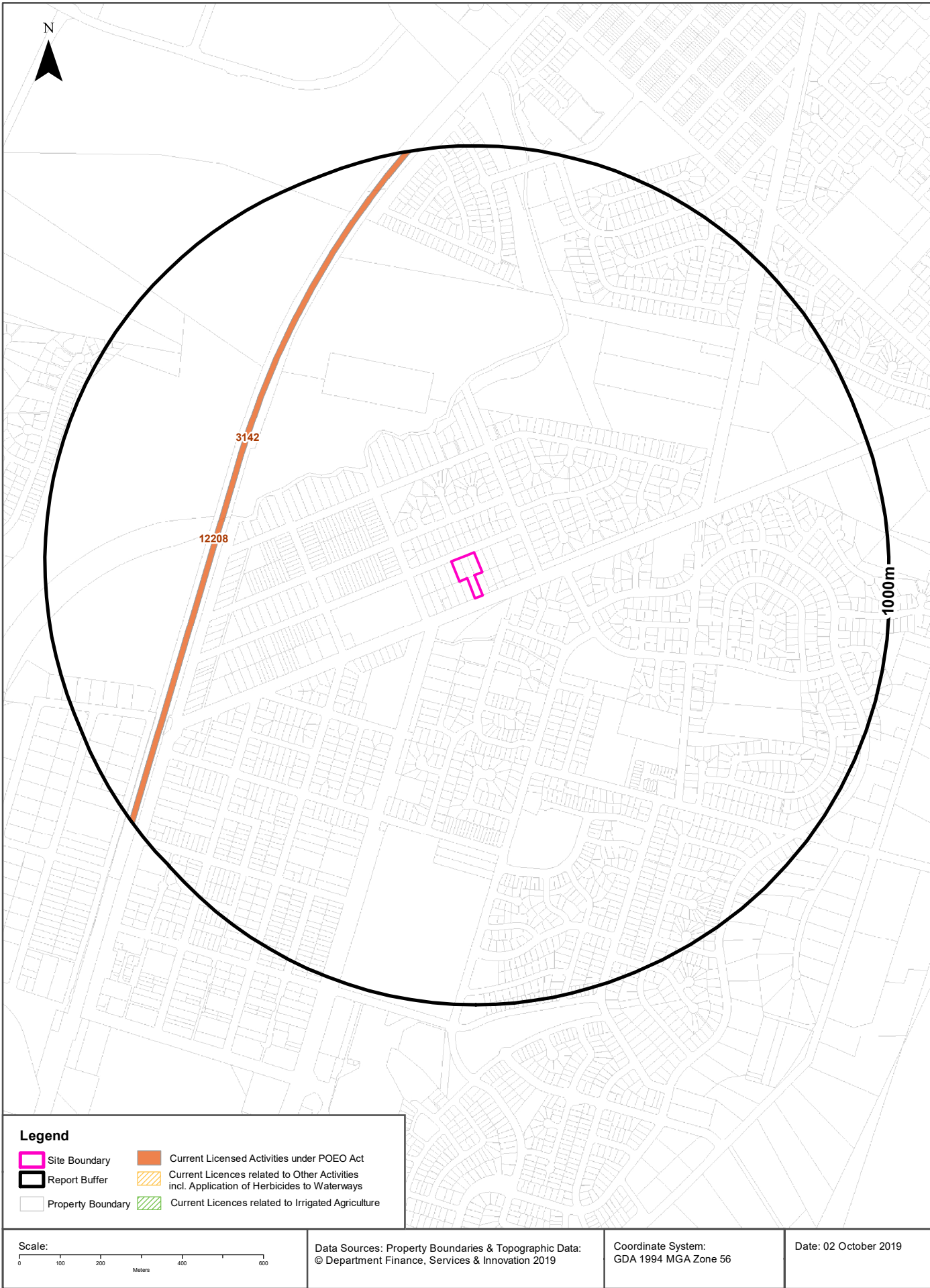
- James Hardie asbestos manufacturing and waste disposal sites
- Radiological investigation sites in Hunter's Hill
- Pasminco Lead Abatement Strategy Area

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

12-16 Francis Street & 121 Minto Road, Minto, NSW 2566

## Licensed Activities under the POEO Act 1997

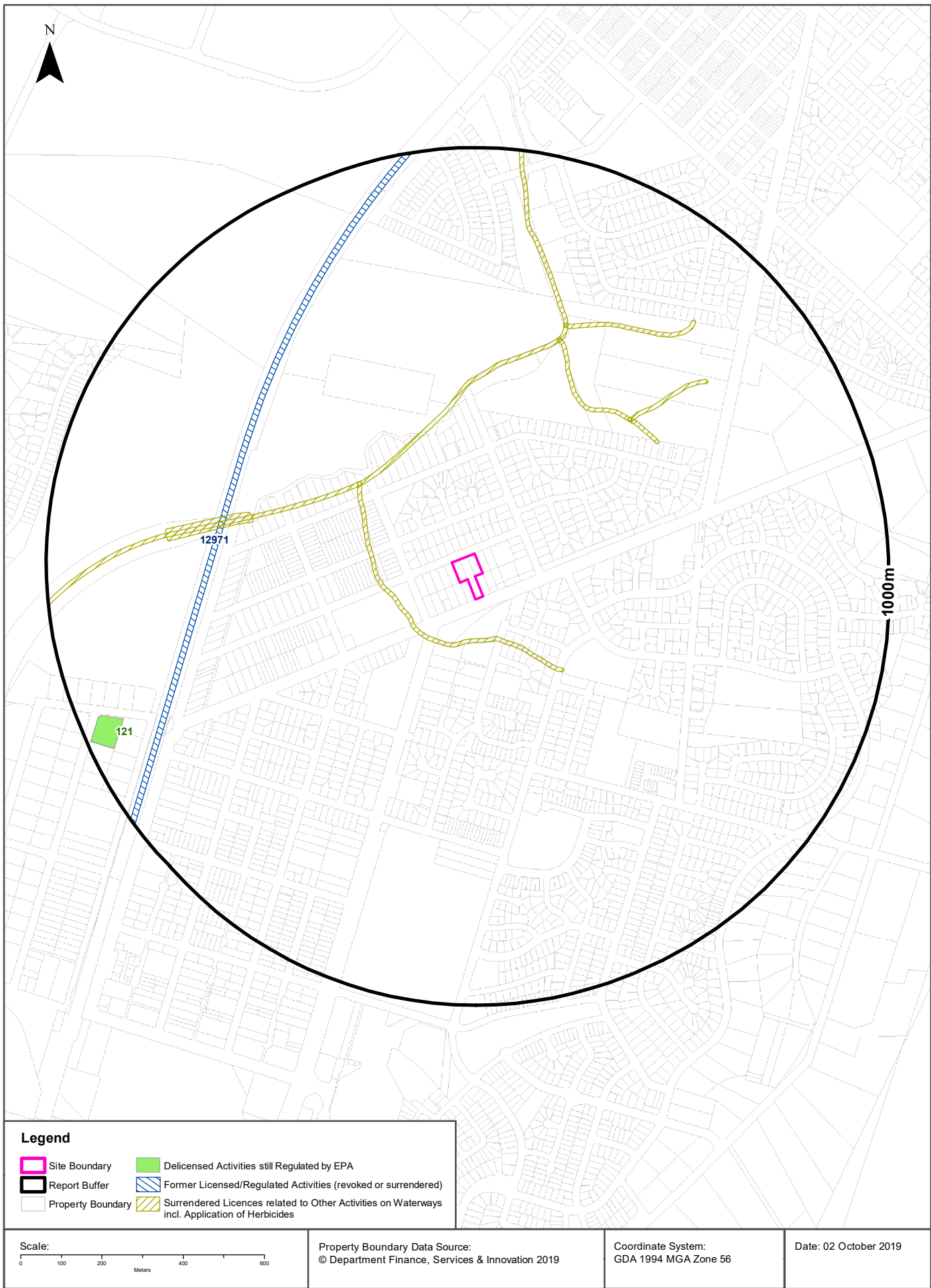
Licensed activities under the Protection of the Environment Operations Act 1997, within the dataset buffer:

EPL	Organisation	Name	Address	Suburb	Activity	Loc Conf	Distance	Direction
3142	AUSTRALIAN RAIL TRACK CORPORATION LIMITED		Australian Rail Track Corporation (ARTC) network as defined by the ARTC Network Deeds within NSW., SYDNEY, NSW 2001		Railway systems activities	Network of Features	565m	North West
12208	SYDNEY TRAINS		PO BOX K349, HAYMARKET, NSW 1238		Railway systems activities	Network of Features	565m	North West

POEO Licence Data Source: Environment Protection Authority

© State of New South Wales through the Environment Protection Authority

**Delicensed & Former Licensed EPA Activities**  
12-16 Francis Street & 121 Minto Road, Minto, NSW 2566



## EPA Activities

12-16 Francis Street & 121 Minto Road, Minto, NSW 2566

### 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
121	BORAL RESOURCES (NSW) PTY LTD	BORAL CONCRETE	7 - 11 ESSEX STREET	MINTO	Concrete works	Premise Match	894m	South West

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:

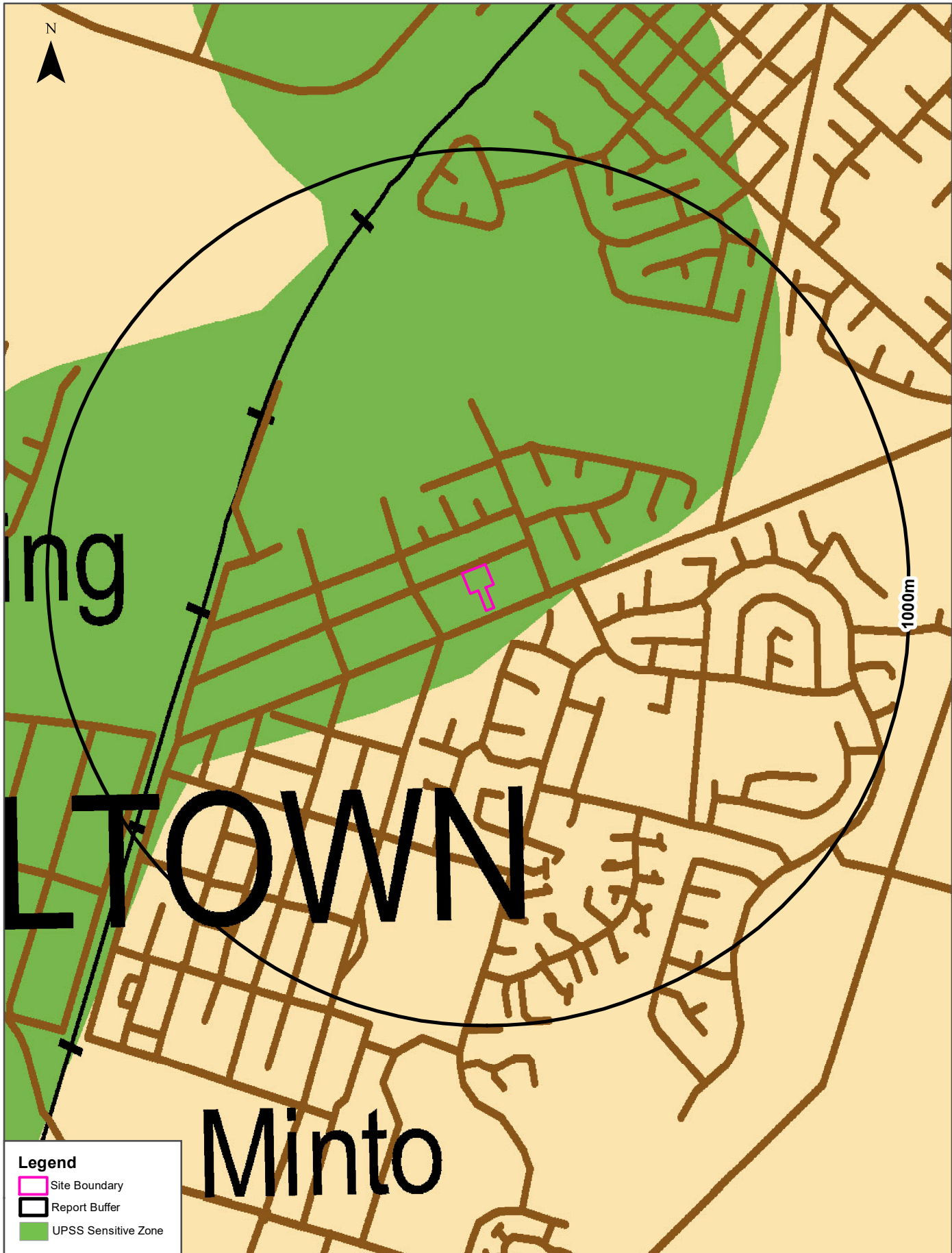
Licence No	Organisation	Location	Status	Issued Date	Activity	Loc Conf	Distance	Direction
4653	LUHRMANN ENVIRONMENT MANAGEMENT PTY LTD	WATERWAYS THROUGHOUT NSW	Surrendered	06/09/2000	Other Activities / Non Scheduled Activity - Application of Herbicides	Network of Features	97m	-
4838	Robert Orchard	Various Waterways throughout New South Wales - SYDNEY NSW 2000	Surrendered	07/09/2000	Other Activities / Non Scheduled Activity - Application of Herbicides	Network of Features	97m	-
6630	SYDNEY WEED & PEST MANAGEMENT PTY LTD	WATERWAYS THROUGHOUT NSW - PROSPECT, NSW, 2148	Surrendered	09/11/2000	Other Activities / Non Scheduled Activity - Application of Herbicides	Network of Features	97m	-
6651	CAMPBELLTOWN CITY COUNCIL	WATERWAYS OF CAMPBELLTOWN CITY COUNCIL AREA - CAMPBELLTOWN NSW 2560	Surrendered	08/05/2000	Other Activities / Non Scheduled Activity - Application of Herbicides	Network of Features	97m	-
12971	AUSTRALIAN RAIL TRACK CORPORATION LIMITED	Amy Street Berala to Menangle Road Glen Alpine , BERALA, NSW 2141	Surrendered	26/11/2008	Railway systems activities	Network of Features	565m	North West

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



UPSS Sensitive Zones

12-16 Francis Street & 121 Minto Road, Minto, NSW 2566



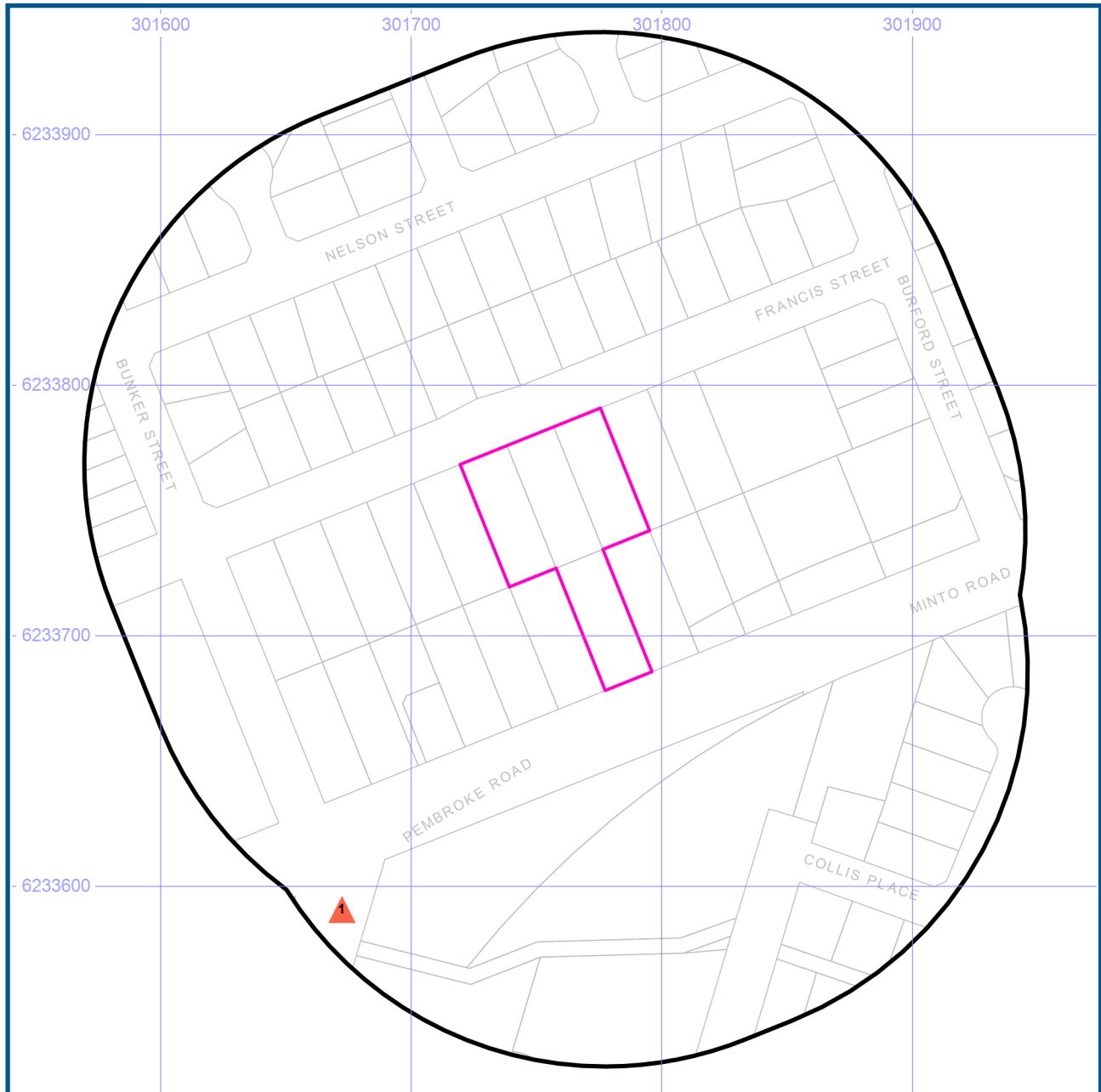
Scale: 0 100 200 400 600 Meters	UPSS Data Source: Environment Protection Authority © Dept of Environment, Climate Change & Water (NSW)	Coordinate System: GDA 1994 MGA Zone 56	Date: 02 October 2019
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# Historical Business Directories

12-16 Francis Street & 121 Minto Road, Minto, NSW 2566



## 1991 Business to Business Directory Records



- Site Boundary
- Buffer 150m
- Property Boundaries

Projected Coordinate System:  
GDA94 MGA Zone 56

- Business directory records mapped to a specific premise
- Business directory records mapped to a road intersection
- ▲ Business directory records mapped to a road corridor
- Business directory records mapped to a general area



Data Sources: Reproduced with permission of UBD and Hardie Grant Media Pty Ltd DD 01/08/2018  
Property Boundaries © NSW Department Finance, Services & Innovation 2019



## Historical Business Directories

12-16 Francis Street & 121 Minto Road, Minto, NSW 2566

### 1991 Business to Business Directory Records Premise or Road Intersection Matches

Records from the 1991 UBD Business to Business Directory, mapped to a premise or road intersection, within the dataset buffer:

Map Id	Business Activity	Premise	Ref No.	Location Confidence	Distance to Property Boundary or Road Intersection	Direction
	No records in buffer					

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### 1991 Business to Business Directory Records Road or Area Matches

Records from the 1991 UBD Business to 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:

Map Id	Business Activity	Premise	Ref No.	Location Confidence	Distance to Road Corridor or Area
1	Building Societies	State Building Society., Minto Mall, Pembroke Rd, Minto 2566	37456	Road Match	111m

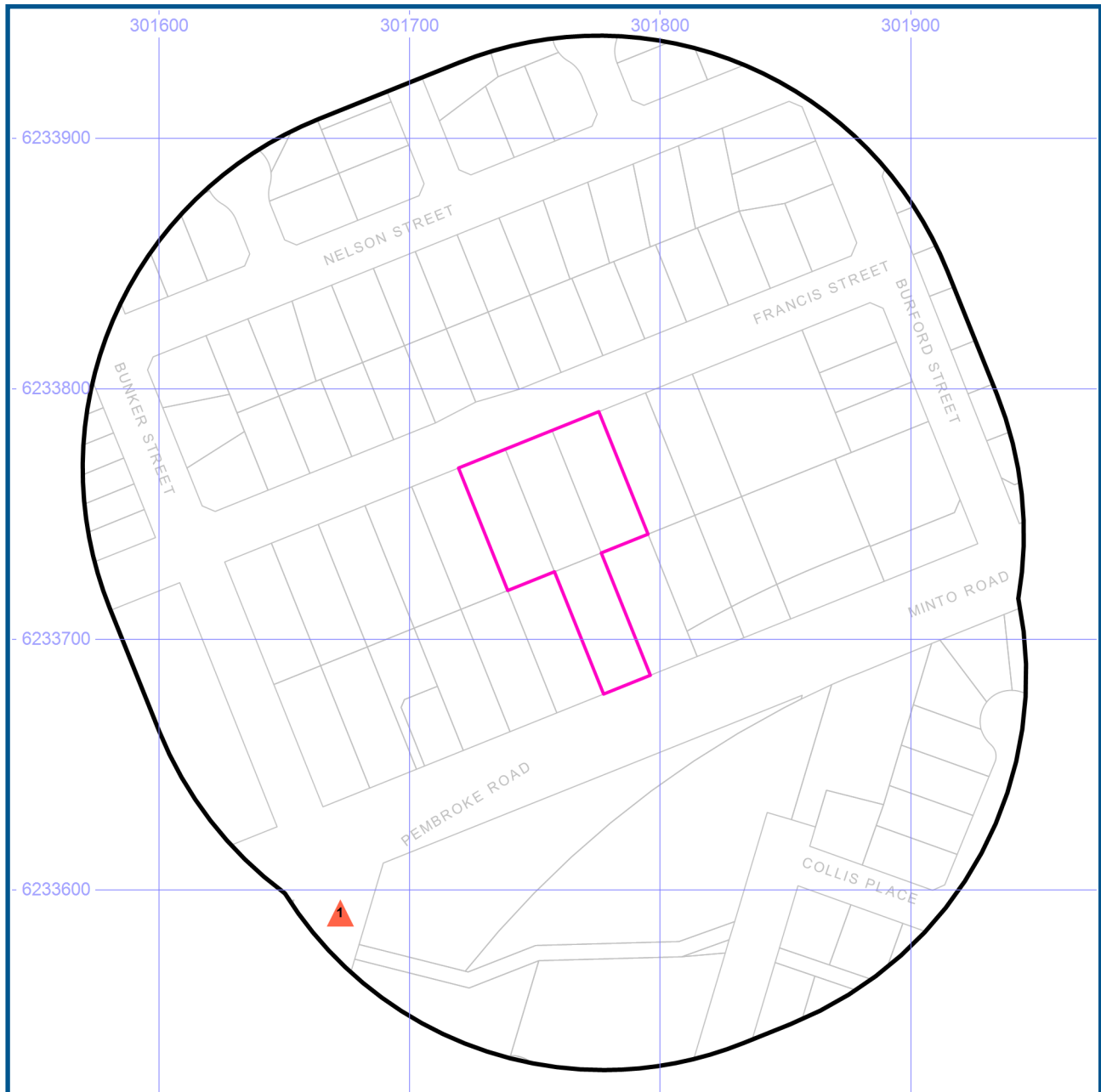
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# Historical Business Directories

12-16 Francis Street & 121 Minto Road, Minto, NSW 2566



## 1986 Business to Business Directory Records



- Site Boundary
- Buffer 150m
- Property Boundaries

Projected Coordinate System:  
GDA94 MGA Zone 56

- Business directory records mapped to a specific premise
- Business directory records mapped to a road intersection
- ▲ Business directory records mapped to a road corridor
- Business directory records mapped to a general area



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Property Boundaries © NSW Department Finance, Services & Innovation 2019

## Historical Business Directories

12-16 Francis Street & 121 Minto Road, Minto, NSW 2566

### 1986 Business to Business Directory Records Premise or Road Intersection Matches

Records from the 1986 UBD Business to Business Directory, mapped to a premise or road intersection, within the dataset buffer:

Map Id	Business Activity	Premise	Ref No.	Location Confidence	Distance to Property Boundary or Road Intersection	Direction
	No records in buffer					

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### 1986 Business to Business Directory Records Road or Area Matches

Records from the 1986 UBD Business to 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:

Map Id	Business Activity	Premise	Ref No.	Location Confidence	Distance to Road Corridor or Area
1	TAKE-AWAY FOODS.	Big Rooster, Minto Mall, Pembroke Rd., Minto. 2566.	90510	Road Match	111m
	TAKE-AWAY FOODS.	McDonalds, Minto Mall, Pembroke Rd., Minto. 2566.	91289	Road Match	111m
	MOTOR GARAGES & SERVICE STATIONS.	Minto Garage, Pembroke Rd., Minto. 2566	65084	Road Match	111m
	TAKE-AWAY FOODS.	Pizza Hut, Minto Mall, Pembroke Rd., Minto. 2566.	91574	Road Match	111m
	BUILDING SOCIETIES.	State Building Society, Minto Mall, Pembroke Rd., Minto. 2566	9047	Road Match	111m

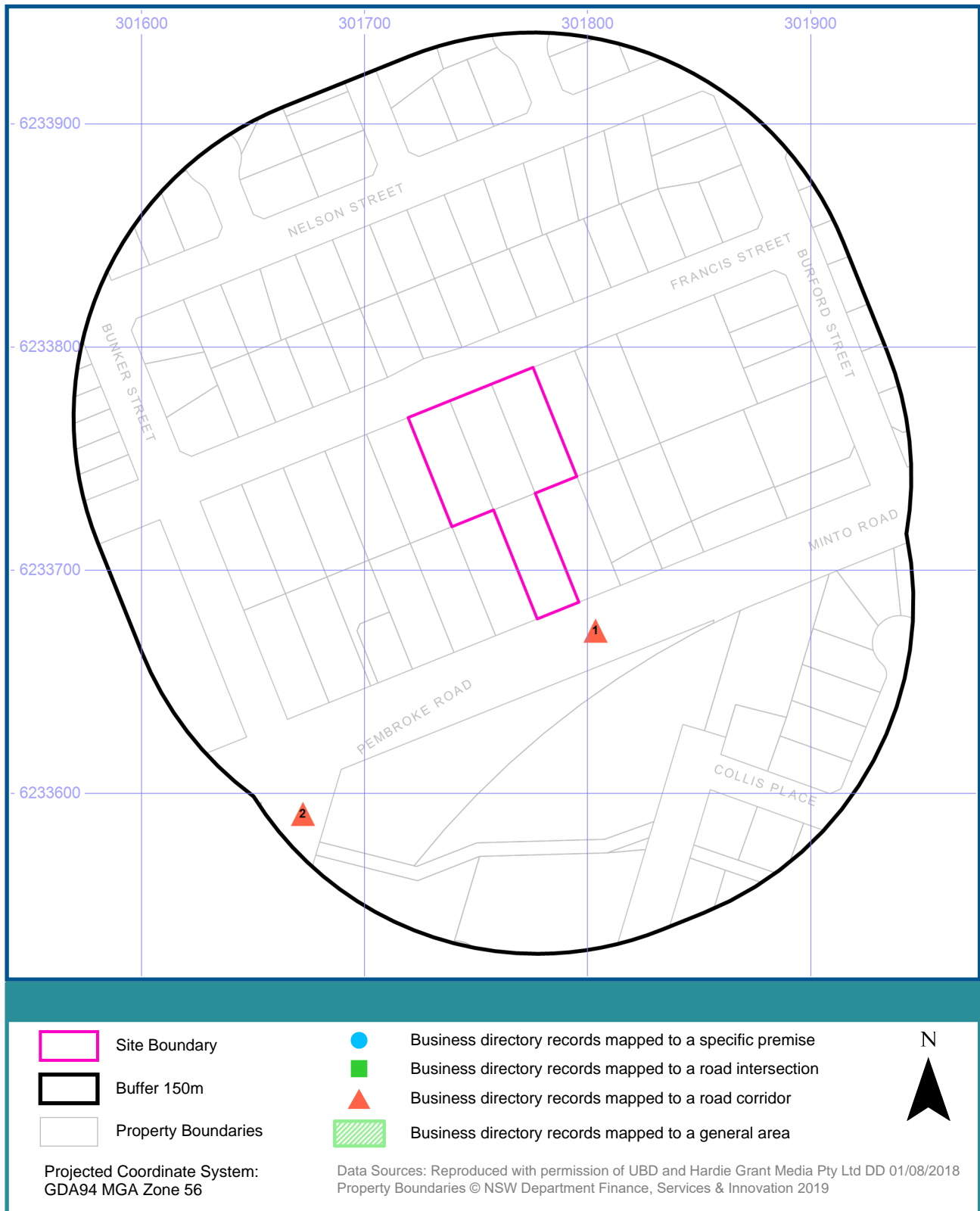
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# Historical Business Directories

12-16 Francis Street & 121 Minto Road, Minto, NSW 2566



## 1982 Business Directory Records



## Historical Business Directories

12-16 Francis Street & 121 Minto Road, Minto, NSW 2566

### 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:

Map Id	Business Activity	Premise	Ref No.	Location Confidence	Distance to Property Boundary or Road Intersection	Direction
	No records in buffer					

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### 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:

Map Id	Business Activity	Premise	Ref No.	Location Confidence	Distance to Road Corridor or Area
1	DENTISTS. (D1800)	Alexander, D. G., Minto Rd., Minto. 2566.	19938	Road Match	0m
	DRESS SHOPS & ACCESSORIES.(D7450)	Joyinnes, Minto Rd., Minto. 2566.	22993	Road Match	0m
	HOTELS - LICENSED. (H7150)	Minto Inn, Minto Rd., Minto. 2566.	40912	Road Match	0m
	NEWSAGENTS. (N0800)	Minto Newsagency, Minto Rd., Minto. 2566.	60682	Road Match	0m
	TAKE-AWAY FOODS. (T0235)	Pizzeria Minto, Minto Rd., Minto. 2566.	78838	Road Match	0m
	MEDICAL PRACTITIONERS. (M2020)	Sloggett, S., Minto Rd., Minto. 2167.	50343	Road Match	0m
2	GIFT SHOPS. (G3350)	Alladin Cards, Minto Mall, Pembroke Rd., Minto. 2566.	36050	Road Match	111m
	RESTAURANTS. (R5180)	Amsterdam, Minto Mall, Pembroke Rd., Minto. 2566.	70392	Road Match	111m
	TRAVEL AGENCIES &/OR BOOKING OFFICES. (T7425)	Ansett International, Minto Mall, Pembroke Rd., Minto. 2566.	81737	Road Match	111m
	BABY &/OR CHILDRENS WEAR -RETAIL. (B0080)	Baby Carriages, Minto Mall, Pembroke Rd., Minto. 2566.	4289	Road Match	111m
	BAKERS - BREAD. (B0440)	Bakers Choice, Minto Mall, Pembroke Rd., Minto. 2566.	4539	Road Match	111m
	BUTCHERS - RETAIL. (B8040)	Budget Meats, Minto Mall, Pembroke Rd., Minto. 2566.	10590	Road Match	111m
	GROCERS - RETAIL. (G7850)	Coles K. Mart, Minto Mall, Pembroke Rd., Minto. 2566.	37465	Road Match	111m
	DEPARTMENTAL STORES. (D1950)	Coles K. Mart, Minto Mall, Pembroke Rd., Minto. 2566.	21085	Road Match	111m
	DELICATESSENS. (D1250)	Cut-Price Deli, Minto Mall, Pembroke Rd., Minto. 2566.	19341	Road Match	111m
	DRAPERS - RETAIL. (D6600)	Diedres Furnishings, Minto Mall, Pembroke Rd., Minto. 2566	22064	Road Match	111m
	RECORD BARS. (R2835)	Edels, Minto Mall, Pembroke Rd., Minto. 2566.	69935	Road Match	111m

Map Id	Business Activity	Premise	Ref No.	Location Confidence	Distance to Road Corridor or Area
2	SPORTS GOODS RETAILERS. (S4875)	Family Sports Store, Minto Mall, Pembroke Rd., Minto. 2566.	75450	Road Match	111m
	FOOTWEAR RETAILERS (F5575)	Flints, Minto Mall, Pembroke Rd., Minto. 2566.	32388	Road Match	111m
	GROCERS - RETAIL. (G7850)	Franklins, Minto Mall, Pembroke Rd, Minto. 2566.	37671	Road Match	111m
	HEALTH FOODS - RETAIL. (H3000)	Health Nutrition, Minto Mall, Pembroke Rd., Minto. 2566.	39697	Road Match	111m
	DRESS SHOPS & ACCESSORIES.(D7450)	Hustle Boutique. Minto Mall, Pembroke Rd., Minto. 2566.	22929	Road Match	111m
	GIFT SHOPS. (G3350)	Impact Gifts, Minto Mall, Pembroke Rd., Minto. 2566.	36320	Road Match	111m
	DRESS SHOPS & ACCESSORIES.(D7450)	Island Blue, Minto Mall, Pembroke Rd., Minto. 2566.	22942	Road Match	111m
	DRAPERS - RETAIL. (D6600)	Jan-Lee Fabrics, Minto Mall, Pembroke Rd., Minto. 2566.	22115	Road Match	111m
	POULTRY DEALERS - RETAIL.(P7480)	Juicy Chicks, Minto Mall, Pembroke Rd., Minto. 2566.	65664	Road Match	111m
	JEANS & DENIMS. (J0130)	Just Jeans, Minto Mall, Pembroke Rd., Minto. 2566.	43225	Road Match	111m
	MOTOR ACCESSORIES DEALERS.(M4690)	Loscoe's, Minto Mall, Pembroke Rd., Minto. 2566.	53862	Road Match	111m
	MOTOR SPARE PARTS DEALERS -RETAIL. (M7840)	Loscoe's, Minto Mall, Pembroke Rd., Minto. 2566.	59181	Road Match	111m
	FRUITERERS &/OR GREENGROCERS. (F6775)	Mall Fruit Market, Minto Mall, Pembroke Rd., Minto. 2566.	33723	Road Match	111m
	NEWSAGENTS. (N0800)	Mall Newsagency, Minto Mall, Pembroke Rd., Minto. 2566.	60653	Road Match	111m
	TAKE-AWAY FOODS. (T0235)	Marvins Kitchen, Minto Mall, Pembroke Rd., Minto. 2566.	78670	Road Match	111m
	MOTOR GARAGES &/OR ENGINEERS &/OR SERVICE STATIONS. (M6860)	Minto Garage, Pembroke Rd., Minto. 2566.	57192	Road Match	111m
	TOY DEALERS - RETAIL. (T6200)	Minto Hobbies, Minto Mall, Pembroke Rd., Minto 2566	81137	Road Match	111m
	RESTAURANTS. (R5180)	Pheonix Bistro, Minto Mall, Pembroke Rd., Minto. 2566.	71541	Road Match	111m
	PHOTOGRAPHIC EQUIPMENTDEALERS. (P3800)	Rabbit Photo, Minto Mall, Pembroke Rd., Minto. 2566.	63767	Road Match	111m
	CHEMISTS - PHARMACEUTICAL.(C4110)	Sinclair's Pharmacy, Minto Mall, Pembroke Rd., Minto. 2566.	15653	Road Match	111m
	RECORD BARS. (R2835)	Sounds Incredible, Minto Mall, Pembroke Rd., Minto. 2566.	70027	Road Match	111m
	CAKE SHOPS &/OR PASTRYCOOKS. (C0465)	Stevo's Cakes, Minto Mall, Pembroke Rd., Minto. 2566.	12828	Road Match	111m
	DRESS SHOPS & ACCESSORIES.(D7450)	Suzanne-Grae, Minto Mall, Pembroke Rd., Minto. 2566.	23519	Road Match	111m
	ANIMAL &/OR BIRD DEALERS.(A5850)	Toy Fisheries, Minto Mall, Pembroke Rd., Minto. 2566.	2691	Road Match	111m
	BEAUTY SALONS &/OR LADIES HAIRDRESSERS. (B2000)	Trevi Hairdressing, Minto Mall, Pembroke Rd., Minto. 2566.	6670	Road Match	111m
	HAIRDRESSERS - GENTS. (H0550)	Trevi Hairdressing, Minto Mall, Pembroke Rd., Minto. 2566.	38803	Road Match	111m
	DRESS SHOPS & ACCESSORIES.(D7450)	Twiggies Plus, Minto Mall, Pembroke Rd., Minto. 2566.	23573	Road Match	111m
	OPTOMETRISTS &/OR OPTICIANS.(O3600)	Watts, M. G., Minto Mall, Pembroke Rd., Minto. 2566.	61961	Road Match	111m
	DRESS SHOPS & ACCESSORIES.(D7450)	Wendies, Minto Mall, Pembroke Rd., Minto. 2566.	23616	Road Match	111m

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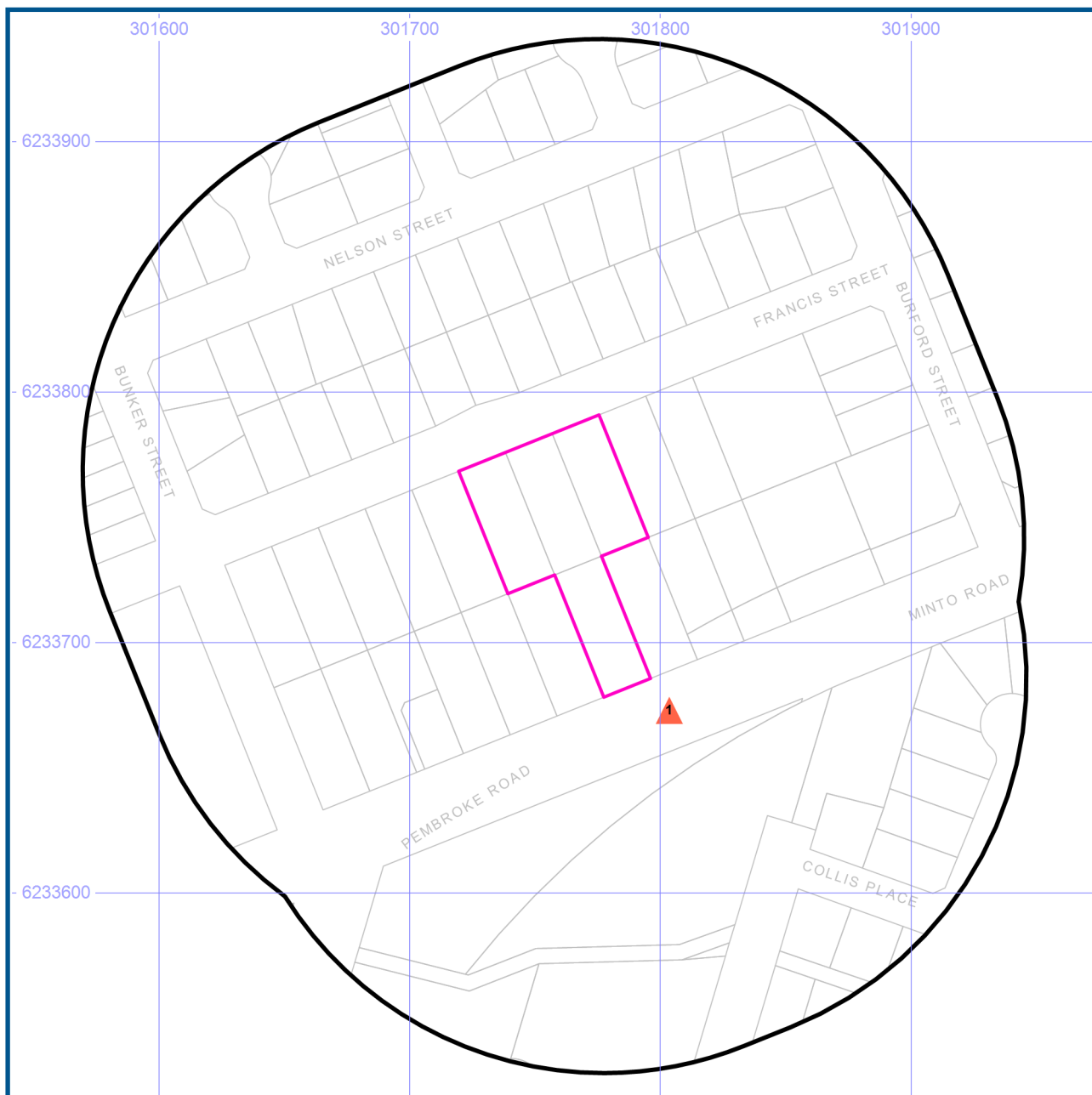


# Historical Business Directories

12-16 Francis Street & 121 Minto Road, Minto, NSW 2566



## 1970 Business Directory Records



- Site Boundary
- Buffer 150m
- Property Boundaries

Projected Coordinate System:  
GDA94 MGA Zone 56

- Business directory records mapped to a specific premise
- Business directory records mapped to a road intersection
- ▲ Business directory records mapped to a road corridor
- Business directory records mapped to a general area

Data Sources: Reproduced with permission of UBD and Hardie Grant Media Pty Ltd DD 01/08/2018  
Property Boundaries © NSW Department Finance, Services & Innovation 2019



## Historical Business Directories

12-16 Francis Street & 121 Minto Road, Minto, NSW 2566

### 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:

Map Id	Business Activity	Premise	Ref No.	Location Confidence	Distance to Property Boundary or Road Intersection	Direction
	No records in buffer					

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### 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:

Map Id	Business Activity	Premise	Ref No.	Location Confidence	Distance to Road Corridor or Area
1	NEWSAGENTS-GENERAL	Cullen, G. J., Minto Rd. Minto	535658	Road Match	0m
	MIXED BUSINESSES	Cullen, G. J., Minto Rd., Minto Minto	535656	Road Match	0m
	BUILDERS &/OR BUILDING CONTRACTORS	Gavin, F. C. Pty. Ltd., Minto Rd. Minto	535651	Road Match	0m
	BUTCHERS-RETAIL	Gavin, F. C., Minto Rd. Minto	535653	Road Match	0m

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## Historical Business Directories

12-16 Francis Street & 121 Minto Road, Minto, NSW 2566

### 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:

Map Id	Business Activity	Premise	Ref No.	Location Confidence	Distance to Property Boundary or Road Intersection	Direction
	No records in buffer					

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### 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:

Map Id	Business Activity	Premise	Ref No.	Location Confidence	Distance to Road Corridor or Area
	No records in buffer				

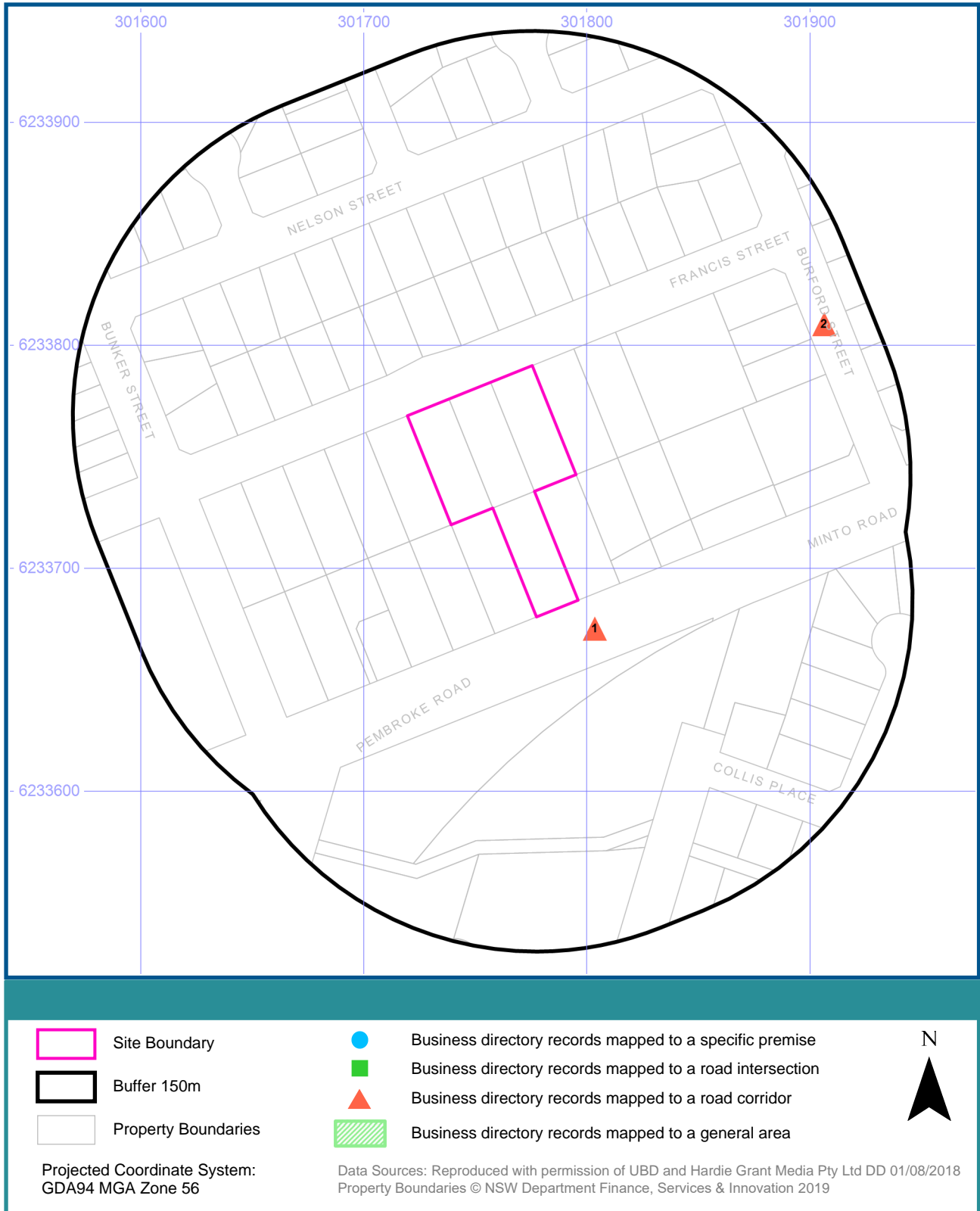
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# Historical Business Directories

12-16 Francis Street & 121 Minto Road, Minto, NSW 2566



## 1950 Business Directory Records



## Historical Business Directories

12-16 Francis Street & 121 Minto Road, Minto, NSW 2566

### 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:

Map Id	Business Activity	Premise	Ref No.	Location Confidence	Distance to Property Boundary or Road Intersection	Direction
	No records in buffer					

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### 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:

Map Id	Business Activity	Premise	Ref No.	Location Confidence	Distance to Road Corridor or Area
1	BUTCHERS	Hawes, K., Minto Rd. Minto	130287	Road Match	0m
2	FRUITERERS & GREENGROCERS	Sherack, A. W., Burford St., Ingleburn	197539	Road Match	118m

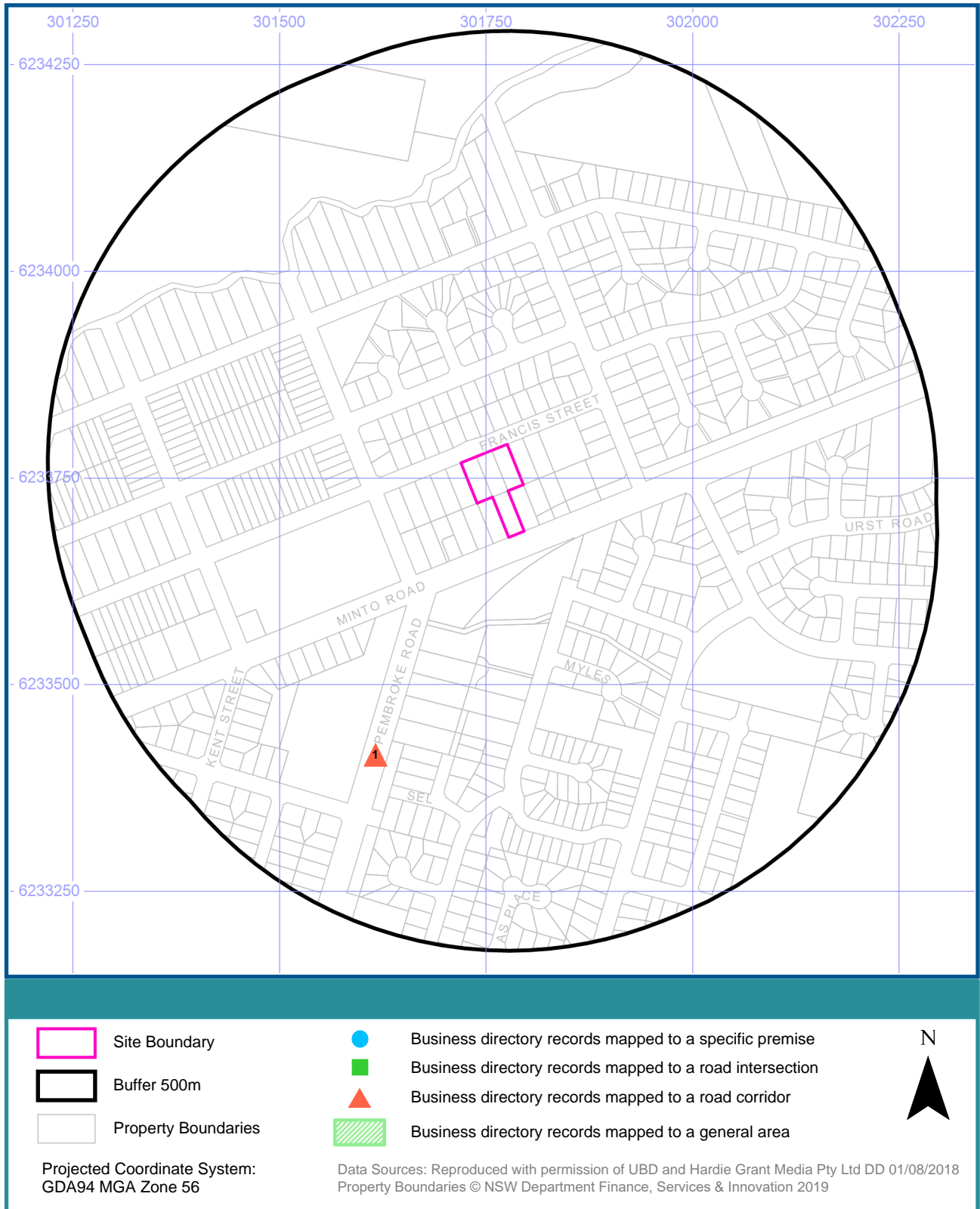
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# Historical Business Directories

12-16 Francis Street & 121 Minto Road, Minto, NSW 2566



## Dry Cleaners, Motor Garages & Service Stations (1948-1993)





## Historical Business Directories

12-16 Francis Street & 121 Minto Road, Minto, NSW 2566

### Dry Cleaners, Motor Garages & Service Stations Premise or Road Intersection Matches (1948-1993)

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

Note: The Universal Business Directories were published between 1948 and 1993. Dry Cleaners, Motor Garages & Service Stations have been extracted from all of these directories except the following years 1951, 1955, 1957, 1960, 1963, 1973, 1974, 1977, 1987.

Map Id	Business Activity	Premise	Ref No.	Year	Location Confidence	Distance to Property Boundary or Road Intersection	Direction
	No records in buffer						

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## Dry Cleaners, Motor Garages & Service Stations Road or Area Matches (1948-1993)

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.

Note: The Universal Business Directories were published between 1948 and 1993. Dry Cleaners, Motor Garages & Service Stations have been extracted from all of these directories except the following years 1951, 1955, 1957, 1960, 1963, 1973, 1974, 1977, 1987.

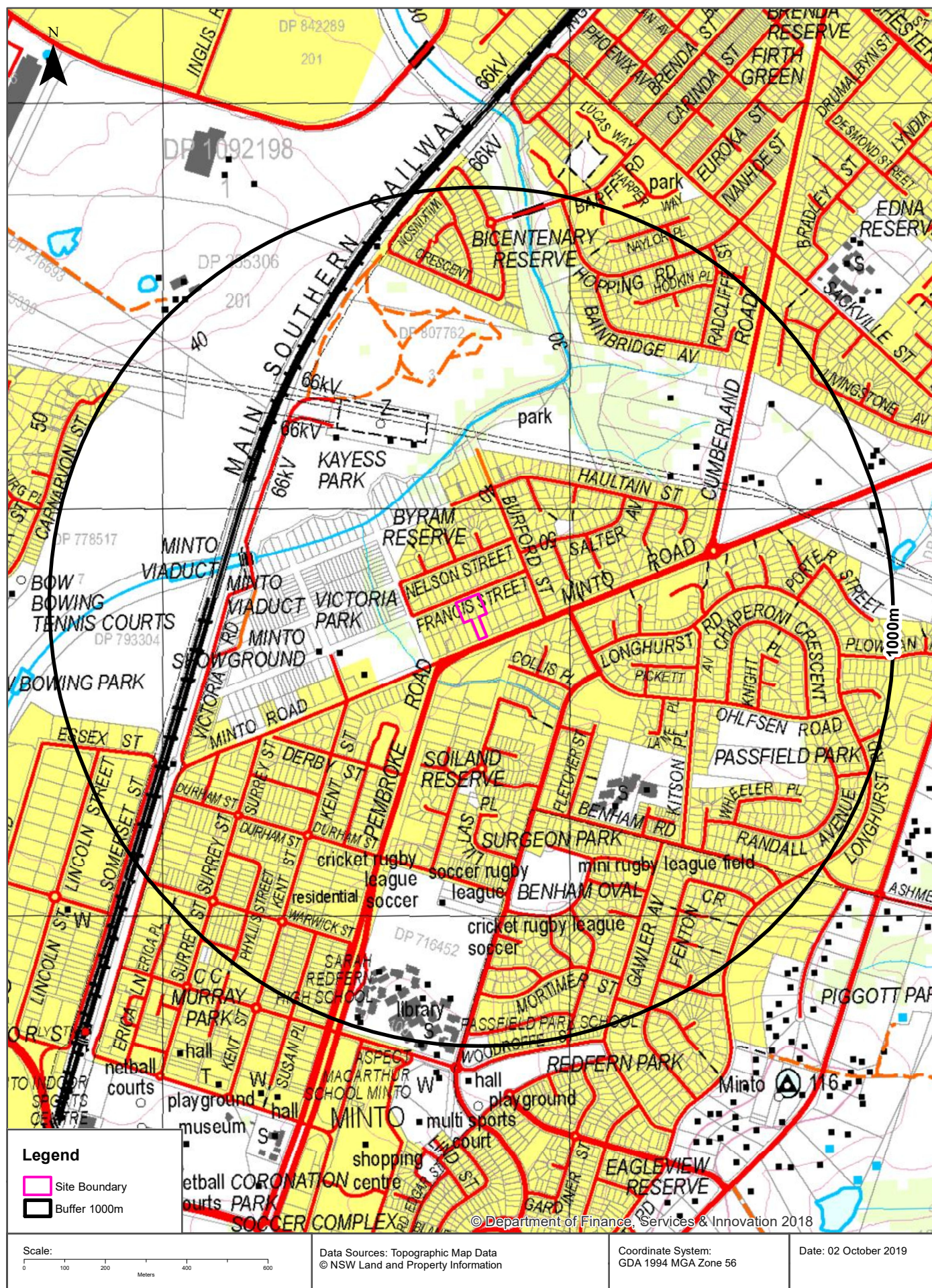
Map Id	Business Activity	Premise	Ref No.	Year	Location Confidence	Distance to Road Corridor or Area
1	MOTOR GARAGE & SERVICE STATIONS.	Minto Garage, Pembroke Rd., Minto. 2566	5253	1989	Road Match	111m
	MOTOR GARAGES & SERVICE STATIONS.	Minto Garage, Pembroke Rd., Minto. 2566	59615	1988	Road Match	111m
	MOTOR GARAGES & SERVICE STATIONS.	Minto Garage, Pembroke Rd., Minto. 2566	65084	1986	Road Match	111m
	MOTOR GARAGES & SERVICE STATIONS.	Minto Garage, Pembroke Rd., Minto. 2566	45190	1985	Road Match	111m
	MOTOR GARAGES &/OR ENGINEERS &/OR SERVICE STATIONS.	Minto Garage, Pembroke Rd., Minto. 2566	33769	1984	Road Match	111m
	MOTOR GARAGES &/OR ENGINEERS &/OR SERVICE STATIONS.	Minto Garage., Pembroke Rd., Minto 2566	15117	1983	Road Match	111m
	MOTOR GARAGES &/OR ENGINEERS &/OR SERVICE STATIONS. (M6860)	Minto Garage, Pembroke Rd., Minto. 2566.	57192	1982	Road Match	111m
	MOTOR GARAGES &/OR ENGINEERS &/OR SERVICE STATIONS.	Minto Garage., Pembroke Rd., Minto 2566	3757	1981	Road Match	111m
	MOTOR GARAGES &/OR ENGINEERS &/OR SERVICE STATIONS.	Minto Garage., Pembroke Rd., Minto. 2566	58489	1980	Road Match	111m
	MOTOR GARAGES &/OR ENGINEERS &/OR SERVICE STATIONS.	Minto Garage., Pembroke Rd., Minto. 2566.	45983	1979	Road Match	111m

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# Topographic Map 2015

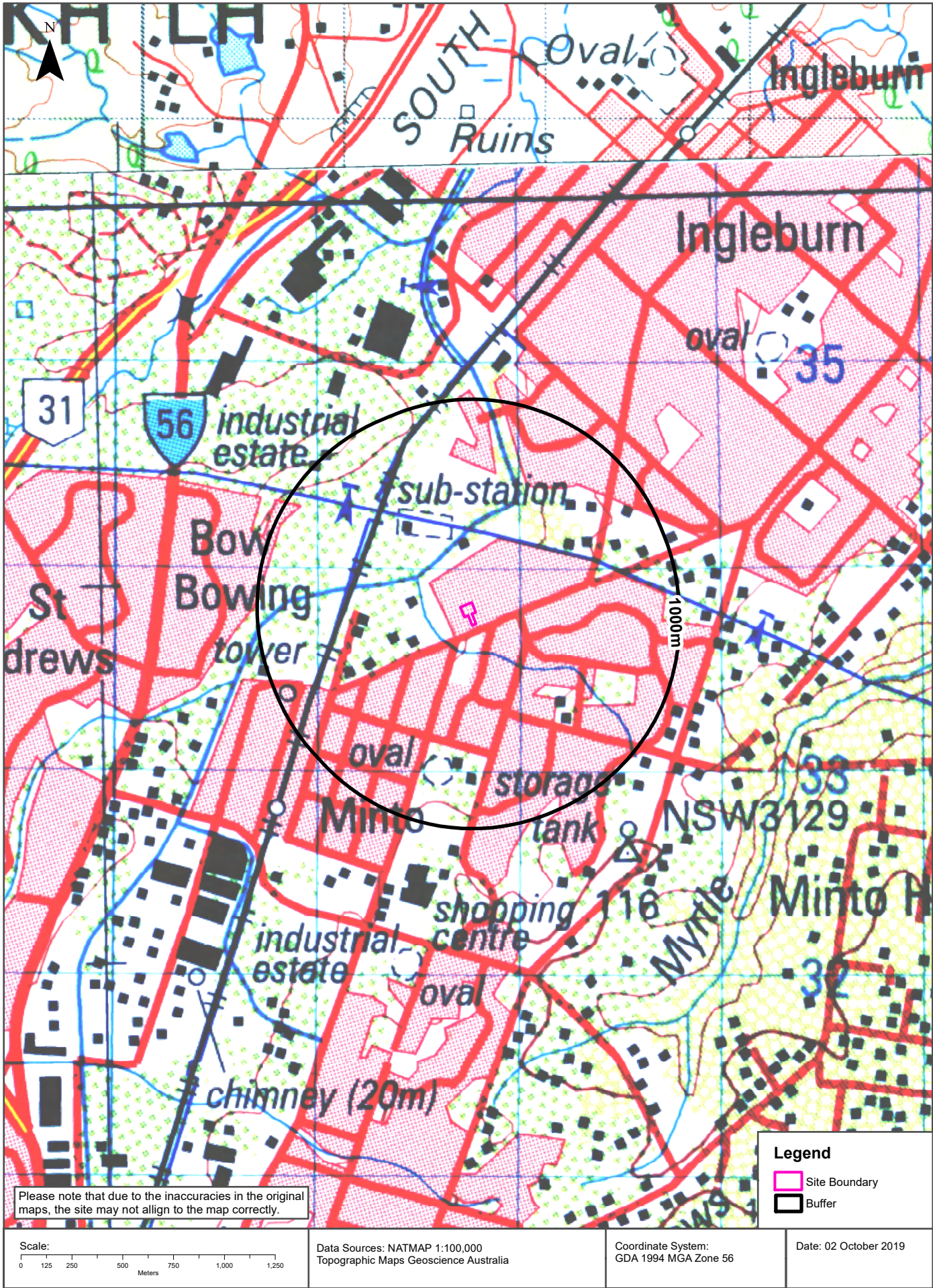
12-16 Francis Street & 121 Minto Road, Minto, NSW 2566





Historical Map 1998

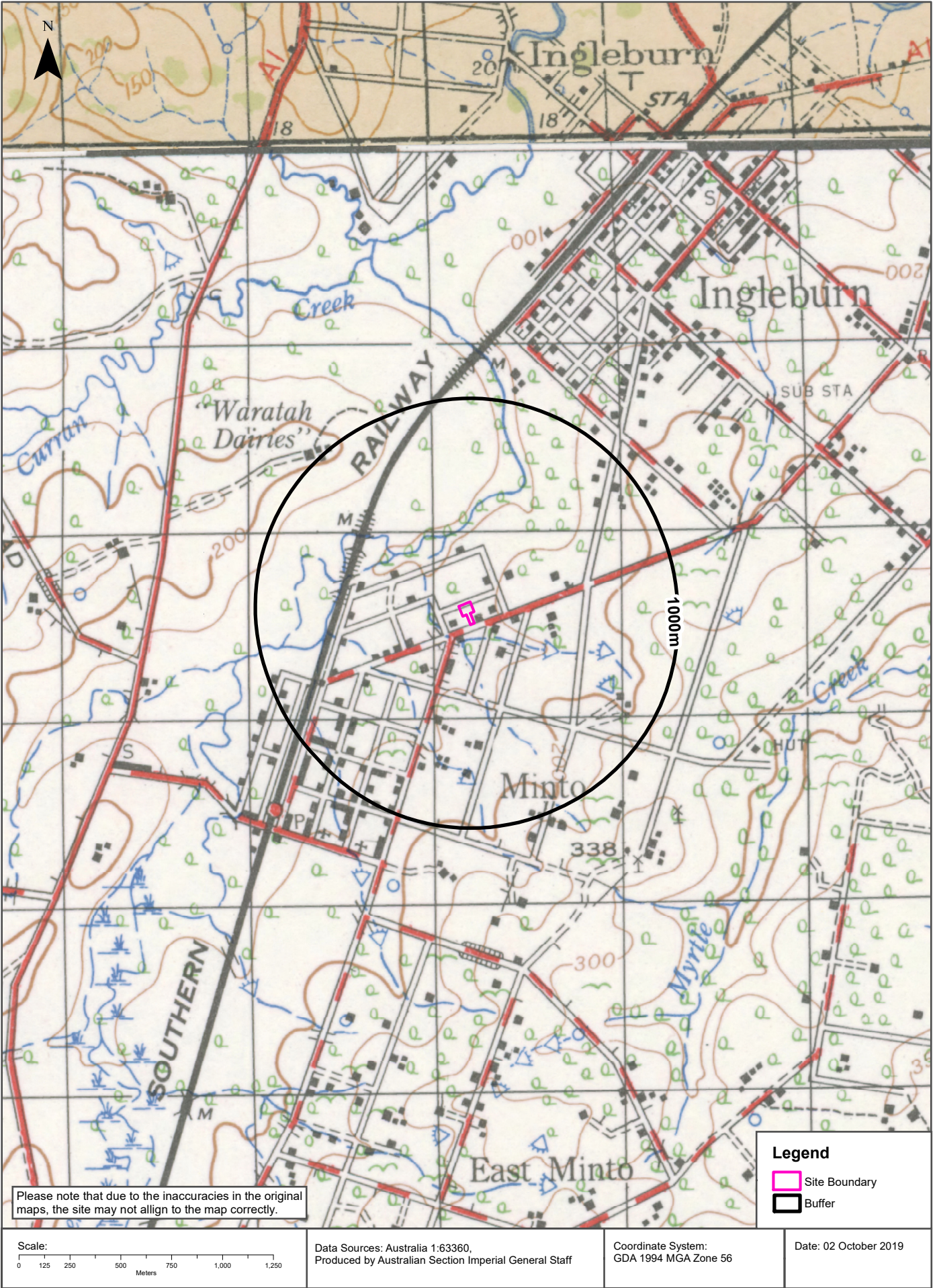
12-16 Francis Street & 121 Minto Road, Minto, NSW 2566





# Historical Map c.1954

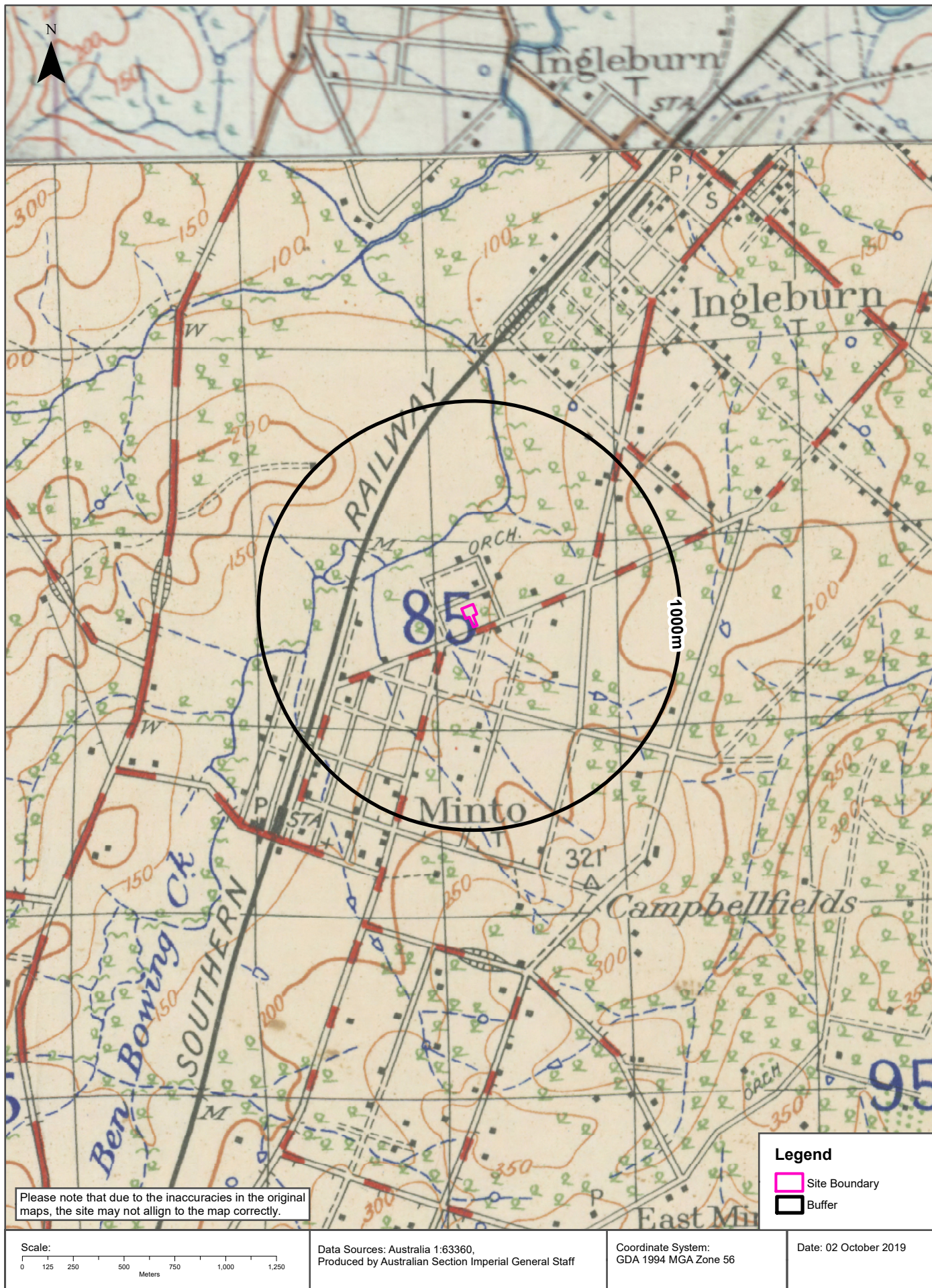
12-16 Francis Street & 121 Minto Road, Minto, NSW 2566





# Historical Map c.1934

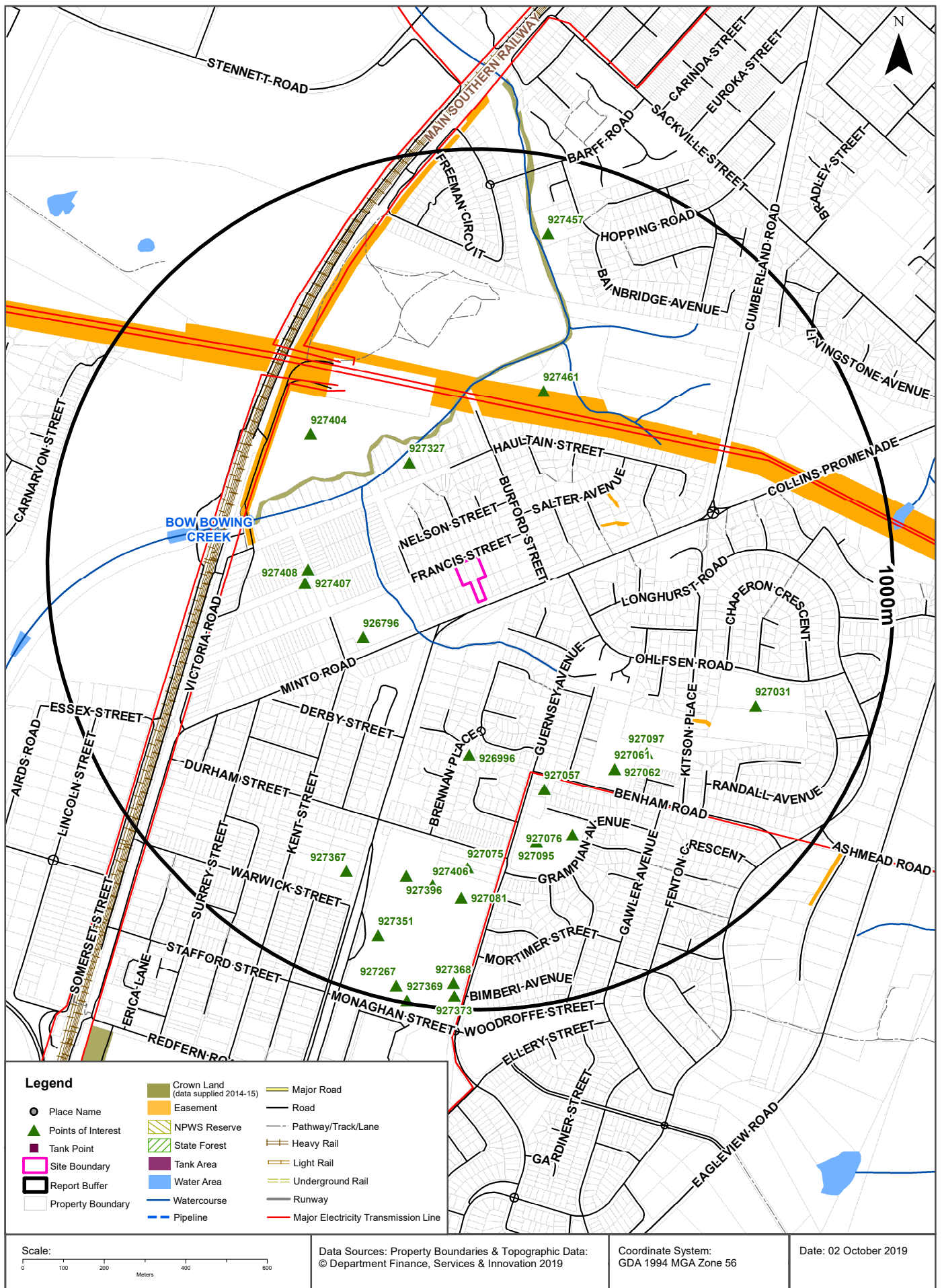
12-16 Francis Street & 121 Minto Road, Minto, NSW 2566





# Topographic Features

12-16 Francis Street & 121 Minto Road, Minto, NSW 2566



## Topographic Features

12-16 Francis Street & 121 Minto Road, Minto, NSW 2566

### Points of Interest

What Points of Interest exist within the dataset buffer?

Map Id	Feature Type	Label	Distance	Direction
926796	Community Facility	CAMPBELLTOWN PCYC	275m	South West
927327	Park	BYRAM RESERVE	277m	North West
927408	Sports Field	VICTORIA PARK	360m	West
927407	Showground	MINTO SHOWGROUND	370m	West
926996	Park	SOILAND RESERVE	374m	South
927461	Park	Park	437m	North
927404	Sports Field	KAYESS PARK	480m	North West
927057	Park	SURGEON PARK	486m	South
927061	Medical Centre	MINTO EARLY CHILDHOOD CENTRE	523m	South East
927062	Primary School	THE GRANGE PUBLIC SCHOOL	523m	South East
927097	Combined Primary-Secondary School	AL-FAISAL COLLEGE CAMPBELLTOWN CAMPUS	545m	South East
927095	Sports Field	BENHAM OVAL	604m	South
927076	Sports Field	MINI RUGBY LEAGUE FIELD	615m	South
927075	Sports Field	SOCCER RUGBY LEAGUE	652m	South
927396	Sports Field	CRICKET RUGBY LEAGUE SOCCER	694m	South
927406	Sports Field	SARAH REDFERN PLAYING FIELDS	703m	South
927031	Park	PASSFIELD PARK	711m	South East
927081	Sports Field	CRICKET RUGBY LEAGUE SOCCER	726m	South
927367	Community Home	PEMBROKE LODGE	735m	South West
927457	Park	BICENTENARY RESERVE	812m	North
927351	High School	SARAH REDFERN HIGH SCHOOL	853m	South
927368	Preschool	SARAH REDFERN PUBLIC SCHOOL PRESCHOOL	937m	South
927267	Library	MINTO COMMUNITY LIBRARY	963m	South
927373	Special School	PASSFIELD PARK SCHOOL	968m	South
927369	Special School	ASPECT MACARTHUR SCHOOL MINTO	993m	South

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

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## Topographic Features

12-16 Francis Street & 121 Minto Road, Minto, NSW 2566

### 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
120110745	Primary	Undefined		310m	North East
120108860	Primary	Undefined		345m	North
120108969	Primary	Undefined		368m	East
120120629	Primary	Undefined		404m	North
120108923	Primary	Undefined		416m	North West
120108040	Primary	Undefined		588m	South East
120113205	Primary	Undefined		666m	North West
120118141	Primary	Undefined		666m	West
120116743	Primary	Undefined		692m	North West
120120647	Primary	Undefined		779m	East

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

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## Topographic Features

12-16 Francis Street & 121 Minto Road, Minto, NSW 2566

### 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: © NSW Department of Finance, Services & Innovation (2018)

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### National Parks and Wildlife Service Reserves

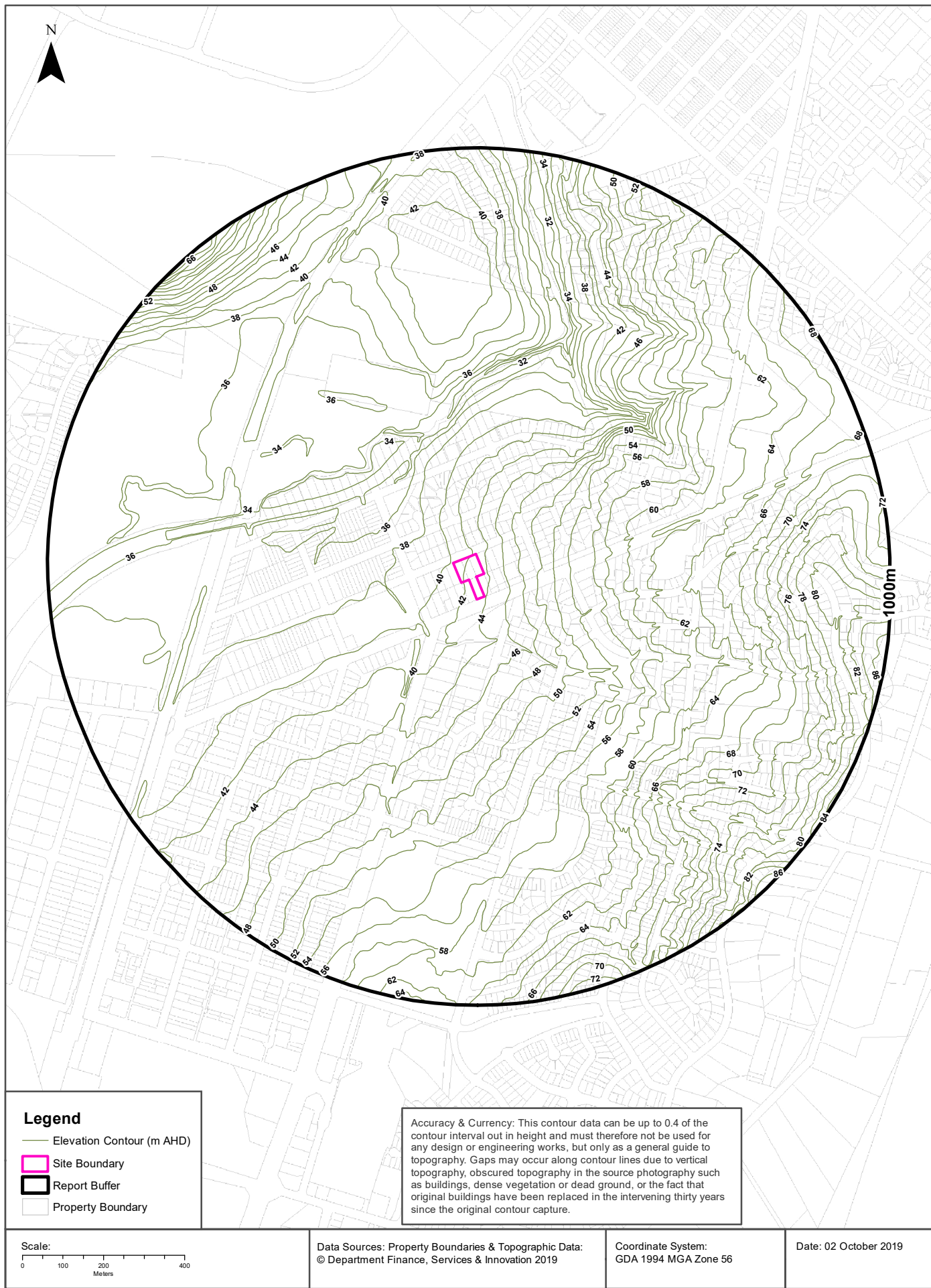
What NPWS Reserves exist within the dataset buffer?

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

NPWS Data Source: © NSW Department of Finance, Services & Innovation (2018)

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## Hydrogeology & Groundwater

12-16 Francis Street & 121 Minto Road, Minto, NSW 2566

### Hydrogeology

Description of aquifers on-site:

Description
Porous, extensive aquifers of low to moderate productivity

Description of aquifers within the dataset buffer:

Description
Porous, extensive aquifers of low to moderate productivity

Hydrogeology Map of Australia : Commonwealth of Australia (Geoscience Australia)

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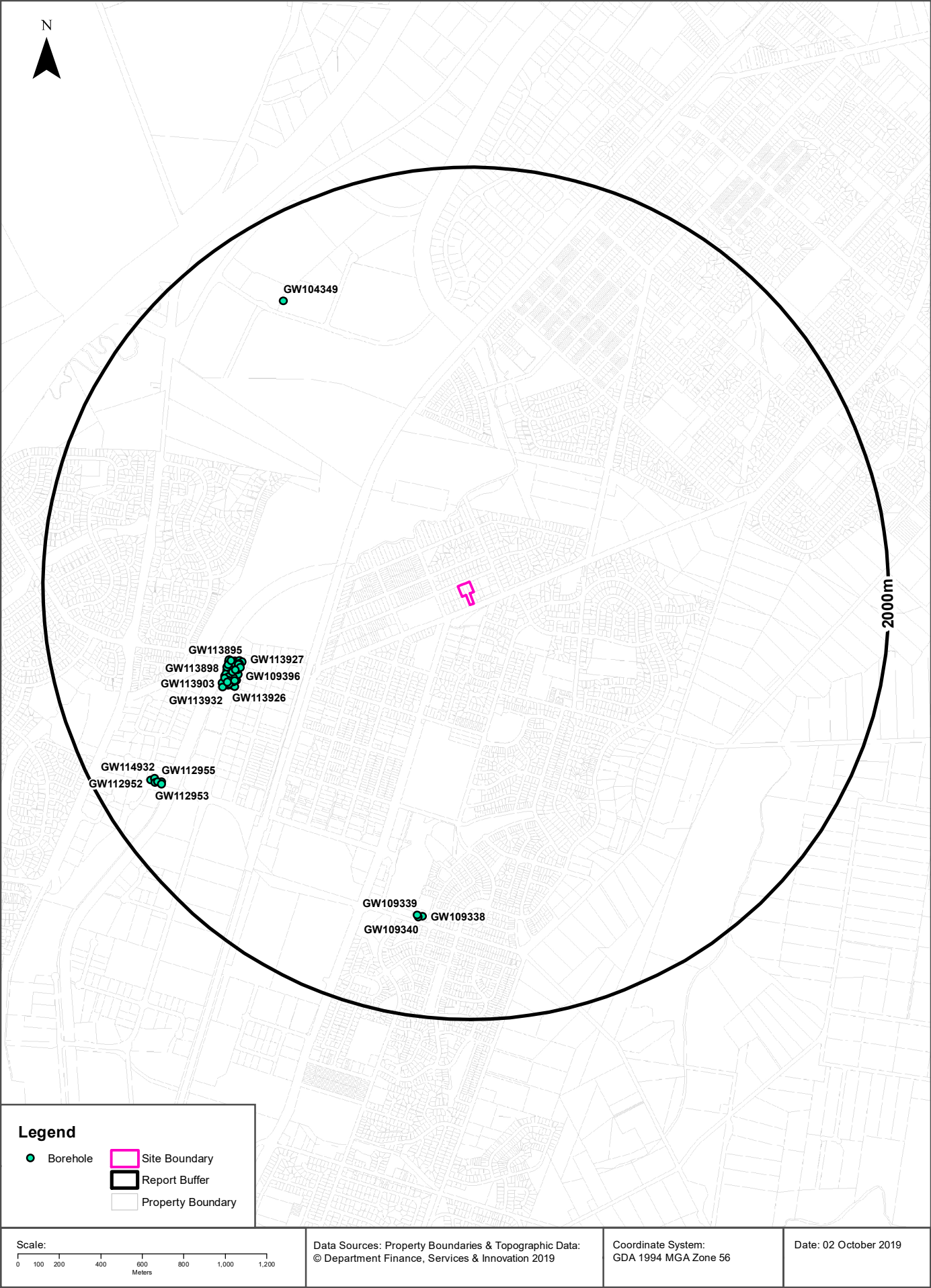
### Botany Groundwater Management Zones

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

12-16 Francis Street & 121 Minto Road, Minto, NSW 2566

## Groundwater Boreholes

Boreholes within the dataset buffer:

GW No.	Licence No	Work Type	Owner Type	Authorised Purpose	Intended Purpose	Name	Complete Date	Final Depth (m)	Drilled Depth (m)	Salinity (mg/L)	SWL (m)	Yield (L/s)	Elev (AHD)	Dist	Dir
GW113 927	10BL160 713	Bore	Private	Monitoring Bore	Monitoring Bore	Shell - Minto	03/09/2002	5.90	5.90					1101m	West
GW113 918	10BL160 713	Bore	Private	Monitoring Bore	Monitoring Bore	Shell - Minto	21/05/2002	5.10	5.10					1112m	West
GW113 919	10BL160 713	Bore	Private	Monitoring Bore	Monitoring Bore	Shell - Minto	21/05/2002	5.10	5.10					1118m	West
GW109 398	10BL160 947	Bore	Private	Monitoring Bore	Monitoring Bore		04/09/2002	5.50						1118m	West
GW109 407	10BL160 947	Bore	Private	Monitoring Bore	Monitoring Bore		06/09/2002	5.60						1119m	West
GW113 930	10BL160 713	Bore	Private	Monitoring Bore	Monitoring Bore	Shell - Minto	06/09/2002	5.20	5.20					1120m	West
GW113 912	10BL160 713	Bore	Private	Monitoring Bore	Monitoring Bore	Shell - Minto	04/09/2002	5.50	5.50					1121m	West
GW113 920	10BL160 713	Bore	Private	Monitoring Bore	Monitoring Bore	Shell - Minto	21/05/2002	5.90	5.90					1128m	West
GW109 404	10BL160 947	Bore	Private	Monitoring Bore	Monitoring Bore		06/09/2002	5.00						1132m	West
GW113 911	10BL160 713	Bore	Private	Monitoring Bore	Monitoring Bore	Shell - Minto	04/09/2002	5.70	5.70					1133m	West
GW109 390	10BL160 947	Bore	Private	Monitoring Bore	Monitoring Bore		03/09/2002	5.50						1135m	West
GW113 922	10BL160 713	Bore	Private	Monitoring Bore	Monitoring Bore	Shell - Minto	22/05/2002	5.50	5.50					1136m	West
GW113 931	10BL160 713	Bore	Private	Monitoring Bore	Monitoring Bore	Shell - Minto	06/09/2002	5.20	5.20					1140m	West
GW109 405	10BL160 947	Bore	Private	Monitoring Bore	Monitoring Bore		06/09/2002	5.60						1140m	West
GW109 402	10BL160 947	Bore	Private	Monitoring Bore	Monitoring Bore		05/09/2002	5.20						1141m	West
GW109 396	10BL160 947	Bore	Private	Monitoring Bore	Monitoring Bore		04/09/2002	5.60						1142m	West
GW109 393	10BL160 947	Bore	Private	Monitoring Bore	Monitoring Bore		04/09/2002	5.60						1145m	West
GW113 921	10BL160 713	Bore	Private	Monitoring Bore	Monitoring Bore	Shell - Minto	22/05/2002	5.20	5.20					1146m	West
GW113 928	10BL160 713	Bore	Private	Monitoring Bore	Monitoring Bore	Shell - Minto	04/09/2002	5.60	5.60					1147m	West
GW113 904	10BL160 713	Bore	Private	Monitoring Bore	Monitoring Bore	Shell - Minto	23/06/2000	6.00	6.00					1149m	West
GW113 913	10BL160 713	Bore	Private	Monitoring Bore	Monitoring Bore	Shell - Minto	04/09/2002	5.40	5.40					1150m	West
GW113 905	10BL160 713	Bore	Private	Monitoring Bore	Monitoring Bore	Shell - Minto	23/06/2000	5.80	5.80					1154m	West
GW113 923	10BL160 713	Bore	Private	Monitoring Bore	Monitoring Bore	Shell - Minto	22/05/2002	4.80	4.80					1156m	West
GW109 391	10BL160 947	Bore	Private	Monitoring Bore	Monitoring Bore		03/09/2002	5.00						1157m	West
GW113 933	10BL160 713	Bore	Private	Monitoring Bore	Monitoring Bore	Shell - Minto	06/09/2002	5.60	5.60					1158m	West
GW113 934	10BL160 713	Bore	Private	Monitoring Bore	Monitoring Bore	Shell - Minto	06/09/2002	5.10	5.10					1158m	West
GW113 894	10BL160 713	Bore	Private	Monitoring Bore	Monitoring Bore	Shell - Minto	27/10/1999	6.00	6.00					1158m	West

GW No.	Licence No	Work Type	Owner Type	Authorised Purpose	Intended Purpose	Name	Complete Date	Final Depth (m)	Drilled Depth (m)	Salinity (mg/L)	SWL (m)	Yield (L/s)	Elev (AHD)	Dist	Dir
GW109 401	10BL160 947	Bore	Private	Monitoring Bore	Monitoring Bore		05/09/2002	6.10						1159m	West
GW109 399	10BL160 947	Bore	Private	Monitoring Bore	Monitoring Bore		04/09/2002	5.40						1159m	West
GW109 389	10BL160 947	Bore	Private	Monitoring Bore	Monitoring Bore		03/09/2002	5.00						1162m	West
GW113 924	10BL160 713	Bore	Private	Monitoring Bore	Monitoring Bore	Shell - Minto	03/09/2002	5.00	5.00					1162m	West
GW113 895	10BL160 713	Bore	Private	Monitoring Bore	Monitoring Bore	Shell - Minto	27/10/1999	5.00	5.00					1163m	West
GW113 906	10BL160 713	Bore	Private	Monitoring Bore	Monitoring Bore	Shell - Minto	20/05/2002	5.10	5.10					1166m	West
GW113 925	10BL160 713	Bore	Private	Monitoring Bore	Monitoring Bore	Shell - Minto	03/09/2002	5.50	5.50					1168m	West
GW113 929	10BL160 713	Bore	Private	Monitoring Bore	Monitoring Bore	Shell - Minto	04/09/2002	6.10	6.10					1168m	West
GW113 896	10BL160 713	Bore	Private	Monitoring Bore	Monitoring Bore	Shell - Minto	28/10/1999	5.00	5.00					1170m	West
GW113 914	10BL160 713	Bore	Private	Monitoring Bore	Monitoring Bore	Shell - Minto	19/02/2014	5.80	5.80					1173m	West
GW109 394	10BL160 947	Bore	Private	Monitoring Bore	Monitoring Bore		04/09/2002	5.60						1174m	West
GW109 406	10BL160 947	Bore	Private	Monitoring Bore	Monitoring Bore		06/09/2002	5.10						1176m	West
GW113 897	10BL160 713	Bore	Private	Monitoring Bore	Monitoring Bore	Shell - Minto	28/10/1999	4.70	4.70					1178m	West
GW113 935	10BL160 713	Bore	Private	Monitoring Bore	Monitoring Bore	Shell - Minto	06/09/2002	5.60	5.60					1178m	West
GW109 397	10BL160 947	Bore	Private	Monitoring Bore	Monitoring Bore		04/09/2002	5.70						1181m	West
GW113 907	10BL160 713	Bore	Private	Monitoring Bore	Monitoring Bore	Shell - Minto	20/05/2002	5.50	5.50					1182m	West
GW109 400	10BL160 947	Bore	Private	Monitoring Bore	Monitoring Bore		04/09/2002	5.80						1183m	West
GW113 898	10BL160 713	Bore	Private	Monitoring Bore	Monitoring Bore	Shell - Minto	29/10/1999	5.70	5.70					1184m	West
GW113 916	10BL160 713	Bore	Private	Monitoring Bore	Monitoring Bore	Shell - Minto	20/05/2002	5.10	5.10					1187m	West
GW113 926	10BL160 713	Bore	Private	Monitoring Bore	Monitoring Bore	Shell - Minto	03/09/2002	5.00	5.00					1188m	West
GW113 908	10BL160 713	Bore	Private	Monitoring Bore	Monitoring Bore	Shell - Minto	04/09/2002	5.60	5.60					1189m	West
GW109 392	10BL160 947	Bore	Private	Monitoring Bore	Monitoring Bore		03/09/2002	5.90						1190m	West
GW113 909	10BL160 713	Bore	Private	Monitoring Bore	Monitoring Bore	Shell - Minto	04/09/2002	5.70	5.70					1191m	West
GW113 899	10BL160 713	Bore	Private	Monitoring Bore	Monitoring Bore	Shell - Minto	29/10/1999	4.70	4.70					1195m	West
GW109 403	10BL160 947	Bore	Private	Monitoring Bore	Monitoring Bore		06/09/2002	5.20						1195m	West
GW109 395	10BL160 947	Bore	Private	Monitoring Bore	Monitoring Bore		04/09/2002	5.70						1196m	West
GW113 915	10BL160 713	Bore	Private	Monitoring Bore	Monitoring Bore	Shell - Minto	20/05/2002	5.40	5.40					1198m	West
GW113 910	10BL160 713	Bore	Private	Monitoring Bore	Monitoring Bore	Shell - Minto	04/09/2002	5.60	5.60					1203m	West
GW113 900	10BL160 713	Bore	Private	Monitoring Bore	Monitoring Bore	Shell - Minto	29/10/1999	4.70	4.70					1205m	West
GW113 917	10BL160 713	Bore	Private	Monitoring Bore	Monitoring Bore	Shell - Minto	21/05/2002	5.20	5.20					1205m	West
GW113 901	10BL160 713	Bore	Private	Monitoring Bore	Monitoring Bore	Shell - Minto	01/11/1999	4.00	4.00					1207m	West
GW113 902	10BL160 713	Bore	Private	Monitoring Bore	Monitoring Bore	Shell - Minto	01/11/1999	5.50	5.50					1216m	West
GW113 903	10BL160 713	Bore	Private	Monitoring Bore	Monitoring Bore	Shell - Minto	23/06/2000	6.00	6.00					1227m	West
GW113 932	10BL160 713	Bore	Private	Monitoring Bore	Monitoring Bore	Shell - Minto	20/02/2014	5.00	5.00					1234m	West



GW No.	Licence No	Work Type	Owner Type	Authorised Purpose	Intended Purpose	Name	Complete Date	Final Depth (m)	Drilled Depth (m)	Salinity (mg/L)	SWL (m)	Yield (L/s)	Elev (AHD)	Dist	Dir
GW109 339	10BL602 617	Bore	Private	Monitoring Bore	Monitoring Bore		16/09/2008	6.20	6.20					1518m	South
GW109 338	10BL602 617	Bore	Private	Monitoring Bore	Monitoring Bore		16/09/2008	6.20	6.20					1520m	South
GW109 340	10BL602 617	Bore	Private	Monitoring Bore	Monitoring Bore		16/09/2008	6.20	6.20					1525m	South
GW104 349	10BL160 653, 10WA10 8498	Bore	Private	Domestic, Stock	Domestic, Stock		28/06/2002	60.50	60.50	6300	1.30	3.400		1612m	North West
GW112 955	10BL603 153	Bore	Private	Monitoring Bore	Monitoring Bore	Mobil - Bow Bowing	01/06/2009	6.76	6.76					1702m	South West
GW112 954	10BL603 153	Bore	Private	Monitoring Bore	Monitoring Bore	Mobil - Bow Bowing	01/06/2009	7.79	7.79					1707m	South West
GW114 931	10BL605 164			Monitoring Bore	Monitoring Bore		12/10/2011	8.00	8.00					1719m	South West
GW114 932	10BL605 164			Monitoring Bore	Monitoring Bore		12/10/2011	8.00	8.00					1722m	South West
GW112 953	10BL603 153	Bore	Private	Monitoring Bore	Monitoring Bore	Mobil - Bow Bowing	01/06/2009	8.00	8.00					1731m	South West
GW112 952	10BL603 153	Bore	Private	Monitoring Bore	Monitoring Bore	Mobil - Bow Bowing	01/06/2009	8.20	8.20					1742m	South West

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

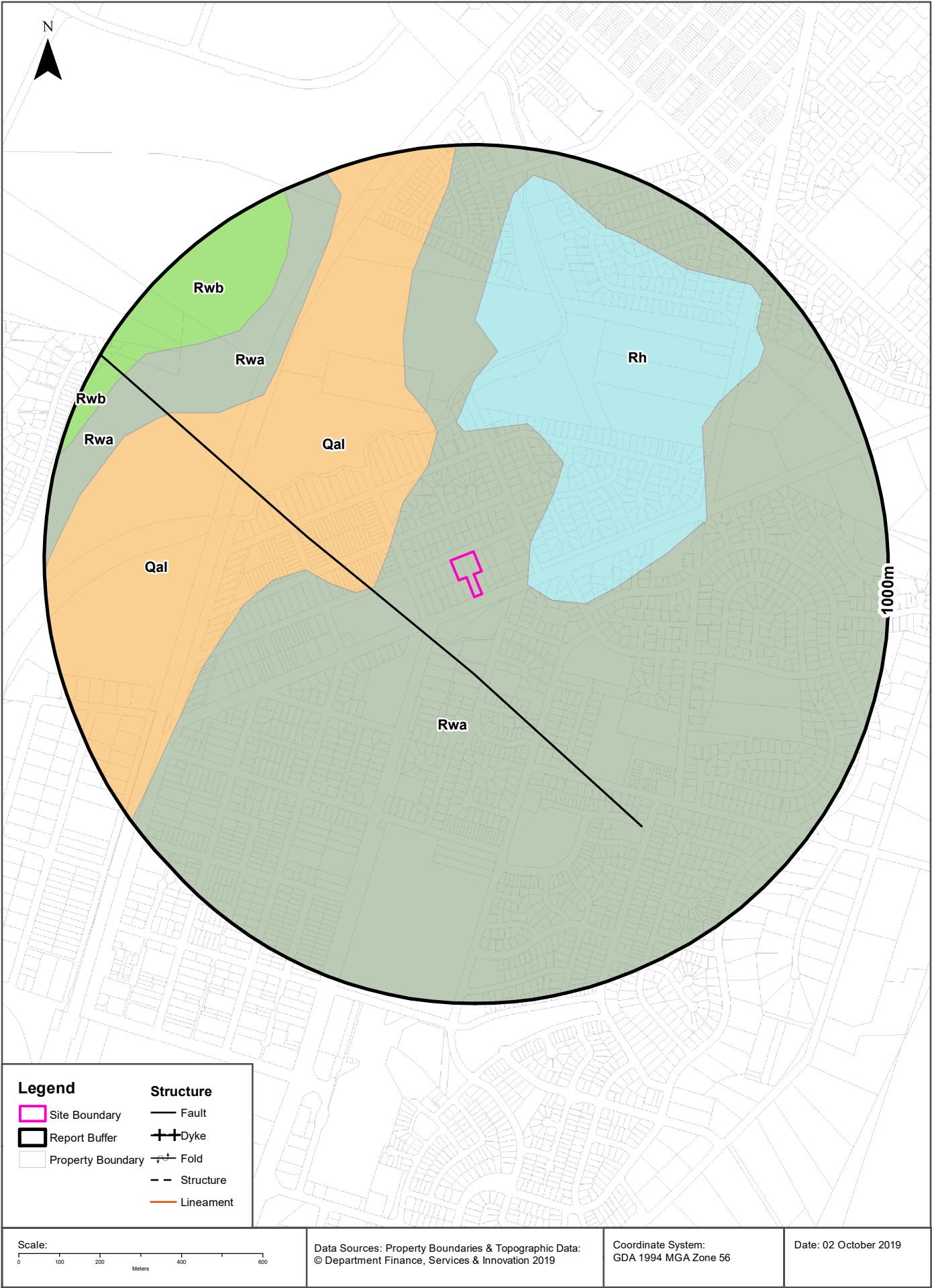
12-16 Francis Street & 121 Minto Road, Minto, NSW 2566

## Driller's Logs

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

Groundwater No	Drillers Log	Distance	Direction
GW109339	0.00m-0.20m CONCRETE 0.20m-0.50m SILTY CLAY 0.50m-1.65m SILTY CLAY AND GRAVEL 1.65m-2.60m SILTY CLAY AND SAND 2.60m-2.75m SANDSTONE 2.75m-2.80m SILTY CLAY 2.80m-6.20m SANDSTONE	1518m	South
GW109338	0.00m-0.18m CONCRETE 0.18m-0.70m FILL, SILTY CLAY 0.70m-1.70m SILTY CLAY 1.70m-2.50m SANDSTONE 2.50m-2.70m SANDY SILTY CLAY 2.70m-3.00m SILTSTONE 3.00m-4.70m SANDSTONE 4.70m-6.20m SANDSTONE	1520m	South
GW109340	0.00m-0.15m CONCRETE 0.16m-0.20m FILL, SAND 0.20m-0.50m FILL, SILTY SAND, CLAY, SOME GRAVEL 0.50m-2.00m SILTY CLAY, IRONSTONE 2.00m-2.35m SANDSTONE 2.35m-3.60m SANDSTONE 3.60m-5.50m SANDSTONE 5.50m-6.20m SANDSTONE	1525m	South
GW104349	0.00m-5.00m BROWN CLAY 5.00m-13.00m SHALE 13.00m-16.00m SANDSTONE WHITE 16.00m-17.00m SANDSTONE FRACTURED 17.00m-21.00m SANDSTONE WHITE 21.00m-24.50m SANDSTONE FRACTURED 24.50m-29.00m SANDSTONE WHITE 29.00m-30.00m SANDSTONE FRACTURED 30.00m-34.00m SANDSTONE WHITE 34.00m-34.50m SANDSTONE FRACTURED 34.50m-46.00m SANDSTONE WHITE 46.00m-46.50m SANDSTONE FRACTURED 46.50m-57.00m SANDSTONE WHITE 57.00m-58.00m SHALE SOFT 58.00m-60.50m SANDSTONE WHITE	1612m	North West
GW114931	0.00m-0.15m CONCRETE 0.15m-0.80m SANDY SILTY CLAY 0.80m-1.50m GRAVELLY SILTY SANDY CLAY 1.50m-2.10m SANDY SILTY CLAY 2.10m-3.40m SILTY CLAY DARK YELLOWISH ORANGE 3.40m-7.00m SHALE WEATHERED PALE BROWN 7.00m-8.00m SHALE WEATHERED ,CLAYSTONE	1719m	South West
GW114932	0.00m-0.15m CONCRETE 0.15m-0.19m FILL, SILTY SANDY GRAVEL 0.19m-1.70m SANDY SILTY CLAY 1.70m-6.90m SHALE WEATHERED PALE BROWN 6.90m-8.00m SHALE WEATHERED ,CLAYSTONE	1722m	South West

Drill Log Data Source: NSW Department of Primary Industries - Office of Water / Water Administration Ministerial Corp  
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## Geology

12-16 Francis Street & 121 Minto Road, Minto, NSW 2566

### Geological Units

What are the Geological Units onsite?

Symbol	Description	Unit Name	Group	Sub Group	Age	Dom Lith	Map Sheet	Dataset
Rwa	laminite and dark-grey siltstone	Ashfield Shale	Wianamatta Group				Wollongong & Port Hacking	1:100,000

What are the Geological Units within the dataset buffer?

Symbol	Description	Unit Name	Group	Sub Group	Age	Dom Lith	Map Sheet	Dataset
Qal	quartz and lithic "fluvial" sand, silt, and clay						Wollongong & Port Hacking	1:100,000
Rh	medium to coarse-grained quartz sandstone, very minor shale and laminite lenses	Hawkesbury Sandstone					Wollongong & Port Hacking	1:100,000
Rwa	laminite and dark-grey siltstone	Ashfield Shale	Wianamatta Group				Wollongong & Port Hacking	1:100,000
Rwb	shale, carbonaceous claystone, laminite, fine to medium-grained lithic sandstone, rare coal and tuff	Bringelly Shale	Wianamatta Group				Wollongong & Port Hacking	1:100,000

### Geological Structures

What are the Geological Structures onsite?

Feature	Name	Description	Map Sheet	Dataset
No features				1:100,000

What are the Geological Structures within the dataset buffer?

Feature	Name	Description	Map Sheet	Dataset
Fault		Fault, position approximate	Wollongong & Port Hacking	1:100,000
Fault		Fault, position approximate	Wollongong & Port Hacking	1:100,000
Fault		Fault, position approximate	Wollongong & Port Hacking	1:100,000
Fault		Fault, position approximate	Wollongong & Port Hacking	1:100,000

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

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## Naturally Occurring Asbestos Potential

12-16 Francis Street & 121 Minto Road, Minto, NSW 2566

## Naturally Occurring Asbestos Potential

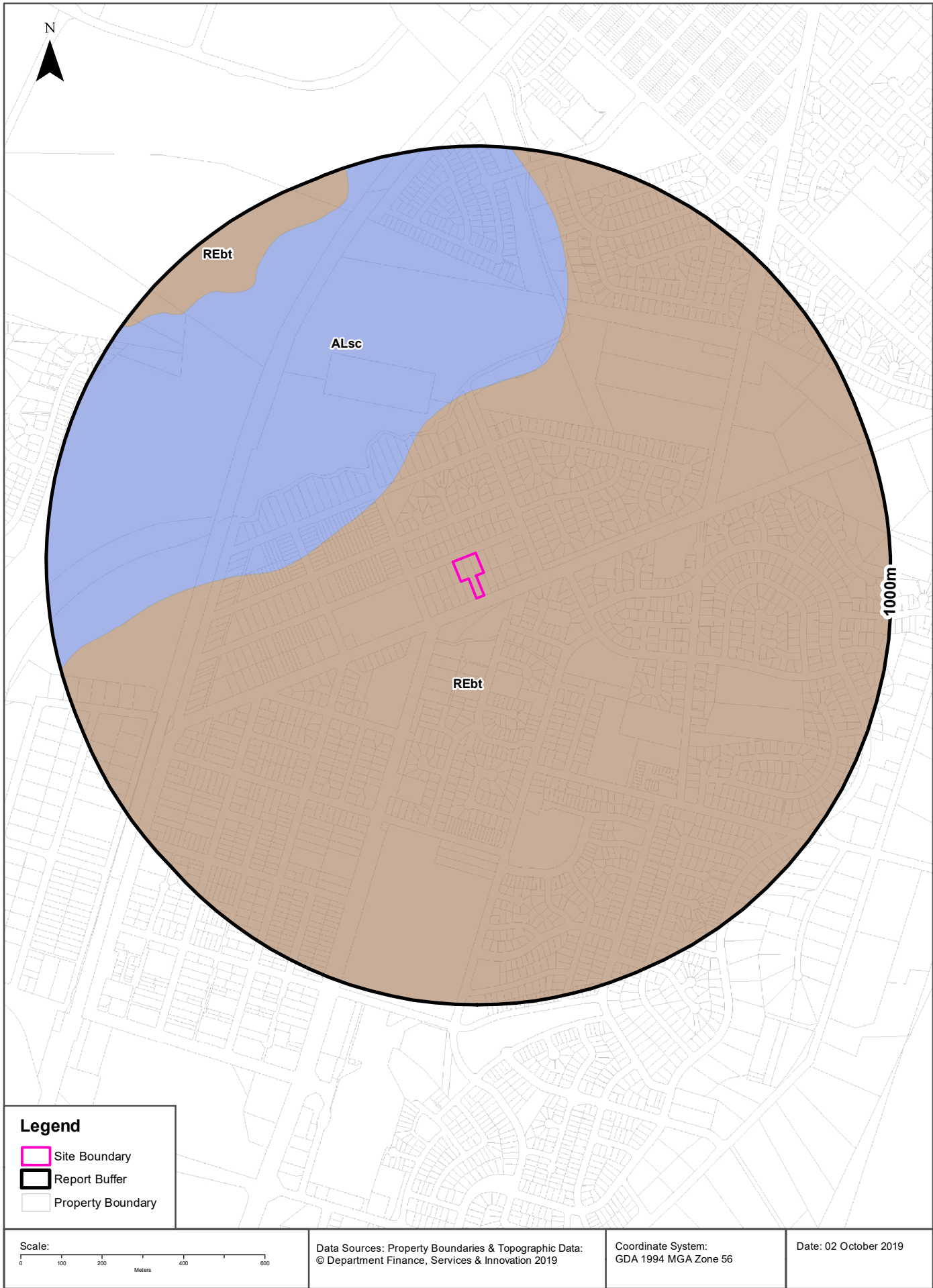
Naturally Occurring Asbestos Potential within the dataset buffer:

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

12-16 Francis Street & 121 Minto Road, Minto, NSW 2566





## Soils

12-16 Francis Street & 121 Minto Road, Minto, NSW 2566

## Soil Landscapes

What are the onsite Soil Landscapes?

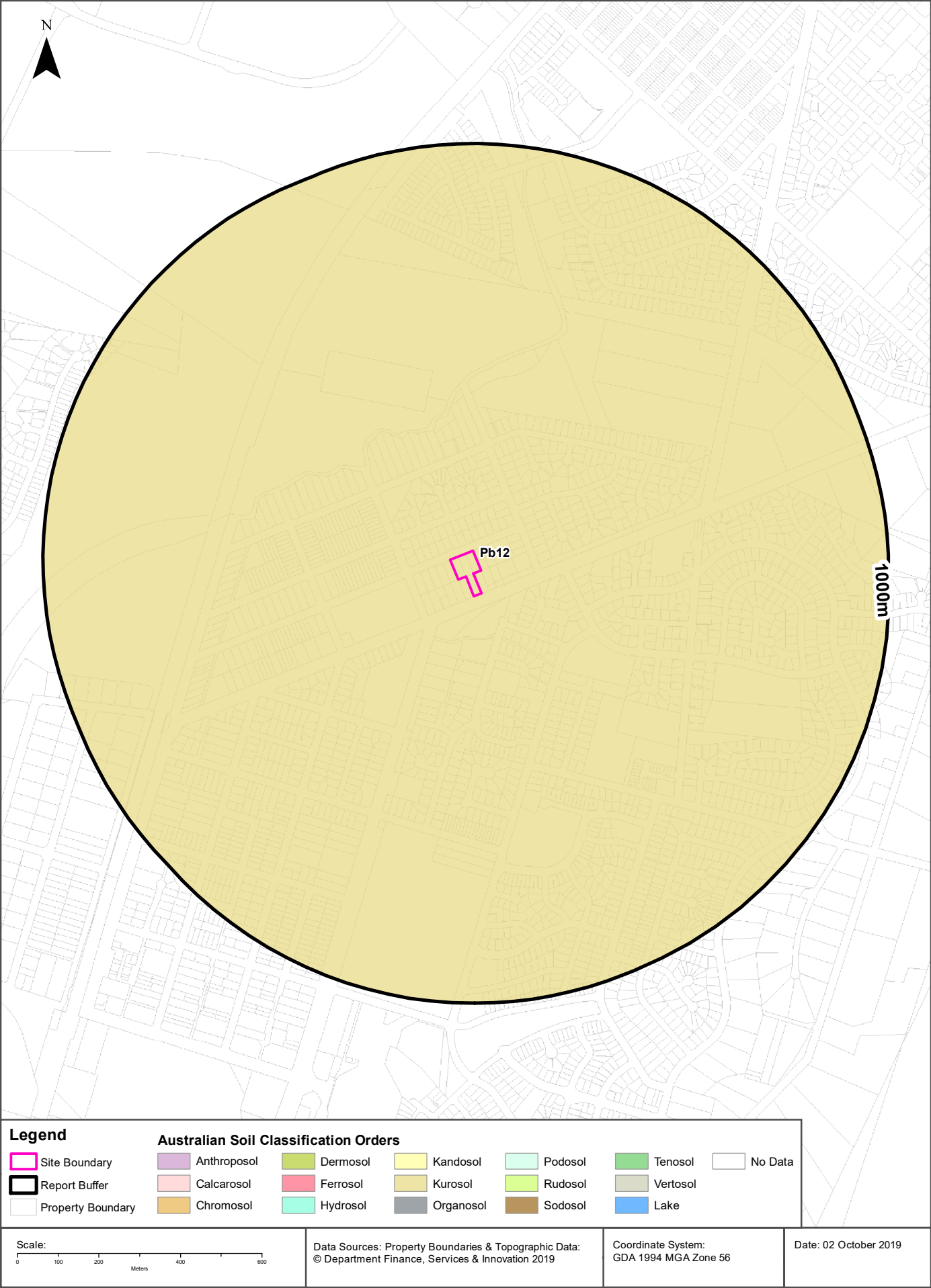
Soil Code	Name	Group	Process	Map Sheet	Scale
REbt	BLACKTOWN		RESIDUAL	Wollongong & Port Hacking	1:100,000

What are the Soil Landscapes within the dataset buffer?

Soil Code	Name	Group	Process	Map Sheet	Scale
ALsc	SOUTH CREEK		ALLUVIAL	Wollongong & Port Hacking	1:100,000
REbt	BLACKTOWN		RESIDUAL	Wollongong & Port Hacking	1:100,000

Soils Landscapes Data Source : NSW Office of Environment and Heritage

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## Soils

12-16 Francis Street & 121 Minto Road, Minto, NSW 2566

### 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
Pb12	Kurosol	Gently rolling to rounded hilly country with some steep slopes and broad valleys: chief soils are hard acidic red soils (Dr2.21) with hard neutral and acidic yellow mottled soils (Dy3.42 and Dy3.41) on lower slopes and in valleys. Associated are small areas of various soils including (Gn3.54) on some ridges, (Dr3.31) on some slopes; (Dr2.23) in saddles and some mid-slope positions, and some low-lying swampy areas of (Uf6) soils and (Uc1.2) soils with peaty surfaces. Small areas of other soils such as (Db1.2) are likely throughout.	0m

Atlas of Australian Soils Data Source: CSIRO

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## Acid Sulfate Soils

12-16 Francis Street & 121 Minto Road, Minto, NSW 2566

### Environmental Planning Instrument - Acid Sulfate Soils

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

Soil Class	Description	EPI Name
N/A		

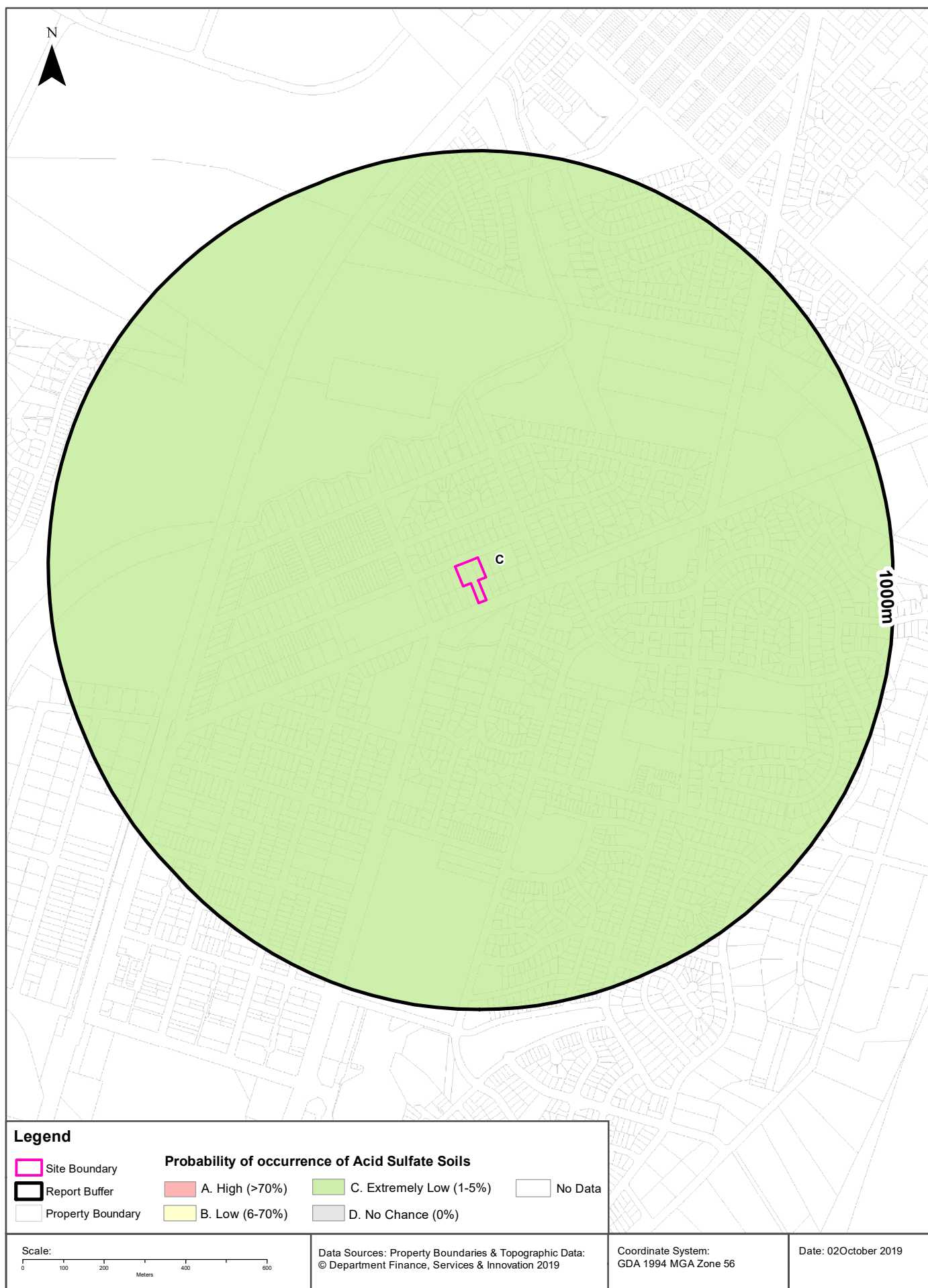
If the on-site Soil Class is 5, what other soil classes exist within 500m?

Soil Class	Description	EPI Name	Distance	Direction
N/A				

Acid Sulfate Data Source Accessed 23/10/2018: NSW Crown Copyright - Planning and Environment  
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# Atlas of Australian Acid Sulfate Soils

12-16 Francis Street & 121 Minto Road, Minto, NSW 2566



## Acid Sulfate Soils

12-16 Francis Street & 121 Minto Road, Minto, NSW 2566

### Atlas of Australian Acid Sulfate Soils

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

Class	Description	Distance
C	Extremely low probability of occurrence. 1-5% chance of occurrence with occurrences in small localised areas.	0m

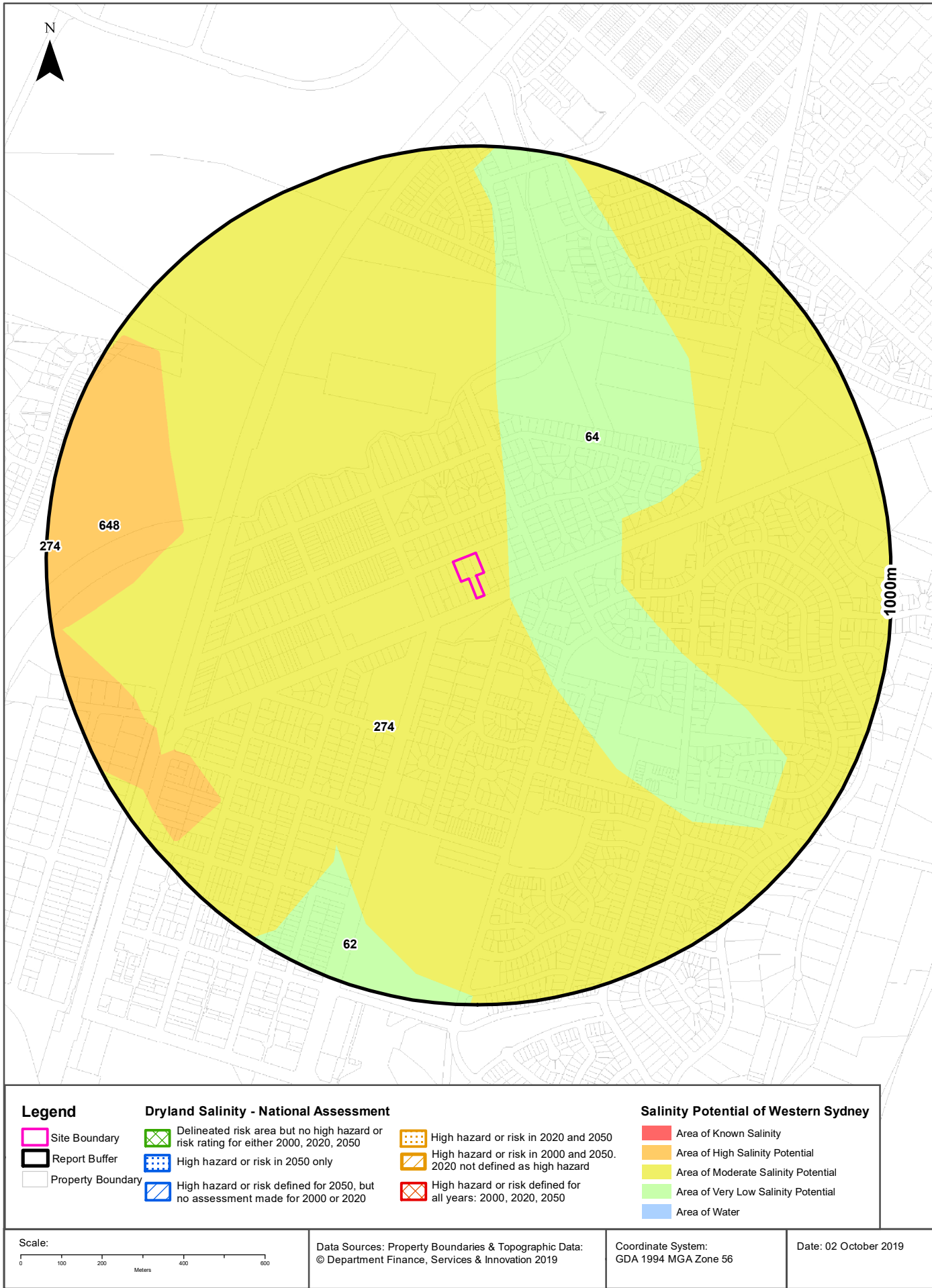
Atlas of Australian Acid Sulfate Soils Data Source: CSIRO

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# Dryland Salinity

12-16 Francis Street & 121 Minto Road, Minto, NSW 2566



## Dryland Salinity

12-16 Francis Street & 121 Minto Road, Minto, NSW 2566

### Dryland Salinity - National Assessment

Is there Dryland Salinity - National Assessment data onsite?

No

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

No

What Dryland Salinity assessments are given?

Assessment 2000	Assessment 2020	Assessment 2050	Distance	Direction
N/A	N/A	N/A	N/A	N/A

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
274	MODERATE	Area of Moderate Salinity Potential	0m	Onsite
64	LOW	Area of Very Low Salinity Potential	61m	North East
648	HIGH	Area of High Salinity Potential	667m	West
62	LOW	Area of Very Low Salinity Potential	697m	South

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

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## Mining Subsidence Districts

12-16 Francis Street & 121 Minto Road, Minto, NSW 2566

## 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

12-16 Francis Street & 121 Minto Road, Minto, NSW 2566

## State Significant Precincts

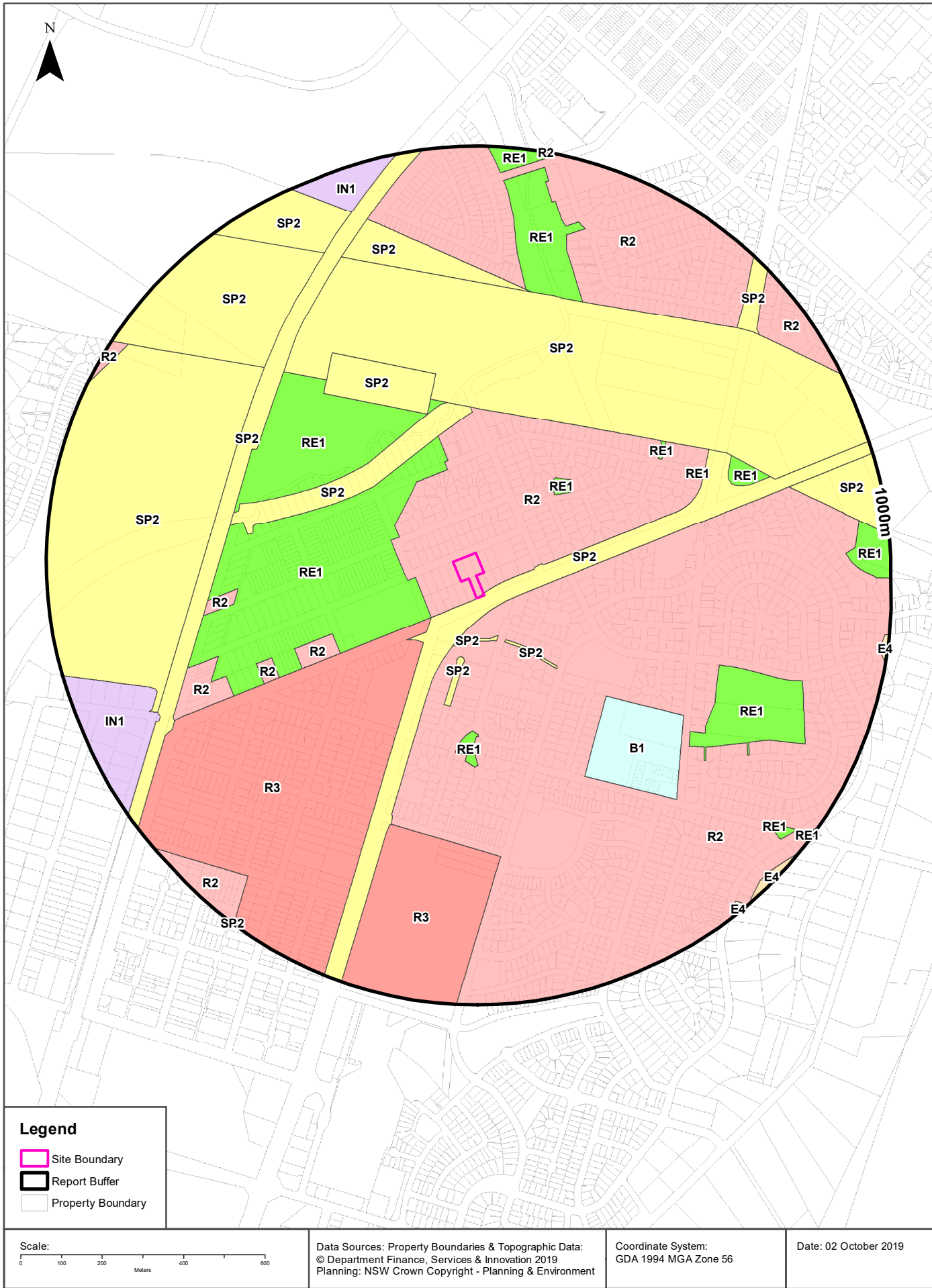
What SEPP State Significant Precincts exist within the dataset buffer?

Map Id	Precinct	EPI Name	Published Date	Commenced Date	Currency Date	Amendment	Distance	Direction
N/A	No Records in Buffer							

State Environment Planning Policy Data Source: NSW Crown Copyright - Planning & Environment  
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# EPI Planning Zones

12-16 Francis Street & 121 Minto Road, Minto, NSW 2566



# Environmental Planning Instrument

12-16 Francis Street & 121 Minto Road, Minto, NSW 2566

## Land Zoning

What EPI Land Zones exist within the dataset buffer?

Zone	Description	Purpose	EPI Name	Published Date	Commenced Date	Currency Date	Amendment	Distance	Direction
R2	Low Density Residential		Campbelltown Local Environmental Plan 2015	11/12/2015	11/03/2016	22/02/2019		0m	Onsite
SP2	Infrastructure	Classified Road	Campbelltown Local Environmental Plan 2015	08/09/2017	08/09/2017	22/02/2019	Amendment No 2	0m	Onsite
R2	Low Density Residential		Campbelltown Local Environmental Plan 2015	27/07/2018	27/07/2018	22/02/2019	Amendment No 9	38m	South
SP2	Infrastructure	Drainage	Campbelltown Local Environmental Plan 2015	11/12/2015	11/03/2016	22/02/2019		100m	South
RE1	Public Recreation		Campbelltown Local Environmental Plan 2015	11/12/2015	11/03/2016	22/02/2019		101m	West
R3	Medium Density Residential		Campbelltown Local Environmental Plan 2015	11/12/2015	11/03/2016	22/02/2019		114m	South West
SP2	Infrastructure	Drainage	Campbelltown Local Environmental Plan 2015	11/12/2015	11/03/2016	22/02/2019		120m	South East
SP2	Infrastructure	Local Road Widening	Campbelltown Local Environmental Plan 2015	11/12/2015	11/03/2016	22/02/2019		149m	South
RE1	Public Recreation		Campbelltown Local Environmental Plan 2015	11/12/2015	11/03/2016	22/02/2019		241m	North East
SP2	Infrastructure	Drainage	Campbelltown Local Environmental Plan 2015	11/12/2015	11/03/2016	22/02/2019		267m	North West
RE1	Public Recreation		Campbelltown Local Environmental Plan 2015	11/12/2015	11/03/2016	22/02/2019		321m	North West
RE1	Public Recreation		Campbelltown Local Environmental Plan 2015	11/12/2015	11/03/2016	22/02/2019		326m	South
R2	Low Density Residential		Campbelltown Local Environmental Plan 2015	11/12/2015	11/03/2016	22/02/2019		342m	South West
SP2	Infrastructure	Public Purposes Corridor	Campbelltown Local Environmental Plan 2015	11/12/2015	11/03/2016	22/02/2019		351m	North East
SP2	Infrastructure	Electricity Substation	Campbelltown Local Environmental Plan 2015	11/12/2015	11/03/2016	22/02/2019		363m	North West
B1	Neighbourhood Centre		Campbelltown Local Environmental Plan 2015	11/12/2015	11/03/2016	22/02/2019		388m	South East
R2	Low Density Residential		Campbelltown Local Environmental Plan 2015	11/12/2015	11/03/2016	22/02/2019		503m	South West
RE1	Public Recreation		Campbelltown Local Environmental Plan 2015	11/12/2015	11/03/2016	22/02/2019		504m	North East
R2	Low Density Residential		Campbelltown Local Environmental Plan 2015	11/12/2015	11/03/2016	22/02/2019		532m	West
SP2	Infrastructure	Railway Corridor	Campbelltown Local Environmental Plan 2015	11/12/2015	11/03/2016	22/02/2019		552m	South West
RE1	Public Recreation		Campbelltown Local Environmental Plan 2015	11/12/2015	11/03/2016	22/02/2019		563m	North East
R3	Medium Density Residential		Campbelltown Local Environmental Plan 2015	11/12/2015	11/03/2016	22/02/2019		591m	South
SP2	Infrastructure	Drainage	Campbelltown Local Environmental Plan 2015	11/12/2015	11/03/2016	22/02/2019		591m	West
RE1	Public Recreation		Campbelltown Local Environmental Plan 2015	11/12/2015	11/03/2016	22/02/2019		602m	South East
R2	Low Density Residential		Campbelltown Local Environmental Plan 2015	11/12/2015	11/03/2016	22/02/2019		622m	South West
RE1	Public Recreation		Campbelltown Local Environmental Plan 2015	11/12/2015	11/03/2016	22/02/2019		644m	East
SP2	Infrastructure	Road	Campbelltown Local Environmental Plan 2015	11/12/2015	11/03/2016	22/02/2019		656m	North

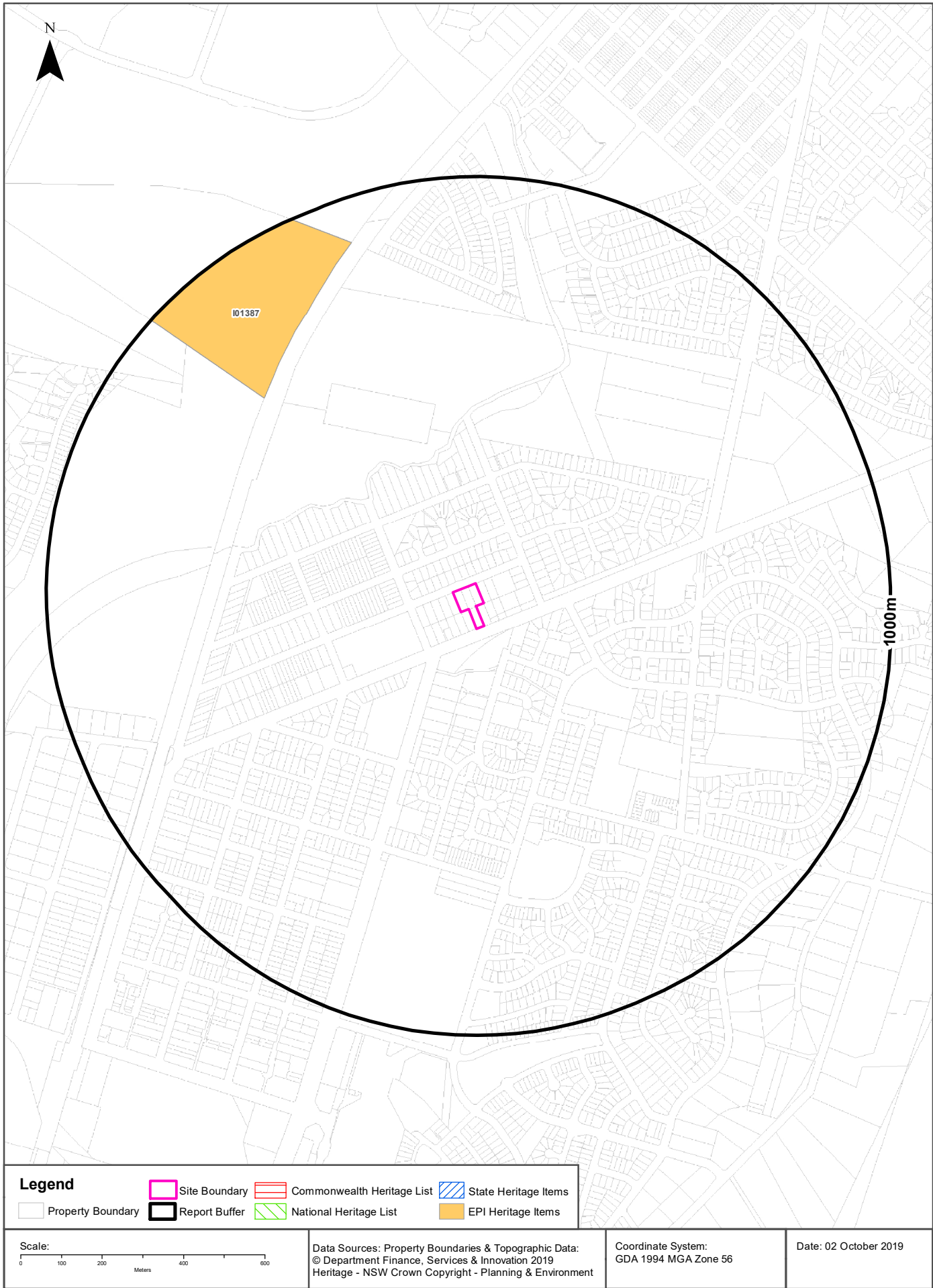


Zone	Description	Purpose	EPI Name	Published Date	Commenced Date	Currency Date	Amendment	Distance	Direction
RE1	Public Recreation		Campbelltown Local Environmental Plan 2015	11/12/2015	11/03/2016	22/02/2019		657m	North
R2	Low Density Residential		Campbelltown Local Environmental Plan 2015	03/08/2018	03/08/2018	22/02/2019	Amendment No 11	660m	North
SP2	Infrastructure	Public Purposes Corridor	Campbelltown Local Environmental Plan 2015	11/12/2015	11/03/2016	22/02/2019		666m	North West
SP2	Infrastructure	Public Purposes Corridor	Campbelltown Local Environmental Plan 2015	11/12/2015	11/03/2016	22/02/2019		779m	East
IN1	General Industrial		Campbelltown Local Environmental Plan 2015	11/12/2015	11/03/2016	22/02/2019		794m	South West
SP2	Infrastructure	Road	Campbelltown Local Environmental Plan 2015	11/12/2015	11/03/2016	22/02/2019		823m	North West
SP2	Infrastructure	Road	Campbelltown Local Environmental Plan 2015	11/12/2015	11/03/2016	22/02/2019		846m	North East
R2	Low Density Residential		Campbelltown Local Environmental Plan 2015	11/12/2015	11/03/2016	22/02/2019		879m	North East
R2	Low Density Residential		Campbelltown Local Environmental Plan 2015	11/12/2015	11/03/2016	22/02/2019		884m	South West
RE1	Public Recreation		Campbelltown Local Environmental Plan 2015	11/12/2015	11/03/2016	22/02/2019		890m	East
IN1	General Industrial		Campbelltown Local Environmental Plan 2015	11/12/2015	11/03/2016	22/02/2019		892m	North West
RE1	Public Recreation		Campbelltown Local Environmental Plan 2015	11/12/2015	11/03/2016	22/02/2019		898m	South East
RE1	Public Recreation		Campbelltown Local Environmental Plan 2015	03/08/2018	03/08/2018	22/02/2019	Amendment No 11	936m	North
R2	Low Density Residential		Campbelltown Local Environmental Plan 2015	11/12/2015	11/03/2016	22/02/2019		961m	West
E4	Environmental Living		Campbelltown Local Environmental Plan 2015	27/07/2018	27/07/2018	22/02/2019	Amendment No 9	972m	South East
RE1	Public Recreation		Campbelltown Local Environmental Plan 2015	11/12/2015	11/03/2016	22/02/2019		976m	South East
SP2	Infrastructure	Local Road Widening	Campbelltown Local Environmental Plan 2015	11/12/2015	11/03/2016	22/02/2019		996m	South West

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# Heritage Items

12-16 Francis Street & 121 Minto Road, Minto, NSW 2566



## Heritage

12-16 Francis Street & 121 Minto Road, Minto, NSW 2566

### Commonwealth Heritage List

What are the Commonwealth Heritage List Items located within the dataset buffer?

Place Id	Name	Address	Place File No	Class	Status	Register Date	Distance	Direction
N/A	No records in buffer							

Heritage Data Source: Australian Government Department of the Environment and Energy - Heritage Branch  
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### National Heritage List

What are the National Heritage List Items located within the dataset buffer?

Note. Please click on Place Id to activate a hyperlink to online website.

Place Id	Name	Address	Place File No	Class	Status	Register Date	Distance	Direction
N/A	No records in buffer							

Heritage Data Source: Australian Government Department of the Environment and Energy - Heritage Branch  
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### State Heritage Register - Curtilages

What are the State Heritage Register 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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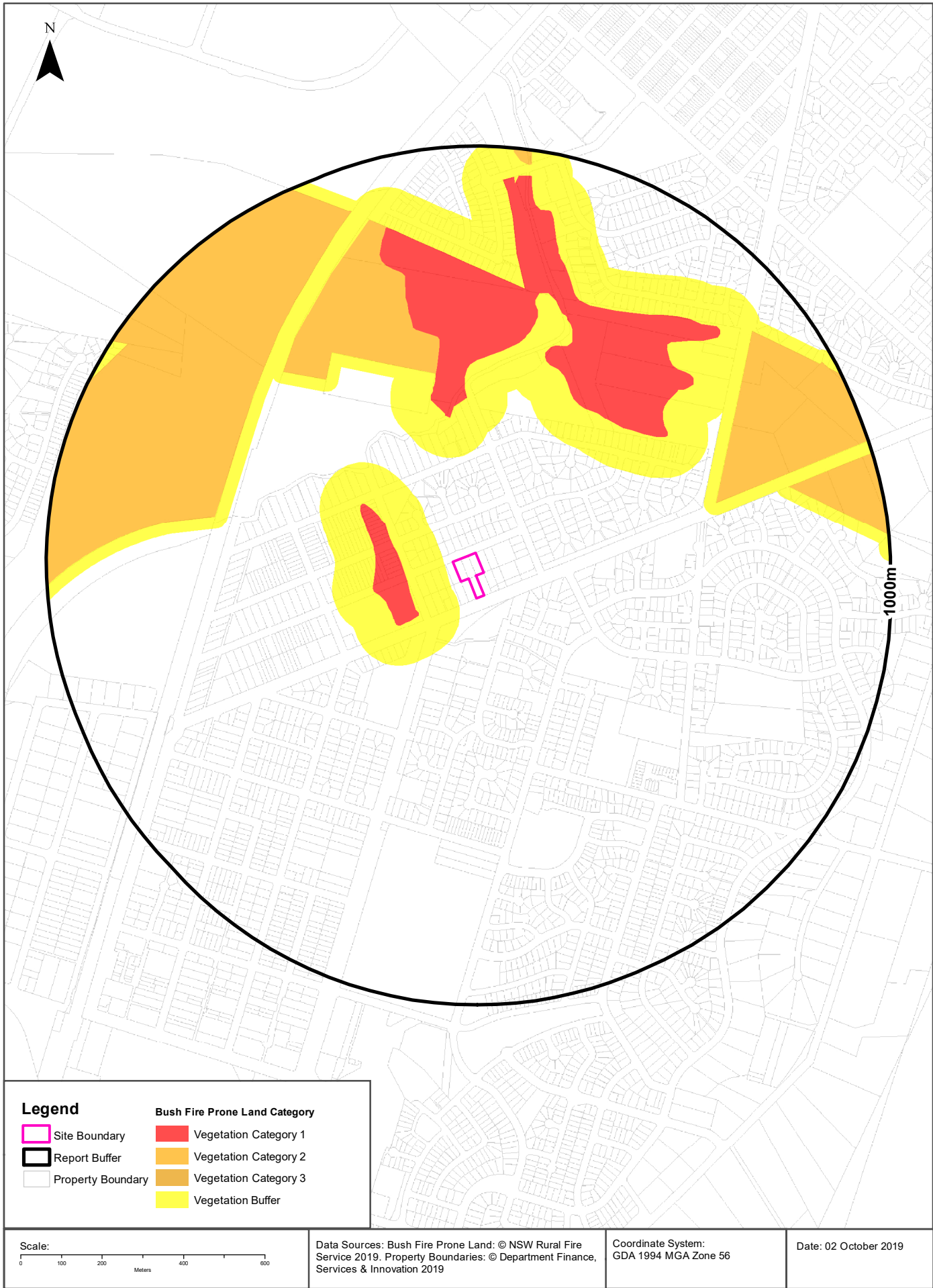
### Environmental Planning Instrument - Heritage

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

Map Id	Name	Classification	Significance	EPI Name	Published Date	Commenced Date	Currency Date	Distance	Direction
I01387	Robin Hood Farm homestead group and surviving undeveloped setting	Item - General	State	Campbelltown Local Environmental Plan 2015	11/12/2015	11/03/2016	22/02/2019	666m	North West

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## Natural Hazards

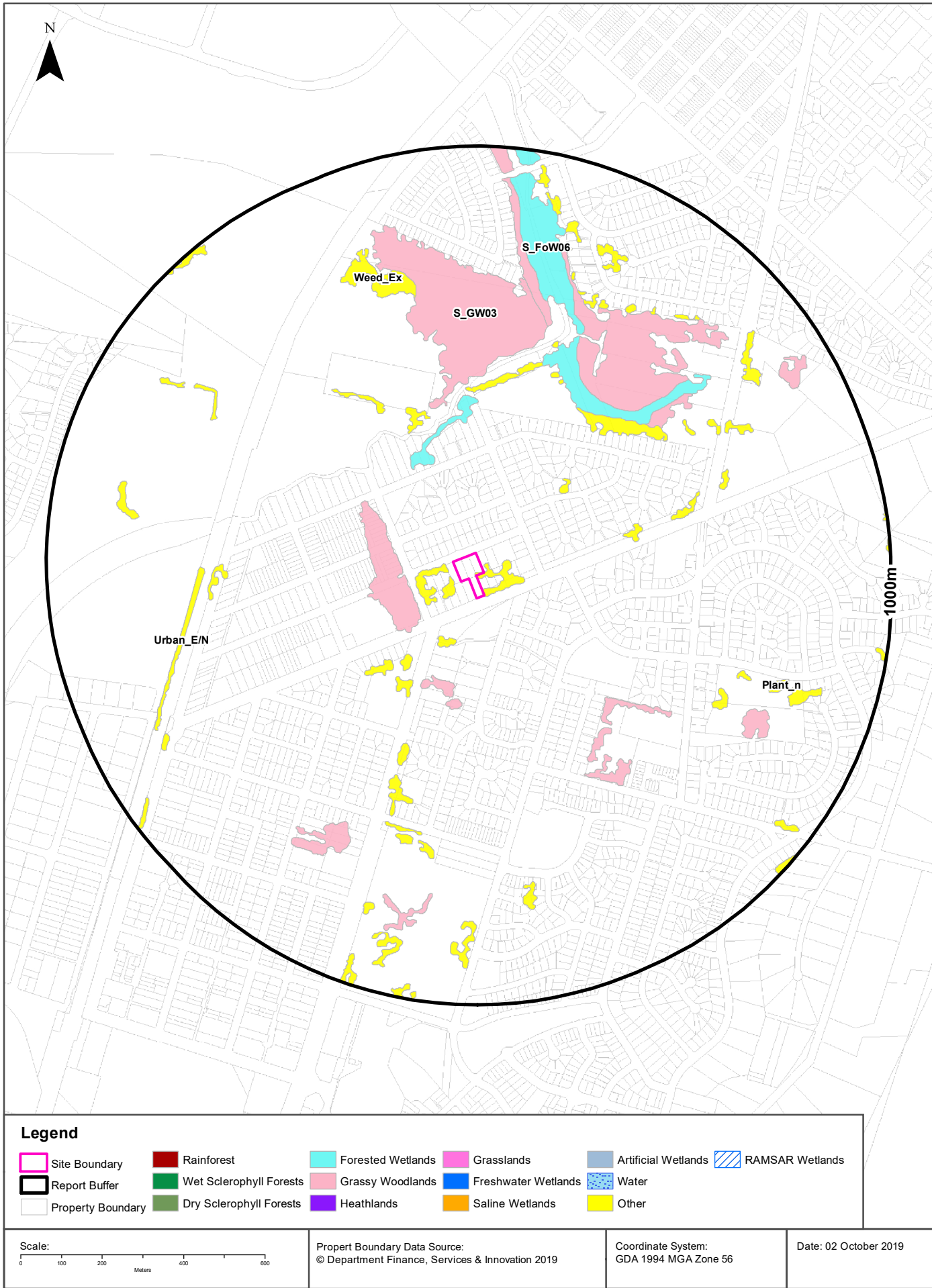
12-16 Francis Street & 121 Minto Road, Minto, NSW 2566

### 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	21m	West
Vegetation Category 1	121m	West
Vegetation Category 2	451m	North West

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





## Ecological Constraints

12-16 Francis Street & 121 Minto Road, Minto, NSW 2566

### Native Vegetation

What native vegetation exists within the dataset buffer?

Map ID	Map Unit Name	Threatened Ecological Community NSW	Threatened Ecological Community EPBC Act	Understorey	Disturbance	Disturbance Index	Dominant Species	Dist	Direction
Urban_E/N	Urban_E/N: Urban Exotic/Native			00: Not assessed	00: Not assessed	0: Not assessed	Urban Exotic/Native	0m	Onsite
Weed_Ex	Weed_Ex: Weeds and Exotics			00: Not assessed	00: Not assessed	0: Not assessed	Exotic Species >90%cover	14m	South West
S_GW03	S_GW03: Cumberland Shale Plains Woodland	Cumberland Plain Woodland	Cumberland Plain Woodland/ Shale Gravel Forest (possible)	13: Dry shrubs and grasses	13: Weeds	2: Moderate	E.tereticornis/E.molucannaE.crebra/E.eugeinioides	119m	West
S_FoW06	S_FoW06: Cumberland Riverflat Forest	River Flat Eucalypt Forest		15: Grassy natives and exotics	31: Parkland open understorey	4: Very high	E.tereticornis/E.amplifolia/A.floribunda	240m	North
Plant_n	Plant_n: Plantation (native and/or exotic)			00: Not assessed	00: Not assessed	0: Not assessed	Native or Exotic Plantations	650m	East

Native Vegetation of the Sydney Metropolitan Area : NSW Office of Environment and Heritage

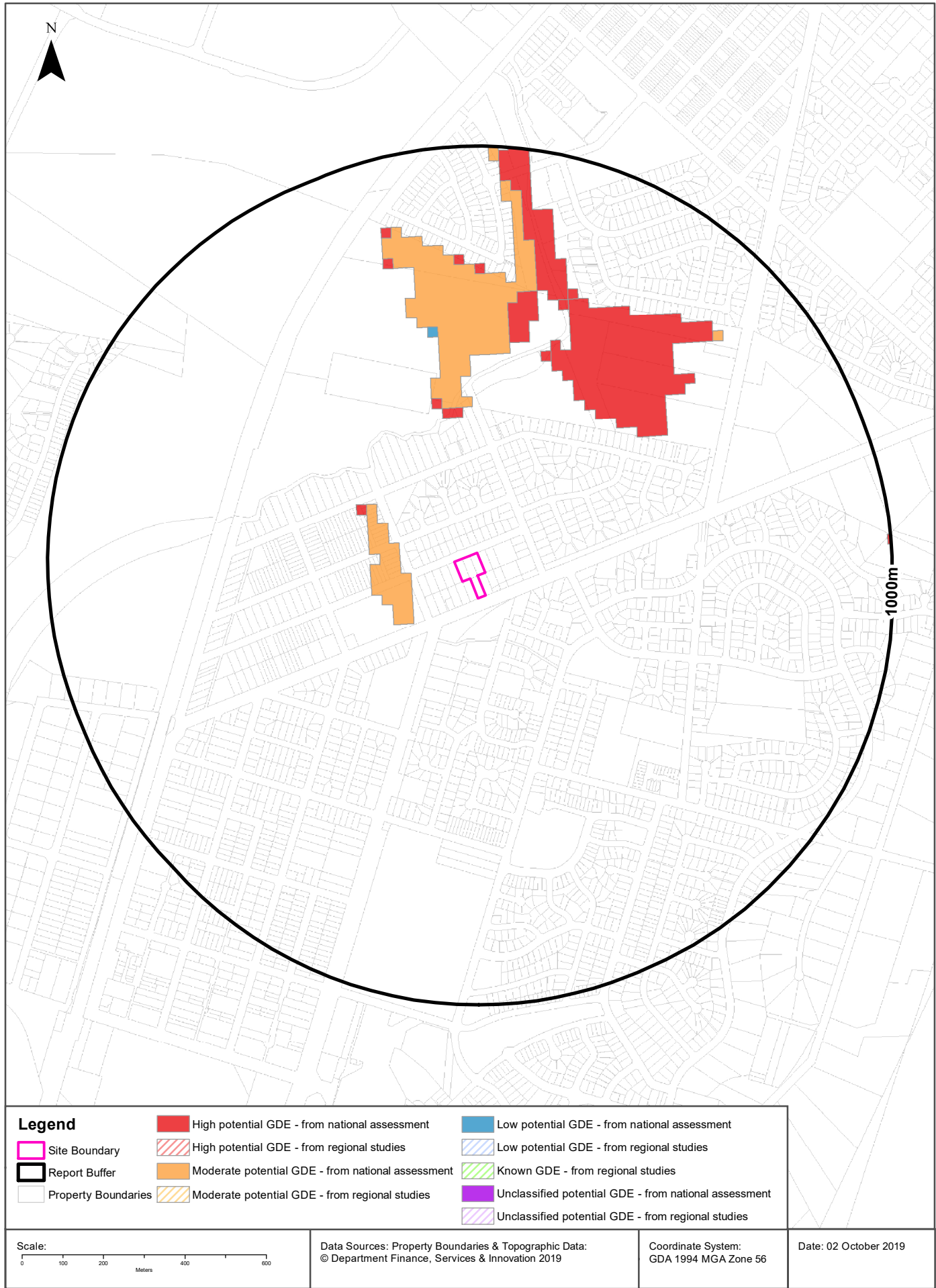
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### Ramsar Wetlands

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

12-16 Francis Street & 121 Minto Road, Minto, NSW 2566

### Groundwater Dependent Ecosystems Atlas

Type	GDE Potential	Geomorphology	Ecosystem Type	Aquifer Geology	Distance
Terrestrial	Moderate potential GDE - from national assessment	Undulating to low hilly country, mainly on shale.	Vegetation	Consolidated sedimentary	109m
Terrestrial	High potential GDE - from national assessment	Undulating to low hilly country, mainly on shale.	Vegetation	Consolidated sedimentary	245m
Terrestrial	Low potential GDE - from national assessment	Undulating to low hilly country, mainly on shale.	Vegetation	Consolidated sedimentary	538m

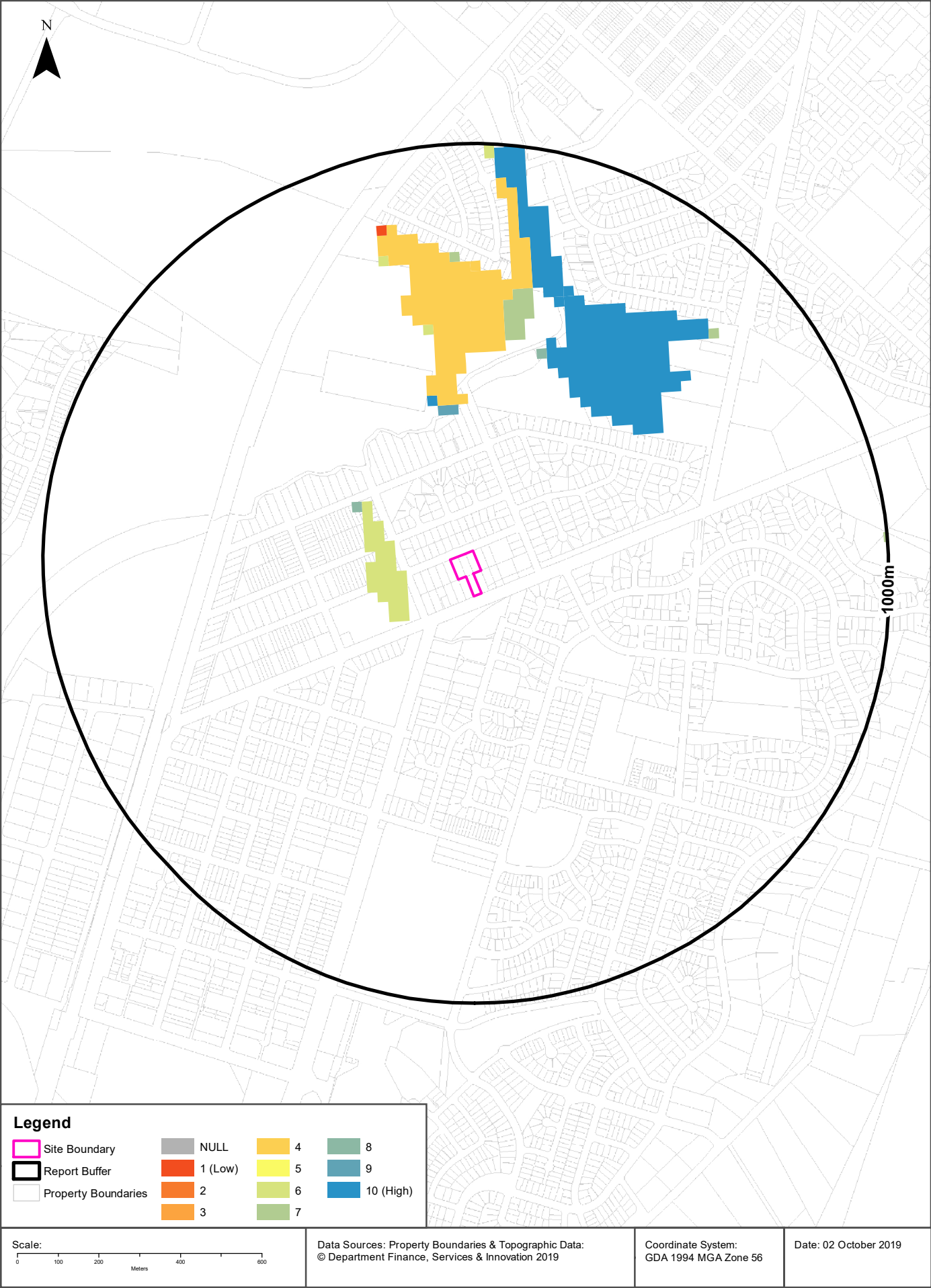
Groundwater Dependent Ecosystems Atlas Data Source: The Bureau of Meteorology

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# Ecological Constraints - Inflow Dependent Ecosystems Likelihood

12-16 Francis Street & 121 Minto Road, Minto, NSW 2566



## Ecological Constraints

12-16 Francis Street & 121 Minto Road, Minto, NSW 2566

### Inflow Dependent Ecosystems Likelihood

Type	IDE Likelihood	Geomorphology	Ecosystem Type	Aquifer Geology	Distance
Terrestrial	6	Undulating to low hilly country, mainly on shale.	Vegetation	Consolidated sedimentary	109m
Terrestrial	8	Undulating to low hilly country, mainly on shale.	Vegetation	Consolidated sedimentary	245m
Terrestrial	9	Undulating to low hilly country, mainly on shale.	Vegetation	Consolidated sedimentary	335m
Terrestrial	4	Undulating to low hilly country, mainly on shale.	Vegetation	Consolidated sedimentary	360m
Terrestrial	10	Undulating to low hilly country, mainly on shale.	Vegetation	Consolidated sedimentary	366m
Terrestrial	7	Undulating to low hilly country, mainly on shale.	Vegetation	Consolidated sedimentary	521m
Terrestrial	1	Undulating to low hilly country, mainly on shale.	Vegetation	Consolidated sedimentary	801m

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

12-16 Francis Street & 121 Minto Road, Minto, NSW 2566

### 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	Heleioporus australiacus	Giant Burrowing Frog	Vulnerable	Not Sensitive	Vulnerable	
Animalia	Amphibia	Litoria aurea	Green and Golden Bell Frog	Endangered	Not Sensitive	Vulnerable	
Animalia	Amphibia	Litoria brevipalmata	Green-thighed Frog	Vulnerable	Not Sensitive	Not Listed	
Animalia	Amphibia	Pseudophryne australis	Red-crowned Toadlet	Vulnerable	Not Sensitive	Not Listed	
Animalia	Aves	Anseranas semipalmata	Magpie Goose	Vulnerable	Not Sensitive	Not Listed	
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	Botaurus poiciloptilus	Australasian Bittern	Endangered	Not Sensitive	Endangered	
Animalia	Aves	Burhinus grallarius	Bush Stone-curlew	Endangered	Not Sensitive	Not Listed	
Animalia	Aves	Callocephalon fimbriatum	Gang-gang Cockatoo	Vulnerable	Category 3	Not Listed	
Animalia	Aves	Calyptorhynchus banksii samueli	Red-tailed Black-Cockatoo (inland subspecies)	Vulnerable	Category 2	Not Listed	
Animalia	Aves	Calyptorhynchus lathami	Glossy Black-Cockatoo	Vulnerable	Category 2	Not Listed	
Animalia	Aves	Circus assimilis	Spotted Harrier	Vulnerable	Not Sensitive	Not Listed	
Animalia	Aves	Climacteris picumnus victoriae	Brown Treecreeper (eastern subspecies)	Vulnerable	Not Sensitive	Not Listed	
Animalia	Aves	Coracina lineata	Barred Cuckoo-shrike	Vulnerable	Not Sensitive	Not Listed	
Animalia	Aves	Cyanoramphus novaezelandiae subflavescens	Red-crowned Parakeet (Lord Howe Is. subsp.)	Presumed Extinct	Not Sensitive	Extinct	
Animalia	Aves	Daphoenositta chrysoptera	Varied Sittella	Vulnerable	Not Sensitive	Not Listed	
Animalia	Aves	Epthianura albifrons	White-fronted Chat	Endangered Population, Vulnerable	Not Sensitive	Not Listed	
Animalia	Aves	Falco subniger	Black Falcon	Vulnerable	Not Sensitive	Not Listed	
Animalia	Aves	Gallinago hardwickii	Latham's Snipe	Not Listed	Not Sensitive	Not Listed	ROKAMBA;CAMBA; JAMBA
Animalia	Aves	Glossopsitta pusilla	Little Lorikeet	Vulnerable	Not Sensitive	Not Listed	
Animalia	Aves	Haliaeetus leucogaster	White-bellied Sea-Eagle	Vulnerable	Not Sensitive	Not Listed	CAMBA
Animalia	Aves	Hieraaetus morphnoides	Little Eagle	Vulnerable	Not Sensitive	Not Listed	
Animalia	Aves	Hirundapus caudacutus	White-throated Needle-tail	Not Listed	Not Sensitive	Not Listed	ROKAMBA;CAMBA; JAMBA



Kingdom	Class	Scientific	Common	NSW Conservation Status	NSW Sensitivity Class	Federal Conservation Status	Migratory Species Agreements
Animalia	Aves	Lathamus discolor	Swift Parrot	Endangered	Category 3	Critically Endangered	
Animalia	Aves	Lophochroa leadbeateri	Major Mitchell's Cockatoo	Vulnerable	Category 2	Not Listed	
Animalia	Aves	Lophoictinia isura	Square-tailed Kite	Vulnerable	Category 3	Not Listed	
Animalia	Aves	Melithreptus gularis gularis	Black-chinned Honeyeater (eastern subspecies)	Vulnerable	Not Sensitive	Not Listed	
Animalia	Aves	Neophema pulchella	Turquoise Parrot	Vulnerable	Category 3	Not Listed	
Animalia	Aves	Ninox connivens	Barking Owl	Vulnerable	Category 3	Not Listed	
Animalia	Aves	Ninox strenua	Powerful Owl	Vulnerable	Category 3	Not Listed	
Animalia	Aves	Petroica boodang	Scarlet Robin	Vulnerable	Not Sensitive	Not Listed	
Animalia	Aves	Petroica phoenicea	Flame Robin	Vulnerable	Not Sensitive	Not Listed	
Animalia	Aves	Pezoporus wallicus wallicus	Eastern Ground Parrot	Vulnerable	Category 3	Not Listed	
Animalia	Aves	Pluvialis squatarola	Grey Plover	Not Listed	Not Sensitive	Not Listed	ROKAMBA;CAMBA; JAMBA
Animalia	Aves	Polytelis anthopeplus monarchoides	Regent Parrot (eastern subspecies)	Endangered	Category 3	Vulnerable	
Animalia	Aves	Polytelis swainsonii	Superb Parrot	Vulnerable	Category 3	Vulnerable	
Animalia	Aves	Stagonopleura guttata	Diamond Firetail	Vulnerable	Not Sensitive	Not Listed	
Animalia	Aves	Thinornis rubricollis	Hooded Plover	Critically Endangered	Not Sensitive	Vulnerable	
Animalia	Aves	Tringa nebularia	Common Greenshank	Not Listed	Not Sensitive	Not Listed	ROKAMBA;CAMBA; JAMBA
Animalia	Aves	Tyto novaehollandiae	Masked Owl	Vulnerable	Category 3	Not Listed	
Animalia	Gastropoda	Meridolum corneovirens	Cumberland Plain Land Snail	Endangered	Not Sensitive	Not Listed	
Animalia	Mammalia	Cercartetus nanus	Eastern Pygmy-possum	Vulnerable	Not Sensitive	Not Listed	
Animalia	Mammalia	Chalinolobus dwyeri	Large-eared Pied Bat	Vulnerable	Not Sensitive	Vulnerable	
Animalia	Mammalia	Dasyurus maculatus	Spotted-tailed Quoll	Vulnerable	Not Sensitive	Endangered	
Animalia	Mammalia	Falsistrellus tasmaniensis	Eastern False Pipistrelle	Vulnerable	Not Sensitive	Not Listed	
Animalia	Mammalia	Micronomus norfolkensis	Eastern Coastal Free-tailed Bat	Vulnerable	Not Sensitive	Not Listed	
Animalia	Mammalia	Miniopterus australis	Little Bent-winged Bat	Vulnerable	Not Sensitive	Not Listed	
Animalia	Mammalia	Miniopterus orianae oceanensis	Large Bent-winged Bat	Vulnerable	Not Sensitive	Not Listed	
Animalia	Mammalia	Myotis macropus	Southern Myotis	Vulnerable	Not Sensitive	Not Listed	
Animalia	Mammalia	Petauroides volans	Greater Glider	Not Listed	Not Sensitive	Vulnerable	
Animalia	Mammalia	Petaurus norfolcensis	Squirrel Glider	Vulnerable	Not Sensitive	Not Listed	
Animalia	Mammalia	Petrogale xanthopus	Yellow-footed Rock-wallaby	Endangered	Not Sensitive	Vulnerable	
Animalia	Mammalia	Phascolarctos cinereus	Koala	Vulnerable	Not Sensitive	Vulnerable	
Animalia	Mammalia	Pteropus poliocephalus	Grey-headed Flying-fox	Vulnerable	Not Sensitive	Vulnerable	
Animalia	Mammalia	Saccolaimus flaviventris	Yellow-bellied Sheat-tail-bat	Vulnerable	Not Sensitive	Not Listed	
Animalia	Mammalia	Scoteanax rueppellii	Greater Broad-nosed Bat	Vulnerable	Not Sensitive	Not Listed	

Kingdom	Class	Scientific	Common	NSW Conservation Status	NSW Sensitivity Class	Federal Conservation Status	Migratory Species Agreements
Animalia	Mammalia	Vespadelus troughtoni	Eastern Cave Bat	Vulnerable	Not Sensitive	Not Listed	
Animalia	Reptilia	Antaresia stimsoni	Stimson's Python	Vulnerable	Not Sensitive	Not Listed	
Animalia	Reptilia	Caretta caretta	Loggerhead Turtle	Endangered	Not Sensitive	Endangered	
Animalia	Reptilia	Chelonia mydas	Green Turtle	Vulnerable	Not Sensitive	Vulnerable	
Animalia	Reptilia	Eulamprus leuraensis	Blue Mountains Water Skink	Endangered	Not Sensitive	Endangered	
Animalia	Reptilia	Hoplocephalus bungaroides	Broad-headed Snake	Endangered	Category 2	Vulnerable	
Animalia	Reptilia	Suta flagellum	Little Whip Snake	Vulnerable	Not Sensitive	Not Listed	
Animalia	Reptilia	Tiliqua occipitalis	Western Blue-tongued Lizard	Vulnerable	Not Sensitive	Not Listed	
Animalia	Reptilia	Varanus rosenbergi	Rosenberg's Goanna	Vulnerable	Not Sensitive	Not Listed	
Plantae	Flora	Acacia bakeri	Marblewood	Vulnerable	Not Sensitive	Not Listed	
Plantae	Flora	Acacia bynoeana	Bynoe's Wattle	Endangered	Not Sensitive	Vulnerable	
Plantae	Flora	Acacia pubescens	Downy Wattle	Vulnerable	Not Sensitive	Vulnerable	
Plantae	Flora	Allocasuarina diminuta subsp. mimica		Endangered Population	Not Sensitive	Not Listed	
Plantae	Flora	Callistemon linearifolius	Netted Bottle Brush	Vulnerable	Category 3	Not Listed	
Plantae	Flora	Cymbidium canaliculatum	Tiger Orchid	Not Listed	Category 2	Not Listed	
Plantae	Flora	Eucalyptus nicholii	Narrow-leaved Black Peppermint	Vulnerable	Not Sensitive	Vulnerable	
Plantae	Flora	Eucalyptus scoparia	Wallangarra White Gum	Endangered	Not Sensitive	Vulnerable	
Plantae	Flora	Genoplesium baueri	Bauer's Midge Orchid	Endangered	Category 2	Endangered	
Plantae	Flora	Grevillea parviflora subsp. parviflora	Small-flower Grevillea	Vulnerable	Not Sensitive	Vulnerable	
Plantae	Flora	Gyrostemon thesioides		Endangered	Category 3	Not Listed	
Plantae	Flora	Hibbertia fumana		Critically Endangered	Not Sensitive	Not Listed	
Plantae	Flora	Hibbertia puberula		Endangered	Not Sensitive	Not Listed	
Plantae	Flora	Lepidium hyssopifolium	Aromatic Peppergrass	Endangered	Not Sensitive	Endangered	
Plantae	Flora	Leucopogon exolasius	Woronora Beard-heath	Vulnerable	Not Sensitive	Vulnerable	
Plantae	Flora	Leucopogon fletcheri subsp. fletcheri		Endangered	Not Sensitive	Not Listed	
Plantae	Flora	Macadamia integrifolia	Macadamia Nut	Not Listed	Not Sensitive	Vulnerable	
Plantae	Flora	Marsdenia viridiflora subsp. viridiflora	Native Pear	Endangered Population	Not Sensitive	Not Listed	
Plantae	Flora	Melaleuca deanei	Deane's Paperbark	Vulnerable	Not Sensitive	Vulnerable	
Plantae	Flora	Persoonia hirsuta	Hairy Geebung	Endangered	Category 3	Endangered	
Plantae	Flora	Persoonia nutans	Nodding Geebung	Endangered	Not Sensitive	Endangered	
Plantae	Flora	Pimelea spicata	Spiked Rice-flower	Endangered	Not Sensitive	Endangered	
Plantae	Flora	Pterostylis nigricans	Dark Greenhood	Vulnerable	Category 2	Not Listed	
Plantae	Flora	Pterostylis saxicola	Sydney Plains Greenhood	Endangered	Category 2	Endangered	

Kingdom	Class	Scientific	Common	NSW Conservation Status	NSW Sensitivity Class	Federal Conservation Status	Migratory Species Agreements
Plantae	Flora	Pultenaea pedunculata	Matted Bush-pea	Endangered	Not Sensitive	Not Listed	
Plantae	Flora	Syzygium paniculatum	Magenta Lilly Pilly	Endangered	Not Sensitive	Vulnerable	

Data does not include NSW category 1 sensitive species.

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

Data obtained 02/10/2019

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