Sydney International Speedway

Environmental Impact Statement

Technical Paper 8
Contamination

Sydney International Speedway

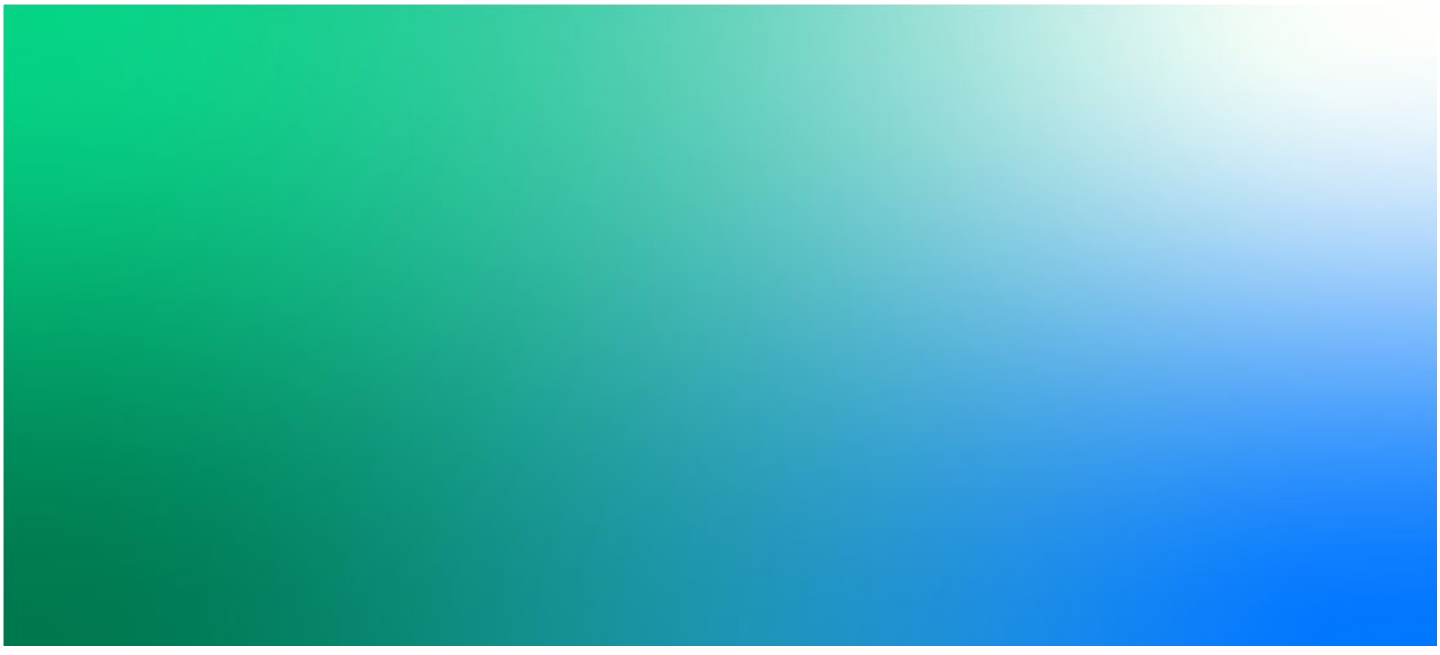
Preliminary Site Investigation

Final

July 2020

Sydney Metro

IA199800



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Contents

Executive Summary

In December 2019, the NSW Government announced the relocation of speedway racing to the Western Sydney Parklands' Precinct 5: Eastern Creek Motor Sports, creating a true motorplex for the New South Wales motorsport racing community. The new Sydney International Speedway would provide the community and racing supporters a unique sporting facility that would cater for local, regional, national, and international racing events while continuing to support the growth of speedway racing in NSW.

This technical paper is one of several technical papers that form part of the Environmental Impact Statement. The purpose of this technical paper is to provide a preliminary contamination assessment identifying potential contamination risks and impacts associated with the project site and the proposed development. The assessment responds directly to the Secretary's Environmental Assessment Requirements outlined in Section 1.3.

This Preliminary Site Investigation has included a review of desktop information, a site walkover inspection, an assessment of potential areas and sources of on-site and off-site contamination, an assessment of the potential impacts to human health and the environment from the exposure of contamination during construction and operation of the project, potential management and mitigation measures, and recommendations for further investigations where necessary.

The findings of this contamination assessment have identified a high potential for widespread on-site contamination (soil, groundwater and ground gas) as a result of extensive historic earthworks and filling activities (c. 2004- 2009), along with stockpiling of waste soils and waste materials, spills and leaks associated with the general use of unsealed areas for Sydney Dragway spectator parking and the potential for the migration of leachate-affected groundwater and landfill gas from the adjoining landfilling operations.

If exposed during construction activities or long term operation of the project and appropriate management or remediation measures are not adopted in response, on-site soil, groundwater and ground gas contamination could impact upon human health and environmental receptors.

Further investigations are recommended for areas of the site that have been identified as having high contamination impact potential:

- A Detailed Site Investigation would be carried out in accordance with the NEPM (2013) and other NSW EPA contaminated land management guidelines
- Where a Detailed Site Investigation confirms that contamination would have a high risk, a Remedial Action Plan (RAP) would be developed
- Where contamination is highly complex, such as where there is significant groundwater contamination; contamination associated with vapour; contamination that requires specialised remediation techniques; or contamination that requires ongoing active management during and beyond construction, an accredited Site Auditor would review and approve the RAP and remediation activities and would develop a Site Audit Statement (SAS) and Site Audit Report (SAR) upon completion of remediation
- A Site Management Plan would be required if any residual contamination remains following remediation.

Important note about your report

The sole purpose of this report and the associated services performed by Jacobs was to provide a preliminary assessment of site contamination conditions in accordance with the scope of services set out in the contract between Jacobs and Transport for New South Wales (the Client). That scope of services, as described in this report, was developed with the Client.

In preparing this report, Jacobs has relied upon, and presumed accurate, any information (or confirmation of the absence thereof) provided by the Client and/or from other sources. Except as otherwise stated in the report, Jacobs has not attempted to verify the accuracy or completeness of any such information. If the information is subsequently determined to be false, inaccurate or incomplete then it is possible that our observations and conclusions as expressed in this report may change.

Jacobs derived the data in this report from information sourced from the public domain, the Client and from observations made during the site inspection. The passage of time, manifestation of latent conditions or impacts of future events may require further examination of the project and subsequent data analysis, and re-evaluation of the data, findings, observations and conclusions expressed in this report. Jacobs has prepared this report in accordance with the usual care and thoroughness of the consulting profession, for the sole purpose described above and by reference to applicable standards, guidelines, procedures and practices at the date of issue of this report. For the reasons outlined above, however, no other warranty or guarantee, whether expressed or implied, is made as to the data, observations and findings expressed in this report, to the extent permitted by law.

This report should be read in full and no excerpts are to be taken as representative of the findings. No responsibility is accepted by Jacobs for use of any part of this report in any other context.

This report has been prepared on behalf of, and for the exclusive use of, Jacobs' Client, and is subject to, and issued in accordance with, the provisions of the contract between Jacobs and the Client. Jacobs accepts no liability or responsibility whatsoever for, or in respect of, any use of, or reliance upon, this report by any third party.

1. Introduction

1.1 Sydney International Speedway

The NSW Government has committed to relocating speedway racing to Western Sydney Parklands' Precinct 5: Eastern Creek Motor Sports, creating a true motorplex for the NSW motorsport racing community. The new speedway would provide the community and racing supporters a unique sporting facility that would cater for local, regional, national, and international racing events while continuing to support the growth of speedway racing in NSW.

The new speedway would be located alongside the existing Sydney Dragway to the north and east and the Sydney Motorsports Park (operated by the Australian Racing Drivers' Club) to the north.

Western Sydney Parklands Trust, in association with the NSW Office of Sport, is leading a masterplanning process for Western Sydney Parklands' Precinct 5: Eastern Creek Motor Sports, with opportunities to share infrastructure and coordinate events across the three venues. This masterplan sets the context for the planning of the new Sydney International Speedway, which is the subject of this technical paper.

As part of delivering Sydney Metro West - the city's next big underground railway, the existing government land currently used for speedway racing is required for a future stabling and maintenance facility. The project is planned to be constructed and operational prior to the closure of the current speedway.

The project site is located on land owned and managed by Western Sydney Parklands Trust. Sydney Metro is applying for State significant infrastructure approval and is proposing to build the project on behalf of and pursuant to arrangements with Western Sydney Parklands Trust.

Section 5.12(4) of the EP&A Act provides for the declaration of specified development on specified land as State significant infrastructure. A declaration is being sought for the Sydney International Speedway as State significant infrastructure under Sections 5.12(4) of the EP&A Act. Schedule 4 of *State Environmental Planning Policy (State and Regional Development) 2011* will be amended to include Sydney International Speedway.

1.1.1 Location

The project would be located within Western Sydney Parklands' Precinct 5: Eastern Creek Motor Sports which sits within the Blacktown Local Government Area (LGA) in the Central River City sub-region of Greater Sydney, about six kilometres south-west of the Blacktown City Centre, and 32 kilometres west of the Sydney Central Business District. The location of the project is shown on Figure 1-1.

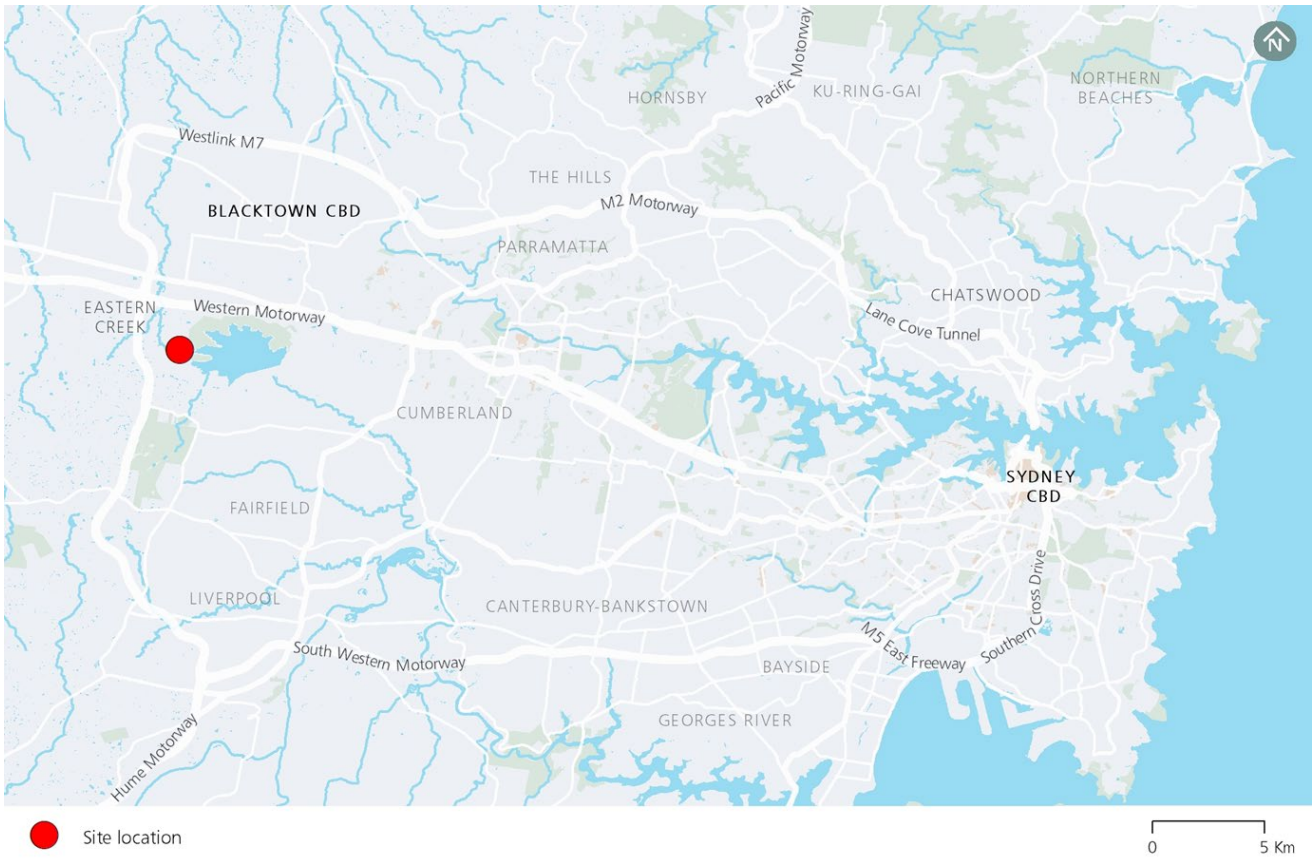

Figure 1-1 Location of the project

1.1.2 Local context of the project

The footprint of the project site is about 21 hectares. The Western Motorway (M4 Motorway) is about 1.4 kilometres north, and the Westlink M7 is about 1.2 kilometres west of the project. Industrial and commercial developments are located to the north and west of these major roads. Prospect Nature Reserve, which contains Prospect Reservoir, is about 150 metres east of the project. The local context of the project is shown on Figure 1-2.

Sixteen precincts have been identified within the Western Sydney Parklands, each with its own character and land uses, infrastructure, issues and opportunities. The project would be situated within Western Sydney Parklands' Precinct 5: Eastern Creek Motor Sports. The project is bounded by Ferrers Road to the north-west, Ferrers Road and vegetation as part of Western Sydney Parklands in the west, the Warragamba Pipeline to the south and the Austral Bricks Horsley Park Brickworks located further south. Other motorsport operators within Western Sydney Parklands' Precinct 5: Eastern Creek Motor Sports include Sydney Dragway immediately to the north and east and Sydney Motorsports Park (operated by the Australian Racing Drivers' Club) to the north. A full list of stakeholders is provided in Chapter 4 (Stakeholder and community engagement) of the Sydney International Speedway Environmental Impact Statement.

Other businesses in the vicinity include:

- The SUEZ Eastern Creek Resource Recovery Park, about 1.1 kilometres west of the project
- Global Renewables waste processing facility, about 650 metres west of the project.

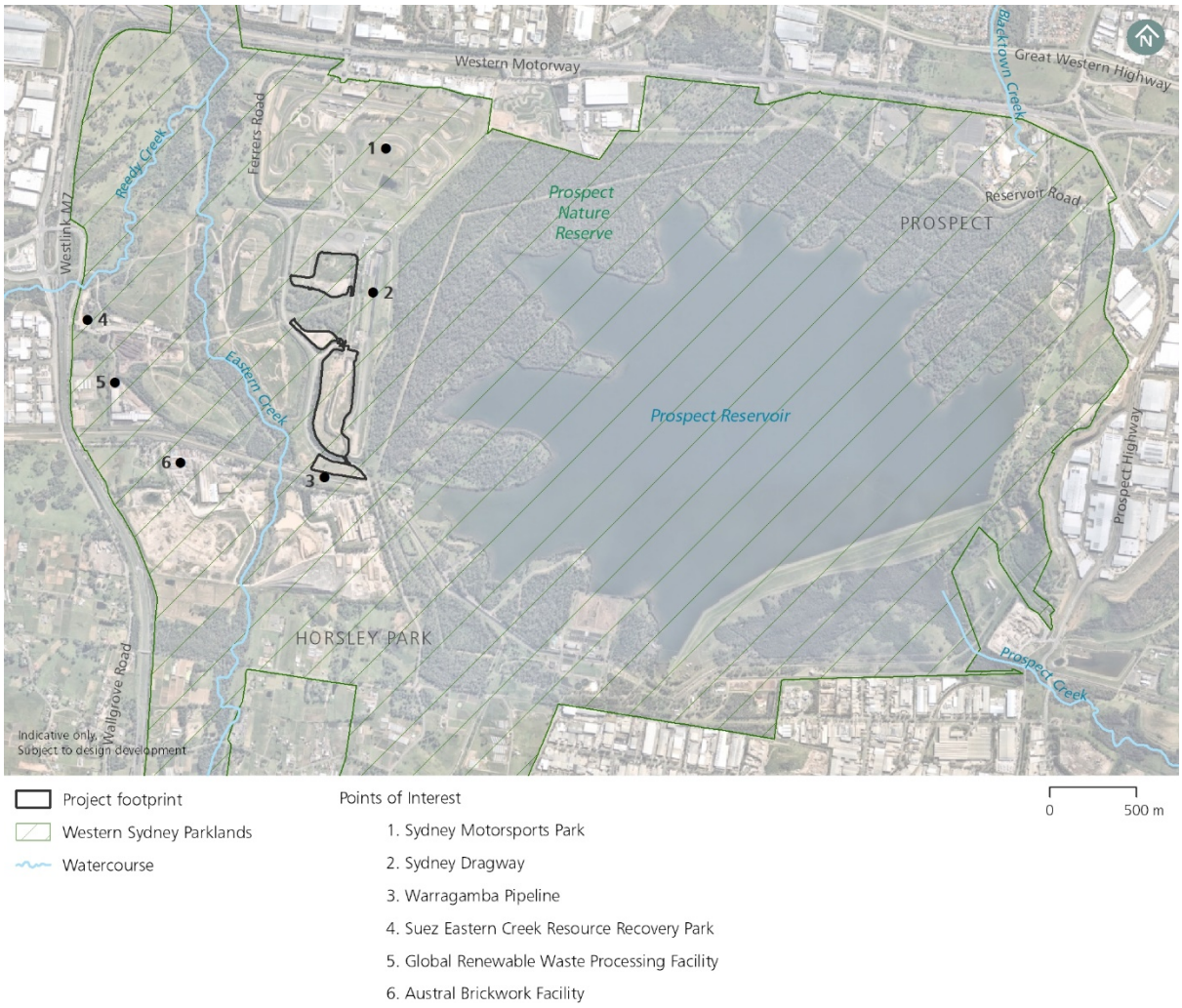

Figure 1-2 Local context of the project

1.1.3 Overview of the project

Once complete, the project would include world class racing infrastructure in the form of a clay-based racetrack benchmarked to national and international best practice for both speedway vehicles and motorcycles. To facilitate the use of the speedway racetrack, the following ancillary racing infrastructure would be constructed:

- New vehicle access to the raceway area via an existing intersection off Ferrers Road
- A racing competitor's pit area, comprising around 150 parking bays for race vehicles and their tenders, including 20 bays for heavy vehicles transporting racing vehicles to and from the speedway and viewing platforms for pit crews
- Workshops/garages and track-side operational support areas to be used by pit crews.

High quality event support infrastructure provided to maximise the spectator experience at speedway events would comprise:

- A grandstand with the capacity to seat around 3750 spectators
- Ticketing and entryway structures
- Spectator facilities, including terraced seating for up to a total of around 7000 spectators, public amenities, corporate boxes, provision for food and beverage operators together with merchandise outlets

- Dedicated parking provided for spectators, visitors and users of the Sydney International Speedway, available for use by other motorsport operators by agreement
- Dedicated parking for Sydney Dragway to replace the existing spectator parking areas which would form part of the Sydney International Speedway project site. The new Sydney Dragway parking would be available for use by other motorsport operators by agreement.

Operational support infrastructure would be provided to enable the operation of the Sydney International Speedway. Such infrastructure would include:

- Public safety including fencing and fire safety systems
- Communications including a fibre optic network (to suit internet broadcasting bandwidth and PA/AV provisions), signage and large broadcasting screens
- Services including the provision of stormwater, drainage and flooding, utilities and lighting.

The operational site layout is shown on Figure 1-3. Operation would also include maintenance activities required to support the project.

Construction of the project is expected to take around 13 months to complete. The following construction activities would be carried out:

- Clearing, earthworks and levelling
- Landforming works
- Establishment of carparks
- Construction of racing and event support infrastructure
- Utilities connections, landscaping and finishing works.

Further detail on the project is provided in Chapter 5 (Project description) of the Sydney International Speedway Environmental Impact Statement.

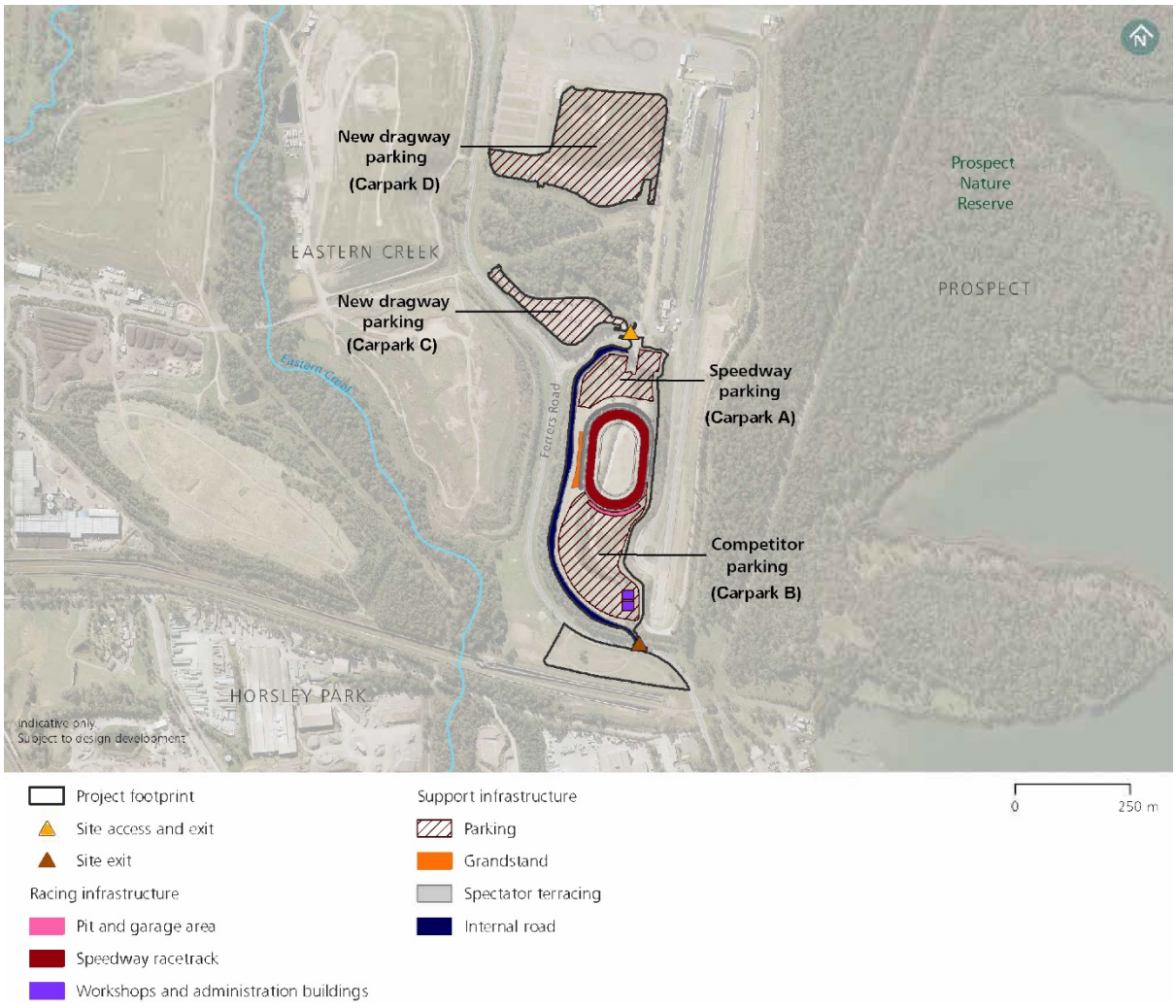

Figure 1-3 Project overview

1.2 Purpose and scope of this report

This technical paper is one of several technical papers that form part of the Environmental Impact Statement. The purpose of this technical paper is to provide a preliminary contamination assessment identifying potential contamination risks and impacts to human health and the environment associated with the construction and operation of the project. The report presents factual information derived through desktop review of available information relevant to contamination risk issues, and the findings of a site walkover inspection. The assessment responds directly to the Secretary's Environmental Assessment Requirements outlined in Section 1.3.

1.3 Secretary's Environmental Assessment Requirements

The Secretary's Environmental Assessment Requirements were issued for Sydney International Speedway on 19 May 2020 The requirements specific to contamination assessment and where these requirements are addressed in this technical paper are outlined in Table 1-1.

Table 1-1 Secretary's Environmental Assessment Requirements – Contamination

Reference	Secretary's Environmental Assessment Requirements	Where addressed
2.10.1	The Proponent must assess whether the land is likely to be contaminated and identify if remediation of the land is required, having regard to the ecological and human health risks posed by the contamination in the context of past, existing and future land uses. Where assessment and/or remediation is required, the Proponent must document how the assessment and/or remediation would be carried out in accordance with current guidelines.	Sections 3 to 7

The Secretary's Environmental Assessment Requirements also refer to the further investigations and assessments as identified in the Sydney International Speedway Scoping Report (Sydney Metro, 2020). Where these requirements are addressed in this technical paper are outlined in Table 1-2.

Table 1-2 Further investigations and assessments as identified in the Sydney International Speedway Scoping Report

Further investigations and assessments	Where addressed
A contamination assessment will be carried out and include: A review of available data and existing reports	Section 3
Observations from a site inspection	Section 3
Identification of the potential to encounter contamination and the activities that have the potential to generate contamination	Section 4
Assessment of potential contamination impacts to human health and environmental receptors	Section 4 and 5
Identification of mitigation measures	Section 6

2. Assessment methodology

This section provides an overview of the study area and methodology for this Preliminary Site Investigation.

The Preliminary Site Investigation included the following key activities:

- Desktop review of available information sources and observations from site inspections to understand the existing environment and potential for contamination within the study area
- A high-level prioritisation exercise including identification of areas of environmental interest (with respect to contamination) and assessment of potential impacts to construction from contamination (with no mitigation measures) to environmental and human receptors in the context of proposed construction activities
- Identification of appropriate mitigation and management responses for contamination, or where further investigation or remediation may be required.

2.1 Study area

To account for potential soil, groundwater and vapour and gas contamination that may be present as a result of historic and/or current activities carried out on and/or next to the proposed construction footprint, the study area for this investigation comprises a number of areas of the project site as identified Figure 2-1, and surrounding land within a 500m buffer. The identified areas are based on operational elements of the project and include:

- Area 1 - Proposed Carpark D (North)
- Area 2 - Proposed Carpark D (South)
- Area 3 - Proposed Carpark C
- Area 4 - Proposed Carpark A
- Area 5 – Proposed Speedway
- Area 6 - Carpark B, and associated competitor pits and garages
- Area 7 – Area south of Ferrers Road

2.2 Desktop review

The desktop assessment involved a review of available information relevant to the study area as contained within the Lotsearch (February 2020) report LS011112 (Appendix A) and other publicly available information sources to understand the existing environment, the potential risk for contamination and the potential impacts of the project. The review of information included:

- Review of existing land uses and information on topography, drainage, geology, soils, hydrogeology and receiving environments
- Review of historical aerial photographs (1950 to 2019) as contained within the Lotsearch (February 2020) report and from publicly available spatial platforms (*Google Earth* and SIX Maps).
- Publicly available information available via general internet searches for the key words (contamination, remediation and site investigation) for suburbs and major projects within and adjoining the study area
- Review of publicly available information from the NSW Environment Protection Authority (EPA), the Commonwealth Scientific and Industrial Research Organisation (CSIRO) Australian Soil Resource Information System (ASRIS) ASRIS database, the former NSW Department of Primary Industries groundwater database, and Lotsearch report findings
- Review of information provided by Sydney Metro, including relevant design plans.

The results of the desktop assessment are presented in Section 3.

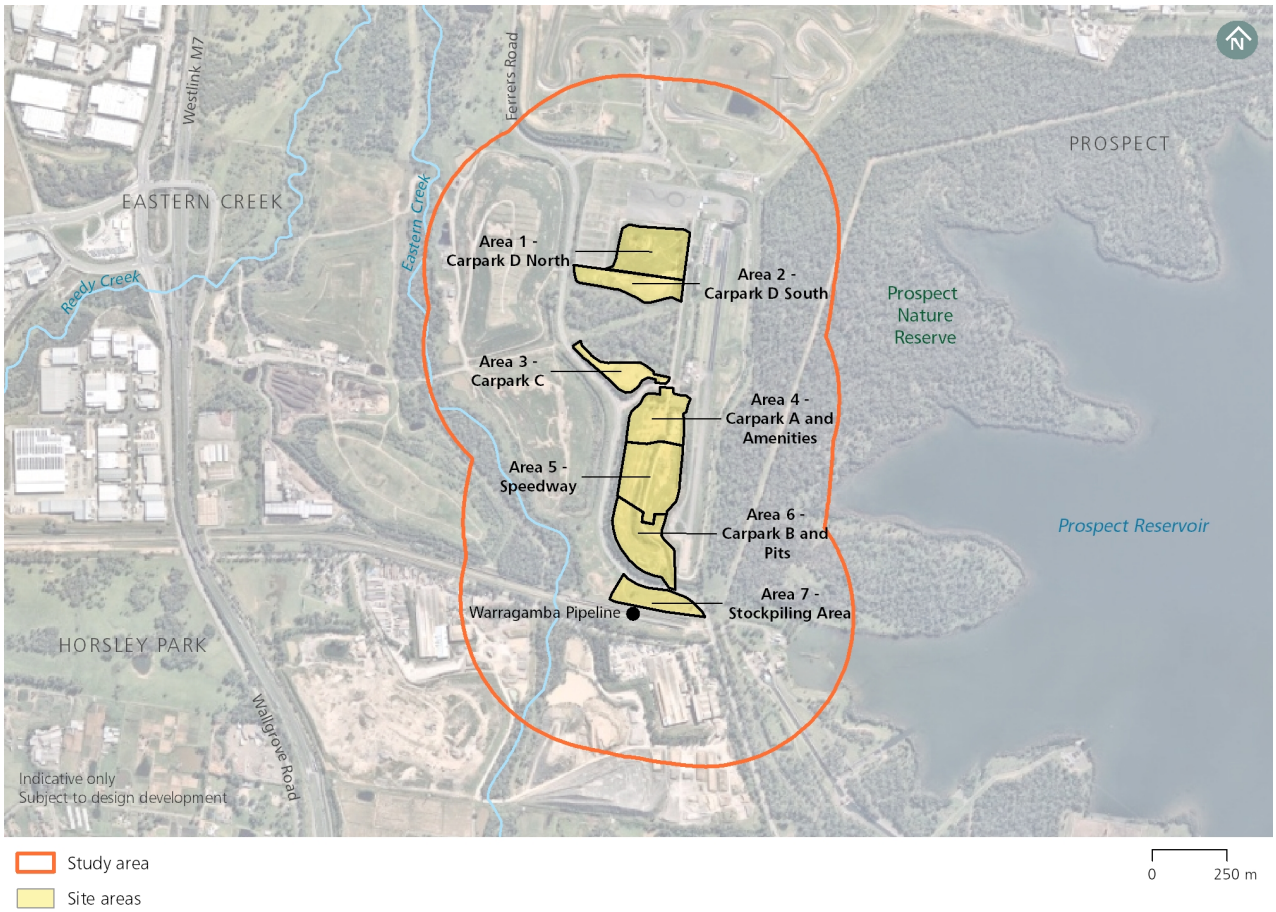

Figure 2-1 Contamination assessment areas and study area boundary

2.3 Site inspection

A site walkover inspection was conducted on 17 February 2020 by an experienced contamination specialist. The site walkover included all private land parcels associated with the project site, including:

- Lot 1 DP1077822 – including areas 1 to 6 as identified in Figure 2-1
- Lot 2 DP408966 – including eastern portion of area 4 as identified in Figure 2-1
- Lot C DP408966 – including eastern portion of area 5 as identified in Figure 2-1
- Lot 2 DP1062965 – including eastern portions of areas 4 and 5 as identified in Figure 2-1
- Lot 1 DP1077822 – encompassing area 7 as identified in Figure 2-1

Observations from the site inspection are presented and discussed in Section 3.8.

2.4 High-level prioritisation exercise

A high-level prioritisation exercise was carried out to assist in assessing the potential impact from construction to expose contamination to human and/or ecological receptors. The exercise considered source-pathway-receptor relationships consistent with a conceptual site model as defined by the *National Environment Protection (Assessment of Site Contamination) Measure 1999*, as revised 2013 (NEPM, 2013). The prioritisation exercise considered the following:

Contamination severity and extent

- Known or potential sources of contamination and likely potential contaminants of concern
- The type of potentially affected media (soil, sediment, groundwater, surface water, indoor and ambient air)
- Approximate spatial distribution of potential contamination, and proximity to the site (e.g. within the study area).

Pathways and receptors

- Assessment of potential pathways from a contamination source to a receptor without mitigation measures. Pathways were considered to include dust generation, vapour/gas emissions, excavation and disposal or reuse of soils, extraction and disposal or reuse of groundwater from dewatering or drainage, migration of groundwater via preferential pathways and surface water erosion. It was assumed that where construction activities would expose known or potential areas of contamination, the exposure pathways to construction workers could be complete. Where construction activities are located within and/or adjacent to sensitive environmental receptors, pathways could exist as a result of uncontrolled site discharges during construction
- Potential human and ecological receptors (including location, and potential for primary or secondary contact with contamination). Potential receptors were considered to comprise project construction workers and visitors, the general public and nearby residents and commercial workers in the surrounding land use, intrusive maintenance workers, receiving water bodies and ecological receptors. Exposure pathways to these receptors were considered to include direct dermal contact, ingestion or inhalation by human receptors and uptake by aquatic flora and intake by aquatic fauna.

Based on this prioritisation exercise, areas of the project site were categorised into five categories of contamination potential (very low, low, moderate, high and very high) representing potential impacts during construction without mitigation measures. The matrix used for categorising potential impacts from construction is provided in Table 2-1.

The categories of potential contamination impact to construction activities represent a qualitative assessment. Although not definitive, examples of the contamination status represented by the categories is provided below:

- *Very low to low impact* could represent smaller volumes of contaminated materials, likely to be limited to surface soils, with pathways readily managed with typical soil and water controls and personal protective equipment (PPE), and readily remediated by standard construction methods
- *Moderate impact* could represent larger volumes of contaminated materials, with pathways readily managed with typical soil and water controls and PPE and readily remediated by standard construction methods or smaller volumes of more complex contamination which may require specialised remediation methods and specialised management measures for pathways
- *High to very high impact* could represent more significant exposure risks, contaminated groundwater and gas/vapours, increased quantum of contaminated materials and wider contamination extent requiring remediation and specialised remediation methods. Pathways may require specialised management measures for example, positive pressure tents and odour control.

Table 2-1 Contamination impact potential matrix

		Contamination severity and extent				
		SE1 Low potential for contamination to be present in the media of concern at concentrations above the relevant assessment criteria and limited in extent	**SE2** Contamination possibly present in the media of concern at concentrations above the relevant assessment criteria and limited in extent	**SE3** Contamination possibly present in the media of concern at concentrations above the relevant assessment criteria and potentially widespread	**SE4** Known contamination present in the media of concern at concentrations above the relevant assessment criteria and limited in extent	**SE5** Known contamination present in the media of concern at concentrations above the relevant assessment criteria and widespread
Pathways and receptors	**PR1** Media of concern is unlikely to coincide with or otherwise impact on the construction scope *AND/OR* No or unlikely exposure pathway for human or ecological receptor's during construction	Very low	Low	Low	Moderate	Moderate
	PR2 Media of concern may intersect the construction scope. *AND* Exposure pathway for human or ecological receptors could be present and complete during construction	Low	Moderate	Moderate	High	High
	PR3 Media of concern would intersect the construction scope *AND* Exposure pathway for human or ecological receptors could be present and complete during construction	Moderate	Moderate	High	High	Very high

2.5 Relevant contamination guidelines

In preparing this technical paper, the following guidelines were considered (where relevant):

- Managing Land Contamination: Planning Guidelines SEPP 55 – Remediation of Land (Department of Urban Affairs and Planning and Environment Protection Authority (EPA), 1998)
- Consultants reporting on contaminated land: Contaminated Land Guidelines (NSW EPA, 2020)
- National Environment Protection (Assessment of Site Contamination) Measure 1999 (as revised 2013) (NEPC, 2013).

Should further investigations, remediation work and validation be carried out, these activities would be carried out in accordance with the following guidelines or other appropriate/endorsed guidelines available at that time:

- Guidelines made or approved under section 105 of the *Contaminated Land Management 1997*, including
  - Contaminated Sites: Sampling Design Guidelines (EPA, 1995)
  - Contaminated Sites: Guidelines for the NSW Site Auditor Scheme (3rd Edition) (EPA, 2017)
  - Contaminated Sites: Guidelines for the Assessment and Management of Groundwater Contamination (DEC, 2007)
  - Guidelines on the Duty to Report Contamination under the Contaminated Land Management Act 1997 (EPA, 2015)
- Australian Standard (AS 4482.1-2005) Guide to the sampling and investigation of potentially contaminated soil. Part 1: Non-volatile and semi-volatile compounds
- Australian Standard (AS 4482.2-1999) Guide to the sampling and investigation of potentially contaminated soils – Volatile substances
- Managing asbestos in or on soil (WorkCover NSW, 2014)
- Technical Note: Light Non-Aqueous Phase Liquid Assessment and Remediation (EPA, 2015)
- Information for the assessment of former gasworks sites (DEC, 2005)
- Vapour Intrusion: Technical Practice Note (DECW, 2010)
- Guidelines for the Assessment and Management of Sites Impacted by Hazardous Ground Gases (EPA, 2012)
- Best Practice Note: Landfarming (EPA, 2014)
- Waste Classification Guidelines (EPA, 2014)
- Australian and New Zealand Guidelines for Fresh and Marine Water Quality (ANZECC & ARMCANZ, 2018).

3. Existing environment

This section includes a description of the existing environment, zoning, and land use characteristics and features across the study area for the purpose of informing conditions relevant to the contamination assessment.

3.1 Site identification

The project site comprises a number of development areas directly adjacent to the Sydney Dragway and Sydney Motorsports Park and forms part of Western Sydney Parklands' Precinct 5: Eastern Creek Motor Sports area. The particulars of the study area are identified in Table 3-1.

Table 3-1 Project site details

Particulars	Description
Address	Ferrers Road, Eastern Creek
Local Government Area	City of Blacktown
Location	Adjacent to and east of Ferrers Road.

3.2 Zoning and land use

The project site is located east of Ferrers Road, next to the Sydney Dragway and south of the Sydney Motorsports Park within the suburb of Eastern Creek. At the time of preparing this Preliminary Site Investigation the project site was adjacent to a combination of land uses including:

- North: Sydney Motorsport Park, driving school, M4 Western Motorway, commercial (hotel)/industrial land uses (Truck repair workshop, service station), go-kart track and Western Sydney Parklands
- East: Sydney Dragway and Prospect Reservoir
- South: Veolia Horsley Park Waste Management Facility and Austral Bricks plant
- West: former SUEZ landfill (closed), SUEZ Eastern Creek Resource Recovery Park, Global Renewables resource recovery facility and the Westlink M7 motorway.

The study area is located within the Western Sydney Parklands' Precinct 5: Eastern Creek Motor Sports, and as such the provisions of the State Environment Planning Policy (Western Sydney Parklands) 2009 apply. Although the project site is on land within the Blacktown local government area, Clause 6 of the Western Sydney Parklands SEPP directs that the provisions of the Blacktown Local Environmental Plan 2015 do not apply. Part 2, Clause 9 of the Western Sydney Parklands SEPP notes that from the commencement of the policy, the land to which the policy applies is not zoned.

Sydney Dragway

Sydney Dragway is located immediately east of the project site. The purpose-built facility comprises a dragway track, spectator viewing facilities that can accommodate up to 50,000 spectators, a seminar centre, and venue support facilities. The Sydney Dragway hosts a range of local, state and national level events as well as ancillary events including corporate exhibitions, concerts and trade shows. Regular weekly events are held on Wednesday and Thursday evenings (generally from 6:00pm), on Saturdays (day-time and night-time events) and Sundays (day-time events).

The Sydney Dragway also supports a number of businesses that offer driver training, including:

- Drift School Australia, which is a motorsport fleet hire and driving school business. The business is open Monday to Friday, between 10:00am and 5:00pm
- Ian Luff Motivation Australia, which provides a range of services including driver training and safety, and corporate motivation.

Sydney Motorsports Park

The Sydney Motorsports Park is located north of the project site. It comprises four race circuits and a range of associated racing support facilities and a function venue. The Sydney Motorsports Park hosts a range of local club, state, national and international motor racing events, including V8 Supercars. The facility is also used for driver training, corporate drive days, and private practice as well as a venue for concerts, festivals, and private events.

The Sydney Motorsports Park also supports a number of driver and motorsport related businesses including:

- Radical Australia, which offers a range of events, coaching and mentoring programs, and maintenance and service facilities for Radical sportscars
- Driving solutions, which provides driver training for all skills and abilities
- Eastern Creek Top Rider, which offers a range of learn to ride and speciality courses for motorbike riders
- MotoDNA Motorcycle Training Sydney, which offers motorbike rider training and coaching.

Other businesses near the project

A number of businesses are located within the immediate area, including:

- LMS Energy Pty Ltd – Eastern Creek 2 Gas Utilisation Facility
- Suez Recycling and Resource Recovery Pty Ltd – Eastern Creek Waste and Recycling Centre
- The Austral Brick Co Pty Ltd – Austral Brick Plants 1,2 and 3
- Veolia Environmental Services (Australia) Pty Ltd – Horsley Waste Management Facility.

3.3 Topography and drainage

Topography data presented by Lotsearch (February 2020) (Appendix A) depicts land that generally slopes from east to west towards Ferrers Road and Eastern Creek.

The topographic profile of the project site is generally raised above the natural level by landfill materials of unknown composition.

Area 1 comprises a topographic high point within the study area. Terrain slopes steeply in all directions from a relatively flat hilltop of 88 metres Australian Height Datum (metres AHD) located in the centre of area 1 to elevations of about 76 metres AHD at the boundary of area 1.

Area 2 is characterised by an artificially levelled area, with a gentle slope to the south-west. Terrain elevation falls from about 72 metres AHD to 70 metres AHD across area 2. A steep embankment of about 5-6m in height is present along the southern boundary of Area 2.

Area 3 is characterised by relatively flat terrain, which slopes towards the north-west. Terrain elevation falls from about 66 metres AHD to 64 metres AHD across area 3.

Areas 4-6 are characterised by levelled areas of artificially raised terrain, which generally slope towards the west. Terrain elevation falls from a topographic high of 76 metres AHD along the eastern boundary to about 60 metres AHD at the western boundary of the areas.

Area 7 is characterised by relatively flat terrain, which generally slopes towards the south-west. Terrain elevation falls from a topographic high of about 67 metres AHD at the eastern boundary of the area to about 64 metres AHD at the western boundary of the area.

All areas of the project site within the study area are predominantly covered by unsealed areas with grass or exposed earth. Sealed areas consisted of a tarmac sealed carpark in the northern portion of area 4 and access roads connecting the areas. Rainfall falling onto the unsealed areas are likely to infiltrate directly into the sub-soils within the project site.

Drainage within the project site is generally oriented westwards towards Eastern Creek. Drainage from the southern area of the site, including areas 4,5 and 6 drain to Eastern Creek through a series of toe drains and culverts which extend from the project site and under Ferrers Road. Drainage from areas 1, 2 and 3 are discharged to Eastern Creek via culverts under Ferrers Road and by drainage into an area of native woodland with an un-named and un-mapped tributary to Eastern Creek.

3.4 Geology

The Penrith 1:100,000 surface geology mapping sheet (Clark & Jones, 1991) indicates the study area is underlain by Bringelly Shale of the Wianamatta Group. A narrow strip of Quaternary alluvium is present to the west of the site along the general alignment of Eastern Creek. A geological fault line is located west of the project site trending along a north-south direction.

Descriptions of the surface geological units present across the study area are summarised in Table 3-2.

Table 3-2 Surface geology across the study area

Geological unit	Descriptions
Quaternary Alluvium	Quaternary alluvium consisting of fine-grained sand, silt and clay from Quaternary fluvial deposition.
Bringelly Shale	The Bringelly Shale is a complex formation composed of a variety of lithologies with highly ceramic properties. Its plasticity is variable but generally higher than that of the Ashfield Shale because of the generally lower siderite content. Lithologies which comprise the Bringelly shale are in order of decreasing volumetric significance: claystone and siltstone, laminate, sandstone, coal and highly carbonaceous claystone, and tuff (Cobbity Claystone Bed). Claystone and siltstone are dominant while thin laminate horizons occur throughout. Sandstone is minor and sporadic, forming prominent “benches” in outcrop. The lower 30 metres of the Bringelly Shale is usually distinctive being relatively thinly bedded and containing the most carbonaceous sediments within the Wianamatta Group. Above this lower zone, claystone, siltstone and sandstone units are more thickly bedded.

3.5 Soils

3.5.1 Soil Landscapes

A review of the Penrith 1:100,000 soil landscape mapping sheet (Chapman and Murphy, 1989) identifies that the study area generally overlies residual soils belonging to the Blacktown Soil Landscape. A narrow strip of alluvial soils belonging to the South Creek Soil Landscape is present to the west of the project site, coincident with Quaternary alluvium geological features at this location, and the general alignment of Eastern Creek.

Descriptions of the soil landscape units located within the study area are summarised in Table 3-3.

Table 3-3 Soil landscapes across study area

Soil landscape	Description
Blacktown	Typically located on the flat to gently undulating terrain between creek channels and are described as shallow to moderately deep (<100cm) clays and silty clays derived from Bringelly Shale. This soil landscape typically comprises hard setting mottled texture contrast soils, red and brown podzolic soils on crests grading to yellow podzolic soils on lower slopes and in drainage lines. Relevant limitations for development include high erodibility, shrink-swell potential, salinity, low fertility and localised areas of permanently high water tables or seasonal waterlogging.
South Creek	Described as Quaternary alluvium derived from Wianamatta Group shales that comprise deep sandy, sandy clay and clay soils. The soil landscape often consists of very deep layered sediments over bedrock or relic soils and is typically a dynamic soil landscape with many areas of erosion and deposition. Relevant limitations for development include high erodibility, shrink-swell potential, salinity, low fertility and localised areas of permanently high-water tables or seasonal waterlogging.

3.6 Hydrogeology

3.6.1 Groundwater levels

Douglas Partners Pty Ltd completed hydrogeological field investigations at the project site in 2001 and 2002 (Douglas Partners Pty Ltd, 2002). Groundwater levels measured in 17 bores across the project site in June 2002 ranged between about one metre below ground level and over 30 metres below ground level. The highest reported groundwater elevation across the project site was 68 metres AHD. The groundwater table was typically in Bringelly Shale. Any perched groundwater table in the clayey residual soils, if present, is intermittent and/or localised.

The recorded groundwater levels indicated a westerly and southerly direction of flow towards Eastern Creek. Groundwater is likely to move relatively slowly through the shale due to a low hydraulic gradient, resulting in a high residence time. The permeability of overlying residual soils is also expected to be relatively low.

3.6.2 Groundwater extraction

The Lotsearch (February 2020) (Appendix A) search of the NSW Department of Primary Industries (DPI) – Office of Water registered groundwater bore database and the Bureau of Meteorology National Groundwater Information System indicated that there were 2 registered groundwater bores within 500 metres of the project site. No registered groundwater bores were identified to be located within the project site.

A summary of key information for these groundwater bores is presented in Table 3-4 while a full list of all registered bores identified within two kilometres of the project site is provided in the Lotsearch report (refer to Appendix A of this report). The bores identified within 500 metres of the project site are registered as monitoring bores and as such do not serve a beneficial groundwater use (e.g. potable water supply/irrigation supply).

Table 3-4 Registered groundwater monitoring bores within 500 metres of the project site

Well ID	Year of Installation	Registered Use	Total Depth (metres)	Standing Water Level (metres)
GW104063	2001	Monitoring	27.40	Unknown
GW104062	2001	Monitoring	24.40	Unknown

3.6.3 Groundwater quality

Based on records collected by other studies adjacent the project site, groundwater is generally slightly acidic to near-neutral pH and potentially extremely saline.

3.7 Surface waterways and wetlands

The study area is located about 130 metres east of Eastern Creek, and 500 metres west of the Prospect Reservoir, within the South Creek sub-catchment. Prospect Reservoir is an integral part of Sydney's drinking water supply.

Project site drainage is generally to the west, towards Eastern Creek, however the southern portion of the study area is observed to drain to the east and onto the adjacent Sydney Dragway.

An unnamed and unmapped ephemeral creek cross cuts the centre of the study area along the shallow valley that separates Carpark C and Carpark D. The creek line is directed through a culvert under Ferrers Road and discharges across the adjacent land to the west of the study area before forming a confluence with Eastern Creek.

3.8 Results from the site inspection

A suitably experienced Jacobs contamination specialist conducted a site walkover on 17 February 2020. The purpose of the site walkover was to make observations of the current site conditions and adjacent site land uses with respect to potential contamination. The observations made during the site walkover are summarised in the sections below. Observation photographs are presented in Appendix B.

3.8.1 Area 1 – Proposed Carpark D (north)

Table 3-5 Summary of project site features and observations – Area 1

Feature	Observation	Reference Photo Plate*
Surfacing	Grassed with areas of bare/exposed earth.	1
Structures	Four-wheel drive training centre (mobile unit).	3, 4
Services	None observed.	-
Topography/gradient	Raised hill with peak sloping in all directions at moderate gradient	1, 8, 10
Drainage	Grassed swale along eastern boundary. No other drainage features. Ponded water in places.	-
Fill materials	Sandstone boulders formed into mound. Probable subsurface fill throughout area.	4
Waste(s)	Waste tyres, steel girders and rails, wood, cement, plastics, sheet metal roofing, intermediate bulk container (empty), vehicle trailer.	2,5,6,7,9
Above ground/underground storage tanks	None observed.	-
Asbestos	None observed.	-
Chemical and other hazard material storage	Intermediate bulk container (unlabelled and empty).	5,7
Phytotoxicity	None observed.	-
Staining and odours	None observed.	-
Incidents and complaints	None recorded.	-
Adjacent land uses	North: Paved area for vehicle parking.	-
	East: Access road.	-
	South: Area 2 Carpark D (south).	-
	West: Grassed and paved area – multifunction. Ferrers Road and Eastern Creek Waste and Recycling Centre beyond.	-
Evidence of previous investigations	None observed.	-
Additional observations	No additional observations.	-

*Reference photos provided in Appendix B of this report

3.8.2 Area 2– Proposed Carpark D (south)

Table 3-6 Summary of project site features and observations – Area 2

Feature	Observation	Reference Photo Plate*
Surfacing	Unsealed gravel with grassed areas along boundary and embankments.	11,12
Structures	Steel shipping containers within western portion of the area (contents unknown).	15,16
Services	None observed.	
Topography/gradient	Raised levelled terrain – gentle slope to south-west. Moderate to steep falling slopes along southern and eastern boundary embankments to woodland area/easement. Moderate rising slope along northern boundary to Area 1.	10,12,17
Drainage	Grassed swale along eastern boundary. Sheet flow to south. Creek and floodplain at base of southern boundary embankment.	11,12,17
Fill materials	Asphalt, concrete and brick cobbles, reworked natural materials. Probable subsurface fill throughout area.	13,17
Waste(s)	Heavy vehicle tyres, waste oil drum (empty), wooden panels, asphalt, concrete slabs.	13,14,15,16
Above ground/underground storage tanks	None observed.	-
Asbestos	None observed.	-
Chemical and other hazard material storage	Waste oil drum (empty).	-
Phytotoxicity	None observed.	-
Staining and odours	None observed.	-
Incidents and complaints	None recorded.	-
Adjacent land uses	North: Area 1 (Carpark D)	-
	East: Access road with Sydney Dragway and Prospect Reservoir Beyond.	-
	South: Creek, floodplain, woodland and high voltage power easement.	-
	West: Ferrers Road and Eastern Creek Waste and Recycling Centre beyond.	-
Evidence of previous investigations	None observed.	-
Additional observations	Concrete and brick cobbles used as slope stabilisation measure. Contents of steel shipping containers unknown.	15,16,17

*Reference photos provided in Appendix B of this report

3.8.3 Area 3 – Proposed Carpark C

Table 3-7 Summary of project site features and observations – Area 3

Feature	Observation	Reference Photo Plate
Surfacing	Unsealed gravel with grassed and wooded areas along boundary and embankments.	18,20
Structures	Portable toilets and rainwater harvesting tank.	18
Services	None recorded within the area. 150mm uPVC water main along western boundary.	-
Topography/gradient	Raised levelled terrain – gentle slope to west. Moderate slope along northern boundary forming embankment to woodland area and power easement.	19,20,21
Drainage	Sheet flow to catch drains (swales) along boundary.	-
Fill materials	Gravel ground cover. Probable subsurface fill throughout area.	-
Waste(s)	Waste tyres along northern boundary.	19
Above ground/underground storage tanks	Above ground rainwater storage tank.	-
Asbestos	None observed.	-
Chemical and other hazard material storage	None observed.	-
Phytotoxicity	None observed.	-
Staining and odours	None observed.	-
Incidents and complaints	None recorded.	-
Adjacent land uses	North: Creek, floodplain, woodland and high voltage power easement.	-
	East: Access road with Sydney Dragway and Prospect Reservoir beyond.	-
	South: Access road with Area 4 beyond.	-
	West: Ferrers Road and Eastern Creek Waste and Recycling Centre beyond.	-
Evidence of previous investigations	None observed.	-
Additional observations	No additional observations.	-

*Reference photos provided in Appendix B of this report

3.8.4 Area 4 – Proposed Carpark A and amenities

Table 3-8 Summary of project site features and observations – Area 4

Feature	Observation	Reference Photo Plate
Surfacing	Exposed earth and grassed areas. Paved parking area within northern portion of area.	22,23,30,50
Structures	Steel shipping containers.	25,26,27,29
Services	None recorded within the area. Pad mount substation and duct sections to north – beyond access road.	-
Topography/gradient	Raised levelled terrain – gentle slope to south-west.	22,23,28,50
Drainage	Primarily sheet flow. Swale along eastern boundary flowing south. Ponded water throughout area.	30
Fill materials	Gravel ground cover. Probable subsurface fill throughout area.	22,23
Waste(s)	Stockpiled gravels.	22
Above ground/underground storage tanks	None observed.	-
Asbestos	None observed.	-
Chemical and other hazard material storage	Two (2) Intermediate bulk containers (IBC) containing super blue sanitizer. 10l tins containing paint and emulsifier. Steel shipping containers with unknown contents.	24,27
Phytotoxicity	None observed.	-
Staining and odours	None observed.	-
Incidents and complaints	None recorded.	-
Adjacent land uses	North: Access road and structures including a pad mount substation.	-
	East: Embankment with Sydney Dragway and Prospect Reservoir beyond.	-
	South: Area 5.	-
	West: Ferrers Road and Eastern Creek Waste and Recycling Centre beyond.	46,47
Evidence of previous investigations	None observed.	-
Additional observations	Plant and machinery on-site including forklifts, trailers, compacter and bobcat. Construction materials including steel fencing, wooden pallets, concrete barriers, steel beams.	25-29

*Reference photos provided in Appendix B of this report

3.8.5 Area 5 – Proposed Speedway

Table 3-9 Summary of project site features and observations – Area 5

Feature	Observation	Reference Photo Plate
Surfacing	Grass cover with exposed fill materials and boulders along eastern boundary.	31,33,35,36
Structures	None observed.	-
Services	None recorded.	-
Topography/gradient	Raised levelled terrain with gentle slope to south-west. Steep embankments along eastern and western boundaries.	33, 37, 46-48
Drainage	Sheet flow across area. Grassed swale to rock armoured swale along eastern boundary. Ponded water present.	30-33, 35,36
Fill materials	Exposed fill materials comprising gravelly sands with concrete fragments along eastern embankment. Gravelly sand and boulders containing shales and sandstone blocks exposed by washout along western embankment.	33, 36, 47
Waste(s)	Waste tyres observed to be buried within exposed fill materials.	32, 34
Above ground/underground storage tanks	None observed.	-
Asbestos	None observed.	-
Chemical and other hazard material storage	None observed.	-
Phytotoxicity	None observed.	-
Staining and odours	Discoloured ponded water with sheen within unvegetated swale along eastern boundary. Possible iron fixing bacterial sheen.	32
Incidents and complaints	None recorded.	-
Adjacent land uses	North: Area 4.	-
	East: Sydney Dragway and Prospect Reservoir beyond.	-
	South: Area 6.	-
	West: Ferrers Road and Eastern Creek Waste and Recycling Centre beyond.	-
Evidence of previous investigations	None observed.	-
Additional observations	Storm drain along eastern boundary discharges to Sydney Dragway via stormwater drain. Bio-retention basin observed within Sydney Dragway (possible stormwater treatment drain). Storm drains along western boundary discharge to adjacent property west of the project site beyond Ferrers Road via several culverts.	35,37,45

*Reference photos provided in Appendix B of this report

3.8.6 Area 6 –Carpark B and pits

Table 3-10 Summary of project site features and observations – Area 6

Feature	Observation	Reference Photo Plate
Surfacing	Grass cover with exposed earth in places.	38,42
Structures	None observed.	-
Services	None recorded.	-
Topography/gradient	Raised levelled terrain with gentle slope to south-west. Steep slopes along southern, eastern and western embankments.	38,42
Drainage	Sheet flow with swales at toe of boundary embankments. Ponded areas within centre of the area.	43
Fill materials	Probable subsurface fill throughout area. Some stockpiled fill materials in the centre of the area.	39,46,47
Waste(s)	Stockpiled waste materials comprising fragmented asphalt, shotcrete/concrete boulders, steel beams, concrete and asphalt aggregate, waste tyre, and fly tipped refrigerator.	39-41,43,44, 47
Above ground/underground storage tanks	None observed.	-
Asbestos	None observed.	-
Chemical and other hazard material storage	None observed.	-
Phytotoxicity	None observed.	-
Staining and odours	Moderate sewage odour noted within swales at base of boundary embankments.	-
Incidents and complaints	None recorded.	-
Adjacent land uses	North: Area 5.	-
	East: Sydney Dragway and Prospect Reservoir beyond.	-
	South: Ferrers Road with Area 7 beyond.	-
	West: Ferrers Road and Eastern Creek Waste and Recycling Centre beyond.	-
Evidence of previous investigations	None observed.	-
Additional observations	Washout exposing subsurface materials (probable fill) along western boundary.	47

*Reference photos provided in Appendix B of this report

3.8.7 Area 7 – Proposed permanent stockpile area

Table 3-11 Summary of project site features and observations – Area 7

Feature	Observation	Reference Photo Plate
Surfacing	Grass cover.	50
Structures	Two on-site steel shipping containers observed (contents unknown).	52
Services	None recorded.	-
Topography/gradient	Gently sloping to north-west.	50
Drainage	Sheet flow towards Eastern Creek. Artificial stormwater drainage channels bypassing stormwater from adjacent project site (east) through the area to Eastern Creek via culverts under Ferrers Road.	49,53
Fill materials	No evidence of fill materials observed, with exception of concrete aggregate used to line artificial stormwater drainage swales.	-
Waste(s)	Several small historic grassed stockpiles observed within star picketed locations.	51,54
Above ground/underground storage tanks	None observed.	-
Asbestos	None observed.	-
Chemical and other hazard material storage	Intermediate Bulk Container (IBC) previously containing sodium chloride biotite.	52
Phytotoxicity	None observed.	-
Staining and odours	Moderate sewage odour noted around the area. Possibly emanating from landfill.	-
Incidents and complaints	None recorded.	-
Adjacent land uses	North: Area 6/Eastern Creek Waste and Recycling Centre.	-
	East: Ferrers Road and Area 6.	-
	South: Prospect Reservoir pipeline.	-
	West: Horsley Park Waste Management Facility.	-
Evidence of previous investigations	None observed.	-
Additional observations	No additional observations.	-

*Reference photos provided in Appendix B of this report

3.9 Information review

Several information sources were investigated to determine the history of land use within and next to the project site. The following sections list details of the sources of historical information and a summary of information provided by each source.

3.9.1 Historical aerial imagery

Aerial imagery was reviewed for the years 1956, 1961, 1965, 1970, 1982, 1991, 2000, 2004 (Google Earth), 2007, 2009, 2014 (Google Earth) and 2019 to assess land use and changes in general conditions within the study area.

A summary of the historical aerial review of the study area is provided in Table 3-12. Historical aerial imagery (with the exception of 2004 and 2014) is presented in the Lotsearch (February 2020) report provided in Appendix A of this report.

Review of the historic aerial imagery has identified a number of potential sources of contamination, including:

- Earthworks and emplacement of fill materials of unknown composition and thickness across the project site
- Earthworks and landfilling at the former SUEZ landfill (west of the project site) and Veolia Horsley Park Waste Management Facility (south of the project site)
- Waste recovery activities at the SUEZ Eastern Creek Resource Recovery Park, Veolia Horsley Park Waste Management Facility and Global Renewables resource recovery facility
- Use of the project site for four-wheel drive training, off-road car racing and overflow parking for Sydney Dragway
- Emplacement of small stockpiles in the southern portion of the project site.

These above historic potential contamination sources have the potential to impact on construction and operation of the project. The potential sources of contamination have been inspected as part of a site walkover (Section 7) and the potential risks are discussed further in Sections 5 and 6.

Table 3-12 Summary of historical aerial imagery

Date	Project site	Surrounding Area (150 metre buffer around the project site)
1956	▪ Largely agricultural/pastoral land use with sparse woodland. ▪ Eastern Creek is present to the west boundary with wooded riparian corridor. ▪ A creek line is present between areas 2 and 3 ▪ A road (Horsley Road) runs north-south along the eastern boundary and through the eastern edge of Areas 1-6.	▪ Largely agricultural/pastoral land use with sparse trees. ▪ The Prospect Reservoir appears east and south east of the buffer zone. ▪ A number of small buildings appear south of the project site ▪ Warragamba water pipeline is evident adjacent to the Prospect Reservoir. ▪ Two oval dirt tracks appear west of the project site.
1961	▪ No significant changes, except for some clearance of woodland affecting eastern portions of areas 4 and 5. ▪ Some small to medium sized buildings are observed in area 6. ▪ The creek line between area 2 and 3 appears slightly flooded with denser vegetation.	▪ No significant changes except for some clearance of woodland affecting areas adjacent to areas 4 and 5.

Date	Project site	Surrounding Area (150 metre buffer around the project site)
1965	▪ Land appears to have been cleared across areas 3-7 to make way for agricultural land (potential market gardens). ▪ The north-west portion of area 1 has been partially cleared and appears as exposed earth. ▪ Additional structures comprising medium to large sized buildings are now present within areas 4 and 6.	▪ A number of small to medium sized buildings are now present directly north of area 1. ▪ Two dams appear around rural residential properties north east and north west area 1. A round dirt track can be observed adjacent to and directly west of area 3. ▪ An oval track is now present between Eastern Creek and areas 5/6.
1970	▪ Further rural residential development appears in area 3 and a rural residential property appears in area 1. ▪ Excavation works appear to have been carried out on the south west portion of the project site and several small stockpiles are observed. ▪ A dirt access road appears to transect area 2.	▪ An additional water pipe appears directly adjacent to, and south of area 7. ▪ Vegetation appears to have been cleared and excavation works carried out east of area 7 adjacent to Prospect Reservoir. The channel inlet to Prospect Reservoir appears to have been upgraded. ▪ A number of large sheds appear east of area 7. Rural residential properties appear north, north west and north east of the project site. Additional small sheds can be observed east of areas 3 and 4.
1982	▪ No significant changes except for evidence of clearing to make way for high voltage lines and easement between areas 2 and 3. ▪ An additional oval dirt track is also present in area 7.	▪ Industrial site south of area 7 and water pipeline appear consistent with the current use as the Austral Bricks facility. Additional buildings appear around Prospect Reservoir inlet channel. Additional large sheds appear to have been constructed east of the southern and central portions of the project site. ▪ A large number of small objects (unknown use) can be observed surrounding the rural residential property and sheds east of area 1. A rural residential property and a number of sheds appear to have been demolished north of area 1.
1991	▪ The majority of structures across areas 3-7 have been demolished with remnant concrete slab visible on the central portion of the project site ▪ Several structures in the eastern portions of areas 4 and 5 remain. The structure in area 1 remains.	▪ Off-site structures to the north-west and north-east of area 1 appear to have been demolished. ▪ A new road is present to the north of area 1, which is consistent with an existing access Road to the Sydney Dragway and Ferrers Road.
2000	▪ No significant changes	▪ Earthworks and further development of the area consistent with the current Horsley Park Waste Management Facility south-west the buffer zone.

Date	Project site	Surrounding Area (150 metre buffer around the project site)
2004, 2007	▪ Evidence of earthworks within areas 1 -6 consistent with historic operation of the project site under the Waste Asset Management Corporation (WAMC). Grassed cover appears cleared through areas 3-6 and levels potentially raised with evidence of embankments around the project site boundary. There is evidence of some minor earthwork's activities in area 1.	▪ Significant earthworks immediately west of areas 1-6 and north-west of area 7 consistent with the current Eastern Creek Waste and Recycling Centre. The Sydney Dragway and associated paved parking areas/access roads to the east and north of areas 1-6 are now fully developed, along with the Sydney Motorsport Park immediately north of area 1. ▪ Ferrers Road is now present immediately west of the project site running parallel with the western boundaries of areas 1-6 and north of area 7.
2009-2019	▪ The project site appear fully developed with areas of earthworks now generally grass covered. ▪ There is evidence of emplacement of additional stockpiles in area 6 from c. 2017-2019. ▪ With the exception of area 7, all areas appear to be utilised by vehicles consistent with the current Sydney Dragway parking arrangements. ▪ The northern portion of the project site appears in its current use as a 4WD training area and paved parking for the Sydney Dragway.	▪ Final stages of earthworks and rehabilitation of ground cover in the adjacent Eastern Creek Waste and Recycling Centre. No other significant changes.

3.9.2 Review of aerial imagery

Review of the historic aerial imagery has identified a number of potential sources of contamination, including:

- Earthworks and emplacement of fill materials of unknown composition and thickness across the project site
- Earthworks and emplacement of materials (landfilling) at the current Eastern Creek Waste and Recycling Centre and Horsley Park Waste Management Facility (west of the project site)
- Use of the project site for four-wheel drive training and as parking for Sydney Dragway
- Emplacement of small stockpiles in the southern portion of the project site.

These above historic potential contamination sources have the potential to impact on construction and operation of the project. The potential sources of contamination have been inspected as part of a site walkover (Section 3.8) and the potential risks are discussed further in Sections 4 and 5.

3.9.3 NSW regulatory database search

3.9.3.1 Record of Notices Issued Under the Contaminated Land Management Act

A search conducted in February 2020 of the NSW EPA Contaminated Sites Record of Notices (under section 58 of the *Contaminated Land Management Act 1997)* and the list of contaminated sites notified to NSW EPA (under section 60 of the *Contaminated Land Management Act 1997*) indicated that there are no records of notified sites or records of former and current regulated sites within the study area as identified in Figure 2-1.

3.9.3.2 Contaminated Sites Notified to the EPA

A search of the NSW EPA Public Register of Contaminated Sites notified to NSW EPA ((under section 60 of the *Contaminated Land Management Act 1997)* as detailed in the Lotsearch (February 2020) report indicated no records of notified sites within the study area as identified in Figure 2-1.

3.9.3.3 Licensed Activities under the POEO Act 1997

A search of sites with licensed activities under the POEO Act 1997 as detailed in the Lotsearch (February 2020) report indicated records of five (5) companies, with thirteen (13) activities within the study area as defined in Figure 2-1. These have been summarised in Table 3-13. The locations of these site are presented in the Lotsearch Report (Appendix A).

The majority of the EPLs issued for activities within the study area are associated with waste treatment, generation and disposal. EPLs generally detail requirements for the management of pollution risks associated with the licenced activities. As such, if activities are operating in accordance with their respective EPL, the risk of those activities causing contamination would be reduced.

Table 3-13 Current EPA licensed activities within the study area

Organisation	Name	Address	Suburb	Activity	Distance and Direction from project site
Waste Assets Management Corporation	Eastern Creek Waste Management Centre (EPL 5272)	Wallgrove Road	Eastern Creek	Non-thermal treatment of general waste	Adjacent (West of Ferrers Road)
				Waste disposal by application to land	
LMS Energy Pty Ltd	Eastern Creek 2 Gas Utilisation Facility (EPL 12569)	Ferrers Road	Eastern Creek	Generation of electrical power otherwise than from coal, diesel or gas	Adjacent (West of Ferrers Road)
Suez Recycling & Recovery Pty Ltd	Eastern Creek Waste and Recycling Centre (EPL 12517)	Wallgrove Road	Eastern Creek	Composting	100 metres west of areas 6 & 7; 500 metres west of areas 3-5; and 800-1000 metres south-west of areas 1 and 2.
The Austral Brick Co Pty Ltd	Austral Brick, Plants 1,2, & 3 (EPL546)	738 – 780 Wallgrove Road	Horsley Park	Ceramic waste generation	200 metres south of area 7, increasing distance up to 1400 metres from area 1
				Ceramics production	
				Crushing, grinding or separating	
				Land-based extractive activity	
				Mining for minerals	

Organisation	Name	Address	Suburb	Activity	Distance and Direction from project site
Veolia Environmental Services (Australia) Pty Ltd	Horsley Park Waste Management Facility (EPL 20339, EPL 11584, EPL 11798, EPL 4458)	Wallgrove Road, HORSLEY PARK NSW, 2175	Horsley Park	Non-thermal treatment of general waste, recovery of general waste, waste storage of other types of waste.	500 metres south-west (20339 and 11584) and west (11798) of area 7, increasing up to 1600 metres from area 1.
		Wallgrove Road		Composting	
				Non-thermal treatment of waste	
				Waste disposal by application to land	

A search of waste management and liquid fuel facilities sites as detailed in the Lotsearch (February 2020) report (Appendix A) indicated three of the above records are listed on the National Waste Management Site Database within the study area comprising:

- Eastern Creek Waste and Recycling Centre – multipurpose facility – owned by WSN Environmental Solutions: Located immediately west of the project site
- Eastern Creek Waste and Recycling Centre – re-processing facility – owned by SITA Australian Pty Ltd: Located immediately west of the project site
- Horsley Park Waste Management Facility – landfill facility – owned by Veolia Environmental Services (Australia) Pty Ltd: Located 411m south west of the project site.

The Lotsearch (February 2020) report indicated no records of liquid fuel facilities within the study area.

Based on the review of the POEO register, there are some areas of the project that could be impacted by contamination (in consideration of contamination type, media, migration pathway potential and lateral/horizontal extent of construction) from licenced activities as detailed in Table 3-13.

Potential contamination issues associated with the current EPLs include potential impacts to soil, groundwater and ground gas within adjoining land uses and the project site as a result of migration of leachate and landfill gas. Contaminants of potential concern include volatile organic compounds (VOCs), semi-volatile organic compounds (SVOCs), organic contaminants, hydrocarbons, heavy metals, PFAS compounds, and gases comprising hydrogen sulphide, methane. These are discussed further in Section 4 and 5.

3.9.3.4 Delicensed & former licensed EPA activities

A search conducted in February 2020 of the NSW EPA POEO public register identified four sites within 500 metres of the study area associated with EPL licenced activities that have been surrendered and subsequently delicensed. These have been summarised in Table 3-14. The locations of these site are presented in the Lotsearch Report (Appendix A).

Table 3-14 Former licensed activities within 500 metres of the project site

Organisation	Location	Status	Date of EPL Surrender	Activity
Luhrmann Environment Management Pty Ltd	Waterways throughout NSW	Surrendered	06/09/2000	Other Activities/Non-Scheduled Activity - Application of Herbicides
Robert Orchard	Various waterways throughout NSW – Sydney 2000	Surrendered	07/09/2000	Other Activities/Non-Scheduled Activity - Application of Herbicides
Fairfield City Council	Waterways Of Fairfield City Council - Fairfield NSW 2165	Surrendered	17/08/2000	Other Activities/Non-Scheduled Activity - Application of Herbicides
Sydney Weed and Pest Management Pty Ltd	Waterways Throughout NSW -Prospect, NSW, 2148	Surrendered	09/11/2000	Other Activities/Non-Scheduled Activity - Application of Herbicides

Potential contamination issues associated with the former EPL's include impacts to soil and surface water through the broad acre application of herbicides to control weeds within waterways, however these issues are unlikely to affect on-site contamination risk.

3.9.3.5 PFAS investigation and management programs

A search of sites with PFAS investigation and management programs as detailed in the Lotsearch (February 2020) report indicated no records within the study area.

3.9.4 Other potential contaminating sources

The Lotsearch report did not identify any of the following within 500 metres of the project site:

- Former gasworks
- Sites subject to Per- and polyfluoroalkyl substances (PFAS) investigation and management programs
- Current and/ or former defence sites
- Historic dry cleaners, motor garages, and service stations business listing between the years 1948 to 1993.

3.9.5 Previous Investigations

A review of publicly available information available via general internet searches for the key words (contamination, remediation and site investigation) for the suburbs of (Eastern Creek, and Horsley Park) and major projects within the surrounding area and adjoining the project site was conducted.

The results found no relevant information with respect to contamination, remediation and site investigations within the suburb of Horsley Park. The results found one investigation for the suburb of Eastern Creek comprising a statement of environmental effects for an industrial development to be used for the purpose of warehousing (10 Eastern Creek Drive, Eastern Creek) (Mecone, 2019), located about 3km west of the project site. The results of the investigation found low risks for site contamination from on-site filling, construction, or off-site land uses.

No evidence of previous investigations was recorded during the site walkover inspection.

3.10 Sensitive receiving environments

A number of sensitive receiving environments have been identified within the study area and outside of the areas through the desktop review and site inspections, including:

- Native woodland and local unnamed first order creek - located between areas 2 and 3 with evidence of a minor creek/floodplain flowing west towards Eastern Creek
- Eastern Creek – located about 100-500 metres west of the areas 1-6 and adjacent to area 7 (on the western side of Ferrers Road)
- Prospect Reservoir – located about 450 metres east of the areas 4-6 and 250 metres west of Site 7.

These sensitive receiving environments have the potential to be impacted by contamination as a result of construction and/or operation of the project. Potential contamination impacts to these sensitive receiving environments are discussed further in Sections 5 and 6 of this report.

4. Contamination assessment findings

4.1 Areas of environmental interest

Based on the findings of the desktop review and site inspection (refer to Section 3 of this report), a number of areas containing potential contamination sources (areas of environmental interest) have been identified within and/or adjacent to the project site.

To understand the potential interaction of construction activities and operation of the project with potential contamination impacts, parts of the project site have been categorised into five categories of potential contamination impact (very low, low, moderate, high and very high) - based on the impact prioritisation methodology in Section 2.4.

Some areas of the project site contain multiple potential contamination sources. Where this occurs, a range of categories of potential contamination impact has been provided for the area. The results of this exercise are presented in Table 4-1.

Subsurface fill materials and associated groundwaters/ground gases have been assigned a high potential contamination impact due to historic bulk earthworks and filling activities carried out on-site to form the current landform profile, and the unknown nature, extent, depth and contamination status of these fill materials. These impacts are discussed further in Section 5 and have the potential to affect both construction and operation of the project if not managed appropriately.

Moderate potential contamination impact from on-site waste materials, and stockpiled soils have been identified in areas 1 to 6. Moderate potential impacts from ground gas have been identified across the project site due to gas migration from adjacent land use (waste recovery). Moderate potential impacts from subsoils, groundwater and ground gas have been identified in area 7 due to adjacent land use (waste recovery facilities).

Impacts unique to operation of the project and independent of the current areas of environmental interest have been assessed and discussed in Section 5.

Table 4-1 Summary of contamination risk

Area	Potential sources of contamination	Contamination severity and extent assessment			Pathways and receptors Assessment of relationship to construction and operational footprint and scope				Potential contamination impact
		Media and COPCs	Contamination status	Reference to Table 2-1 criteria	Location relative to the project site	Potential for contamination to be intersected	Exposure pathways (direct contact, ingestion or inhalation)	Reference to Table 2-1 criteria	
Areas 1 to 6: cut and fill	Subsurface fill material and perched groundwater	Soil, groundwater, ground gas Heavy metals, TRH, PAH, OCPs, OPPs, VOCs/SVOCs, PCBs, asbestos,	Contamination possibly present in the media of concern at concentrations above the relevant assessment criteria and potentially widespread	SE3	On-site	Construction scope would intersect the media, and Exposure pathway for human or ecological receptors could be present and complete during construction. Exposure pathways for human or ecological receptors could be present and complete during operation if not properly mitigated.	Likely exposure pathways include direct contact, ingestion, and inhalation for human health, and uptake for ecology [1,2,3,4,5]	PR3	High
Area 1: Cut and fill	Waste materials (steel beams, cement bags, Intermediate Bulk Containers, fencing)	Soil: Heavy metals, TRH, PAH, OCPs, OPPs, VOCs/SVOCs, PCBs, asbestos.	Contamination possibly present in the media of concern at concentrations above the relevant assessment criteria and limited in extent	SE2	On-site	Construction scope would intersect the media, and Exposure pathway for human or ecological receptors could be present and complete during construction. Exposure pathways for human or ecological receptors could be present and complete during operation if not properly mitigated.	Likely exposure pathways include direct contact, ingestion, and inhalation for human health [1]	PR3	Moderate
Area 2: Cut and fill	Waste materials (tyres, oil drums, and construction/demolition waste waste)	Soil: Heavy metals, TRH, PAH, OCPs, OPPs, VOCs/SVOCs, PCBs, asbestos.	Contamination possibly present in the media of concern at concentrations above the relevant assessment criteria and limited in extent	SE2	On-site	Construction scope would intersect the media, and Exposure pathway for human or ecological receptors could be present and complete during construction. Exposure pathways for human or ecological receptors could be present and complete during operation if not properly mitigated.	Likely exposure pathways include direct contact, ingestion, and inhalation for human health [1]	PR3	Moderate
Area 6: Cut and fill	Stockpiled soils and construction/demolition waste	Soil: Heavy metals, TRH, TPH, PAH, OCPs, OPPs, VOCs/SVOCs, PCBs, asbestos.	Contamination possibly present in the media of concern at concentrations above the relevant assessment criteria and limited in extent	SE2	On-site	Construction scope would intersect the media, and Exposure pathway for human or ecological receptors could be present and complete during construction. Exposure pathways for human or ecological receptors could be present and complete during operation if not properly mitigated.	Likely exposure pathways include direct contact, ingestion, and inhalation for human health [1]	PR3	Moderate
Area 7 stockpiling area	Contaminated subsoils, groundwater and ground gas	Soil, groundwater and/ or ground gas: Heavy metals, TRH, TPH, PAH, OCPs, OPPs, VOCs/SVOCs, PCBs, asbestos,	Contamination possibly present in the media of concern at concentrations above the relevant assessment criteria and limited in extent	SE2	Off-site (west)	Construction scope may intersect the media, and Exposure pathway for human or ecological receptors could be present and complete during construction	Likely exposure pathways include direct contact, ingestion, and inhalation for human health [1,3]	PR2	Moderate
All areas: cut and fill activities	Ground gas impacted by adjacent waste management facilities (landfills)	Ground gas: Methane, carbon dioxide, carbon monoxide, hydrogen sulphide.	Contamination possibly present in the media of concern at concentrations above the relevant assessment criteria and potentially widespread	SE3	Off-site (west)	Construction scope may intersect the media, and exposure pathway for human or ecological receptors could be present and complete during construction. Exposure pathways for human or ecological receptors could be present and complete during operation if not properly mitigated.	Likely exposure pathways include inhalation for human health [3,4]	PR2	Moderate

[1] Construction workers and site users could be exposed to contamination via contact (dermal, ingestion, inhalation) with contaminated soils and dust.

[2] Adjacent site users could be exposed to contamination via dust emissions (inhalation), namely asbestos.

[3] Construction workers and site users could be exposed to contamination via vapour emissions.

[4] Adjacent site users could be exposed to contamination via vapour emissions (inhalation).

[5] Ecosystems of Eastern Creek, on-site native woodland, and associated tributaries could be exposed to contamination via uncontrolled releases (sediment and water) during construction.

5. Potential impacts

The following information details potential on-site contamination impacts identified as part of this assessment, and potential for contamination to affect construction related activities within the areas.

5.1 Construction

5.1.1 Contamination – soil

Potential impacts as a result of disturbance of contaminated fill and soil without appropriate management and/or remediation may include:

- Contaminant exposure risk to construction personnel and the general public
- Contaminant exposure to environmental receptors
- Cross contamination associated with the incorrect handling or disposal of spoil/unexpected finds
- Contamination of previously clean areas.

Should contaminated fill materials and soil be identified, these materials can be managed subject to the implementation of appropriate management measures and/or remediation.

Higher risks and increased management and/or remediation effort during construction could be associated where materials have the potential to:

- Contain dispersible fibres (e.g. asbestos)
- Generate vapours (e.g. hydrocarbons and volatile organic compounds)
- Contain concentrations of contaminants or constituents that categorise the material at a higher waste classification (e.g. restricted waste, special waste, hazardous waste).

The appropriate management measures and/or remediation can only be determined based on the results of additional information reviews and investigations, which would be completed prior to the commencement of construction.

Based on the site inspection and the information reviewed, all areas across the study area have been identified as having soils that present either high and/or moderate potential for contamination impact as a result of historic filling activities and the unknown nature of the underlying fill materials present. As such, there is also a high potential for contamination impact from on-site ground gas and groundwater.

Potential impacts and construction related risk associated with exposure of soils during construction activities within the affected areas are as follows.

5.1.1.1 Areas 1 to 6:

- Soils may be impacted by heavy metals, hydrocarbons (TRH, PAH), pesticides (OCPs and OPPs), VOCs, SVOCs, PCBs, and asbestos as a result of subsurface fill materials of unknown origin and waste materials present at this location and use of the area for spectator parking for Sydney Dragway. Potential contamination impact in this area is considered high and may present risks to contractors/workers during construction if not properly managed. If properly managed potential impacts would be low.
- Increased potential for impact is likely due to prospective removal of potentially contaminated fill materials to facilitate the construction of the main north carpark. Significant excavation of existing surface soils is unlikely to occur across other areas of the project site. However, disturbance of surface soils associated with construction activities could increase the potential for impact. If properly managed potential impacts would be low.

5.1.1.2 Area 7:

- Local soils may be impacted by heavy metals, hydrocarbons (TRH, PAH), pesticides (OCPs and OPPs), VOCs, SVOCs, and PCBs as a result of groundwater migration from the adjacent waste recovery site. Potential contamination impact in this area is considered moderate and may present risks to contractors/workers during construction if not properly managed. If properly managed potential impacts would be low.
- Stockpiling of soils in area 7 from earthworks activities in areas 1-6 may result in potential exposure of construction contractors/workers/local ecology and residents/sensitive receivers to contaminants within stockpiled materials; including heavy metals, hydrocarbons (TRH, PAH), pesticides (OCPs and OPPs), VOCs, SVOCs, PCBs, and asbestos. If properly managed potential impacts would be low.

Further investigation would be required to quantify the contamination risks associated with on-site fill materials and associated stockpiling in area 7. If contamination risks are not quantified in these areas and appropriately managed, construction activities may expose workers, the public, and the environmental receptors to contaminated fill materials and soil.

Any fill materials and/or soils disturbed as part of construction activities have the potential to become mobilised into stormwater drainage networks during rainfall events if not appropriately managed. As such there is potential for on-site fill materials and/or soils disturbed as part of construction to migrate and impact off-site sensitive receiving environments without appropriate management.

All potential soil impacts identified can be managed subject to the implementation of appropriate management measures and/or remediation. Potential management measures for operation of the project with respect to soil are discussed in Section 6.

5.1.2 Contamination – Wastes and stockpiled waste materials

Based on the site inspection a number of locations across the areas were identified to contain dispersed waste materials and/or stockpiled waste materials, which present a moderate potential contamination impact.

Potential impacts and construction related risk associated with waste materials and stockpiled waste materials during construction activities within the affected areas are as follows.

5.1.2.1 Area 1:

- Waste materials including steel beams, cement bags, used intermediate bulk containers (IBCs), and fencing materials. The contents of stockpiles may locally affect underlying soils (affecting cut and fill activities) and would require special considerations for off-site disposal. Potential contaminants of concern include: Heavy metals, TRH, PAH, OCPs, OPPs, VOCs/SVOCs, PCBs and asbestos. Potential contamination impact in this area is considered moderate and may present risks to contractors/workers during construction if not properly managed. If properly managed potential impacts to construction activities would be low.

5.1.2.2 Area 2:

- Waste materials including tyres, oil drums, construction and demolition waste (bricks, cement, metal, timber). The contents of stockpiles may locally affect underlying soils (affecting cut and fill activities) and would require special considerations for off-site disposal. Potential contaminants of concern include: Heavy metals, TRH, PAH, OCPs, OPPs, VOCs/SVOCs, PCBs and asbestos. Potential impact in this area is considered moderate, and may present risks to contractors/workers during construction if not properly managed. If properly managed potential impacts would be low.

5.1.2.3 Area 6:

- Waste material stockpiles including soils and construction and demolition waste (asphalt, cement, bricks, sand, soils). The contents of stockpiles may locally affect underlying soils (affecting cut and fill activities) and would require special considerations for off-site disposal. Potential contaminants of concern include: heavy metals, TRH, PAH, OCPs, OPPs, VOCs/SVOCs, PCBs and asbestos. Potential impact in this area is considered moderate, and may present risks to contractors/workers during construction if not properly managed. If properly managed potential impacts would be low.

5.1.3 Contamination – Groundwater

Contaminated groundwater may be encountered during construction, principally during excavation/excavation dewatering. If groundwater contamination is not assessed and appropriately managed, construction activities may expose workers, the public and environmental receptors to contaminated groundwater via direct contact or discharge to surface waters.

Potential impacts as a result of contact with or discharge of contaminated groundwater may include:

- Contaminant exposure risk to project personnel and the general public
- Contaminant exposure to environmental receptors
- Degradation of aquatic ecosystems.

Based on the site inspection and the information reviewed all areas across the study area have been identified as having groundwater with either high and/or moderate potential for contamination impact as a result of historic filling activities, the unknown nature of the underlying fill materials present, and local off-site sources (adjacent waste recovery sites).

Potential impacts and construction related risk associated with groundwater during construction activities within the affected areas are as follows.

5.1.3.1 Areas 1 to 6:

- Groundwater may be impacted by heavy metals, hydrocarbons (TRH, PAH), pesticides (OCPs and OPPs), VOCs, SVOCs and PCBs as a result of subsurface fill materials of unknown origin and waste materials present at this location. Potential impact in this area is considered high and may present risks to contractors/workers during construction if not properly managed. If properly managed potential impacts would be low.

5.1.3.2 Area 7:

- Groundwater may be impacted by heavy metals, hydrocarbons (TRH, PAH), pesticides (OCPs and OPPs), VOCs, SVOCs, PCBs as a result of adjacent land use (waste recovery site). In addition, the soils and voids within soils in this area may be impacted by methane, hydrogen and sulphide from ground gas associated with adjacent land use (waste recovery site). Potential impact in this area is considered moderate, and may present risks to contractors/workers during construction if not properly managed. If properly managed potential impacts would be low.
- Stockpiling of soils in area 7 from earthworks activities in areas 1-6 may result in potential contamination of local groundwater and other sensitive ecological receivers including Eastern Creek by leaching of contaminants within stockpiles; including heavy metals, hydrocarbons (TRH, PAH), pesticides (OCPs and OPPs), VOCs, SVOCs, and PCBs. If properly managed potential impacts would be low.

5.1.4 Contamination – Ground gas

The migration and behaviour of hazardous ground gases are subject to physical processes including advection, diffusion, and dissolved phase transport.

Potential vapour and landfill gas sources identified as part of this assessment include:

- Buried on-site fill materials
- Eastern Creek Waste and Recycling Centre
- Eastern Creek 2 Gas Utilisation Facility.

If present within and/or adjacent to the construction footprint, landfill gas/hazardous ground gas could accumulate within below ground excavations and enclosed structures at the project site at concentrations which could represent an asphyxiation or explosion risk.

Landfill/ground gas may also cause odour issues that can affect stakeholders in areas surrounding the project site. This may be particularly prevalent during the construction stage, during which time mass soil disturbance can liberate ground gas contained within interstitial voids.

Based on the site inspection and the information reviewed all areas across the study area have been identified as having ground gas risks with either high and/or moderate potential for contamination impact as a result of historic filling activities, the unknown nature of the underlying fill materials present, and local off-site sources (adjacent waste recovery sites).

Potential impacts and construction related risk associated with groundwater during construction activities within the affected areas are as follows.

5.1.4.1 Areas 1 to 6:

- Voids within soils may be impacted by methane, hydrogen and sulphide from migration of ground gas associated with both underlying fill materials, and adjacent land use (waste recovery site). Potential impact in this area is considered high and may present risks to contractors/workers during construction if not properly managed. If properly managed potential impacts would be low.

5.1.4.2 Area 7:

- Voids within soils in this area may be impacted by methane, hydrogen and sulphide from migration of ground gas associated with adjacent land use (waste recovery site). Potential impact in this area is considered moderate and may present risks to contractors/workers during construction if not properly managed. If properly managed potential impacts would be low.

Potential management measures for operation of the project with respect to groundwater are discussed in Section 6.

5.1.5 Summary of potential contamination impacts to construction

A summary of the potential impacts related to contamination during construction is outlined in Table 5-1. The identified impacts can be suitably managed by implementation of the recommended management measures outlined in Section 6.

Table 5-1 Summary of potential impacts during construction

Project site area	Potential impacts from contamination to workers and construction activities			
	Soil	Groundwater	Vapour/gas	Waste materials
Area 1	X	X	X	X
Area 2	X	X	X	X
Area 3	X	X	X	
Area 4	X	X	X	
Area 5	X	X	X	
Area 6	X	X	X	X
Area 7	X	X	X	

5.2 Operation

The project site is proposed to be operated as a speedway with associated racing and event support infrastructure, as detailed in Section1.1.2 . The maintenance and refuelling of race cars would potentially require the storage and use of chemicals including fuels, solvents, oils, fluids, grease and detergents and generate wastes including (but not limited to) radiator fluids, degreasing fluids, hydraulic fluids, waste oils, batteries and tyres. The chemicals used and waste generated could result in the contamination of soil if not appropriately managed.

Operation of the project may also present potential exposure risks from existing contamination sources, if source-pathway-receptor linkages are not closed out prior to operation of the project.

The following information details potential on-site contamination impacts identified as part of this assessment, in the context of potential effects on operation of the project without implementation of appropriate management/remedial measures during construction.

Potential impacts as a result of operation of the project are not discussed as these would be addressed under an operational environmental management plan (OEMP).

5.2.1 Contamination – soil

5.2.1.1 Areas 1 to 6:

- The results of this assessment have identified areas across the project site which have a moderate to high potential for contamination impact as a result of historic filling activities and the unknown nature of the underlying fill materials. Without appropriate capping/removal off-areas of cut/fill, and/or import of clean capping material, on-site soils have the potential to impact site users, workers, the general public, and local ecology through direct exposure. If properly managed, potential impacts to site users and operation of the project would be low.

5.2.1.2 Area 7:

- Permanent stockpiling of soils in area 7 without appropriate management measures may result in potential exposure of workers, local ecology, local residents and sensitive receivers (groundwater/surface water), including Eastern Creek, to contaminants within stockpiled materials; including heavy metals, hydrocarbons (TRH, PAH), pesticides (OCPs and OPPs), VOCs, SVOCs, PCBs, and asbestos. If properly managed potential impacts to site users and operation of the project would be low.

Potential management measures for operation of the project with respect to soil are discussed in Section 6.

5.2.2 Contamination – groundwater

5.2.2.1 Areas 1 to 6:

- Groundwater may be impacted by heavy metals, hydrocarbons (TRH, PAH), pesticides (OCPs and OPPs), VOCs, SVOCs and PCBs as a result of subsurface fill materials of unknown origin and waste materials present at this location. Potential impact in this area is considered high, however exposure risk to site users during operation of the project is considered low; as groundwater is unlikely to be have linkage to site users during operation. If properly managed potential impacts to site users and operation of the project would be low.

5.2.2.2 Area 7:

- Groundwater may be impacted by heavy metals, hydrocarbons (TRH, PAH), pesticides (OCPs and OPPs), VOCs, SVOCs, PCBs as a result of adjacent land use (waste recovery site). In addition, the soils and voids within soils in this area may be impacted by methane, hydrogen and sulphide from ground gas associated with adjacent land use (waste recovery site). Potential impact in this area is considered moderate, however exposure risk to site users during operation of the project is considered low; as this area would comprise a permanent stockpiling facility. If properly managed, potential impacts to site users and operation of the project would be low.
- Stockpiling of soils in area 7 from earthworks activities in areas 1-6 may result in potential contamination of local groundwater and other sensitive ecological receivers including Eastern Creek by leaching of contaminants within stockpiles; including heavy metals, hydrocarbons (TRH, PAH), pesticides (OCPs and OPPs), VOCs, SVOCs, and PCBs. If properly managed, potential impacts to site users and operation of the project would be low.

5.2.3 Contamination – vapour and gas

5.2.3.1 Areas 1 to 6:

- Voids within soils may be impacted by methane, hydrogen and sulphide from migration of ground gas associated with both underlying fill materials, and adjacent land use (waste recovery site). Potential impact in this area is considered high and may present risks to site users during operation of the project.

Impacts from ground gases to the operation of the project may include the following:

- Accumulation of hazardous/explosive gases within below ground excavations/above and below ground structures with potential explosion/asphyxiation risks
- Noxious/foul smelling odours affecting site users/general public.

Potential ground gas sources identified as part of this assessment include:

- Buried on-site fill materials
- Eastern Creek Waste and Recycling Centre
- Eastern Creek 2 Gas Utilisation Facility.

Potential management measures for construction of the project with respect to groundwater are discussed in Section 6. If properly managed at the construction stage, potential impacts to site users and operation of the project would be low.

5.3 Cumulative impacts

Potential cumulative impacts from contamination have been assessed in consideration of the interaction of the project with other projects within the local area that would increase, decrease and/or alter potential contamination impacts to common human and/or environmental receptors.

Cumulative impacts would be dependent on a variety of factors including the presence of contamination and the type of potentially affected media (e.g. soil, groundwater), the nature and timing of construction disturbance (associated with the project site and other projects), as well as complete exposure pathways for contamination to human and/or environmental receptors.

Contamination impacts from individual projects, prior to appropriate typical mitigation measures being implemented could include (but are not limited) to the following:

- Excavation activities and liberation of contamination (as dust or fibres) which could deposit on adjacent land and be transported by surface water flows to surrounding areas
- Dewatering activities and discharge of contaminated water and sediments to adjacent land and waterways
- Odours/vapours detectable at site boundaries
- Accumulation of gas within below ground structures and low-lying landform features on adjacent land.

It should be noted that contamination is reported as a concentration (e.g. mg/kg, µg/L, g/m3) and not as mass. As such, the measurement of contamination from multiple sources at a receptor is not compounded, rather it would be reported as an average concentration. If contamination is not migrating from source sites at concentrations above criteria protective of receptors, then the cumulative contamination from the source sites is unlikely to impact upon that receptor.

Management of contamination associated with the construction and operation of the project and construction and operation of other projects would need to be carried out in accordance with the following legislation (where triggered):

- *Contaminated Land Management Act 1997* (CLM Act) – Sites containing existing contamination and sites that have been contaminated by future operations where the contamination is deemed significant enough to warrant regulation by the regulator (NSW EPA)
- *Protection of the Environment Operations Act 1997* (POEO Act) – Establishes the NSW environmental regulatory framework and includes a licensing requirement for certain activities to control the localised, cumulative and acute impacts of pollution in NSW.

A construction environmental management plan (CEMP) should be drafted and include measures for management of potential contamination risks, including an erosion sediment control plan (ESCP), acid sulfate soil management plan (ASSMP), ground gas management plan (GGMP), surface water management plan (SWMP), groundwater management plan (GWMP) and over-arching contamination management plan (CMP).

It is envisaged that contamination sources associated with the construction and operation of other projects would also be managed in accordance with appropriate construction environmental management plans (including appropriate licensing requirements to meet legislative obligations under the POEO Act, where applicable).

Any new projects to be carried out within the vicinity of the project site would need to complete contamination investigations to assess the suitability of the site(s) for the proposed land use. Where contamination is identified, it would need to be remediated to remove or suitably reduce the exposure to human and/or environmental receptors in accordance with the legislative requirements of the CLM Act. Both the management of contamination sources during construction and operation of these projects and remediation works to render the project suitable for use is unlikely to increase potential cumulative impacts from contamination exposure to common receptors (i.e. unlikely that cumulative impacts would arise).

6. Management and mitigation measures

Based on the assessed level of potential contamination impact to construction detailed in Sections 4 and 5, a range of management and mitigation measures have been developed in order to manage potential contamination during construction of the project. Operational management measures are not discussed as management measures adopted during construction would remove potential for contamination impacts during operation of the project.

It is assumed that construction activities at the project site would be managed in accordance with a construction environmental management plan (CEMP) which would include an unexpected finds procedure and would be included as part of the Construction Environmental Management Framework (refer to Appendix D of the Environmental Impact Statement).

For areas of the project site that have been assessed to have a high contamination impact potential, further investigations and potentially additional management measures would be implemented. These additional management and mitigation measures would be dependent on the outcomes from further investigations, noting:

- A Remedial Action Plan would typically be prepared where there is more significant, widespread contamination that requires detailed remedial planning, followed by implementation of standard construction practices such as excavation and off-site disposal or capping and containment
- Involvement of an accredited Site Auditor, and issue of a Site Audit Statement (SAS) and Site Audit Report (SAR) would occur where contamination is highly complex, such as significant groundwater contamination; contamination associated with vapour; contamination that requires specialised remediation techniques; or contamination that requires ongoing active management during and beyond construction.

Table 6-1 Management and mitigation measures for potential construction impacts

Ref	Impact/ issue	Mitigation measure	Relevant location(s)
Construction			
C1	Management of low risk contamination	For areas that have been identified as having moderate, or high contamination impact potential, a further review of data would be performed, including review of any additional/preliminary contamination site investigations conducted following desktop assessment to refine impact assessment. Where the additional data review confirm that contamination is likely to have a very low or low impact potential, the areas would then be managed in accordance with the Soil and Water Management Plan. This would typically occur where there is minor, isolated contamination that can be readily remediated through standard construction practices such as excavation and off-site disposal.	All Areas
C2	Detailed Site Investigation	Where data from the additional data review (mitigation measure C1) is insufficient to understand the impact of contamination, a Detailed Site Investigation would be carried out in accordance with the NEPM (2013) and other guidelines made or endorsed by the NSW EPA. Construction areas requiring Detailed Site Investigation would be confirmed following the additional data review (mitigation measure C1), however based on the preliminary findings of this Preliminary Site Investigation, it is anticipated that Detailed Site Investigations would likely be required throughout the project site (within all areas 1-7).	Dependant on the outcomes of mitigation measure C1, locations may include some or all of areas 1-7

Ref	Impact/ issue	Mitigation measure	Relevant location(s)
C3	Remediation	Where data from additional data review (C1) or the Detailed Site Investigation (c2) confirms that contamination would have a moderate to high risk, a Remedial Action Plan (RAP) would be developed for the relevant construction area in accordance with Managing Land Contamination: Planning Guidelines SEPP 55 – Remediation of Land (Department of Urban Affairs and Planning and Environment Protection Authority, 1998). The Remedial Action Plan would detail the remediation works required to mitigate impacts from contamination throughout and following completion of construction. The Remedial Action Plan would be prepared in accordance with relevant NSW EPA guidelines and where applicable, detail remediation methodologies in accordance with Australian Standards and other relevant government guidelines and codes of practice. Remediation would be performed as an integrated component of construction and to a standard commensurate with the proposed end use of the land. Construction areas requiring a Remedial Action Plan would be confirmed following the additional data review (mitigation measure C1) and Detailed Site Investigation (mitigation measure C2), however on the basis of this Preliminary Site Investigation, it is anticipated that a Remedial Action Plan and remediation could be required to manage widespread contaminated fill materials at the project site.	Dependant on the outcomes of mitigation measure C1, locations may include areas 1-7
C4	Site Audit Statement	Where contamination is highly complex, such as where there is significant groundwater contamination; contamination associated with vapour; contamination that requires specialised remediation techniques; or contamination that requires ongoing active management during and beyond construction, an accredited Site Auditor would review and approve the RAP and remediation activities and would develop a Site Audit Statement (SAS) and Site Audit Report (SAR) upon completion of remediation. The requirement for auditor involvement would be confirmed following the completion of the Detailed Site Investigation (mitigation measure C2) and prior to the preparation of the RAP (mitigation measure C3). It is possible that an audit would be required for the project site in consideration of the quantum of potential contamination which may be present if the on-site fill and the ongoing active management during and beyond construction (should contaminated fill material remain on-site).	Dependent on outcomes of the C1, C2 and C3, locations may include areas 1-7
C5	Residual contamination following construction	Ongoing management and monitoring measures would be documented in an appropriate form and implemented for any areas where minor, residual contamination remains following construction.	As applicable

7. Conclusions and recommendations

Jacobs has carried out a Preliminary Site Investigation for the proposed Sydney International Speedway at Eastern Creek NSW to inform a broader Environmental Impact Statement.

The Preliminary Site Investigation has included a review of desktop information, a site walkover inspection, an assessment of potential areas and sources of on-site and off-site contamination, an assessment of the potential impacts to human health and the environment from exposure to contamination during construction and operation of the project, potential management and mitigation measures, and recommendations for further investigations where necessary.

The findings of this contamination assessment have identified a high potential for widespread on-site contamination (soil, groundwater and ground gas) as a result of extensive historic earthworks and filling activities (c. 2004- 2009), along with stockpiling of waste soils and waste materials, spills and leaks associated with the general use of unsealed areas for Sydney Dragway spectator parking. The assessment has also identified potential impacts from migration of leachate-affected groundwater and landfill gas from the adjoining landfilling operations.

If exposed during construction activities or long term operation of the project and appropriate management or remediation measures are not adopted in response, on-site soil, groundwater and ground gas contamination could impact upon human health and environmental receptors.

For areas of the project site that have been identified as having high contamination impact potential, the following is recommended:

- A Detailed Site Investigation would be carried out in accordance with the NEPM (2013) and other NSW EPA contaminated land management guidelines
- Where a Detailed Site Investigation confirms that contamination would have a high risk, a Remedial Action Plan (RAP) would be developed for the area of the construction footprint
- Where contamination is highly complex, such as where there is significant groundwater contamination; contamination associated with vapour; contamination that requires specialised remediation techniques; or contamination that requires ongoing active management during and beyond construction, an accredited Site Auditor would review and approve the RAP and remediation activities and would develop a Site Audit Statement (SAS) and Site Audit Report (SAR) upon completion of remediation
- A Site Management Plan would be required if any residual contamination remains following remediation.

8. References

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- NSW EPA (2015): Technical Note: Light Non-Aqueous Phase Liquid Assessment and Remediation. New South Wales Environment Protection Agency, 2015
- Consultants reporting on contaminated land: Contaminated Land Guidelines (NSW EPA, 2020).
- TfNSW (2020): Sydney Metro West Speedway Initial Concept Design Civil. Transport for New South Wales, February 2020.

Appendix A. Lotsearch Summary Report

LOTSEARCH

LOTSEARCH ENVIRO PROFESSIONAL

Date: 12 Feb 2020 11:58:05

Reference: LS011112 EP

Address: Ferrers Road, Eastern Creek, NSW 2766

Dataset Listing

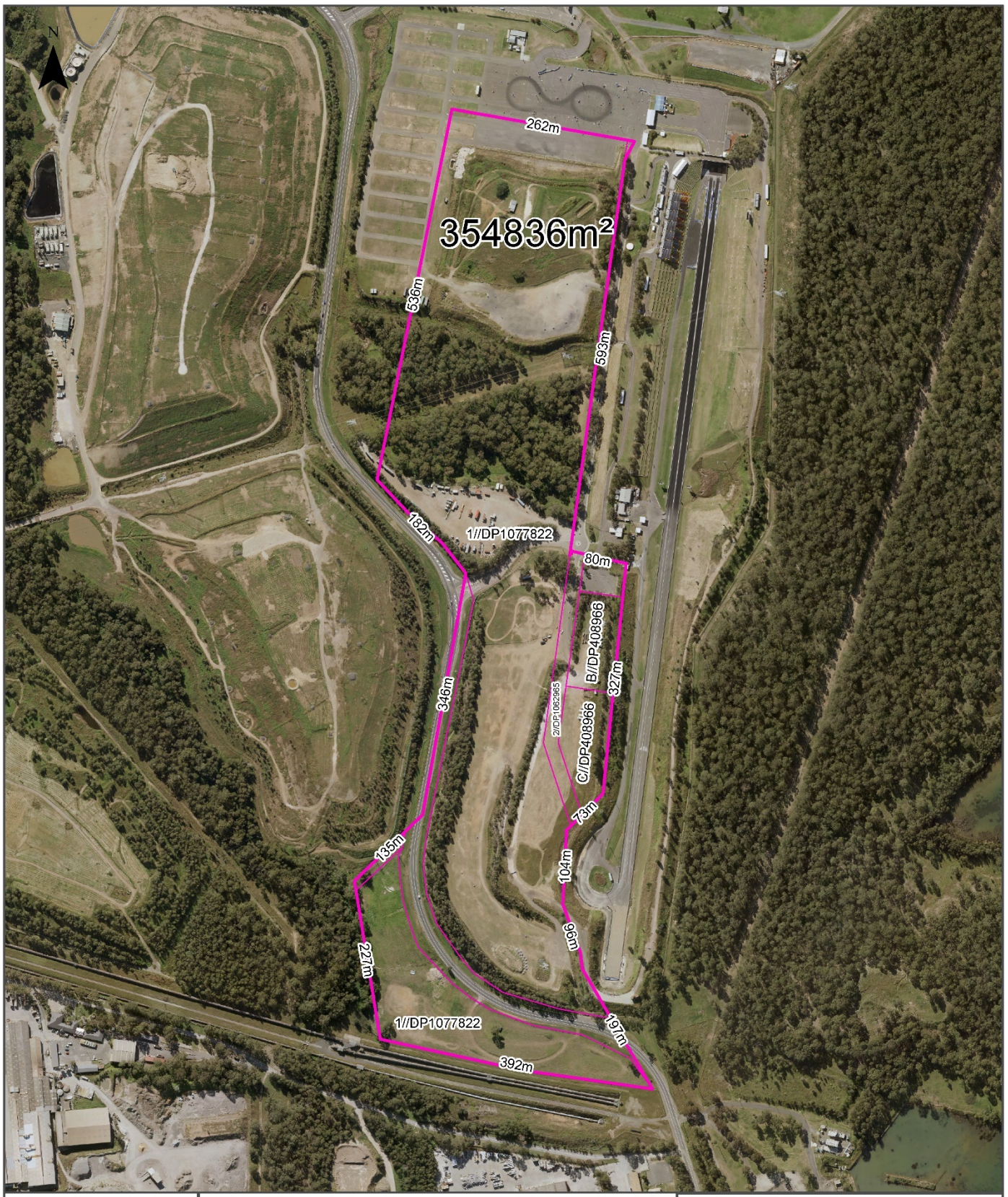
Datasets contained within this report, detailing their source and data currency:

Dataset Name	Custodian	Supply Date	Currency Date	Update Frequency	Dataset Buffer (m)	No. Features Onsite	No. Features within 100m	No. Features within Buffer
Cadastre Boundaries	NSW Department of Finance, Services & Innovation	04/11/2019	04/11/2019	Quarterly	-	-	-	-
Topographic Data	NSW Department of Finance, Services & Innovation	25/06/2019	25/06/2019	As required	-	-	-	-
List of NSW contaminated sites notified to EPA	Environment Protection Authority	15/01/2020	14/01/2020	Monthly	1000	0	0	0
Contaminated Land Records of Notice	Environment Protection Authority	29/01/2020	29/01/2020	Monthly	1000	0	0	0
Former Gasworks	Environment Protection Authority	07/01/2020	11/10/2017	Monthly	1000	0	0	0
National Waste Management Facilities Database	Geoscience Australia	12/02/2020	07/03/2017	Quarterly	1000	2	2	3
National Liquid Fuel Facilities	Geoscience Australia	05/02/2020	13/07/2012	Quarterly	1000	0	0	0
EPA PFAS Investigation Program	Environment Protection Authority	07/01/2020	07/01/2020	Monthly	2000	0	0	0
Defence PFAS Investigation Program	Department of Defence	18/12/2019	18/12/2019	Monthly	2000	0	0	0
Defence PFAS Management Program	Department of Defence	18/12/2019	18/12/2019	Monthly	2000	0	0	0
Airservices Australia National PFAS Management Program	Airservices Australia	20/01/2020	12/12/2019	Monthly	2000	0	0	0
Defence 3 Year Regional Contamination Investigation Program	Department of Defence	21/01/2020	21/01/2020	Monthly	2000	0	0	0
EPA Other Sites with Contamination Issues	Environment Protection Authority	04/02/2020	13/12/2018	Annually	1000	0	0	0
Licensed Activities under the POEO Act 1997	Environment Protection Authority	07/01/2020	07/01/2020	Monthly	1000	3	9	18
Delicensed POEO Activities still regulated by the EPA	Environment Protection Authority	07/01/2020	07/01/2020	Monthly	1000	0	0	0
Former POEO Licensed Activities now revoked or surrendered	Environment Protection Authority	07/01/2020	07/01/2020	Monthly	1000	0	4	4
UBD Business Directories (Premise & Intersection Matches)	Hardie Grant			Not required	150	0	0	0
UBD Business Directories (Road & Area Matches)	Hardie Grant			Not required	150	-	0	0
UBD Business Directory Drycleaners & Motor Garages/Service Stations (Premise & Intersection Matches)	Hardie Grant			Not required	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	NSW Department of Finance, Services & Innovation	17/10/2019	17/10/2019	Quarterly	1000	0	1	9
Tanks (Areas)	NSW Department of Customer Service - Spatial Services	17/10/2019	17/10/2019	Quarterly	1000	0	0	0
Tanks (Points)	NSW Department of Customer Service - Spatial Services	17/10/2019	17/10/2019	Quarterly	1000	0	0	2
Major Easements	NSW Department of Finance, Services & Innovation	17/10/2019	17/10/2019	Quarterly	1000	1	3	9
State Forest	Forestry Corporation of NSW	18/01/2018	18/01/2018	As required	1000	0	0	0
NSW National Parks and Wildlife Service Reserves	NSW Office of Environment & Heritage	21/01/2020	30/09/2019	Annually	1000	0	1	1
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 Planning, Industry and Environment	15/03/2018	01/10/2005	As required	1000	0	0	0
Groundwater Boreholes	NSW Dept. of Primary Industries - Water NSW; Commonwealth of Australia (Bureau of Meteorology)	24/07/2018	23/07/2018	Annually	2000	0	1	4

Dataset Name	Custodian	Supply Date	Currency Date	Update Frequency	Dataset Buffer (m)	No. Features Onsite	No. Features within 100m	No. Features within Buffer
Geological Units 1:100,000	NSW Department of Planning, Industry and Environment	20/08/2014		None planned	1000	1	-	3
Geological Structures 1:100,000	NSW Department of Planning, Industry and Environment	20/08/2014		None planned	1000	0	-	2
Naturally Occurring Asbestos Potential	NSW Dept. of Industry, Resources & Energy	04/12/2015	24/09/2015	Unknown	1000	0	0	0
Atlas of Australian Soils	Australian Bureau of Agriculture and Resource Economics and Sciences (ABARES)	19/05/2017	17/02/2011	As required	1000	1	1	3
Soil Landscapes	NSW Department of Planning, Industry and Environment	12/08/2014		None planned	1000	1	-	3
Environmental Planning Instrument Acid Sulfate Soils	NSW Department of Planning, Industry and Environment	03/02/2020	06/12/2019	Weekly	500	0	-	-
Atlas of Australian Acid Sulfate Soils	CSIRO	19/01/2017	21/02/2013	As required	1000	1	1	2
Dryland Salinity - National Assessment	National Land and Water Resources Audit	18/07/2014	12/05/2013	None planned	1000	1	2	2
Dryland Salinity Potential of Western Sydney	NSW Department of Planning, Industry and Environment	12/05/2017	01/01/2002	None planned	1000	2	2	3
Mining Subsidence Districts	NSW Department of Customer Service - Subsidence Advisory NSW	17/10/2019	17/10/2019	Quarterly	1000	0	0	0
Environmental Planning Instrument SEPP State Significant Precincts	NSW Department of Planning, Industry and Environment	03/02/2020	07/12/2018	Weekly	1000	0	0	0
Environmental Planning Instrument Land Zoning	NSW Department of Planning, Industry and Environment	03/02/2020	24/01/2020	Weekly	1000	0	0	3
Commonwealth Heritage List	Australian Government Department of the Agriculture, Water and the Environment	04/02/2020	31/07/2018	Quarterly	1000	0	0	0
National Heritage List	Australian Government Department of the Agriculture, Water and the Environment	04/02/2020	20/11/2019	Quarterly	1000	0	0	0
State Heritage Register - Curtilages	NSW Department of Planning, Industry and Environment	08/11/2019	09/11/2018	Quarterly	1000	0	1	1
Environmental Planning Instrument Heritage	NSW Department of Planning, Industry and Environment	03/02/2020	17/01/2020	Weekly	1000	0	3	4
Bush Fire Prone Land	NSW Rural Fire Service	04/02/2020	14/12/2019	Quarterly	1000	1	4	4
Remnant Vegetation of the Cumberland Plain	NSW Office of Environment & Heritage	07/10/2014	04/08/2011	Unknown	1000	5	5	8
Ramsar Wetlands of Australia	Department of the Agriculture, Water and the Environment	08/10/2014	24/06/2011	As required	1000	0	0	0
Groundwater Dependent Ecosystems	Bureau of Meteorology	14/08/2017	15/05/2017	Unknown	1000	1	3	3
Inflow Dependent Ecosystems Likelihood	Bureau of Meteorology	14/08/2017	15/05/2017	Unknown	1000	2	3	6
NSW BioNet Species Sightings	NSW Office of Environment & Heritage	05/02/2020	05/02/2020	Weekly	10000	-	-	-

Site Diagram

Ferrers Road, Eastern Creek, NSW 2766



Legend

- Site Boundary
- Internal Parcel Boundaries

Total Area:	354836m²
Total Perimeter:	3563m

Disclaimers:

Measurements are approximate only and may have been simplified or smaller lengths removed for readability.

Parcels that make up a small percentage of the total site area have not been labelled for increased legibility.

Scale:

0 25 50 100 150 200 250
Meters

Data Sources: Aerial Imagery: © Aerometrex Pty Ltd

Coordinate System:
GDA 1994 MGA Zone 56

Date: 14 February 2020

Contaminated Land

Ferrers Road, Eastern Creek, NSW 2766

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

Contaminated Land

Ferrers Road, Eastern Creek, NSW 2766

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							

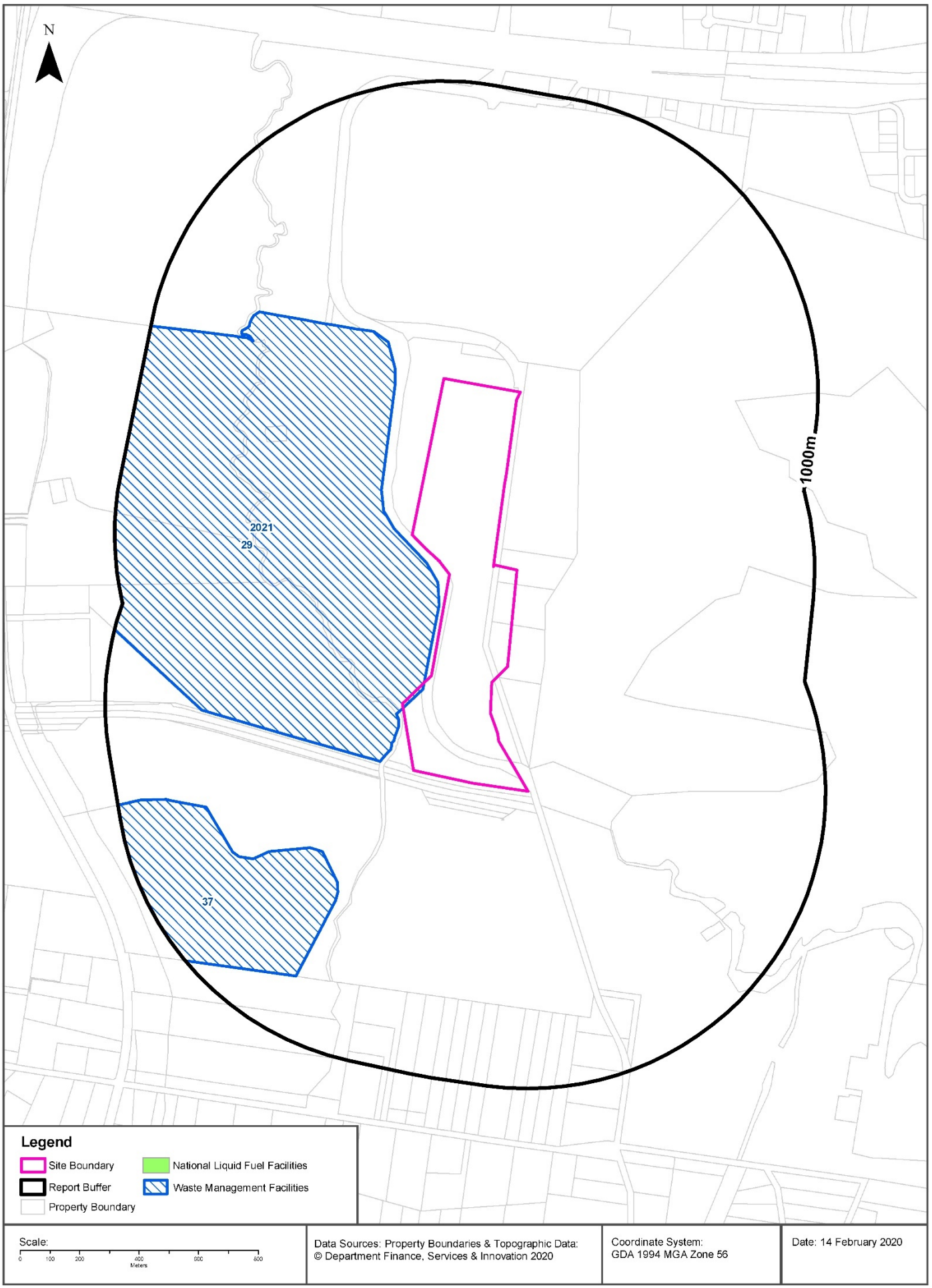
Former Gasworks

Former Gasworks within the dataset buffer:

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

Waste Management & Liquid Fuel Facilities

Ferrers Road, Eastern Creek, NSW 2766



Waste Management & Liquid Fuel Facilities

Ferrers Road, Eastern Creek, NSW 2766

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
29	WSN Environmental Solutions	Eastern Creek Waste and Recycling Centre	Wallgrove Road	Eastern Creek	Multi-Purpose		Operational	Operational	Original information on waste management site collected by WMAA in 2008 via survey	Premise Match	0m	Onsite
2021	Sita Australia Pty Ltd	Eastern Creek Waste and Recycling Centre	Wallgrove Road	Eastern Creek	Reprocessing		Operational		Original information on waste management site collected by WMAA in 2008 via survey	Premise Match	0m	Onsite
37	Veolia Environmental Services (Australia) Pty Ltd	Horsley Park Waste Management Facility	716-752 Wallgrove Road	Horsley Park	Landfill	Operational			Original information on waste management site collected by WMAA in 2008 via survey	Premise Match	411 m	South West

National Liquid Fuel Facilities

National Liquid Fuel Facilties within the dataset buffer:

Map Id	Owner	Name	Address	Suburb	Class	Operational Status	Operator	Revision Date	Loc Conf	Dist (m)	Direction
N/A	No records in buffer										

PFAS Investigation & Management Programs

Ferrers Road, Eastern Creek, NSW 2766

EPA PFAS Investigation Program

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

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

EPA PFAS Investigation Program: Environment Protection Authority

Defence PFAS Investigation Program

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

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

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

Defence PFAS Management Program

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

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

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

Airservices Australia National PFAS Management Program

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

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

Airservices Australia National PFAS Management Program Data Custodian: Airservices Australia

Defence Sites

Ferrers Road, Eastern Creek, NSW 2766

Defence 3 Year Regional Contamination Investigation Program

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

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

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

EPA Other Sites with Contamination Issues

Ferrers Road, Eastern Creek, NSW 2766

EPA Other Sites with Contamination Issues

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

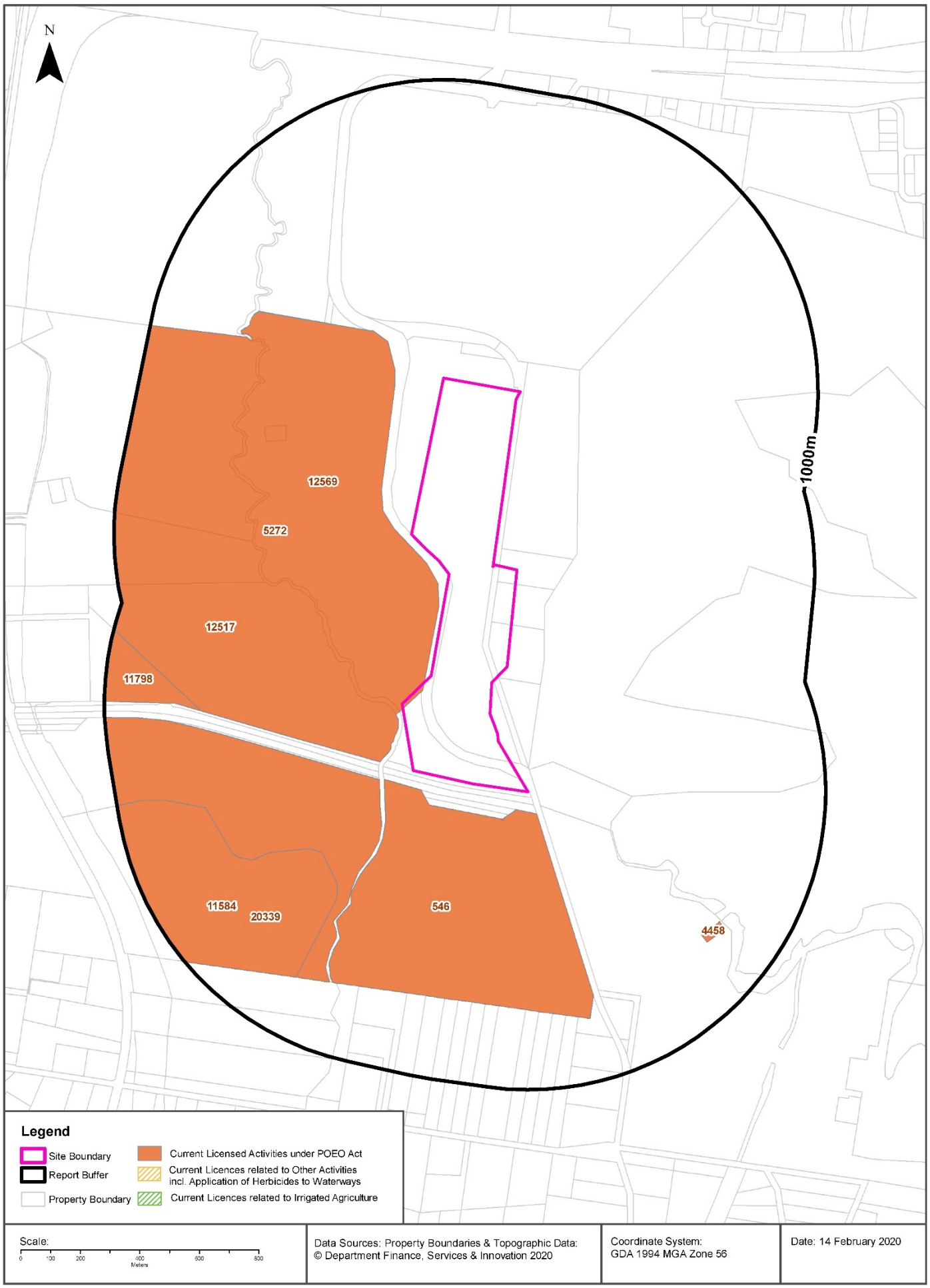
- James Hardie asbestos manufacturing and waste disposal sites
- Radiological investigation sites in Hunter's Hill
- Pasminco Lead Abatement Strategy Area

Sites within the dataset buffer:

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

Current EPA Licensed Activities

Ferrers Road, Eastern Creek, NSW 2766



EPA Activities

Ferrers Road, Eastern Creek, NSW 2766

Licensed Activities under the POEO Act 1997

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

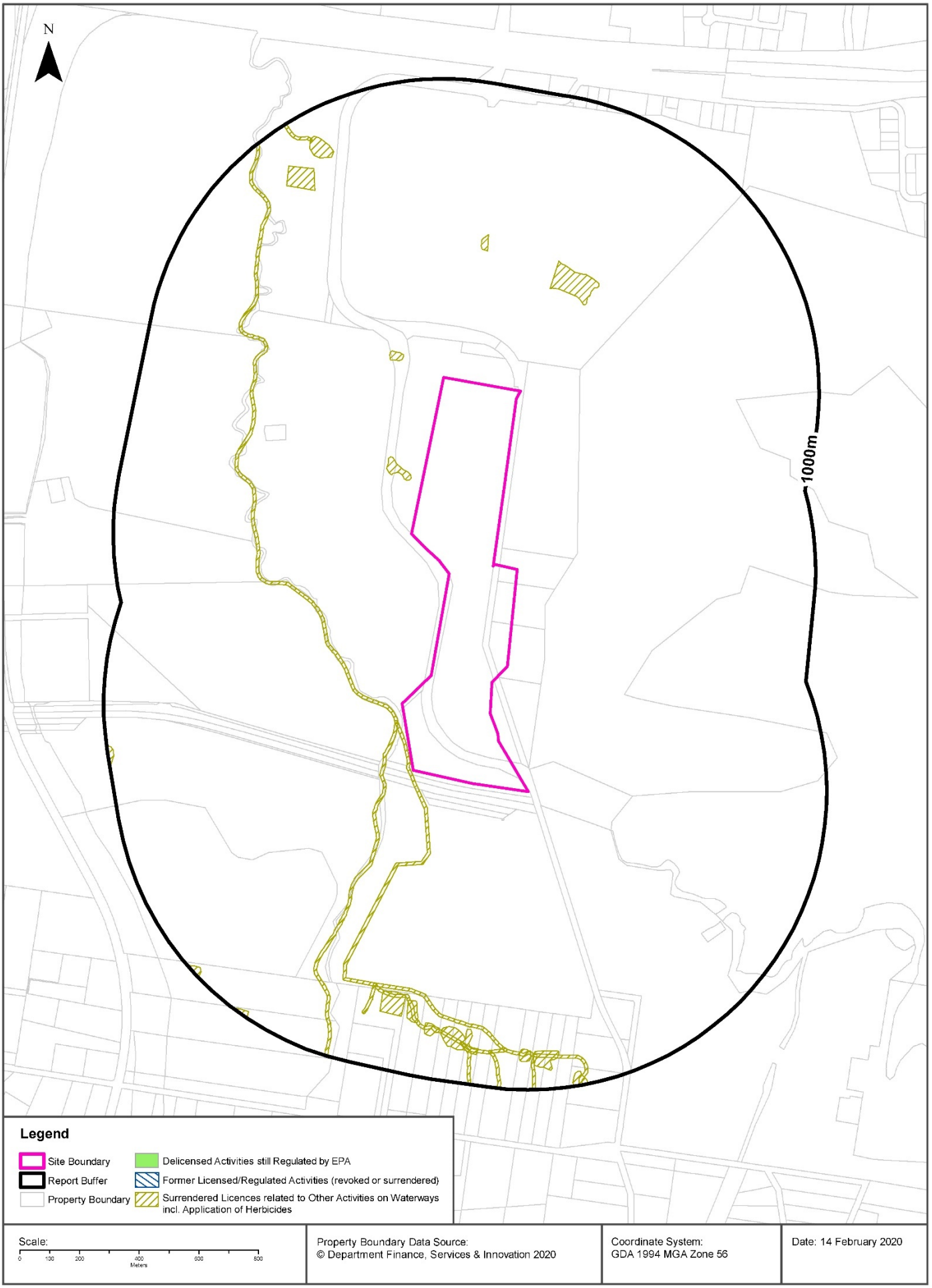
EPL	Organisation	Name	Address	Suburb	Activity	Loc Conf	Distance	Direction
5272	WASTE ASSETS MANAGEMENT CORPORATION	EASTERN CREEK WASTE MANAGEMENT CENTRE	WALLGROVE ROAD	EASTERN CREEK	Non-thermal treatment of general waste	Premise Match	0m	Onsite
5272	WASTE ASSETS MANAGEMENT CORPORATION	EASTERN CREEK WASTE MANAGEMENT CENTRE	WALLGROVE ROAD	EASTERN CREEK	Waste disposal by application to land	Premise Match	0m	Onsite
12569	LMS ENERGY PTY LTD	Eastern Creek 2 Gas Utilisation Facility	Ferrers Road	EASTERN CREEK	Generation of electrical power otherwise than from coal, diesel or gas	Premise Match	0m	Onsite
12517	SUEZ RECYCLING & RECOVERY PTY LTD	EASTERN CREEK WASTE & RECYCLING CENTRE	WALLGROVE ROAD	EASTERN CREEK	Composting	Premise Match	22m	West
546	THE AUSTRAL BRICK CO PTY LTD	AUSTRAL BRICK, PLANTS 1, 2 & 3.	738-780 WALLGROVE ROAD	HORSLEY PARK	Ceramic waste generation	Premise Match	54m	South
546	THE AUSTRAL BRICK CO PTY LTD	AUSTRAL BRICK, PLANTS 1, 2 & 3.	738-780 WALLGROVE ROAD	HORSLEY PARK	Ceramics production	Premise Match	54m	South
546	THE AUSTRAL BRICK CO PTY LTD	AUSTRAL BRICK, PLANTS 1, 2 & 3.	738-780 WALLGROVE ROAD	HORSLEY PARK	Crushing, grinding or separating	Premise Match	54m	South
546	THE AUSTRAL BRICK CO PTY LTD	AUSTRAL BRICK, PLANTS 1, 2 & 3.	738-780 WALLGROVE ROAD	HORSLEY PARK	Land-based extractive activity	Premise Match	54m	South
546	THE AUSTRAL BRICK CO PTY LTD	AUSTRAL BRICK, PLANTS 1, 2 & 3.	738-780 WALLGROVE ROAD	HORSLEY PARK	Mining for minerals	Premise Match	54m	South
20339	VEOLIA ENVIRONMENTAL SERVICES (AUSTRALIA) PTY LTD		Wallgrove Road, HORSLEY PARK, NSW 2175		Non-thermal treatment of general waste, Recovery of general waste, Waste storage - other types of waste,	Premise Match	411m	South West
11584	VEOLIA ENVIRONMENTAL SERVICES (AUSTRALIA) PTY LTD	HORSLEY PARK WASTE MANAGEMENT FACILITY	Wallgrove Road	HORSLEY PARK	Composting	Premise Match	411m	South West
11584	VEOLIA ENVIRONMENTAL SERVICES (AUSTRALIA) PTY LTD	HORSLEY PARK WASTE MANAGEMENT FACILITY	Wallgrove Road	HORSLEY PARK	Non-thermal treatment of general waste	Premise Match	411m	South West
11584	VEOLIA ENVIRONMENTAL SERVICES (AUSTRALIA) PTY LTD	HORSLEY PARK WASTE MANAGEMENT FACILITY	Wallgrove Road	HORSLEY PARK	Waste disposal by application to land	Premise Match	411m	South West
11798	EASTERN CREEK OPERATIONS PTY LIMITED	UR-3R FACILITY	WALLGROVE ROAD	EASTERN CREEK	Composting	Premise Match	675m	West
11798	EASTERN CREEK OPERATIONS PTY LIMITED	UR-3R FACILITY	WALLGROVE ROAD	EASTERN CREEK	Non-thermal treatment of general waste	Premise Match	675m	West

EPL	Organisation	Name	Address	Suburb	Activity	Loc Conf	Distance	Direction
11798	EASTERN CREEK OPERATIONS PTY LIMITED	UR-3R FACILITY	WALLGROVE ROAD	EASTERN CREEK	Recovery of general waste	Premise Match	675m	West
11798	EASTERN CREEK OPERATIONS PTY LIMITED	UR-3R FACILITY	WALLGROVE ROAD	EASTERN CREEK	Waste storage - other types of waste	Premise Match	675m	West
4458	SUEZ WATER PTY LTD	PROSPECT WATER FILTRATION PLANT	COWPASTURE RD NORTHEN END	WETHERILL PARK	Other activities	Premise Match	749m	South East

POEO Licence Data Source: Environment Protection Authority

Delicensed & Former Licensed EPA Activities

Ferrers Road, Eastern Creek, NSW 2766



EPA Activities

Ferrers Road, Eastern Creek, NSW 2766

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

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

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

Licence No	Organisation	Location	Status	Issued Date	Activity	Loc Conf	Distance	Direction
4653	LUHRMANN ENVIRONMENT MANAGEMENT PTY LTD	WATERWAYS THROUGHOUT NSW	Surrendered	06/09/2000	Other Activities / Non Scheduled Activity - Application of Herbicides	Network of Features	5m	-
4838	Robert Orchard	Various Waterways throughout New South Wales - SYDNEY NSW 2000	Surrendered	07/09/2000	Other Activities / Non Scheduled Activity - Application of Herbicides	Network of Features	5m	-
5150	FAIRFIELD CITY COUNCIL	WATERWAYS OF FAIRFIELD CITY COUNCIL - FAIRFIELD NSW 2165	Surrendered	17/08/2000	Other Activities / Non Scheduled Activity - Application of Herbicides	Network of Features	5m	-
6630	SYDNEY WEED & PEST MANAGEMENT PTY LTD	WATERWAYS THROUGHOUT NSW - PROSPECT, NSW, 2148	Surrendered	09/11/2000	Other Activities / Non Scheduled Activity - Application of Herbicides	Network of Features	5m	-

Former Licensed Activities Data Source: Environment Protection Authority

Historical Business Directories

Ferrers Road, Eastern Creek, NSW 2766

Business Directory Records 1950-1991 Premise or Road Intersection Matches

Universal Business Directory records from years 1991, 1986, 1982, 1978, 1975, 1970, 1965, 1961 & 1950, mapped to a premise or road intersection within the dataset buffer:

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

Business Directory Records 1950-1991 Road or Area Matches

Universal Business Directory records from years 1991, 1986, 1982, 1978, 1975, 1970, 1965, 1961 & 1950, mapped to a road or an area, within the dataset buffer. Records are mapped to the road when a building number is not supplied, cannot be found, or the road has been renumbered since the directory was published:

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

Historical Business Directories

Ferrers Road, Eastern Creek, NSW 2766

Dry Cleaners, Motor Garages & Service Stations 1948-1993 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.

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

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

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

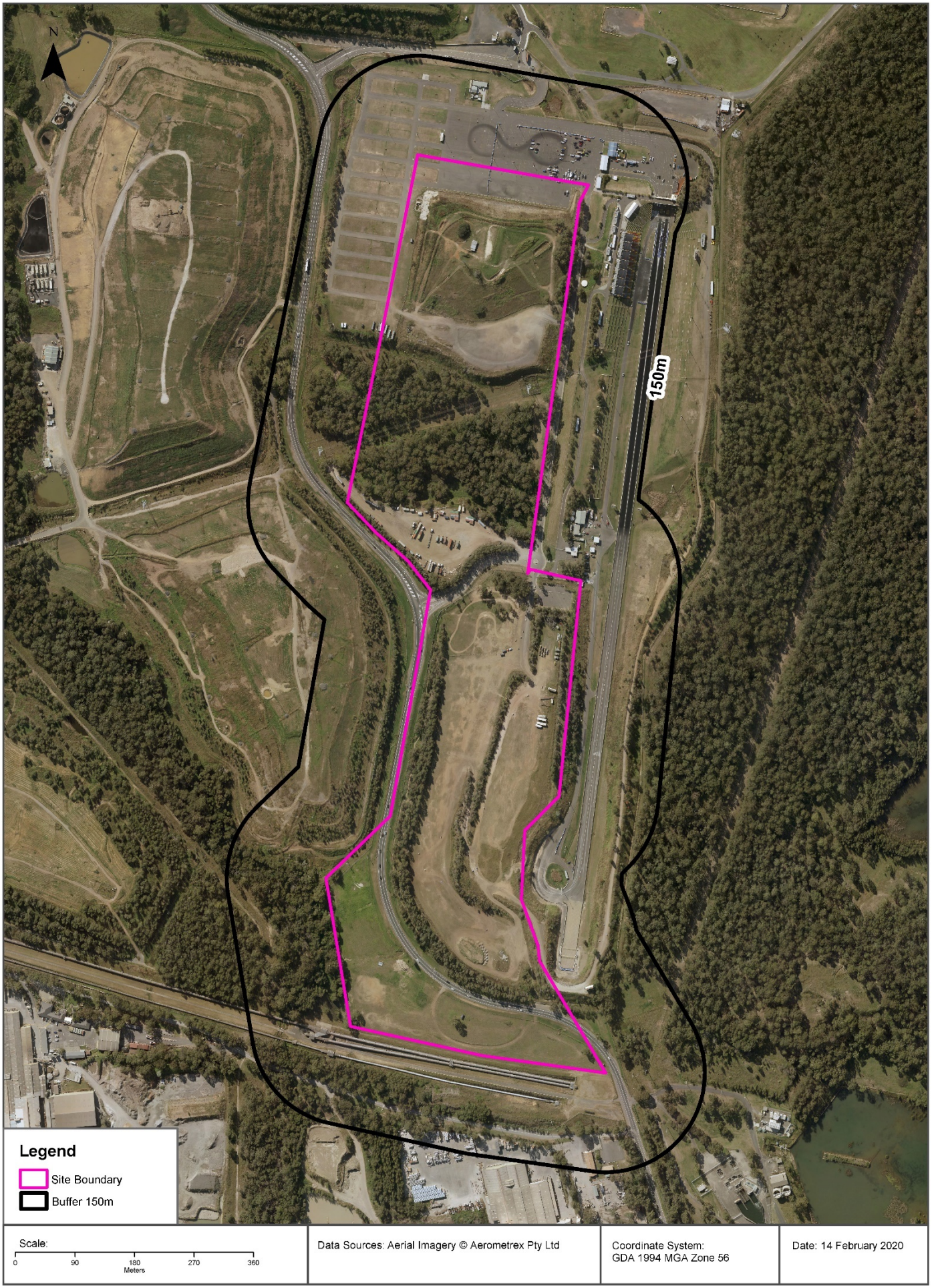
Dry Cleaners, Motor Garages & Service Stations from UBD Business Directories, mapped to a road or an area, within the dataset buffer. Records are mapped to the road when a building number is not supplied, cannot be found, or the road has been renumbered since the directory was published.

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

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

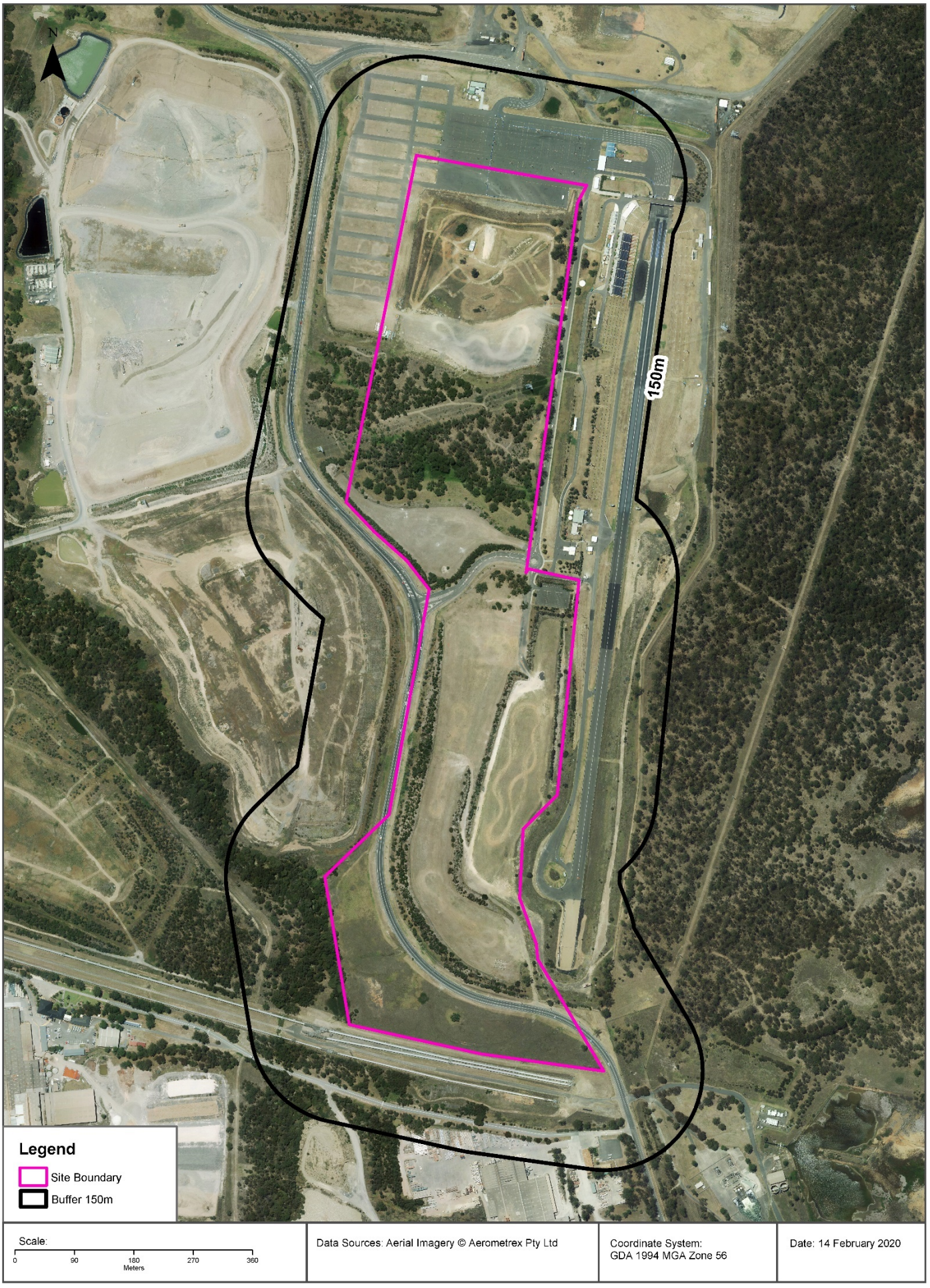
Aerial Imagery 2019

Ferrers Road, Eastern Creek, NSW 2766



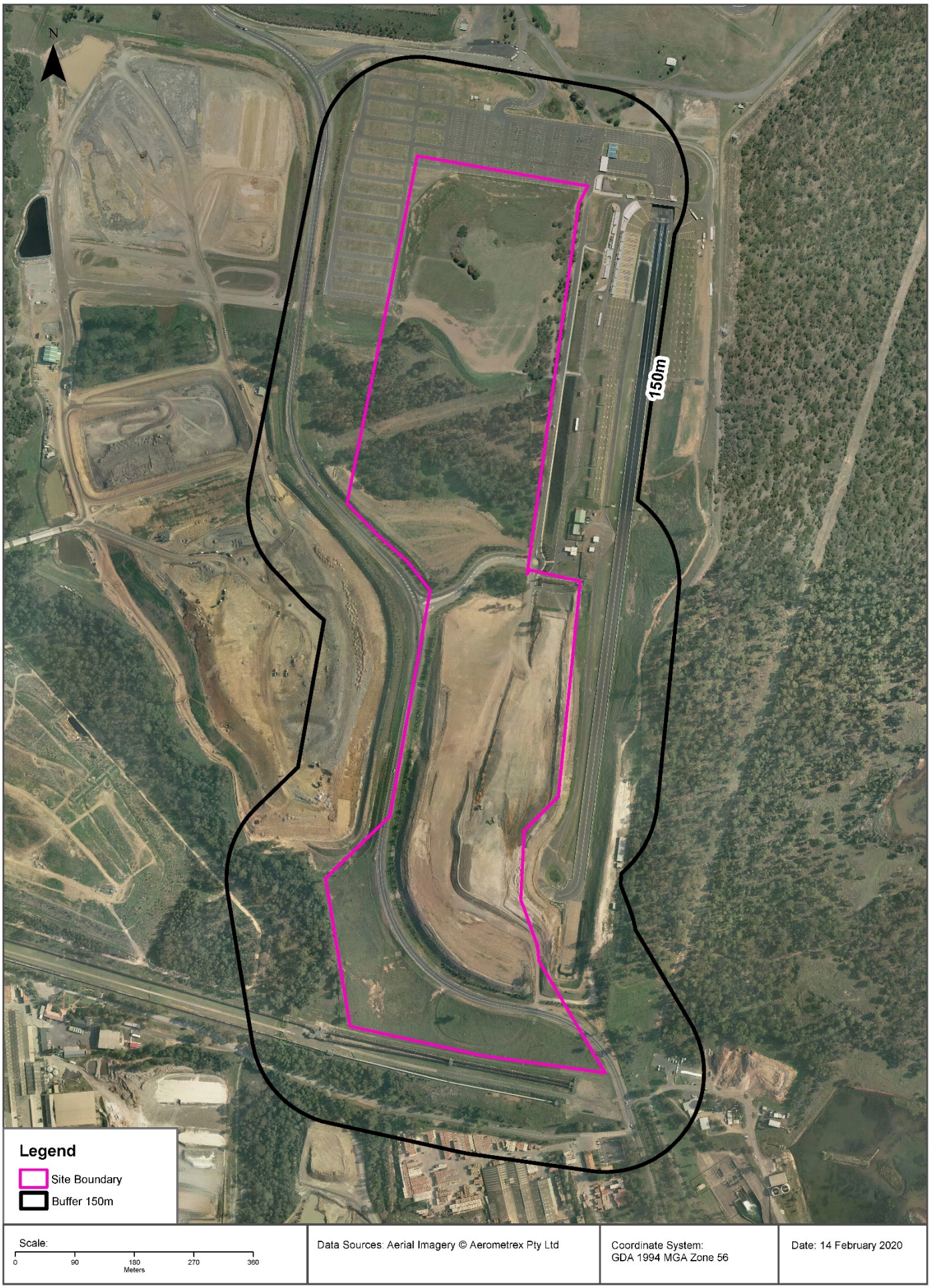
Aerial Imagery 2014

Ferrers Road, Eastern Creek, NSW 2766



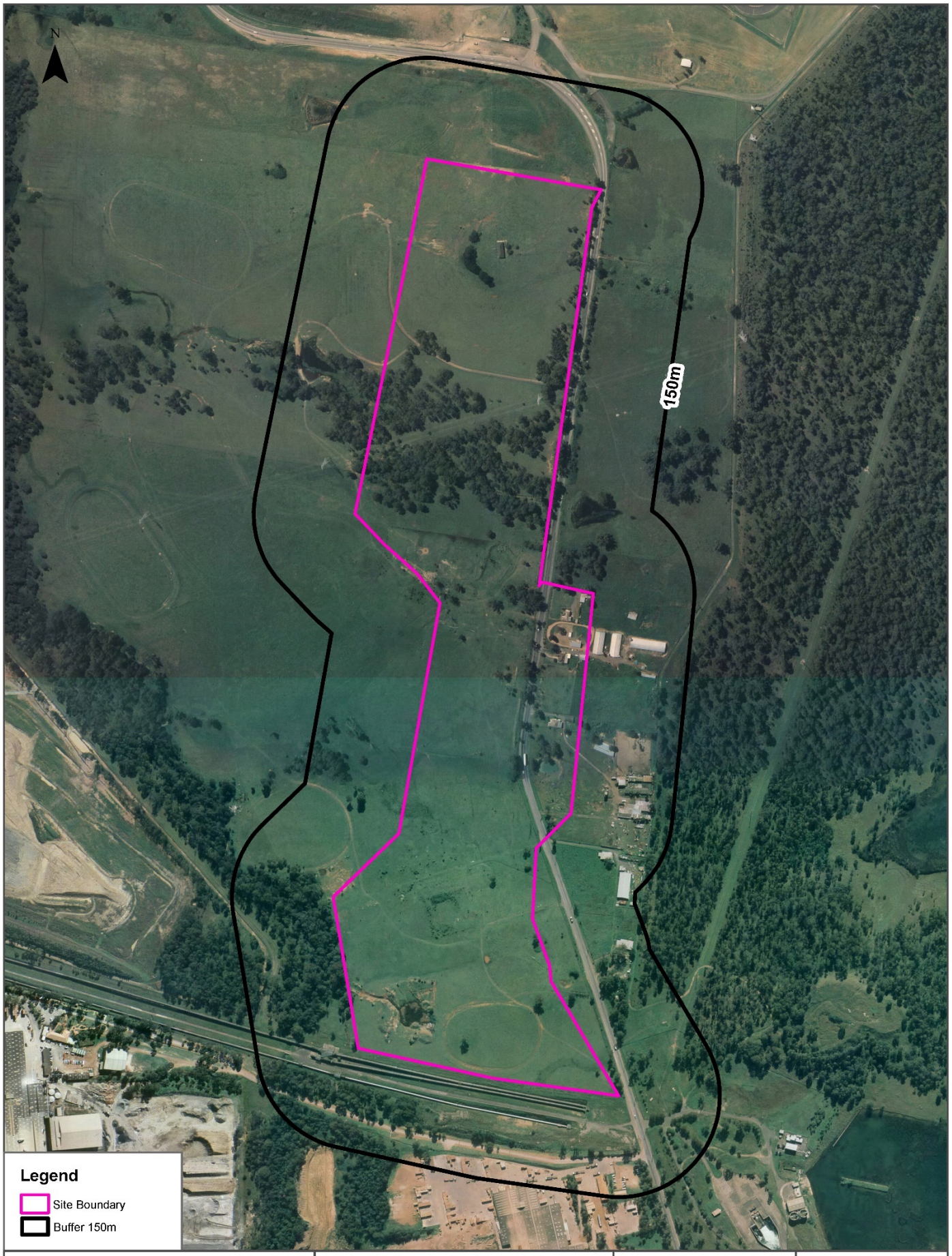
Aerial Imagery 2007

Ferrers Road, Eastern Creek, NSW 2766



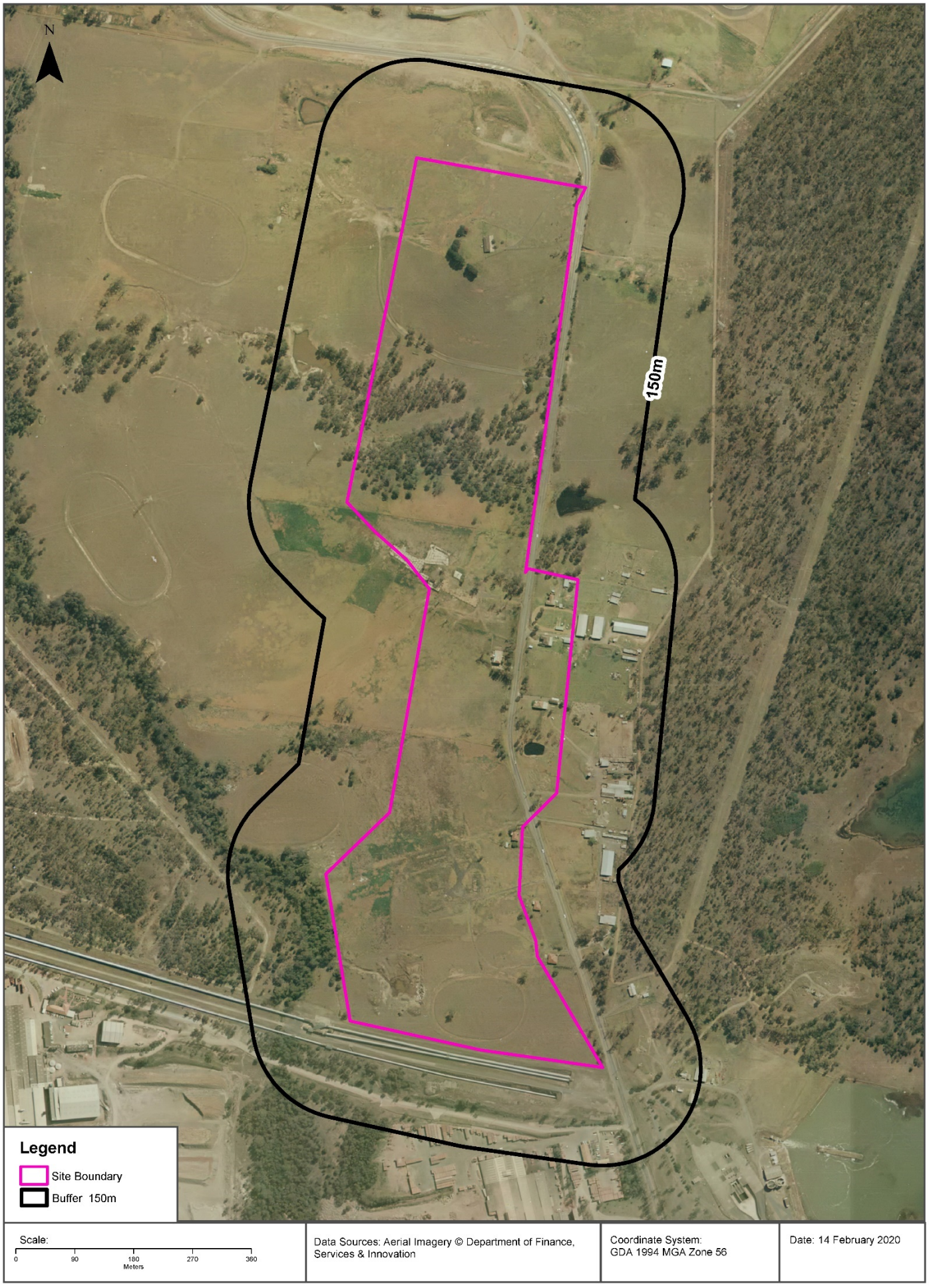
Aerial Imagery 2000

Ferrers Road, Eastern Creek, NSW 2766



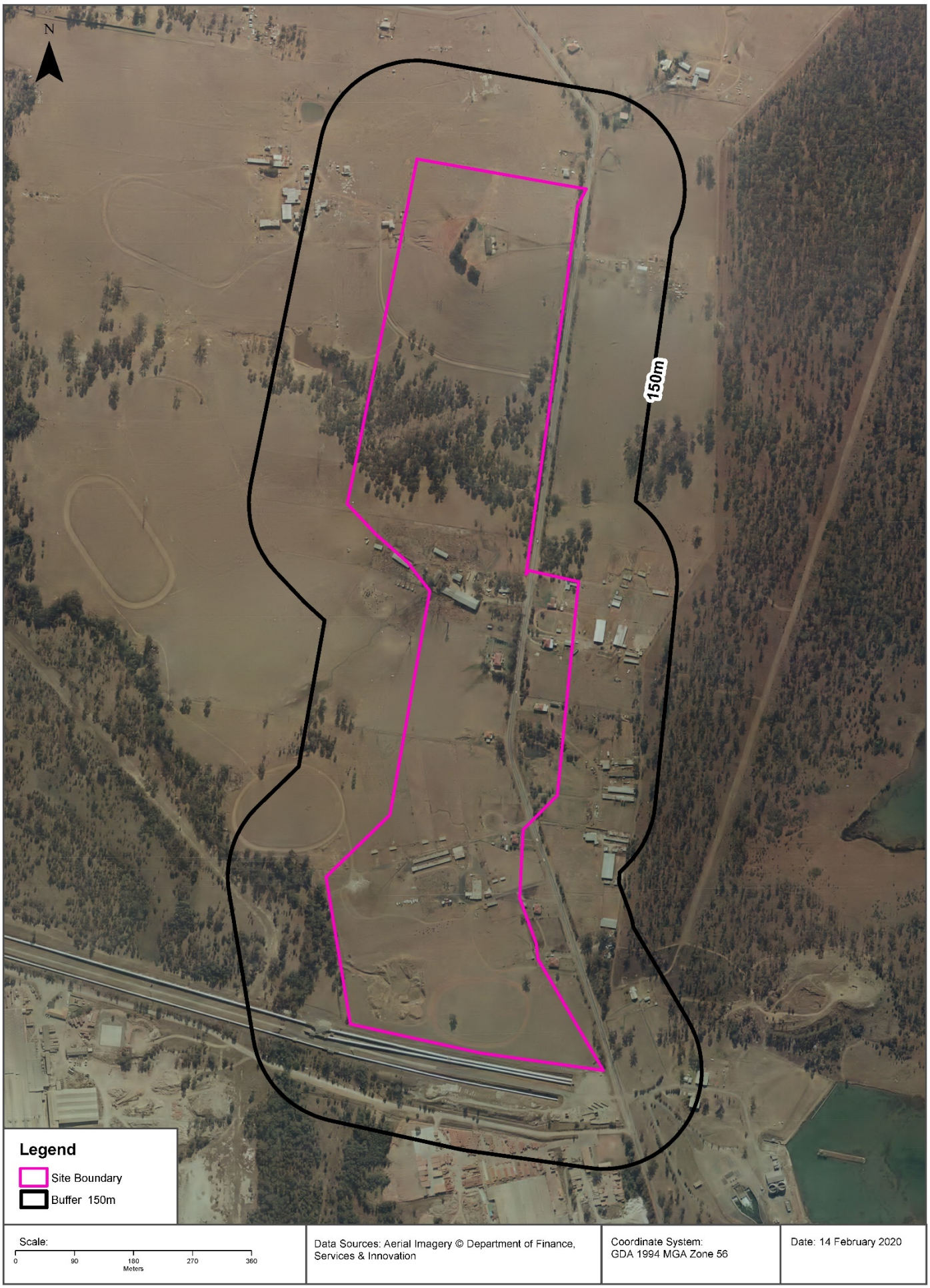
Aerial Imagery 1991

Ferrers Road, Eastern Creek, NSW 2766



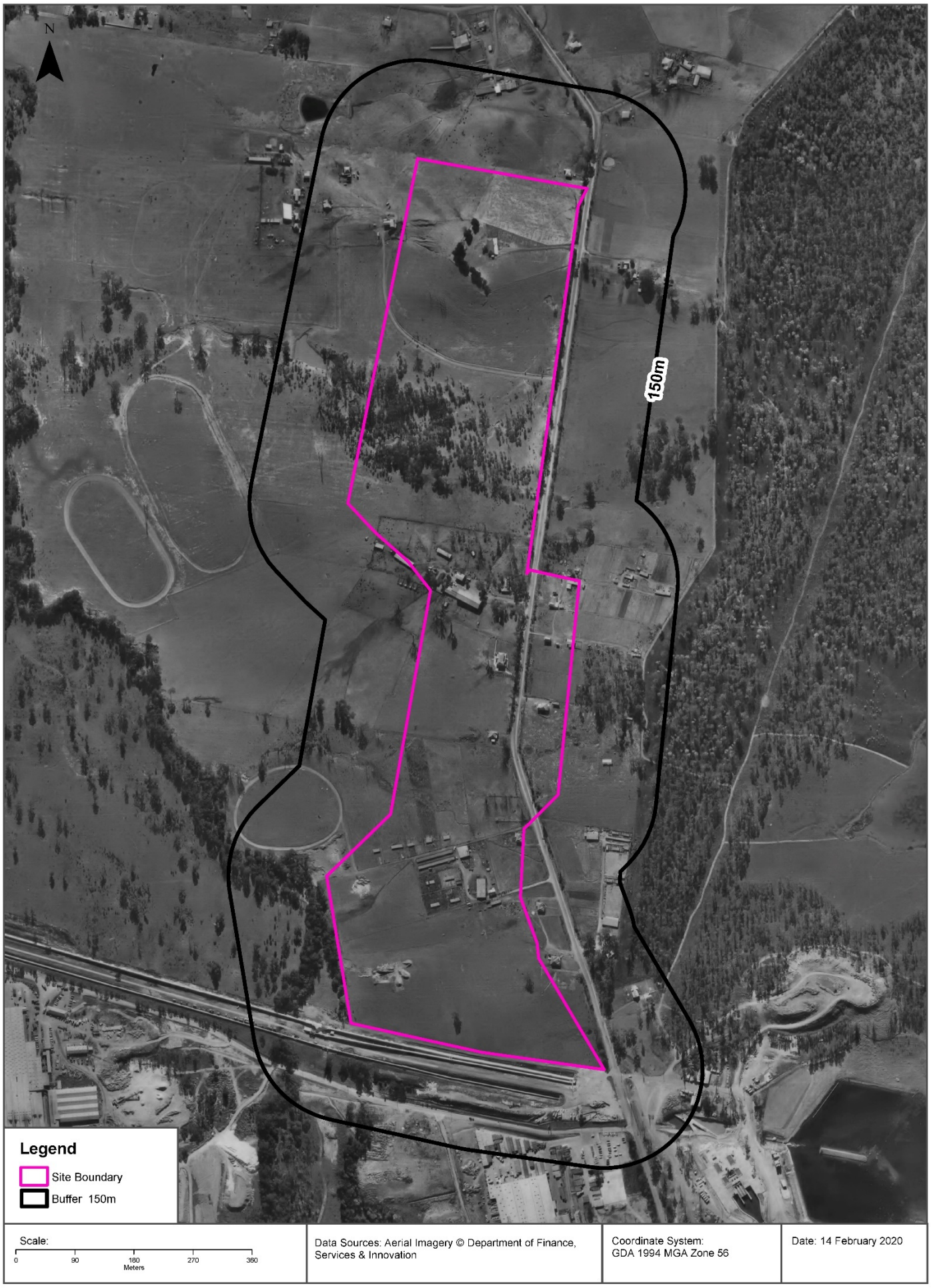
Aerial Imagery 1982

Ferrers Road, Eastern Creek, NSW 2766



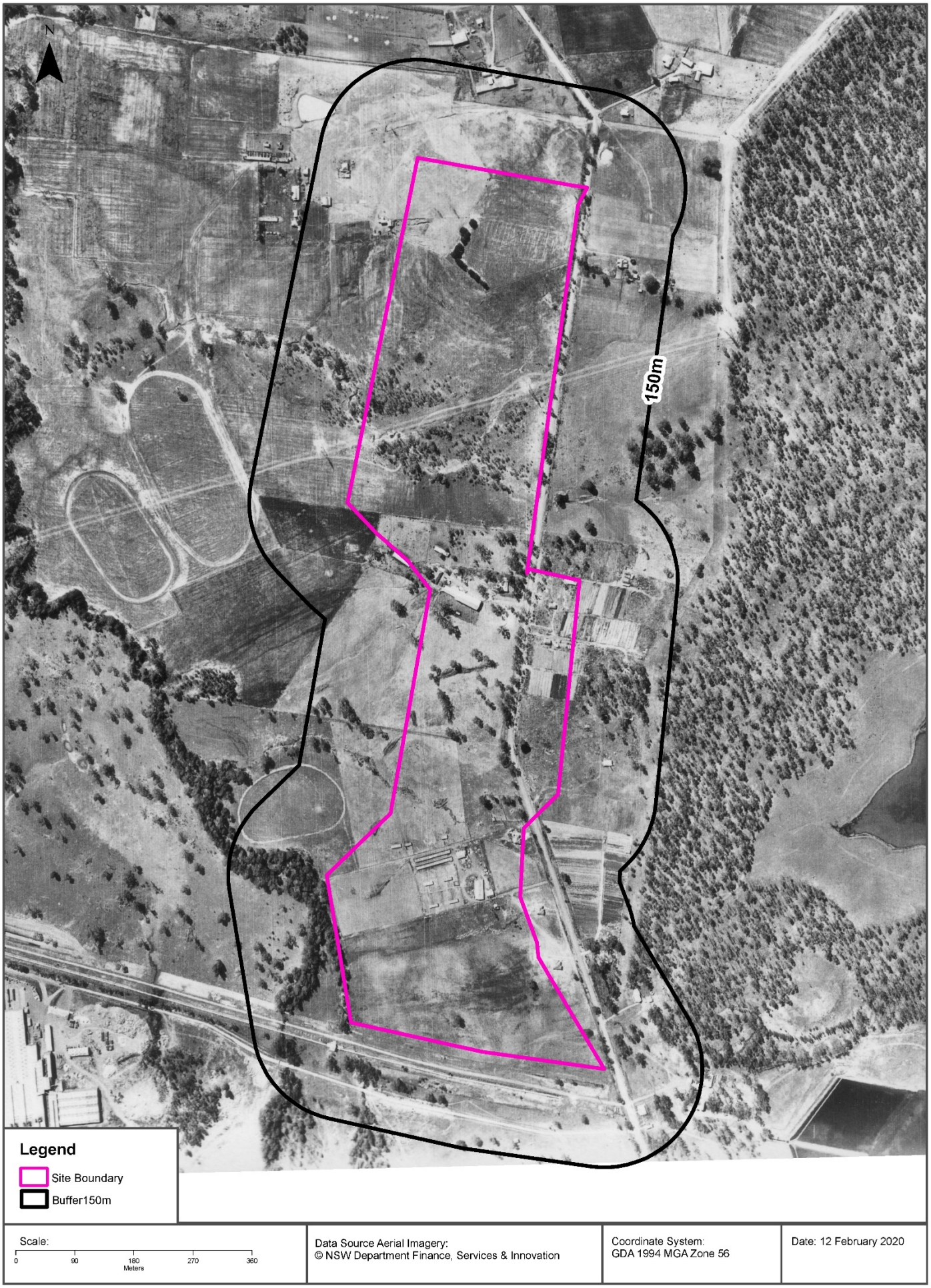
Aerial Imagery 1970

Ferrers Road, Eastern Creek, NSW 2766



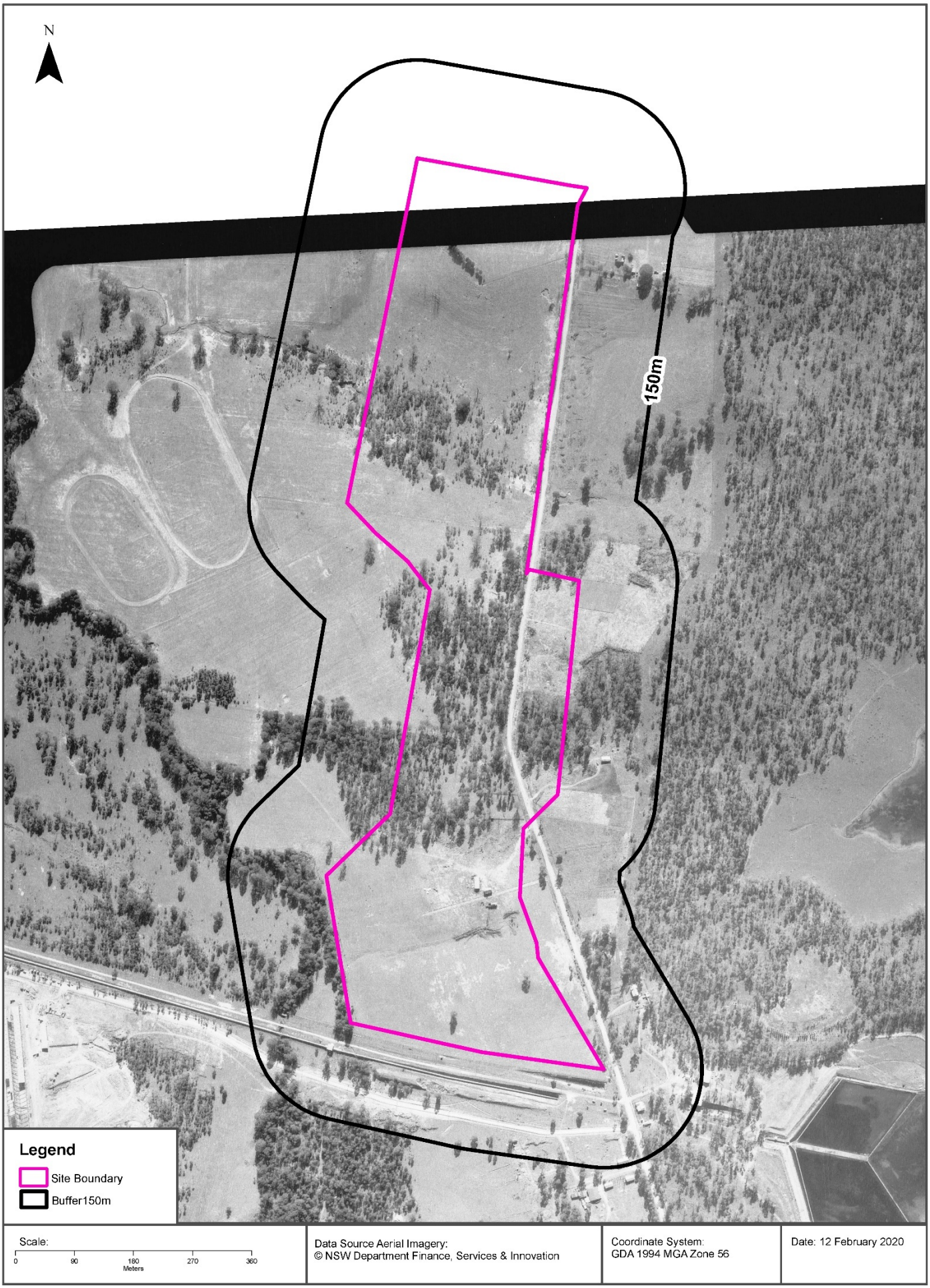
Aerial Imagery 1965

Ferrers Road, Eastern Creek, NSW 2766



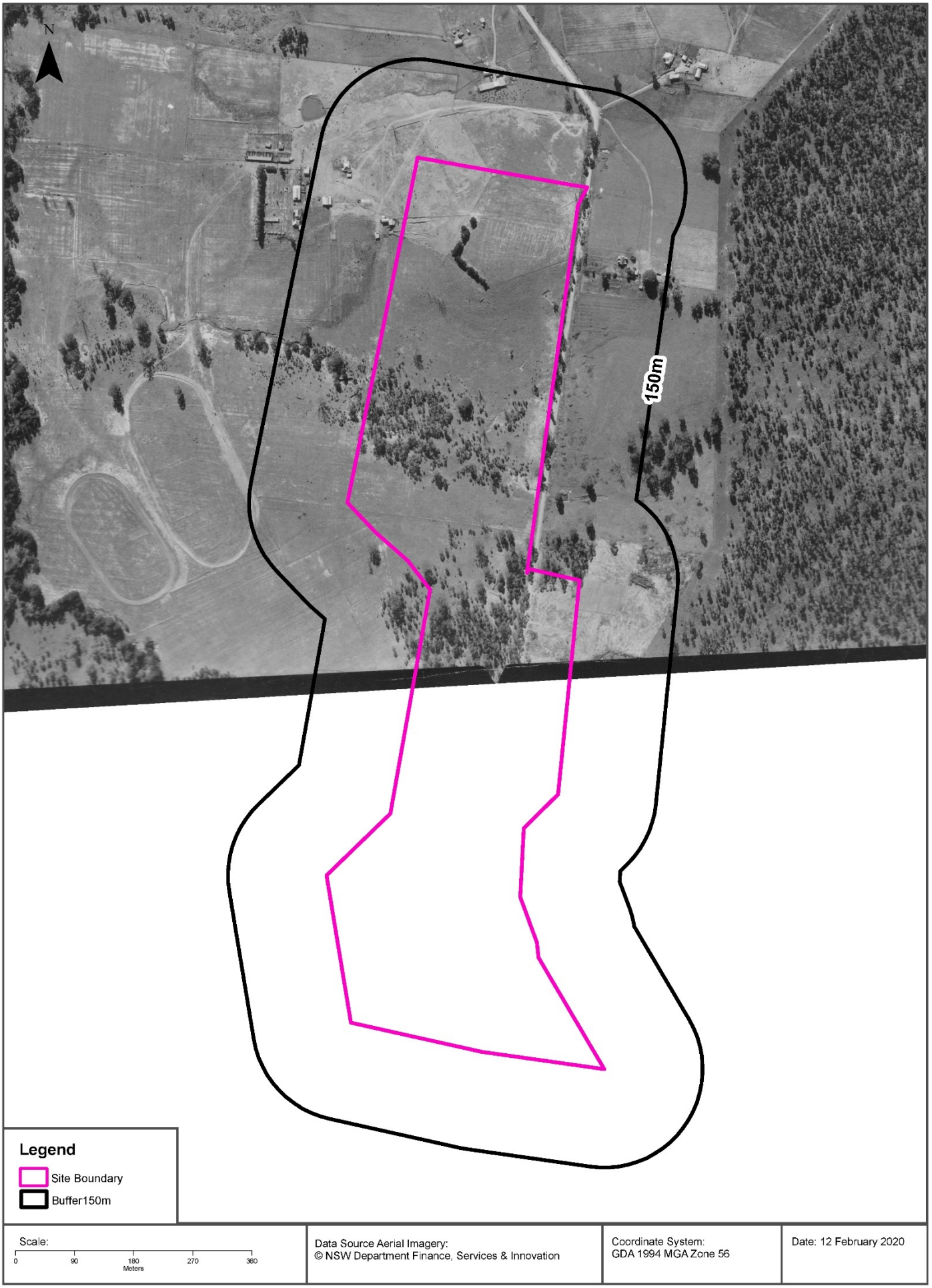
Aerial Imagery 1961

Ferrers Road, Eastern Creek, NSW 2766



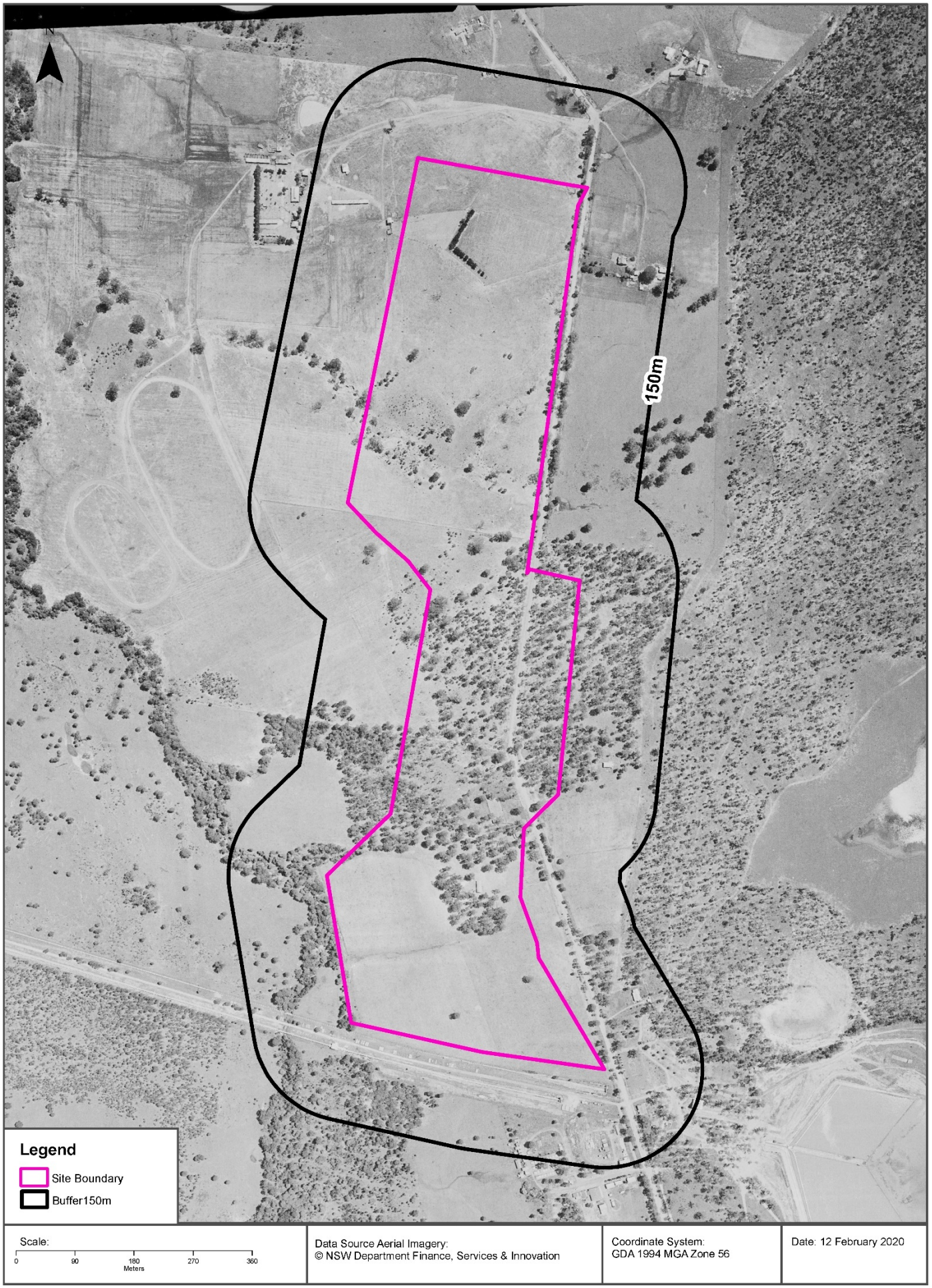
Aerial Imagery 1961

Ferrers Road, Eastern Creek, NSW 2766



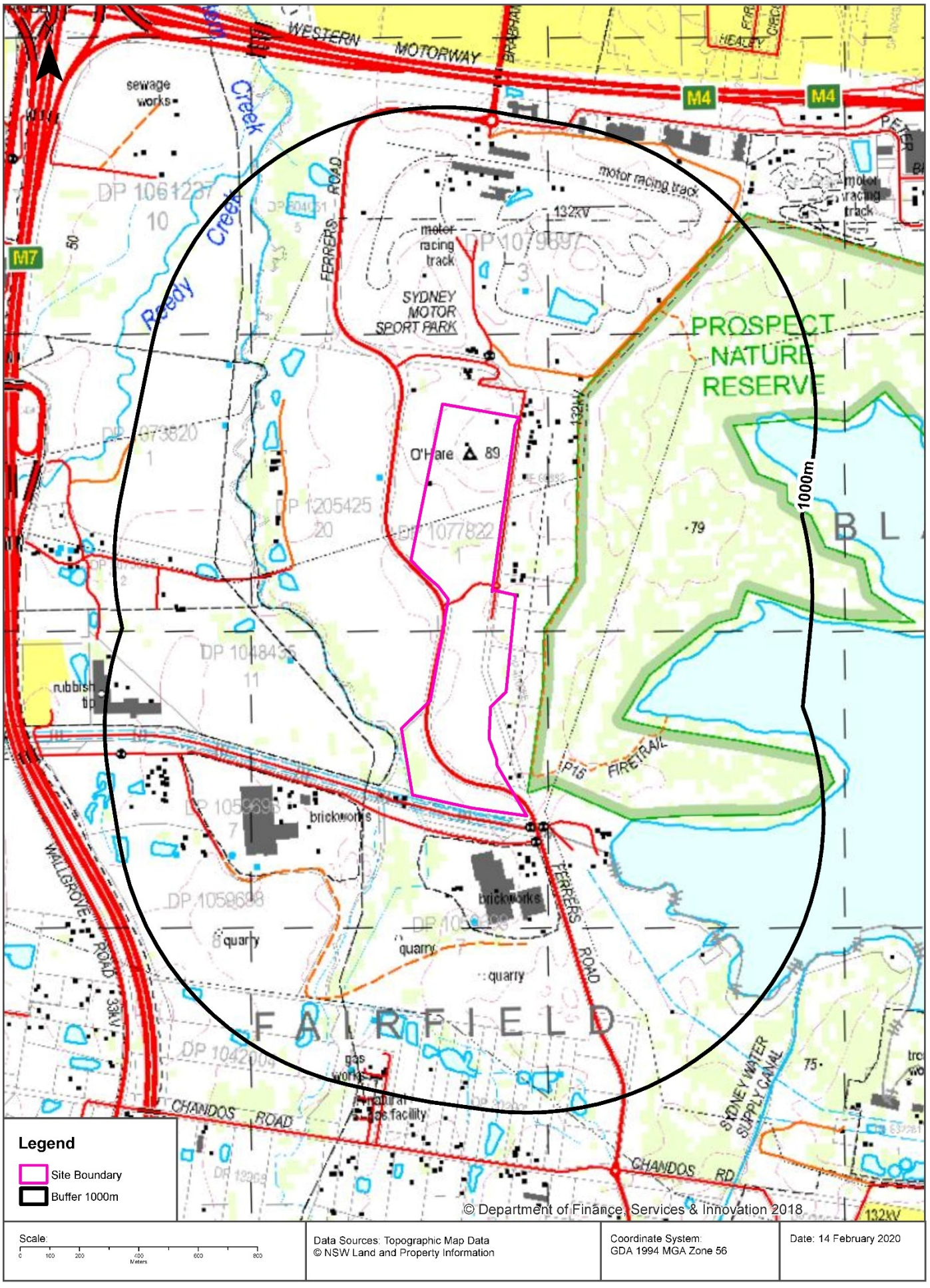
Aerial Imagery 1956

Ferrers Road, Eastern Creek, NSW 2766



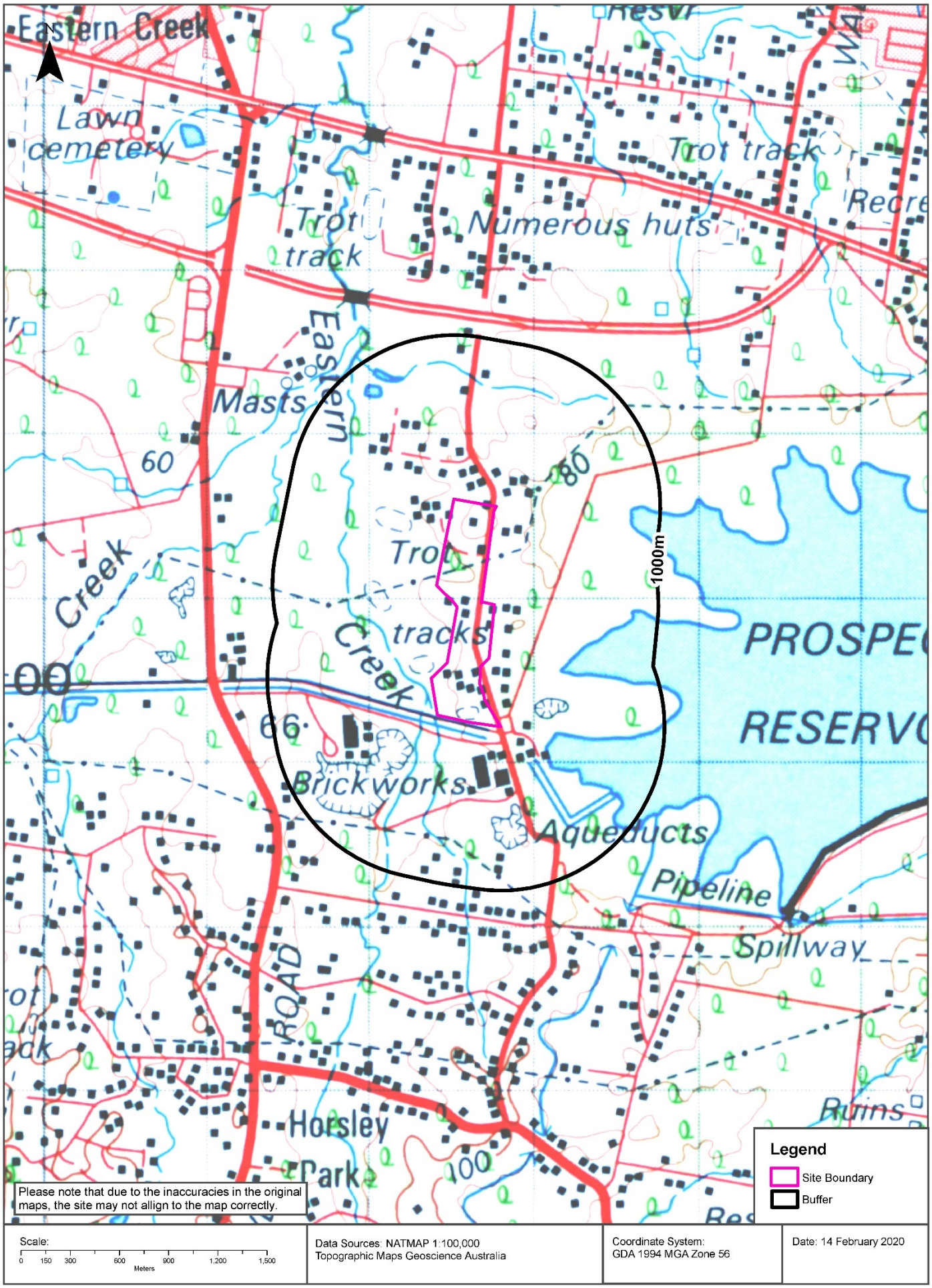
Topographic Map 2015

Ferrers Road, Eastern Creek, NSW 2766



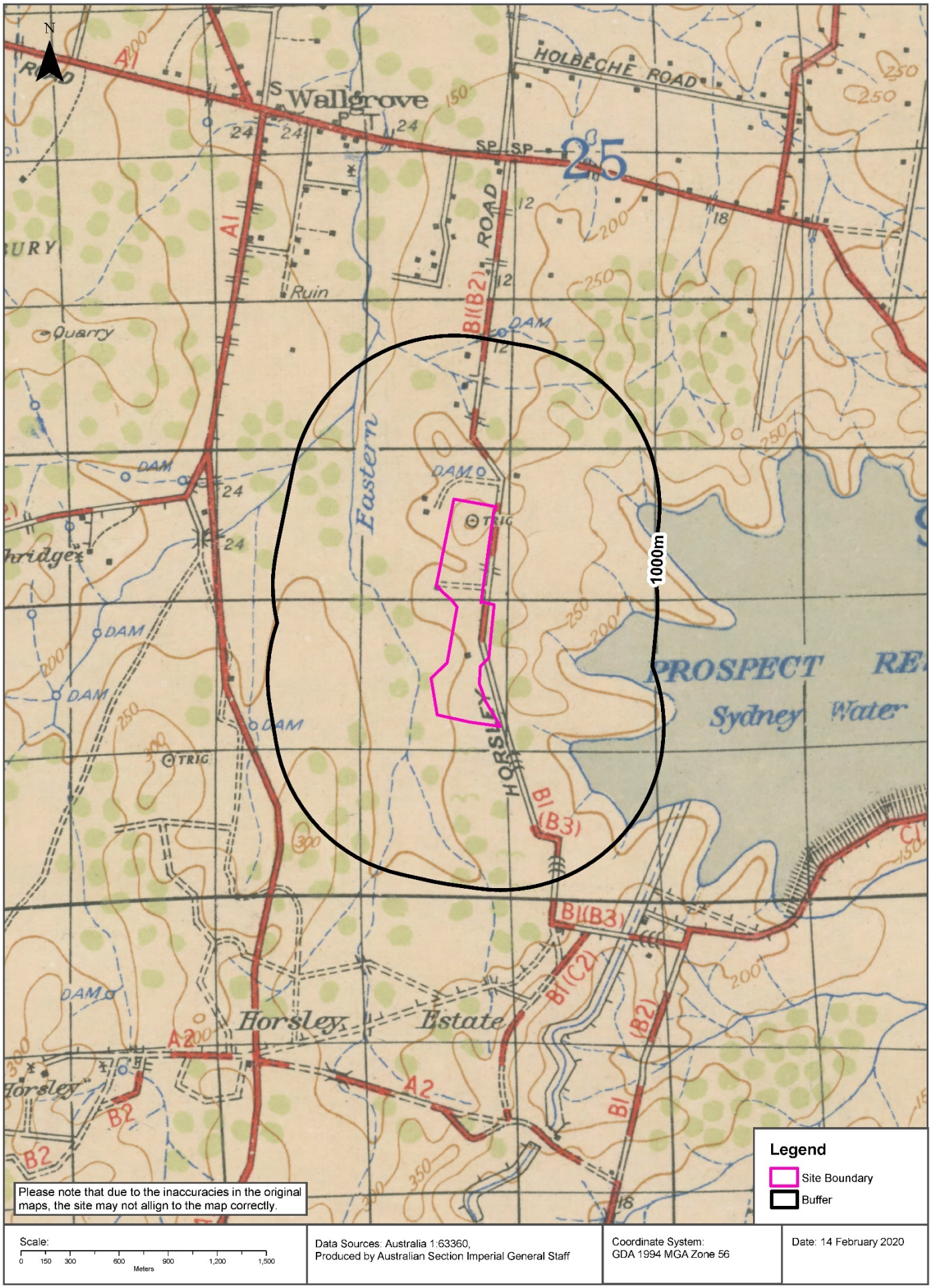
Historical Map 1975

Ferrers Road, Eastern Creek, NSW 2766



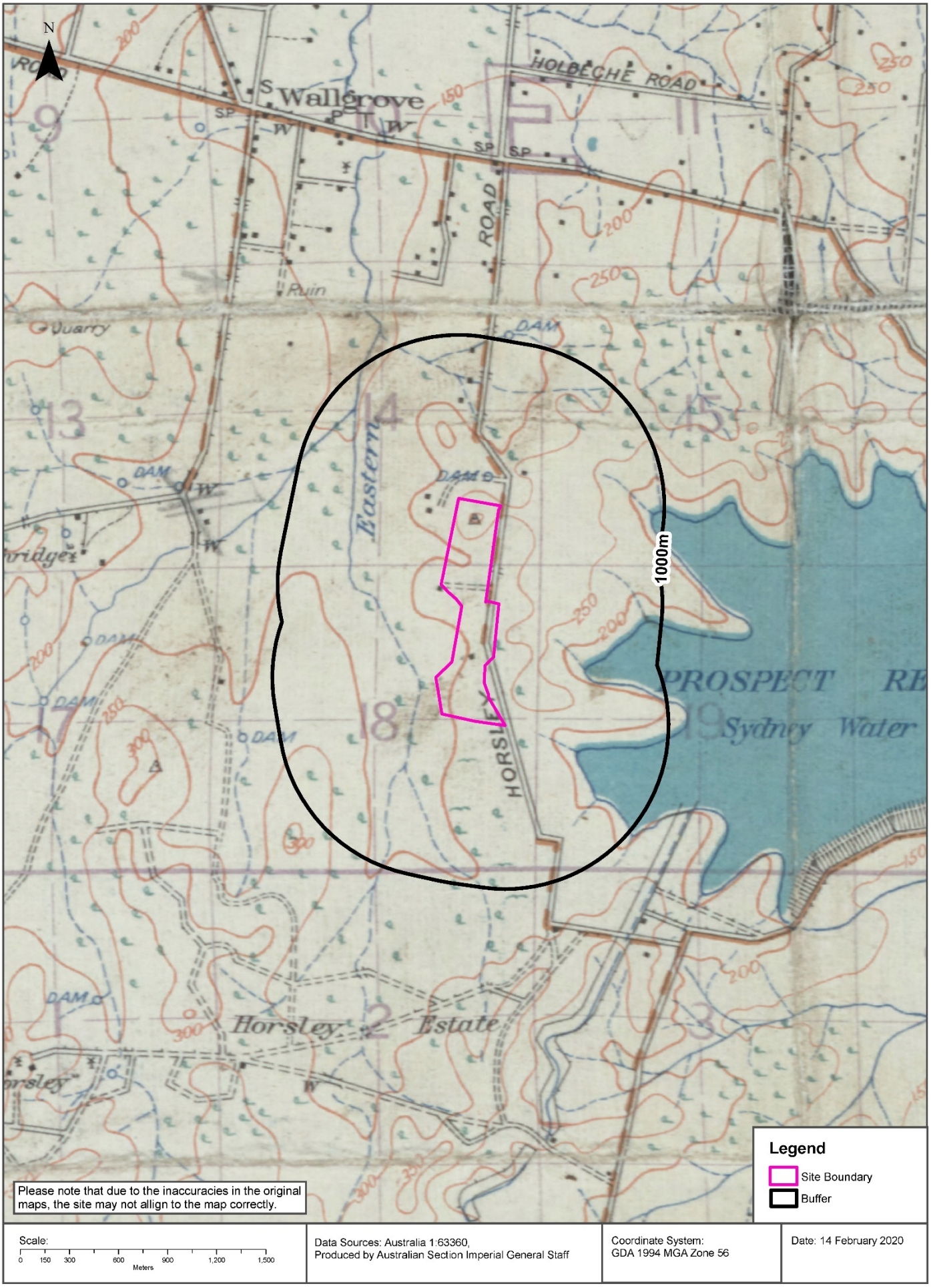
Historical Map c.1942

Ferrers Road, Eastern Creek, NSW 2766



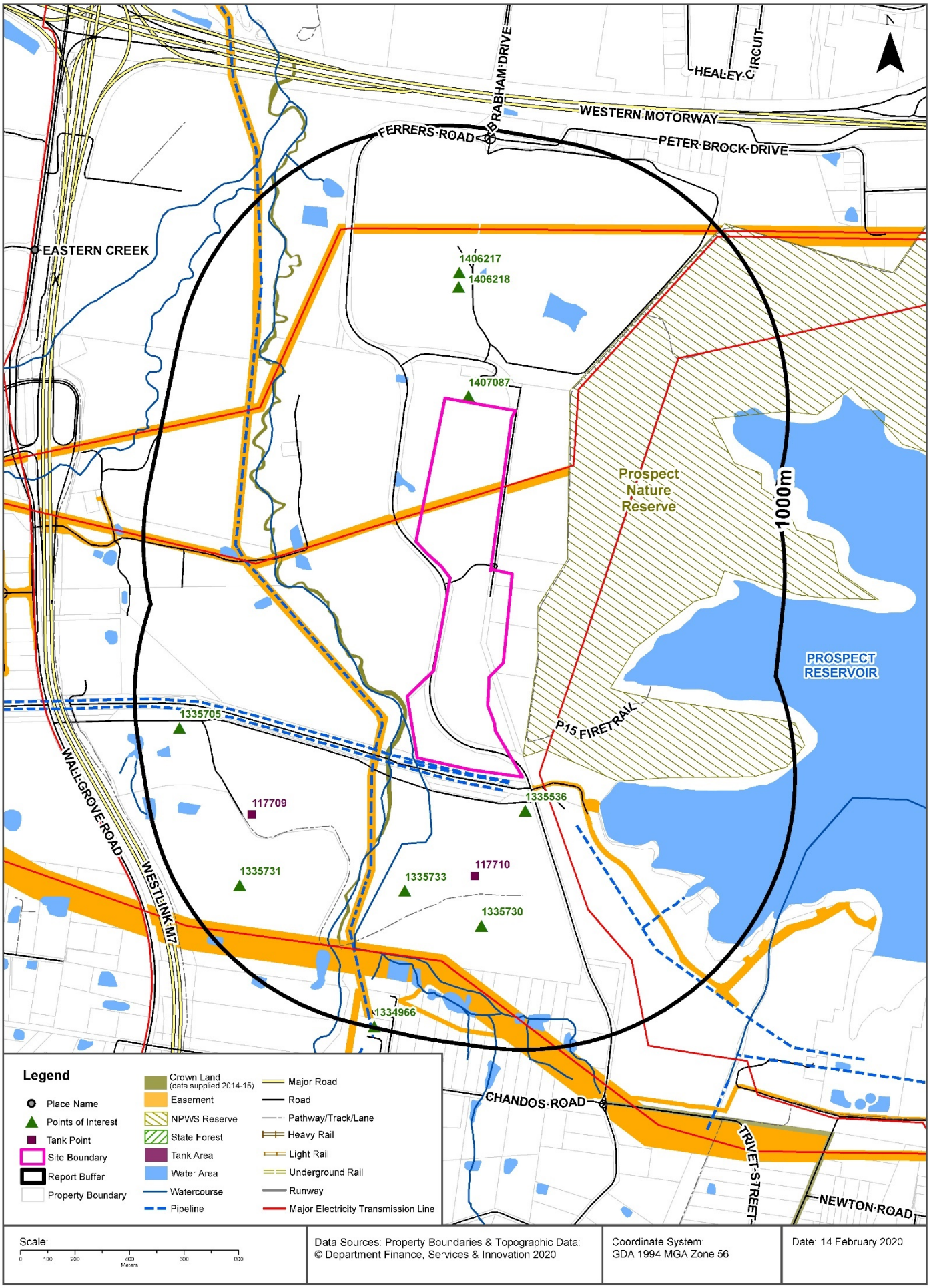
Historical Map c.1929

Ferrers Road, Eastern Creek, NSW 2766



Topographic Features

Ferrers Road, Eastern Creek, NSW 2766



Topographic Features

Ferrers Road, Eastern Creek, NSW 2766

Points of Interest

What Points of Interest exist within the dataset buffer?

Map Id	Feature Type	Label	Distance	Direction
1407087	Parking Area	Parking Area	23m	North
1335536	Parking Area	Parking Area	123m	South
1406218	Park	SYDNEY MOTOR SPORT PARK	411m	North
1406217	Motor Racing Track	SYDNEY MOTOR SPORT PARK RACEWAY	464m	North
1335733	Quarry - Open Cut	Quarry - Open Cut	486m	South
1335730	Quarry - Open Cut	Quarry - Open Cut	561m	South
1335731	Quarry - Open Cut	Quarry - Open Cut	802m	South West
1335705	Parking Area	Parking Area	844m	South West
1334966	Gas Facility	HORSLEY PARK METER STATION	995m	South

Topographic Features

Ferrers Road, Eastern Creek, NSW 2766

Tanks (Areas)

What are the Tank Areas located within the dataset buffer?
Note. The large majority of tank features provided by LPI are derived from aerial imagery & are therefore primarily above ground tanks.

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

Tanks (Points)

What are the Tank Points located within the dataset buffer?
Note. The large majority of tank features provided by LPI are derived from aerial imagery & are therefore primarily above ground tanks.

Map Id	Tank Type	Status	Name	Feature Currency	Distance	Direction
117710	Water	Operational		13/07/2018	384m	South
117709	Water	Operational		13/07/2018	642m	South West

Major Easements

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

Map Id	Easement Class	Easement Type	Easement Width	Distance	Direction
120119382	Primary	Undefined		0m	Onsite
170559587	Primary	Right of way	Var.	49m	South East
120116079	Primary	Undefined		84m	North
120112674	Primary	Undefined		587m	North
165336246	Primary	Electricity	110m and Var.	688m	South West
120119923	Primary	Undefined		699m	South
120122092	Primary	Undefined		738m	South
120118264	Primary	Undefined		875m	South
120114273	Primary	Undefined		878m	South East

Topographic Features

Ferrers Road, Eastern Creek, NSW 2766

State Forest

What State Forest exist within the dataset buffer?

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

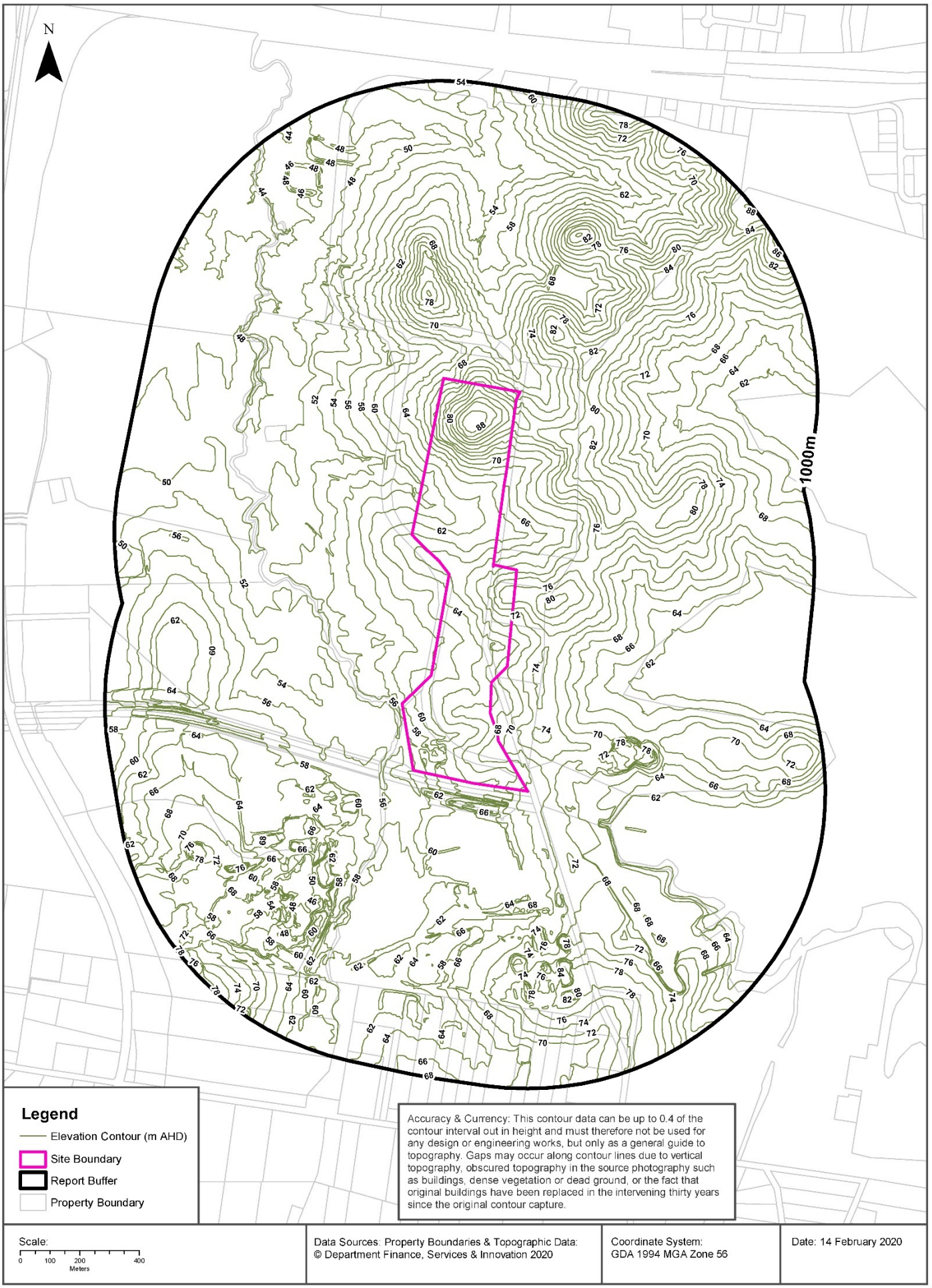
National Parks and Wildlife Service Reserves

What NPWS Reserves exist within the dataset buffer?

Reserve Number	Reserve Type	Reserve Name	Gazetted Date	Distance	Direction
N0938	NATURE RESERVE	Prospect Nature Reserve	28/02/2007	41m	East

Elevation Contours (m AHD)

Ferrers Road, Eastern Creek, NSW 2766



Hydrogeology & Groundwater

Ferrers Road, Eastern Creek, NSW 2766

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)

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

Ferrers Road, Eastern Creek, NSW 2766

Hydrogeology & Groundwater

Ferrers Road, Eastern Creek, NSW 2766

Groundwater Boreholes

Boreholes within the dataset buffer:

GW No.	Licence No	Work Type	Owner Type	Authorised Purpose	Intended Purpose	Name	Complete Date	Final Depth (m)	Drilled Depth (m)	Salinity (mg/L)	SWL (m)	Yield (L/s)	Elev (AHD)	Dist	Dir
GW104063	10BL160233	Bore		Monitoring Bore	Monitoring Bore		23/08/2001	27.40	27.40					73m	South
GW104062	10BL160233	Bore		Monitoring Bore	Monitoring Bore		23/08/2001	24.40	24.40	2800				159m	South West
GW104061	10BL160233	Bore		Monitoring Bore	Monitoring Bore		22/08/2001	24.50	24.50					696m	South West
GW104060	10BL160233	Bore		Monitoring Bore	Monitoring Bore		22/08/2001	24.60	24.60					975m	South West

Hydrogeology & Groundwater

Ferrers Road, Eastern Creek, NSW 2766

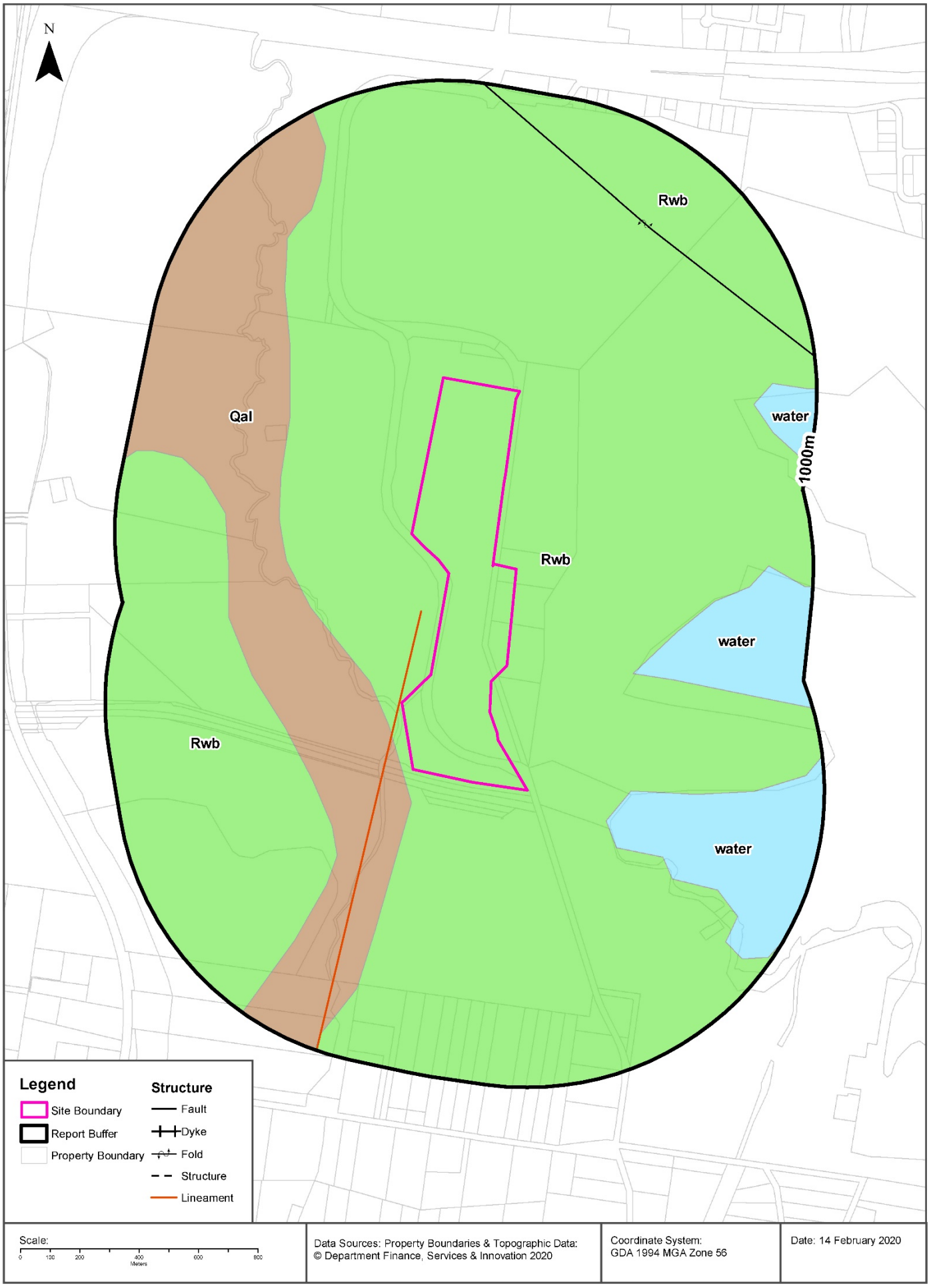
Driller's Logs

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

Groundwater No	Drillers Log	Distance	Direction
GW104063	0.00m-3.00m BROWN CLAY 3.00m-5.00m GREY CLAY 5.00m-6.00m BROWN SHALE 6.00m-27.40m GREY SHALE	73m	South
GW104062	0.00m-0.50m FILL 0.50m-4.00m BROWN CLAY 4.00m-6.00m BROWN SHALE 6.00m-11.00m GREY SHALE 11.00m-24.40m HARD SHALE	159m	South West
GW104061	0.00m-0.50m FILL 0.50m-1.00m TOPSOIL 1.00m-6.00m WEATHERED SILTSTONE 6.00m-24.50m GREY SHALE	696m	South West
GW104060	0.00m-0.30m TOPSOIL 0.30m-3.00m BROWN CLAY 3.00m-5.00m BROWN SHALE 5.00m-24.60m GREY SHALE	975m	South West

Geology 1:100,000

Ferrers Road, Eastern Creek, NSW 2766



Geology

Ferrers Road, Eastern Creek, NSW 2766

Geological Units

What are the Geological Units onsite?

Symbol	Description	Unit Name	Group	Sub Group	Age	Dom Lith	Map Sheet	Dataset
Rwb	Shale, carbonaceous claystone,claystone, laminate, fine to medium-grained lithic sandstone, rare coal and tuff	Bringelly Shale	Wianamatta Group (undifferentiated)		Middle Triassic		Penrith	1:100,000

What are the Geological Units within the dataset buffer?

Symbol	Description	Unit Name	Group	Sub Group	Age	Dom Lith	Map Sheet	Dataset
Qal	Fine-grained sand, silt and clay				Quaternary		Penrith	1:100,000
Rwb	Shale, carbonaceous claystone,claystone, laminate, fine to medium-grained lithic sandstone, rare coal and tuff	Bringelly Shale	Wianamatta Group (undifferentiated)		Middle Triassic		Penrith	1:100,000
water							Penrith	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
Fold	Penrith Basin	Fold, position accurate	Penrith	1:100,000
Lineament			Penrith	1:100,000

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

Naturally Occurring Asbestos Potential

Ferrers Road, Eastern Creek, NSW 2766

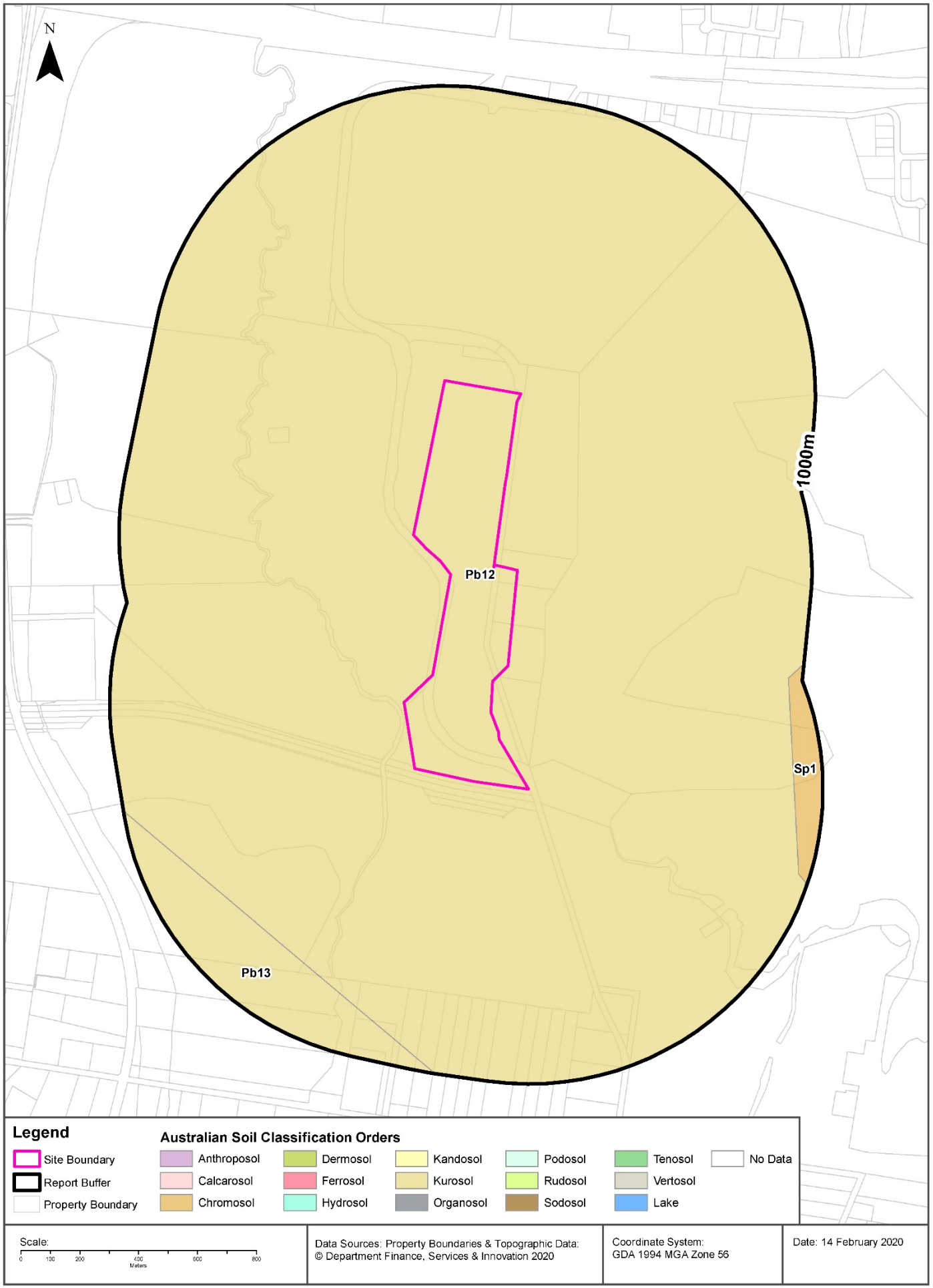
Naturally Occurring Asbestos Potential

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												

Atlas of Australian Soils

Ferrers Road, Eastern Creek, NSW 2766



Soils

Ferrers Road, Eastern Creek, NSW 2766

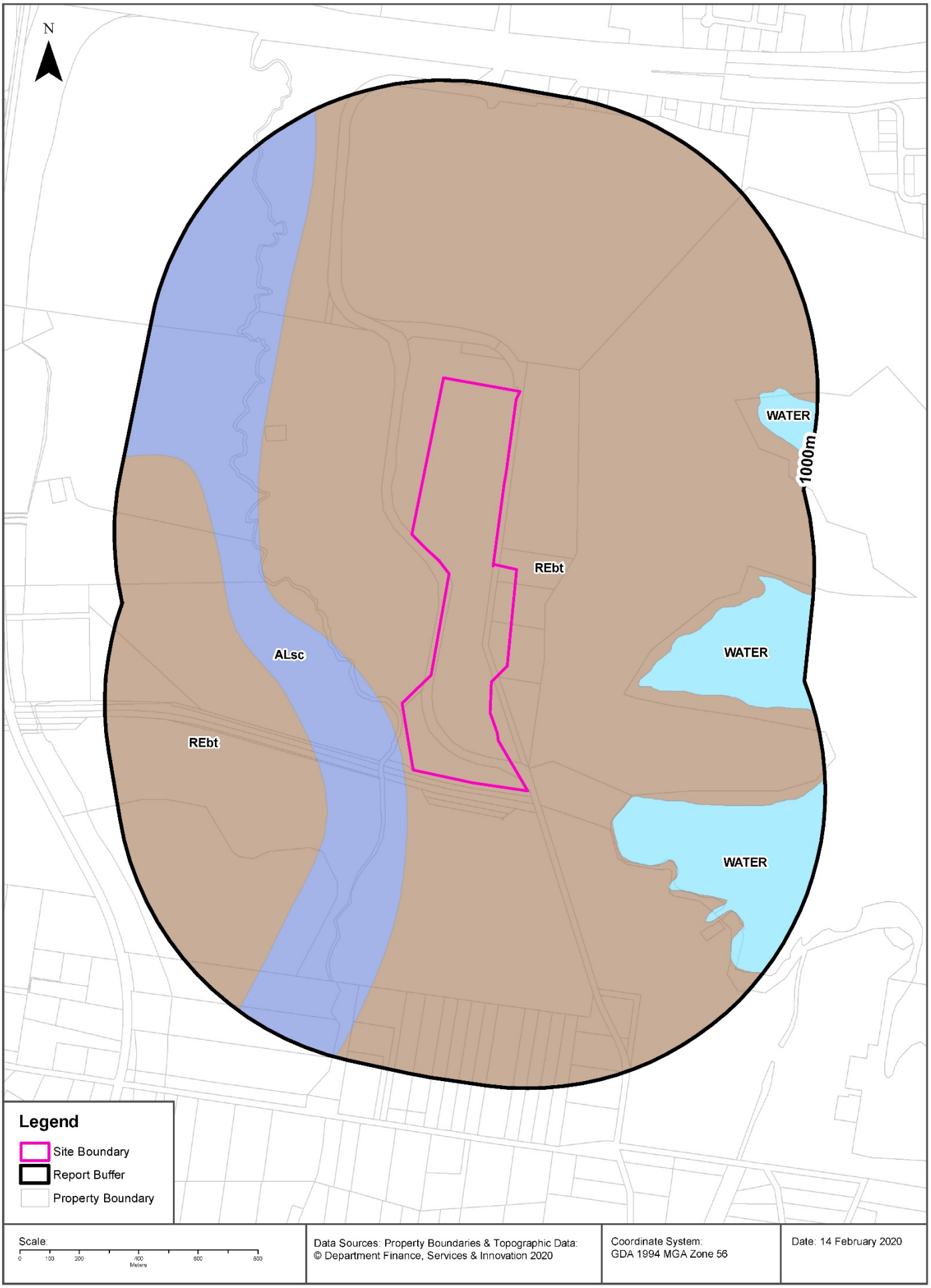
Atlas of Australian Soils

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

Map Unit Code	Soil Order	Map Unit Description	Distance
Pb12	Kurosol	Gently rolling to rounded hilly country with some steep slopes and broad valleys: chief soils are hard acidic red soils (Dr2.21) with hard neutral and acidic yellow mottled soils (Dy3.42 and Dy3.41) on lower slopes and in valleys. Associated are small areas of various soils including (Gn3.54) on some ridges, (Dr3.31) on some slopes; (Dr2.23) in saddles and some mid-slope positions, and some low- lying swampy areas of (Uf6) soils and (Uc1.2) soils with peaty surfaces. Small areas of other soils such as (Db1.2) are likely throughout.	0m
Pb13	Kurosol	Ridge and valley country of gently undulating ridge tops and steep side slopes often with slumping, also rounded hilly to steep hilly areas and relatively narrow valleys: chief soils are hard acidic red soils (Dr2.21) with hard acidic yellow mottled soils (Dy3.41); in places some ironstone gravels occur in both these soils. Associated are hard neutral and alkaline red soils (Dr2.22 and Dr2.23) in saddles and some mid-slope positions; (Dy3.42 and Dy3.43) soils, usually in depressions; and small areas of undescribed soils in wet soaks and valley areas. Small areas of other soils are likely throughout.	748m
Sp1	Chromosol	Gently undulating plain usually with a surface scatter of ironstone gravel: chief soils are hard acidic yellow soils (Dy2.61) on flat-topped ridges and higher situations generally and hard acidic yellow mottled soils (Dy3.41) or (Dy3.81) in lower-lying situations. They all commonly contain ironstone gravel through the profile. Associated are (Dy5.41) or (Dy5.81) soils, containing ironstone gravels; and shallow (Gn2.1) gravelly soils also with indurated materials below the solum. Iron-cemented and/or silica-cemented strata have been recorded in many areas below the soils. As mapped, areas of units X9, Pb12, and Tb35 may be included.	900m

Soil Landscapes

Ferrers Road, Eastern Creek, NSW 2766



Soils

Ferrers Road, Eastern Creek, NSW 2766

Soil Landscapes

What are the onsite Soil Landscapes?

Soil Code	Name	Group	Process	Map Sheet	Scale
REbt	BLACKTOWN		RESIDUAL	Penrith	1:100,000

What are the Soil Landscapes within the dataset buffer?

Soil Code	Name	Group	Process	Map Sheet	Scale
ALsc	SOUTH CREEK		ALLUVIAL	Penrith	1:100,000
REbt	BLACKTOWN		RESIDUAL	Penrith	1:100,000
WATER	WATER		WATER	Penrith	1:100,000

Acid Sulfate Soils

Ferrers Road, Eastern Creek, NSW 2766

Environmental Planning Instrument - Acid Sulfate Soils

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

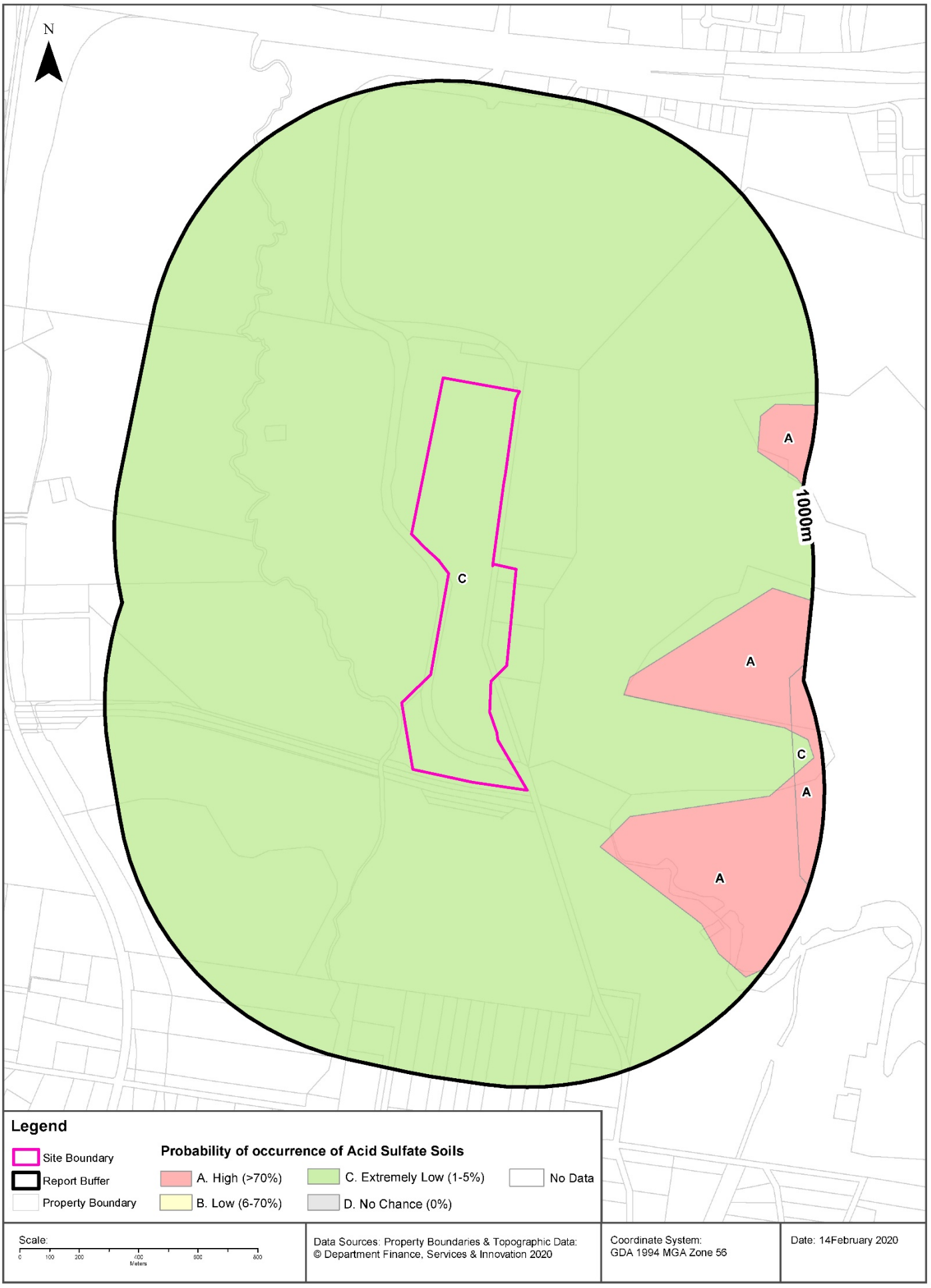
Soil Class	Description	EPI Name
N/A		

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

Soil Class	Description	EPI Name	Distance	Direction
N/A				

Atlas of Australian Acid Sulfate Soils

Ferrers Road, Eastern Creek, NSW 2766



Acid Sulfate Soils

Ferrers Road, Eastern Creek, NSW 2766

Atlas of Australian Acid Sulfate Soils

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

Class	Description	Distance
C	Extremely low probability of occurrence. 1-5% chance of occurrence with occurrences in small localised areas.	0m
A	High Probability of occurrence. >70% chance of occurrence.	309m

Dryland Salinity

Ferrers Road, Eastern Creek, NSW 2766

Dryland Salinity

Ferrers Road, Eastern Creek, NSW 2766

Dryland Salinity - National Assessment

Is there Dryland Salinity - National Assessment data onsite?
Yes

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

What Dryland Salinity assessments are given?

Assessment 2000	Assessment 2020	Assessment 2050	Distance	Direction
High hazard or risk	High hazard or risk	High hazard or risk	0m	Onsite
Delineated risk area but no high hazard or risk rating	Delineated risk area but no high hazard or risk rating	Delineated risk area but no high hazard or risk rating	2m	North

Dryland Salinity Data Source : National Land and Water Resources Audit
The Commonwealth and all suppliers of source data used to derive the maps of "Australia, Forecast Areas Containing Land of High Hazard or Risk of Dryland Salinity from 2000 to 2050" do not warrant the accuracy or completeness of information in this product. Any person using or relying upon such information does so on the basis that the Commonwealth and data suppliers shall bear no responsibility or liability whatsoever for any errors, faults, defects or omissions in the information. Any persons using this information do so at their own risk.
In many cases where a high risk is indicated, less than 100% of the area will have a high hazard or risk.

Dryland Salinity Potential of Western Sydney

Dryland Salinity Potential of Western Sydney within the dataset buffer?

Feature Id	Classification	Description	Distance	Direction
274	MODERATE	Area of Moderate Salinity Potential	0m	Onsite
227	HIGH	Area of High Salinity Potential	0m	Onsite
119	WATER	Area of Water	301m	East

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

Mining Subsidence Districts

Ferrers Road, Eastern Creek, NSW 2766

Mining Subsidence Districts

Mining Subsidence Districts within the dataset buffer:

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

State Environmental Planning Policy

Ferrers Road, Eastern Creek, NSW 2766

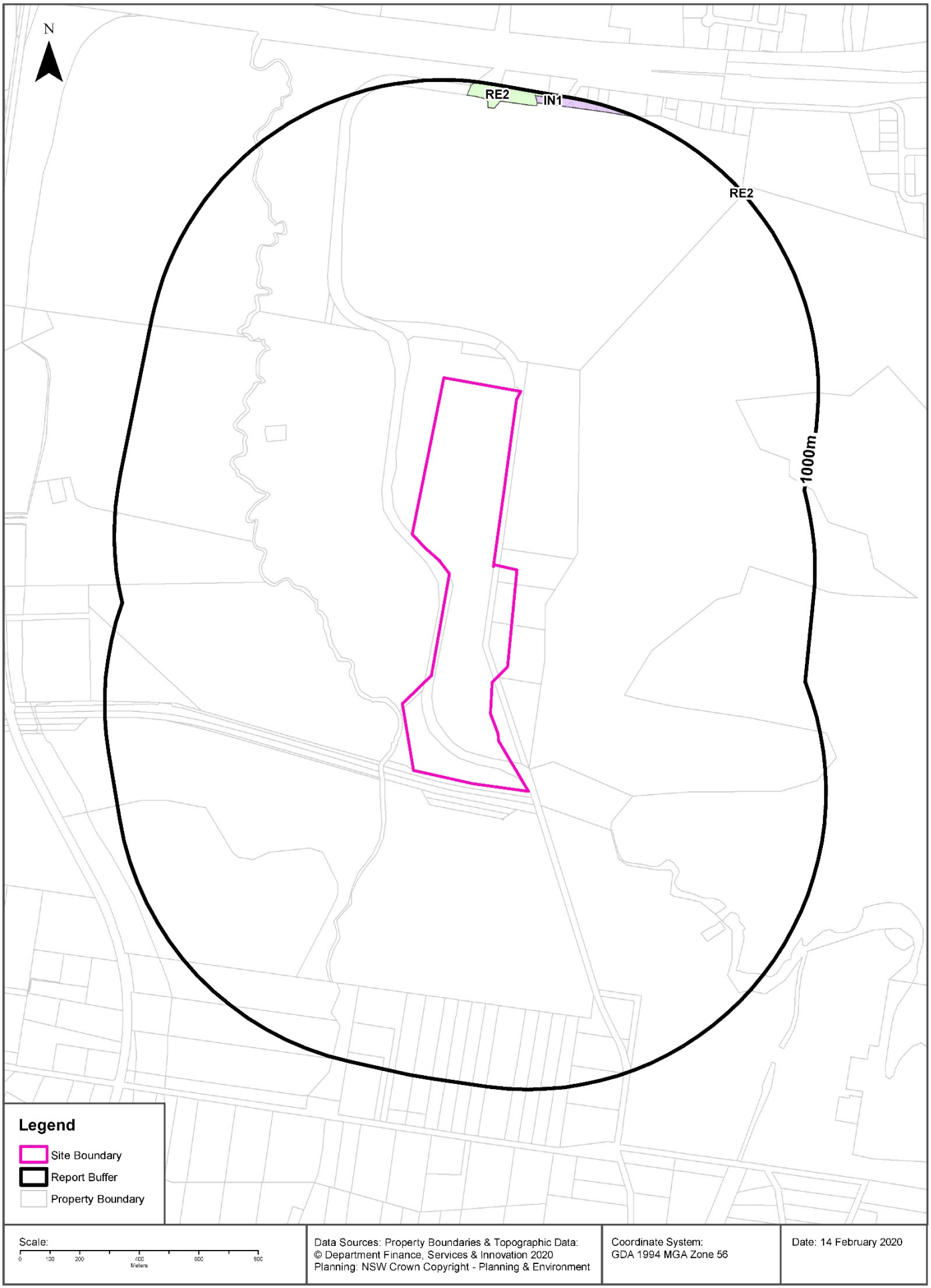
State Significant Precincts

What SEPP State Significant Precincts exist within the dataset buffer?

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

EPI Planning Zones

Ferrers Road, Eastern Creek, NSW 2766



Environmental Planning Instrument

Ferrers Road, Eastern Creek, NSW 2766

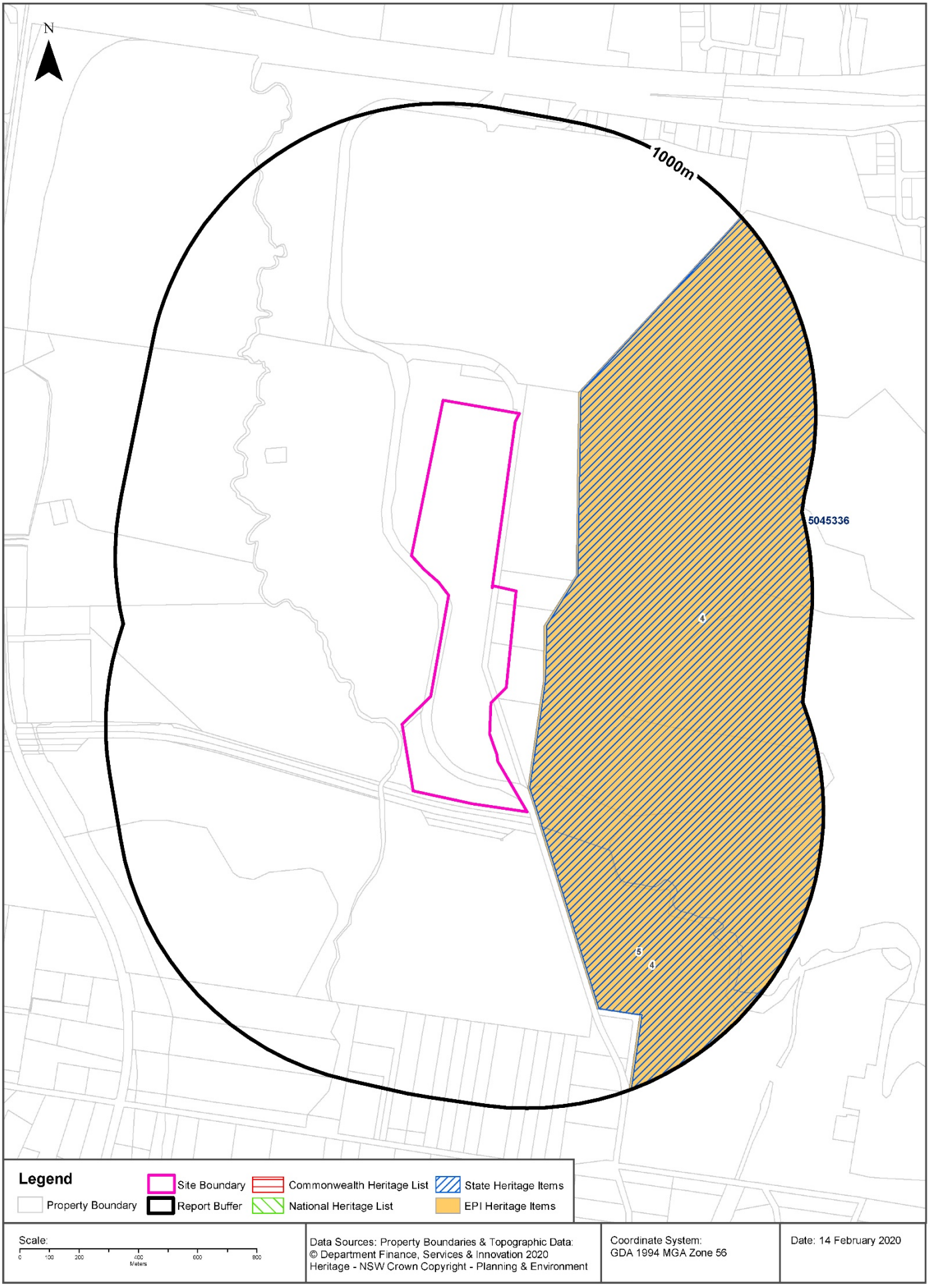
Land Zoning

What EPI Land Zones exist within the dataset buffer?

Zone	Description	Purpose	EPI Name	Published Date	Commenced Date	Currency Date	Amendment	Distance	Direction
RE2	Private Recreation		Blacktown Local Environmental Plan 2015	26/05/2015	07/07/2015	28/02/2019		920m	North
IN1	General Industrial		State Environmental Planning Policy (Western Sydney Employment Area) 2009	08/11/2013	08/11/2013	16/11/2018	Blacktown Local Environmental Plan Amendment (Western Sydney Employment Area) 2013	965m	North East
RE2	Private Recreation		Blacktown Local Environmental Plan 2015	26/05/2015	07/07/2015	28/02/2019		989m	North East

Heritage Items

Ferrers Road, Eastern Creek, NSW 2766



Heritage

Ferrers Road, Eastern Creek, NSW 2766

Commonwealth Heritage List

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

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

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

National Heritage List

What are the National Heritage List Items located within the dataset buffer?
Note. Please click on Place Id to activate a hyperlink to online website.

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

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

State Heritage Register - Curtilages

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

Map Id	Name	Address	LGA	Listing Date	Listing No	Plan No	Distance	Direction
5045336	Prospect Reservoir and surrounding area	Reservoir Road, Prospect	Blacktown	18/11/1999	01370	2144	33m	East

Heritage Data Source: NSW Crown Copyright - Office of Environment & Heritage

Environmental Planning Instrument - Heritage

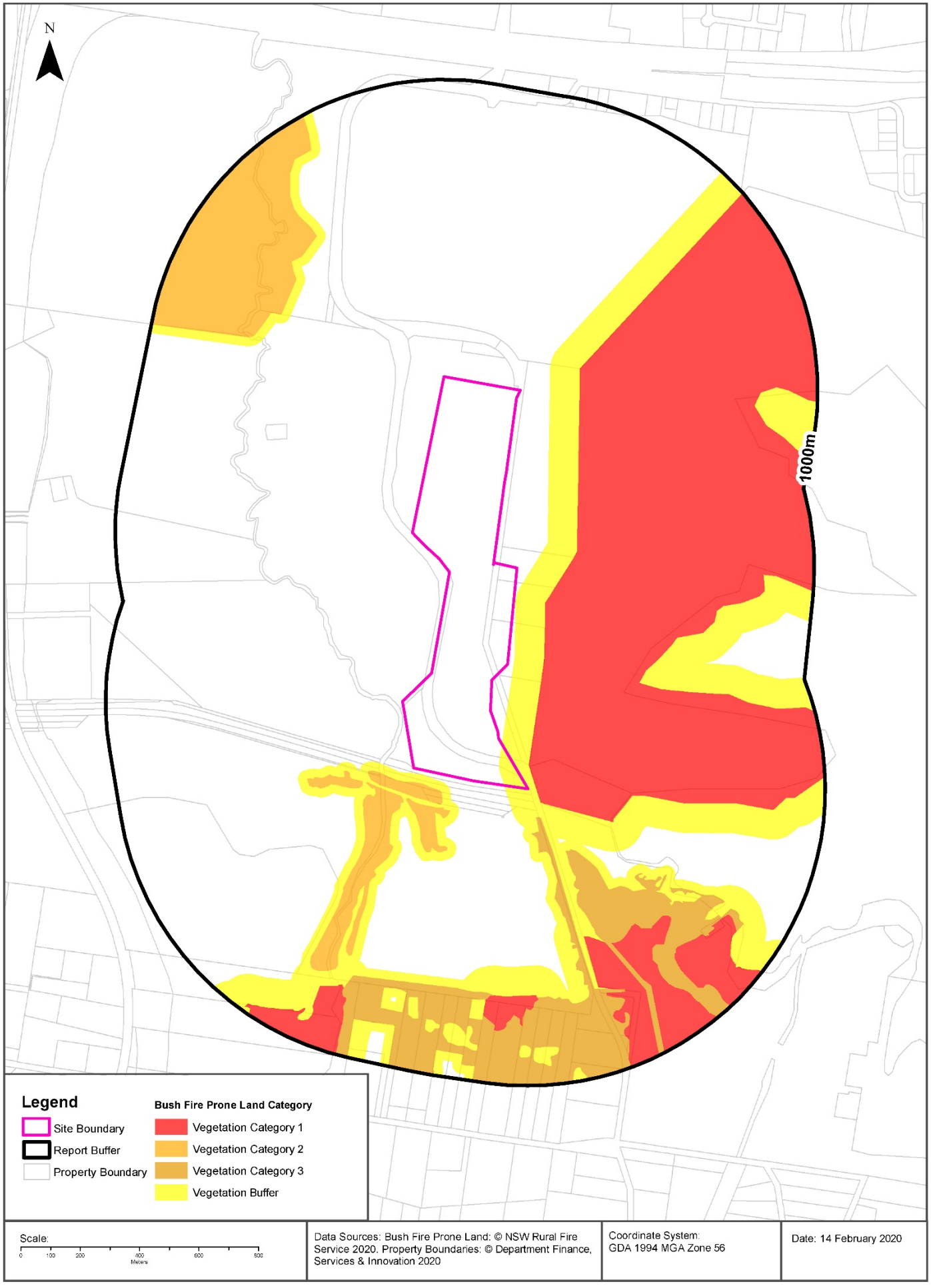
What are the EPI Heritage Items located within the dataset buffer?

Map Id	Name	Classification	Significance	EPI Name	Published Date	Commenced Date	Currency Date	Distance	Direction
4	Prospect Reservoir and surrounding area	Item - General	State	State Environmental Planning Policy (Western Sydney Parklands) 2009	26/10/2012	26/10/2012	26/10/2012	26m	East
4	Prospect Reservoir and surrounding area	Item - Landscape	State	State Environmental Planning Policy (Western Sydney Parklands) 2009	26/10/2012	26/10/2012	26/10/2012	63m	South East

Map Id	Name	Classification	Significance	EPI Name	Published Date	Commenced Date	Currency Date	Distance	Direction
5	Spotted Gum forest	Conservation Area - General	Local	State Environmental Planning Policy (Western Sydney Parklands) 2009	26/10/2012	26/10/2012	26/10/2012	64m	South East
5	Spotted Gum forest	Item - Landscape	Local	State Environmental Planning Policy (Western Sydney Parklands) 2009	26/10/2012	26/10/2012	26/10/2012	749m	South East

Natural Hazards - Bush Fire Prone Land

Ferrers Road, Eastern Creek, NSW 2766



Natural Hazards

Ferrers Road, Eastern Creek, NSW 2766

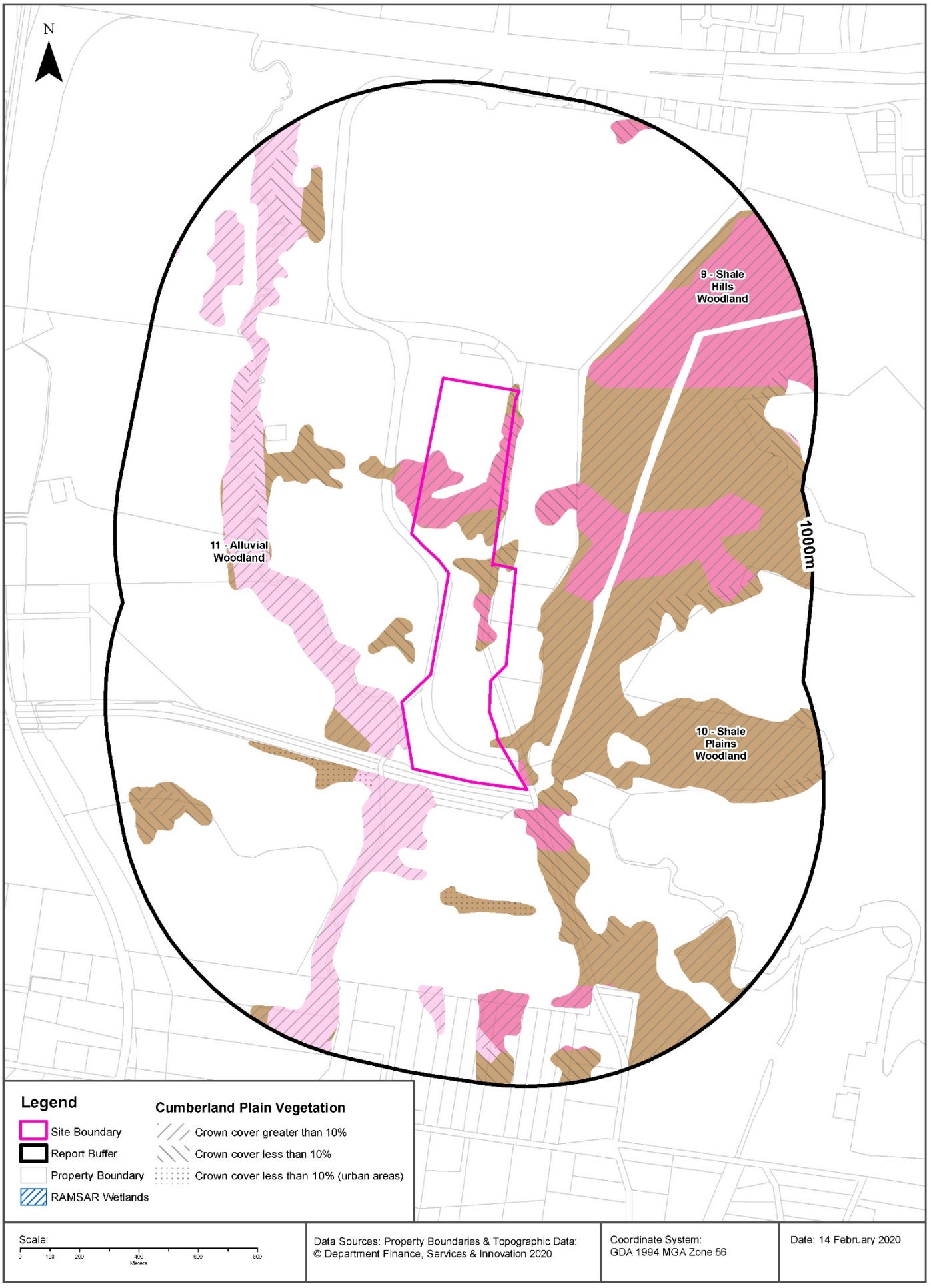
Bush Fire Prone Land

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	24m	South East
Vegetation Category 2	44m	South
Vegetation Category 3	97m	South

Ecological Constraints - Remnant Vegetation of the Cumberland Plain

Ferrers Road, Eastern Creek, NSW 2766



Ecological Constraints

Ferrers Road, Eastern Creek, NSW 2766

Remnant Vegetation of the Cumberland Plain

What remnant vegetation of the Cumberland Plain exists within the dataset buffer?

Description	Crown Cover	Distance	Direction
10 - Shale Plains Woodland	Crown cover greater than 10%	0m	Onsite
11 - Alluvial Woodland	Crown cover greater than 10%	0m	Onsite
9 - Shale Hills Woodland	Crown cover greater than 10%	0m	Onsite
10 - Shale Plains Woodland	Crown cover less than 10%	0m	Onsite
9 - Shale Hills Woodland	Crown cover less than 10%	0m	Onsite
11 - Alluvial Woodland	Crown cover less than 10% (urban areas)	144m	South West
10 - Shale Plains Woodland	Crown cover less than 10% (urban areas)	180m	South West
11 - Alluvial Woodland	Crown cover less than 10%	481m	North West

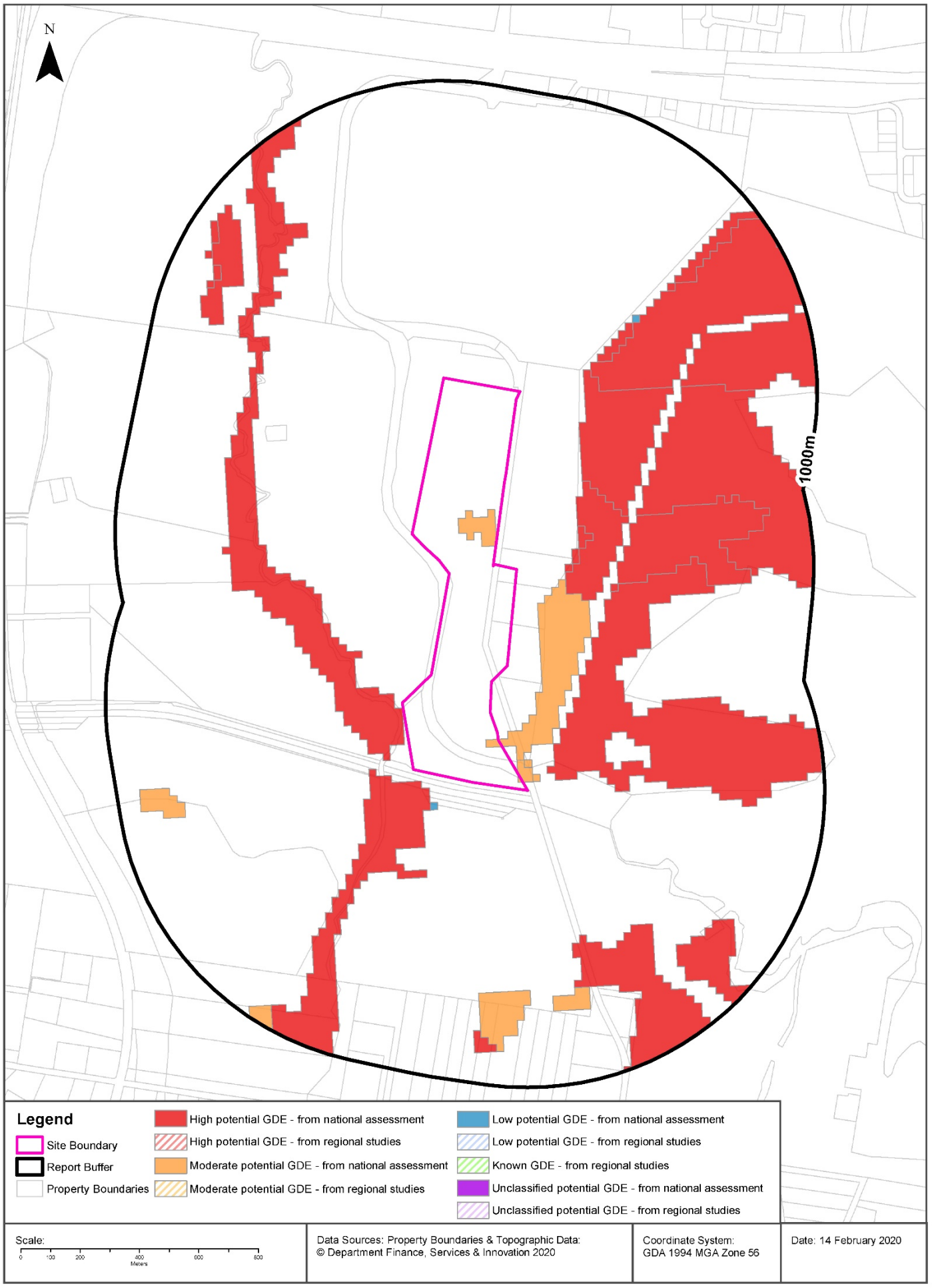
Ramsar Wetlands

What Ramsar Wetland areas exist within the dataset buffer?

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

Ecological Constraints - Groundwater Dependent Ecosystems Atlas

Ferrers Road, Eastern Creek, NSW 2766



Ecological Constraints

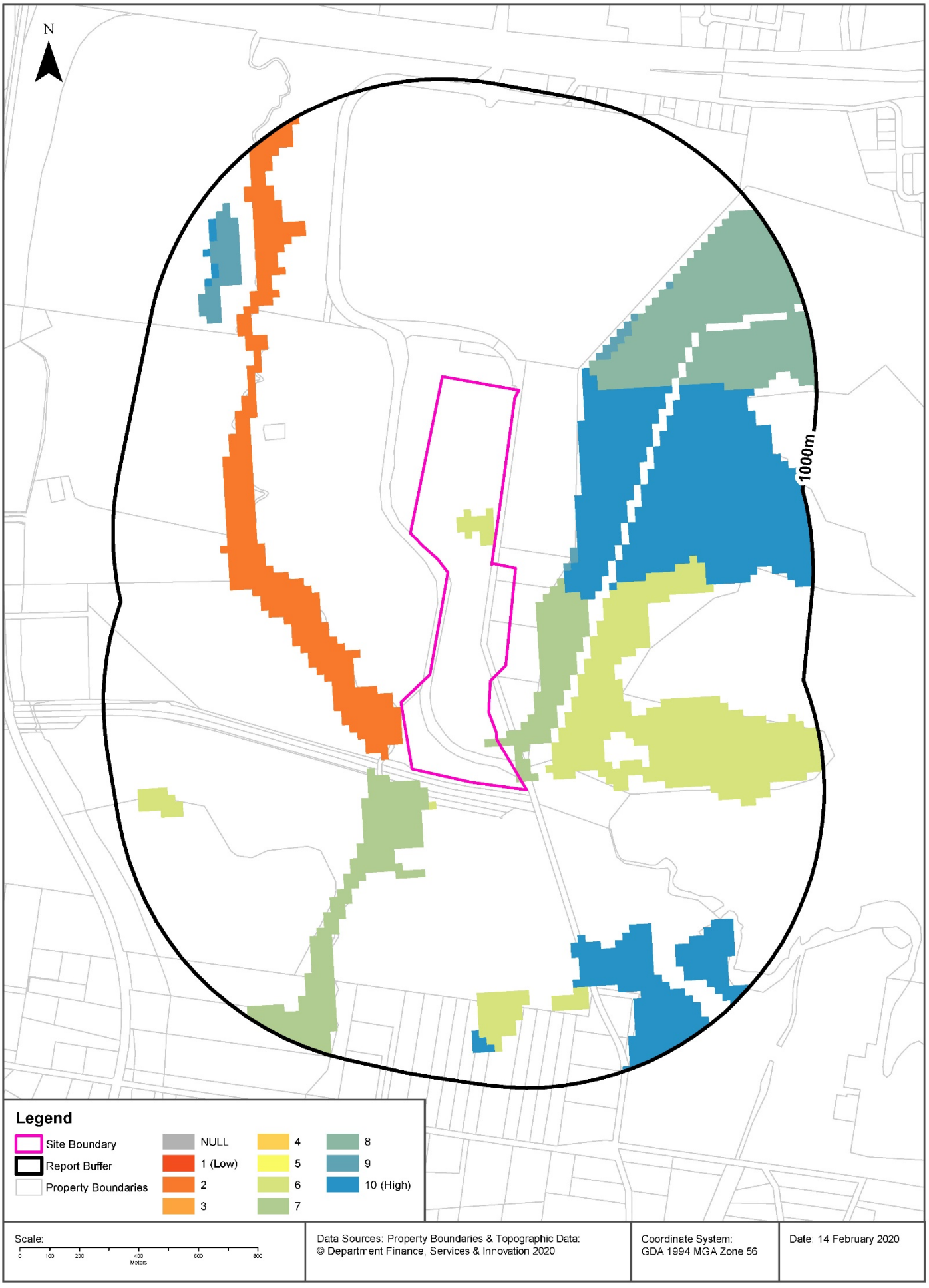
Ferrers Road, Eastern Creek, NSW 2766

Groundwater Dependent Ecosystems Atlas

Type	GDE Potential	Geomorphology	Ecosystem Type	Aquifer Geology	Distance
Terrestrial	Moderate potential GDE - from national assessment	Undulating to low hilly country, mainly on shale.	Vegetation	Consolidated sedimentary	0m
Terrestrial	High potential GDE - from national assessment	Undulating to low hilly country, mainly on shale.	Vegetation	Unconsolidated sedimentary	3m
Terrestrial	Low potential GDE - from national assessment	Undulating to low hilly country, mainly on shale.	Vegetation	Consolidated sedimentary	89m

Ecological Constraints - Inflow Dependent Ecosystems Likelihood

Ferrers Road, Eastern Creek, NSW 2766



Ecological Constraints

Ferrers Road, Eastern Creek, NSW 2766

Inflow Dependent Ecosystems Likelihood

Type	IDE Likelihood	Geomorphology	Ecosystem Type	Aquifer Geology	Distance
Terrestrial	6	Undulating to low hilly country, mainly on shale.	Vegetation	Consolidated sedimentary	0m
Terrestrial	7	Undulating to low hilly country, mainly on shale.	Vegetation	Consolidated sedimentary	0m
Terrestrial	2	Undulating to low hilly country, mainly on shale.	Vegetation	Unconsolidated sedimentary	3m
Terrestrial	9	Undulating to low hilly country, mainly on shale.	Vegetation	Consolidated sedimentary	161m
Terrestrial	10	Undulating to low hilly country, mainly on shale.	Vegetation	Consolidated sedimentary	162m
Terrestrial	8	Undulating to low hilly country, mainly on shale.	Vegetation	Consolidated sedimentary	241m

Inflow Dependent Ecosystems Likelihood Data Source: The Bureau of Meteorology

Ecological Constraints

Ferrers Road, Eastern Creek, NSW 2766

NSW BioNet Atlas

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

Kingdom	Class	Scientific	Common	NSW Conservation Status	NSW Sensitivity Class	Federal Conservation Status	Migratory Species Agreements
Animalia	Amphibia	Litoria aurea	Green and Golden Bell Frog	Endangered	Not Sensitive	Vulnerable	
Animalia	Aves	Anseranas semipalmata	Magpie Goose	Vulnerable	Not Sensitive	Not Listed	
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	Burhinus grallarius	Bush Stone-curlew	Endangered	Not Sensitive	Not Listed	
Animalia	Aves	Callocephalon fimbriatum	Gang-gang Cockatoo	Vulnerable	Category 3	Not Listed	
Animalia	Aves	Calyptorhynchus banksii samueli	Red-tailed Black-Cockatoo (inland subspecies)	Vulnerable	Category 2	Not Listed	
Animalia	Aves	Calyptorhynchus lathami	Glossy Black-Cockatoo	Vulnerable	Category 2	Not Listed	
Animalia	Aves	Certhionyx variegatus	Pied Honeyeater	Vulnerable	Not Sensitive	Not Listed	
Animalia	Aves	Charadrius hiaticula	Ringed Plover	Not Listed	Not Sensitive	Not Listed	ROKAMBA;CAMBA; JAMBA
Animalia	Aves	Chthonicola sagittata	Speckled Warbler	Vulnerable	Not Sensitive	Not Listed	
Animalia	Aves	Daphoenositta chrysoptera	Varied Sittella	Vulnerable	Not Sensitive	Not Listed	
Animalia	Aves	Falco subniger	Black Falcon	Vulnerable	Not Sensitive	Not Listed	
Animalia	Aves	Gallinago hardwickii	Latham's Snipe	Not Listed	Not Sensitive	Not Listed	ROKAMBA;CAMBA; JAMBA
Animalia	Aves	Glossopsitta pusilla	Little Lorikeet	Vulnerable	Not Sensitive	Not Listed	
Animalia	Aves	Haematopus fuliginosus	Sooty Oystercatcher	Vulnerable	Not Sensitive	Not Listed	
Animalia	Aves	Haliaeetus leucogaster	White-bellied Sea-Eagle	Vulnerable	Not Sensitive	Not Listed	CAMBA
Animalia	Aves	Hieraaetus morphnoides	Little Eagle	Vulnerable	Not Sensitive	Not Listed	
Animalia	Aves	Hirundapus caudacutus	White-throated Needletail	Not Listed	Not Sensitive	Not Listed	ROKAMBA;CAMBA; JAMBA
Animalia	Aves	Lathamus discolor	Swift Parrot	Endangered	Category 3	Critically Endangered	
Animalia	Aves	Lophochroa leadbeateri	Major Mitchell's Cockatoo	Vulnerable	Category 2	Not Listed	
Animalia	Aves	Lophoictinia isura	Square-tailed Kite	Vulnerable	Category 3	Not Listed	
Animalia	Aves	Melithreptus gularis gularis	Black-chinned Honeyeater (eastern subspecies)	Vulnerable	Not Sensitive	Not Listed	
Animalia	Aves	Merops ornatus	Rainbow Bee-eater	Not Listed	Not Sensitive	Not Listed	JAMBA

Kingdom	Class	Scientific	Common	NSW Conservation Status	NSW Sensitivity Class	Federal Conservation Status	Migratory Species Agreements
Animalia	Aves	Neophema pulchella	Turquoise Parrot	Vulnerable	Category 3	Not Listed	
Animalia	Aves	Ninox connivens	Barking Owl	Vulnerable	Category 3	Not Listed	
Animalia	Aves	Ninox strenua	Powerful Owl	Vulnerable	Category 3	Not Listed	
Animalia	Aves	Onychoprion fuscata	Sooty Tern	Vulnerable	Not Sensitive	Not Listed	
Animalia	Aves	Petroica boodang	Scarlet Robin	Vulnerable	Not Sensitive	Not Listed	
Animalia	Aves	Petroica phoenicea	Flame Robin	Vulnerable	Not Sensitive	Not Listed	
Animalia	Aves	Pezoporus wallicus wallicus	Eastern Ground Parrot	Vulnerable	Category 3	Not Listed	
Animalia	Aves	Phaethon lepturus	White-tailed Tropicbird	Not Listed	Not Sensitive	Not Listed	CAMBA;JAMBA
Animalia	Aves	Plegadis falcinellus	Glossy Ibis	Not Listed	Not Sensitive	Not Listed	CAMBA
Animalia	Aves	Pluvialis squatarola	Grey Plover	Not Listed	Not Sensitive	Not Listed	ROKAMBA;CAMBA; JAMBA
Animalia	Aves	Poephila cincta cincta	Black-throated Finch (southern subspecies)	Presumed Extinct	Not Sensitive	Endangered	
Animalia	Aves	Polytelis swainsonii	Superb Parrot	Vulnerable	Category 3	Vulnerable	
Animalia	Aves	Rostratula australis	Australian Painted Snipe	Endangered	Not Sensitive	Endangered	
Animalia	Aves	Todiramphus chloris	Collared Kingfisher	Vulnerable	Not Sensitive	Not Listed	
Animalia	Aves	Tyto novaehollandiae	Masked Owl	Vulnerable	Category 3	Not Listed	
Animalia	Gastropoda	Meridolum corneovirens	Cumberland Plain Land Snail	Endangered	Not Sensitive	Not Listed	
Animalia	Mammalia	Chalinolobus dwyeri	Large-eared Pied Bat	Vulnerable	Not Sensitive	Vulnerable	
Animalia	Mammalia	Dasyurus maculatus	Spotted-tailed Quoll	Vulnerable	Not Sensitive	Endangered	
Animalia	Mammalia	Falsistrellus tasmaniensis	Eastern False Pipistrelle	Vulnerable	Not Sensitive	Not Listed	
Animalia	Mammalia	Micronomus norfolkensis	Eastern Coastal Free-tailed Bat	Vulnerable	Not Sensitive	Not Listed	
Animalia	Mammalia	Miniopterus australis	Little Bent-winged Bat	Vulnerable	Not Sensitive	Not Listed	
Animalia	Mammalia	Miniopterus orianae oceanensis	Large Bent-winged Bat	Vulnerable	Not Sensitive	Not Listed	
Animalia	Mammalia	Myotis macropus	Southern Myotis	Vulnerable	Not Sensitive	Not Listed	
Animalia	Mammalia	Petaurus norfolcensis	Squirrel Glider	Vulnerable	Not Sensitive	Not Listed	
Animalia	Mammalia	Phascolarctos cinereus	Koala	Vulnerable	Not Sensitive	Vulnerable	
Animalia	Mammalia	Pteropus poliocephalus	Grey-headed Flying-fox	Vulnerable	Not Sensitive	Vulnerable	
Animalia	Mammalia	Saccolaimus flaviventris	Yellow-bellied Sheathtail-bat	Vulnerable	Not Sensitive	Not Listed	
Animalia	Mammalia	Scoteanax rueppellii	Greater Broad-nosed Bat	Vulnerable	Not Sensitive	Not Listed	
Animalia	Mammalia	Vespadelus troughtoni	Eastern Cave Bat	Vulnerable	Not Sensitive	Not Listed	
Animalia	Reptilia	Antaresia stimsoni	Stimson's Python	Vulnerable	Not Sensitive	Not Listed	
Animalia	Reptilia	Aspidites ramsayi	Woma	Vulnerable	Not Sensitive	Not Listed	
Animalia	Reptilia	Caretta caretta	Loggerhead Turtle	Endangered	Not Sensitive	Endangered	
Animalia	Reptilia	Chelonia mydas	Green Turtle	Vulnerable	Not Sensitive	Vulnerable	
Animalia	Reptilia	Lucasium stenodactylum	Crowned Gecko	Vulnerable	Not Sensitive	Not Listed	

Kingdom	Class	Scientific	Common	NSW Conservation Status	NSW Sensitivity Class	Federal Conservation Status	Migratory Species Agreements
Plantae	Flora	Acacia pubescens	Downy Wattle	Vulnerable	Not Sensitive	Vulnerable	
Plantae	Flora	Allocasuarina glareicola		Endangered	Not Sensitive	Endangered	
Plantae	Flora	Argyrotegium nitidulum	Shining Cudweed	Vulnerable	Not Sensitive	Vulnerable	
Plantae	Flora	Callistemon linearifolius	Netted Bottle Brush	Vulnerable	Category 3	Not Listed	
Plantae	Flora	Cynanchum elegans	White-flowered Wax Plant	Endangered	Not Sensitive	Endangered	
Plantae	Flora	Dillwynia tenuifolia		Endangered Population, Vulnerable	Not Sensitive	Not Listed	
Plantae	Flora	Dillwynia tenuifolia		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	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	Isotoma fluviatilis subsp. fluviatilis		Not Listed	Not Sensitive	Extinct	
Plantae	Flora	Macadamia integrifolia	Macadamia Nut	Not Listed	Not Sensitive	Vulnerable	
Plantae	Flora	Marsdenia viridiflora subsp. viridiflora	Native Pear	Endangered Population	Not Sensitive	Not Listed	
Plantae	Flora	Persoonia nutans	Nodding Geebung	Endangered	Not Sensitive	Endangered	
Plantae	Flora	Pilularia novae-hollandiae	Austral Pillwort	Endangered	Category 3	Not Listed	
Plantae	Flora	Pimelea curviflora var. curviflora		Vulnerable	Not Sensitive	Vulnerable	
Plantae	Flora	Pimelea spicata	Spiked Rice-flower	Endangered	Not Sensitive	Endangered	
Plantae	Flora	Pomaderris prunifolia	Plum-leaf Pomaderris	Endangered Population	Not Sensitive	Not Listed	
Plantae	Flora	Pterostylis gibbosa	Illawarra Greenhood	Endangered	Category 2	Endangered	
Plantae	Flora	Pterostylis saxicola	Sydney Plains Greenhood	Endangered	Category 2	Endangered	
Plantae	Flora	Pultenaea parviflora		Endangered	Not Sensitive	Vulnerable	
Plantae	Flora	Pultenaea pedunculata	Matted Bush-pea	Endangered	Not Sensitive	Not Listed	
Plantae	Flora	Syzygium paniculatum	Magenta Lilly Pilly	Endangered	Not Sensitive	Vulnerable	

Data does not include NSW category 1 sensitive species.

Location Confidences

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

LC Code	Location Confidence
Premise match	Georeferenced to the site location / premise or part of site
General area or suburb match	Georeferenced with the confidence of the general/approximate area
Road match	Georeferenced to the road or rail
Road intersection	Georeferenced to the road intersection
Feature is a buffered point	Feature is a buffered point
Land adjacent to geocoded site	Land adjacent to Georeferenced Site
Network of features	Georeferenced to a network of features

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Appendix B. Site Photographs

Photograph 1 – Area 1: Carpark D North and Mid Area (Facing North-West)

Photograph 2 – Area 1: Carpark D North Area - northern boundary (facing north-west)

Photograph 3 – Area 1: Carpark D North Area - 4-wheel drive training unit (facing north-east)

Photograph 4 – Area 1: Carpark D North Area - 4-wheel drive training unit (facing south-east)

Photograph 5 – Area 1: Carpark D North Area - Waste materials located north of 4-wheel drive training unit (facing north-west)

Photograph 6 – Area 1: Carpark D North Area - View of waste materials located north of 4-wheel drive training unit (facing north-east)

Notes:

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Site:	SYDNEY INTERNATIONAL SPEEDWAY
Project:	STAGE 1 CONTAMINATION ASSESSMENT
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Photograph 7 – Area 1: Carpark D North Area - View of waste materials located north of 4-wheel drive training unit (facing north-west)

Photograph 8 – Area 1: Carpark D North and Mid Areas (facing south-east)

Photograph 9 – Area 1: Carpark D North and Mid Areas - woody debris

Photograph 10 – Area 1: Carpark D North Area - View of Carpark D Mid Area and Carpark D South Area (facing south)

Photograph 11 – Area 2: Carpark D South Area – ground cover (facing west)

Photograph 12– Area 2: Carpark D South Area (facing south)

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Photograph 13– Area 2: Carpark D South Area – construction / demolition waste (facing west)

Photograph 14 – Area 2: Carpark D South Area – heavy vehicle tyres in grassed area (facing west)

Photograph 15– Area 2: Carpark D South Area – storage containers, waste oil drum, and heavy vehicle tyres (facing west)

Photograph 16 – Area 2: Carpark D South Area – storage containers and heavy vehicle tyres (facing south)

Photograph 17 – Area 2: Carpark D South Area embankment to easement (facing north)

Photograph 18 – Area 3: Carpark C – portable toilets and ground cover (facing east)

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Photograph 19 – Area 3: Carpark C – waste tyres in adjacent easement (facing north)

Photograph 20 – Area 3: Carpark C - ground cover (facing west)

Photograph 21 – Area 3: Carpark C - ground cover (facing north)

Photograph 22 – Area 4: Carpark D – Coates Hire storage area (facing north)

Photograph 23 – Area 4: Carpark D – ground cover (facing south)

Photograph 24 – Area 4: Carpark D – Coates Hire storage area Intermediate Bulk Containers (Super Blue Sanitizer) (facing north)

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Photograph 25 – Area 4: Carpark D – Coates Hire storage area containers and machinery (facing west)

Photograph 26 – Area 4: Carpark D – Coates Hire storage area containers and trailers (facing west)

Photograph 27– Area 4: Carpark D – Coates Hire storage area containers and tools (facing west)

Photograph 28– Area 4: Carpark D – Coates Hire storage area containers and groundcover (facing south)

Photograph 29– Area 4: Carpark D – Coates Hire storage area trailers, storage, and construction materials (facing south)

Photograph 30– Area 4/5: Carpark D / Speedway – ground cover and storage containers (facing north-west)

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Photograph 31– Area 5: Speedway – ground cover (facing north)

Photograph 32– Area 5: Speedway – ground cover, waste tyre and discoloured ponded water (facing north-east)

Photograph 33– Area 5: Speedway – ground cover (facing north)

Photograph 34– Area 5: Speedway eastern embankment – ground cover and waste tyres (facing south)

Photograph 35– Area 5: Speedway eastern embankment – stormwater drain (facing south)

Photograph 36 – Area 5: Speedway eastern embankment – ground cover and stormwater drain (facing north-east)

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Photograph 37– View of dragway and embankment to proposed speedway site (left) (facing north)

Photograph 38– View of Area 6: Competitor carpark (facing south)

Photograph 39– Area 6: Competitor Carpark - stockpiles construction / demolition waste and ENM (facing south-west)

Photograph 40– Area 6: Competitor Carpark – Asphalt stockpile (facing south)

Photograph 41– Area 6: Competitor Carpark – Asphalt and stone stockpile (facing west)

Photograph 42– Area 6: Competitor Carpark – Groundcover (facing north)

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Photograph 43– Area 6: Competitor Carpark – waste tyre and ponded water (facing south)

Photograph 44– Area 6: Competitor Carpark – Waste refrigerator (facing west)

Photograph 45– Area 5/6: Speedway western boundary site drain (facing north)

Photograph 46 – Area 5/6: Speedway western boundary embankment (facing southwest)

Photograph 47– Area 5/6: Speedway western boundary embankment (gulley erosion exposing subsurface materials)

Photograph 48 – Area 5 / 4: Speedway and Carpark A – ground cover (facing north)

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Photograph 49 – Area 7: Worksite facilities and amenities – Culvert crossing Ferrers Road from Area 6 discharging to Area 7 (facing south)

Photograph 50 – Area 7: Worksite facilities and amenities – ground cover (facing north-west)

Photograph 51 – Area 7: Worksite facilities and amenities – grassed stockpile (facing south)

Photograph 52 – Area 7: Worksite facilities and amenities – Intermediate Bulk Containers and shipping container

Photograph 53 – Area 7: Worksite facilities and amenities – Culver crossing Ferrers Road from Area 6 discharging to Area 7 and Eastern Creek (facing north-east)

Photograph 54 – Area 7: Worksite facilities and amenities – grassed stockpile (facing north)

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