

# REPORT TO JDH ARCHITECTS

ON

PRELIMINARY (STAGE 1) SITE INVESTIGATION (CONTAMINATION REPORT)

**FOR** 

ST IVES INDOOR SPORTS COMPLEX

AT

ST IVES HIGH SCHOOL, YARRABUNG ROAD, ST IVES, NSW

Date: 27 July 2020 Ref: E31754PTrpt3Rev1

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#### **Executive Summary**

JDH Architects ('the client') commissioned JK Environments (JKE) to undertake a Preliminary (Stage 1) Site Investigation (PSI) for the proposed St Ives Indoor Sports Complex at St Ives High School, Yarrabung Road, St Ives, NSW. The purpose of the PSI is to make a preliminary assessment of site contamination. The site location is shown on Figure 1 and the investigation was confined to the site boundaries as shown on Figure 2 attached in the appendices.

This report has been prepared to support the lodgement of a Development Application (DA) for the proposed St Ives Indoor Sports Complex.

A geotechnical investigation was undertaken in conjunction with this PSI by JK Geotechnics (JKG). The results of the geotechnical investigation are presented in a separate report (Ref: 31754BCrpt2). This report should be read in conjunction with the JKG report.

JKE (as EIS) have previously undertaken a preliminary Stage 1/2 environmental site assessment (PESA) and an additional environmental site assessment (AESA) for a wider development area in 2018. This also included a Preliminary Salinity Assessment. The site history information obtained for these assessments has been utilised for preparation of this PSI report. A summary of this information has been included in Section 2.

#### The PSI objectives were to:

- Provide an appraisal of the past site use(s) based on a review of historical records;
- Assess the current site conditions and land use by completing a site walkover inspection;
- Identify potential contamination sources/areas of environmental concern (AEC) and contaminants of potential concern (CoPC);
- Prepare a preliminary conceptual site model (CSM); and
- Assess whether an intrusive investigation is required.

#### The scope of work included the following:

- Review of site information, including background and site history information from various sources outlined in the report (site information obtained in 2018);
- A walkover site inspection; and
- Preparation of a PSI report presenting the results of the assessment, including a CSM.

The site information indicated that the site was used for agricultural (orchards) purposes and included a rural residence, until just prior to 1961 when potential filling of the site may have occurred for construction of the sports fields associated with the wider school property. The school was developed progressively until circa 1965. The site then stayed relatively unchanged until circa 2019 when construction to the immediate north and including a portion of the northern section of the site commenced and filling was again observed to occur.

The PESA and AESA included soil sampling within the site and the wider school, and that sampling did not identify any contamination that was assessed to pose a risk. Since that sampling occurred, the site has undergone little change with the exception of materials imported during the recent construction. These materials were inspected and there were no indicators of contamination.

Based on the scope of work undertaken for the PSI, JKE are of the opinion that there is no need for further site investigation or remediation. We recommend implementation of the following protocols for the development:

- An importation and waste tracking protocol. This should include a framework for review of source documentation; sampling and analysis; and inspection of material and review of delivery dockets upon receipt of material; and
- An unexpected finds protocol (UFP). This should include a framework for identifying and managing any unexpected finds.





The protocols should be prepared by a suitably qualified contaminated land consultant<sup>1</sup>.

The conclusions and recommendations should be read in conjunction with the limitations presented in the body of this report.

<sup>&</sup>lt;sup>1</sup> EIS recommend that the consultancy engaged for the work be a member of the Australian Contaminated Land Consultants Associated (ACLCA), and/or the individual undertaking the works be certified under one of the NSW EPA endorsed certified practitioner schemes





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#### **Attachments**

Appendix A: Report Figures
Appendix B: Site Information

**Appendix C: Guidelines and Reference Documents** 



### **Abbreviations**

Asbestos Containing Material	ACM
Area of Environmental Concern	AEC
Australian Height Datum	AHD
Acid Sulfate Soil	ASS
Below Ground Level	BGL
Benzene, Toluene, Ethylbenzene, Xylene	BTEX
Contaminated Land Management	CLM
Contaminant(s) of Potential Concern	СоРС
Conceptual Site Model	CSM
Development Application	DA
Dial Before You Dig	DBYD
Detailed Site Investigation	DSI
Environmental Investigation Services	EIS
Environment Protection Authority	EPA
Environmental Site Assessment	ESA
JK Environments	JKE
Map Grid of Australia	MGA
National Environmental Protection Measure	NEPM
Organochlorine Pesticides	OCP
Organophosphate Pesticides	OPP
Polycyclic Aromatic Hydrocarbons	РАН
Potential ASS	PASS
Polychlorinated Biphenyls	PCBs
Protection of the Environment Operations	POEO
Source, Pathway, Receptor	SPR
Standing Water Level	SWL
Total Recoverable Hydrocarbons	TRH
Volatile Organic Compounds	VOC

Metres BGL mBGL
Metres m



#### 1 INTRODUCTION

JDH Architects ('the client') commissioned JK Environments (JKE) to undertake a Preliminary (Stage 1) Site Investigation (PSI) for the proposed St Ives Indoor Sports Complex at St Ives High School, Yarrabung Road, St Ives, NSW. The purpose of the PSI is to make a preliminary assessment of site contamination. The site location is shown on Figure 1 and the investigation was confined to the site boundaries as shown on Figure 2 attached in the appendices.

This report has been prepared to support the lodgement of a Development Application (DA) for the proposed Council sports complex development.

A geotechnical investigation was undertaken in conjunction with this PSI by JK Geotechnics (JKG). The results of the geotechnical investigation are presented in a separate report (Ref: 31754BCrpt2)<sup>2</sup>. This report should be read in conjunction with the JKG report.

JKE (as EIS) have previously undertaken a preliminary Stage 1/2 environmental site assessment (PESA) and an additional environmental site assessment (AESA) for a wider school area. This also included a Preliminary Salinity Assessment. The site history information obtained for these assessments has been utilised for preparation of this report. A summary of this information has been included in Section 2.

#### 1.1 Proposed Development Details

Based on the details provided, JKE understand that the proposed development includes a two-court sports complex over one level of basement car parking. Excavation is expected to a maximum depth of approximately 6-7m along the northern part of the site, falling away to the south and south-west where fill of up to 1m will be required to achieve the proposed levels for the car parks. Fill of up to 2m will also be required for an area outside the eastern facing doors of the complex.

Selected development plans issued to JKE are attached in the appendices.

#### 1.2 Aim and Objectives

The primary aims of the PSI were to: identify past or present potentially contaminating activities at the site; identify the potential for site contamination; and assess the need for further investigation. The objectives were to:

- Provide an appraisal of the past site use(s) based on a review of historical records;
- Assess the current site conditions and land use by completing a site walkover inspection;
- Identify potential contamination sources/areas of environmental concern (AEC) and contaminants of potential concern (CoPC);
- Prepare a conceptual site model (CSM); and
- Assess whether an intrusive investigation is required.

<sup>&</sup>lt;sup>2</sup> JKG, (2020). Report to JDH Architects on Geotechnical Investigation for Proposed Sports Complex at St Ives High School, St Ives, NSW. (referred to as JKG report)





#### 1.3 Scope of Work

The investigation was undertaken generally in accordance with a JKE proposal (Ref: EP51398BTrev1) of 25 June 2020 and written acceptance from the client of 30 June 2020. The scope of work included the following:

- Review of site information, including background and site history information from various sources outlined in the report (site information obtained in 2018);
- A walkover site inspection; and
- Preparation of a PSI report presenting the results of the assessment, including a CSM.

The scope of work was undertaken with reference to the National Environmental Protection (Assessment of Site Contamination) Measure 1999 as amended (2013)<sup>3</sup>, guidelines made under or with regards to the Contaminated Land Management Act (1997)<sup>4</sup> and State Environmental Planning Policy No.55 – Remediation of Land (1998)<sup>5</sup>. A list of reference documents/guidelines is included in the appendices.

<sup>&</sup>lt;sup>5</sup> State Environmental Planning Policy No. 55 – Remediation of Land 1998 (NSW) (referred to as SEPP55)



<sup>&</sup>lt;sup>3</sup> National Environment Protection Council (NEPC), (2013). *National Environmental Protection (Assessment of Site Contamination) Measure 1999 (as amended 2013).* (referred to as NEPM 2013)

<sup>&</sup>lt;sup>4</sup> Contaminated Land Management Act 1997 (NSW) (referred to as CLM Act 1997)



#### 2 SITE INFORMATION

#### 2.1 Preliminary Stage 1/2 Environmental Site Assessment (PESA)

A PESA was undertaken of a wider development area within the school property in September 2018 (Ref: E31754KTrpt). This included a desktop site history assessment and fill/soil sampling from a total of five boreholes (of which three were within the current site), concurrently with the geotechnical investigation.

Based on the scope of work undertaken for PESA, the CSM identified the following AEC and CoPC:

- Fill material Heavy metals (arsenic, cadmium, chromium, copper, lead, mercury, nickel and zinc), petroleum hydrocarbons (referred to as total recoverable hydrocarbons TRHs), benzene, toluene, ethylbenzene and xylene (BTEX), polycyclic aromatic hydrocarbons (PAHs), organochlorine pesticides (OCPs), organophosphate pesticides (OPPs), polychlorinated biphenyls (PCBs) and asbestos);
- Historical agricultural (orchards) use Heavy metals, TRH, PAHs, OCPs, PCBs and asbestos; and
- Hazardous building materials (i.e. from former demolition) asbestos.

Fill was encountered at the surface in all boreholes and extended to depths of approximately 0.4m to 2.0m. The fill typically comprised sand, silty sand, silty clay and sandy silt with inclusions of bark material, root fibres, sand, and siltstone and ironstone gravel.

Selected soil samples were analysed for the CoPC. Elevated concentrations of contaminants above the adopted site assessment criteria (SAC) were not identified during the investigation. However, due to the former use of the site as an orchard and the limited number of sampling points, the likelihood of unidentified contamination being present within the investigation area was considered possible and further investigation was recommended.

#### 2.1.1 Preliminary Salinity Assessment

A Preliminary Salinity Assessment was undertaken in conjunction with the PESA (Ref: E 31754KTrpt-SAL). Based on the findings, significantly saline and/or aggressive soil conditions are not expected to be encountered during the development works within 2m of the surface. The assessment recommended that the structural engineer review the exposure classification and salinity results within the report and factor these into the design accordingly.

#### 2.2 Additional Environmental Site Assessment

In October 2018, an AESA was undertaken at the site (report ref: E31754KTrpt2, dated 15 November 2018). The AESA included a review of the PESA information in conjunction with soil sampling from an additional 13 locations, and installation and sampling from two groundwater monitoring wells (of which nine soil boreholes and one groundwater monitoring well were within the current site).

Fill was encountered at the surface in all boreholes and extended to depths of approximately 0.2m to 3.4m. The fill typically comprised sand, silty sand, silty clay, sandy clay and clayey silt with inclusions of bark material, root fibres, sand, siltstone gravel, ironstone gravel, igneous gravel, ash, slag and glass fragments. An ironstone boulder was also encountered in the fill in BH105.





Selected samples were analysed for the CoPC as identified during the PESA. Elevated concentrations of contaminants above the SAC were not identified in the soil samples analysed for the investigation. The groundwater samples encountered concentrations of nickel and zinc above the ecological SAC. However, this was attributed to regional conditions.

The report concluded that the site was suitable for the proposed development based on the findings of the assessment.

#### 2.3 Site Identification

Table 2-1: Site Identification

Site Address:	St Ives High School, Yarrabung Road, St Ives, NSW
Lot & Deposited Plan:	Part of Lot 1 in DP122431 and Part of Lot 1 in DP122432
Current Land Use:	High School (year 7 to 12) sports field
Proposed Land Use:	Council sports complex
Local Government Authority (LGA):	Ku-Ring-Gai Municipal Council
Current Zoning:	SP2 – Infrastructure: Educational Establishment
Site Area (m²) (approx.):	5,200
RL (AHD in m) (approx.):	137.62-147.99
Geographical Location	Latitude: -33.740960
(decimal degrees) (approx. centre of site):	Longitude: 151.165362
Site Location Plan:	Figure 1
Site Features Plan:	Figure 2

#### 2.4 Site Location and Regional Setting

The site is located within St Ives High School grounds in the south-west corner of the school property. The wider school property is located in a predominantly residential area of St Ives and is bound by Horace Street to the west, Hunter Avenue to the south and Yarrabung Road to the east. The wider school property is located approximately 200m to the north-west of a tributary of Rocky Creek.

#### 2.5 Topography

The wider school property is located within gently undulating regional topography with the investigation area itself located on the south-facing side of a hill that slopes down at approximately 5° - 6° and has been formed by filling. Batters along the west and southern sides of the site slope down at approximately 20°.



#### 2.6 Site Inspection

A walkover inspection of the site was undertaken by JKE on 6 July 2020. The inspection was limited to accessible areas of the site and immediate surrounds. A summary of the inspection findings is outlined in the following subsections:

#### 2.6.1 Current Site Use and/or Indicators of Former Site Use

At the time of the inspection the site was occupied by the wider school properties playing fields and comprised cricket nets and a portion of the grass covered sports field.

#### 2.6.2 Buildings, Structures and Roads

Cricket net structures were present in the southern portion of the site. These were generally wire and steel frame on concrete slab. A single football goal post and temporary volleyball nets and soccer goals were also present. No other buildings or structures were present in the site.

The northern portion of the site was within the construction compound area for the St Ives High School Sports Complex development which was actively construction. This section of the site included several site sheds, excavated siltation ponds and several large stockpiles of imported gravelly clay fill material. The area also appeared to have been filled and or covered with imported material (potentially virgin excavated natural material - VENM) and utilised as a haul route.

#### 2.6.3 Boundary Conditions, Soil Stability and Erosion

The wider school property was fenced. The site itself was well vegetated and no visible erosion was observed.

#### 2.6.4 Presence of Drums/Chemical Storage and Waste

Drums/chemical storage or other waste were not observed during the inspection.

#### 2.6.5 Evidence of Cut and Fill

Imported fill including potential VENM were observed across the northern portion of the site (within the construction zone). Along the eastern wall of the construction zone, recycled aggregate was observed to have been utilised for temporary stairs infill. Based on the observed site topography the entire site is considered likely to have been filled to achieve the existing site levels for the playing fields and terracing along the boundaries of the site.

#### 2.6.6 Visible or Olfactory Indicators of Contamination (odours, spills etc)

Visible or olfactory indicators of contamination were not observed during the inspection.





#### 2.6.7 Drainage and Services

Surface runoff from the site was expected to flow towards the south in keeping with the site topography.

#### 2.6.8 Sensitive Environments

Sensitive environments such as wetlands, ponds, creeks or extensive areas of natural vegetation were not identified on site. Garigal National Park was located approximately 200m downgradient from the site to the south-east.

#### 2.6.9 Landscaped Areas and Visible Signs of Plant Stress

The majority of the site, with the exception of the northern portion, was generally grass covered, with large trees located along the western boundary and to the south of the site. The vegetation appeared to be in reasonable condition based on a cursory inspection, with no obvious or extensive dieback observed.

#### 2.7 Surrounding Land Use

During the site inspection, JKE observed the following land uses in the immediate surrounds:

- North St Ives High School with St Ives Primary School and residential properties beyond;
- South St Ives High School with Hunter Avenue and residential properties beyond;
- East St Ives High School with Yarrabung Road and residential properties beyond; and
- West Horace Street and residential properties beyond.

JKE did not observe any land uses in the immediate surrounds that were identified as potential contamination sources for the site.

#### 2.8 Underground Services

The 'Dial Before You Dig' (DBYD) plans were reviewed for the PSI in order to establish whether any major underground services exist at the site or in the immediate vicinity that could act as a preferential pathway for contamination migration.

The DBYD plans indicated that stormwater mains extend through the western section of the site in a north-south direction. The stormwater mains are potentially at shallow depths and also extend through the neighbouring Hunter Avenue and properties to the south-east. Considering the geological conditions (discussed in Section 3.1), there is a potential for the stormwater trench to act as a preferential pathway for contamination migration (i.e. through relatively permeable backfill), however migration would depend on the nature and extent of the contamination and the fate and transport characteristics of the contaminants.

Copies of the relevant plans are attached in the appendices and reference should be made to Figure 2.



#### 3 GEOLOGY AND HYDROGEOLOGY

#### 3.1 Regional Geology

Regional geological information was reviewed for the PSI. The information was sources from the Lotsearch report attached in the appendices. The report indicated that the majority of the site is underlain by Ashfield Shale of the Wianamatta Group, which typically consists of black to dark grey shale and laminite. The eastern side of the site is underlain by Triassic aged deposits of medium to coarse-grained quartz sandstone with very minor shale laminate lenses.

#### 3.2 Acid Sulfate Soil (ASS) Risk and Planning

The site is not located in an ASS risk area according to the risk maps prepared by the Department of Land and Water Conservation (1997)<sup>6</sup>.

ASS information presented in the Lotsearch report indicated that the site is located within a Class 5 ASS risk area. Works in a Class 5 risk area that could pose an environmental risk in terms of ASS include works within 500m of adjacent Class 1,2,3,4 land which are likely to lower the water table below 1m AHD on the adjacent Class 1,2,3,4 land. JKE are of the opinion that the proposed development will not pose a risk in relation to ASS on adjacent land.

#### 3.3 Hydrogeology

Hydrogeological information was reviewed for the PSI. The information was sources from the Lotsearch report. The report indicates that the regional aquifer on-site and in the areas immediately surrounding the site includes porous, extensive aquifers of low to moderate productivity. There was a total of 32 registered bores within the report buffer of 2,000m. In summary:

- The nearest registered bore was located approximately 874m from the site. This was utilised for domestic/stock purposes;
- The majority of the bores were registered for monitoring purposes;
- There were no nearby bores (i.e. within 850m) registered for domestic or irrigation uses; and
- The drillers log information from the closest registered bores typically identified fill and/or clay soil to depths of 2.4-12.9m, underlain by shale bedrock. Standing water levels (SWLs) in the bores ranged from 5.3mBGL to 67.0mBGL.

The information reviewed for the PSI indicates that the subsurface conditions at the site are likely to consist of relatively low permeability (residual) soils overlying shallow bedrock. The potential for viable groundwater abstraction and use of groundwater under these conditions is considered to be low. There is a reticulated water supply in the area and consumption of groundwater is not expected to occur. Use of groundwater is not proposed as part of the development.

Considering the local topography and surrounding land features, JKE anticipate groundwater to flow towards the south-east.

<sup>&</sup>lt;sup>6</sup> Department of Land and Water Conservation, (1997). 1:25,000 Acid Sulfate Soil Risk Map (Series 9130N3, Ed 2)





#### 3.4 Water Bodies

Surface water bodies were not identified in the immediate vicinity of the site. The closest surface water body is a tributary of Rocky Creek located approximately 200m to the south-east of the site. This is down-gradient from site and is considered to be a potential receptor.



#### 4 SITE HISTORY INFORMATION

#### 4.1 Review of Historical Aerial Photographs and Historical Maps

Historical aerial photographs were reviewed for the PSI. The information was sourced for the 2018 Lotsearch report. A summary of the relevant information is presented in the following table:

Table 4-1: Summary of Historical Aerial Photographs

Year	Details
1943	<b>On-site:</b> The site and wider school property appeared to be used as an orchard/tree grove. With rows of trees visible covering the majority of the site and a small rural residential structure visible in the south-east of the site.
	<b>Off-site:</b> The surrounds appeared similar to the site and were most likely used for orchard/farming purposes and/or part of the National Park. Horace Street to the west and Hunter Avenue to the south were visible, however both roads appeared unpaved.
1956	On-site: The site and surrounds appeared similar to the 1943 photograph.
	<b>Off-site:</b> Some of the land to the east of the wider school property appeared to have been cleared for agricultural use.
1961	<b>On-site:</b> The site appeared to be cleared of the rows of trees, however, the site structures were still visible.
	<b>Off-site:</b> Low density residential properties were visible to the south of the site and further development of the land to the east of the site was also visible.
1965	On-site: The outline of sports fields were visible on the site (for the wider school property).
	<b>Off-site:</b> To the north of the site and within the wider school property, five large building were visible (original and current school buildings) and the basketball court to the immediate north of the site. Residential developments were visible to the north, east and west of the site.
1970	The site and surrounds appeared similar to the previous photograph.
1982	On-site: Cricket nets and concrete slab were visible in the central section of the site.
	<b>Off-site:</b> Several new buildings were visible in the north-east corner of the wider school property.
	The surrounding land use appeared similar to the 1970 photograph.
1991	The site and surrounds appeared similar to the previous photograph.
2005	The site and surrounds appeared similar to the previous photograph.
2009	The site and surrounds appeared similar to the previous photograph.
2015	The site and surrounds appeared similar to the previous photograph.

In addition to the aerial photographs, the Lotsearch report presented a series of historical maps. The historical maps indicated that in 1920 Horace Street existed and the site appeared to be undeveloped and by 1942 the site appeared to be occupied by orchards.



#### 4.2 NSW EPA Records

A review of the NSW EPA databases was undertaken for the PSI. Information from the following databases were sourced from the 2018 Lotsearch report:

- Records maintained in relation to contaminated land under Section 58 of the CLM Act 1997;
- Records of sites notified in accordance with the Guidelines on the Duty to Report Contamination under Section 60 of the CLM Act 1997 (2015)<sup>7</sup>; and
- Licensed activities under the Protection of the Environment Operations Act (1997)8.

The search included the site and surrounding areas in the report buffer. A summary of the information is provided below:

Table 4-2: NSW EPA Records

Records	On-site	Off-site
Records under Section 58 of the CLM Act 1997	None	None
Records under the Duty to Report Contamination under Section 60 of the CLM Act 1997	None	None
Licences under the POEO Act 1997	None	Current and historical licenses were identified for several properties within the report buffer, including the application of herbicides along waterways. However, these activities are considered unlikely to pose a contamination risk to the site or represent and off-site source of contamination.

JKE has undertaken an updated search of NSW EPA records for this PSI. The search was undertaken on 9 July 2020. The search did not indicate any new information that would change the CSM.

#### 4.3 Historical Business Directory and Additional Lotsearch Information

Historical business records and other relevant information were reviewed for the PSI. The information was sourced from the Lotsearch report and summarised in the following table:

Table 4-3: Historical Business Directory and other Records

Records	On-site	Off-site
Historical dry	None	None
cleaners, motor		

<sup>&</sup>lt;sup>7</sup> NSW EPA, (2015). *Guidelines on the Duty to Report Contamination under Section 60 of the CLM Act 1997.* (referred to as Duty to Report Contamination)

<sup>&</sup>lt;sup>8</sup> Protection of the Environment Operations Act 1997 (NSW) (referred to as POEO Act 1997)





Records	On-site	Off-site
garages and service stations		
Other historical businesses that could represent potential sources of contamination	None	None
National waste management site database	None	None
National liquid fuel facilities	None	None
Mapped heritage items	None	Various heritage items were mapped in the report buffer. These are not considered to have any relevance in the context of the PSI objectives.
Mapped ecological constraints	Urban exotic natives were mapped on the site. These are located along the south and west boundary of the site and are unlikely to be disturbed as part of the development. As such they are not considered to have any relevance in the context of the PSI objectives.	Various ecological items were mapped in the report buffer. These are not considered to have any relevance in the context of the PSI objectives.
Mapped naturally occurring asbestos	None	None

#### 4.4 Summary of Site History Information

A time line summary of the historical land uses and activities is presented in the table below. The information is based on a weight of evidence assessment of the site history documentation and observations made by JKE.

Table 4-4: Summary of Historical Land Uses / Activities

Year(s)	On-site - Potential Land Use / Activities	Off-site - Potential Land Use / Activities
Pre-1943	Agricultural (orchards) and rural residential properties.	Mix of undeveloped bushland and agricultural (orchards/farming).
1961-1963	<ul> <li>Land use change to special purpose: infrastructure; and</li> <li>Filling of the site occurred for school sports field levelling.</li> </ul>	<ul> <li>Progressive development of the wider school property (i.e. construction of buildings, installation of associated pavements and landscaping);</li> <li>Use of hazardous building materials in the existing and former buildings at the wider school property;</li> </ul>



Year(s)	On-site - Potential Land Use / Activities	Off-site - Potential Land Use / Activities
		On-going development of surrounding properties for residential land use.
2019	Filling of the northern portion of the site occurred for construction of the school sports complex.	<ul> <li>Development of school sports complex including importation of fill (recycled aggregate and VENM); and</li> <li>School and residential land use.</li> </ul>

#### 4.5 Integrity of Site History Information

The majority of the site history information was obtained from government organisations as outlined in the relevant sections of this report. The veracity of the information from these sources is considered to be relatively high. A certain degree of information loss can be expected given the lack of specific land use details over time. JKE have relied upon the Lotsearch report and have not independently verified any information contained within. However, it is noted that the Lotsearch report is generated based on databases maintained by various government agencies and is expected to be reliable.



#### 5 CONCEPTUAL SITE MODEL

NEPM (2013) defines a CSM as a representation of site related information regarding contamination sources, receptors and exposure pathways between those sources and receptors. The CSM for the site is presented in the following sub-sections and is based on the site information (including the site inspection information) and the review of site history information. Reference should also be made to the figures attached in the appendices.

#### 5.1 Potential Contamination Sources/AEC and CoPC

The potential contamination sources/AEC and CoPC are presented in the following table:

Table 5-1: Potential (and/or known) Contamination Sources/AEC and Contaminants of Potential Concern

Source / AEC	CoPC
<u>Imported materials</u> – The active construction zone in	Asbestos
the northern portion of the site has imported recycled	(recycled aggregate)
aggregate, VENM and other engineered fill material	
(gravelly clay) for utilisation in the development works	Heavy metals, TRHs, BTEX, PAHs, OCPs, OPPs, and PCBs.
including for construction of haul routes. The materials	(Dependent on source)
imported to date and observed during the inspection	
did not exhibit any visual or olfactory indicators of	
contamination.	

#### 5.2 Mechanism for Contamination, Affected Media, Receptors and Exposure Pathways

The mechanisms for contamination, affected media, receptors and exposure pathways relevant to the potential contamination sources/AEC are outlined in the following CSM table:

Table 5-2: Conceptual Site Model

Potential mechanism for contamination	The primary mechanisms for contamination for imported materials predominantly include 'top-down' impacts (i.e. leaching from surficial material).
Affected media	Soil/imported material has been identified as the potentially affected medium.
Receptor identification	Human receptors include site occupants/users (including adults and children), construction workers and intrusive maintenance workers.  Ecological receptors include terrestrial organisms and plants within unpaved areas (including the proposed landscaped areas).
Potential exposure pathways	Potential exposure pathways relevant to the human receptors include ingestion, dermal absorption and inhalation of dust (all contaminants) and vapours (volatile TRH, naphthalene and BTEX). The potential for exposure would typically be associated with the construction and excavation works, and future use of the site. Potential exposure pathways for ecological receptors include primary contact and ingestion.  Exposure during future site use could occur via direct contact with soil in unpaved areas such as gardens, inhalation of airborne asbestos fibres during soil disturbance, or inhalation of vapours within enclosed spaces such as buildings and basements.



Potential exposure mechanisms	<ul> <li>The following have been identified as potential exposure mechanisms for site contamination:</li> <li>Vapour intrusion into the proposed building (i.e. via hydrocarbon impacted soil); and</li> <li>Contact (dermal, ingestion or inhalation) with exposed soils in landscaped areas and/or unpaved areas.</li> </ul>	
Presence of preferential pathways for contaminant movement	None identified relevant to the AEC.	

#### 5.3 Assessment of Data Gaps

JKE has undertaken a preliminary data gap analysis based on the findings of the PSI. The data gaps and comments are outlined in the following table:

Table 5-3: Data Gap Assessment

Data Gap	JKE Comments
No information or documentation (including analysis) sighted for imported materials within northern portion of site	Although it is assumed all material imported to the construction zone occupying the northern portion of the site is either VENM or has been classified with reference to a relevant exemption and is fit for purpose on the site, no documentation was sighted to support this. Based on the provided development plans it is understood that this area of the site will undergo some cut and fill works to achieve finished levels. Recommendations to address this data gap have been included in Section 6 of this report.



#### 6 CONCLUSIONS

#### 6.1 Contamination Sources/AEC and Potential for Site Contamination

Based on the scope of work undertaken for this PSI, JKE identified recently imported materials in the northern portion of the site as the potential contamination sources/AEC. However, these materials were inspected by JKE and there were no indicators of contamination. Additional materials may be imported during the construction process and these should be appropriately managed to minimise the potential for contamination of the land.

#### 6.2 Need for Further Investigation

Sampling for previous assessment did not identify any contamination that was assessed to pose a risk. Further investigation is not considered to be required subject to implementation of the recommendations.

#### 6.3 Conclusions and Recommendations

Based on the scope of work undertaken for the PSI, JKE are of the opinion that there is no need for further site investigation or remediation. We recommend implementation of the following protocols for the development:

- An importation and waste tracking protocol. This should include review of source documentation; sampling and analysis; and inspection of material and review of delivery dockets upon receipt of material; and
- An unexpected finds protocol (UFP). This should include a framework for identifying and managing any unexpected finds.

The protocols should be prepared by a suitably qualified contaminated land consultant<sup>9</sup>.

JKE consider that the PSI objectives outlined in Section 1.2 have been addressed.

<sup>&</sup>lt;sup>9</sup> JKE recommend that the consultancy engaged for the work be a member of the Australian Contaminated Land Consultants Associated (ACLCA), and/or the individual undertaking the works be certified under one of the NSW EPA endorsed certified practitioner schemes



#### 7 LIMITATIONS

The following limitation apply to this investigation:

- JKE accepts no responsibility for any unidentified contamination issues at the site. Any unexpected problems/subsurface features that may be encountered during development works should be inspected by an environmental consultant as soon as possible;
- Previous use of this site may have involved excavation for the foundations of buildings, services, and similar facilities. In addition, unrecorded excavation and burial of material may have occurred on the site. Backfilling of excavations could have been undertaken with potentially contaminated material that may be discovered in discrete, isolated locations across the site during construction work;
- This report has been prepared based on site conditions which existed at the time of the investigation; scope of work and limitation outlined in the JKE proposal; and terms of contract between JKE and the client (as applicable);
- The conclusions presented in this report are based on investigation of conditions at specific locations, chosen to be as representative as possible under the given circumstances, visual observations of the site and immediate surrounds and documents reviewed as described in the report;
- This report has been prepared in accordance with accepted practice for environmental consultants, with reference to applicable environmental regulatory authority and industry standards, guidelines and the assessment criteria outlined in the report;
- Where information has been provided by third parties, JKE has not undertaken any verification process, except where specifically stated in the report;
- JKE has not investigated off-site areas that may be potential contamination sources or may have been impacted by site contamination, except where specifically stated in the report;
- JKE accept no responsibility for potentially asbestos containing materials that may exist at the site.
   These materials may be associated with demolition of pre-1990 constructed buildings or fill material at the site;
- JKE have not and will not make any determination regarding finances associated with the site;
- Additional investigation work may be required in the event of changes to the proposed development or landuse. JKE should be contacted immediately in such circumstances; and
- This report has been prepared for the particular project described and no responsibility is accepted for the use of any part of this report in any other context or for any other purpose.



#### **Important Information About This Report**

These notes have been prepared by JKE to assist with the interpretation of this report.

#### The Report is based on a Unique Set of Project Specific Factors:

This report has been prepared in response to specific project requirements as stated in the JKE proposal document which may have been limited by instructions from the client. This report should be reviewed, and if necessary, revised if any of the following occur:

- The proposed land use is altered;
- The defined subject site is increased or sub-divided;
- The proposed development details including size, configuration, location, orientation of the structures or landscaped areas are modified;
- The proposed development levels are altered, eg addition of basement levels; or
- Ownership of the site changes.

JKE will not accept any responsibility whatsoever for situations where one or more of the above factors have changed since completion of the assessment. If the subject site is sold, ownership of the assessment report should be transferred by JKE to the new site owners who will be informed of the conditions and limitations under which the assessment was undertaken. No person should apply an assessment for any purpose other than that originally intended without first conferring with the consultant.

#### **Changes in Subsurface Conditions:**

Subsurface conditions are influenced by natural geological and hydrogeological process and human activities. Groundwater conditions are likely to vary over time with changes in climatic conditions and human activities within the catchment (e.g. water extraction for irrigation or industrial uses, subsurface waste water disposal, construction related dewatering). Soil and groundwater contaminant concentrations may also vary over time through contaminant migration, natural attenuation of organic contaminants, ongoing contaminating activities and placement or removal of fill material. The conclusions of an assessment report may have been affected by the above factors if a significant period of time has elapsed prior to commencement of the proposed development.

#### This Report is based on Professional Interpretations of Factual Data:

Site assessments identify actual subsurface conditions at the actual sampling locations at the time of the investigation. Data obtained from the sampling and subsequent laboratory analyses, available site history information and published regional information is interpreted by geologists, engineers or environmental scientists and opinions are drawn about the overall subsurface conditions, the nature and extent of contamination, the likely impact on the proposed development and appropriate remediation measures.

Actual conditions may differ from those inferred, because no professional, no matter how qualified, and no subsurface exploration program, no matter how comprehensive, can reveal what is hidden by earth, rock and time. The actual interface between materials may be far more gradual or abrupt than an assessment indicates. Actual conditions in areas not sampled may differ from predictions. Nothing can be done to prevent the unanticipated, but steps can be taken to help minimise the impact. For this reason, site owners should retain the services of their consultants throughout the development stage of the project, to identify variances, conduct additional tests which may be needed, and to recommend solutions to problems encountered on site.

#### **Investigation Limitations:**

Although information provided by an investigation can reduce exposure to the risk of the presence of contamination, no investigation can eliminate the risk. Even a rigorous professional assessment may not detect all contamination on a site. Contaminants may be present in areas that were not surveyed or sampled, or may migrate to areas which showed no signs of contamination when sampled. Contaminant analysis cannot possibly cover every type of contaminant which may occur; only the most likely contaminants are screened.





#### Misinterpretation of Reports by Design Professionals:

Costly problems can occur when design professionals develop plans based on misinterpretation of the report. To minimise problems associated with misinterpretations, the environmental consultant should be retained to work with appropriate professionals to explain relevant findings and to review the adequacy of plans and specifications relevant to contamination issues.

#### Logs Should not be Separated from the Report:

Borehole and test pit logs are prepared by environmental scientists, engineers or geologists based upon interpretation of field conditions and laboratory evaluation of field samples. Logs are normally provided in our reports and these should not be re-drawn for inclusion in site remediation or other design drawings, as subtle but significant drafting errors or omissions may occur in the transfer process. Photographic reproduction can eliminate this problem, however contractors can still misinterpret the logs during bid preparation if separated from the text of the assessment. If this occurs, delays, disputes and unanticipated costs may result. In all cases it is necessary to refer to the rest of the report to obtain a proper understanding of the assessment. Please note that logs with the 'Environmental Log' header are not suitable for geotechnical purposes as they have not been peer reviewed by a Senior Geotechnical Engineer.

To reduce the likelihood of borehole and test pit log misinterpretation, the complete report should be available to persons or organisations involved in the project, such as contractors, for their use. Denial of such access and disclaiming responsibility for the accuracy of subsurface information does not insulate an owner from the attendant liability. It is critical that the site owner provides all available site information to persons and organisations such as contractors.

#### **Read Responsibility Clauses Closely:**

As the investigation is based extensively on judgement and opinion, it is necessarily less exact than other disciplines. This situation has resulted in wholly unwarranted claims being lodged against consultants. To help prevent this problem, model clauses have been developed for use in written transmittals. These are definitive clauses designed to indicate consultant responsibility. Their use helps all parties involved recognise individual responsibilities and formulate appropriate action. Some of these definitive clauses are likely to appear in the report, and you are encouraged to read them closely.

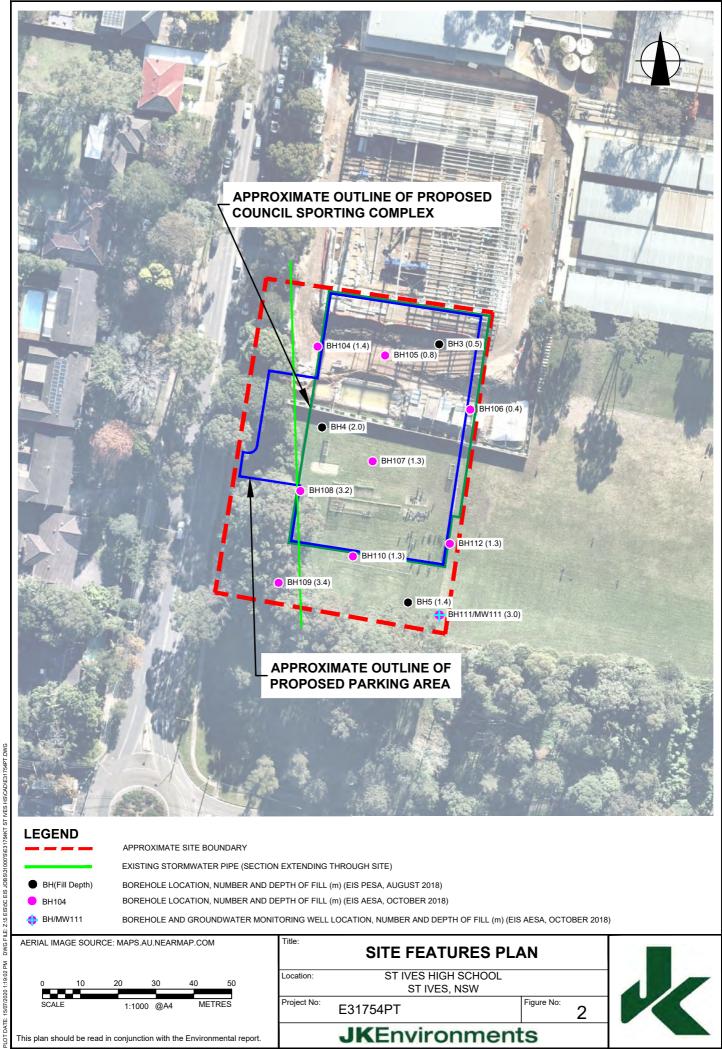


**Appendix A: Report Figures** 



AERIAL IMAGE SOURCE: MAPS.AU.NEARMAP.COM **SITE LOCATION PLAN** ST IVES HIGH SCHOOL Location: ST IVES, NSW Project No: Figure No: E31754PT **JK**Environments

This plan should be read in conjunction with the Environmental report.

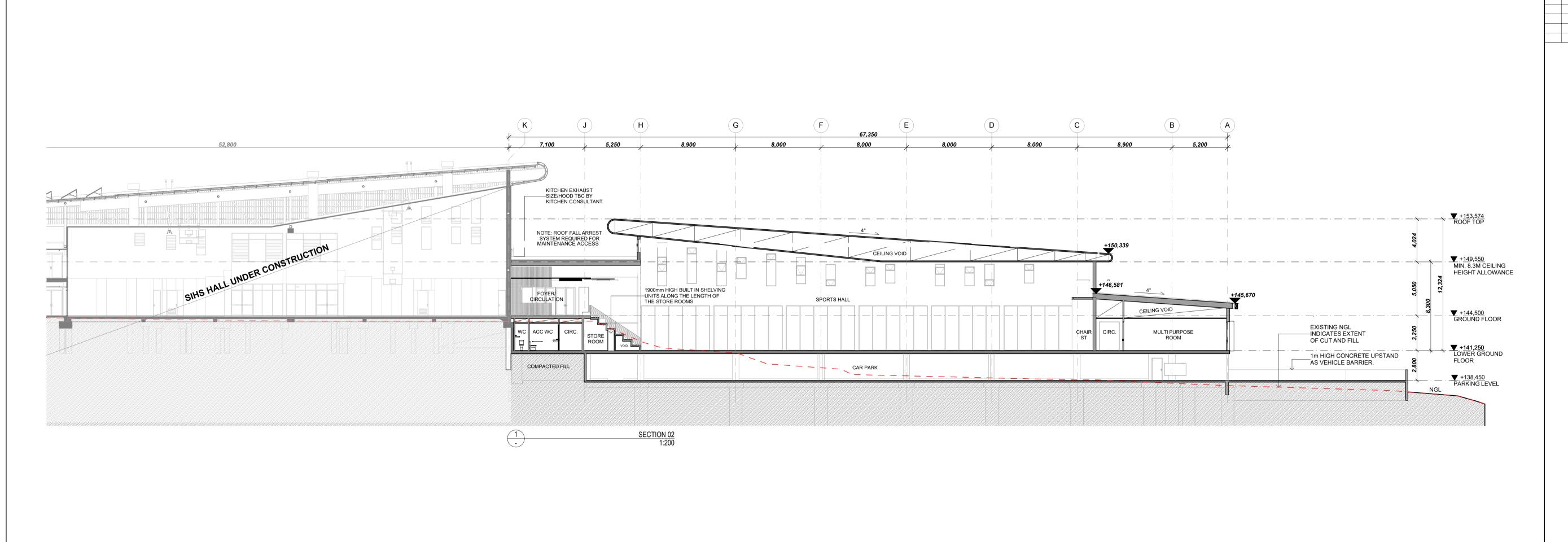


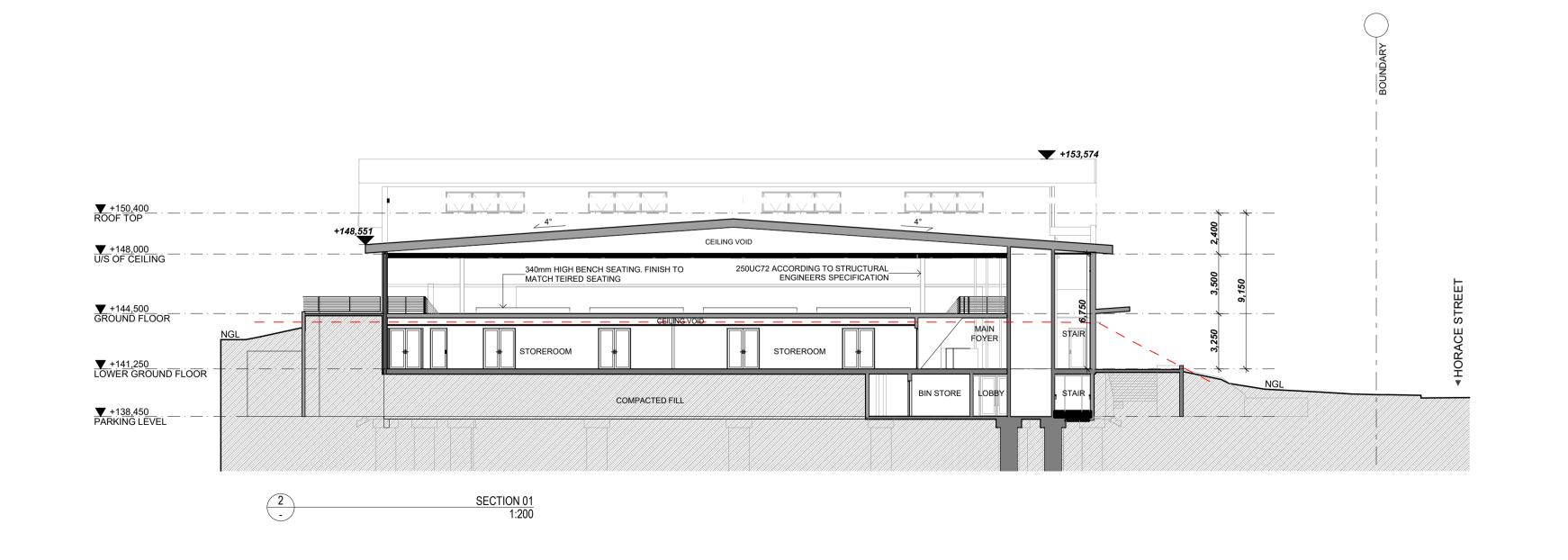


**Appendix B: Site Information** 



**Proposed Development Plans** 





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THE CONTRACTOR SHALL CHECK AND VERIFY ALL DIMENSIONS
AND VERIFY ALL ERRORS AND OMISSIONS TO THE ARCHITECT.
USE FIGURATIVE DIMENSIONS, DO NOT SCALE THE DRAWINGS.
DRAWINGS SHALL NOT BE USED FOR CONSTRUCTION
PURPOSES UNTIL ISSUED BY THE ARCHITECT FOR
CONSTRUCTION.

 Rev
 Date
 By
 Issue Name

 01
 6/07/2020
 JS
 ISSUED FOR INFORMATION

 3
 24/07/2020
 JS
 ISSUED FOR COSTING

 JA
 JA

Architect

JDH architects

JDH ARCHITECTS PTY. LTD.

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44 Little Oxford Street

JDH ARCHITECTS PTY. LTD. info@idharchitects.com.au ABN 27 110 978 802 ACN 110 978 802 NOMINATED ARCHITECT: JAYNE HARRISON (7403)



818 Pacific Highway Sydney NSW, 2072 Telephone: (02) 9424 0000 Email:#Client Custom

Project Name
ST. IVES INDOOR SPORTS
COMPLEX

60-70 Horace Street St Ives NSW, 2075

Drawing Title

SECTIONS SHEET 1

 Scale :
 1:200 @A1
 Date :
 24/07/2020

 Drawn :
 JA
 Checked :KM

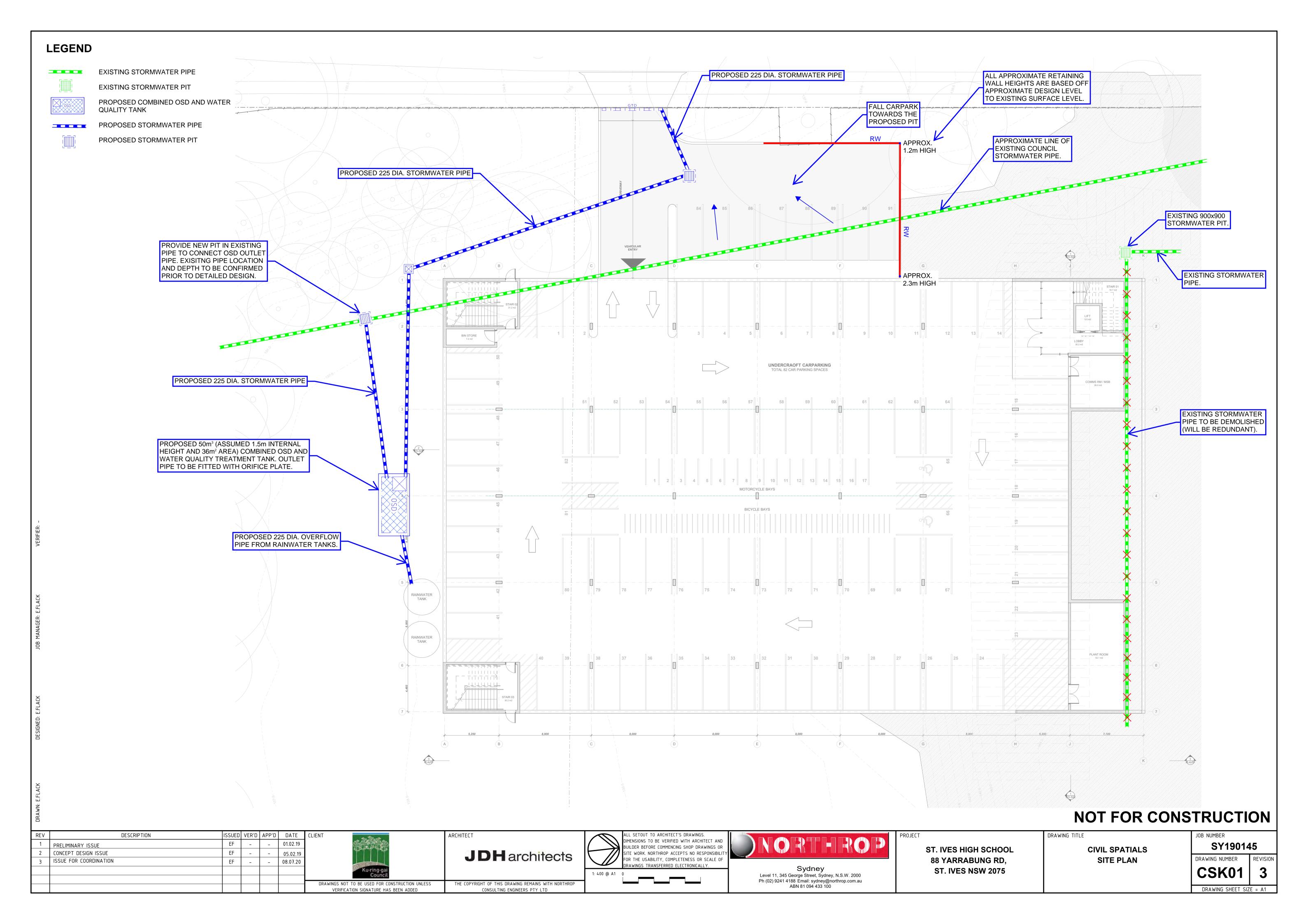
 Project No.
 Drawing No.
 Rev.

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 CD-502
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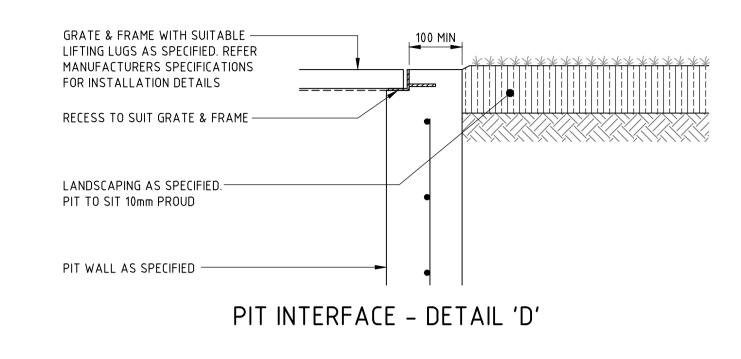
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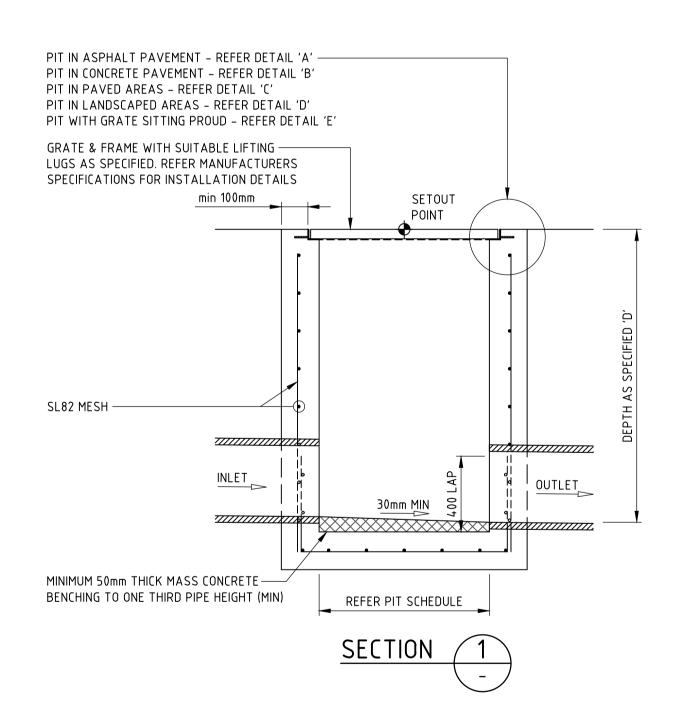
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CONFIRMS THAT THIS DRAWING HAS BEEN
PREPARED IN CONFORMITY WITH JDH
ARCHITECTS Q.M.S. PROCEDURES.

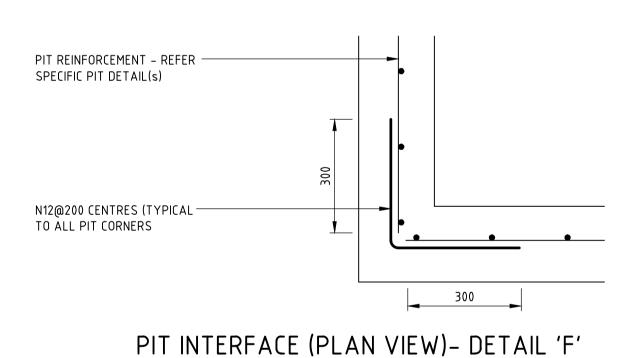
CONCEPT



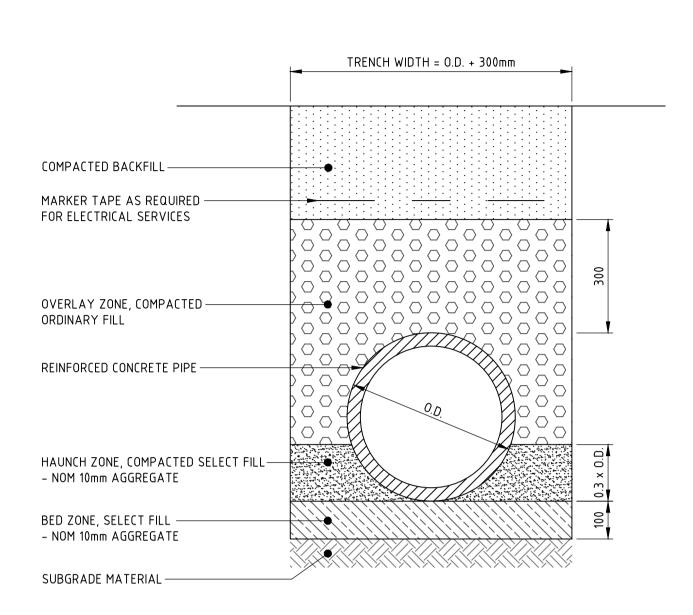
PLAN
SURFACE INLET 'SIP' / JUNCTION PIT 'JP'
PIT STRUCTURE TO BE 200mm THICK UNLESS SHOWN OTHERWISE. DRILL AND EPOXY
PLASTIC PROPRIETARY STEP IRONS IN ACCORDANCE WITH AUSTRALIAN STANDARDS AND
MANUFACTURERS SPECIFICATIONS (PITS > 1000mm DEPTH).
REFER PIT INTERFACE DETAIL 'F' FOR CORNER REINFORCEMENT







APPLICABLE TO ALL STORMWATER DRAINAGE STRUCTURES



## TYPICAL PIPE TRENCH - GENERAL AREAS

- 1. TRENCH WIDTH MAY NEED TO BE INCREASED SUBJECT TO ACHIEVING COMPACTION. ENSURE MINIMUM 300mm CLEARANCE BETWEEN, WHEN USING MULTIPLE PIPES TO ACHIEVE ADEQUATE COMPACTION.
- 2. MINIMUM PIPE COVER NOT UNDER ROADS TO BE 300mm U.N.O.
- 3. THE CONTRACTOR SHALL ENSURE THAT SHORING OF TRENCHES IS INSTALLED AS
- REQUIRED BY STATUTORY REQUIREMENTS.

  4. ENSURE BACKFILLING COMPACTION MEETS THE FOLLOWING STANDARDS;
- 4.1. TRENCHES UNDER PAVED AREAS / BUILDING 100% SMDD
  4.2. TRENCHES NOT UNDER PAVEMENTS 95% SMDD
- PRIME & TACK COAT BASE MATERIAL

  150mm DGB20 BASE MATERIAL

  COMPACTED TO 98% MMDD

  180mm DGS40 SUBBASE MATERIAL

  COMPACTED TO 98% MMDD

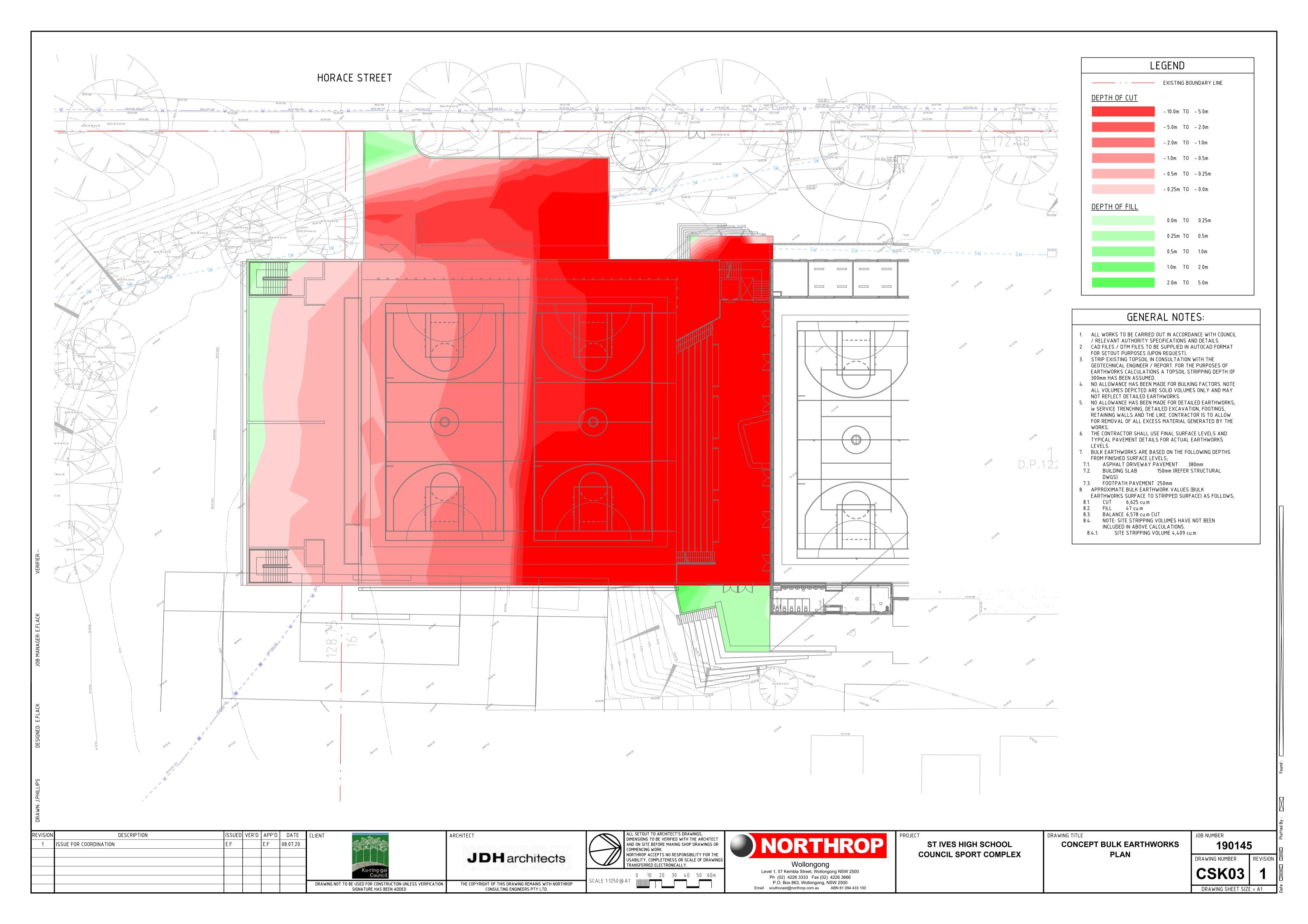
  SUBGRADE MATERIAL

  COMPACTED TO 100% SMDD

PAVEMENT TYPE 1: CARPARK
MIN CBR 3%
DESIGN LOADING 1x10<sup>5</sup> ESA's

## NOT FOR CONSTRUCTION

DRAWING TITLE DESCRIPTION ISSUED VER'D APP'D DATE CLIENT IMENSIONS TO BE VERIFIED WITH ARCHITECT AND E.F 01.02.19 PRELIMINARY ISSUE SY190145 ILDER BEFORE COMMENCING SHOP DRAWINGS OR ST. IVES HIGH SCHOOL **CIVIL SPATIALS** ISSUE FOR COORDINATION **JDH** architects E.F 08.07.20 DRAWING NUMBER REVISION OR THE USABILITY, COMPLETENESS OR SCALE OF 88 YARRABUNG RD, **DETAILS** RAWINGS TRANSFERRED ELECTRONICALLY. Sydney CSK02 **ST. IVES NSW 2075** 1: 400 @ A1 Level 11, 345 George Street, Sydney, N.S.W. 2000 Ph (02) 9241 4188 Email: sydney@northrop.com.au ABN 81 094 433 100 THE COPYRIGHT OF THIS DRAWING REMAINS WITH NORTHROP DRAWINGS NOT TO BE USED FOR CONSTRUCTION UNLESS VERIFICATION SIGNATURE HAS BEEN ADDED CONSULTING ENGINEERS PTY LTD DRAWING SHEET SIZE = A1





**Selected Site Photos** 



**Project Ref:** E31754PT St Ives

Site Address: St Ives High School, Yarrabung Road, St Ives, NSW

Selected Site Photos Dated: 6 July 2020



**Photograph 1:** Looking east along the northern portion of the site within the active construction zone. Imported material is visible in the foreground and as a haul road in the left of the photograph. The siltation ponds and site sheds are visible in the foreground and to the right of the photograph.



**Photograph 2:** Stockpile of gravelly silty clay material in active construction zone portion of site.



**Photographs 3:** Looking west at southern portion of site. Cricket nets visible and temporary volleyballs nets and football goals. Hoarding separating the construction from the remainder of site visible in the right of the photograph.



**Stormwater Underground Services Plan** 

**Sequence No: 99642846** 19873844 Job No:

DIAL BEFORE

Location: Yarrabung Road, St. Ives, NSW 2075

The Essential First Step. OnGrade **OnGra** on and Overview 450 mm OnG cade Recycled Main Irrigation Power Rock Anchor Legend Scale: 1:2050 DISCLAIMER: While reasonable measures has been taken to ensure the accuracy of the information contained in this plan response, neither Ku-ring-gai Council or PelicanCorp shall have House Service Connection Stormwater Main Survey Marker any liability whatsoever in relation to any loss, damage, cost or expense arising from the use of / Easement Stormwater Pit this plan response or the information contained in it or the completeness or accuracy of such information. Use of such information is subject to and constitutes acceptance of these terms. / Land Parcel Electrical (Lighting) Cable

Sewer Main

**Sequence No: 99642846** Job No:

DIAL BEFORE 19873844 Location: Yarrabung Road, St. Ives, NSW 2075 The Essential First Step. OnGrade Tile No: 1 OnGrade OnGrade On**G** ade

Scale: 1:1000

Legend |

OnGlade

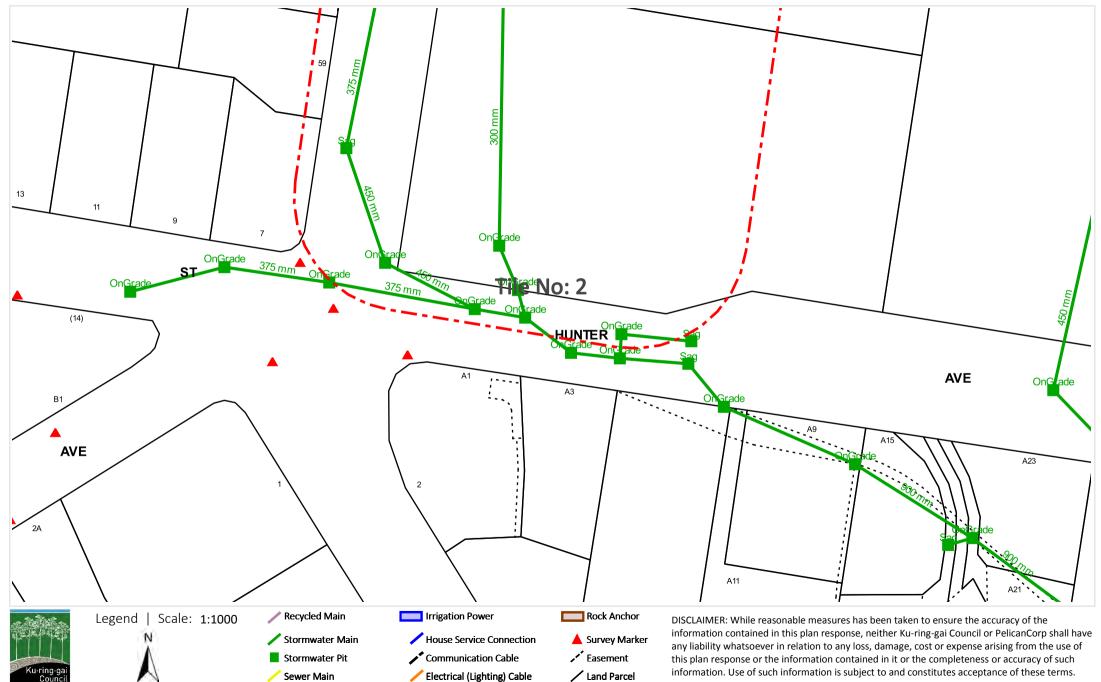
Recycled Main

Sewer Main

**Sequence No: 99642846** 19873844 Job No:

DIAL BEFORE

Location: Yarrabung Road, St. Ives, NSW 2075 The Essential First Step.





**Lotsearch Environmental Risk and Planning Report** 



Date: 16 Aug 2018 16:15:03

Reference: LS004000

Address: St Ives High School, Yarrabung Road, St Ives, NSW 2075

#### Disclaimer:

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

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#### **Location Confidences**

Where Lotsearch has had to georeference features from supplied addresses, a location confidence has been assigned to the data record. This indicates a confidence to the positional accuracy of the feature. Where applicable, a confidence is given under the field heading "LocConf" or "Location Confidence".

<b>Location Confidence</b>	Description
Premise Match	Georeferenced to the site location / premise or part of site
Area 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
Buffered Point	Feature is a buffered point
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	Dept. Finance, Services & Innovation	16/08/2018	16/08/2018	Daily	-	-	-	-
Topographic Data	Dept. Finance, Services & Innovation	17/07/2018	17/07/2018	As required	-	-	-	-
List of NSW contaminated sites notified to EPA	Environment Protection Authority	07/08/2018	02/08/2018	Monthly	1000	0	0	0
Contaminated Land Records of Notice	Environment Protection Authority	01/08/2018	01/08/2018	Monthly	1000	0	0	0
Former Gasworks	Environment Protection Authority	01/08/2018	11/10/2017	Monthly	1000	0	0	0
National Waste Management Site Database	Geoscience Australia	07/08/2018	07/03/2017	Quarterly	1000	0	0	0
EPA PFAS Investigation Program	Environment Protection Authority	07/08/2018	07/08/2018	Monthly	2000	0	0	0
EPA Other Sites with Contamination Issues	Environment Protection Authority	11/01/2018	11/01/2018	As required	1000	0	0	0
Licensed Activities under the POEO Act 1997	Environment Protection Authority	02/08/2018	02/08/2018	Monthly	1000	0	0	0
Delicensed POEO Activities still Regulated by the EPA	Environment Protection Authority	02/08/2018	02/08/2018	Monthly	1000	0	0	0
Former POEO Licensed Activities now revoked or surrendered	Environment Protection Authority	02/08/2018	02/08/2018	Monthly	1000	0	3	3
UPSS Environmentally Sensitive Zones	Environment Protection Authority	14/04/2015	12/01/2010	As required	1000	0	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	0
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	0
UBD Business Directory 1982 (Premise & Intersection Matches)	Hardie Grant			Not required	150	0	0	0
UBD Business Directory 1982 (Road & Area Matches)	Hardie Grant			Not required	150	-	0	0
UBD Business Directory 1978 (Premise & Intersection Matches)	Hardie Grant			Not required	150	0	0	0
UBD Business Directory 1978 (Road & Area Matches)	Hardie Grant			Not required	150	-	0	0
UBD Business Directory 1975 (Premise & Intersection Matches)	Hardie Grant			Not required	150	0	0	0
UBD Business Directory 1975 (Road & Area Matches)	Hardie Grant			Not required	150	-	0	0
UBD Business Directory 1970 (Premise & Intersection Matches)	Hardie Grant			Not required	150	0	0	0
UBD Business Directory 1970 (Road & Area Matches)	Hardie Grant			Not required	150	-	1	1
UBD Business Directory 1965 (Premise & Intersection Matches)	Hardie Grant			Not required	150	0	0	0
UBD Business Directory 1965 (Road & Area Matches)	Hardie Grant			Not required	150	-	1	1
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	-	2	2
UBD Business Directory 1950 (Premise & Intersection Matches)	Hardie Grant			Not required	150	0	0	0
UBD Business Directory 1950 (Road & Area Matches)	Hardie Grant			Not required	150	-	0	0

Dataset Name	Custodian	Supply Date	Currency Date	Update Frequency	Dataset Buffer (m)	No. Features Onsite	No. Features within 100m	No. Features within Buffer
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	0
Points of Interest	Dept. Finance, Services & Innovation	17/07/2018	17/07/2018	Quarterly	1000	1	2	31
Tanks (Areas)	Dept. Finance, Services & Innovation	17/07/2018	17/07/2018	Quarterly	1000	0	0	1
Tanks (Points)	Dept. Finance, Services & Innovation	17/07/2018	17/07/2018	Quarterly	1000	0	0	0
Major Easements	Dept. Finance, Services & Innovation	17/07/2018	17/07/2018	As required	1000	0	0	3
State Forest	Dept. Finance, Services & Innovation	18/01/2018	18/01/2018	As required	1000	0	0	0
NSW National Parks and Wildlife Service Reserves	NSW Office of Environment & Heritage	18/01/2018	30/09/2017		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		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		2000	0	0	32
Geological Units 1:100,000	NSW Dept. of Industry, Resources & Energy	20/08/2014		None planned	1000	2	-	2
Geological Structures 1:100,000	NSW Dept. of Industry, Resources & Energy	20/08/2014		None planned	1000	0	-	0
Naturally Occurring Asbestos Potential	NSW Dept. of Industry, Resources & Energy	04/12/2015	24/09/2015		1000	0	0	0
Soil Landscapes	NSW Office of Environment & Heritage	12/08/2014		None planned	1000	4	-	7
Atlas of Australian Soils	CSIRO	19/05/2017	17/02/2011		1000	2	2	2
Standard Local Environmental Plan Acid Sulfate Soils	NSW Planning and Environment	07/10/2016	07/10/2016		500	1	-	-
Atlas of Australian Acid Sulfate Soils	CSIRO	19/01/2017	21/02/2013	·	1000	2	2	2
Dryland Salinity - National Assessment	National Land and Water Resources Audit	18/07/2014	12/05/2013		1000	0	0	0
Dryland Salinity Potential of Western Sydney	NSW Office of Environment & Heritage	12/05/2017	01/01/2002		1000	-	-	-
Mining Subsidence Districts	Dept. Finance, Services & Innovation	13/07/2017	01/07/2017		1000	0	0	0
SEPP 14 - Coastal Wetlands	NSW Planning and Environment	17/12/2015	24/10/2008		1000	0	0	0
SEPP 26 - Littoral Rainforest	NSW Planning and Environment	17/12/2015	05/02/1988	Annually	1000	0	0	0
SEPP 71 - Coastal Protection	NSW Planning and Environment	17/12/2015	01/08/2003	Annually	1000	0	0	0
SEPP Major Developments 2005	NSW Planning and Environment	09/03/2013	25/05/2005	Under Review	1000	0	0	0
SEPP Strategic Land Use Areas	NSW Planning and Environment	01/08/2017	28/01/2014	Annually	1000	0	0	0
LEP - Land Zoning	NSW Planning and Environment	23/07/2018	29/06/2018	Quarterly	1000	1	5	83
LEP - Minimum Subdivision Lot Size	NSW Planning and Environment	23/07/2018	13/07/2018	Quarterly	0	0	-	-
LEP - Height of Building	NSW Planning and Environment	09/08/2018	22/06/2018	Quarterly	0	0	-	-
LEP - Floor Space Ratio	NSW Planning and Environment	23/07/2018	06/07/2018	Quarterly	0	0	-	-
LEP - Land Application	NSW Planning and Environment	23/07/2018	29/06/2018	Quarterly	0	1	-	-
LEP - Land Reservation Acquisition	NSW Planning and Environment	23/07/2018	13/07/2018	Quarterly	0	0	-	-
State Heritage Items	NSW Office of Environment & Heritage	04/04/2018	30/09/2016	Quarterly	1000	0	0	0

Dataset Name	Custodian	Supply Date	Currency Date	Update Frequency	Dataset Buffer (m)	No. Features Onsite	No. Features within 100m	No. Features within Buffer
Local Heritage Items	NSW Planning and Environment	04/04/2018	23/03/2018	Quarterly	1000	0	0	29
Bush Fire Prone Land	NSW Rural Fire Service	10/05/2018	23/01/2018	Quarterly	1000	1	2	3
Native Vegetation of the Sydney Metropolitan Area	NSW Office of Environment & Heritage	01/03/2017	16/12/2016	As required	1000	3	4	16
RAMSAR Wetlands	Commonwealth of Australia Department of the Environment	08/10/2014	24/06/2011	As required	1000	0	0	0
Groundwater Dependent Ecosystems	Bureau of Meteorology	14/08/2017	15/05/2017	Unknown	1000	0	0	1
Inflow Dependent Ecosystems Likelihood	Bureau of Meteorology	14/08/2017	15/05/2017	Unknown	1000	0	0	3
NSW BioNet Species Sightings	NSW Office of Environment & Heritage	14/08/2018	14/08/2018	Daily	10000	-	-	-

Aerial Imagery 2016
St Ives High School, Yarrabung Road, St Ives, NSW 2075





### **Contaminated Land & Waste Management Facilities**

St Ives High School, Yarrabung Road, St Ives, NSW 2075

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

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

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

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

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

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

### **Contaminated Land & Waste Management Facilities**

St Ives High School, Yarrabung Road, St Ives, NSW 2075

#### **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
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### **EPA PFAS Investigation Program**

St Ives High School, Yarrabung Road, St Ives, NSW 2075

### **EPA PFAS Investigation Program**

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

ld	Site	Address	Location Confidence	Distance	Direction
N/A	No records in buffer				

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

#### **EPA Other Sites with Contamination Issues**

St Ives High School, Yarrabung Road, St Ives, NSW 2075

#### **EPA Other Sites with Contamination Issues**

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

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

Sites within the dataset buffer:

Site	ld	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**

St Ives High School, Yarrabung Road, St Ives, NSW 2075

### **Licensed Activities under the POEO Act 1997**

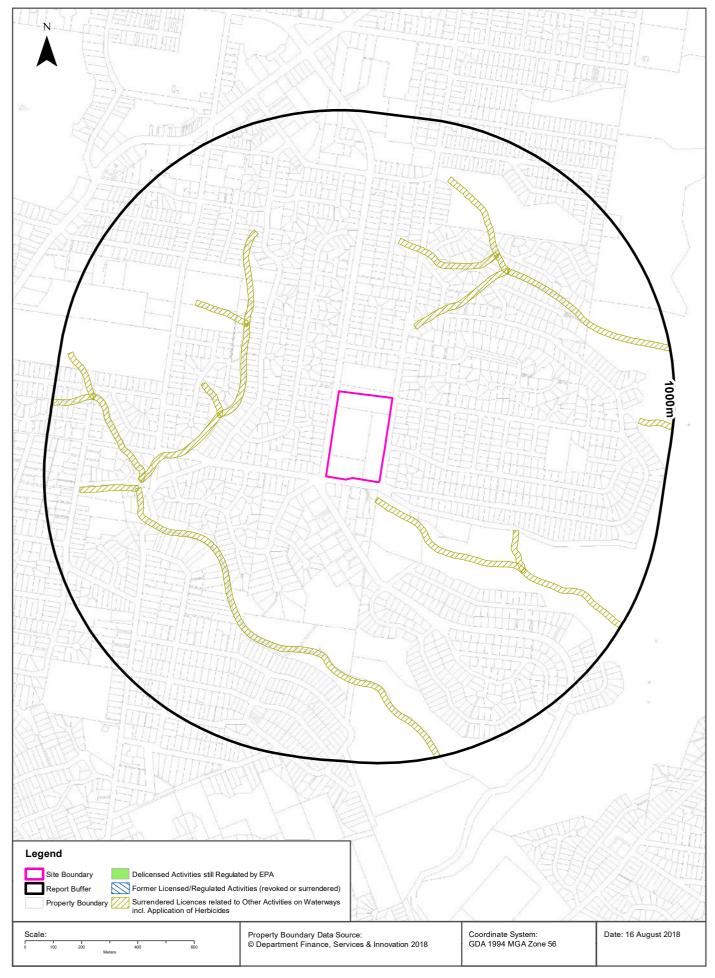
Licensed activities under the Protection of the Environment Operations Act 1997, within the dataset buffer:

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

POEO Licence Data Source: Environment Protection Authority
© State of New South Wales through the Environment Protection Authority

### **Delicensed & Former Licensed EPA Activities**





#### **EPA Activities**

St Ives High School, Yarrabung Road, St Ives, NSW 2075

### **Delicensed Activities still regulated by the EPA**

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

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

Delicensed Activities Data Source: Environment Protection Authority

© State of New South Wales through the Environment Protection Authority

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

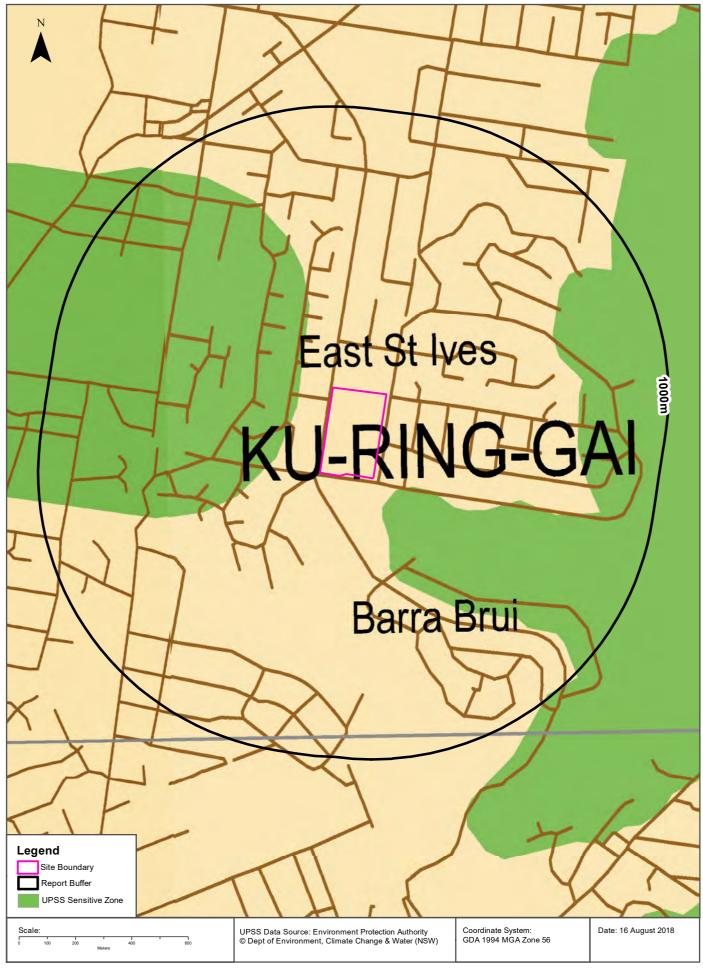
Former Licensed activities under the Protection of the Environment Operations Act 1997, now revoked or surrendered, within the dataset buffer:

Licence No	Organisation	Location	Status	Issued Date	Activity	Loc Conf	Distance	Direction
4653	LUHRMANN ENVIRONMENT MANAGEMENT PTY LTD	WATERWAYS THROUGHOUT NSW	Surrendered		Other Activities / Non Scheduled Activity - Application of Herbicides	Network of Features	54m	-
4838	Robert Orchard	Various Waterways throughout New South Wales - SYDNEY NSW 2000	Surrendered		Other Activities / Non Scheduled Activity - Application of Herbicides	Network of Features	54m	-
6630	SYDNEY WEED & PEST MANAGEMENT PTY LTD	WATERWAYS THROUGHOUT NSW - PROSPECT, NSW, 2148	Surrendered		Other Activities / Non Scheduled Activity - Application of Herbicides	Network of Features	54m	-

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

#### **UPSS Sensitive Zones**





St Ives High School, Yarrabung Road, St Ives, NSW 2075

## 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:

<b>Business Activity</b>	Premise	Ref No.	Location Confidence	Distance to Feature Point	Direction
N/A	No records in buffer				

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

### 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:

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

St Ives High School, Yarrabung Road, St Ives, NSW 2075

## 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:

<b>Business Activity</b>	Premise	Ref No.	Location Confidence	Distance to Feature Point	Direction
N/A	No records in buffer				

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

### 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:

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

St Ives High School, Yarrabung Road, St Ives, NSW 2075

### 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:

<b>Business Activity</b>	Premise	Ref No.	Location Confidence	Distance to Feature Point	Direction
N/A	No records in buffer				

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

### 1982 Business Directory Records Road or Area Matches

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

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

St Ives High School, Yarrabung Road, St Ives, NSW 2075

## 1978 Business Directory Records Premise or Road Intersection Matches

Records from the 1978 UBD Business Directory, mapped to a premise or road intersection, within the dataset buffer:

<b>Business Activity</b>	Premise	Ref No.	Location Confidence	Distance to Feature Point	Direction
N/A	No records in buffer				

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

### 1978 Business Directory Records Road or Area Matches

Records from the 1978 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:

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

St Ives High School, Yarrabung Road, St Ives, NSW 2075

# 1975 Business Directory Records Premise or Road Intersection Matches

Records from the 1975 UBD Business Directory, mapped to a premise or road intersection, within the dataset buffer:

<b>Business Activity</b>	Premise	Ref No.	Location Confidence	Distance to Feature Point	Direction
N/A	No records in buffer				

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

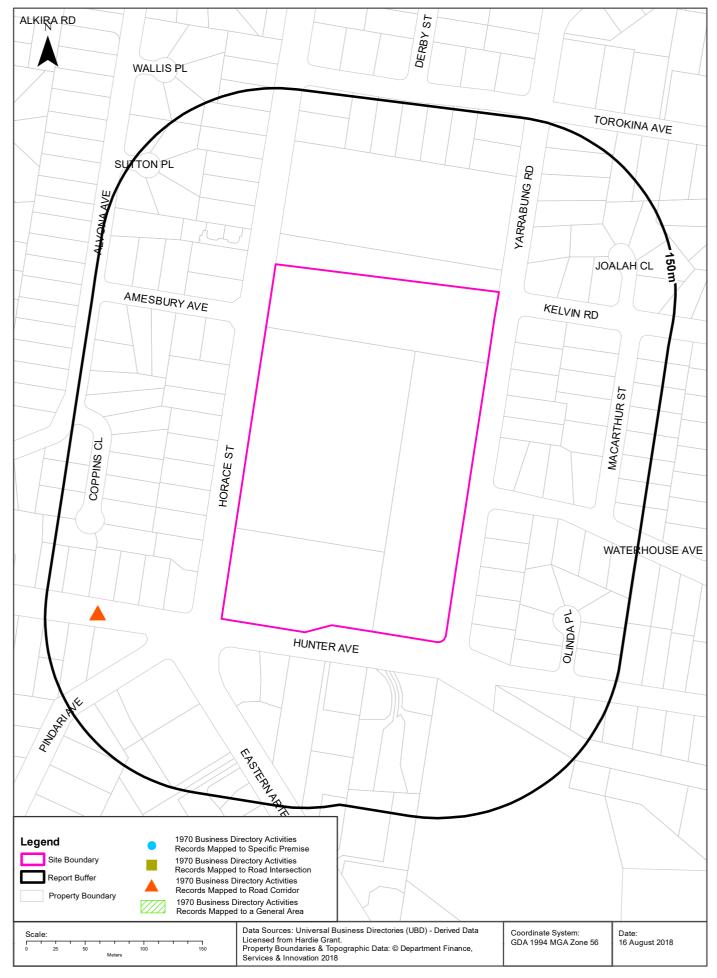
## 1975 Business Directory Records Road or Area Matches

Records from the 1975 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:

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

### **1970 Historical Business Directory Records**





St Ives High School, Yarrabung Road, St Ives, NSW 2075

## 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:

<b>Business Activity</b>	Premise	Ref No.	Location Confidence	Distance to Feature Point	Direction
N/A	No records in buffer				

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

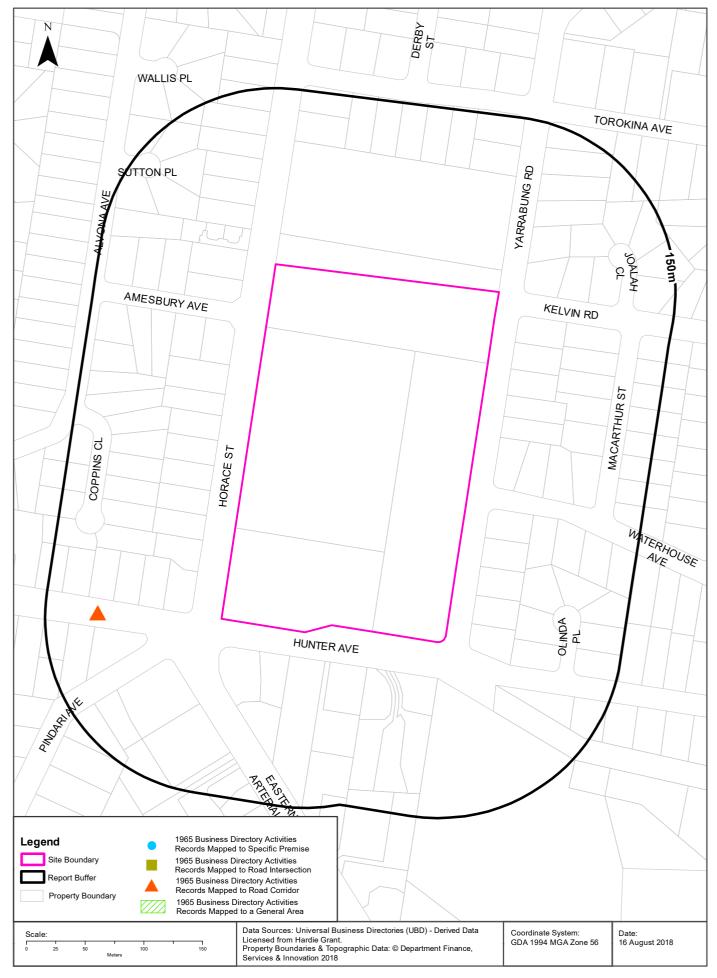
### 1970 Business Directory Records Road or Area Matches

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

<b>Business Activity</b>	Premise	Ref No.		Distance to Road Corridor or Area
BUILDERS & CONTRACTORS (B800)	Degotardi, J.B., Eucalyptus Rd., St. Ives	270070	Road Match	56m

# 1965 Historical Business Directory Records St Ives High School, Yarrabung Road, St Ives, NSW 2075





St Ives High School, Yarrabung Road, St Ives, NSW 2075

## 1965 Business Directory Records Premise or Road Intersection Matches

Records from the 1965 UBD Business Directory, mapped to a premise or road intersection, within the dataset buffer:

<b>Business Activity</b>	Premise	Ref No.	Location Confidence	Distance to Feature Point	Direction
N/A	No records in buffer				

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

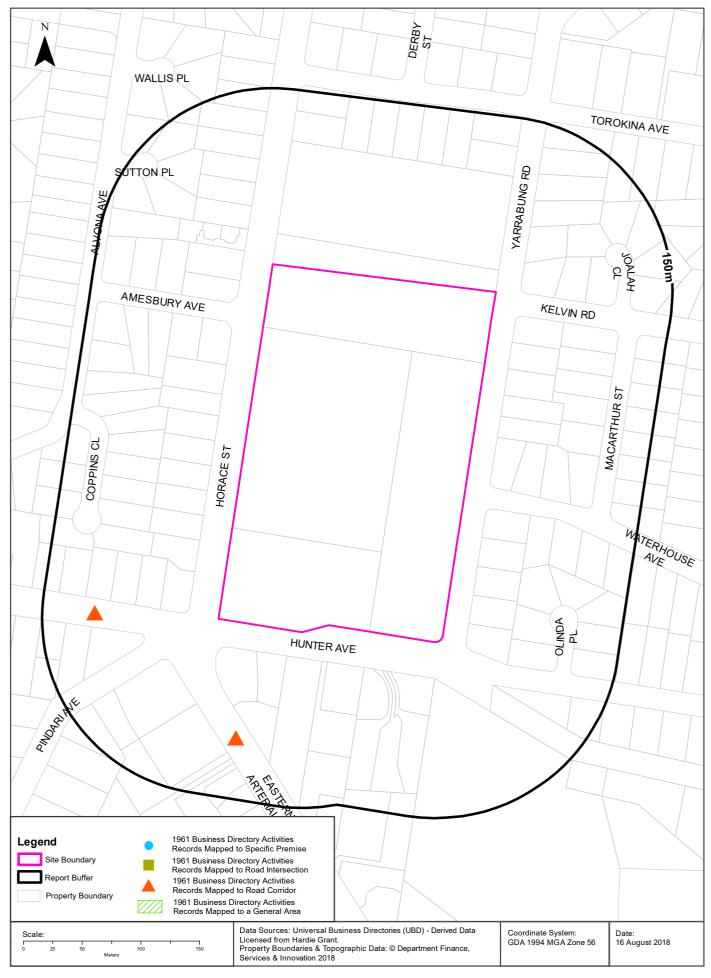
## 1965 Business Directory Records Road or Area Matches

Records from the 1965 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:

<b>Business Activity</b>	Premise	Ref No.		Distance to Road Corridor or Area
Builders & Contractors	Degotardi, J. B., Eucalyptus Rd., St. Ives	55237	Road Match	56m

### **1961 Historical Business Directory Records**





St Ives High School, Yarrabung Road, St Ives, NSW 2075

### 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:

<b>Business Activity</b>	Premise	Ref No.	Location Confidence	Distance to Feature Point	Direction
N/A	No records in buffer				

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

## 1961 Business Directory Records Road or Area Matches

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

<b>Business Activity</b>	Premise	Ref No.	Location Confidence	Distance to Road Corridor or Area
ARCHITECTS	Willsford, P. C, "Cedrella," Arterial Rd., St. Ives	268593	Road Match	45m
BUILDERS & CONTRACTORS- (M.M.B.A.)	Degotardi, J. B., Eucalyptus Rd., St. Ives	277030	Road Match	56m

St Ives High School, Yarrabung Road, St Ives, NSW 2075

### 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:

<b>Business Activity</b>	Premise	Ref No.	Location Confidence	Distance to Feature Point	Direction
N/A	No records in buffer				

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

### 1950 Business Directory Records Road or Area Matches

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

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

St Ives High School, Yarrabung Road, St Ives, NSW 2075

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

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

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

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

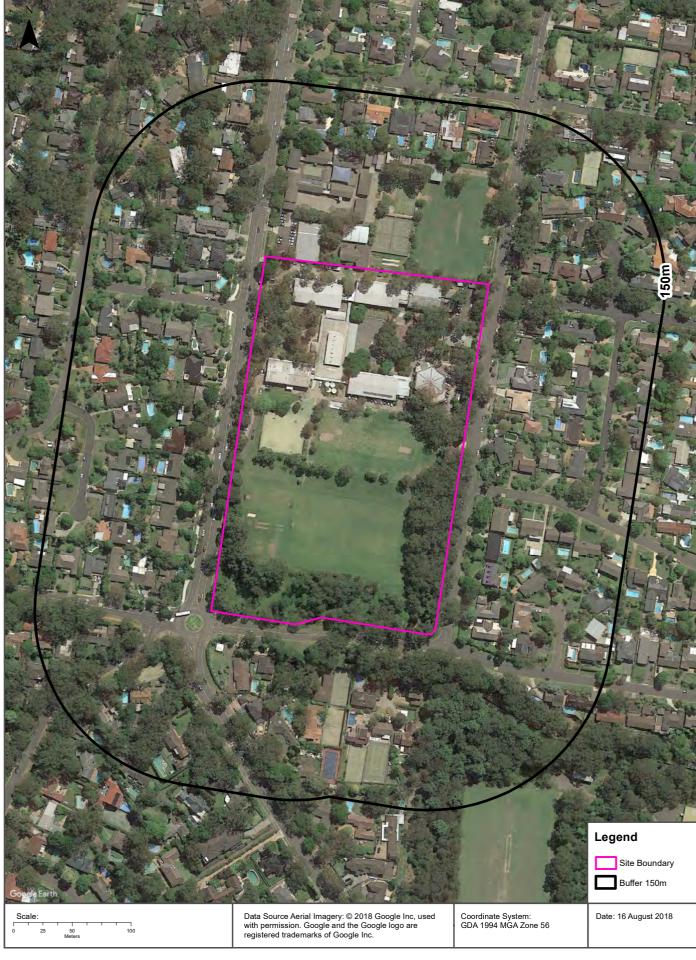
## **Dry Cleaners, Motor Garages & Service Stations Road or Area Matches**

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

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

### **Aerial Imagery 2015**





### **Aerial Imagery 2009**





### **Aerial Imagery 2005**





Aerial Imagery 1991 St Ives High School, Yarrabung Road, St Ives, NSW 2075





Aerial Imagery 1982 St Ives High School, Yarrabung Road, St Ives, NSW 2075



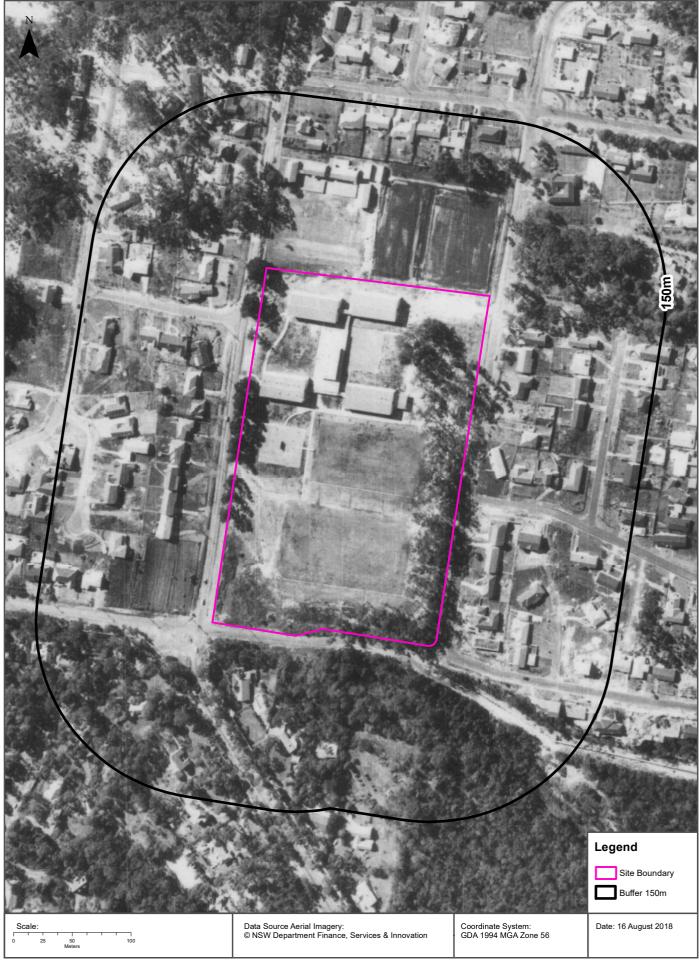


**Aerial Imagery 1970** St Ives High School, Yarrabung Road, St Ives, NSW 2075





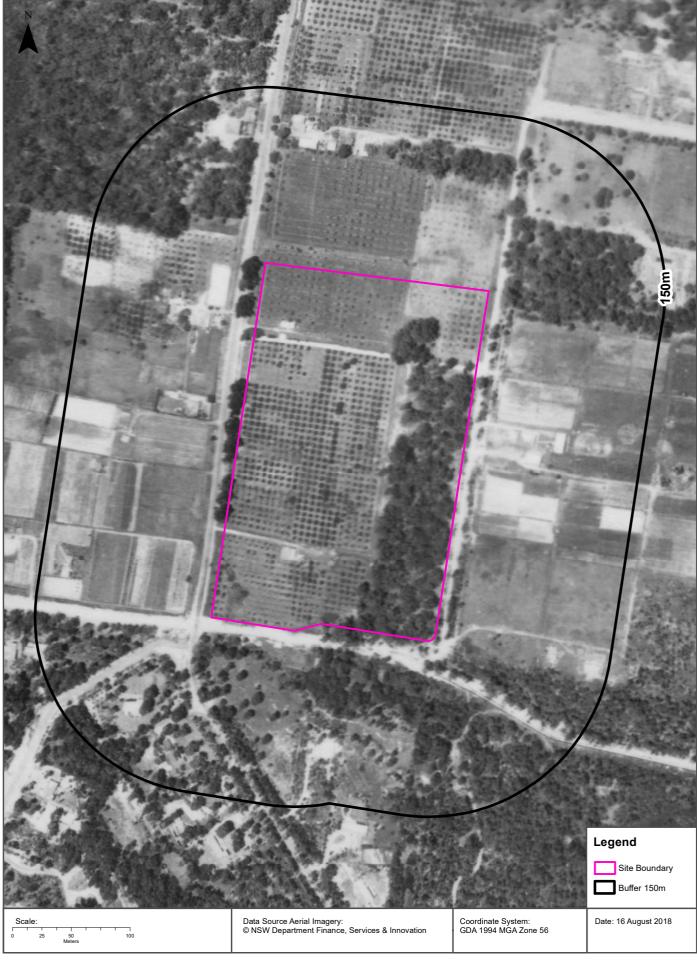




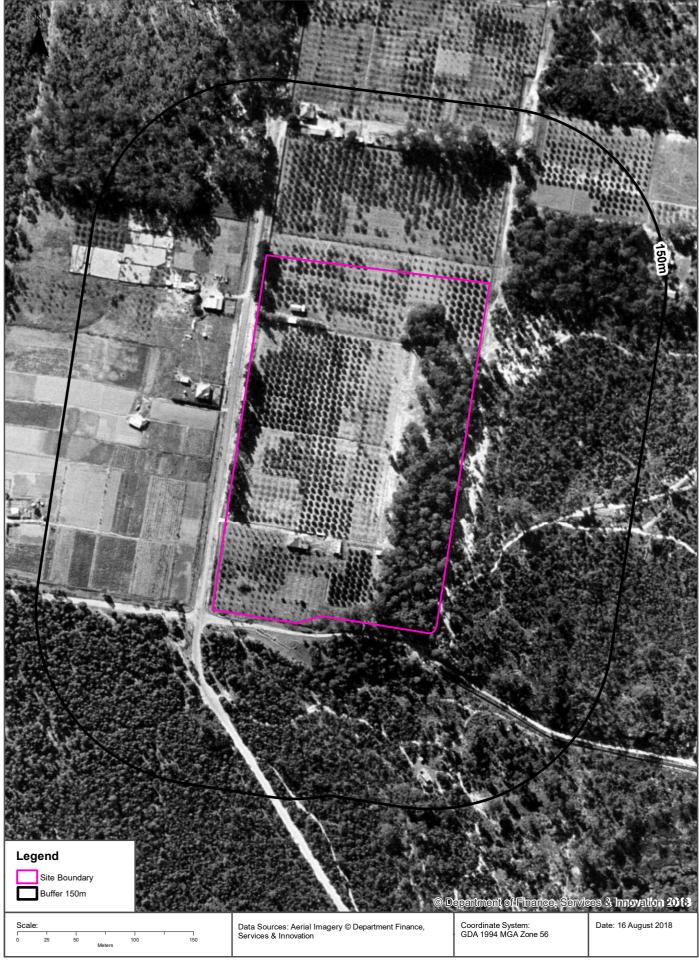






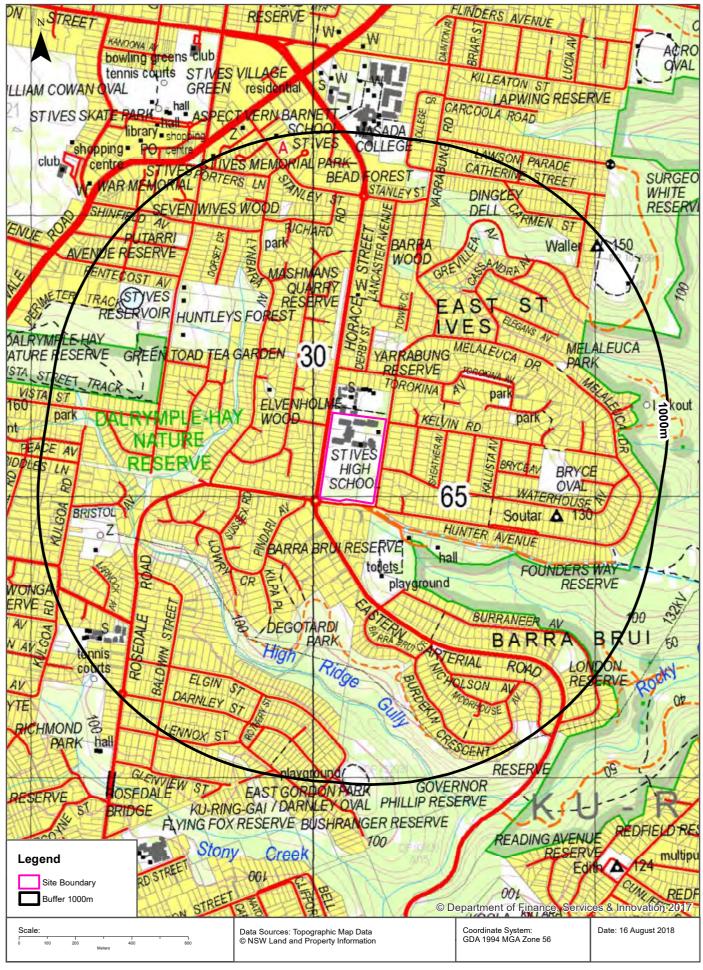






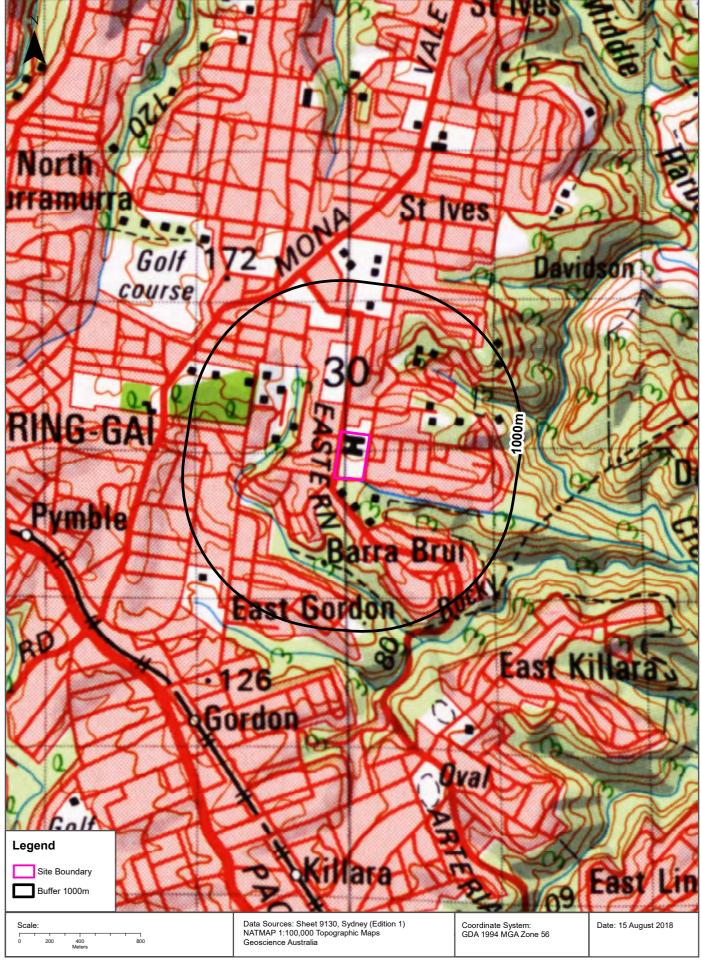
#### **Topographic Map 2015**





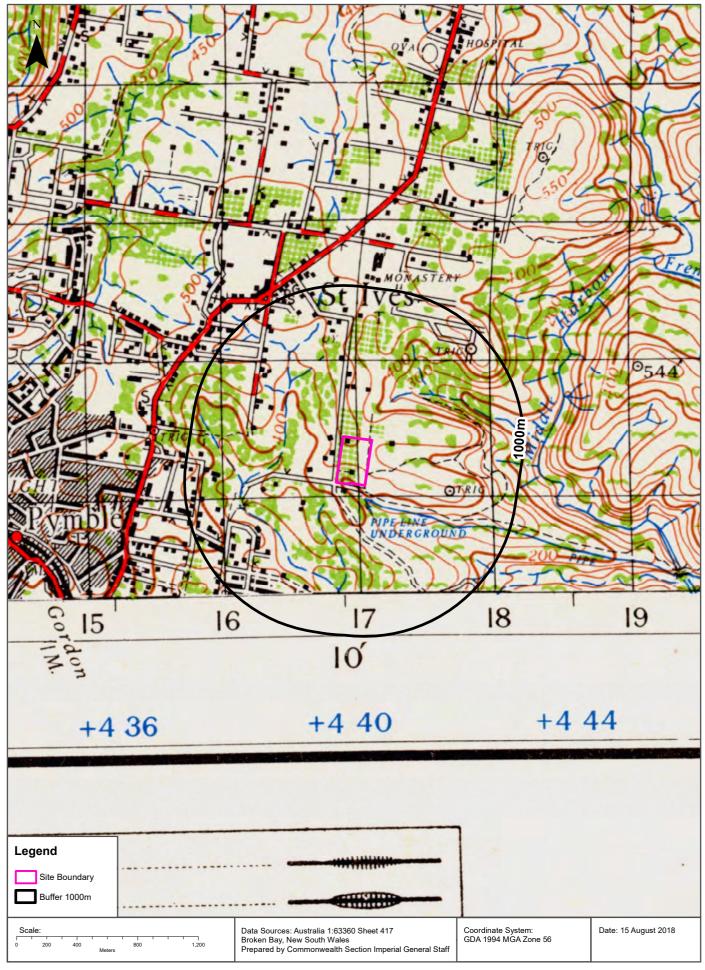
## **Historical Map 1975**





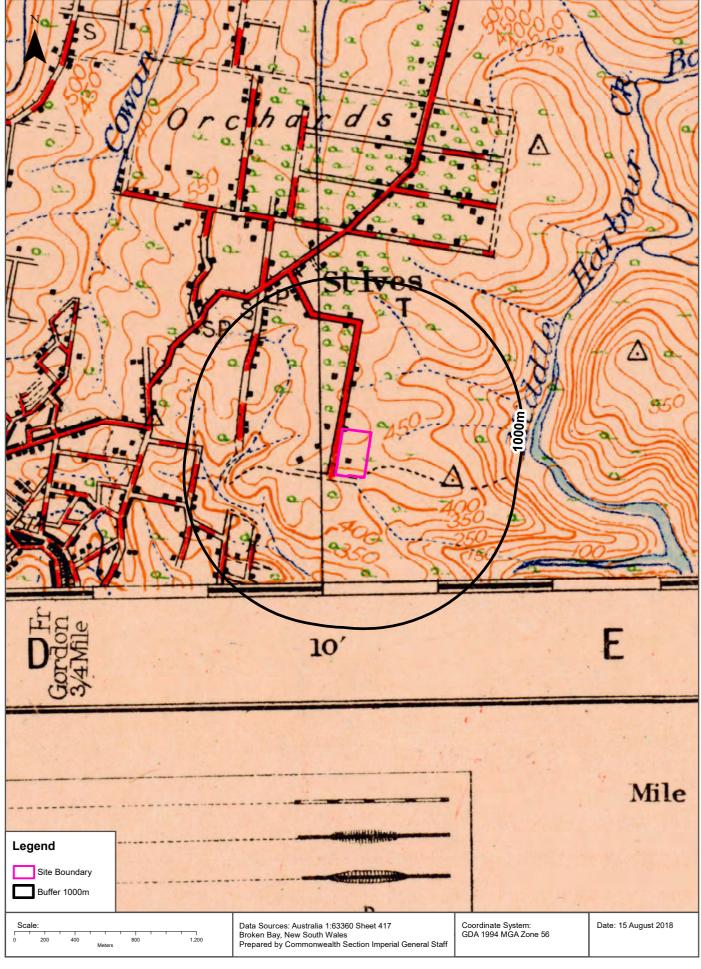
## **Historical Map 1942**





## **Historical Map 1920**

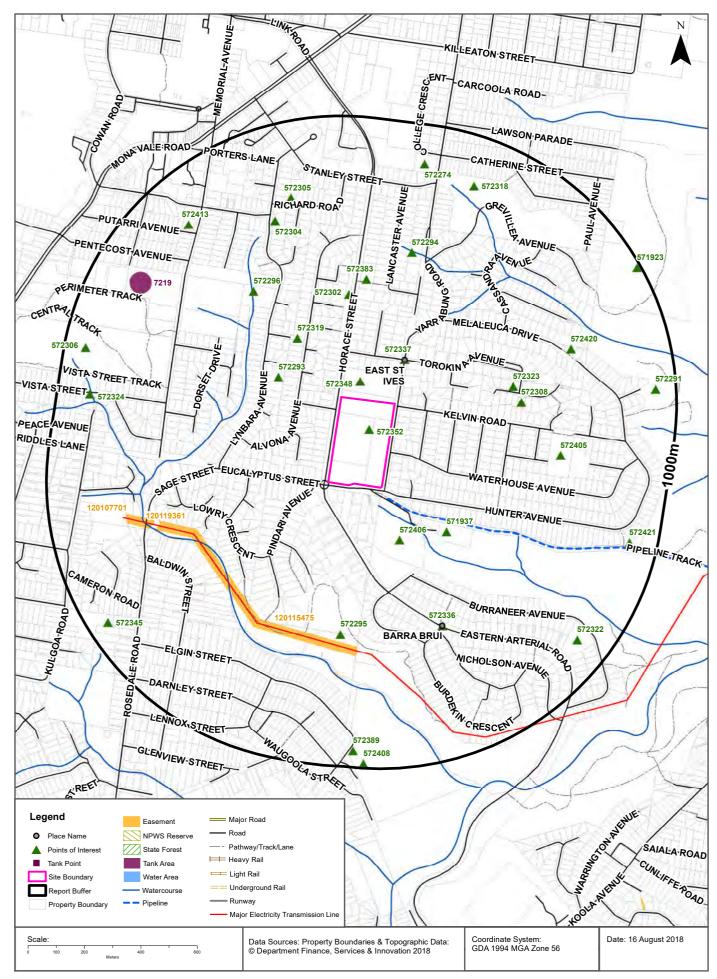




## **Topographic Features**







# **Topographic Features**

St Ives High School, Yarrabung Road, St Ives, NSW 2075

## **Points of Interest**

What Points of Interest exist within the dataset buffer?

Map Id	Feature Type	Label	Distance	Direction			
572352	High School	ST IVES HIGH SCHOOL	0m	Onsite			
572348	Primary School	ST IVES PUBLIC SCHOOL	64m	North			
572337	Locality	ality EAST ST IVES					
572406	Sports Field	BARRA BRUI RESERVE	198m	South			
572293	Park	ELVENHOLME WOOD	234m	North West			
572319	Park	GREEN TOAD TEA GARDEN	261m	North West			
571937	Community Facility	BARRA BRUI SCOUT HALL	280m	South East			
572302	Park	MASHMANS QUARRY RESERVE	366m	North			
572323	Park	Park	424m	East			
572383	Place Of Worship	COMMUNITY CHURCH CHRISTIAN BRETHRAN	427m	North			
572308	Park	Park	448m	East			
572296	Park	HUNTLEYS FOREST	488m	North West			
572295	Park	DEGOTARDI PARK	531m	South			
572336	Locality	BARRA BRUI	537m	South East			
572294	Park	BARRA WOOD	542m	North			
572405	Sports Field	BRYCE OVAL	609m	East			
572420	Park	MELALEUCA PARK	654m	North East			
572304	Park	Park	670m	North			
572305	Park	SEVEN WIVES WOOD	731m	North			
572413	Park	PUTARRI AVENUE RESERVE	818m	North West			
572318	Park	DINGLEY DELL	823m	North East			
572274	Park	BEAD FOREST	860m	North			
572322	Park	LONDON RESERVE	881m	South East			
572324	Park	Park	883m	West			
572421	Park	FOUNDERS WAY RESERVE	899m	East			
572306	Park	DALRYMPLE HAY NATURE RESERVE	923m	West			
572291	Lookout	Lookout	926m	East			
572345	Primary School	GORDON EAST PUBLIC SCHOOL	927m	South West			
572389	Park	PLAYGROUND	941m	South			
572408	Sports Field	EAST GORDON PARK / DARNLEY OVAL	983m	South			

Map Id	Feature Type	Label	Distance	Direction	
571923	Community Facility	AVONDALE PONY CLUB	986m	North East	

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

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## **Topographic Features**

St Ives High School, Yarrabung Road, St Ives, NSW 2075

## 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
7219	Water	Operational	ST IVES RESERVOIR	01/01/2009	780m	North West

## **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	<b>Easement Class</b>	sement Class Easement Type Easement Width		Distance	Direction
120119361	Primary	Undefined		480m	South West
120115475	Primary	Undefined		484m	South
120107701	Primary	Undefined		635m	West

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

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# **Topographic Features**

St Ives High School, Yarrabung Road, St Ives, NSW 2075

#### **State Forest**

What State Forest exist within the dataset buffer?

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

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

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#### **National Parks and Wildlife Service Reserves**

What NPWS Reserves exist within the dataset buffer?

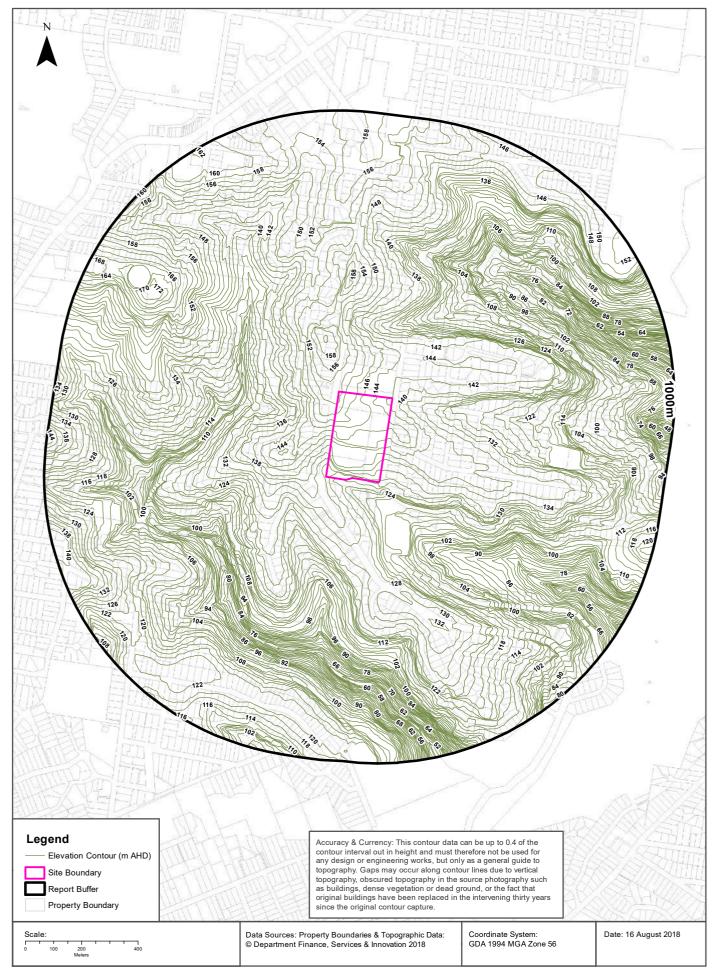
Reserve Number	Reserve Type	Reserve Name	<b>Gazetted Date</b>	Distance	Direction
N/A	No records in buffer				

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

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## **Elevation Contours (m AHD)**





# **Hydrogeology & Groundwater**

St Ives High School, Yarrabung Road, St Ives, NSW 2075

## **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**

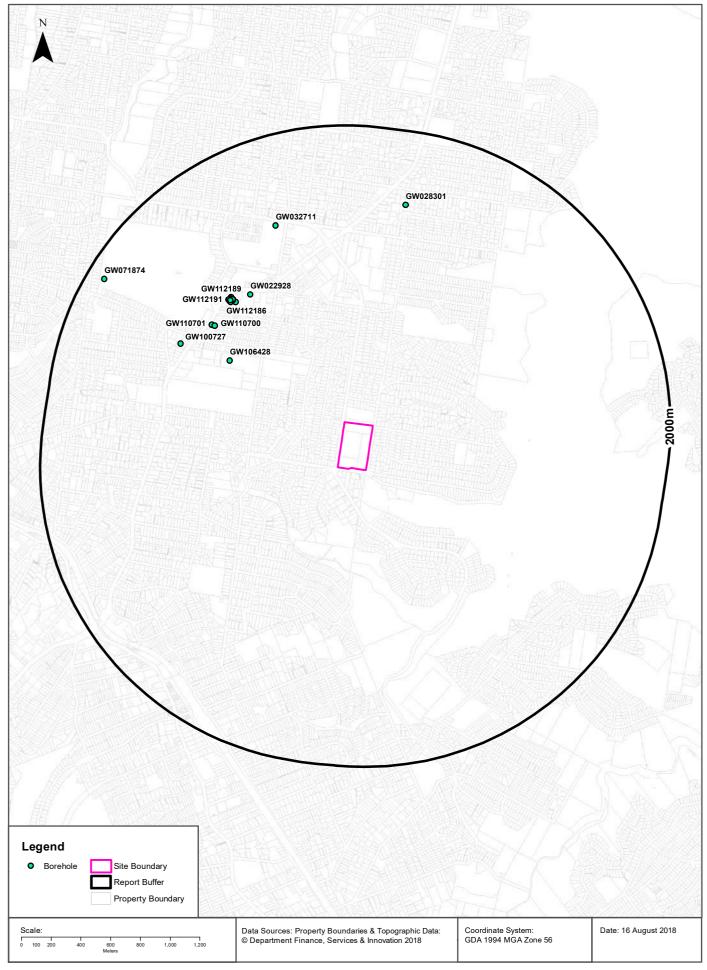
Groundwater management zones relating to the Botany Sand Beds aquifer within the dataset buffer:

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

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

## **Groundwater Boreholes**





# **Hydrogeology & Groundwater**

St Ives High School, Yarrabung Road, St Ives, NSW 2075

## **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)		Salinity (mg/L)	SWL (m)		Elev (AHD)	Dist	Dir
GW106 428	10BL163 470, 10WA10 8742	Bore	Private	Domestic, Stock	Domestic, Stock		29/09/2007	180.00	180.00	810	67.0 0	0.150		874m	North West
GW022 928	10BL016 460	Bore	Private	Irrigation	General Use		01/03/1958	50.20	50.30	Good				1068m	North West
GW110 700	10BL603 198	Well	Private	Monitoring Bore	Monitoring Bore		31/07/2009	7.00	7.00		5.30			1087m	North West
GW112 192	10BL161 283	Bore	Private	Monitoring Bore	Monitoring Bore		31/01/2003	6.00	6.00					1091m	North West
GW110 701	10BL603 198	Well	Private	Monitoring Bore	Monitoring Bore		31/07/2009	7.00	7.00		5.30			1107m	North West
GW112 185	10BL161 283	Bore	Private	Monitoring Bore	Monitoring Bore		30/01/2003	6.00	6.00					1110m	North West
GW112 194	10BL161 283	Bore	Private	Monitoring Bore	Monitoring Bore		30/01/2003	6.00	6.00					1113m	North West
GW103 901	10BL159 957	Bore		Monitoring Bore	Monitoring Bore		10/10/2000	3.50	3.50					1117m	North West
GW103 899	10BL159 957	Bore		Monitoring Bore	Monitoring Bore		10/10/2000	5.00	5.00					1117m	North West
GW103 896	10BL159 957	Bore		Monitoring Bore	Monitoring Bore		09/10/2000	3.50	3.50					1117m	North West
GW103 904	10BL159 957	Bore		Monitoring Bore	Monitoring Bore		15/10/1998		4.00					1117m	North West
GW103 905	10BL159 957	Bore		Monitoring Bore	Monitoring Bore		15/10/1998		4.00					1117m	North West
GW103 902	10BL159 957	Bore		Monitoring Bore	Monitoring Bore		11/10/2000	3.50	3.50					1117m	North West
GW103 897	10BL159 957	Bore		Monitoring Bore	Monitoring Bore		09/10/2000	3.50	3.50					1117m	North West
GW103 895	10BL159 957	Bore		Monitoring Bore	Monitoring Bore		09/10/2000	3.50	3.50					1117m	North West
GW103 906	10BL159 957	Bore		Monitoring Bore	Monitoring Bore		15/10/1998	4.00	4.00					1117m	North West
GW112 187	10BL161 283	Bore	Private	Monitoring Bore	Monitoring Bore		30/01/2003	6.00	6.00					1117m	North West
GW103 900	10BL159 957	Bore		Monitoring Bore	Monitoring Bore		10/10/2000	3.50	3.50					1117m	North West
GW103 898	10BL159 957	Bore		Monitoring Bore	Monitoring Bore		10/10/2000	0.50	0.50					1117m	North West
GW103 903	10BL159 957	Bore		Monitoring Bore	Monitoring Bore		11/10/2000	1.00	1.00					1117m	North West
GW103 907	10BL159 957	Bore		Monitoring Bore	Monitoring Bore		14/10/1998	3.50	3.50					1117m	North West
GW103 894	10BL159 957	Bore		Monitoring Bore	Monitoring Bore		09/10/2000	3.50	3.50					1117m	North West
GW112 188	10BL161 283	Bore	Private	Monitoring Bore	Monitoring Bore		30/01/2003	6.00	6.00					1122m	North West
GW112 186	10BL161 283	Bore	Private	Monitoring Bore	Monitoring Bore		30/01/2003	6.00	6.00					1123m	North West
GW112 193	10BL161 283	Bore	Private	Monitoring Bore	Monitoring Bore		30/01/2003	6.00	6.00					1133m	North West
GW112 190	10BL161 283	Bore	Private	Monitoring Bore	Monitoring Bore		31/01/2003	6.00	6.00					1134m	North 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)		Elev (AHD)	Dist	Dir
GW112 189	10BL161 283	Bore	Private	Monitoring Bore	Monitoring Bore		31/01/2003	6.00	6.00					1134m	North West
GW112 191	10BL161 283	Bore	Private	Monitoring Bore	Monitoring Bore		31/01/2003	6.00	6.00					1135m	North West
GW100 727	10BL157 820, 10WA10 8387	Bore	Private	Domestic	Domestic		06/12/1996	140.00	140.00	1050	72.0 0	0.300		1220m	North West
GW032 711	10BL019 887	(Unkn own)	Private	Irrigation	Irrigation		01/01/1966	42.60	42.70					1403m	North
GW028 301	10BL016 162, 10WA10 8119	Bore open thru rock	Private	Domestic	General Use		01/03/1966	68.50	68.60					1504m	North
GW071 874	10BL153 808, 10CA10 9357	Bore	Private	Irrigation, Recreation (groundwater )	Irrigation, Recreation (groundwate r)		01/03/1994	46.00	46.00	440	3.00	12.00	130.0 0	1880m	North 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**

St Ives High School, Yarrabung Road, St Ives, NSW 2075

# **Driller's Logs**

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

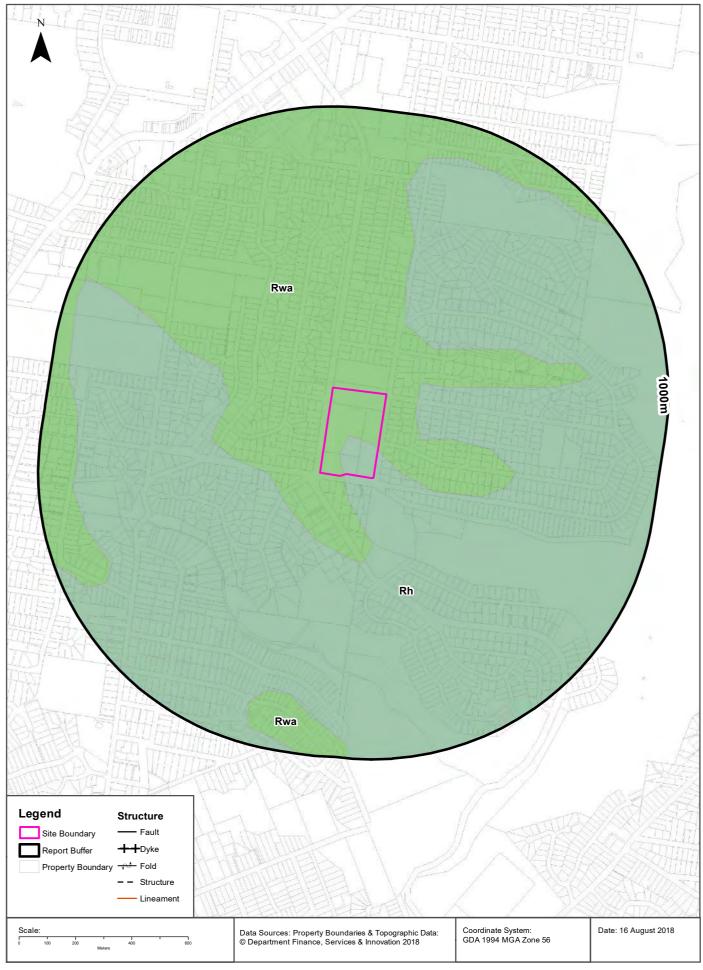
Groundwater No	Drillers Log	Distance	Direction
GW106428	0.00m-2.40m clay, brown red 2.40m-6.30m sandstone, brown 6.30m-15.00m shale, grey weathered 15.00m-34.60m shale, grey harder 34.60m-40.50m sandstone, grey 40.50m-40.70m clay, white 40.70m-49.00m sandstone, grey 49.00m-49.50m sandstone, fine quartiz 49.50m-79.80m sandstone, grey 79.80m-80.20m clay, light grey 80.20m-96.50m sandstone, grey 96.50m-96.60m sandstone, grey 96.50m-97.00m sandstone, grey 127.00m-127.50m sandstone, grey	874m	North West
GW022928	0.00m-3.04m Loam 3.04m-6.09m Clay White Red 6.09m-9.14m Clay White Shaley 9.14m-12.19m Clay White Red 12.19m-18.28m Shale Grey Water Supply 18.28m-24.38m Sandstone Shaley Water Supply 24.38m-27.43m Shale Grey 27.43m-39.62m Sandstone Cream Water Supply 27.43m-39.62m Shale Grey 39.62m-48.76m Shale Grey Water Supply 48.76m-50.29m Sandstone White	1068m	North West
GW110700	0.00m-0.70m CONCRETE 0.70m-0.80m FILL 0.80m-3.00m CLAY GREY BROWN, HARD 3.00m-5.50m SHALE GREY/ CLAY 5.50m-7.00m SHALE WEATHERED / GREY	1087m	North West
GW110701	0.00m-0.70m CONCRETE 0.70m-0.80m FILL 0.80m-3.00m CLAY GREY BROWN HARD 3.00m-5.50m SHALE GREY/ CLAY 5.50m-7.00m SHALE GREY/ WEATHERED	1107m	North West
GW103894	0.00m-0.15m CONCRETE 0.15m-1.00m SILTY SAND 1.00m-2.00m SILTY CLAY 2.00m-3.50m CLAY,ORANGE AND GREY	1117m	North West
GW103895	0.00m-1.20m GRAVELLY SAND 1.20m-1.50m FILL/CLAY,ORANGE 1.50m-3.50m CLAY,ORANGE,GREY,VERY STIFF	1117m	North West
GW103896	0.00m-1.10m fill,sandy clay,medium plasticity,orange brown 1.10m-3.50m clay,grey, stiff,weathred rock	1117m	North West
GW103897	0.00m-1.50m FILL,TOPSOIL,DARK BROWN,SILTY SAND 1.50m-3.50m CLAY,GREY WITH WEATHERED ROCK	1117m	North West
GW103898	0.00m-0.10m BITUMEN 0.10m-0.50m FILL,SILTY SAND,BROWN,DAMP,GRAVEL	1117m	North West
GW103899	0.00m-1.00m FILL/SAND CLAY:GREY/GREEN 1.00m-5.00m CLAY/SILTY CLAY,GREY,STIFF,MOIST	1117m	North West
GW103900	0.00m-1.50m FILL,SANDY CLAY,ORANGE/BROWN 1.50m-3.50m CLAY,PINK/OARNGE,VERY STIFF	1117m	North West
GW103901	0.00m-1.00m FILL:SILTY SAND/CLAYEY/GREEN BROWN 1.00m-3.50m SILTY CLAY:GREENY BROWN,SHALE	1117m	North West
GW103902	0.00m-0.50m ASPALTH/FILL,SAND,DARK BROWN 0.50m-3.50m SILTY CLAY-ORANGE BROWN,GREY,HARD	1117m	North West

Groundwater No	Drillers Log	Distance	Direction
GW103903	0.00m-0.10m TOPSOIL,SILTY SAND 0.10m-1.00m SILTY CLAY,ORANGE BROWN	1117m	North West
GW103904	0.00m-1.00m FILL:SANDY CLAYEY SILT 1.00m-1.80m CONCRETE 1.80m-2.20m SILTY SAND 2.20m-4.00m SANDY CLAYEY SILT:NON PLASTIC	1117m	North West
GW103905	0.00m-0.10m FILL:CLAYEY SANDY SILT 0.10m-2.00m CLAYEY SANDY SILT 2.00m-2.10m SILTY SAND 2.10m-3.00m CLAYEY SANDY SILT 3.00m-4.00m CLAYEY SANDY SILT AS ABOVE,BEC. PEATY	1117m	North West
GW103906	0.00m-0.10m ASPHALT 0.10m-0.20m FILL:ROADBASE 0.20m-0.40m FILL:SANDSTONE, VERY WEATHERED, RED 0.40m-0.80m FILL, SANDSTONE, WHITE 0.80m-2.20m CLAY:MEDIUM TO FIRM 2.20m-4.00m CLAY:MEDIUM TO FIRM	1117m	North West
GW103907	0.00m-0.40m FILL:SILT,SAND AND GRAVEL 0.40m-2.00m CLAY:STIFF/YELLO/ORANGE 2.00m-3.50m CLAYEY SAND,ORANGE BROWN	1117m	North West
GW100727	0.00m-0.40m TOPSOIL 0.40m-2.80m DARK RED CLAY 2.80m-15.30m LIGHT GREY CLAY 15.30m-44.10m SHALE, DARK GREY SOME FRACTURED ZONES 44.10m-48.00m SANSTONE LIGHT GREY F.G. CEMENTED 48.00m-55.00m SANDSTONE LIGHT GREY M.G. CEMENTED 55.00m-57.40m SHALE, DARK GREY 57.40m-59.60m SANDSTONE LIGHT GREY C.G. 59.60m-61.40m SANDSTONE LIGHT GREY QUARTZ MATRIX 61.40m-63.20m SHALE DARK GREY 63.20m-69.50m SANDSTONE, LIGHT GREY MED. GRAIN 69.50m-75.10m SHALE DARK GREY 75.10m-80.00m SANDSTONE, LIGHT GREY F.G. CEMENTED 80.00m-82.60m SANDSTONE, LIGHT GREY F.G. CEMENTED 80.00m-82.60m SANDSTONE, LIGHT GREY F.G. 88.80m-96.00m SHALE DARK GREY 190.00m-113.00m SANDSTONE, LIGHT GREY F.G. 113.00m-120.30m SHALE DARK GREY 120.30m-121.10m SADNSTONE LIGHT GREY F.G. CEMENTED 121.10m-123.40m SANDSTONE LIGHT GREY F.G. CEMENTED 129.30m-130.60m SANDSTONE, SHALE CROSS-BED 130.60m-133.30m SHALE DARK GREY	1220m	North West
GW032711	0.00m-42.67m Clay Nominal 0.00m-42.67m Shale Nominal 0.00m-42.67m Sandstone Nominal	1403m	North
GW028301	0.00m-0.91m Clay 0.91m-6.70m Clay Light Brown Yellow 6.70m-8.83m Shale Grey 6.70m-8.83m Clay Seams 8.83m-18.28m Shale Dark Brown Sticky 18.28m-25.90m Sandstone Medium 25.90m-31.39m Sandstone Grey 25.90m-31.39m Shale Bands 31.39m-32.91m Shale Grey 32.91m-38.10m Sandstone Cream Traces 32.91m-38.10m Shale 38.10m-39.62m Sandstone Cream Soft 39.62m-44.19m Sandstone Hard 44.19m-50.29m Sandstone Grey 50.29m-50.90m Sandstone Grey 50.90m-51.81m Sandstone Grey Shale Water Supply 51.81m-68.58m Sandstone Grey Water Supply	1504m	North
GW071874	0.00m-4.00m clay 4.00m-5.00m sandstone, wthed 5.00m-8.00m sandstone, fine 8.00m-9.00m shale 9.00m-12.00m sandstone, med course 12.00m-15.00m sandstone, grey course grain (fractures) 15.00m-20.00m sandstone, grey med fine 20.00m-46.00m sandstone, fine grain	1880m	North West

Drill Log Data Source: NSW Department of Primary Industries - Office of Water / Water Administration Ministerial Corp Creative Commons 3.0 © Commonwealth of Australia http://creativecommons.org/licenses/by/3.0/au/deed.en

**Geology 1:100,000** St Ives High School, Yarrabung Road, St Ives, NSW 2075





# Geology

St Ives High School, Yarrabung Road, St Ives, NSW 2075

# **Geological Units**

What are the Geological Units onsite?

Symbol	Description	Unit Name	Group	Sub Group	Age	Dom Lith	Map Sheet	Dataset
Rh	Medium to coarse grained quartz sandstone, very minor shale and laminate lenses				Triassic		Sydney	1:100,000
Rwa	Black to dark grey shale and laminate	Ashfield Shale	Wianamatta Group		Triassic		Sydney	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
Rh	Medium to coarse grained quartz sandstone, very minor shale and laminate lenses				Triassic		Sydney	1:100,000
Rwa	Black to dark grey shale and laminate	Ashfield Shale	Wianamatta Group		Triassic		Sydney	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
No features				1:100,000

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

© State of New South Wales through the NSW Department of Industry, Resources & Energy

# **Naturally Occurring Asbestos Potential**

St Ives High School, Yarrabung Road, St Ives, NSW 2075

# **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**





## Soils

St Ives High School, Yarrabung Road, St Ives, NSW 2075

# **Soil Landscapes**

What are the onsite Soil Landscapes?

Soil Code	Name	Group	Process	Map Sheet	Scale
COha	HAWKESBURY		COLLUVIAL	Sydney	1:100,000
ERgn	GLENORIE		EROSIONAL	Sydney	1:100,000
REbt	BLACKTOWN		RESIDUAL	Sydney	1:100,000
REIh	LUCAS HEIGHTS		RESIDUAL	Sydney	1:100,000

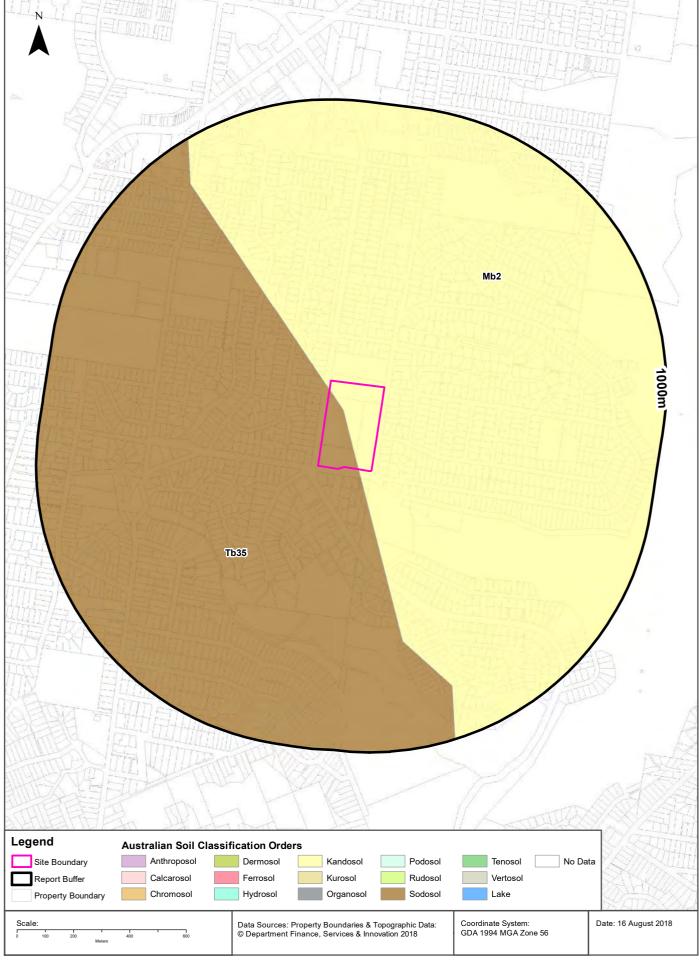
#### What are the Soil Landscapes within the dataset buffer?

Soil Code	Name	Group	Process	Map Sheet	Scale
COha	HAWKESBURY		COLLUVIAL	Sydney	1:100,000
COwp	WEST PENNANT HILLS		COLLUVIAL	Sydney	1:100,000
ERgn	GLENORIE		EROSIONAL	Sydney	1:100,000
ERgy	GYMEA		EROSIONAL	Sydney	1:100,000
REbt	BLACKTOWN		RESIDUAL	Sydney	1:100,000
REIh	LUCAS HEIGHTS		RESIDUAL	Sydney	1:100,000
TRof	OXFORD FALLS		TRANSFERRAL	Sydney	1:100,000

Soils Landscapes Data Source: NSW Office of Environment and Heritage Creative Commons 3.0 © Commonwealth of Australia http://creativecommons.org/licenses/by/3.0/au/deed.en

#### **Atlas of Australian Soils**





## Soils

St Ives High School, Yarrabung Road, St Ives, NSW 2075

#### **Atlas of Australian Soils**

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

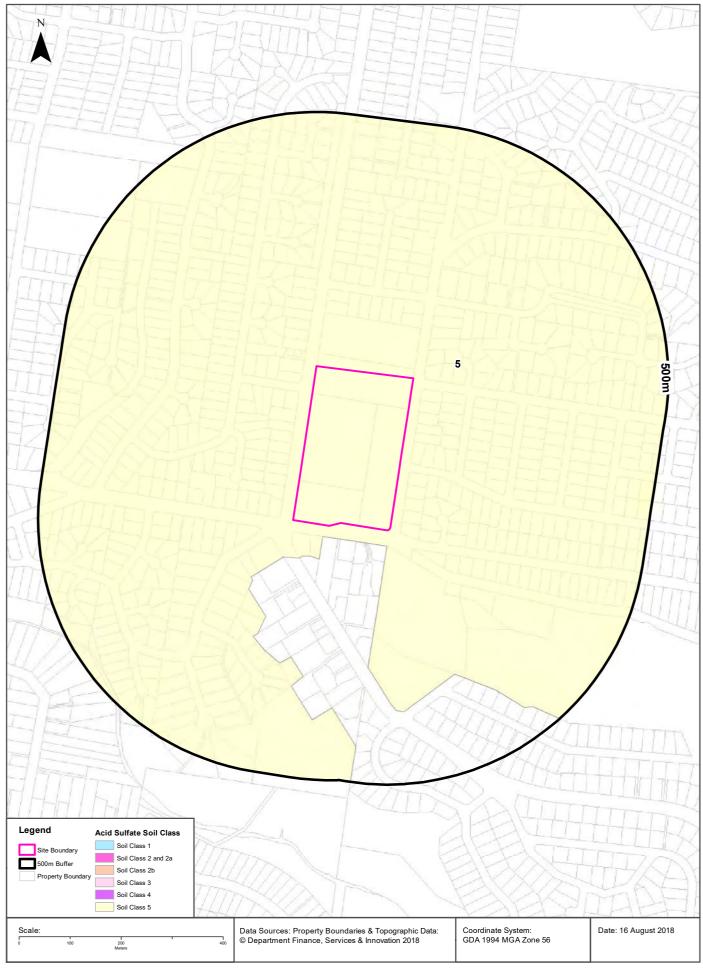
Map Unit Code	Soil Order	Map Unit Description	Distance
Mb2	Kandosol	Dissected sandstone plateau of moderate to strong relief with sandstone pillars, ledges, and slabs—level to undulating ridges, irregularly benched slopes, steep ridges, cliffs, canyons, narrow sandy valleys: chief soils are (i) on areas of gentle to moderate relief, acid yellow leached earths (Gn2.74) and (Gn2.34) and acid leached yellow earths (Gn2.24)-sometimes these soils contain ironstone gravel; and (ii) on, or adjacent to, areas of strong relief, siliceous sands (Uc1.2), leached sands (Uc2.12) and (Uc2.2), and shallow forms of the above (Gn2) soils. Associated are: (i) on flat to gently undulating remnants of the original plateau surface, leached sands (Uc2.3), siliceous sands (Uc1.2), sandy earths (Uc5.22), and (Gn2) soils as for (i) above (these areas are in part comparable with unit Cb29); (ii) on flat ironstone gravelly remnants of the original plateau surface, (Gn2) soils as for unit Mb5(i); (iii) on gently undulating ridges where interbedded shales are exposed, shallow, often stony (Dy3.41), (Dr2.21), and related soils similar to unit Tb35; (iv) narrow valleys of (Uc2.3) soils flanked by moderate slopes of (Dy3.41) soils; (v) escarpments of steep hills with shallow (Dy) and (Dr) soils between sandstone pillars; and (vi) shallow (Um) soils, such as (Um6.21) on steep hills of basic rocks. As mapped, minor areas of units Mg20, Mm1, and Mw8 are included. Data are limited.	Om
Tb35	Sodosol	Dissected plateau remnantsflat to undulating ridge tops with moderate to steep side slopes: chief soils are hard acidic yellow and yellow mottled soils (Dy3.41), (Dy2.21), and (Dy2.41) and hard acidic red soils (Dr2.21); many shallow profiles occur and profile thickness varies considerably over short distances. Associated are: (Gn3.54), (Gn3.14), and possibly other (Gn3) soils; (Db1.2) soils on some ridges; (Dy5.81) soils in areas transitional to unit Mb2; soils common to unit Mb2; and eroded lateritic remnants. Small areas of other soils are likely. Flat ferruginous shale or sandstone fragments are common on and/or in and/or below the soils of this unit.	0m

Atlas of Australian Soils Data Source: CSIRO

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#### **Acid Sulfate Soils**





## **Acid Sulfate Soils**

St Ives High School, Yarrabung Road, St Ives, NSW 2075

#### Standard Local Environmental Plan Acid Sulfate Soils

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

Soil Class	Description	LEP
5	Works within 500 metres of adjacent Class 1, 2, 3, or 4 land that is below 5 metres AHD and by which the watertable is likely to be lowered below 1 metre AHD on adjacent Class 1, 2, 3 or 4 land, present an environmental risk	Ku-ring-gai Local Environmental Plan 2015

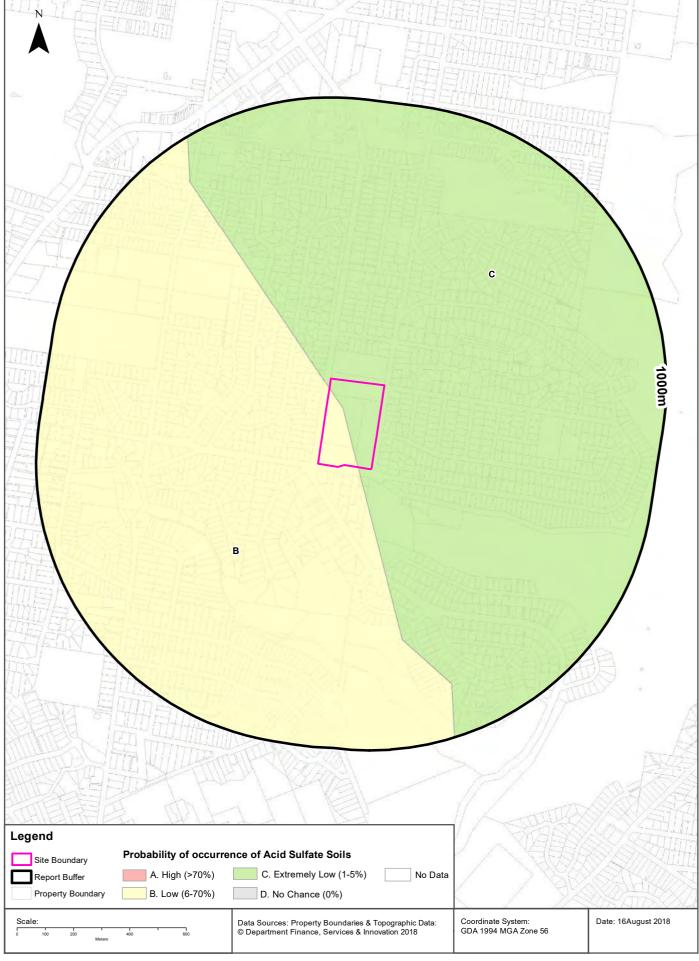
If the on-site Soil Class is 5, what other soil classes exist within 500m?

Soil Class	Description	LEP	Distance	Direction
None				

Acid Sulfate Data Source Accessed 07/10/2016: NSW Crown Copyright - Planning and Environment Creative Commons 3.0 © Commonwealth of Australia http://creativecommons.org/licenses/by/3.0/au/deed.en

#### **Atlas of Australian Acid Sulfate Soils**





## **Acid Sulfate Soils**

St Ives High School, Yarrabung Road, St Ives, NSW 2075

#### **Atlas of Australian Acid Sulfate Soils**

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

Class	Description	Distance
В	Low Probability of occurrence. 6-70% chance of occurrence.	0m
С	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 Creative Commons 3.0 © Commonwealth of Australia http://creativecommons.org/licenses/by/3.0/au/deed.en

## **Dryland Salinity**

St Ives High School, Yarrabung Road, St Ives, NSW 2075

## **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
N/A	Outside Data Coverage			

Dryland Salinity Potential of Western Sydney Data Source: NSW Office of Environment and Heritage Creative Commons 3.0 © Commonwealth of Australia http://creativecommons.org/licenses/by/3.0/au/deed.en

# **Mining Subsidence Districts**

St Ives High School, Yarrabung Road, St Ives, NSW 2075

# **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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# **Environmental Zoning**

St Ives High School, Yarrabung Road, St Ives, NSW 2075

## **State Environmental Planning Policy Protected Areas**

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

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

SEPP Protected Areas Data Source: NSW Department of Planning & Environment Creative Commons 3.0 © Commonwealth of Australia http://creativecommons.org/licenses/by/3.0/au/deed.en

### **State Environmental Planning Policy Major Developments (2005)**

State Environmental Planning Policy Major Developments within the dataset buffer:

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

SEPP Major Development Data Source: NSW Department of Planning & Environment Creative Commons 3.0 © Commonwealth of Australia http://creativecommons.org/licenses/by/3.0/au/deed.en

# State Environmental Planning Policy Strategic Land Use Areas

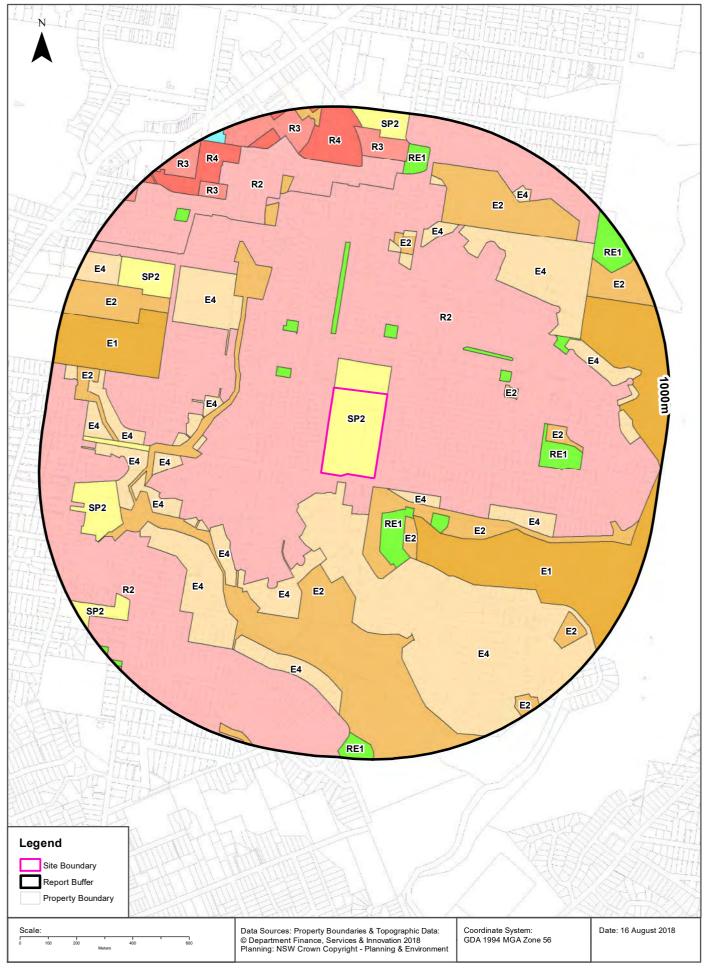
State Environmental Planning Policy Strategic Land Use Areas onsite or within the dataset buffer:

Strategic Land Use	SEPPNo	Effective Date	Amendment	Amendment Year	Distance	Direction
No records within buffer						

SEPP Strategic Land Use Data Source: NSW Department of Planning & Environment Creative Commons 3.0  $^{\circ}$  Commonwealth of Australia http://creativecommons.org/licenses/by/3.0/au/deed.en

### **LEP Planning Zones**





### **Local Environmental Plan**

St Ives High School, Yarrabung Road, St Ives, NSW 2075

## **Land Zoning**

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

Zone	Description	Purpose	LEP or SEPP	Published Date	Commenced Date	Currency Date	Amendment	Distance	Direction
SP2	Infrastructure	Educational Establishment	Ku-ring-gai Local Environmental Plan 2015	05/03/2015	02/04/2015	19/01/2018		0m	Onsite
R2	Low Density Residential		Ku-ring-gai Local Environmental Plan 2015	19/01/2018	19/01/2018	19/01/2018	Amendment No 14	0m	North East
E4	Environmental Living		Ku-ring-gai Local Environmental Plan 2015	19/01/2018	19/01/2018	19/01/2018	Amendment No 14	22m	South East
E2	Environmental Conservation		Ku-ring-gai Local Environmental Plan 2015	05/03/2015	02/04/2015	19/01/2018		31m	South East
E4	Environmental Living		Ku-ring-gai Local Environmental Plan 2015	05/03/2015	02/04/2015	19/01/2018		59m	South East
RE1	Public Recreation		Ku-ring-gai Local Environmental Plan 2015	05/03/2015	02/04/2015	19/01/2018		128m	South
RE1	Public Recreation		Ku-ring-gai Local Environmental Plan 2015	05/03/2015	02/04/2015	19/01/2018		161m	North West
E2	Environmental Conservation		Ku-ring-gai Local Environmental Plan 2015	05/03/2015	02/04/2015	19/01/2018		175m	South East
E1	National Parks and Nature Reserves		Ku-ring-gai Local Environmental Plan 2015	05/03/2015	02/04/2015	19/01/2018		191m	North East
RE1	Public Recreation		Ku-ring-gai Local Environmental Plan 2015	05/03/2015	02/04/2015	19/01/2018		191m	North
RE1	Public Recreation		Ku-ring-gai Local Environmental Plan 2015	05/03/2015	02/04/2015	19/01/2018		201m	North
RE1	Public Recreation		Ku-ring-gai Local Environmental Plan 2015	05/03/2015	02/04/2015	19/01/2018		232m	North West
RE1	Public Recreation		Ku-ring-gai Local Environmental Plan 2015	05/03/2015	02/04/2015	19/01/2018		243m	South East
E4	Environmental Living		Ku-ring-gai Local Environmental Plan 2015	05/03/2015	02/04/2015	19/01/2018		266m	South West
RE1	Public Recreation		Ku-ring-gai Local Environmental Plan 2015	05/03/2015	02/04/2015	19/01/2018		313m	North East
E2	Environmental Conservation		Ku-ring-gai Local Environmental Plan 2015	05/03/2015	02/04/2015	19/01/2018		322m	South
E4	Environmental Living		Ku-ring-gai Local Environmental Plan 2015	05/03/2015	02/04/2015	19/01/2018		379m	West
E4	Environmental Living		Ku-ring-gai Local Environmental Plan 2015	05/03/2015	02/04/2015	19/01/2018		393m	South West
E4	Environmental Living		Ku-ring-gai Local Environmental Plan 2015	05/03/2015	02/04/2015	19/01/2018		398m	North West
RE1	Public Recreation		Ku-ring-gai Local Environmental Plan 2015	05/03/2015	02/04/2015	19/01/2018		400m	East
E2	Environmental Conservation		Ku-ring-gai Local Environmental Plan 2015	05/03/2015	02/04/2015	19/01/2018		412m	East
E4	Environmental Living		Ku-ring-gai Local Environmental Plan 2015	05/03/2015	02/04/2015	19/01/2018		418m	West
E4	Environmental Living		Ku-ring-gai Local Environmental Plan 2015	05/03/2015	02/04/2015	19/01/2018		421m	South East
E4	Environmental Living		Ku-ring-gai Local Environmental Plan 2015	05/03/2015	02/04/2015	19/01/2018		441m	West
E4	Environmental Living		Ku-ring-gai Local Environmental Plan 2015	05/03/2015	02/04/2015	19/01/2018		446m	South West
E4	Environmental Living		Ku-ring-gai Local Environmental Plan 2015	05/03/2015	02/04/2015	19/01/2018		450m	North
E4	Environmental Living		Ku-ring-gai Local Environmental Plan 2015	05/03/2015	02/04/2015	19/01/2018		468m	South West
E4	Environmental Living		Ku-ring-gai Local Environmental Plan 2015	05/03/2015	02/04/2015	19/01/2018		476m	South West

Zone	Description	Purpose	LEP or SEPP	Published Date	Commenced Date	Currency Date	Amendment	Distance	Direction
E4	Environmental Living		Ku-ring-gai Local Environmental Plan 2015	05/03/2015	02/04/2015	19/01/2018		479m	West
E4	Environmental Living		Ku-ring-gai Local Environmental Plan 2015	05/03/2015	02/04/2015	19/01/2018		491m	West
E4	Environmental Living		Ku-ring-gai Local Environmental Plan 2015	05/03/2015	02/04/2015	19/01/2018		501m	West
E2	Environmental Conservation		Ku-ring-gai Local Environmental Plan 2015	05/03/2015	02/04/2015	19/01/2018		504m	North
E4	Environmental Living		Ku-ring-gai Local Environmental Plan 2015	05/03/2015	02/04/2015	19/01/2018		506m	North
E4	Environmental Living		Ku-ring-gai Local Environmental Plan 2015	05/03/2015	02/04/2015	19/01/2018		537m	North
E4	Environmental Living		Ku-ring-gai Local Environmental Plan 2015	05/03/2015	02/04/2015	19/01/2018		559m	North East
E4	Environmental Living		Ku-ring-gai Local Environmental Plan 2015	05/03/2015	02/04/2015	19/01/2018		562m	North
RE1	Public Recreation		Ku-ring-gai Local Environmental Plan 2015	05/03/2015	02/04/2015	19/01/2018		567m	East
E2	Environmental Conservation		Ku-ring-gai Local Environmental Plan 2015	05/03/2015	02/04/2015	19/01/2018		577m	East
R2	Low Density Residential		Ku-ring-gai Local Environmental Plan 2015	19/01/2018	19/01/2018	19/01/2018	Amendment No 14	587m	South
E2	Environmental Conservation		Ku-ring-gai Local Environmental Plan 2015	05/03/2015	02/04/2015	19/01/2018		612m	North
RE1	Public Recreation		Ku-ring-gai Local Environmental Plan 2015	05/03/2015	02/04/2015	19/01/2018		614m	North East
E4	Environmental Living		Ku-ring-gai Local Environmental Plan 2015	05/03/2015	02/04/2015	19/01/2018		615m	West
SP2	Infrastructure	Water Supply System	Ku-ring-gai Local Environmental Plan 2015	05/03/2015	02/04/2015	19/01/2018		615m	West
E1	National Parks and Nature Reserves		Ku-ring-gai Local Environmental Plan 2015	05/03/2015	02/04/2015	19/01/2018		621m	West
R2	Low Density Residential		Ku-ring-gai Local Environmental Plan (Local Centres) 2012	25/01/2013	08/02/2013	29/09/2017		631m	North West
E4	Environmental Living		Ku-ring-gai Local Environmental Plan 2015	05/03/2015	02/04/2015	19/01/2018		637m	West
E4	Environmental Living		Ku-ring-gai Local Environmental Plan 2015	05/03/2015	02/04/2015	19/01/2018		642m	South
E2	Environmental Conservation		Ku-ring-gai Local Environmental Plan 2015	05/03/2015	02/04/2015	19/01/2018		643m	North East
E2	Environmental Conservation		Ku-ring-gai Local Environmental Plan 2015	05/03/2015	02/04/2015	19/01/2018		647m	North West
E4	Environmental Living		Ku-ring-gai Local Environmental Plan 2015	05/03/2015	02/04/2015	19/01/2018		651m	East
SP2	Infrastructure	Water Supply System	Ku-ring-gai Local Environmental Plan 2015	05/03/2015	02/04/2015	19/01/2018		663m	North West
E2	Environmental Conservation		Ku-ring-gai Local Environmental Plan (Local Centres) 2012	25/01/2013	08/02/2013	29/09/2017		713m	North
E2	Environmental Conservation		Ku-ring-gai Local Environmental Plan 2015	05/03/2015	02/04/2015	19/01/2018		724m	West
SP2	Infrastructure	Electricity Transmission	Ku-ring-gai Local Environmental Plan 2015	05/03/2015	02/04/2015	19/01/2018		724m	West
E4	Environmental Living		Ku-ring-gai Local Environmental Plan 2015	05/03/2015	02/04/2015	19/01/2018		744m	West
E4	Environmental Living		Ku-ring-gai Local Environmental Plan 2015	05/03/2015	02/04/2015	19/01/2018		764m	North
R3	Medium Density Residential		Ku-ring-gai Local Environmental Plan (Local Centres) 2012	25/01/2013	08/02/2013	29/09/2017		772m	North West
RE1	Public Recreation		Ku-ring-gai Local Environmental Plan (Local Centres) 2012	25/01/2013	08/02/2013	29/09/2017		785m	North
E2	Environmental Conservation		Ku-ring-gai Local Environmental Plan 2015	05/03/2015	02/04/2015	19/01/2018		789m	North East
R4	High Density Residential		Ku-ring-gai Local Environmental Plan (Local Centres) 2012	25/01/2013	08/02/2013	29/09/2017		790m	North

Zone	Description	Purpose	LEP or SEPP	Published Date	Commenced Date	Currency Date	Amendment	Distance	Direction
RE1	Public Recreation		Ku-ring-gai Local Environmental Plan (Local Centres) 2012	25/01/2013	08/02/2013	29/09/2017		790m	North West
E4	Environmental Living		Ku-ring-gai Local Environmental Plan 2015	05/03/2015	02/04/2015	19/01/2018		815m	East
SP2	Infrastructure	Educational Establishment	Ku-ring-gai Local Environmental Plan 2015	05/03/2015	02/04/2015	19/01/2018		817m	South West
E4	Environmental Living		Ku-ring-gai Local Environmental Plan 2015	05/03/2015	02/04/2015	19/01/2018		822m	East
E4	Environmental Living		Ku-ring-gai Local Environmental Plan 2015	05/03/2015	02/04/2015	19/01/2018		828m	North East
R3	Medium Density Residential		Ku-ring-gai Local Environmental Plan (Local Centres) 2012	25/01/2013	08/02/2013	29/09/2017		829m	North
R4	High Density Residential		Ku-ring-gai Local Environmental Plan (Local Centres) 2012	25/01/2013	08/02/2013	29/09/2017		832m	North West
E2	Environmental Conservation		Ku-ring-gai Local Environmental Plan 2015	19/01/2018	19/01/2018	19/01/2018	Amendment No 14	838m	South East
R3	Medium Density Residential		Ku-ring-gai Local Environmental Plan (Local Centres) 2012	25/01/2013	08/02/2013	29/09/2017		843m	North
E4	Environmental Living		Ku-ring-gai Local Environmental Plan 2015	05/03/2015	02/04/2015	19/01/2018		849m	North West
RE1	Public Recreation		Ku-ring-gai Local Environmental Plan 2015	05/03/2015	02/04/2015	19/01/2018		873m	North East
R4	High Density Residential		Ku-ring-gai Local Environmental Plan (Local Centres) 2012	25/01/2013	08/02/2013	29/09/2017		883m	North
R3	Medium Density Residential		Ku-ring-gai Local Environmental Plan (Local Centres) 2012	25/01/2013	08/02/2013	29/09/2017		892m	North West
E4	Environmental Living		Ku-ring-gai Local Environmental Plan 2015	05/03/2015	02/04/2015	19/01/2018		906m	West
RE1	Public Recreation		Ku-ring-gai Local Environmental Plan 2015	05/03/2015	02/04/2015	19/01/2018		906m	South
SP2	Infrastructure	Educational Establishment	Ku-ring-gai Local Environmental Plan (Local Centres) 2012	25/01/2013	08/02/2013	29/09/2017		906m	North
E2	Environmental Conservation		Ku-ring-gai Local Environmental Plan (Local Centres) 2012	25/01/2013	08/02/2013	29/09/2017		930m	North
B2	Local Centre		Ku-ring-gai Local Environmental Plan (Local Centres) 2012	25/01/2013	08/02/2013	29/09/2017		952m	North
E2	Environmental Conservation		Ku-ring-gai Local Environmental Plan 2015	05/03/2015	02/04/2015	19/01/2018		959m	South
R4	High Density Residential		Ku-ring-gai Local Environmental Plan (Local Centres) 2012	25/01/2013	08/02/2013	29/09/2017		962m	North West
RE1	Public Recreation		Ku-ring-gai Local Environmental Plan 2015	05/03/2015	02/04/2015	19/01/2018		973m	South West
R4	High Density Residential		Ku-ring-gai Local Environmental Plan (Local Centres) 2012	25/01/2013	08/02/2013	29/09/2017		975m	North
E2	Environmental Conservation		Ku-ring-gai Local Environmental Plan 2015	05/03/2015	02/04/2015	19/01/2018		987m	South West

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#### **Local Environmental Plan**

St Ives High School, Yarrabung Road, St Ives, NSW 2075

#### **Minimum Subdivision Lot Size**

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

Symbol	Minimum Lot Size	LEP or SEPP	Published Date	Commenced Date	Currency Date	Amendment	Percentage of Site Area
No Data							

## **Maximum Height of Building**

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

Syr	nbol	Maximum Height of Building	LEP or SEPP	Published Date	Commenced Date	Currency Date	Amendment	Percentage of Site Area
No	Data							

#### **Floor Space Ratio**

What are the onsite Local Environmental Plan Floor Space Ratios?

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

### **Land Application**

What are the onsite Local Environmental Plan Land Applications?

Application Type	LEP or SEPP	Published Date	Commenced Date	Currency Date	Amendment	Percentage of Site Area
Included	Ku-ring-gai Local Environmental Plan 2015	19/01/2018	19/01/2018	19/01/2018	Amendment No 14	100

## **Land Reservation Acquisition**

What are the onsite Local Environmental Plan Land Reservation Acquisitions?

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

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### **Heritage Items**





## Heritage

St Ives High School, Yarrabung Road, St Ives, NSW 2075

### **State Heritage Items**

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

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

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### **Local Heritage Items**

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

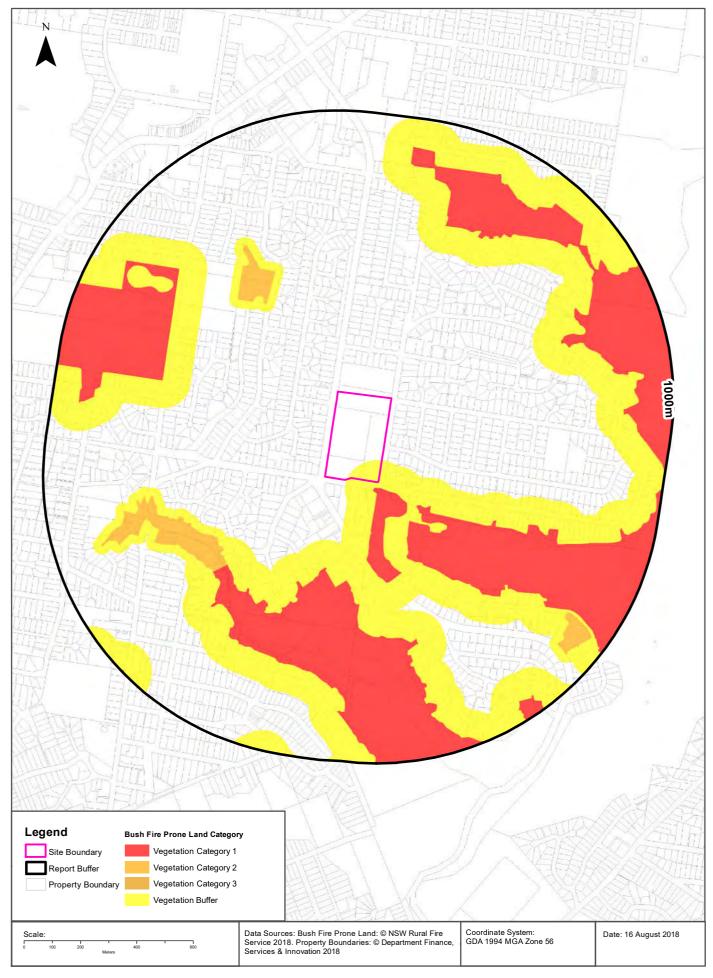
Map Id	Name	Classification	Significance	LEP or Act	Published Date	Commenced Date	Currency Date	Distance	Direction
1755	Dwelling house "The Sherington House"	Item - General	Local	Ku-ring-gai Local Environmental Plan 2015	05/03/2015	02/04/2015	19/01/2018	218m	North East
1722	Dwelling house	Item - General	Local	Ku-ring-gai Local Environmental Plan 2015	05/03/2015	02/04/2015	19/01/2018	225m	North
1737	Torokina Avenue Estate	Item - General	Local	Ku-ring-gai Local Environmental Plan 2015	05/03/2015	02/04/2015	19/01/2018	252m	North East
1736	Torokina Avenue Estate	Item - General	Local	Ku-ring-gai Local Environmental Plan 2015	05/03/2015	02/04/2015	19/01/2018	266m	North East
1739	Torokina Avenue Estate	Item - General	Local	Ku-ring-gai Local Environmental Plan 2015	05/03/2015	02/04/2015	19/01/2018	288m	North East
1738	Torokina Avenue Estate	Item - General	Local	Ku-ring-gai Local Environmental Plan 2015	05/03/2015	02/04/2015	19/01/2018	302m	North East
1741	Torokina Avenue Estate	Item - General	Local	Ku-ring-gai Local Environmental Plan 2015	05/03/2015	02/04/2015	19/01/2018	323m	North East
1740	Torokina Avenue Estate	Item - General	Local	Ku-ring-gai Local Environmental Plan 2015	05/03/2015	02/04/2015	19/01/2018	328m	North East
1743	Torokina Avenue Estate	Item - General	Local	Ku-ring-gai Local Environmental Plan 2015	05/03/2015	02/04/2015	19/01/2018	340m	North East
1742	Torokina Avenue Estate	Item - General	Local	Ku-ring-gai Local Environmental Plan 2015	05/03/2015	02/04/2015	19/01/2018	355m	North East
1745	Torokina Avenue Estate	Item - General	Local	Ku-ring-gai Local Environmental Plan 2015	05/03/2015	02/04/2015	19/01/2018	360m	North East
1747	Torokina Avenue Estate	Item - General	Local	Ku-ring-gai Local Environmental Plan 2015	05/03/2015	02/04/2015	19/01/2018	381m	North East
1744	Torokina Avenue Estate	Item - General	Local	Ku-ring-gai Local Environmental Plan 2015	05/03/2015	02/04/2015	19/01/2018	384m	North East
1748	Torokina Avenue Estate	Item - General	Local	Ku-ring-gai Local Environmental Plan 2015	05/03/2015	02/04/2015	19/01/2018	402m	North East

Map Id	Name	Classification	Significance	LEP or Act	Published Date	Commenced Date	Currency Date	Distance	Direction
1746	Torokina Avenue Estate	Item - General	Local	Ku-ring-gai Local Environmental Plan 2015	05/03/2015	02/04/2015	19/01/2018	413m	North East
1749	Torokina Avenue Estate	Item - General	Local	Ku-ring-gai Local Environmental Plan 2015	05/03/2015	02/04/2015	19/01/2018	424m	North East
1750	Torokina Avenue Estate	Item - General	Local	Ku-ring-gai Local Environmental Plan 2015	05/03/2015	02/04/2015	19/01/2018	447m	North East
1753	Torokina Avenue Estate	Item - General	Local	Ku-ring-gai Local Environmental Plan 2015	05/03/2015	02/04/2015	19/01/2018	465m	East
1751	Torokina Avenue Estate	Item - General	Local	Ku-ring-gai Local Environmental Plan 2015	05/03/2015	02/04/2015	19/01/2018	467m	North East
1752	Torokina Avenue Estate	Item - General	Local	Ku-ring-gai Local Environmental Plan 2015	05/03/2015	02/04/2015	19/01/2018	469m	North East
I218	Dwelling house	Item - General	Local	Ku-ring-gai Local Environmental Plan 2015	05/03/2015	02/04/2015	19/01/2018	788m	South
I131	Dwelliing House	Item - General	Local	Ku-ring-gai Local Environmental Plan (Local Centres) 2012	25/02/2013	08/02/2013	08/07/2016	827m	North West
I241	Dwelling house	Item - General	Local	Ku-ring-gai Local Environmental Plan 2015	05/03/2015	02/04/2015	19/01/2018	865m	South West
1240	Dwelling house	Item - General	Local	Ku-ring-gai Local Environmental Plan 2015	05/03/2015	02/04/2015	19/01/2018	919m	South West
1724	Dwelling house	Item - General	Local	Ku-ring-gai Local Environmental Plan 2015	05/03/2015	02/04/2015	19/01/2018	922m	East
1243	Dwelling house "J. Tuck House"	Item - General	Local	Ku-ring-gai Local Environmental Plan 2015	05/03/2015	02/04/2015	19/01/2018	952m	South
I130	St Ives Public School - Original school building	Item - General	Local	Ku-ring-gai Local Environmental Plan (Local Centres) 2012	25/02/2013	08/02/2013	08/07/2016	952m	North West
1660	Dwelling house	Item - General	Local	Ku-ring-gai Local Environmental Plan 2015	05/03/2015	02/04/2015	19/01/2018	966m	West
1556	Dwelling House "Yarrawonga"	Item - General	Local	Ku-ring-gai Local Environmental Plan 2015	05/03/2015	02/04/2015	19/01/2018	975m	West

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#### **Natural Hazards - Bush Fire Prone Land**





### **Natural Hazards**

St Ives High School, Yarrabung Road, St Ives, NSW 2075

#### **Bush Fire Prone Land**

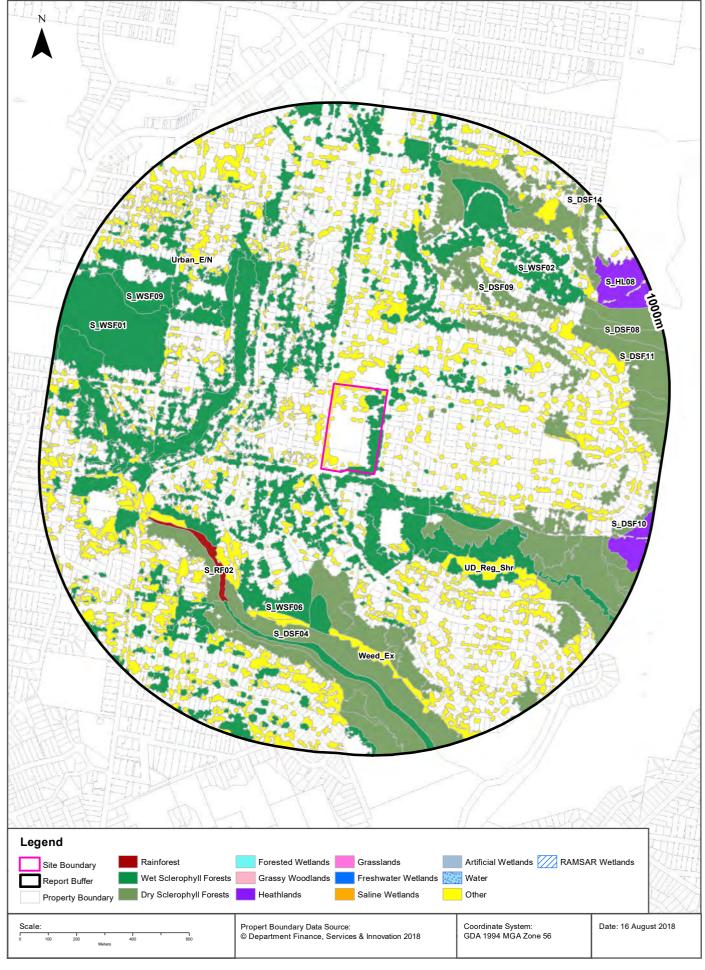
What are the nearest Bush Fire Prone Land Categories that exist within the dataset buffer?

Bush Fire Prone Land Category	Distance	Direction
Vegetation Buffer	0m	Onsite
Vegetation Category 1	19m	South
Vegetation Category 2	403m	North West

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

### **Ecological Constraints - Native Vegetation & RAMSAR Wetlands**





## **Ecological Constraints**

St Ives High School, Yarrabung Road, St Ives, NSW 2075

### **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
S_WSF09	S_WSF09: Sydney Turpentine-Ironbark Forest	Sydney Turpentine Ironbark Forest	Turpentine Ironbark Forest (possible)	11: Semi sheltered dry/mesic	24: Urban mixed use	3: High	E.paniculata/S.gl omuliferaE.resinif era/E.punctata	0m	Onsite
S_WSF09	S_WSF09: Sydney Turpentine-Ironbark Forest	Sydney Turpentine Ironbark Forest	Turpentine Ironbark Forest (possible)	24: Urban and hard surface	24: Urban mixed use	4: Very high	E.paniculata/S.gl omuliferaE.resinif era/E.punctata	0m	Onsite
Urban_E/N	Urban_E/N: Urban Exotic/Native			00: Not assessed	00: Not assessed	0: Not assessed	Urban Exotic/Native	0m	Onsite
S_WSF01	S_WSF01: Blue Gum High Forest	Blue Gum High Forest	Blue Gum High Forest (possible)	24: Urban and hard surface	24: Urban mixed use	4: Very high	E.salignaE.pilular is/S.glomullifera/ E.paniculata/A.co stata	52m	North
S_WSF06	S_WSF06: Coastal Shale- Sandstone Forest			13: Dry shrubs and grasses	24: Urban mixed use	4: Very high	E.resinifera/E.pilu laris/A.costata/S. glomulifera	116m	South
S_DSF10	S_DSF10: Hornsby Enriched Sandstone Exposed Woodland			12: Dry xeric shrubs	24: Urban mixed use	4: Very high	E.haemastoma/A .littoralis/E.piperit a/C.gummifera	155m	East
S_WSF02	S_WSF02: Coastal Enriched Sandstone Moist Forest			10: Mesic/rainfore st	13: Weeds	2: Moderate	E.pilularis/A.cost ata/C.gummifera E.resinifera	168m	South East
S_DSF04	S_DSF04: Coastal Enriched Sandstone Dry Forest			11: Semi sheltered dry/mesic	13: Weeds	2: Moderate	E.pilularis/A.cost ata/C.gummifera E.resinifera	255m	South East
S_DSF09	S_DSF09: Coastal Sandstone Gully Forest			11: Semi sheltered dry/mesic	24: Urban mixed use	4: Very high	A.costata/E.piperi taE.umbra/C.gum mifera	317m	East
UD_Reg_Shr	UD_Reg_Shr: Undifferentiated Regenerating Shrubs			00: Not assessed	00: Not assessed	0: Not assessed	Undifferentiated Regenerating Scrubs	388m	South East
S_RF02	S_RF02: Coastal Sandstone Gallery Rainforest			10: Mesic/rainfore st	13: Weeds	3: High	C.apetalum/T.lau rina/C.serratifolia	462m	South West
Weed_Ex	Weed_Ex: Weeds and Exotics			00: Not assessed	00: Not assessed	0: Not assessed	Exotic Species >90%cover	517m	South West
S_DSF11	S_DSF11: Sydney North Exposed Sandstone Woodland			12: Dry xeric shrubs	22: Fire	1: Low	E.haemastoma/B .serrata	682m	East
S_DSF08	S_DSF08: Coastal Sandstone Riparian Forest			11: Semi sheltered dry/mesic	13: Weeds	1: Low	E.piperita/A.costa ta/T.laurina	720m	East
S_HL08	S_HL08: Coastal Sandstone Heath-Mallee			19: Dense heath	99: No visible disturbance	5: No visible disturbance	E.luehmaniana/C .gummifera/E.hae mastoma	805m	North East
S_DSF14	S_DSF14: Sydney Ironstone Bloodwood- Silvertop Ash Forest	Duffys Forest Ecological Community		12: Dry xeric shrubs	24: Urban mixed use	4: Very high	E.sieberi/C.gum mifera/E.haemast oma	847m	North East

Native Vegetation of the Sydney Metropolitan Area: NSW Office of Environment and Heritage Creative Commons 3.0 © Commonwealth of Australia http://creativecommons.org/licenses/by/3.0/au/deed.en

### **RAMSAR Wetlands**

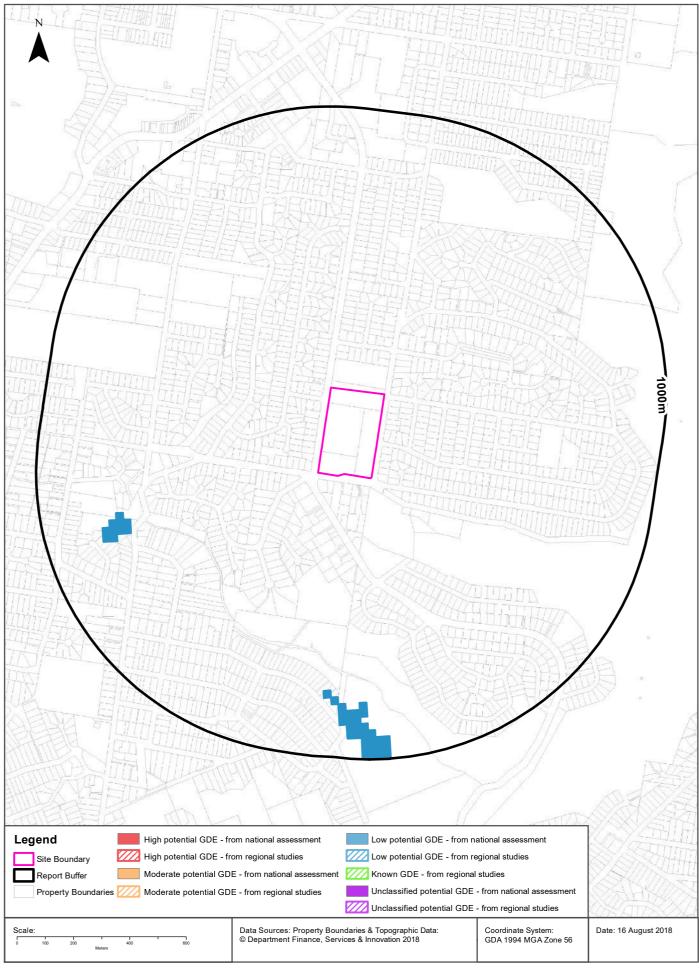
#### What RAMSAR Wetland areas exist within the dataset buffer?

Map Id	RAMSAR Name	Wetland Name	<b>Designation Date</b>	Source	Distance	Direction
N/A	No records in buffer					

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

#### **Ecological Constraints - Groundwater Dependent Ecosystems Atlas**





# **Ecological Constraints**

St Ives High School, Yarrabung Road, St Ives, NSW 2075

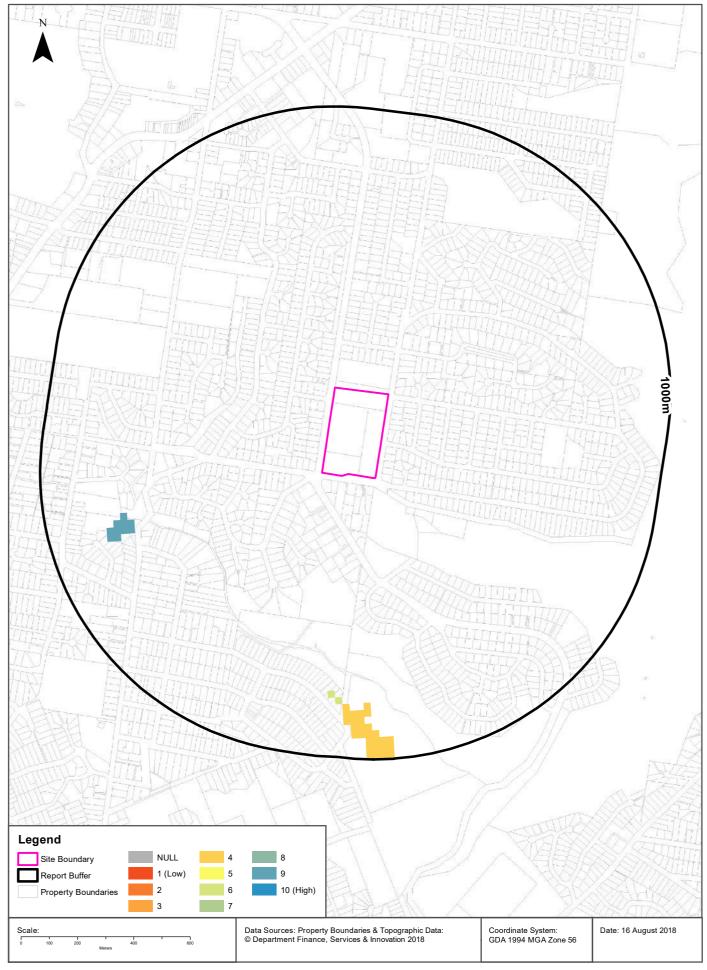
### **Groundwater Dependent Ecosystems Atlas**

Туре	GDE Potential	Geomorphology	Ecosystem Type	Aquifer Geology	Distance
Terrestrial	Low potential GDE - from national assessment	Deeply dissected sandstone plateaus.	Vegetation	Consolidated sedimentary	685m

Groundwater Dependent Ecosystems Atlas Data Source: The Bureau of Meteorology Creative Commons 3.0 © Commonwealth of Australia http://creativecommons.org/licenses/by/3.0/au/deed.en

# **Ecological Constraints - Inflow Dependent Ecosystems Likelihood**





## **Ecological Constraints**

St Ives High School, Yarrabung Road, St Ives, NSW 2075

#### **Inflow Dependent Ecosystems Likelihood**

Туре	IDE Likelihood	Geomorphology	<b>Ecosystem Type</b>	Aquifer Geology	Distance
Terrestrial	9	Deeply dissected sandstone plateaus.	Vegetation	Consolidated sedimentary	685m
Terrestrial	6	Deeply dissected sandstone plateaus.	Vegetation	Consolidated sedimentary	763m
Terrestrial	4	Deeply dissected sandstone plateaus.	Vegetation	Consolidated sedimentary	797m

Inflow Dependent Ecosystems Likelihood Data Source: The Bureau of Meteorology Creative Commons 3.0 © Commonwealth of Australia http://creativecommons.org/licenses/by/3.0/au/deed.en

## **Ecological Constraints**

St Ives High School, Yarrabung Road, St Ives, NSW 2075

#### **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?

Data does not include NSW category 1 sensitive species.

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	Pseudophryne australis	Red-crowned Toadlet	Vulnerable	Not Sensitive	Not Listed	
Animalia	Aves	Actitis hypoleucos	Common Sandpiper	Not Listed	Not Sensitive	Not Listed	ROKAMBA;CAMBA; JAMBA
Animalia	Aves	Anthochaera phrygia	Regent Honeyeater	Critically Endangered	Not Sensitive	Critically Endangered	
Animalia	Aves	Apus pacificus	Fork-tailed Swift	Not Listed	Not Sensitive	Not Listed	ROKAMBA;CAMBA; JAMBA
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	Calidris acuminata	Sharp-tailed Sandpiper	Not Listed	Not Sensitive	Not Listed	ROKAMBA;CAMBA; JAMBA
Animalia	Aves	Calidris ferruginea	Curlew Sandpiper	Endangered	Not Sensitive	Critically Endangered	ROKAMBA;CAMBA; JAMBA
Animalia	Aves	Callocephalon fimbriatum	Gang-gang Cockatoo	Endangered Population, Vulnerable	Category 3	Not Listed	
Animalia	Aves	Callocephalon fimbriatum	Gang-gang Cockatoo	Vulnerable	Category 3	Not Listed	
Animalia	Aves	Calyptorhynchus lathami	Glossy Black- Cockatoo	Vulnerable	Category 2	Not Listed	
Animalia	Aves	Cecropis daurica	Red-rumped Swallow	Not Listed	Not Sensitive	Not Listed	ROKAMBA
Animalia	Aves	Daphoenositta chrysoptera	Varied Sittella	Vulnerable	Not Sensitive	Not Listed	
Animalia	Aves	Egretta sacra	Eastern Reef Egret	Not Listed	Not Sensitive	Not Listed	CAMBA
Animalia	Aves	Ephippiorhynchus asiaticus	Black-necked Stork	Endangered	Not Sensitive	Not Listed	
Animalia	Aves	Esacus magnirostris	Beach Stone- curlew	Critically Endangered	Not Sensitive	Not Listed	
Animalia	Aves	Falco hypoleucos	Grey Falcon	Endangered	Category 2	Not Listed	
Animalia	Aves	Falco subniger	Black Falcon	Vulnerable	Not Sensitive	Not Listed	
Animalia	Aves	Glossopsitta pusilla	Little Lorikeet	Vulnerable	Not Sensitive	Not Listed	
Animalia	Aves	Haematopus fuliginosus	Sooty Oystercatcher	Vulnerable	Not Sensitive	Not Listed	
Animalia	Aves	Haematopus longirostris	Pied Oystercatcher	Endangered	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 Needletail	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	Ixobrychus flavicollis	Black Bittern	Vulnerable	Not Sensitive	Not Listed	
Animalia	Aves	Lathamus discolor	Swift Parrot	Endangered	Category 3	Critically Endangered	
Animalia	Aves	Limicola falcinellus	Broad-billed Sandpiper	Vulnerable	Not Sensitive	Not Listed	ROKAMBA;CAMBA; JAMBA
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	Melanodryas cucullata cucullata	Hooded Robin (south-eastern form)	Vulnerable	Not Sensitive	Not Listed	
Animalia	Aves	Merops ornatus	Rainbow Bee- eater	Not Listed	Not Sensitive	Not Listed	JAMBA
Animalia	Aves	Nettapus coromandelianus	Cotton Pygmy- Goose	Endangered	Not Sensitive	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	Numenius minutus	Little Curlew	Not Listed	Not Sensitive	Not Listed	ROKAMBA;CAMBA; JAMBA
Animalia	Aves	Pachycephala olivacea	Olive Whistler	Vulnerable	Not Sensitive	Not Listed	
Animalia	Aves	Pandion cristatus	Eastern Osprey	Vulnerable	Category 3	Not Listed	
Animalia	Aves	Petroica boodang	Scarlet Robin	Vulnerable	Not Sensitive	Not Listed	
Animalia	Aves	Plegadis falcinellus	Glossy Ibis	Not Listed	Not Sensitive	Not Listed	CAMBA
Animalia	Aves	Polytelis swainsonii	Superb Parrot	Vulnerable	Category 3	Vulnerable	
Animalia	Aves	Ptilinopus superbus	Superb Fruit- Dove	Vulnerable	Not Sensitive	Not Listed	
Animalia	Aves	Tyto novaehollandiae	Masked Owl	Vulnerable	Category 3	Not Listed	
Animalia	Aves	Tyto tenebricosa	Sooty Owl	Vulnerable	Category 3	Not Listed	
Animalia	Mammalia	Arctocephalus pusillus doriferus	Australian Fur- seal	Vulnerable	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	Isoodon obesulus obesulus	Southern Brown Bandicoot (eastern)	Endangered	Not Sensitive	Endangered	
Animalia	Mammalia	Miniopterus australis	Little Bentwing- bat	Vulnerable	Not Sensitive	Not Listed	
Animalia	Mammalia	Miniopterus schreibersii oceanensis	Eastern Bentwing-bat	Vulnerable	Not Sensitive	Not Listed	
Animalia	Mammalia	Mormopterus norfolkensis	Eastern Freetail- 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		Yellow-bellied Glider	Vulnerable	Not Sensitive	Not Listed	
Animalia	Mammalia	Petaurus norfolcensis	Squirrel Glider	Vulnerable	Not Sensitive	Not Listed	
Animalia	Mammalia	Phascolarctos cinereus	Koala	Vulnerable	Not Sensitive	Vulnerable	

Kingdom	Class	Scientific	Common	NSW Conservation Status	NSW Sensitivity Class	Federal Conservation Status	Migratory Species Agreements
Animalia	Mammalia	Pseudomys gracilicaudatus	Eastern Chestnut Mouse	Vulnerable	Not Sensitive	Not Listed	
Animalia	Mammalia	Pseudomys novaehollandiae	New Holland Mouse	Not Listed	Not Sensitive	Vulnerable	
Animalia	Mammalia	Pteropus poliocephalus	Grey-headed Flying-fox	Vulnerable	Not Sensitive	Vulnerable	
Animalia	Mammalia	Saccolaimus flaviventris	Yellow-bellied Sheathtail-bat	Vulnerable	Not Sensitive	Not Listed	
Animalia	Mammalia	Scoteanax rueppellii	Greater Broad- nosed Bat	Vulnerable	Not Sensitive	Not Listed	
Animalia	Reptilia	Chelonia mydas	Green Turtle	Vulnerable	Not Sensitive	Vulnerable	
Animalia	Reptilia	Dermochelys coriacea	Leatherback Turtle	Endangered	Not Sensitive	Endangered	
Animalia	Reptilia	Myuchelys bellii	Bell's Turtle, Western Sawshelled Turtle	Endangered	Not Sensitive	Vulnerable	
Animalia	Reptilia	Varanus rosenbergi	Rosenberg's Goanna	Vulnerable	Not Sensitive	Not Listed	
Fungi	Flora	Camarophyllopsis kearneyi		Endangered	Not Sensitive	Not Listed	
Fungi	Flora	Hygrocybe anomala var. ianthinomarginata		Vulnerable	Not Sensitive	Not Listed	
Fungi	Flora	Hygrocybe aurantipes		Vulnerable	Not Sensitive	Not Listed	
Fungi	Flora	Hygrocybe austropratensis		Endangered	Not Sensitive	Not Listed	
Fungi	Flora	Hygrocybe collucera		Endangered	Not Sensitive	Not Listed	
Fungi	Flora	Hygrocybe griseoramosa		Endangered	Not Sensitive	Not Listed	
Fungi	Flora	Hygrocybe lanecovensis		Endangered	Not Sensitive	Not Listed	
Fungi	Flora	Hygrocybe reesiae		Vulnerable	Not Sensitive	Not Listed	
Fungi	Flora	Hygrocybe rubronivea		Vulnerable	Not Sensitive	Not Listed	
Plantae	Flora	Acacia bynoeana	Bynoe's Wattle	Endangered	Not Sensitive	Vulnerable	
Plantae	Flora	Acacia clunies- rossiae	Kanangra Wattle	Vulnerable	Not Sensitive	Not Listed	
Plantae	Flora	Acacia gordonii		Endangered	Not Sensitive	Endangered	
Plantae	Flora	Acacia pubescens	Downy Wattle	Vulnerable	Not Sensitive	Vulnerable	
Plantae	Flora	Acacia terminalis subsp. terminalis	Sunshine Wattle	Endangered	Not Sensitive	Endangered	
Plantae	Flora	Caladenia tessellata	Thick Lip Spider Orchid	Endangered	Category 2	Vulnerable	
Plantae	Flora	Callistemon linearifolius	Netted Bottle Brush	Vulnerable	Category 3	Not Listed	
Plantae	Flora	Cryptostylis hunteriana	Leafless Tongue Orchid	Vulnerable	Category 2	Vulnerable	
Plantae	Flora	Darwinia biflora		Vulnerable	Not Sensitive	Vulnerable	
Plantae	Flora	Darwinia peduncularis		Vulnerable	Not Sensitive	Not Listed	
Plantae	Flora	Deyeuxia appressa		Endangered	Not Sensitive	Endangered	
Plantae	Flora	Diuris bracteata		Endangered	Category 2	Extinct	
Plantae	Flora	Epacris purpurascens subsp. purpurascens		Vulnerable	Not Sensitive	Not Listed	
Plantae	Flora	Epacris purpurascens var. purpurascens		Vulnerable	Not Sensitive	Not Listed	

Kingdom	Class	Scientific	Common	NSW Conservation Status	NSW Sensitivity Class	Federal Conservation Status	Migratory Species Agreements
Plantae	Flora	Eucalyptus camfieldii	Camfield's Stringybark	Vulnerable	Not Sensitive	Vulnerable	
Plantae	Flora	Eucalyptus leucoxylon subsp. pruinosa	Yellow Gum	Vulnerable	Not Sensitive	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	Galium australe	Tangled Bedstraw	Endangered	Not Sensitive	Not Listed	
Plantae	Flora	Genoplesium baueri	Bauer's Midge Orchid	Endangered	Category 2	Endangered	
Plantae	Flora	Genoplesium plumosum	Tallong Midge Orchid	Critically Endangered	Category 2	Endangered	
Plantae	Flora	Grammitis stenophylla	Narrow-leaf Finger Fern	Endangered	Category 3	Not Listed	
Plantae	Flora	Grevillea caleyi	Caley's Grevillea	Critically Endangered	Category 3	Critically Endangered	
Plantae	Flora	Grevillea hilliana	White Yiel Yiel	Endangered	Not Sensitive	Not Listed	
Plantae	Flora	Grevillea juniperina subsp. juniperina	Juniper-leaved Grevillea	Vulnerable	Not Sensitive	Not Listed	
Plantae	Flora	Grevillea parviflora subsp. parviflora	Small-flower Grevillea	Vulnerable	Not Sensitive	Vulnerable	
Plantae	Flora	Haloragodendron lucasii		Endangered	Not Sensitive	Endangered	
Plantae	Flora	Hibbertia puberula		Endangered	Not Sensitive	Not Listed	
Plantae	Flora	Hibbertia spanantha	Julian's Hibbertia	Critically Endangered	Category 2	Critically Endangered	
Plantae	Flora	Hibbertia superans		Endangered	Not Sensitive	Not Listed	
Plantae	Flora	Isotoma fluviatilis subsp. fluviatilis		Not Listed	Not Sensitive	Extinct	
Plantae	Flora	Lasiopetalum joyceae		Vulnerable	Not Sensitive	Vulnerable	
Plantae	Flora	Leptospermum deanei		Vulnerable	Not Sensitive	Vulnerable	
Plantae	Flora	Macadamia integrifolia	Macadamia Nut	Not Listed	Not Sensitive	Vulnerable	
Plantae	Flora	Macadamia tetraphylla	Rough-shelled Bush Nut	Vulnerable	Not Sensitive	Vulnerable	
Plantae	Flora	Melaleuca biconvexa	Biconvex Paperbark	Vulnerable	Not Sensitive	Vulnerable	
Plantae	Flora	Melaleuca deanei	Deane's Paperbark	Vulnerable	Not Sensitive	Vulnerable	
Plantae	Flora	Microtis angusii	Angus's Onion Orchid	Endangered	Category 2	Endangered	
Plantae	Flora	Persoonia hirsuta	Hairy Geebung	Endangered	Category 3	Endangered	
Plantae	Flora	Persoonia mollis subsp. maxima		Endangered	Not Sensitive	Endangered	
Plantae	Flora	Persoonia nutans	Nodding Geebung	Endangered	Not Sensitive	Endangered	
Plantae	Flora	Persoonia pauciflora	North Rothbury Persoonia	Critically Endangered	Category 3	Critically Endangered	
Plantae	Flora	Pimelea curviflora subsp. curviflora		Vulnerable	Not Sensitive	Vulnerable	
Plantae	Flora	Pimelea curviflora var. curviflora		Vulnerable	Not Sensitive	Vulnerable	
Plantae	Flora	Prostanthera junonis	Somersby Mintbush	Endangered	Not Sensitive	Endangered	
Plantae	Flora	Prostanthera marifolia	Seaforth Mintbush	Critically Endangered	Category 3	Critically Endangered	
Plantae	Flora	Pterostylis nigricans	Dark Greenhood	Vulnerable	Category 2	Not Listed	

Kingdom	Class	Scientific	Common	NSW Conservation Status	NSW Sensitivity Class	Federal Conservation Status	Migratory Species Agreements
Plantae	Flora	Sarcochilus hartmannii	Hartman's Sarcochilus	Vulnerable	Category 2	Vulnerable	
Plantae	Flora	Syzygium paniculatum	Magenta Lilly Pilly	Endangered	Not Sensitive	Vulnerable	
Plantae	Flora	Tetratheca glandulosa		Vulnerable	Not Sensitive	Not Listed	
Plantae	Flora	Tetratheca juncea	Black-eyed Susan	Vulnerable	Not Sensitive	Vulnerable	

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**Appendix C: Guidelines and Reference Documents** 



Contaminated Land Management Act 1997 (NSW)

Department of Land and Water Conservation, (1997). 1:25,000 Acid Sulfate Soil Risk Map Series

Managing Land Contamination, Planning Guidelines SEPP55 – Remediation of Land (1998)

NSW EPA, (2015). Guidelines on the Duty to Report Contamination under Section 60 of the CLM Act 1997

NSW EPA, (2017). Guidelines for the NSW Site Auditor Scheme, 3rd Edition

NSW EPA, (2020). Consultants Reporting on Contaminated Land, Contaminated Land Guidelines

National Environment Protection Council (NEPC), (2013) National Environmental Protection (Assessment of Site Contamination) Measure 1999 as amended (2013)

Protection of the Environment Operations Act 1997 (NSW)

State Environmental Planning Policy No.55 – Remediation of Land 1998 (NSW)