Gunnedah Shire Council

8 August 2025

Notification of Development Application No. 2025/082

Site Description: Lot: 8 DP: 666021, Lot: 7 Sec: 35 DP: 758492, Lot: 9 Sec: 35 DP: 758492
16-24 Wentworth Street GUNNEDAH.

Notice is given that a Development Application has been submitted for Council's consideration that involves a Torrens Title Subdivision of three (3) lots into five (5) lots.

The address of the proposed development is 16-24 Wentworth Street GUNNEDAH.

The applicant is AYB Nominees Pty Ltd and Gunnedah Shire Council is the consent authority.

The Development Application has been placed on public exhibition for a period of **14** days. The documents may be inspected at Council's office during office hours 9am-4pm or on Council's website http://www.gunnedah.nsw.gov.au/.

Any person may make a written submission about this application to the General Manager, Gunnedah Shire Council, PO Box 63, Gunnedah NSW 2380 or via email council@gunnedah.nsw.gov.au. The issues you raise will be included in the evaluation of the development application, along with the other matters Council must consider.

Submissions should be received no later than 5.00pm on **Friday 22 August 2025.** All submissions **must** include disclosure of any reportable political contribution or gift made in the previous two years.

If the submission includes an objection to the proposal, the grounds of objection must be given. You are advised that you may request that your name and address not be disclosed by stating prominently "OBJECTION IN CONFIDENCE" on your submission for reason that disclosure would result in detriment to you. However, Council may be obliged to release these details under the Freedom of Information Act 1989 even if these words are used in the submission. Further, submissions that do not contain the author's name and address may not be considered as Council will be unable to validate the submissions authenticity.

If you have any enquiries in relation to this Development Application, please contact Council's Duty Planner on 02 6740 2100.

Yours faithfully

Wade Hudson
MANAGER DEVELOPMENT ASSESSMENT

Contact: 02 6740 2100
Reference: 2025/082
ld

PO Box 63 (63 Elgin Street) Gunnedah NSW 2380
T +61 2 6740 2100 E council@gunnedah.nsw.gov.au
www.gunnedah.nsw.gov.au

Development Consent Cover Sheet – Council's Use

Made under the Environmental Planning & Assessment Act.1979

LAST UPDATED 23 JULY 2021

Date: 31/07/2025

DEVELOPMENT APPLICATION NUMBER

Development Application Number: 10.2025.00000082.001

APPLICANT DETAILS

Name(s): AYB Nominees C/- Stewart Surveys Pty Ltd

[redacted]

LAND TO BE DEVELOPED

Address: 16-24 Wentworth St, Gunnedah

Lot Number: 8 - 7&9(S35) DP Number: 666021 - 758492 Site Area: 5912 m2

BRIEF DESCRIPTION AND USE OF PROPOSED DEVELOPMENT

Subdivision - 3 lots into 5 lots.

PROPOSED DEVELOPMENT DETAILS

☒ Local Development

☐ Integrated Development (requires approval under another Act)

☐ Designated Development (requires an EIS to be submitted)

Total Project Value: $112,299

PO Box 63 (63 Elgin Street) Gunnedah NSW 2380
T +61 2 6740 2100 E council@infogunnedah.com.au
www.gunnedah.nsw.gov.au

Pre-Lodgement Application Form

Portal Application number: PAN-557450

Applicant contact details

First given name	Ben
Other given name/s	
Family name	Murray
Contact number	[redacted]
Email	[redacted]
Address	[redacted]
Application on behalf of a company, business or body corporate	Yes
ABN	90628805238
ACN	628805238
Name	AYB NOMINEES PTY LTD
Trading name	AYB NOMINEES PTY LTD
Is the nominated company the applicant for this application	Yes

Owner/s of the development site

Owner/s of the development site	A company, business, government entity or other similar body owns the development site
Owner #	1
Company, business or body corporate name	AYB Nominees Pty Ltd
ABN / ACN	

I declare that I have shown this document, including all attached drawings, to the owner(s) of the land, and that I have obtained their consent to submit this application. - Yes

Note: It is an offence under Section 10.6 of the Environmental Planning and Assessment Act 1979 to provide false or misleading information in relation to this application.

Site access details

Are there any security or site conditions which may impact the person undertaking the inspection? For example, locked gates, animals etc.	No

Developer details

ABN	
ACN	
Name	
Trading name	
Address	
Email Address	

Development details

Application type	Development Application
Site address #	1
Street address	16-24 WENTWORTH STREET GUNNEDAH 2380
Local government area	GUNNEDAH
	8/-/DP666021 ☑

Lot / Section Number / Plan	7/35/DP758492 ☑ 9/35/DP758492 ☑
Primary address?	Yes
Planning controls affecting property	Land Application LEP Gunnedah Local Environmental Plan 2012 Land Zoning R2: Low Density Residential R3: Medium Density Residential Height of Building NA Floor Space Ratio (n:1) 0.5:1 Minimum Lot Size 450 m² 650 m² Heritage NA Land Reservation Acquisition NA Foreshore Building Line NA

Proposed development

Selected common application types	Subdivision
Description of development	Development application for the subdivision of Lots 7 & 9 Section 35 in DP 758492 and Lot 8 in DP666021, into five lots.
Dwelling count details	
Number of dwellings / units proposed	
Number of storeys proposed	
Number of pre-existing dwellings on site	
Number of dwellings to be demolished	
Existing gross floor area (m2)	0
Proposed gross floor area (m2)	0
Total site area (m2)	0
What is the estimated development cost, including GST?	$112,299.00
Estimated development cost	$112,299.00
Do you have one or more BASIX certificates?	
Subdivision	
Number of existing lots	3
Type of subdivision proposed	Torrens Title
Number of proposed lots	5
Proposed operating details	
Number of staff/employees on the site	

Number of parking spaces

Number of loading bays	
Is a new road proposed?	No
Concept development	
Is the development to be staged?	No, this application is not for concept or staged development.

Crown development	
Is this a proposed Crown development?	No

Related planning information

Is the application for integrated development?	No
Is your proposal categorised as designated development?	No
Is your proposal likely to significantly impact on threatened species, populations, ecological communities or their habitats, or is it located on land identified as critical habitat?	No
Is this application for biodiversity compliant development?	No
Does the application propose a variation to a development standard in an environmental planning instrument (eg LEP or SEPP)?	No
Is the application accompanied by a Planning Agreement ?	No
Section 68 of the Local Government Act	
Is approval under s68 of the Local Government Act 1993 required?	Yes
Have you already applied for approval under s68 of the Local Government Act?	No
Would you like to apply for approval under s68 of the Local Government Act?	No
10.7 Certificate	
Have you already obtained a 10.7 certificate?	
Tree works	
Is tree removal and/or pruning work proposed?	No
Local heritage	
Does the development site include an item of environmental heritage or sit within a heritage conservation area.	No
Are works proposed to any heritage listed buildings?	No
Is heritage tree removal proposed?	No
Affiliations and Pecuniary interests	
Is the applicant or owner a staff member or councillor of the council assessing the application?	No
Does the applicant or owner have a relationship with any staff or councillor of the council assessing the application?	No
Political Donations	
Are you aware of any person who has financial interest in the application who has made a political donation or gift in the last two years?	No
Please provide details of each donation/gift which has been made within the last 2 years	

Sustainable Buildings

Is the development exempt from the *State Environmental Policy (Sustainable Buildings) 2022* Chapter 3, relating to non-residential buildings?	Yes
Provide reason for exemption. Is the development any of the following:	Development that is wholly residential

Payer details

Provide the details of the person / entity that will make the fee payment for the assessment.

The *Environmental Planning and Assessment Regulation 2021* and Council's adopted fees and charges establish how to calculate the fee payable for your development application. For development that involves building or other works, the fee for your application is based on the estimated cost of the development.

If your application is for integrated development or requires concurrence from a state agency, additional fees will be required. Other charges may be payable based on the Council's adopted fees and charges. If your development needs to be advertised, the Council may charge additional advertising fees.

Once this application form is completed, it and the supporting documents will be submitted to the Council for lodgement, at which time the fees will be calculated. The Council will contact you to obtain payment. Note: When submitting documents via the NSW Planning Portal, credit card information should not be displayed on documents attached to your development application. The relevant consent authority will contact you to seek payment.

The application may be cancelled if the fees are not paid:

First name	Ben
Other given name(s)	
Family name	Murray
Contact number	[redacted]
Email address	[redacted]
Billing address	[redacted]

Application documents

The following documents support the application.

Document type	Document file name
Cost estimate report	6235 Cost Estimate
Landscape plan	6235_Landscape Plan_2 6235_Landscape Plan_1
Other	NFA - Gunnedah (NA02) - 17.05.2019 6235_SSS 6235_Lodgement Letter
Owner's consent	Owners Consent - PDF Fillable Owner Authorization Letter AYB Nominees
Preliminary Engineering Drawings	Engineering Not required
Site Plans	6235_Proposed Services Plan 6235_Existing Services Plan 6235_Concept Plan
Statement of environmental effects	6235_SoEE Wentworth St

Applicant declarations

I declare that all the information in my application and accompanying documents is , to the best of my knowledge, true and correct.	Yes
I understand that the development application and the accompanying information will be provided to the appropriate consent authority for the purposes of the assessment and determination of this development application.	Yes
I understand that if incomplete, the consent authority may request more information, which will result in delays to the application.	Yes
I understand that the consent authority may use the information and materials provided for notification and advertising purposes, and materials provided may be made available to the public for inspection at its Offices and on its website and/or the NSW Planning Portal	Yes

I acknowledge that copies of this application and supporting documentation may be provided to interested persons in accordance with the Government Information (Public Access) 2009 (NSW) (GIPA Act) under which it may be required to release information which you provide to it.	Yes
I agree to appropriately delegated assessment officers attending the site for the purpose of inspection.	Yes
I have read and agree to the collection and use of my personal information as outlined in the Privacy Notice	Yes
I confirm that the change(s) entered is/are made with appropriate authority from the applicant(s).	

Owners Consent

Made under the *Environmental Planning and Assessment Act 1979* and *Local Government Act 1993*

ABOUT THIS FORM

You can use this form to demonstrate that all owners have consented to the lodging of an application where Council is the consent authority.

LAND RELATING TO THE APPLICATION

Address: 16-24 Wentworth Street

Town/Suburb: Gunnedah State: NSW Postcode: 2380

Lot Number: 7 & 9, LOT 8 Section Number: 35 DP Number: 758492,666021

OWNERS DETAILS

Name(s): AYB Nominees Pty Ltd

[redacted]

I/WE, THE OWNER(S) GIVE CONSENT TO

Nominated Agent: Stewart Surveys Pty Ltd

TO ACT ON MY/OUR BEHALF TO

- Lodge all relevant applications for development consent, CCs, CDCs, Subdivision Works Certificates, Subdivision Certificates, Appointment of Principal Certifier, Building Information Certificates, Occupation Certificates, Planning Proposal and Section 68 Applications.
- Have discussions with all relevant authorities.
- Do all things required to be done or provide all information and documents necessary to obtain such approvals.
- Where applicable, withdraw the application/s and obtain a refund of relevant fees paid.

CONSENT OF ALL OWNERS

As the owner(s) of the property, I/we consent to this application to apply for approval to carry out the development described herein and state that the information contained herein is, to the best of my/our knowledge, true and correct. I/we hereby give permission for Council authorised personnel to carry out inspections of the land and buildings as necessary for the purpose of assessing this application without prior notice of entry.

Name: AYB Nominees Pty Ltd (Corporation) Capacity: Development Manager

Signature: Ben Murray Digitally signed by Ben Murray Date: 2025.07.24 15:12:19 +10'00' Date: 25/07/2025

Name: ..... (Corporation) Capacity: .....

Signature: ..... Date: .....

Note: *If ownership is under a company/corporation name, please provide evidence that the signatory on the application has the authority to sign on behalf of the company, by providing authority on company letterhead.*

PO Box 63 (63 Elgin Street) Gunnedah NSW 2380
T +61 2 6740 2100 E council@gunnedah.nsw.gov.au
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AYB Nominees Pty Ltd

24 July 2025

Gunnedah Shire Council
council@gunnedah.nsw.gov.au

RE: Letter of Authority – 16-24 Wentworth Avenue, Gunnedah NSW 2380 – Ben Murray

To Whom it May Concern,

My name is Malcolm Ayoub, and I am Sole Director of AYB Nominees Pty Ltd. We are in the process of preparing a Development Application for a residential subdivision at our property located on 16-24 Wentworth Avenue, Gunnedah NSW 2380.

This letter serves as authority for Ben Murray to act on our behalf for all matters relating to the Development Application. His details are below:

Ben Murray
[redacted]

If you have any queries, please do not hesitate to contact me using my contact details below.

Kind Regards,

Malcolm Ayoub

Malcolm Ayoub
Director
AYB Nominees Pty Ltd

24 July 2025
Our Ref: 6235

The General Manager
Gunnedah Council
63 Elgin Street
GUNNEDAH NSW 2380

Dear Sir,

DEVELOPMENT APPLICATION
FIVE LOT SUBDIVISION OF LOTS 7 AND 9 OF SECTION 35 IN DP758492 AND LOT 8 IN DP666021
16-24 WENTWORTH STREET, GUNNEDAH

Please find enclosed a development application for the subdivision of Lots 7 and 9 of Section 35 in DP758492 and Lot 8 in DP666021 into five (5) lots. This subject site is located at 16-24 Wentworth Street, Gunnedah. The subject site is currently vacant and is 5,692 square metres in size.

Following the proposed subdivision, the lots will vary in size from 1005m^2 to 1455m^2 and will be suitable to accommodate a number of residential housing types including single detached dwellings, dual occupancies, multi-dwellings and residential flat buildings.

The subdivision site is zone R3: Medium density and falls under the provisions of the Gunnedah Local Environmental Plan, 2012, with the minimum lot size for the zoning being 450m^2. The proposed development meets the objectives of the Gunnedah LEP, and allows for a more efficient use of land, while providing increased opportunity for residential housing, and is located close by the CBD and other community services.

Variation to the Gunnedah Development Control Plan, 2025 section G.1 (H) is requested as we do not believe a shared pathway is warranted, justification for this is outlined in the Statement of Environmental Effects.

We enclose the following documents which form part of the Development Application:

- Concept Plan for the proposed subdivision of Lots 7 and 9 of Section 35 in DP758492 and Lot 8 in DP666021, 16-24 Wentworth Street, Gunnedah. REF 6235, 3 July 2025.
- Existing Services Plan for proposed subdivision of Lots 7 &9 of Section 35 in DP758492 and Lot 8 in DP666021, 16-24 Wentworth Street, Gunnedah. REF6235, 3 July 2025.
- Proposed Services Plan for proposed subdivision of Lots 7 &9 of Section 35 in DP758492 and Lot 8 in DP666021, 16-24 Wentworth Street, Gunnedah. REF6235, 3 July 2025.

Stewart Surveys Pty Ltd
ABN 65 002 886 508
109 Conadilly Street
PO Box 592
Gunnedah NSW 2380
T 02 6742 2966
office@stewartsurveys.com
www.stewartsurveys.com

- Landscape Plan for proposed subdivision of Lots 7 & 9 of Section 35 in DP758492 and Lot 8 in DP666021. Prepared by Stewart Surveys Pty Ltd, 3 July 2025. File Ref:6235. Sheet 1-2.
- Statement of Environmental Effects Report, 24 July 2025, prepared by Stewart surveys Pty Ltd.
- Site Servicing Strategy, 16 July 2025, prepared by Stewart Surveys Pty Ltd.
- Owners Consent Form.
- Cost Estimate.

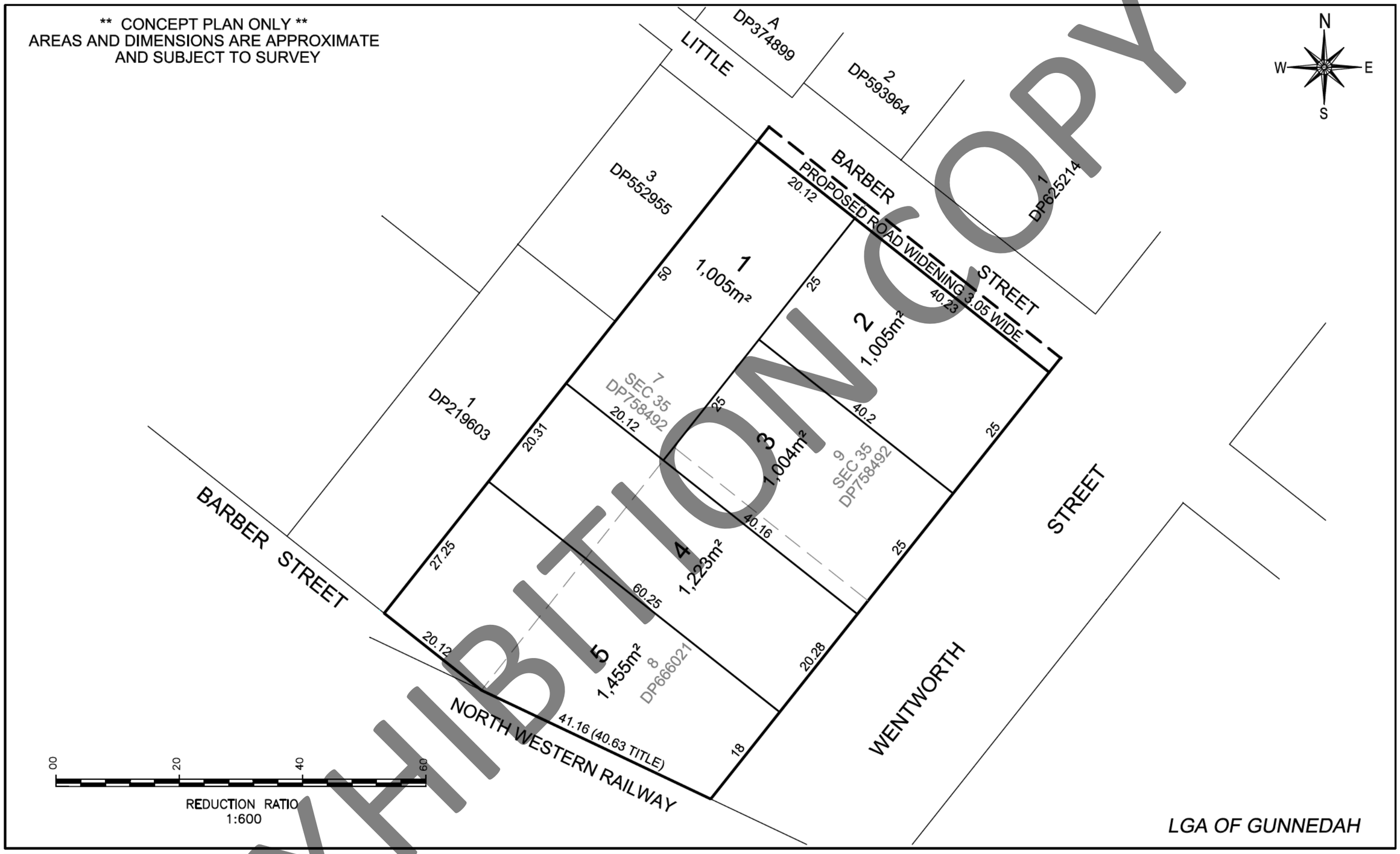
Stewart Surveys is lodging this application electronically through the EPlanning Portal on behalf of the applicant AYB Nominees Pty Ltd. It is requested Council contact Mr Ben Murray on [redacted] for payment of the application fees. If Council has any queries on the application or require any further information, please contact our office.

Yours faithfully
STEWART SURVEYS PTY LTD

Kathryn Stewart

Kathryn Stewart
BLArch (UNSW), MEnvMgmt (UNSW)
Registered Landscape Architect #001493

** CONCEPT PLAN ONLY **
AREAS AND DIMENSIONS ARE APPROXIMATE
AND SUBJECT TO SURVEY



Stewart Surveys
Surveying, Environmental & Landscape Architecture
109 Conadilly Street
P.O. Box 592
GUNNEDAH NSW 2380
T 02 67422966
E office@stewartsurveys.com
ABN 65 002 886 508

NOTES:
THIS SUBDIVISION LAYOUT IS A CONCEPT ONLY & DIMENSIONS & AREAS ARE APPROXIMATE & SUBJECT TO CLIENT AND COUNCIL APPROVAL. EASEMENTS AND RESTRICTION ON THE USE OF LAND NOT SHOWN HERE MAY BE CREATED ON THE FINAL SUBDIVISION PLAN.

CLIENT: NEW PLEASANT INVESTMENT PTY LTD

PROJECT: No 16-24 WENTWORTH STREET, GUNNEDAH

DESCRIPTION:
CONCEPT PLAN
FOR THE PROPOSED SUBDIVISION OF
LOTS 7 AND 9 OF SECTION 35 IN
DP758492 AND LOT 8 IN DP666021

Date:	File Ref:	Drawn:	Scale:	Sheet:
3 JULY 2025	6235	CRS	1:600	

DEVELOPMENT APPLICATION

Statement of Environmental Effects

Subdivision of Lots 7 & 9 of Section 35 in DP758492 & Lot 8 in DP666021

16-24 Wentworth Street, Gunnedah

File Reference: 6235

Stewart Surveys Pty Ltd

107-109 Conadilly Street Gunnedah, PO Box 592 Gunnedah, NSW, 2380 office@stewartsurveys.com

DOCUMENT CONTROLS

Proponent	AYB Nominees Pty Ltd
Document Description	Statement of Environmental Effects
File Reference	6235
Date	24 July 2025
Prepared for	**Client Name:** AYB Nominees Pty Ltd [redacted]
Prepared by	**Kathryn Stewart** Bachelor of Landscape Architecture (UNSW) Masters of Environmental Management (UNSW) Registered Landscape Architect (#001493) **Felicity Stevens** Bachelor of Sustainability (UNE) Stewart Surveys Pty Ltd ABN: 65 002 886 508 PO Box 592, Gunnedah NSW 2380 (02) 6742 2966 Office@stewartsurveys.com
Site Particulars	**Lot Particulars:** Lots 7 & 9 of Section 35 in DP758492 & Lot 8 in DP666021 **Address:** 16-24 Wentworth Street, Gunnedah **Local Government Area: Gunnedah**

TABLE OF COTENTS

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INTRODUCTION

This Statement of Environmental Effects (SoEE) has been prepared for AYB Nominees Pty Ltd by Stewart Surveys Pty Ltd. The proposed development is the subdivision of three (3) Lots into five (5) lots, to be completed in a single stage.

The land to which this SoEE applies is the property known as 16-24 Wentworth Street, Gunnedah being Lots 7 and 9 of Section 35 in DP758492 and Lot 8 in DP666021. The land is located within Zone R3: Medium Density Residential under the Gunnedah Local Environmental Plan, 2012 (referred to as the GLEP, 2025) and comes under the provision of the Gunnedah Development Control Plan 2025 (referred to as the GDCP, 2025).

1. SITE CONTEXT AND CHARACTER

The subject site is situated on the western side of Wentworth Street, at the intersection with Little Barber Street, approximately 2 kilometres east of the Gunnedah Town Centre. It is joined along the southern boundary by the Northern Railway Line (also known as the Werris Creek Mungindi Railway Line) and to the west by residential properties. The site is rectangular in shape, with a total area of 5,692 square metres, and is currently vacant. There are no established trees or native vegetation present on the site, and the site is enclosed by a chain-link fence with gate access at Wentworth Street and Barber Street.

The property features approximately 60 metres of frontage to Little Barber Street and 88 metres of frontage to Wentworth Street. Both roads are bitumen sealed with Wentworth Street containing kerb and guttering for the full extent of the property with a cul-de-sac at the southern end.

The site locality plan, **Figure 1** highlights the location of the property in relation to the Gunnedah town centre.

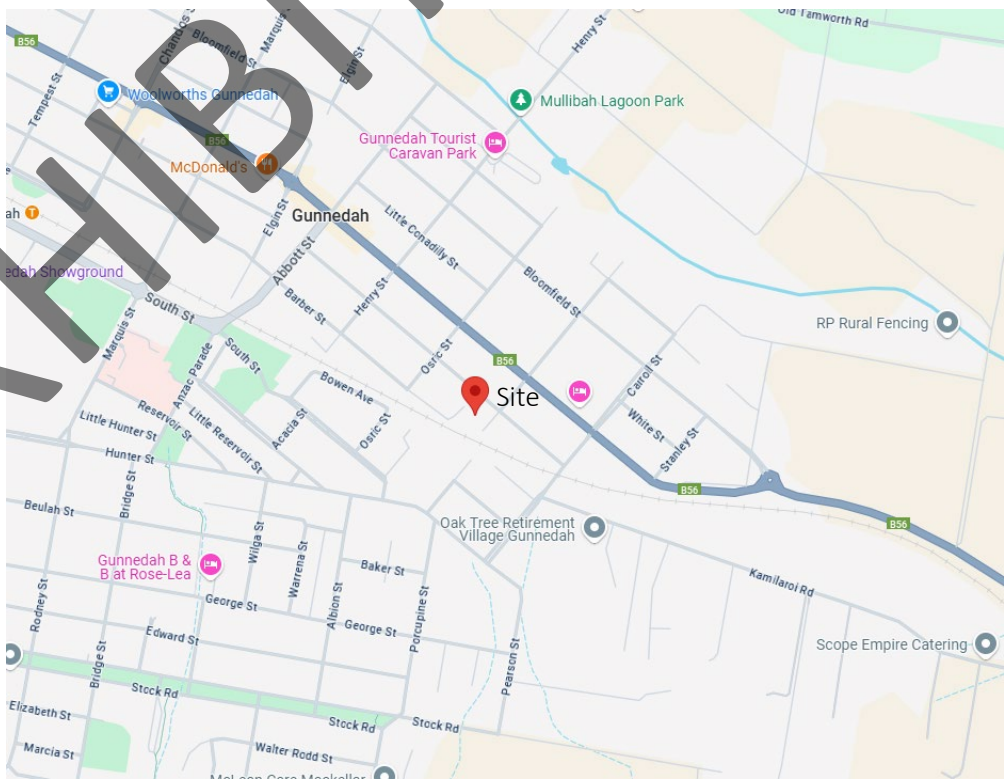


Figure 1: Context Diagram (Google Maps)

The aerial photograph and site photos below in **Figure 2** to **Figure 7** show the existing character of the site.

Figure 2: Aerial Capture of site

Figure 3: View Northwest across the site from Wentworth Street

Figure 4: View facing North across the site towards Little Barber Street

Figure 5: Gate fronting Barber Street in the south western corner of the property.

Figure 6: View northeast from the western boundary of the property looking towards the intersection of Wentworth and Little Barber Streets

Figure 7: View along Little Barber Street frontage of the site.

2. DESCRIPTION OF DEVELOPMENT

It is proposed to subdivide Lots 7 and 9 of Section 35 in DP758492 and Lot 8 in DP666021 into five (5) residential holdings ranging from 1,004m^2 to 1,455m^2. Proposed Lot 1 will have frontage to Little Barber Street and Lots 2 to 5 will front Wentworth Street. The property is subject to a 3.05 metre road widening along Little Barber Street, which has been accommodated in the subdivision design.

The holdings are large in size and will be suitable to accommodate a number of residential housing types including single detached dwellings, dual occupancies, multi-dwellings and residential flat buildings.

The concept plan in **Figure 8** shows the proposed subdivision layout.

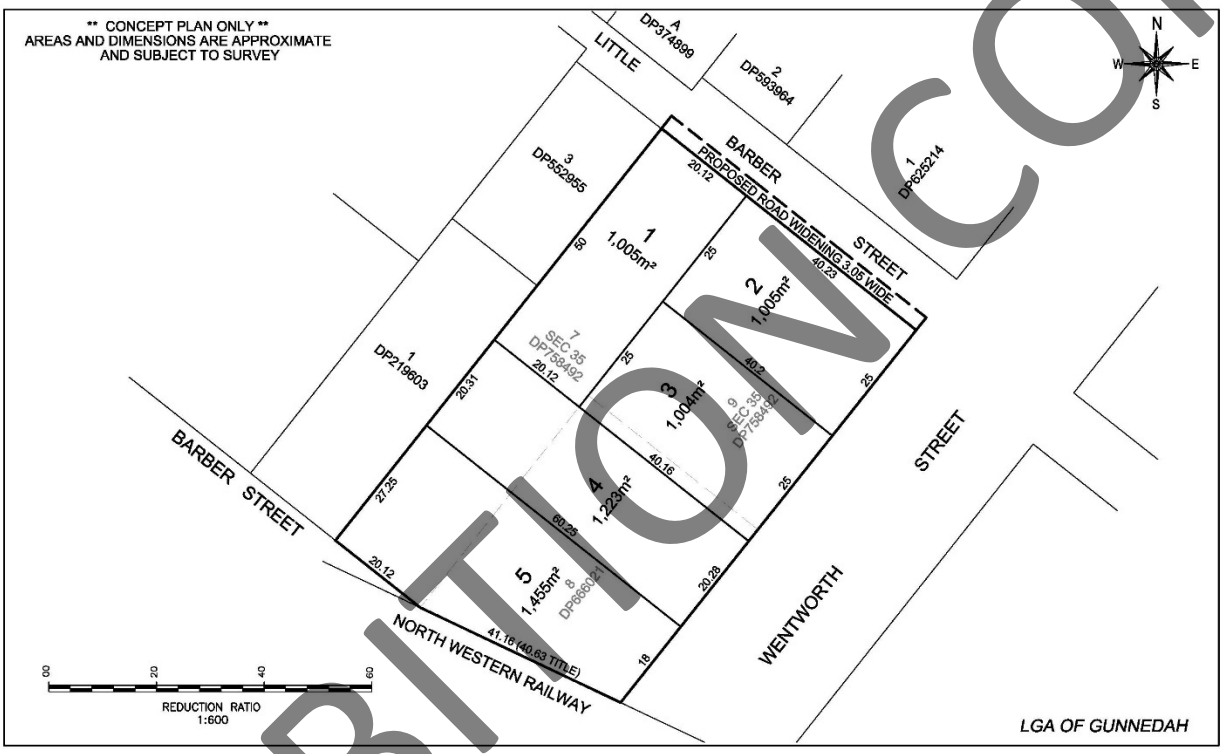


Figure 8: Plan of proposed Subdivision (refer attachment for full sized plan)

3. GUNNEDAH LOCAL ENVIRONMENTAL PLAN, 2012

The subject site is zoned R3: Medium Density Residential under the Gunnedah Local Environmental Plan, 2012, as show in **Figure 9**. The minimum lot size mapped for the site is 450m$^{2.}$

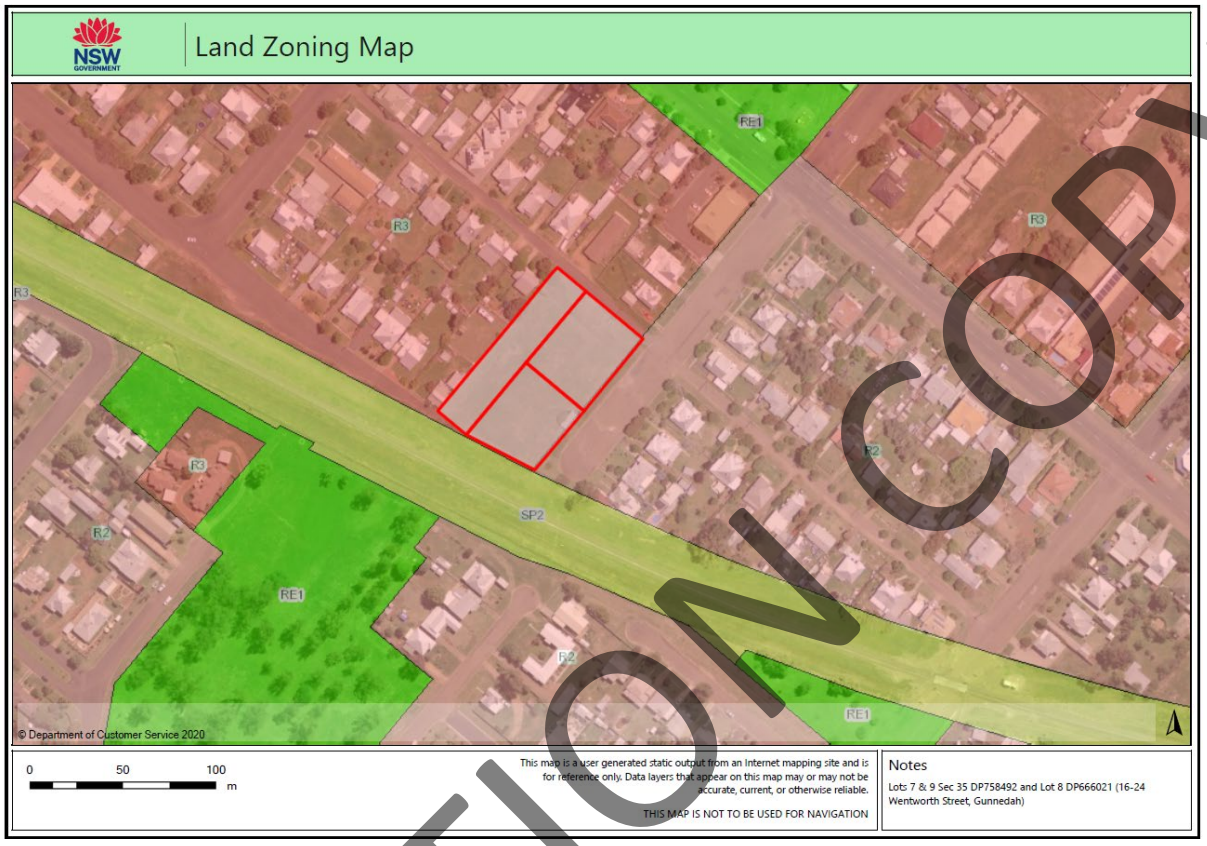


Figure 9: Land Zoning Map (NSW Planning Portal)

The Objectives of the zone are:

- To provide for the housing needs of the community within a medium density residential environment.
- To provide a variety of housing types within a medium density residential environment.
- To enable other land uses that provide facilities or services to meet the day to day needs of residents.
- To integrate new development with established settlement patterns and landscapes in the neighbourhood by retaining and enhancing –
  (a) The existing streetscape and significant vegetation, and
  (b) Pedestrian, cycle and vehicular connections and accessibility, and
  (c) The scale, density and form of existing development.

With approval, the proposed subdivision will allow for five (5) residential holdings exceeding the minimum lot size. The subject site is located in an existing medium density area and will allow for a more efficient use of land, while providing increased opportunity for residential development in an area of Gunnedah which is conveniently located to the CBD and other community services. We believe the proposed development is consistent with the objectives of the Gunnedah Local Environmental Plan, 2012.

4. GUNNEDAH DEVELOPMENT CONTROL PLAN, 2025

The following tables assess the proposed development against the part B general controls and part G subdivision development controls and the as outlined in the Gunnedah DCP, 2025

Table 1: Gunnedah DCP 2025 Part B General Controls - All Developments

Table No: Gunnedah DCP 2025 – Part B General Controls – All Development			
Clause No.	**Objectives/Strategies**	**Assessment**	**Consistency (Y/N/NA)**
B1 Parking			
B1.1 General Parking	General Parking Provisions	Not applicable this this application parking is not required until residential development occurs.	N/a
B.2. Loading/Unloading Facilities			
B.2. Controls	Loading and Unloading Facilities for all commercial, retail and industrial development	Not applicable to this application.	N/a
B.3. Slope and land stability			
2.1.1 Slope	a. Development on slopes greater than 15% require a detailed geotechnical investigation (including slope stability analysis) and design to demonstrate good hillside development practice (as per "Geotechnical Risks Associated with Hillside Development" – *Australian Geomechanics News* No. 10 December 1985). Engineer's certification is to accompany the development application. Cut/fill greater than 1 metre is not recommended without suitable earth batter to promote vegetation growth or retaining walls which include consideration of visual impacts presented from public spaces.	The subject site is graded at about 3%, there is no cut and fill or retaining walls proposed as part of this application.	N/a
B.4. Landscaping			
B.4. Controls	a. The following is to be considered when tree species are being selected: i. the proximity of the tree to adjoining properties and the road reserve once it matures, ii. the location of the mature tree and its roots to underground services and utilities, and iii. the impact on asset protection zones and bushfire risk.	It is proposed to plant three (3) *Jacaranda mimosifolia* trees along Wentworth Street. There are already two trees of this species at the end of the cul-de-sac and this will extend the current street tree theme. There are no overhead powerlines along the site frontage to Wentworth Street. The trees will be planted clear of the proposed watermain.	Y
	b. Landscaping abutting environmental protection areas should consist of local indigenous species to protect bushland and habitat corridors and soften the interface between the natural landscape and the urban environment.	The site does not abut any environmental protection areas.	Y
	c. A landscape plan is to be lodged with the development application.	A landscape plan has been prepared for this development and is appended to this report.	Y
	d. For multi dwellings and residential flat building developments, open space areas shall be landscaped.	Not applicable	Y
B.5. Flooding			
B.5.1 to B.5.9	a. Flood Planning Provisions	Not applicable to this development as the site is not classified as flood prone land.	N/a
B.6. Aboriginal cultural heritage			
B.6. controls	a. An Aboriginal Due Diligence Report may be required for any development within 200m of a waterbody or on a ridge line.	The subject site is not located within 200m of a waterbody or ridge line. A search of the Office of Environmental Heritage Information Management System (AHIMS) has been completed and has shown that there are no Aboriginal heritage sites recorded on or near the site. The search results of this enquiry are attached to this report.	Y

Clause No.	Objectives/Strategies	Assessment	Consistency (Y/N/NA)
B.7. Utilities and services			
B.7. controls	a. A servicing strategy is required with all development applications to demonstrate that availability and feasibility of providing water, sewer and stormwater services appropriate for the scale of the development.	A servicing strategy report has been prepared for this development.	Y
	b. All buildings and structures are to be located clear to utility infrastructure.	Not applicable as there are no buildings proposed.	N/a
	c. For sewer mains, structures are not to be located over an easement. Where a structure is proposed in proximity to a Council sewer main or other infrastructure, all design and construction shall be in accordance with Council's Building over Sewer Policy.	Not Applicable as no structures are proposed. New sewer mains are located close to property boundaries to minimise impacts on future building design.	Y
	d. Details of water supply are to be provided with the development application. If available, connection to potable water supply is required. where not potable water supply is available, minimum tank storage of 60,000 litres is required, excluding any water required for firefighting purposes.	A new reticulated water main will be provided in Wentworth Street with property connection to each lot.	Y
	e. Water tanks are to be located behind the street setback of the existing or proposed dwelling (unless placed below the ground). The maximum height of a water tank is 3.2 metres in urban zones. Suitable screening shall be provided where visible from a public place or street. Above ground water tanks shall be of a non-reflective material and located and suitably landscaped so as to minimise their visual impact.	Not Applicable	N/a
B.8. Waste and recycling			
B.8. controls	a. A Waste Management Plan must be provided for all development requiring construction works on site. The level of detail in the plan will reflect the scale of development being undertaken but will generally include details of: i. the volume and type of waste to be generated. ii. how waste is to be stored and treated on site. iii. how and where residual material is to be disposed.	The only construction works as part of this application is the provision of services. These services will be trenched underground. Any surplus fill will be spread across the site. Therefore, there is not expected to be any waste generated by the development.	Y
	b. Where possible the development must optimise recycling to reduce waste to landfill.	All suitable soil not used in trenches will be spread across the site.	Y
	c. Provide adequate space within each dwelling for the interim storage of general waste and recycling collection bins where kerbside collection services are available.	Not applicable	N/a
	d. The design and location of waste storage areas and collection for retail, industrial and commercial uses are an integral part of the development and must: i. be of sufficient size to accommodate all ongoing waste generation associated with the development. ii. complements the public domain. iii. avoid potential noise, hygiene, odour, pollution, traffic, as well as health and safety impacts. iv. be convenient to use and easily accessed (occupants and waste collectors). v. be protected from theft, vandalism and vermin. vi. are flexible in their design to allow for future changes in the operation, tenancies and uses.	Not applicable	N/a

Clause No.	Objectives/Strategies	Assessment	Consistency (Y/N/NA)
B.9. Noise and vibration			
B.9. Controls	a. Any machinery or activity considered to produce noise emissions from a premise shall be adequately sound proofed so that the development is consistent with the requirements of the Noise Policy for Industry.	Construction works as part of this development are limited to the extension of services to the holdings. All works will be carried out between the hours of 7am to 6pm Monday to Saturday and 8am to 6pm on Sundays and Public holidays to mitigate the impacts of noise on the surrounding residential properties.	Y
	b. In industrial development, windows, doors and other wall openings shall be arranged to minimise noise impacts on residences where proposed within 400m of the residential zone.	Not Applicable	N/a
	c. External plant (generators, air conditioning plant, ect.) shall be enclosed to minimise noise nuisance where adjoining a residential area.	Not applicable until residences are constructed.	N/a
B.10. Crime Prevention Through Environmental Design (CPTED)			
B.10. Controls	a. Buildings are to be designed to overlook streets and other public areas to provide casual surveillance.	Not applicable to this application	N/a
	b. Pedestrians and cycle thoroughfares are to be reinforced as safe routes through: i. appropriate lighting; ii. casual surveillance from the street; iii. minimised opportunities by concealment; iv. landscaping which allows clear sightlines between buildings and the street; and v. avoidance of blind corners.	There is good street lighting on the adjoining roads providing casual surveillance from the adjoining residential properties. There is no landscaping on the subject site and no blink corners. Proposed Street trees are spaced at approximately 20 metre centres allowing good vision around them.	Y
	c. Industrial and Commercial Developments proposing to operate between 8pm and 6am shall include a light spill plan.	Not applicable	N/a
B.11. Advertising/Signage			
B.11.1. to B.11.12	Advertising Signage	Not applicable to this application	N/a

Table 2: Gunnedah DCP 2025 Part G Subdivision Controls

Table No: Gunnedah DCP 2025 – Part G Subdivision			
Clause No.	**Objectives/Strategies**	**Assessment**	**Consistency (Y/N/NA)**
G.1. Lot orientation			
G.1. Controls	a. Lot size, shape and orientation is to provide optimal opportunity of passive solar design of future buildings.	Proposed lots vary from 1004m² to 1445m² and are oriented to provide opportunity for passive solar design of any future buildings.	Y
	b. Lots are to be orientated north/south in urban areas. Building envelopes on larger lots or in rural areas are to be of sufficient size and orientation to allow construction of a building with a north/south orientation.	The lots are orientated to face the adjoining streets they provide good solar orientation and space for future buildings. No building envelopes are proposed.	Y
	c. New roads are to be aligned east-west and north-south wherever possible.	There are no new roads proposed as part of this subdivision.	N/a
	d. Lots with east-west orientation may require, depending on lot size, to be widened to provide for optimal solar access and to prevent overshadowing of buildings and private open space on adjoining lots.	Lots exceed the minimum lot size and provide good opportunities for north facing buildings.	Y
	e. Design of lots on sloping sites will be required to: i. minimise the need for boundary retaining walls ii. minimise the potential for overlooking of adjoining properties and iii. maintain solar access.	The proposed site is evenly graded and does not require retaining walls etc.	Y

<table>
<tr><th>Clause No.</th><th>Objectives/Strategies</th><th>Assessment</th><th>Consistency (Y/N/NA)</th></tr>
<tr><td colspan="4">G.2. Subdivision Design</td></tr>
<tr><td>G.2. Controls</td><td>a. The depth of the lot shall not exceed the width of the lot by more than 5:1.</td><td>The frontage to depth ratio is met on all five of the proposed lots.
<table><tr><th>Lot</th><th>Frontage</th><th>Depth</th><th>Ratio</th></tr><tr><td>1</td><td>20.12</td><td>50</td><td>2.5</td></tr><tr><td>2</td><td>25</td><td>40.2</td><td>1.6</td></tr><tr><td>3</td><td>25</td><td>40.15</td><td>1.6</td></tr><tr><td>4</td><td>20.28</td><td>60.25</td><td>2.9</td></tr><tr><td>5</td><td>18</td><td>60.25</td><td>3.3</td></tr></table></td><td>Y</td></tr>
<tr><td></td><td>b. For lots in cul-de-sacs, the frontage shall be sufficient to enable the proposed dwellings to address the street.</td><td>Proposed Lot 5 fronts the existing Wentworth Street Cul-de-sac. The lot has 18m frontage which is able to provide future dwellings a suitable address to the street.</td><td>Y</td></tr>
<tr><td></td><td>c. Public road access is required to all lots. A right of way will generally not be supported as the primary access in lieu of access to a public road.</td><td>All lots will have access from public roads. Lot 1 has access from Little Barber Street and proposed Lots 2-5 have access from Wentworth Street.</td><td>Y</td></tr>
<tr><td></td><td>d. Access should be from the lowest order road and where possible a new road should be created for purposes of access.</td><td>All adjoining roads are local roads.</td><td>Y</td></tr>
<tr><td></td><td>e. The subdivision design shall accommodate the retention of significant trees and vegetation.</td><td>The site is highly modified with no trees located on the subject site.</td><td>Y</td></tr>
<tr><td>Battle-axe blocks</td><td>f. Battle-axe blocks shall comply with the following controls:
i. Within the R2, R3 and RU5 zones, access handles shall be a minimum width of 5m, of which 3m is to be constructed and sealed with reinforced concrete, asphaltic concrete or interlocking pavers prior to the issue of the subdivision certificate.
ii. Within all other zones, the minimum width of a handle is 15m, with a maximum length of 200m.
iii. The topography of the site may require installation of kerbing to manage overland stormwater.</td><td>There are no battle-axe lots proposed as part of this development.</td><td>N/a</td></tr>
<tr><td></td><td>g. Cul-de-sacs will generally not be supported on mapped as bushfire prone land.</td><td>The subject site is not bushfire prone land.</td><td>N/a</td></tr>
<tr><td>Industrial Lots</td><td>h. Industrial lots shall have a minimum street frontage and square width of 24m and a minimum area of 100m².</td><td>Proposed development is not an industrial lot.</td><td>N/a</td></tr>
<tr><td colspan="4">G.3. Roads</td></tr>
<tr><td>G.1. Controls</td><td>a. An assessment of potential traffic impacts is to include an assessment of the proposed subdivision and its impacts on the adjacent existing road network. For development involving more than 5 lots, a detailed Traffic Impact Assessment is to be submitted with the development application.</td><td>Proposed subdivision does not propose more than 5 lots, so a detailed traffic assessment will not be required.

Assessment of potential traffic impacts are provided in section 10 of this report.</td><td>Y</td></tr>
<tr><td></td><td>b. The road hierarchy shall be defined according to Gunnedah Shire Council Engineering Design Minimum Standards.</td><td>There are no new roads proposed.</td><td>N/a</td></tr>
<tr><td></td><td>c. Road network design shall include consideration of vehicular, pedestrian and cyclist safety.</td><td></td><td>N/a</td></tr>
<tr><td></td><td>d. Residential subdivision must incorporate appropriate facilities and opportunities for pedestrian and bicycle movement and include shared paths and street tree planting.</td><td>Street planting is proposed. There are no formed footpaths on the western side of Wentworth Street with a formed footpath on the eastern side between the intersection of Conadilly Street and Little Barber Street. Given the subject site is a dead end street the demand for pedestrian traffic is low and there is no adjoining footpath leading to the property, we</td><td>Variation Requested</td></tr>
</table>

		do not believe a shared pathway is warranted in this location.	
	e. The alignment, width and design standard for all roads shall be in accordance with the expected traffic volume, type of traffic and desired speed in accordance with Council's Engineering Design Minimum Standards.	No new roads proposed.	N/a
	f. Kerb and gutter is required for subdivision where the Lot Size Map specifies a minimum lot size of up to and including 3000m^2.	Kerb and guttering is already provided on Wentworth Street. Little Barber Street does not contain kerb and gutter on any properties between Wentworth Street and Osric Street, therefore, we do not believe it is appropriate to introduce kerb and guttering as it may introduce stormwater drainage issues.	Variation Requested
	g. Sealed pavement will be required where the Lot Size Map specifies a minimum lot size of up to and including 10 hectares (this does not relate to RU5 village zone).	All adjoining roads contain sealed pavement	Yes
	h. A road within a residential subdivision in R2 and R3 zone must include a constructed shared path (minimum width of 2.5m).	As noted in part D we do not believe a shared pathway is warranted at this site as it is not connected to an existing shared pathway and the property is located at a dead end street terminating at the railway line.	Variation requested.
	i. Subdivision layouts shall make provision for road connection to adjoining undeveloped land.	There is no undeveloped land surrounding the property.	N/a
	j. Roads are to be designed having regard to both topography of the site and the requirements of stormwater overland flow paths.	No new roads are proposed as part of this development.	N/a
	k. Roads within the E4 and E5 land zones shall be in accordance with Council's Engineering Design Minimum Standards, including sealed wearing course and full kerb and guttering along all frontages.	Proposed development is not in the E4 or E5 zone.	N/a
Garbage collection	l. Road design must accommodate the legal movement of garbage collection vehicles.	The existing road formations accommodate garbage collection.	Y
	m. Allotments are to allow for placement of garbage bins within the alignment of that lot.	The minimum lot frontage proposed is 18 metres. All lots have suitable area for bin placement during collection.	Y
	n. In staged subdivisions temporary turning facilities shall be provided to facilitate garbage collection services.	Proposed subdivision is not staged.	N/a

Clause No.	Objectives/Strategies	Assessment	Consistency (Y/N/NA)
G.4. Street trees in urban zones			
G.4. Controls	a. Street trees shall be provided at a rate of one tree per allotment.	Three (3) new street trees are proposed on Wentworth Street, Lot 5 has an existing street tree and therefore this equates to 1 per allotment along this frontage. We do not believe it is appropriate to plant a street tree on Little Barber Street as there are overhead powerlines along the property frontage and the lane is narrow in nature. There are no existing street trees in this location. Refer to **Figure 10**	Yes
	b. Street trees shall be planted no closer than 900mm to the kerb, clear of driveways and underground services.	Street trees are proposed 1 meters off the kerb as shown in the landscape plan.	Y
	c. Advanced trees shall be planted and maintained by the developer for at least 12 months, any trees that fail to thrive shall be replanted immediately.	Trees will be planted at 20L pot size which are generally 1.2-1.5m high at the time of planting	Y
	d. Species shall be selected from Council's Street Tree Strategy that are drought, frost and disease tolerant with minimum maintenance requirements upon maturity.	*Jacaranda mimosifolia* is a suitable street tree for Gunnedah and included in the Street Tree Strategy.	Y
	e. Spacing and size should be appropriate for the scale of the neighbourhood, building setbacks and width of road pavement, width of the verge, location of infrastructure including power, and	Spacing is proposed central to the lot to allow future driveway on either side. This equates to approximately 20 metre centres.	Y

	stormwater and location of driveways. Generally, the following spacing shall apply: i. Small trees – 5-7 metres; ii. Medium trees – 7-10 metres.		

Figure 10: Left: View along Little Barber Street showing powerlines and narrow nature of the road.

Right: Existing Jacaranda Street trees at Wentworth Street.

Clause No.	Objectives/Strategies	Assessment	Consistency (Y/N/NA)
G.5. Servicing strategy			
G.5. Controls	All development applications shall provide a servicing strategy (water, sewer, stormwater, telecommunications and electricity).	A site servicing strategy is attached to this application.	Y
	For all new estates this shall include nomination of a maximum number of equivalent tenements that will be serviced by the infrastructure.	It is difficult to predict the number of ETs in a Medium Density holding of this size and unit blocks are permitted. At the time of subdivision the maximum ETs will be 5, with 3 already provided by the existing lots.	Y
	Development applications for subdivision or major development are to consider the timing and staging of infrastructure provision including: » Demonstrating that water and sewerage reticulation is able to be provided having regard to Gunnedah Shire Council water mains and sewer servicing strategy. » Forward funding of any infrastructure developer contributions ahead of Council's program of works.		
	All lots are to be provided with water and sewer connections suitable for the intended development where existing infrastructure is located within reasonable proximity.	All proposed lots for the subdivision will have access to water and sewer connection which are suitable for the intended development and located within reasonable proximity.	Y
G.5.1. Water	a. The servicing strategy shall identify the method of providing water to the proposed lots in accordance with Engineering Design Minimum Standards.	The proposed new reticulated water main is shown on the site servicing plans. This has been designed in accordance with the engineering design minimum standard.	Y
	b. Reticulated water is to be supplied to subdivision where the Lot Size Map specifies a minimum lot size of up to and including 1.2 hectares.		
G.5.2. Sewer	a. The servicing strategy shall identify the method of providing sewer to the proposed lots in accordance with Engineering Design Minimum Standards.	The sewer main will be extended to provide a sewer connection for each lot. Refer to the attached site servicing plans. This has been designed in accordance with the engineering design minimum standard.	Y
	b. Detail of any lot filing required to achieve minimum grade shall be provided.	No Lot filling is required.	N/a
	c. Reticulated sewer is required where the Lot Size Map specifies a minimum lot size of up to and including 3000m².	Reticulated Sewer is proposed.	Y
	d. On site sewerage management systems will be required when development lots where the Lot	Not applicable	N/a

	Size Map specifies a minimum area of 1 hectare or greater.		
G.5.3.	a. A servicing strategy shall be provided in accordance with Gunnedah Shire Council's Engineering Design Minimum Standards.	A site servicing strategy is provided.	Y
G.5.4. Telecommunications & electricity	a. The telecommunications must be provided to the boundary of all lots in the subdivision at the full cost of the developer.	Telecommunications services will be provided to all lots. Refer to the site servicing strategy.	Y
	b. The subdivision is to be serviced by underground electricity where the Lot Size Map specifies a minimum lot size of up to and including 9.9 hectares.		
	c. For subdivision of land where the Lot Size Map specifies a minimum lot size of greater than 9.9 hectares and less than 40 hectares, electricity supply is required and may be overhead.	An electrical connection will be provided to each lot. Refer to the site servicing strategy.	Y
	d. For subdivision of land where the Lot Size Map specifies a minimum lot size of 40 hectares or greater, no connection to electricity is specified.		
	e. Alternate arrangements to mains power may be acceptable in exceptional circumstances, where detailed solar report is provided.	Not applicable	N/a
	f. Council will consider alternative solutions for the provision of services on lots in the RU1, RU4 RU6 and C3 zones where the application can demonstrate that physical connection is not practical.	Not applicable	N/a

Variation to the GDCP, 2025 is proposed in this development. In accordance with clause A.8 of the GDCP we provide the following justification for the variation to the controls.

Table 3: Variation to GDCP, 2025

Criteria	Site Application
The standard or control to be varied	G.3 Roads, part d (shared pathways), part f (kerb and gutter) and part h (shared pathways)
The extent of the variation and the circumstances why the variation is being sought	As outlined in **Table 2**, it not proposed to construct a shared pathway along Wentworth Street and it is not proposed to construct kerb and guttering along Little Barber Street.
Why strict compliance is unachievable, unreasonable or unnecessary in this unique instance	We do not believe a shared pathway is warranted on Wentworth Street as there is no connecting pathway and the subject site terminates at the Northern Railway Line meaning a pathway would not connect to the wider area and therefore is deemed unnecessary. Little Barber Street is a bitumen sealed roadway as shown in **Figure 10**, with no kerb and gutter along any of the properties between Wentworth and Osric Street, therefore, kerb and gutter is not deemed necessary and could introduce drainage issues with the concentration of water. No other road works are proposed by this development and the property does comply with the road widening order to dedicate 3.05m of land along the laneway as road as part of the subdivision.
How the objectives of the control are met or an acceptable solution is achieved by the variation.	The objectives of clause G3 Roads are met as the existing road network with bitumen seal provides a suitable and appropriate design for road users. The subject site does not form part of a cycleway or high pedestrian use area as it is a dead end road terminating at the Northern Railway Line. We believe the existing road network provides a suitable level of safety and efficient movement for all vehicles, pedestrians, and other non-vehicular road users. All lots in the development will have suitable, safe and efficient access to and from public roads with no compromise of the existing stormwater drainage in the area. We believe the proposed development aligns with the objectives of development control G3.

We have reviewed the proposed development against the development controls of the GDCP, 2025 parts B and G and believe the development is compliant with all controls except where a variation in accordance with part A.8 has been applied for, as outlined in **Table 3**. With approval we do not believe this variation will result in any adverse impacts on the area.

5. POTENTIAL ENVIRONMENTAL IMPACT OF THE PROPOSED DEVELOPMENT AND MITIGATION MEASURES

The following section of the report identifies potential environmental impacts, and the proposed mitigation measures of the development.

5.1 LANDFORM, SOILS AND DRAINAGE

The subject site is located in a residential area. The site is relatively flat falling gradually to the northwest corner of the property. **Figure 11** shows the topography of the area.

Figure 11: Topographic Map

The soils at the site are described as Fullwoods Road (frw) landscape as shown in **Figure 12.** The typical characteristics of this soil type are mostly degraded, very deep to giant, moderately well-drained Red and Brown Chromosols, with very deep, well drained Red Kandosols. There is moderate soil fertility with localised foundation hazards, localised dieback, salinity hazard and some widespread run on and permanently high water tables.

Erosion and sediment control measures are required to avoid any damage to the environment, caused by construction works associated with the development. The development is not expected to result in any major changes to the landform, soil or drainage across the site.

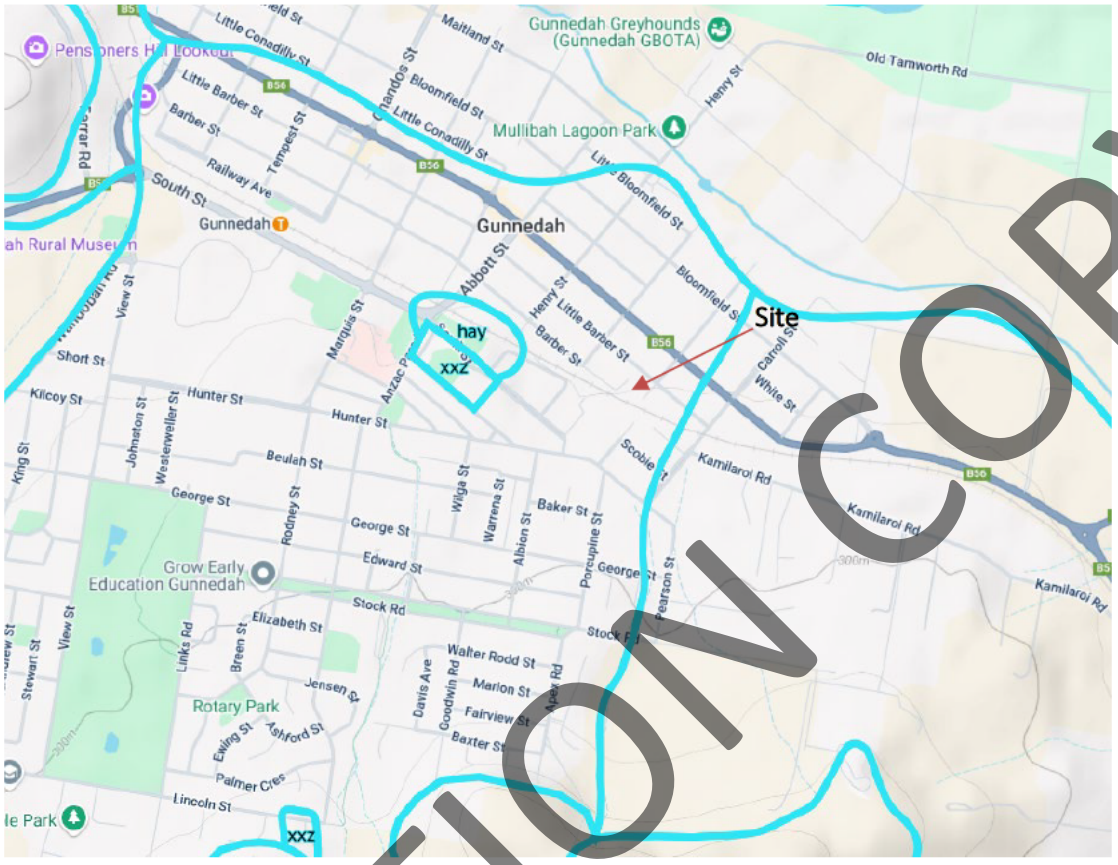


Figure 12: Soil Landscape Profile (eSpade search)

5.2 VEGETATION AND HABITAT

Vegetation community mapping of the site, from the NSW Government SEED Portal, maps the site as non - native vegetation class shown in **Figure 13** and site photographs. The site is considered to be fully modified with no impacts on vegetation and habitat.

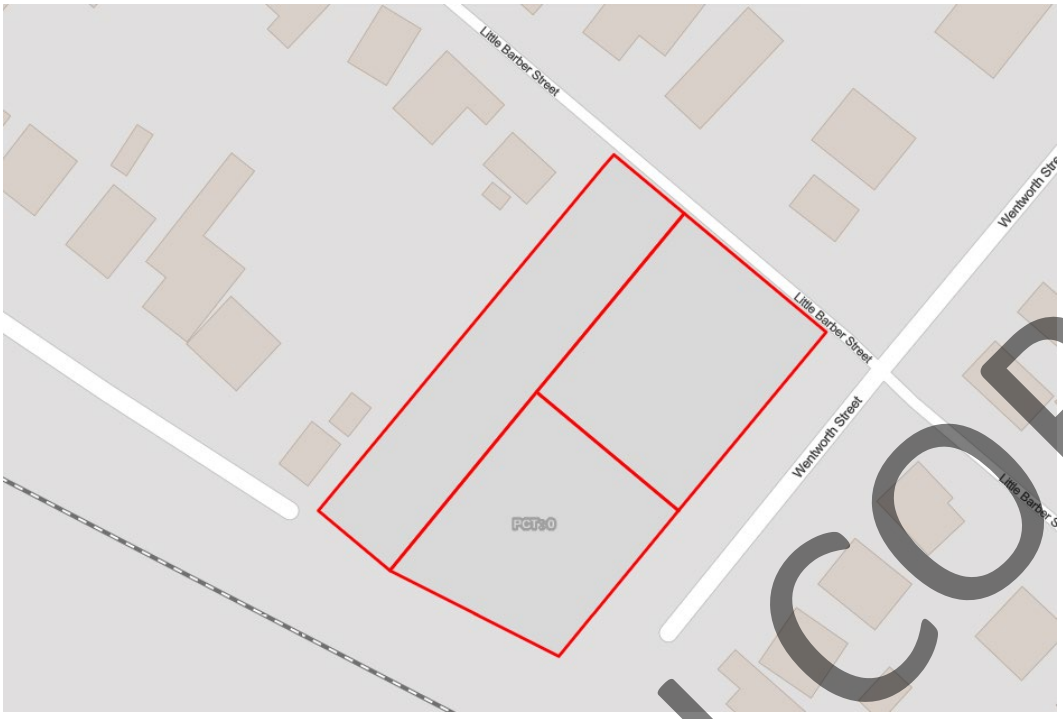


Figure 13: Vegetation Mapping

6. BIODIVERSITY CONSERVATION ACT 2016

The Biodiversity Conservation Act 2016 is legislation which applies to the whole of NSW. The purpose of the act is to protect the following biodiversity values:

(a) vegetation integrity—being the degree to which the composition, structure and function of vegetation at a particular site and the surrounding landscape has been altered from a near natural state,

(b) habitat suitability—being the degree to which the habitat needs of threatened species is present at a particular site,

(c) biodiversity values, or biodiversity-related values, prescribed by the regulations.

We have conducted a Biodiversity Values Map and Threshold tool search and there are no areas of biodiversity value identified on the subject site as shown in **Figure 14**.

Figure 14: Biodiversity Values Map

There is no biodiversity value land mapped on the subject site and the site is considered to be a fully modified landscape. Therefore, there are no requirements under the Biodiversity Conservation Act, 2016 for this development.

7. STATE ENVIRONMENTAL PLANNING POLICY (BIODIVERSITY AND CONSERVATION) 2021

The State Environmental Planning Policy (Biodiversity and Conservation) – Chapter 2: Clearing of Native Vegetation in Non-Rural Areas – does not apply to this development, as no clearing is proposed as part of the subdivision.

Chapter 4: Koala Habitat Protection does not apply to this development, as the site is less than 1 hectare in size. There are no other chapters in the SEPP which are applicable to this development. Therefore, there are no requirements under State Environmental Planning Policy (Biodiversity and Conservation) 2021 for this application.

8. STATE ENVIRONMENTAL PLANNING POLICY (TRANSPORT AND INFASTRUCTURE) 2021

We have reviewed the State Environmental Planning Policy (Transport and Infrastructure) 2021 and do not believe there are any requirements under this SEPP that apply to the current subdivision application.

Division 15 Railways, subdivision 2 development in or adjacent to rail corridors and interim rail corridors clause 2.98 development adjacent to rail corridors provides a set of requirements for notification to ARTC. The legislation notes the section applies if development –

(a) is likely to have an adverse effect on rail safety, or

(b) involves the placing of a metal finish on a structure and the rail corridor concerned is used by electric trains, or

(c) involves the use of a crane in air space above any rail corridor, or

(d) is located within 5 metres of an exposed overhead electricity power line that is used for the purpose of railways or rail infrastructure facilities.

The proposed development is the subdivision of land and does not include items a to d, therefore, we do not believe any notification is required and there are no parts of the SEPP prevent support of this application. Future application for residential house construction will require consideration of impacts of rail noise and vibration and this should be addressed in subsequent application on the land. Future development may require the installation of sound or noise barriers.

9. STATE ENVIRONMENTAL PLANNING POLICY (RESILIENCE AND HAZARDS) 2021

The site is Zoned as R3: Medium Density Residential, under the Gunnedah Local Environmental Plan 2012, and the surrounding sites are compatible with medium density zoning.

State Environmental Planning Policy (Resilience and Hazards) 2021, chapter 4 Remediation of Land, applies to each development applicated lodged in NSW. The Objective of this chapter is to provide a state-wide planning approach to the remediation of contaminated land.

The chapter aims to promote the remediation of land for the purpose of reducing the risk and harm to human health and other aspects of the environment by reviewing potential for contaminated land and conditioning required remediation as part of the development consent.

The policy states under clause 4.6 that a consent authority must not consent to the carrying out of any development on land unless it has considered whether that land is contaminated.

The current land owners purchased this property from Mobil oil. They previously used the site as fuel storage and distribution, but prior to settlement Mobil is required to remediate the site up to the standard of the zoning, in this case being residential. The site has been fully remediated suitable for residential development.

Please refer to the appended report:

Golder Associates Pty Ltd, 17 May 2019, Mobil former depot, Gunnedah (NA02) No Further Action Report, Ref. 1418584-307-L-Rev1.

This report concludes the following:

Based on the site audit report and receipt of the letter from NSW EPA, with respect to covered contamination Golder considers:

- *The conditions on-site are considered suitable for Residential land use; and*
- *The covered contamination located off-site and originated for on-site operations is considered suitable for the as of right land use.*

Golder concludes that no further action is warranted in regard to assessment, monitoring or remediation of covered contamination at the site or off-site.

We believe this report addresses the requirements under State Environmental Planning Policy (Resilience and Hazards) 2021 and council is able to accept and approve the development.

10. ACCESS AND TRAFFIC

The subject site currently has an existing access driveway from Wentworth Street, as shown in **Figure 17**. A concrete layback will be constructed to the property boundary for Lot 4 at this location. No additional driveways will be constructed at this time, as the future house design and the required driveway location have not yet been determined. Wentworth Street and Little Barber Street are both bitumen-sealed roads, with kerb and guttering present along the Wentworth Street frontage. There are clear lines of sight in both directions along Wentworth Street, and it is considered that this road has sufficient capacity to accommodate the minor increase in traffic generated by the development of five

(5) residential lots. All lots will have access from public roads. Lot 1 has access from Little Barber Street and proposed Lots 2-5 have access from Wentworth Street.

To further support safe and efficient access, Little Barber Street is proposed to be widened to 3.05 metres, improving both vehicle access and sight lines to the site and surrounding area.

There is a gate at the south western corner of the property leading to Barber Street, this access is not intended to be a primary access to the property.

As outlined in **Table 2** and **Table 3** it is not proposed to install kerb and gutter on Little Barber Street, as there are no other properties with kerb and gutter on the laneway between Wentworth Street and Osric Street, therefore, we do not believe it is appropriate or necessary to install kerb and gutter in this location.

Figure 15: Current Existing Access from Wentworth Street

Figure 16: Existing Wentworth Street Facing North

Figure 17: Existing Wentworth Street Facing South

Figure 18: Existing Little Barber Street

11. SERVICE STRATEGY

Please refer to the attached Site Servicing Stategy.

12. HERITAGE

There are no known items of heritage significance on or near the site. A review of the Gunnedah Local Environmental Plan 2012 confirms that there are no listed heritage items in the vicinity of the subject land.

A search of the Aboriginal Heritage Information Management System (AHIMS), using a 50-metre buffer around Lot 7 & 8 Sec 35 DP 758492 and Lot 8 DP 666021, has confirmed that no Aboriginal sites are recorded within or near the identified location. The results of this search are attached to this report for reference.

13. FLOOD PRONE LAND

The subject site is not identified as being flood prone land under the Gunnedah Local Environmental Plan 2012, as shown in **Figure 19: GLEP 2012, Flood Map.**

Figure 19: GLEP 2012, Flood Map

14. BUSHFIRE PRONE LAND

The subject site has not been identified as Bushfire Prone Land in the Gunnedah in the New South Wales Rural Fire Service, Bushfire Prone land Search.

15. DEVELOPER CONTRIBUTIONS

The proposed development consists of three (3) existing lots and proposes to create two (2) additional holdings. Therefore, there are three (3) existing ETs at the subject site and (2) new ETs required by the development.

The developer contributions in accordance with the 2025/26 fee listing and developer servicing plans are as follows:

Contribution	Location	ETs	Value 25/26	Total Contribution 25/26
GSC s64 Development Contribution – April 2013	North Gunnedah	2	$12,509.00	$25,018.00
GSC S64 Development Servicing Plan – Sewerage – Aug 2020	Gunnedah	2	$14,022	$28,044.00
GSC S64 Development Servicing Plan – Water– Aug 2020	Gunnedah	2	9,167.00	$18,334.00
TOTAL DEVELOPER CONTRIBUTION				**$71,396.00**

It is requested that developer contributions be listed as being required prior to issue of a subdivision certificate.

16. SUMMARY OF ENVIRONMENTAL IMPACTS & MITIGATION MEASURES

The proposed development is considered to be minor in nature and is expected to have a manageable impact on the environment. The subdivision will result in the following outcomes:

- Creation of five (5) additional residential lots
- Widening of Little Barber Street to 3.05 metres
- Extension of existing reticulated sewer and water services.
- Future Construction of five additional residential properties.

The development is not anticipated to generate any fumes, steam, smoke, or vapour emissions into the air. Furthermore, it is not expected to result in any disturbance to habitat or environmentally sensitive areas surrounding the site. The environmental impacts of the development will be offset by the following mitigation measures:

- Limiting hours of works to comply with the daytime industrial noise policy of 7am to 6pm Monday to Saturday and 8am to 6pm Sunday and public holidays.
- Implementation of an erosion and sediment control plan prior to any construction works.
- Payment of developer contributions to offset the increased demand on services.

With the implementation of these mitigation measures we believe the proposed development will have an acceptable impact on the environment.

17. CONCLUSION

The proposed subdivision is consistent with the surrounding residential character and supports a more efficient use of the land. By creating five additional residential lots, the development contributes to housing supply in a well-established and desirable area, close to the Gunnedah CBD and local amenities.

The layout and scale of the subdivision are in keeping with similar residential lots in the vicinity, ensuring compatibility with existing land uses and avoiding any major alterations or conflicts.

Given the property is already fully modified, the environmental impacts of the development are considered minimal. With the implementation of the mitigation measures outlined in this report, the proposal is not expected to result in any long-term adverse impacts on the environment.

Overall, the subdivision represents a sustainable and strategic form of infill development that makes better use of residential land in a location with ready access to services, infrastructure, and the town centre.

This Statement of Environmental Effects has been prepared by our office to accompany a council application. To the best of our knowledge, the content of this statement is true in all material particulars and does not, by its presentation or omission of information, materially mislead.

APPENDIX A

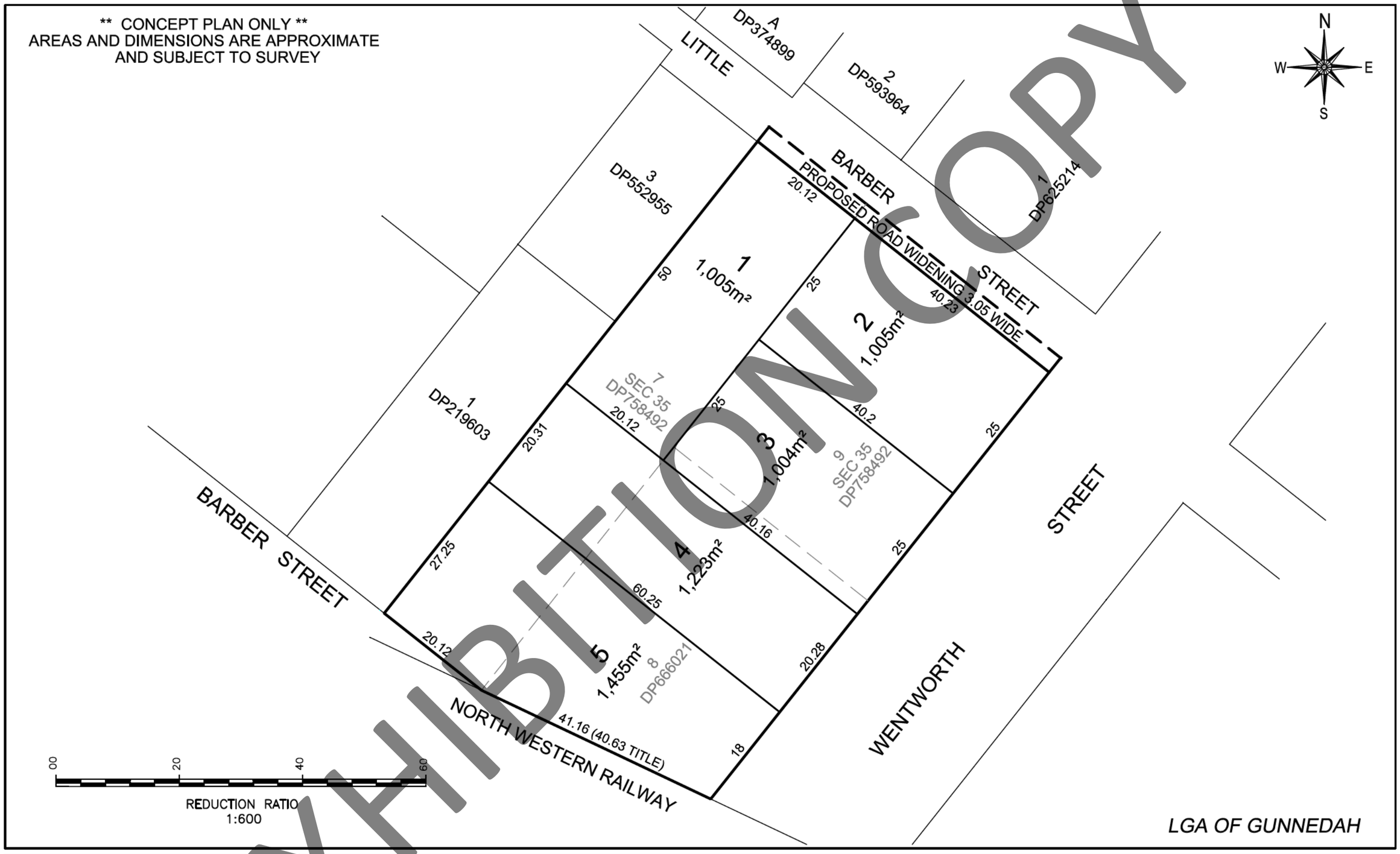
CONCEPT PLAN FOR THE PROPOSED SUBDIVISION OF LOTS 7 AND 9 OF SECTION 35 IN DP758492 AND LOT 8 IN DP666021, 16-24 WENTWORTH STREET, GUNNEDAH. REF 6235, 3 JULY 2025.

EXISTING SERVICES PLAN FOR PROPOSED SUBDIVISION OF LOTS 7 &9 OF SECTION 35 IN DP758492 AND LOT 8 IN DP666021, 16-24 WENTWORTH STREET, GUNNEDAH. REF 6235, 3 JULY 2025.

PROPOSED SERVICES PLAN FOR PROPOSED SUBDIVISION OF LOTS 7 &9 OF SECTION 35 IN DP758492 AND LOT 8 IN DP666021, 16-24 WENTWORTH STREET, GUNNEDAH. REF 6235, 3 JULY 2025.

LANDSCAPE PLAN FOR PROPOSED SUBDIVISION OF LOTS 7 & 9 SECTION 35 IN DP758492 AND LOT 8 IN DP666021, 16-24 WENTWORTH STREET, GUNNEDAH. REF 6235, 3 JULY 2025. SHEET 1-2.

** CONCEPT PLAN ONLY **
AREAS AND DIMENSIONS ARE APPROXIMATE
AND SUBJECT TO SURVEY



Stewart Surveys
Surveying, Environmental & Landscape Architecture
109 Conadilly Street
P.O. Box 592
GUNNEDAH NSW 2380
T 02 67422966
E office@stewartsurveys.com
ABN 65 002 886 508

NOTES:
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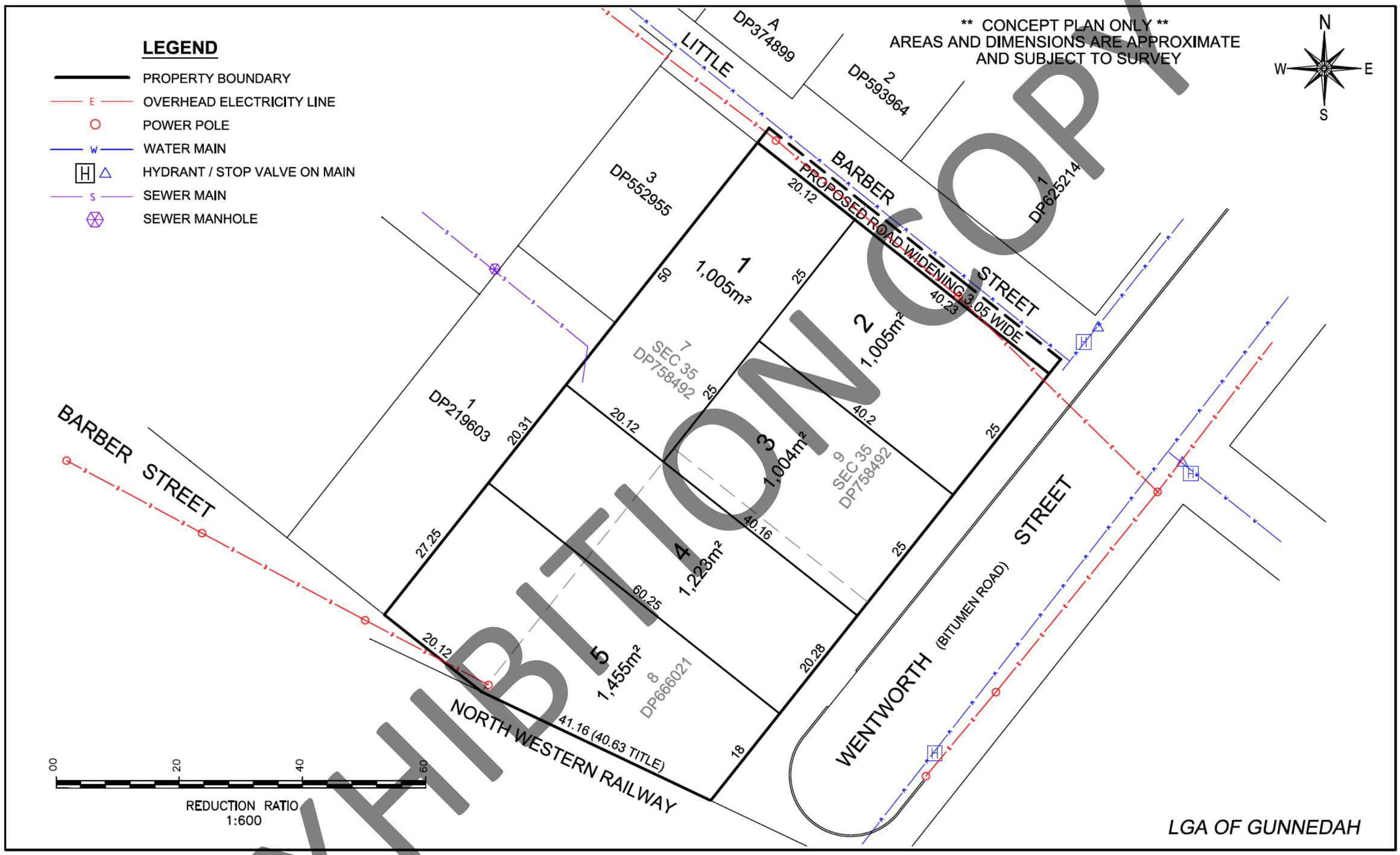
CLIENT: NEW PLEASANT INVESTMENT PTY LTD

PROJECT: No 16-24 WENTWORTH STREET, GUNNEDAH

DESCRIPTION:
CONCEPT PLAN
FOR THE PROPOSED SUBDIVISION OF
LOTS 7 AND 9 OF SECTION 35 IN
DP758492 AND LOT 8 IN DP666021

Date:	File Ref:	Drawn:	Scale:	Sheet:
3 JULY 2025	6235	CRS	1:600	



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CLIENT: AYB NOMINEES PTY LYD

PROJECT: No 16-24 WENTWORTH STREET, GUNNEDAH

DESCRIPTION: **EXISTING SERVICES PLAN** FOR PROPOSED SUBDIVISION OF LOTS 7 & 9 OF SECTION 35 IN DP758492 AND LOT 8 IN DP666021

Date:	File Ref:	Drawn:	Scale:	Sheet:
3 JULY 2025	6235	CRS/JA	1:600	1

LEGEND

- PROPERTY BOUNDARY
- W — PROPOSED WATER MAIN
- H — PROPOSED HYDRANT
- PROPOSED 20mm WATER CONNECTION
- S — PROPOSED SEWER MAIN
- PROPOSED SEWER MANHOLE
- PROPOSED 3m EASEMENT

NOTE
EXISTING SERVICES ARE SHOWN IN BLACK.
REFER TO SHEET 1 'EXISTING SERVICES PLAN'.

** CONCEPT PLAN ONLY **
AREAS AND DIMENSIONS ARE APPROXIMATE
AND SUBJECT TO SURVEY

N
W E
S

LITTLE
A DP374899
2 DP593964
3 DP552955
1 DP625214
BARBER STREET
PROPOSED ROAD WIDENING 3.05 WIDE
1 1,005m²
2 1,005m²
3 1,004m²
4 1,223m²
5 1,455m²
7 SEC 35 DP758492
9 SEC 35 DP758492
8 DP666021
1 DP219603
20.12
50
25
40.23
20.31
(X)
20.12
25
40.2
25
27.25
40.16
25
60.25
20.12
20.28
41.16 (40.63 TITLE)
18
NORTH WESTERN RAILWAY
WENTWORTH STREET (BITUMEN ROAD)

(X) EASEMENT TO DRAIN SEWAGE (3m WIDE)

00 20 40 60
REDUCTION RATIO
1:600

LGA OF GUNNEDAH

Stewart Surveys
Surveying, Environmental & Landscape Architecture
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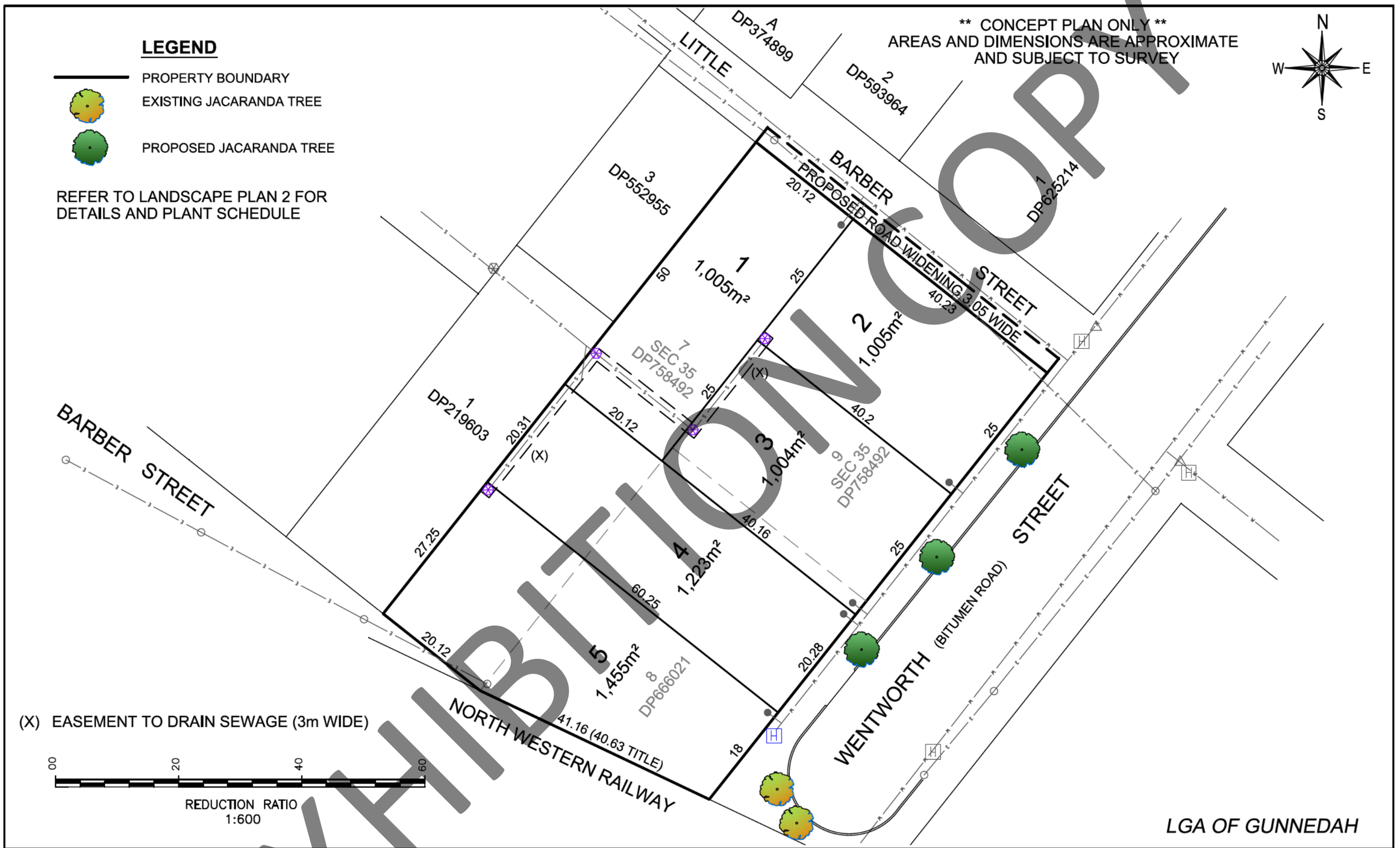
CLIENT: AYB NOMINEES PTY LYD

PROJECT: No 16-24 WENTWORTH STREET, GUNNEDAH

DESCRIPTION: **PROPOSED SERVICES PLAN** FOR PROPOSED SUBDIVISION OF LOTS 7 & 9 OF SECTION 35 IN DP758492 AND LOT 8 IN DP666021

Date:	File Ref:	Drawn:	Scale:	Sheet:
3 JULY 2025	6235	CRS/JA	1:600	2



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CLIENT: AYB NOMINEES PTY LYD

PROJECT: No 16-24 WENTWORTH STREET, GUNNEDAH

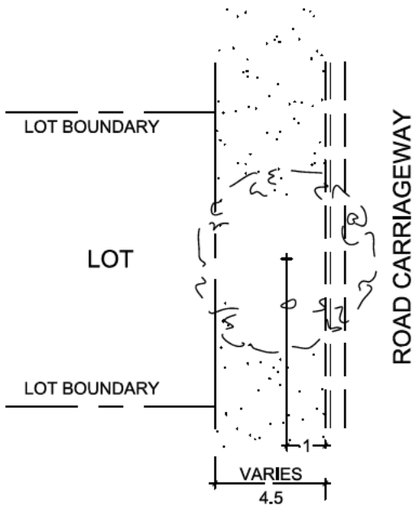
DESCRIPTION: **LANDSCAPE PLAN** FOR PROPOSED SUBDIVISION OF LOTS 7 & 9 OF SECTION 35 IN DP758492 AND LOT 8 IN DP666021

Date: 3 JULY 2025 | File Ref: 6235 | Drawn: CRS/JA | Scale: 1:600 | Sheet: 1

CENTERLINE OF STREET TREES ARE TO BE SETOUT 1000mm FROM KERB

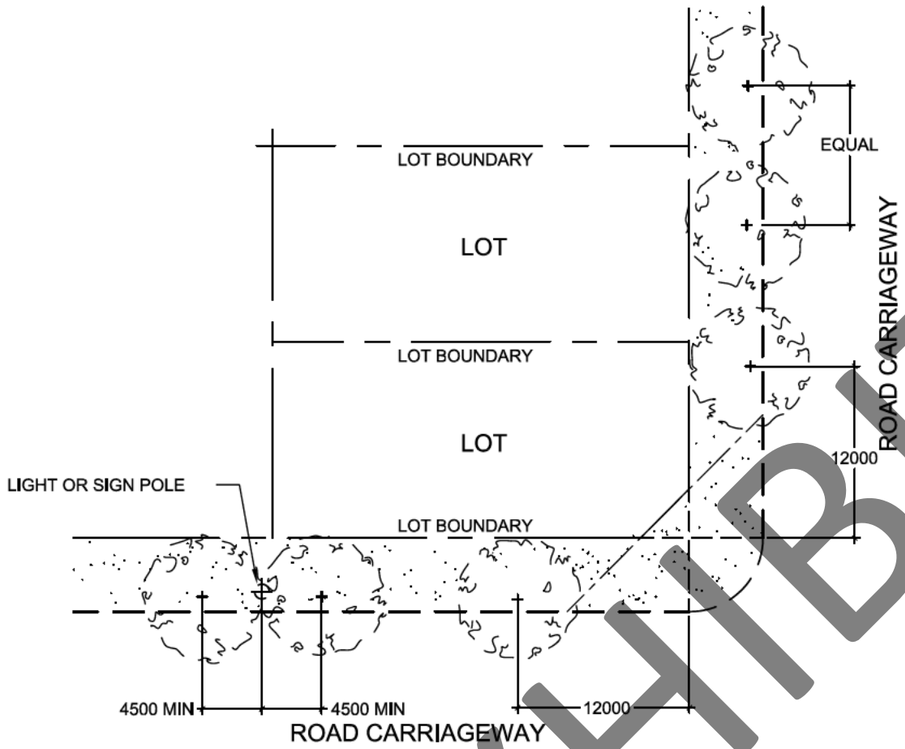
1.0 MIN. 3m CLEARANCE FROM DRIVEWAYS
2.0 MIN 3m. CLEARANCE FROM SERVICE LINES INTO LOTS
3.0 MIN. 3m CLEARANCE FROM LIGHT POLES
4.0 MIN. 3m CLEARANCE FROM STORMWATER OUTLETS
5.0 MIN. 1.5m CLEARANCE FROM STORMWATER PITS
6.0 MIN. 8m CLEARANCE FROM ROAD CORNER/INTERSECTION
7.0 MIN. 7m FROM PEDESTRIAN CROSSINGS
8.0 SPACING GENERALLY 15m

FINAL LOCATION OF STREET TREES TO BE DETERMINED ON SITE AS INSTRUCTED BY SUPERINTENDENT

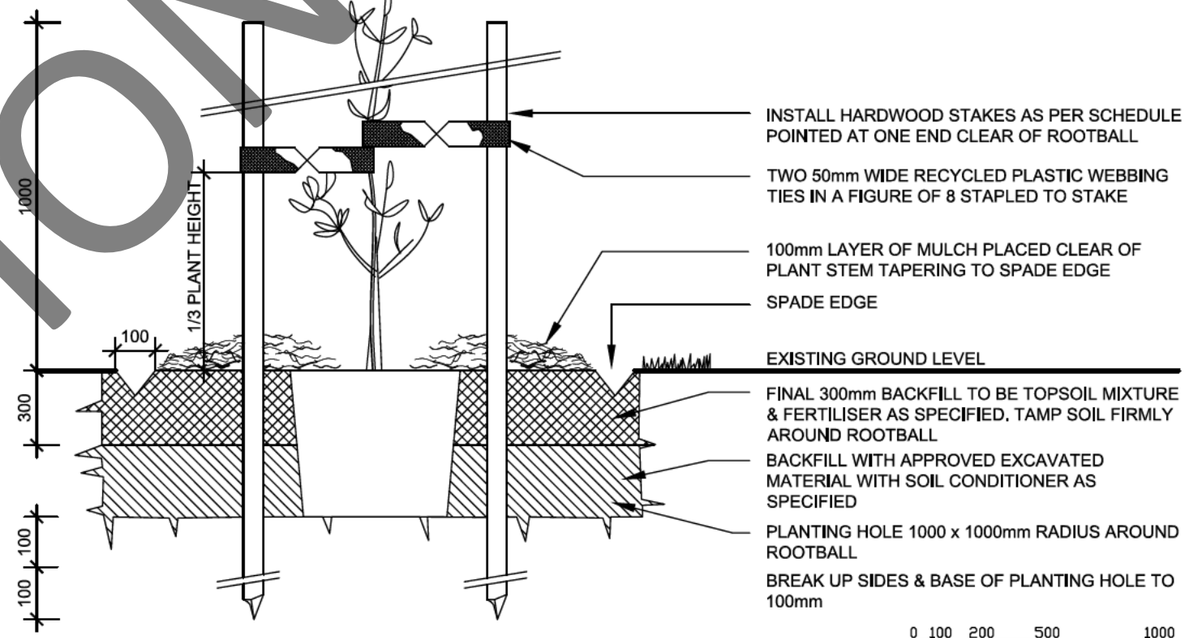


PLANT SCHEDULE

SYM	BOTANICAL NAME	POT SIZE	STAKING	HEIGHT	QTY
TREES					
	Jacaranda mimosifolia	20 Litre	2 x 50 x 50 x 1800	10x8	3
	Existing Jacaranda mimosifolia	N/a	N/a	10x8	2



STREET TREE SETOUT DETAIL



STREET TREE PLANTING DETAIL

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CLIENT: AYB NOMINEES PTY LYD

PROJECT: No 16-24 WENTWORTH STREET, GUNNEDAH

DESCRIPTION: **LANDSCAPE PLAN** FOR PROPOSED SUBDIVISION OF LOTS 7 & 9 OF SECTION 35 IN DP758492 AND LOT 8 IN DP666021

Date: 3 JULY 2025 | File Ref: 6235 | Drawn: CRS/JA | Scale: 1:600 | Sheet: 2

APPENDIX B

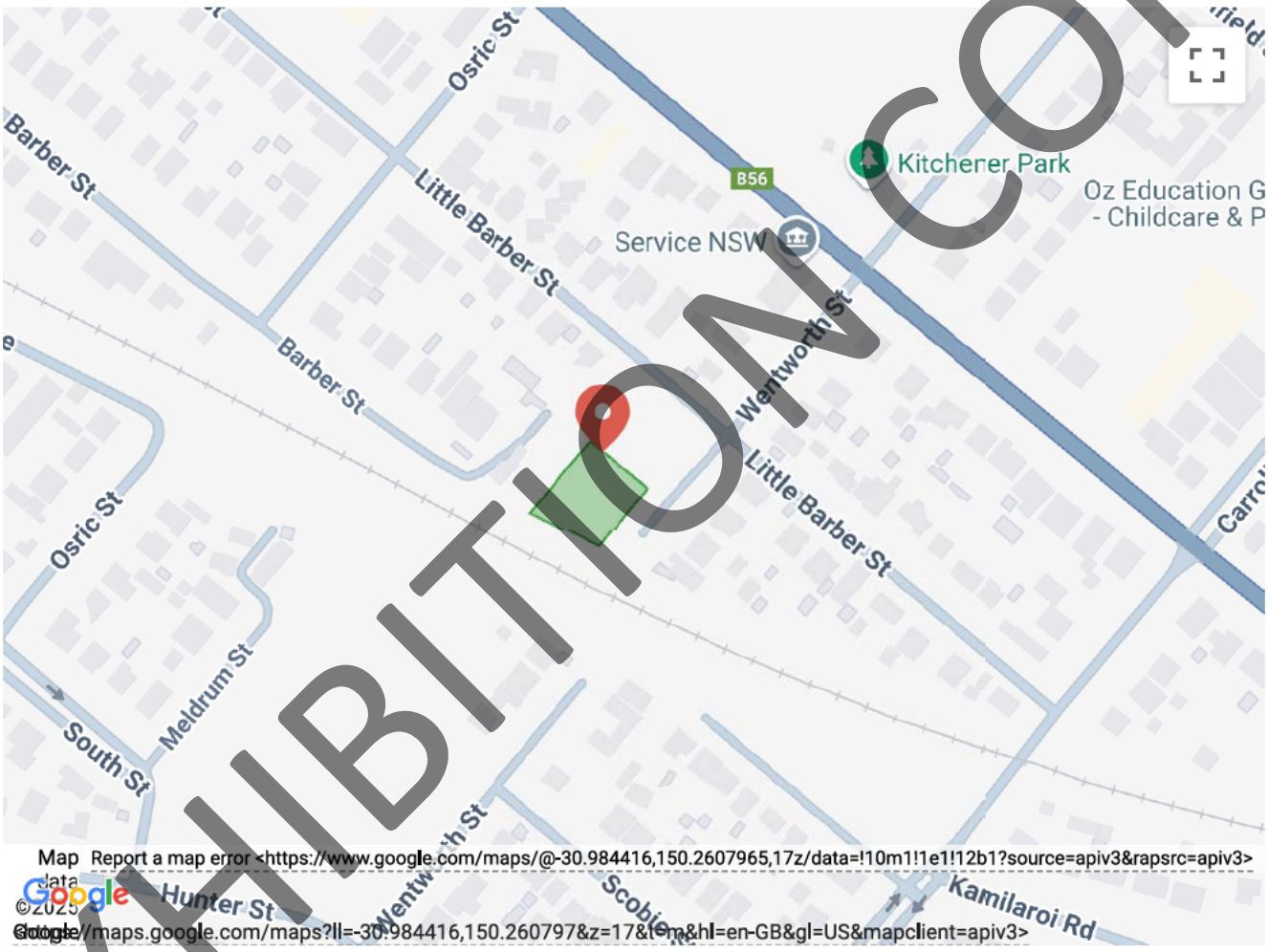
NEW SOUTH WALES RURAL FIRE SERVICE – BUSHFIRE PRONE LAND SEARCH

NSW RURAL FIRE SERVICE

Check if you're in bush fire prone land

This tool is best viewed on a desktop web browser.

Your Property



Your Property

You have conducted a search of the online bush fire prone land tool for the land in the map above. This search result is valid for the date the search was conducted. If you have any questions about the Bush Fire Prone Land Tool please contact bushfireprone.mapping@rfs.nsw.gov.au

The parcel of land selected is not identified as bush fire prone however you could still be affected by a bush fire.

Think about where you work, travel or holiday. These areas may be at risk of a bush fire.

Remember, discuss with your family about what to do if a bush fire were to happen near you. It may save your life, your

community and your family.

For more information on making a plan for bush fire check out our guide to making your bush fire survival plan <https://www.rfs.nsw.gov.au/plan-and-prepare/bush-fire-survival-plan> .

The NSW RFS provides extensive information and resources to assist people interested in preparing their homes and families against the risk of bush fires. Try some of the useful links below for more information:

- Download a guide to making your bush fire survival plan
- Download the Bush Fire and Your Home fact sheet
- Download the Prepare. Act. Survive fact sheet
- Visit our Farm Fire Safety page

New Search Print

APPENDIX C

ABORIGINAL HERITAGE INFORMATION MANAGEMENT SYSTEM SEARCH RESULTS

- LOT 7 OF SECTION 35 DP758492
- LOT 9 OF SECTION 35 DP758492
- LOT 8 DP666021

AHIMS Web Services (AWS)
Search Result

Your Ref/PO Number : 6235

Client Service ID : 1015570

Stewart Surveys

Date: 19 June 2025

PO Box 592
Gunnedah New South Wales 2380
Attention: Kathryn Stewart

[redacted]

Dear Sir or Madam:

AHIMS Web Service search for the following area at Lot : 7, DP:DP758492, Section : 35 with a Buffer of 50 meters, conducted by Kathryn Stewart on 19 June 2025.

The context area of your search is shown in the map below. Please note that the map does not accurately display the exact boundaries of the search as defined in the paragraph above. The map is to be used for general reference purposes only.

A search of Heritage NSW AHIMS Web Services (Aboriginal Heritage Information Management System) has shown that:

0	Aboriginal sites are recorded in or near the above location.
0	Aboriginal places have been declared in or near the above location. *

AHIMS Web Services (AWS)
Search Result

Your Ref/PO Number : 6235

Client Service ID : 1015574

Stewart Surveys

Date: 19 June 2025

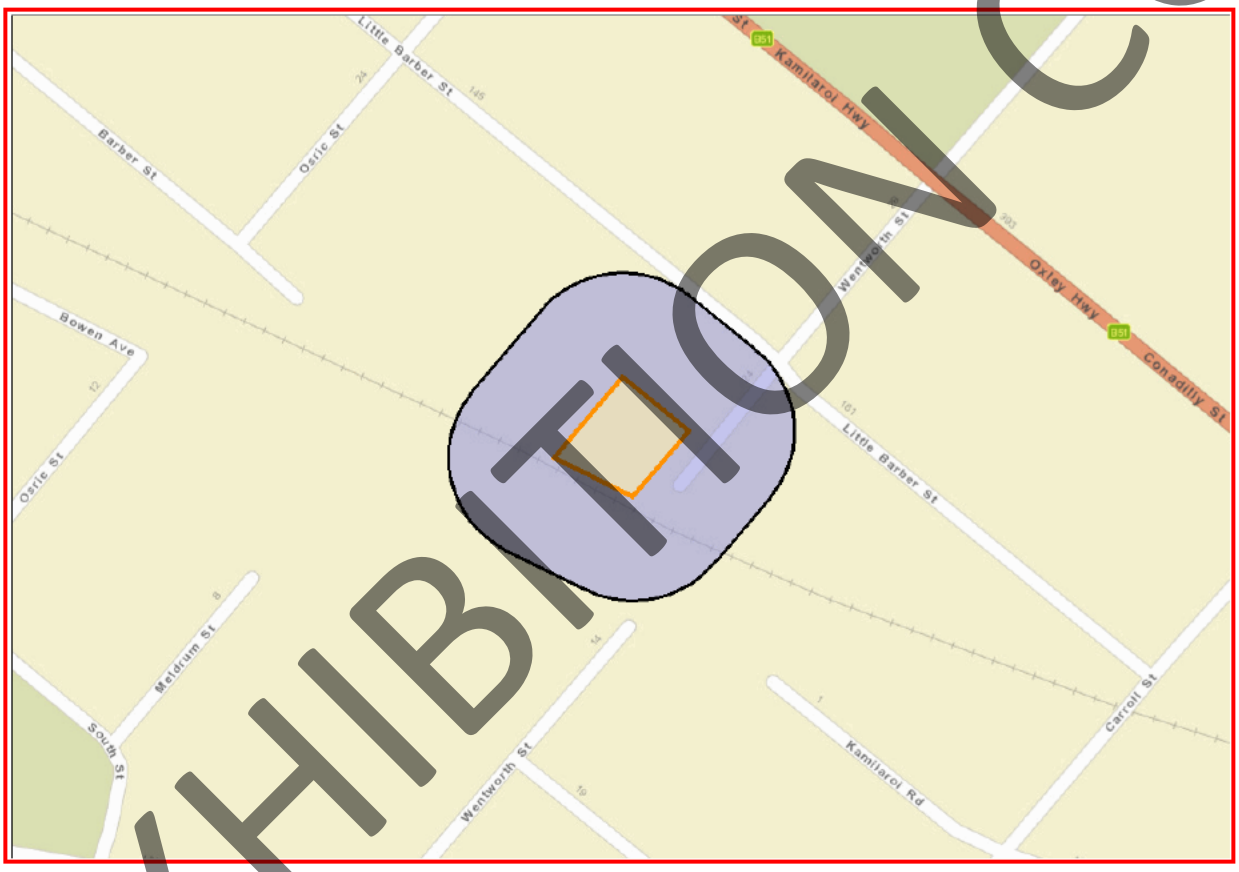
PO Box 592
Gunnedah New South Wales 2380
Attention: Kathryn Stewart

[redacted]

Dear Sir or Madam:

AHIMS Web Service search for the following area at Lot : 8, DP:DP666021, Section : - with a Buffer of 50 meters, conducted by Kathryn Stewart on 19 June 2025.

The context area of your search is shown in the map below. Please note that the map does not accurately display the exact boundaries of the search as defined in the paragraph above. The map is to be used for general reference purposes only.



A search of Heritage NSW AHIMS Web Services (Aboriginal Heritage Information Management System) has shown that:

0	Aboriginal sites are recorded in or near the above location.
0	Aboriginal places have been declared in or near the above location. *

AHIMS Web Services (AWS)
Search Result

Your Ref/PO Number : 6235

Client Service ID : 1015572

Stewart Surveys

PO Box 592

Gunnedah New South Wales 2380

Attention: Kathryn Stewart

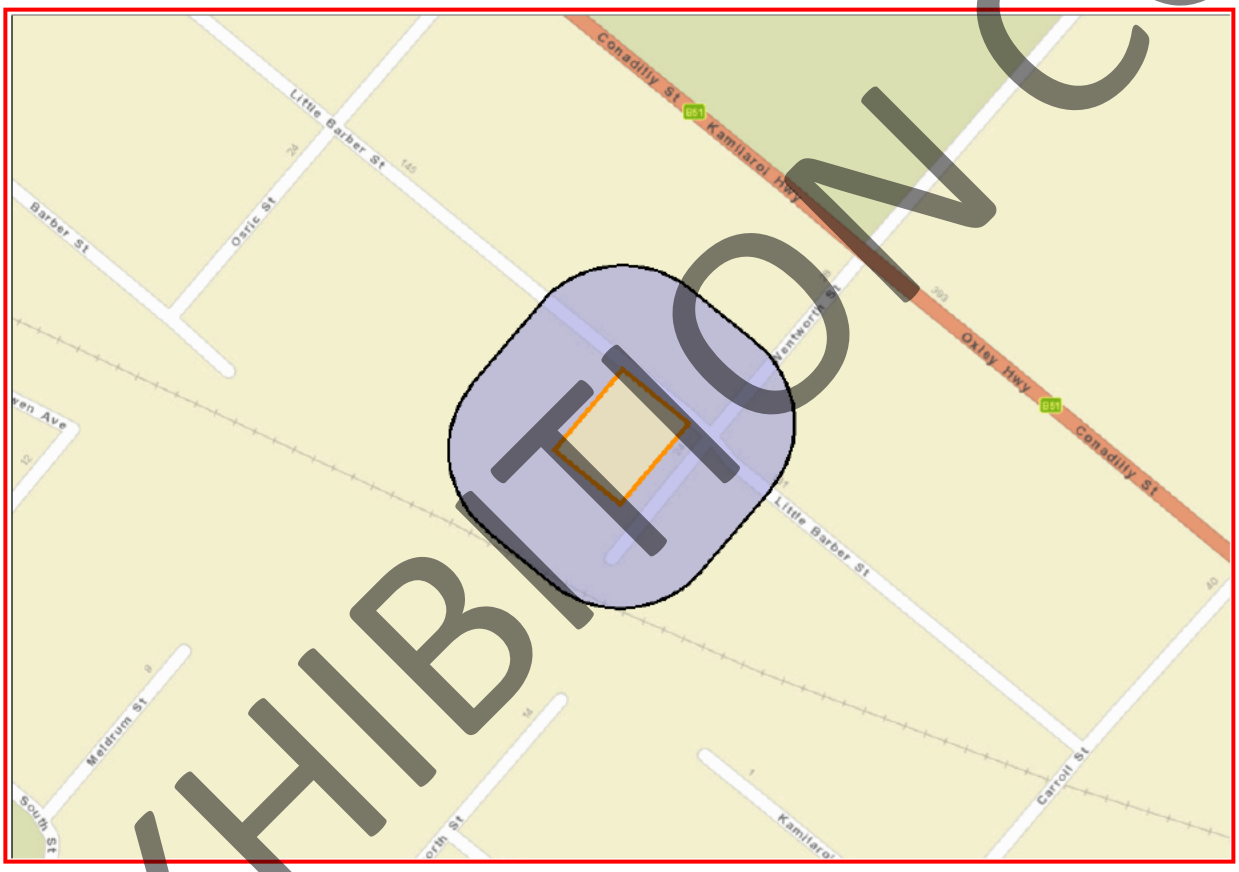
Date: 19 June 2025

[redacted]

Dear Sir or Madam:

AHIMS Web Service search for the following area at Lot : 9, DP:DP758492, Section : 35 with a Buffer of 50 meters, conducted by Kathryn Stewart on 19 June 2025.

The context area of your search is shown in the map below. Please note that the map does not accurately display the exact boundaries of the search as defined in the paragraph above. The map is to be used for general reference purposes only.



A search of Heritage NSW AHIMS Web Services (Aboriginal Heritage Information Management System) has shown that:

0	Aboriginal sites are recorded in or near the above location.
0	Aboriginal places have been declared in or near the above location. *

If your search shows Aboriginal sites or places what should you do?

- You must do an extensive search if AHIMS has shown that there are Aboriginal sites or places recorded in the search area.
- If you are checking AHIMS as a part of your due diligence, refer to the next steps of the Due Diligence Code of practice.
- You can get further information about Aboriginal places by looking at the gazettal notice that declared it. Aboriginal places gazetted after 2001 are available on the NSW Government Gazette (https://www.legislation.nsw.gov.au/gazette) website. Gazettal notices published prior to 2001 can be obtained from Heritage NSW upon request

Important information about your AHIMS search

- The information derived from the AHIMS search is only to be used for the purpose for which it was requested. It is not be made available to the public.
- AHIMS records information about Aboriginal sites that have been provided to Heritage NSW and Aboriginal places that have been declared by the Minister;
- Information recorded on AHIMS may vary in its accuracy and may not be up to date. Location details are recorded as grid references and it is important to note that there may be errors or omissions in these recordings,
- Some parts of New South Wales have not been investigated in detail and there may be fewer records of Aboriginal sites in those areas. These areas may contain Aboriginal sites which are not recorded on AHIMS.
- Aboriginal objects are protected under the National Parks and Wildlife Act 1974 even if they are not recorded as a site on AHIMS.
- This search can form part of your due diligence and remains valid for 12 months.

Level 6, 10 Valentine Ave, Parramatta 2150
Locked Bag 5020 Parramatta NSW 2124
Tel: (02) 9585 6345

ABN 34 945 244 274
Email: ahims@environment.nsw.gov.au
Web: www.heritage.nsw.gov.au

APPENDIX D

SOIL LANDSCAPE PROFILE

- FRW – FULLWOODS ROAD

frw	FULLWOODS ROAD	Transferral

Landscape— Extremely long (400 - 2,500 m) pediment footslopes comprised of coalescing alluvial fans below Permian and Triassic lithic sandstone hills. Slopes 2 - 8%, local relief <80 m, elevation 290 - 400 m. Mostly cleared open woodland.

Soils— Mostly degraded very deep to giant, moderately well-drained Red and Brown Chromosols (Red-brown Earths) with deep to very deep, well-drained Red Kandosols (Red Earths) common on upper footslopes.

Qualities and limitations— moderate soil fertility, localised foundation hazard, localised dieback, widespread recharge zone, localised discharge zone, localised salinity hazard, localised gully erosion hazard, localised sheet erosion hazard, widespread high run-on, localised permanently high watertables.

LOCATION AND SIGNIFICANCE

Long pediment footslopes and alluvial fans derived from Permian and Triassic sandstone hills in the Curlewis Hills. Type location is E end of Fullwoods Rd, 8 km SE of Curlewis and 17 km NW of Breeza (MGA grid reference 242500E, 6548900N, grid zone 56).

Variants

None.

Included landscapes

None.

LANDSCAPE

Landform

Coalescing alluvial fan systems on long (400 - 2,500 m) pediment footslopes below Permian and Triassic sandstone hills, with slopes between 2 - 8%, local relief <80 m and elevation ranging from 290 - 400 m. Upper slopes are steeper with gradients up to 8% and incised drainage lines, whilst lower slopes are dominated by sheetflow with a few gullies.

Localised saline outbreaks are found in the floors of deep gullies and along lower footslopes, particularly where subsurface drainage may be impeded, e.g., by roads.

Geology

Quaternary alluvial/colluvial complex derived from Permian and Triassic sandstones and conglomerates deposited as a complex of interlocking fans. Depth to bedrock is generally >6 m. Most of the fan material overlies Permian sandstones and conglomerates.

Vegetation

Open woodland mostly cleared originally for agriculture. Dominant species which occur in remnant patches of vegetation and in regrowth areas include Eucalyptus albens (white box), E. melliodora (yellow box), E. populnea (bimble box), E. pilligaensis (pilliga box), Casuarina cristata (belah), Brachychiton populneus (kurrajong), Geijera parviflora (wilga), Heterodendron oleifolium (rosewood), Eremophila mitchellii (budda), Acacia deanei ssp. deanei (Deane's wattle), A. aneura (mulga), and A. harpophylla (brigalow).

Ground cover species include Stipa spp. (spear grasses), Aristida spp. (wire grasses), Bothriochloa ambigua (red grass), Dicanthium sericeum (blue grass), Eragrostis spp. (love grasses) and Panicum spp. (panics).

Climate

Estimated average annual rainfall ranges from 560 - 640 mm/year.

Hydrology

Not recorded.

Land use

Most of this soil landscape was originally cleared for cultivation, though grazing of cattle and sheep on improved pastures is now the dominant land use. Cropping is generally carried out in rotation with pasture phases, although some continuous cropping may still be found.

Land degradation

Severe gully erosion is associated with previously intensive cropping, and most gullies are relatively stable. Severe sheet and rill erosion is common in some areas. Structural decline from previous continuous cropping systems is evident in the form of plough pans, and where continuous cultivation is still carried out the remaining topsoil has become a dense compacted mass. Saline outbreaks are found on lower footslopes and fans and in association with structural controls such as roads.

Erosion hazard

Land use	Non-concentrated flows	Concentrated flows	Wind
cultivation	moderate	high	moderate
grazing	low	moderate	low

SOILS

Soil Variation and Distribution

Upper footslopes are dominated by deep to very deep, well-drained Red Kandosols (Red Earths), with total soil depth <2 m. Mid to lower footslopes are generally dominated by very deep to giant, moderately well-drained Red and Brown Chromosols (Red-brown Earths), with total soil depth often >5 m.

QUALITIES AND LIMITATIONS

Capabilities

Land and Soil Capability	5	**Urban Capability**	A
Soil Regolith Class	R4 (R3)		

Limitations to Land Use

Grazing	low	**Cultivation**	moderate to high
Urban	low to moderate		

Landscape

Steep slopes	not observed	**Mass movement hazard**	not observed
Rock outcrop	not observed	**Rockfall hazard**	not observed

Foundation hazard	localised	**Woody weeds**	not observed
Complex terrain	not observed	**Productive arable land**	not observed
Soils			
Shallow soils	not observed	**Poor moisture availability**	not observed
Non-cohesive soils	not observed	**Soil fertility**	moderate
Hydrology			
High run-on	widespread	**Poor drainage**	not observed
Permanently high watertables	localised	**Permanent waterlogging**	not observed
Seasonal waterlogging	not observed	**Flood hazard**	not observed
Erosion			
Wind erosion hazard	not observed	**Wave erosion hazard**	not observed
Gully erosion hazard	localised	**Sheet erosion hazard**	localised
Streambank erosion hazard	not observed		
Salinity			
Recharge zone	widespread	**Discharge zone**	localised
Salinity hazard	localised	**Seepage scalds**	localised

FACETS

frw(1)— Upper footslopes

Soils	Deep to very deep, well-drained Red Kandosols (Red Earths).
Type Profile	Soil Landscapes of the Curlewis 1:100 000 Sheet (1000212), profile 27.

frw(2)— Mid to lower footslopes

Soils	Very deep to giant, moderately well-drained Red Chromosols and Sodosols (Red-brown Earths and Solodic soils).
Type Profile	Soil Landscapes of the Curlewis 1:100 000 Sheet (1000212), profile 53.

LAND MANAGEMENT RECOMMENDATIONS

Contour banks and strip cropping is necessary to control sheetflow, especially in cropping systems but also beneficial on steeper upper footslopes in grazing systems. Cropping should be in rotation with pasture, with a maximum of 3 years under crop and a minimum of 3 years in continuous pasture. Tree cover of >10% in stands should be retained or promoted by planting or regeneration.

A buffer strip of native vegetation (planted or regenerated trees or pasture) should be maintained along the plain-footslope/fan boundary to lower locally high watertables and thereby reduce dryland salinity hazard.

Subsoil materials are generally unsuitable for earthworks, as some are susceptible to tunnelling or piping whilst others are highly expansive. Likewise some subsoils may provide difficulties in designing and constructing buildings, footings and drainage systems.

NOTES

(1) This report describes soil landscape information mapped at 1:100,000 scale and does not negate the need for site assessment at a scale suitable to the land use or development under consideration.

(2) 'Not observed' means unlikely to be found. 'Localised' means observed to a level considered significant for land management. 'Widespread' means prevalent and significant over most of the landscape. 'None recorded' means no

occurrence has been recorded. 'Not assessed' means no result has been recorded for this attribute and it may or may not be present in the soil landscape.

APPENDIX E

BIODIVERSITY THRESHOLD SEARCH TOOL

NSW GOVERNMENT Department of Planning and Environment

Biodiversity Values Map and Threshold Report

This report is generated using the Biodiversity Values Map and Threshold (BMAT) tool. The BMAT tool is used by proponents to supply evidence to your local council to determine whether or not a Biodiversity Development Assessment Report (BDAR) is required under the Biodiversity Conservation Regulation 2017 (Cl. 7.2 & 7.3).

The report provides results for the proposed development footprint area identified by the user and displayed within the blue boundary on the map.

There are two pathways for determining whether a BDAR is required for the proposed development:

1. Is there Biodiversity Values Mapping?
2. Is the 'clearing of native vegetation area threshold' exceeded?

Biodiversity Values Map and Threshold Report

Date of Report Generation		18/06/2025 4:17 PM
1. Biodiversity Values (BV) Map - Results Summary (Biodiversity Conservation Regulation Section 7.3)		
1.1	**Does the development Footprint intersect with BV mapping?**	no
1.2	**Was ALL BV Mapping within the development footprinted added in the last 90 days?** (dark purple mapping only, no light purple mapping present)	no
1.3	**Date of expiry of dark purple 90 day mapping**	N/A
1.4	**Is the Biodiversity Values Map threshold exceeded?**	no
2. Area Clearing Threshold - Results Summary (Biodiversity Conservation Regulation Section 7.2)		
2.1	**Size of the development or clearing footprint**	5,884.8 sqm
2.2	**Native Vegetation Area Clearing Estimate (NVACE)** (within development/clearing footprint)	34.2 sqm
2.3	**Method for determining Minimum Lot Size**	LEP
2.4	**Minimum Lot Size** (10,000sqm = 1ha)	450 sqm
2.5	**Area Clearing Threshold** (10,000sqm = 1ha)	2,500 sqm
2.6	**Does the estimate exceed the Area Clearing Threshold?** (NVACE results are an estimate and can be reviewed using the Guidance)	no
REPORT RESULT: Is the Biodiversity Offset Scheme (BOS) Threshold exceeded for the proposed development footprint area? (Your local council will determine if a BDAR is required)		**no**

What do I do with this report?

• If the result above indicates the BOS Threshold has been exceeded, your local council **may require** a Biodiversity Development Assessment Report with your development application. Seek further advice from Council. An accredited assessor can apply the Biodiversity Assessment Method and prepare a BDAR for you. For a list of accredited assessors go to: https://customer.lmbc.nsw.gov.au/assessment/AccreditedAssessor.

• If the result above indicates the BOS Threshold has not been exceeded, you may not require a Biodiversity Development Assessment Report. This BMAT report can be provided to Council to support your development application. Council can advise how the area clearing threshold results should be considered. Council will review these results and make a determination if a BDAR is required. Council may ask you to review the area clearing threshold results. You may also be required to assess whether the development is '"likely to significantly affect threatened species" as determined under the test in Section 7.3 of the *Biodiversity Conservation Act 2016*.

• If a BDAR is not required by Council, you may still require a permit to clear vegetation from your local council.

• If **all** Biodiversity Values mapping within your development footprint was less than 90 days old, i.e. areas are displayed as dark purple on the BV map, a BDAR may not be required if your Development Application is submitted within that 90 day period. Any BV mapping less than 90 days old on this report will expire on the date provided in Line item 1.3 above.

For more detailed advice about actions required, refer to the **Interpreting the evaluation report** section of the Biodiversity Values Map Threshold Tool User Guide .

Review Options:

• If you believe the Biodiversity Values mapping is incorrect please refer to our BV Map Review webpage for further information.

• If you or Council disagree with the area clearing threshold estimate results from the NVACE in Line Item 2.6 above (i.e. area of Native Vegetation within the Development footprint proposed to be cleared), review the results using the Guide for reviewing area clearing threshold results from the BMAT Tool.

Acknowledgement

I, as the applicant for this development, submit that I have correctly depicted the area that will be impacted or likely to be impacted as a result of the proposed development.

Signature: Kathryn Stewart Date: 18/06/2025 04:17 PM

(Typing your name in the signature field will be considered as your signature for the purposes of this form)

Biodiversity Values Map and Threshold Tool

The Biodiversity Values (BV) Map and Threshold Tool identifies land with high biodiversity value, particularly sensitive to impacts from development and clearing.

The BV map forms part of the Biodiversity Offsets Scheme threshold, which is one of the factors for determining whether the Scheme applies to a clearing or development proposal. You have used the Threshold Tool in the map viewer to generate this BV Threshold Report for your nominated area. This report calculates results for your proposed development footprint and indicates whether Council may require you to engage an accredited assessor to prepare a Biodiversity Development Assessment Report (BDAR) for your development.

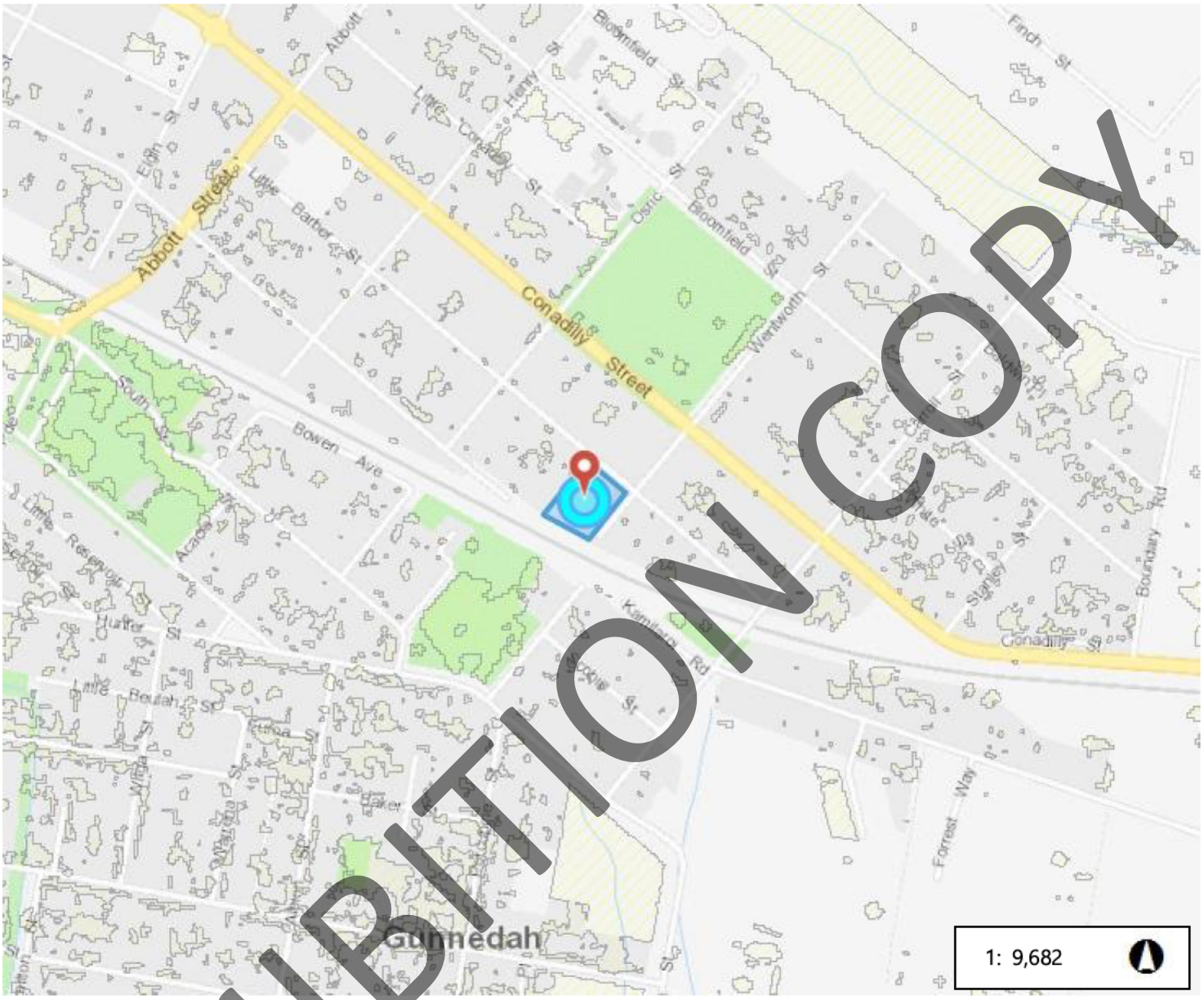
This report may be used as evidence for development applications submitted to councils. You may also use this report when considering native vegetation clearing under the State Environmental Planning Policy (Biodiversity and Conservation) 2021 - Chapter 2 vegetation in non-rural areas.

What's new? For more information about the latest updates to the Biodiversity Values Map and Threshold Tool go to the updates section on the Biodiversity Values Map webpage.

Map Review: Landholders can request a review of the BV Map where they consider there is an error in the mapping on their property. For more information about the map review process and an application form for a review go to the Biodiversity Values Map Review webpage.

If you need help using this map tool see our Biodiversity Values Map and Threshold Tool User Guide or contact the Map Review Team at map.review@environment.nsw.gov.au or on 1800 001 490.

Biodiversity Values Map



491.8 0 245.91 491.8 Metres

WGS_1984_Web_Mercator_Auxiliary_Sphere

Legend

- Biodiversity Values that have been mapped for more than 90 days
- Biodiversity Values added within last 90 days
- Native Vegetation Area Clearing Estimate (NVACE)
- Development area selected by proponent

18/06/2025 04:17 PM

The results provided in this tool are generated using the best available mapping and knowledge of species habitat requirements.

This map is valid as at the date the report was generated. Checking the Biodiversity Values Map viewer for mapping updates is recommended.

APPENDIX F

CONTAMINATION ASSESSMENT FOR STATE ENVIRONMENTAL PLANNING (RESILIENCE & HAZARDS) 2021

Golder Associates Pty Ltd, 17 May 2019, Mobil former depot, Gunnedah (NA02) No Further Action Report, Ref. 1418584-307-L-Rev1.

APPENDIX G

CERTIFICATE OF TITLE

LAND REGISTRY SERVICES **Title Search**

InfoTrack

NEW SOUTH WALES LAND REGISTRY SERVICES - TITLE SEARCH

FOLIO: 8/666021

SEARCH DATE	TIME	EDITION NO	DATE
3/8/2018	10:10 AM	-	-

VOL 3499 FOL 17 IS THE CURRENT CERTIFICATE OF TITLE

LAND

LOT 8 IN DEPOSITED PLAN 666021
AT GUNNEDAH
LOCAL GOVERNMENT AREA GUNNEDAH
PARISH OF GUNNEDAH COUNTY OF POTTINGER
TITLE DIAGRAM DP666021

FIRST SCHEDULE

VACUUM OIL COMPANY PROPRIETARY LIMITED

SECOND SCHEDULE (1 NOTIFICATION)

1 RESERVATIONS AND CONDITIONS IN THE CROWN GRANT(S)

NOTATIONS

UNREGISTERED DEALINGS: NIL

*** END OF SEARCH ***

LAND REGISTRY SERVICES **Title Search** InfoTrack

NEW SOUTH WALES LAND REGISTRY SERVICES - TITLE SEARCH

FOLIO: AUTO CONSOL 2055-182

SEARCH DATE	TIME	EDITION NO	DATE
3/8/2018	10:38 AM	-	-

VOL 2055 FOL 182 IS THE CURRENT CERTIFICATE OF TITLE

LAND

LAND DESCRIBED IN SCHEDULE OF PARCELS
AT GUNNEDAH
LOCAL GOVERNMENT AREA GUNNEDAH
PARISH OF WEETALIBA COUNTY OF NANDEWAR
PARISH OF GUNNEDAH COUNTY OF POTTINGER
TITLE DIAGRAM CROWN PLAN 13.1619

FIRST SCHEDULE

THE VACUUM OIL COMPANY PROPRIETARY LIMITED (T B513567)

SECOND SCHEDULE (1 NOTIFICATION)

1 RESERVATIONS AND CONDITIONS IN THE CROWN GRANT(S)

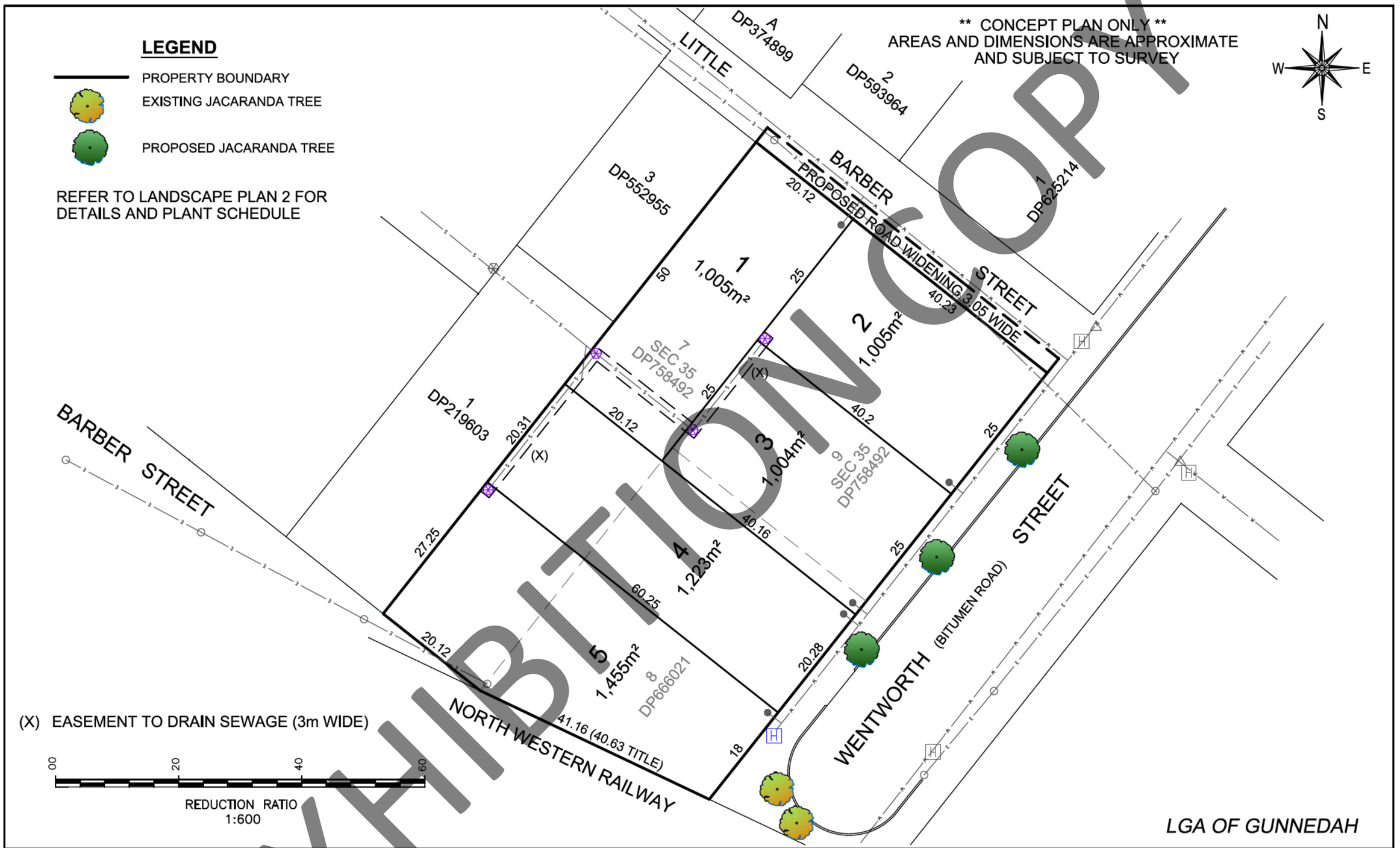
NOTATIONS

UNREGISTERED DEALINGS: NIL

SCHEDULE OF PARCELS

LOT 7 SEC. 35 IN DP758492
LOT 9 SEC. 35 IN DP758492.

*** END OF SEARCH ***



Stewart Surveys
Surveying, Environmental & Landscape Architecture
109 Conadilly Street
P.O. Box 592
GUNNEDAH NSW 2380
T 02 67422966
E office@stewartsurveys.com
ABN 65 002 886 508

NOTES:
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CLIENT: AYB NOMINEES PTY LYD

PROJECT: No 16-24 WENTWORTH STREET, GUNNEDAH

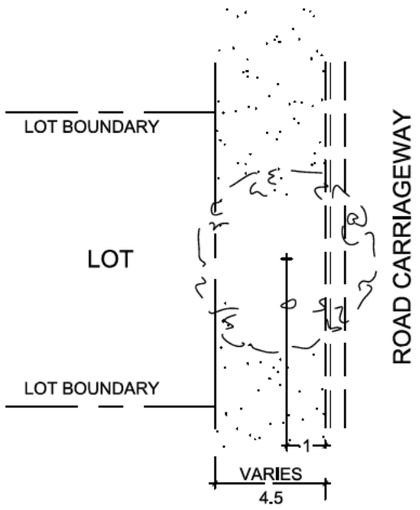
DESCRIPTION: **LANDSCAPE PLAN** FOR PROPOSED SUBDIVISION OF LOTS 7 & 9 OF SECTION 35 IN DP758492 AND LOT 8 IN DP666021

Date: 3 JULY 2025 | File Ref: 6235 | Drawn: CRS/JA | Scale: 1:600 | Sheet: 1

CENTERLINE OF STREET TREES ARE TO BE SETOUT 1000mm FROM KERB

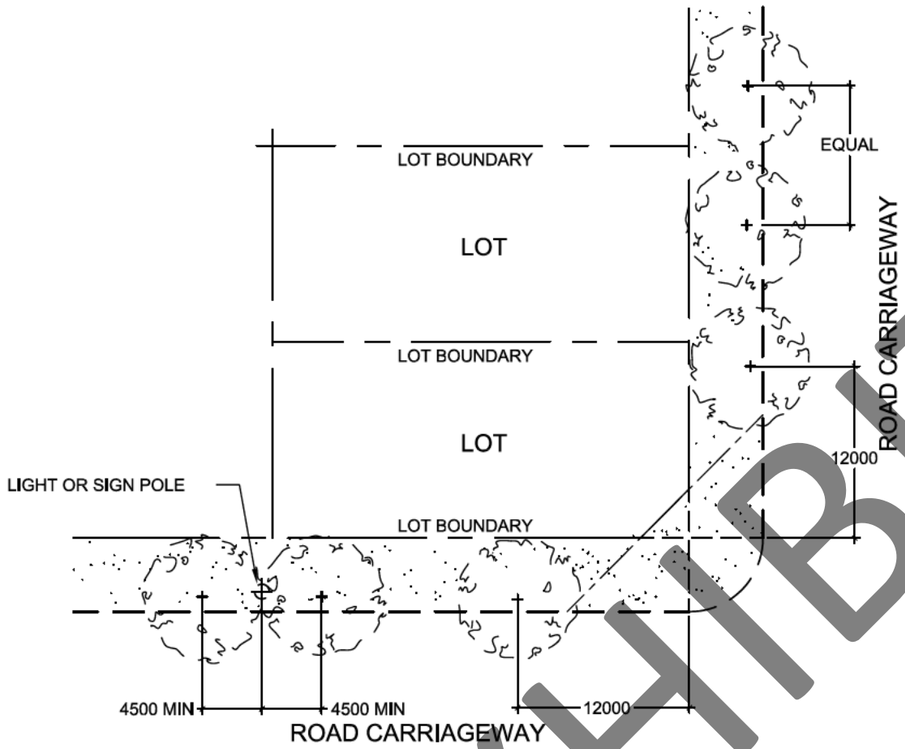
1.0 MIN. 3m CLEARANCE FROM DRIVEWAYS
2.0 MIN 3m. CLEARANCE FROM SERVICE LINES INTO LOTS
3.0 MIN. 3m CLEARANCE FROM LIGHT POLES
4.0 MIN. 3m CLEARANCE FROM STORMWATER OUTLETS
5.0 MIN. 1.5m CLEARANCE FROM STORMWATER PITS
6.0 MIN. 8m CLEARANCE FROM ROAD CORNER/INTERSECTION
7.0 MIN. 7m FROM PEDESTRIAN CROSSINGS
8.0 SPACING GENERALLY 15m

FINAL LOCATION OF STREET TREES TO BE DETERMINED ON SITE AS INSTRUCTED BY SUPERINTENDENT

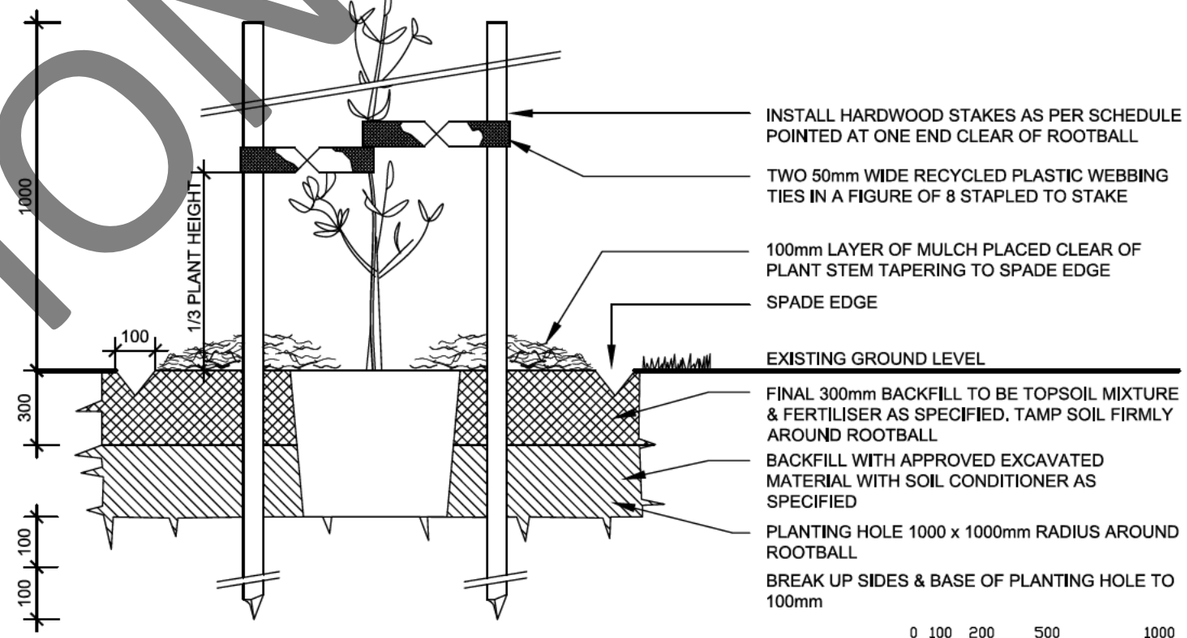


PLANT SCHEDULE

SYM	BOTANICAL NAME	POT SIZE	STAKING	HEIGHT	QTY
TREES					
	Jacaranda mimosifolia	20 Litre	2 x 50 x 50 x 1800	10x8	3
	Existing Jacaranda mimosifolia	N/a	N/a	10x8	2



STREET TREE SETOUT DETAIL



STREET TREE PLANTING DETAIL

Stewart Surveys
Surveying, Environmental & Landscape Architecture
109 Conadilly Street
P.O. Box 592
GUNNEDAH NSW 2380
T 02 67422966
E office@stewartsurveys.com
ABN 65 002 886 508

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CLIENT: AYB NOMINEES PTY LYD

PROJECT: No 16-24 WENTWORTH STREET, GUNNEDAH

DESCRIPTION: **LANDSCAPE PLAN** FOR PROPOSED SUBDIVISION OF LOTS 7 & 9 OF SECTION 35 IN DP758492 AND LOT 8 IN DP666021

Date: 3 JULY 2025 | File Ref: 6235 | Drawn: CRS/JA | Scale: 1:600 | Sheet: 2

DEVELOPMENT APPLICATION

Site Servicing Strategy

Subdivision of Lots 7 and 9 of Section 35 in DP758492 and Lot 8 in DP666021

16-24 Wentworth Street, Gunnedah

File Reference: 6235

Date: 16 July 2025

Prepared For: AYB Nominees Pty Ltd.

Stewart Surveys Pty Ltd

107-109 Conadilly Street Gunnedah, PO Box 592 Gunnedah, NSW, 2380 office@stewartsurveys.com

DOCUMENT CONTROLS

Proponent	**AYB Nominees Pty Ltd**
Document Description	Site Servicing Strategy
File Reference	6235
Date	**16 July 2025**
Prepared for	**Client Name: AYB Nominees Pty Ltd** [redacted]
Prepared by	**Kathryn Stewart** Bachelor of Landscape Architecture (UNSW) Masters of Environmental Management (UNSW) Registered Landscape Architect (#001493) **Felicity Stevens** Bachelor of Sustainability (UNE) Stewart Surveys Pty Ltd ABN: 65 002 886 508 PO Box 592, Gunnedah NSW 2380 (02) 6742 2966 Office@stewartsurveys.com
Site Particulars	**Lot Particulars:** Lots 7 and 9 of Section 35 in DP758492 and Lot 8 in DP666021. **Address:** 16-24 Wentworth Street, Gunnedah **Local Government Area: Gunnedah**

TABLE OF CONTENTS

LIST OF FIGURES

INTRODUCTION

This servicing strategy has been prepared in support of the proposed five (5) lot subdivision of Lots 7 and 9, Section 35 in DP 758492, and Lot 8 in DP 666021, located at 18-24 Wentworth Street, Gunnedah.

The strategy addresses the relevant provisions of the Gunnedah Development Control Plan 2025 (DCP), specifically Part G.5 – Subdivision Controls. It includes a review of the existing infrastructure surrounding the site and outlines the proposed infrastructure upgrades and extensions required to support the development.

The proposed service locations shown in this strategy are preliminary only and subject to development approval by Gunnedah Shire Council, and full survey and engineering review during the detailed design phase following development application approval.

All works are to meet Gunnedah Shire Council's standard specifications, outlined in the Gunnedah Shire Council Engineering Guidelines for Subdivisions and Development, Version 2.0 Dated August 2013 and relevant Australian Standards.

This servicing strategy will address the proposed extension of sewer, water reticulation, electricity and telecommunications services to the new development. This report should be read in conjunction with the appended site services strategy plans.

1. EXISTING SERVICES

The site is located within Gunnedah Shire Council's water and sewer reticulation area.

Figure 1 Council records indicate the presence of existing water, stormwater, and sewer services in proximity to the site. A Council-owned water main is located along both Little Barber Street and Wentworth Street, providing water service coverage to the area.

A reticulated sewer line extends from the adjoining Lot 1 DP 219603 west of the site into the proposed Lot 1 of the subdivision. There is a sewer vent at the termination of the line on the subject site.

These existing services will be retained and extended to service the subdivision.

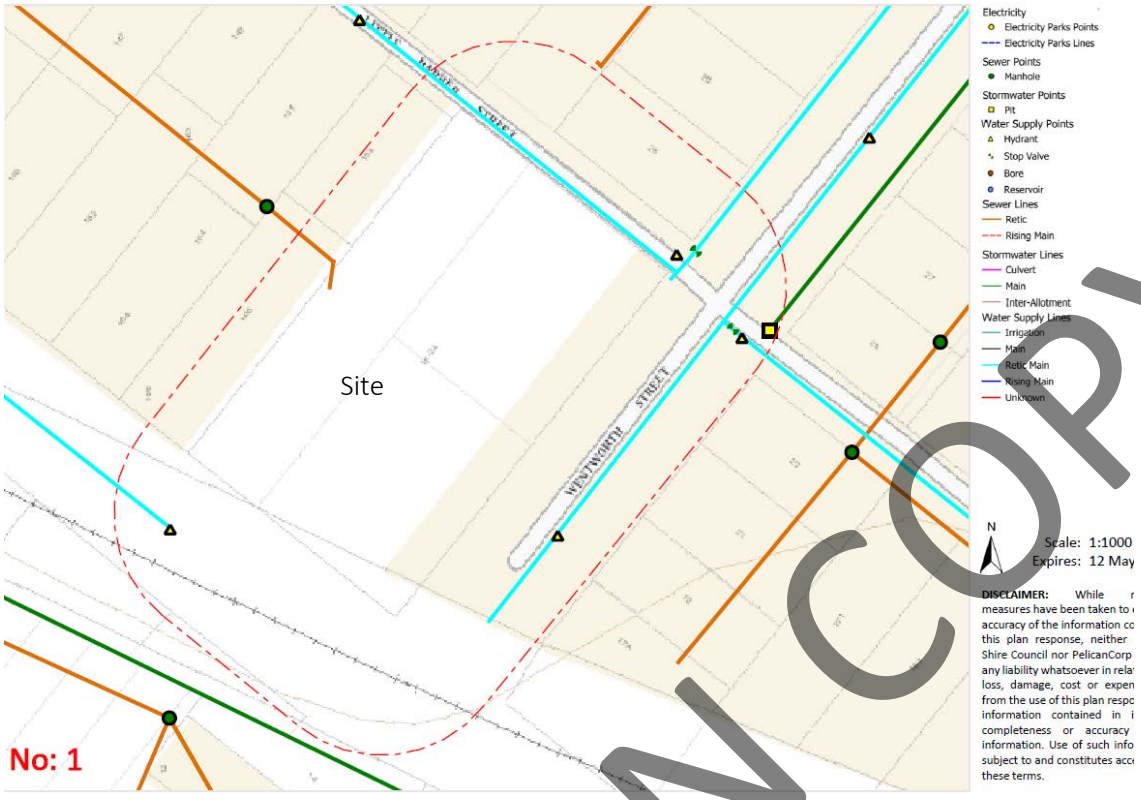


Figure 1: Existing Water Reticulation Services (Gunnedah Shire Council March 2024)

Figure 2 shows the existing services on the plan of proposed subdivision. A scaled copy of this plan is appended to this report.

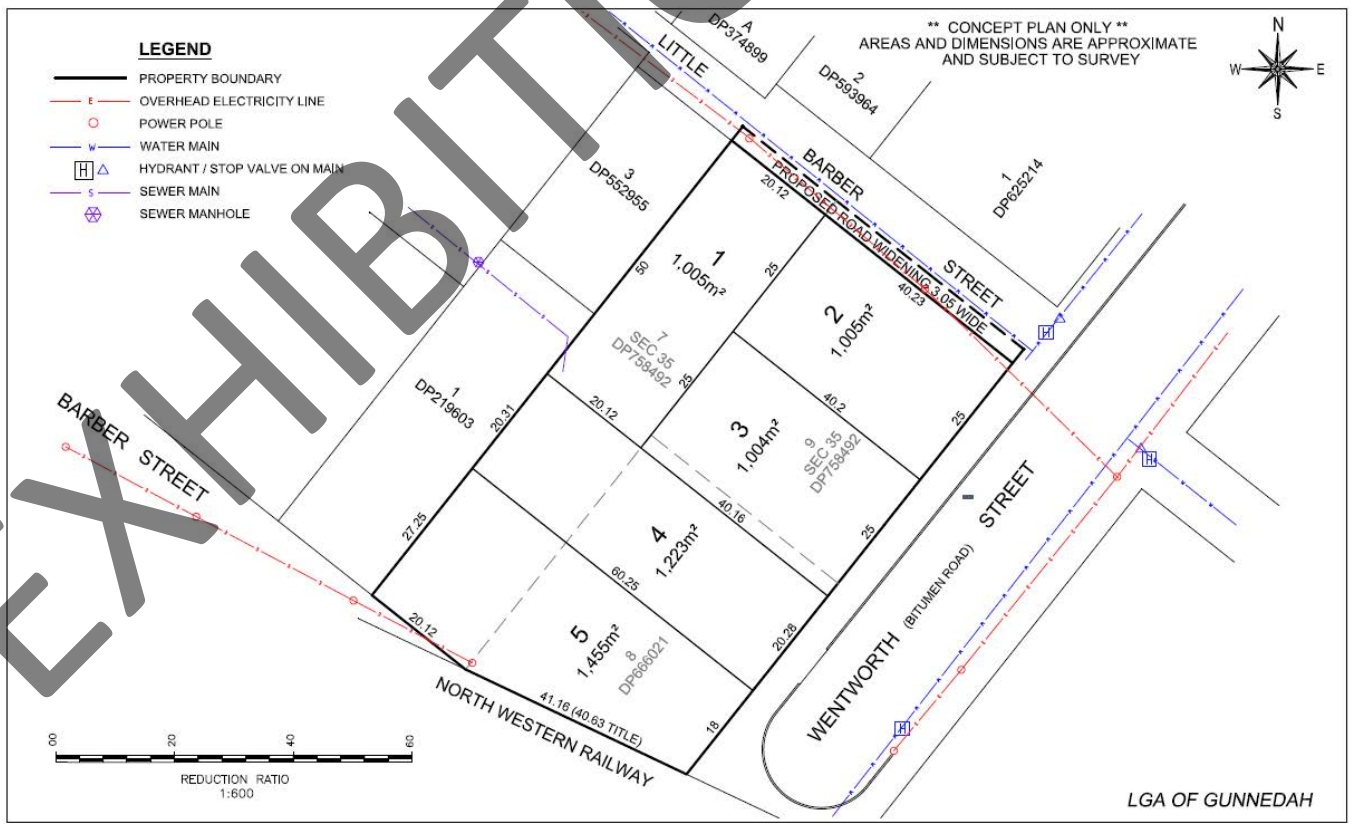


Figure 2: Existing Services Plan (Source: Stewart Surveys Pty Ltd)

2. PROPOSED SERVICES

The following section of this report outlines the proposed new services as part of this development. **Figure 3** shows the proposed services on the plan of proposed subdivision. A scaled copy of this plan is appended to this report.

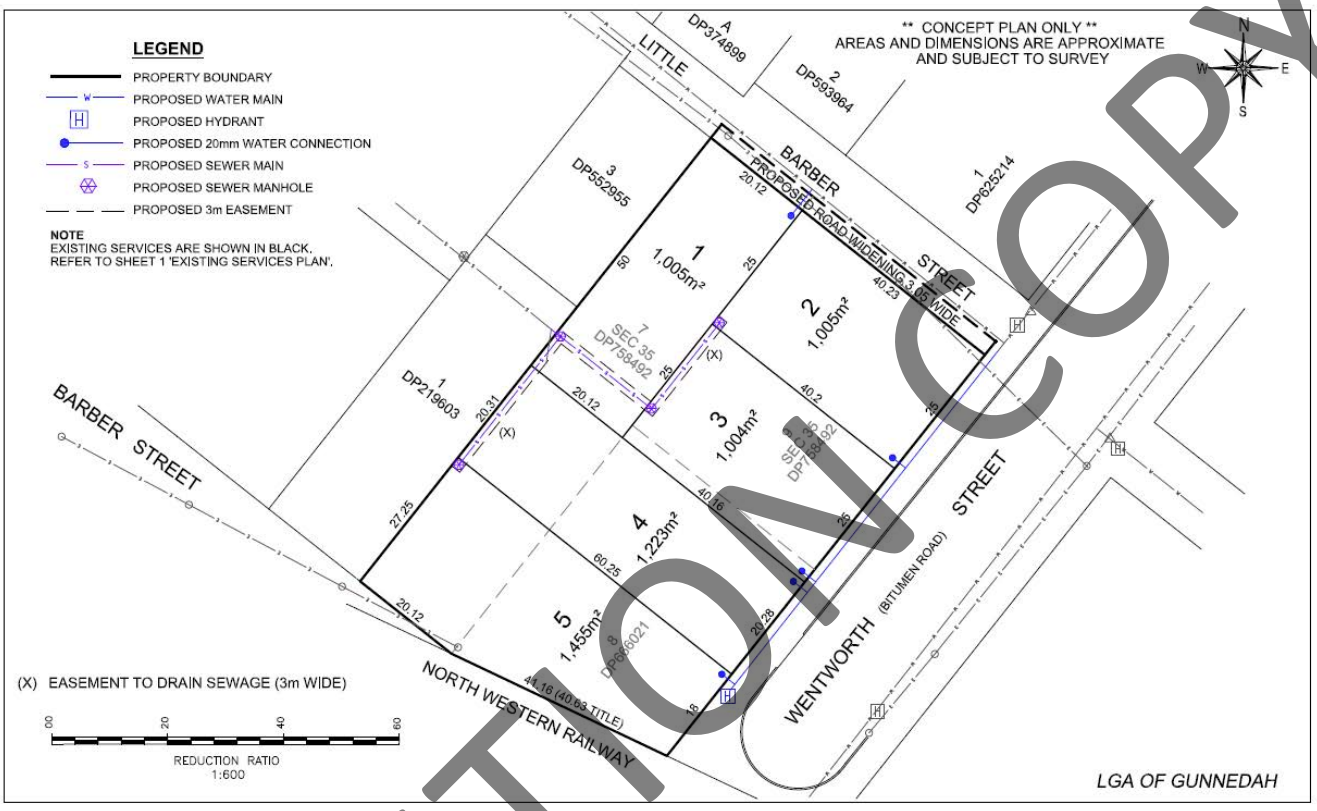


Figure 3: Proposed Services Plan

Services will be installed in accordance with Gunnedah Shire Council's Engineering Guidelines. **Figure 4** shows the standard allocations from the guidelines.

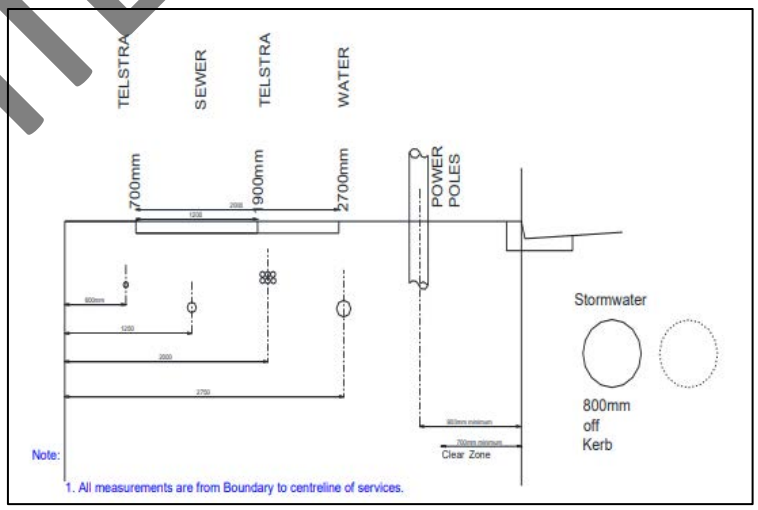


Figure 4: Standard Service Allocations (Gunnedah Shire Council Engineering Guidelines)

2.1 WATER RETICULATION

There is an existing reticulated water main along Little Barber Street and Wentworth Street north of the site. It is proposed to extend this water main along the frontage of the site on Wentworth Street and to provide a standard residential water connection and meter to each lot with five (5) proposed lots as shown in **Figure 3.** In accordance with Council's policy the connection for Lot 1 into a live water main will be carried out by Council staff and the proponent will complete an application for a water connection and pay the connection fee. The main extension and services for Lots 2 to 5 will be carried out by a licenced plumber.

With the provision of this service the development will meet the Gunnedah Development Control Plan, 2025.

2.2 SEWER MAIN

The existing sewer main runs along a neighbouring lot to the west of the site and will be utilised to connect a property service for Lot 1-5. A new 150mm SN8 Sewer Main will be extended through Lot 1 to provide a main on the rear boundary of Lots 2 and 3. A main will also be extended south from Lot 1 through Lots 4 and 5. A sewer connection will be installed into the new sewer main for each lot in accordance with Council's engineering guidelines, by a licenced plumber.

It is proposed to create a 3 metre wide easement over all the sewer mains within the private property to the benefit of Gunnedah Shire Council. These easements will be registered with a s88B instrument under the Conveyancing Act 1919 as part of the plan of subdivision.

All sewerage works will be undertaken by a licenced plumber in accordance with Gunnedah Shire Council's Engineering and Subdivision Guidelines. A layout for the proposed sewer services is shown in the proposed services plan appended to this report.

2.3 STORMWATER MANAGEMENT

The Gunnedah DCP requires consideration of flows up to 1 in 100 year Average Recurrence Interval (ARI) for the existing natural flow and post development flow of the site and piped stormwater system to cater for flows up to the 1 in 5 year ARI. Stormwater naturally flows to the north of the site, collected in the Wentworth Street gutter drainage system. There are no natural water courses mapped on the site or in the vicinity of the site. Stormwater in the Little Barber Street road corridor is not formally drained or collected. There is a shallow table drain across the site frontage falling water to the west.

The proposed subdivision is low density in nature with holdings over 1000 square metres. It is proposed that onsite detention be including in the future development of the site through on site tanks. There is no upstream catchment at this site, as the railway line, which is elevated intercepts and directs water back to Ashford's watercourse near Abbott Street.

All existing properties in Wentworth Street discharge their stormwater to the gutter.

There are no proposed changes to the existing stormwater management at the subject site and the proposed development is not expected to have a significant impact on the environment. Future house construction can discharge water legally to Wentworth Street via a gutter outlet and the Little Barber Street table drain.

2.4 ELECTRICITY

The Gunnedah area is serviced by Essential Energy. There is existing low and high voltage overhead power surrounding the subject site with power poles along Wentworth Street as shown in **Figure 5**, a 'Dial Before you Dig' search plan for the site.

Hofman Electrical have reviewed the surrounding power and confirmed there is sufficient spare capacity in the existing services surrounding the site. Hofman Electrical will be engaged to provide arrange suitable approvals and notice of arrangement that all lots in the development have a power connection.

There is existing Street lighting in the surrounding street network, which will be adequate to cater for the additional lots.

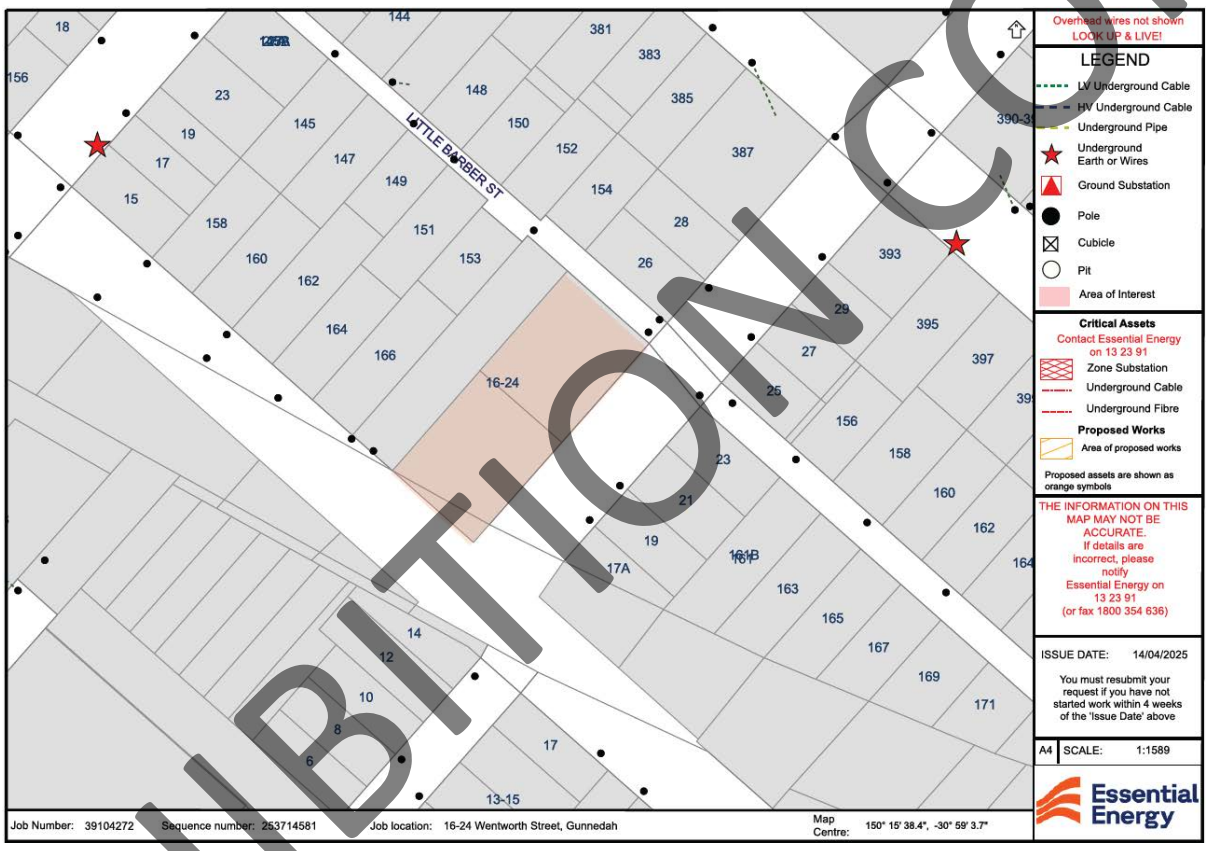


Figure 5: Electrical Services (Dial Before you Dig)

2.5 TELECOMMUNICATIONS

There are existing telecommunications services including telephone and fixed fibre to the premises (FTTP) NBN services at the subject site as shown in **Figure 6** and **Figure 7** is an extract from the Dial Before you Dig Search and NBN database showing the site.

Suitable application for a new development will be made to NBN Co to determine any upgrade requirements. Works required to provide a suitable connection to each lot in the development will be made and a notice of arrangement provided at the subdivision certificate application stage of the project.

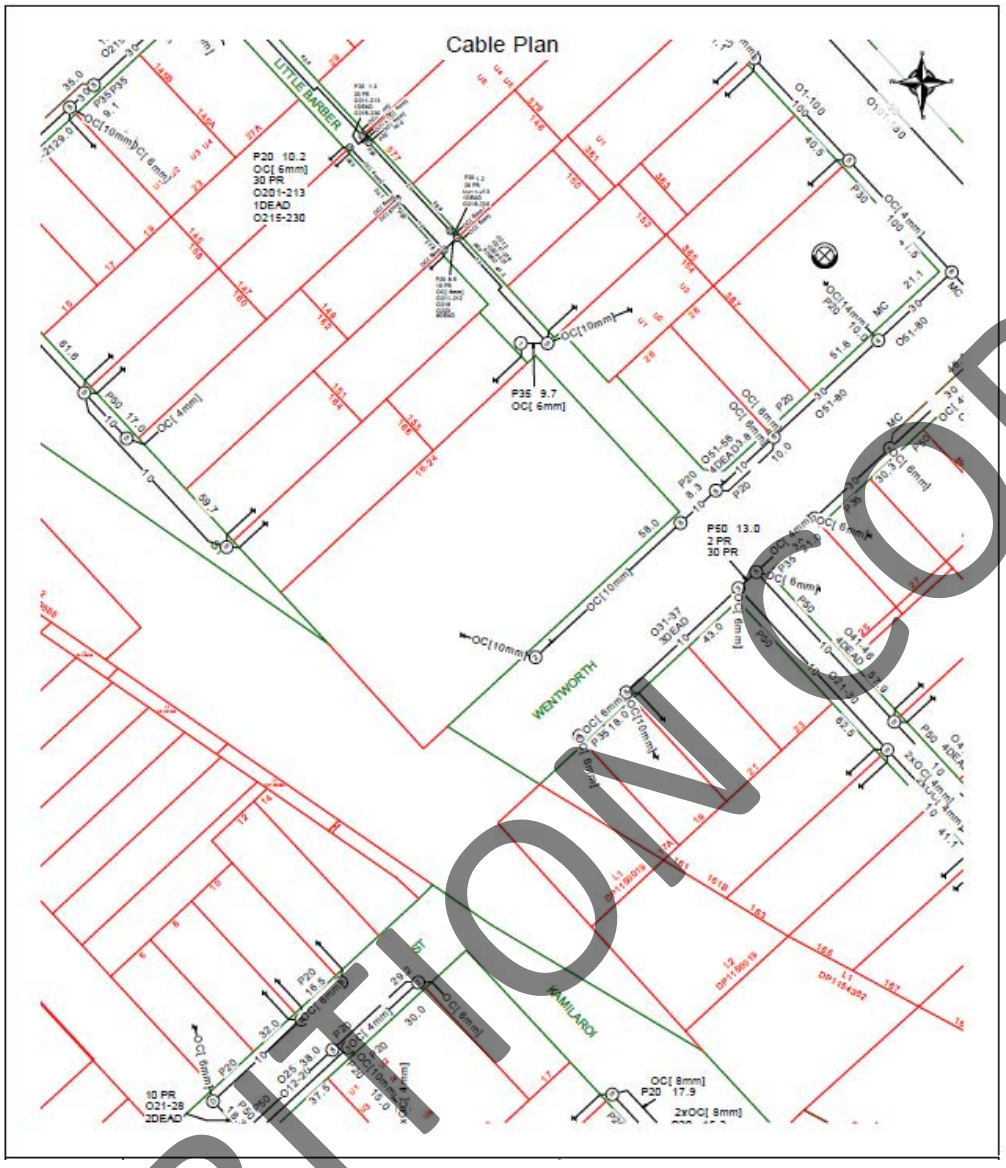


Figure 6: NBN Co Seach of the services in this area

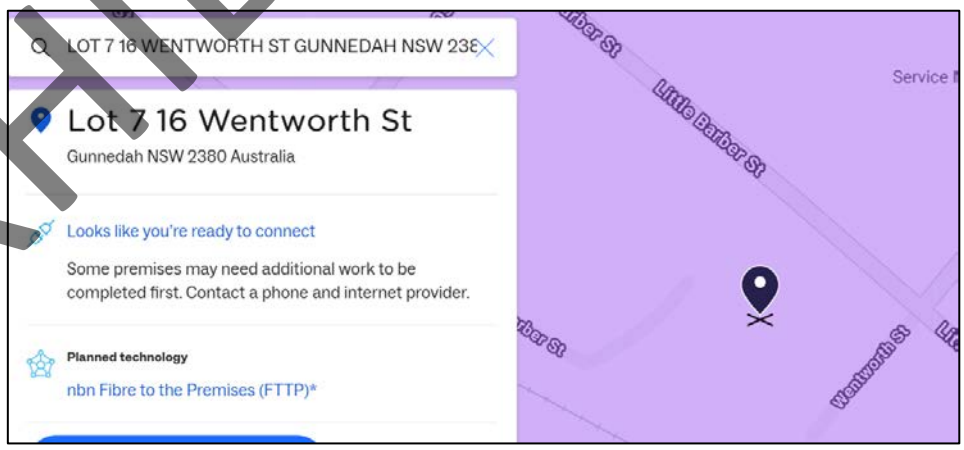


Figure 7: NBN Co Seach of the services in this area

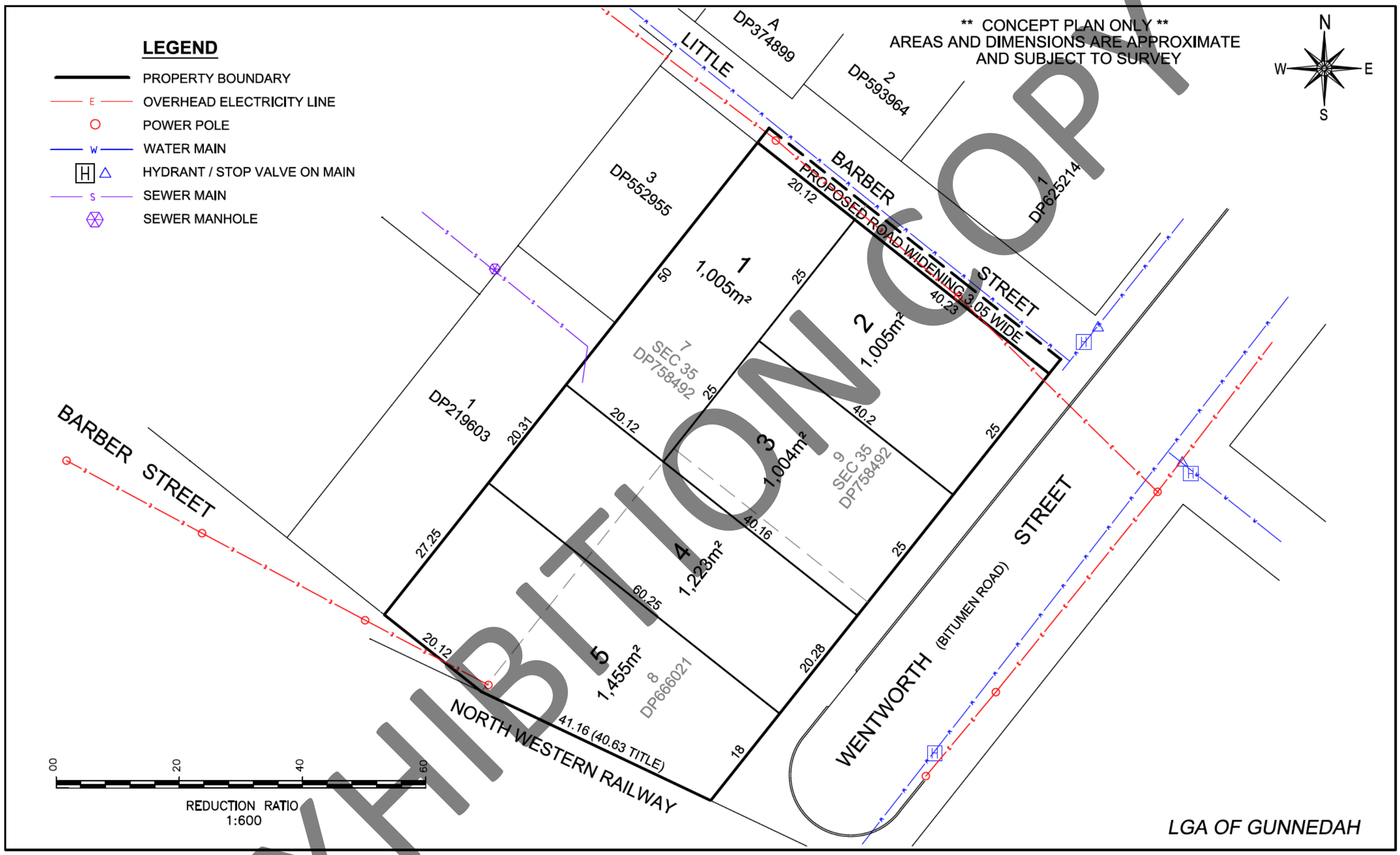
3. CONCLUSION

The subject site is located within Gunnedah's existing service network and following works outlined in this report the proposed subdivision will meet all the requirements of the Gunnedah Development Control Plan, 2025 and suitable service connections for each of the proposed lots will be provided.

This Site Servicing Strategy has been prepared by our office to accompany a council application. To the best of our knowledge, the content of this statement is true in all material particulars and does not, by its presentation or omission of information, materially mislead.

APPENDIX A

EXISTING SERVICES PLAN FOR PROPOSED SUBDIVISION OF LOTS 7 &9 OF SECTION 35 IN DP758492 AND LOT 8 IN DP666021, 16-24 WENTWORTH STREET, GUNNEDAH. REF 6235, 3 JULY 2025.



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CLIENT: AYB NOMINEES PTY LYD

PROJECT: No 16-24 WENTWORTH STREET, GUNNEDAH

DESCRIPTION: **EXISTING SERVICES PLAN** FOR PROPOSED SUBDIVISION OF LOTS 7 & 9 OF SECTION 35 IN DP758492 AND LOT 8 IN DP666021

Date:	File Ref:	Drawn:	Scale:	Sheet:
3 JULY 2025	6235	CRS/JA	1:600	1

APPENDIX B

PROPOSED SERVICES PLAN FOR PROPOSED SUBDIVISION OF LOTS 7 &9 OF SECTION 35 IN DP758492 AND LOT 8 IN DP666021, 16-24 WENTWORTH STREET, GUNNEDAH. REF 6235, 3 JULY 2025.

LEGEND

- PROPERTY BOUNDARY
- W — PROPOSED WATER MAIN
- H — PROPOSED HYDRANT
- PROPOSED 20mm WATER CONNECTION
- S — PROPOSED SEWER MAIN
- PROPOSED SEWER MANHOLE
- PROPOSED 3m EASEMENT

NOTE
EXISTING SERVICES ARE SHOWN IN BLACK.
REFER TO SHEET 1 'EXISTING SERVICES PLAN'.

** CONCEPT PLAN ONLY **
AREAS AND DIMENSIONS ARE APPROXIMATE
AND SUBJECT TO SURVEY

N
W E
S

LITTLE
A DP374899
2 DP593964
3 DP552955
1 DP625214
BARBER STREET
PROPOSED ROAD WIDENING 3.05 WIDE
1 1,005m²
2 1,005m²
3 1,004m²
4 1,223m²
5 1,455m²
7 SEC 35 DP758492
9 SEC 35 DP758492
8 DP666021
1 DP219603
20.12
50
25
40.23
20.31
(X)
20.12
25
40.2
25
27.25
40.16
25
60.25
20.12
20.28
41.16 (40.63 TITLE)
18
NORTH WESTERN RAILWAY
WENTWORTH STREET (BITUMEN ROAD)

(X) EASEMENT TO DRAIN SEWAGE (3m WIDE)

00 20 40 60
REDUCTION RATIO
1:600

LGA OF GUNNEDAH

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Surveying, Environmental & Landscape Architecture
109 Conadilly Street
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PROJECT: No 16-24 WENTWORTH STREET, GUNNEDAH

DESCRIPTION: **PROPOSED SERVICES PLAN** FOR PROPOSED SUBDIVISION OF LOTS 7 & 9 OF SECTION 35 IN DP758492 AND LOT 8 IN DP666021

Date:	File Ref:	Drawn:	Scale:	Sheet:
3 JULY 2025	6235	CRS/JA	1:600	2

APPENDIX C

'BEFORE YOU DIG' SEARCH REPORT

To:	Tayla Ferguson
Phone:	Not Supplied
Fax:	Not Supplied
Email:	[redacted]

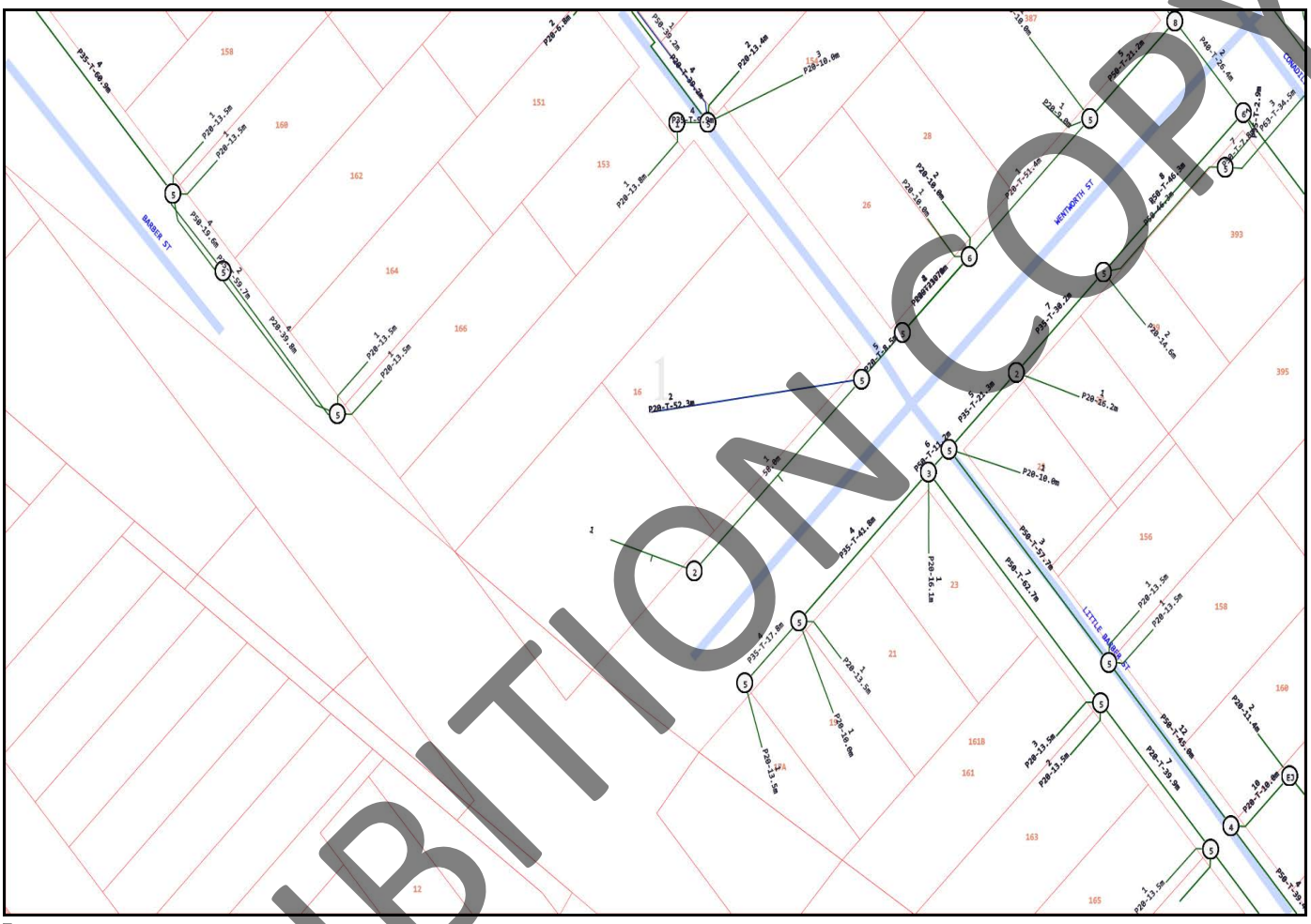
Dial before you dig Job #:	39104272
Sequence #	253714579
Issue Date:	14/04/2025
Location:	16-24 Wentworth Street , Gunnedah , NSW , 2380

BEFORE YOU DIG www.byda.com.au Zero Damage - Zero Harm

Indicative Plans are tiled below to demonstrate how to layout and read nbn asset plans

LEGEND

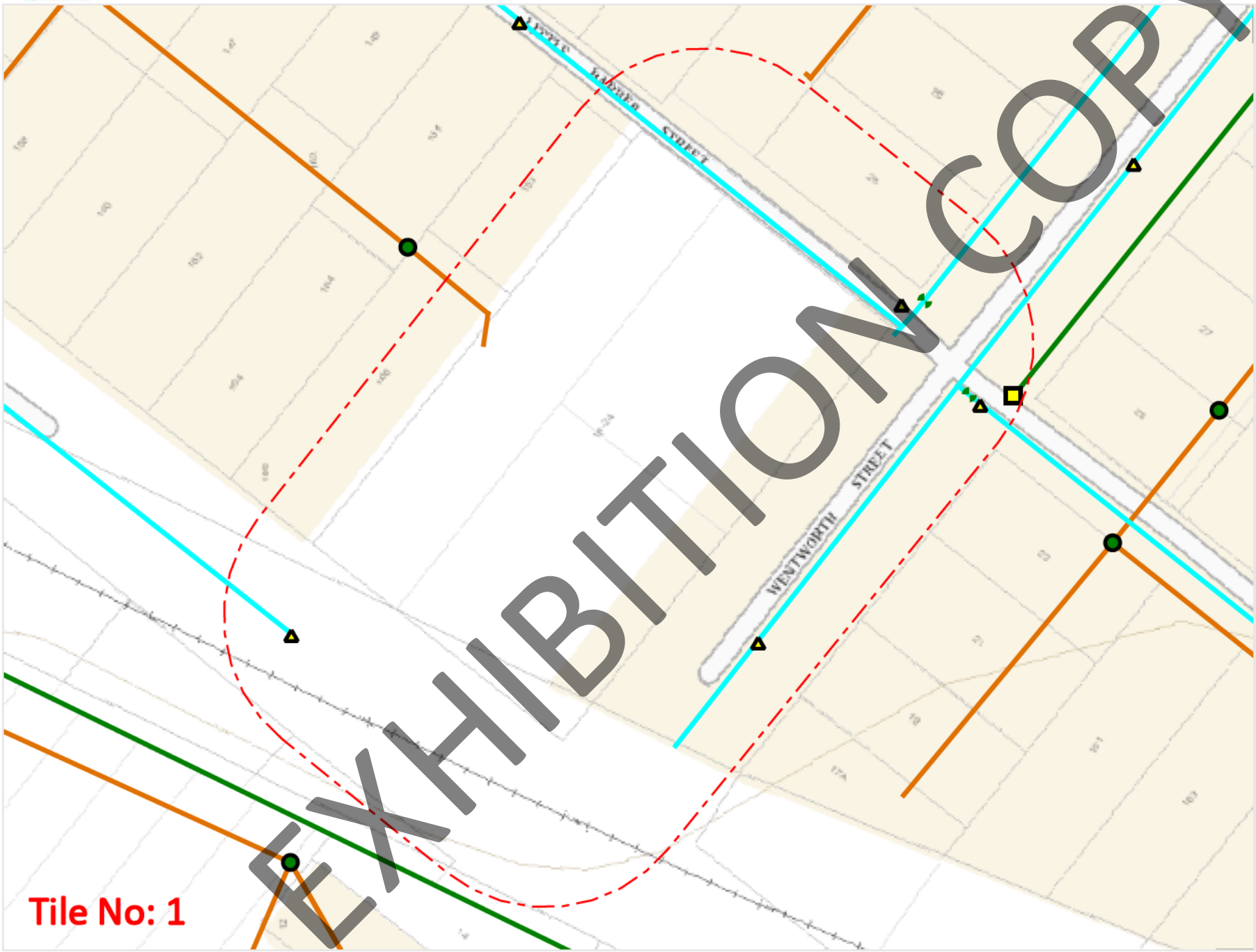
34	Parcel and the location
5	Pit with size "5"
2E	Power Pit with size "2E". Valid PIT Size: e.g. 2E, 5E, 6E, 8E, 9E, E, null.
	Manhole
	Pillar
2 PO – T- 25.0m P40 – 20.0m 5 9	Cable count of trench is 2. One "Other size" PVC conduit (PO) owned by Telstra (-T-), between pits of sizes, "5" and "9" are 25.0m apart. One 40mm PVC conduit (P40) owned by NBN, between pits of sizes, "5" and "9" are 20.0m apart.
2 10.0m 5 9	2 Direct buried cables between pits of sizes ,"5" and "9" are 10.0m apart.
5 9	Trench containing any INSERVICE/CONSTRUCTED (Copper/RF/Fibre) cables.
5 9	Trench containing only DESIGNED/PLANNED (Copper/RF/Fibre/Power) cables.
5 9	Trench containing any INSERVICE/CONSTRUCTED (Power) cables.
BROADWAY ST	Road and the street name "Broadway ST"
Scale	0 20 40 60 Meters 1:2000 1 cm equals 20 m



Emergency Contacts

You must immediately report any damage to the **nbn™** network that you are/become aware of. Notification may be by telephone - 1800 626 329.

Sequence No: 253714580
Job No: 39104272
Location: 16-24 Wentworth Street, Gunnedah, NSW 2380



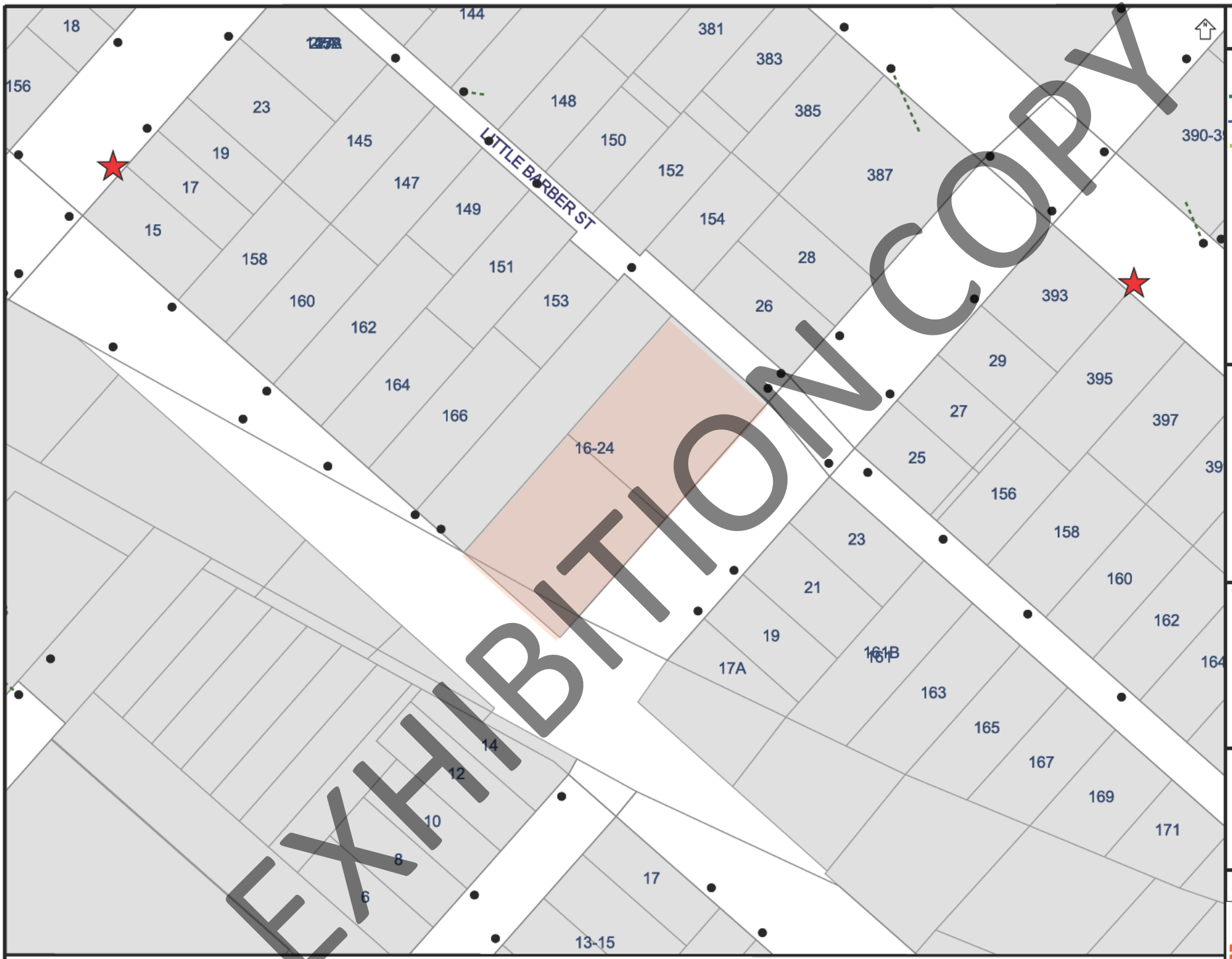
Legend

- Electricity
  - Electricity Parks Points
  - Electricity Parks Lines
- Sewer Points
  - Manhole
- Stormwater Points
  - Pit
- Water Supply Points
  - Hydrant
  - Stop Valve
  - Bore
  - Reservoir
- Sewer Lines
  - Retic
  - Rising Main
- Stormwater Lines
  - Culvert
  - Main
  - Inter-Allotment
- Water Supply Lines
  - Irrigation
  - Main
  - Retic Main
  - Rising Main
  - Unknown

N

Scale: 1:1000
Expires: 12 May 2025

DISCLAIMER: While reasonable measures have been taken to ensure the accuracy of the information contained in this plan response, neither Gunnedah Shire Council nor PelicanCorp shall have any liability whatsoever in relation to any loss, damage, cost or expense arising from the use of this plan response or the information contained in it or the completeness or accuracy of such information. Use of such information is subject to and constitutes acceptance of these terms.



Overhead wires not shown
LOOK UP & LIVE!

LEGEND

- LV Underground Cable
- HV Underground Cable
- Underground Pipe
- Underground Earth or Wires
- Ground Substation
- Pole
- Cubicle
- Pit
- Area of Interest

Critical Assets

Contact Essential Energy on 13 23 91

- Zone Substation
- Underground Cable
- Underground Fibre

Proposed Works

- Area of proposed works

Proposed assets are shown as orange symbols

THE INFORMATION ON THIS MAP MAY NOT BE ACCURATE. If details are incorrect, please notify Essential Energy on 13 23 91 (or fax 1800 354 636)

ISSUE DATE: 14/04/2025

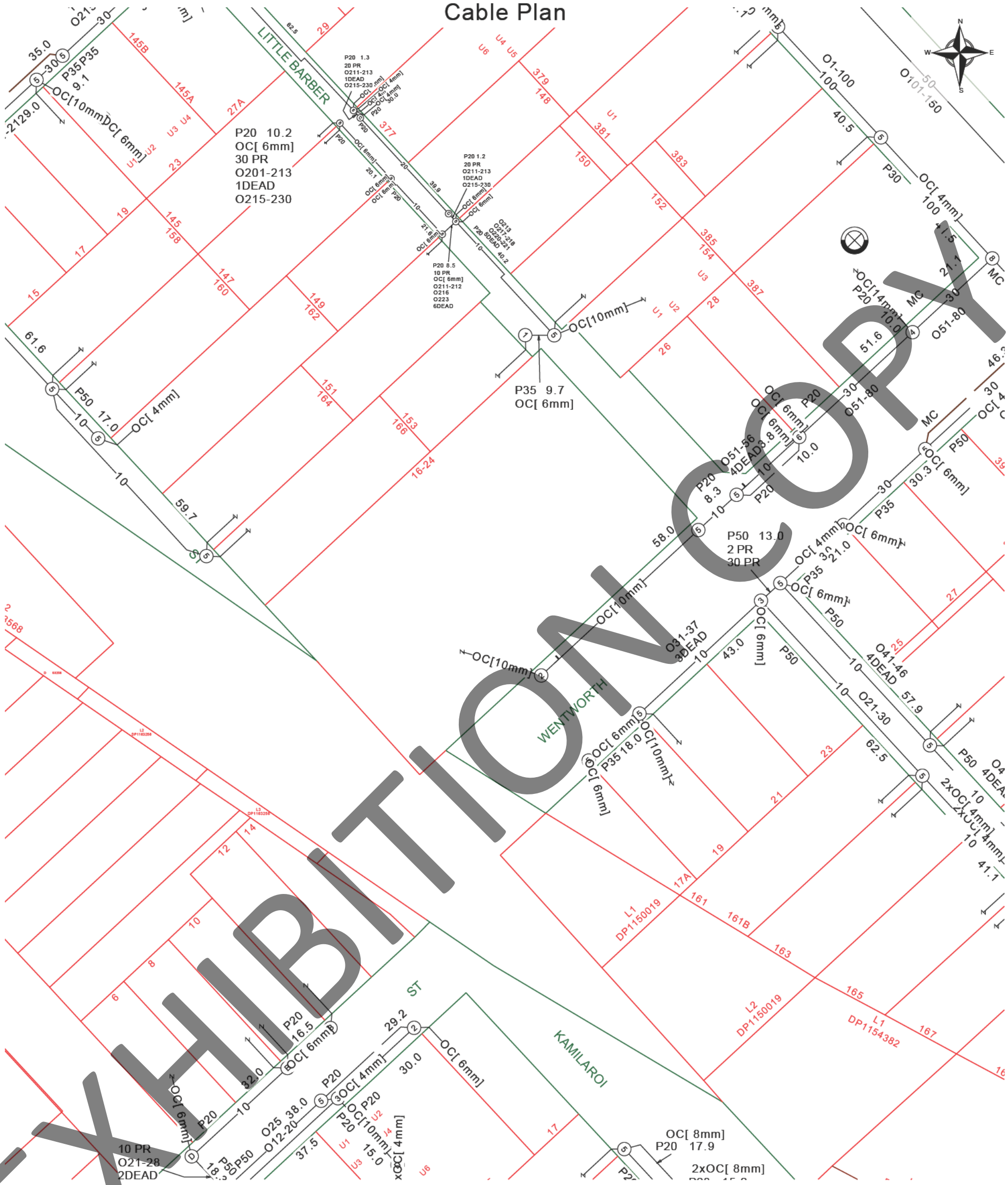
You must resubmit your request if you have not started work within 4 weeks of the 'Issue Date' above

A4 | SCALE: 1:1589

Essential Energy

Job Number: 39104272 Sequence number: 253714581 Job location: 16-24 Wentworth Street, Gunnedah Map Centre: 150° 15' 38.4", -30° 59' 3.7"

Cable Plan



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WARNING
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Refer to AS 5488 for further details. The exact position of Telstra assets can only be validated by physically exposing it.
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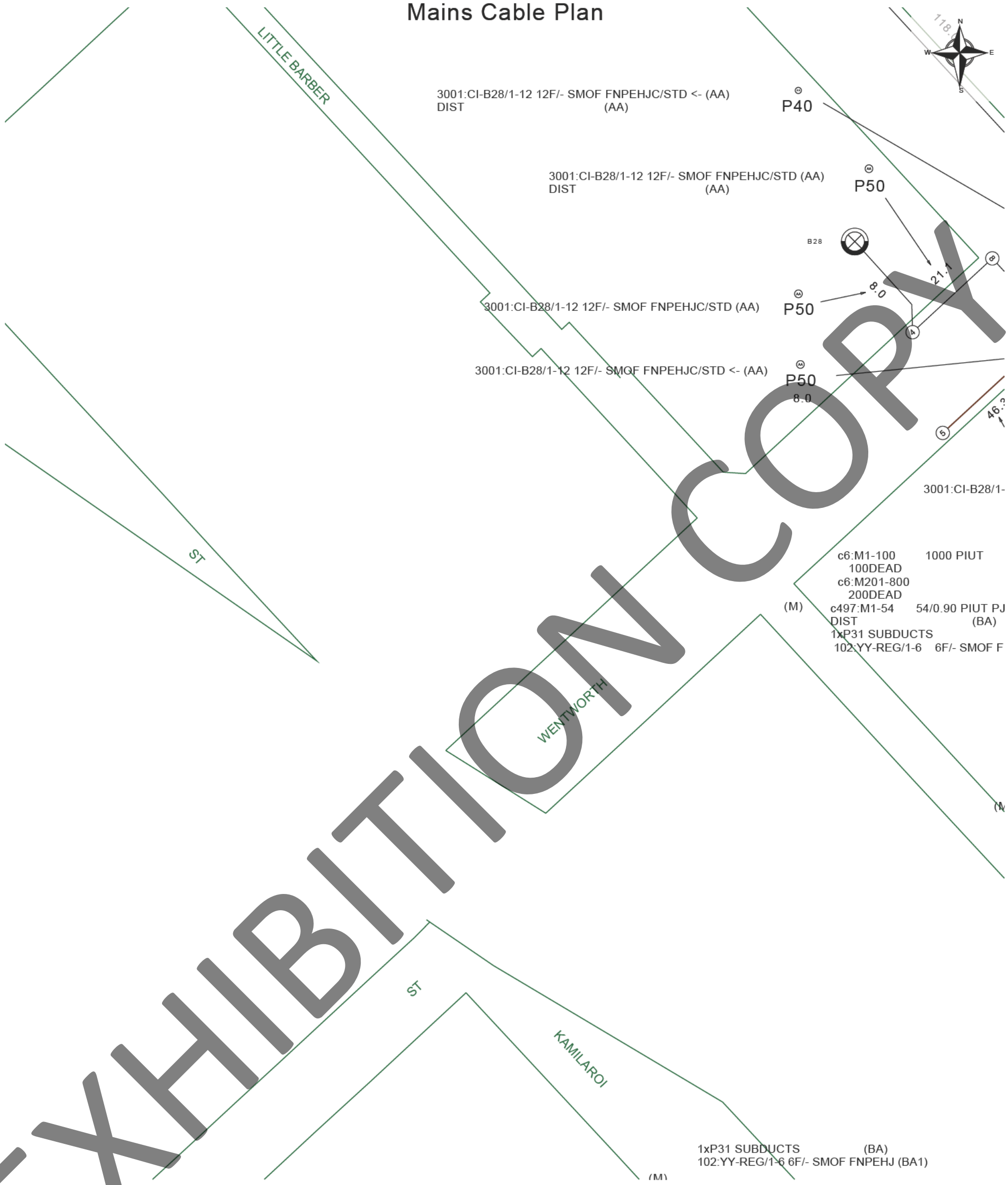
A Certified Locating Organisation is an essential part of the process to validate the exact location of Telstra assets and to ensure the asset is protected during construction works.

See the Steps- Telstra Duty of Care that was provided in the email response.

Mains Cable Plan



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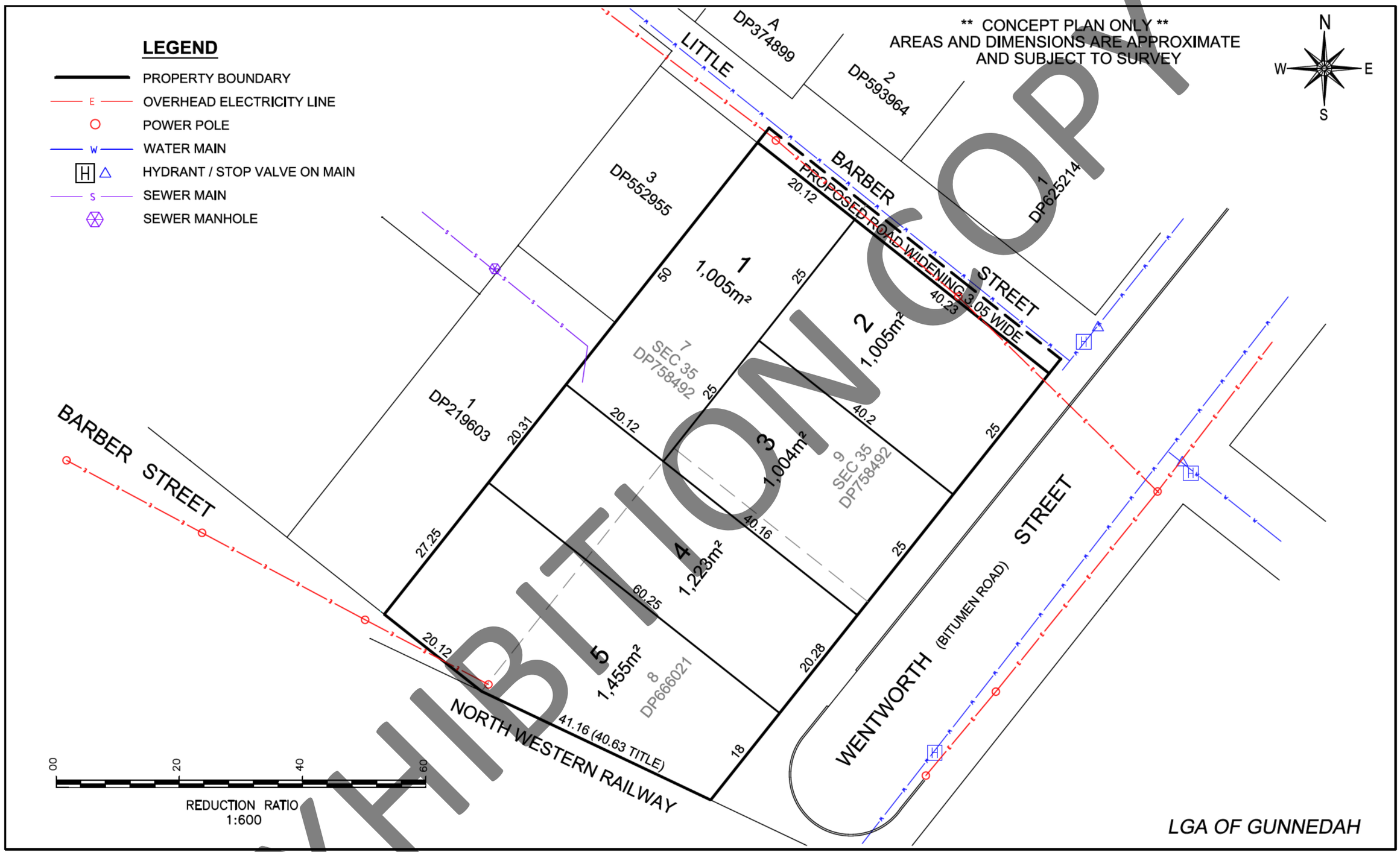

Stewart Surveys
Surveying, Environmental & Landscape Architecture
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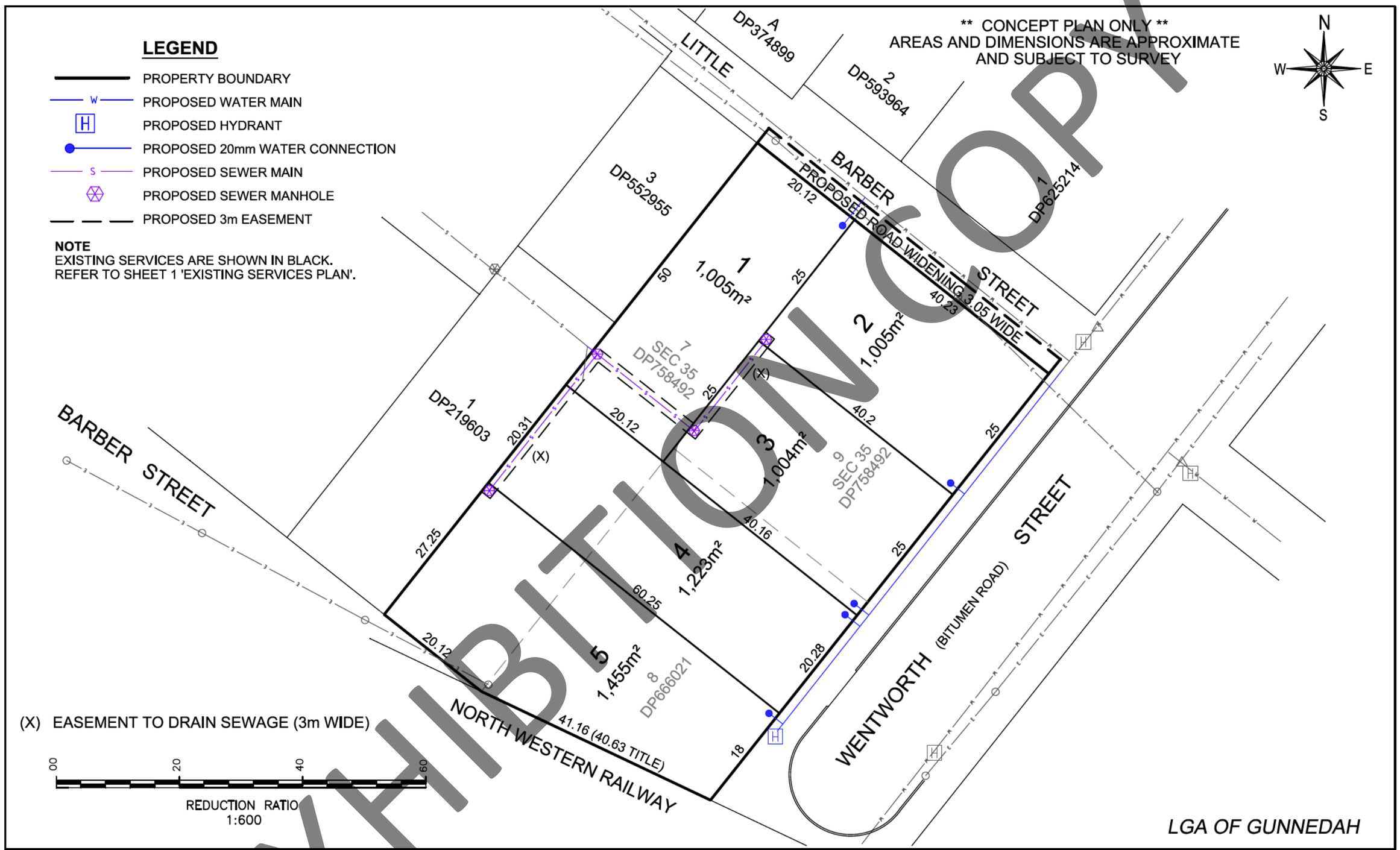
CLIENT: AYB NOMINEES PTY LYD

PROJECT: No 16-24 WENTWORTH STREET, GUNNEDAH

DESCRIPTION: **EXISTING SERVICES PLAN** FOR PROPOSED SUBDIVISION OF LOTS 7 & 9 OF SECTION 35 IN DP758492 AND LOT 8 IN DP666021

Date:	File Ref:	Drawn:	Scale:	Sheet:
3 JULY 2025	6235	CRS/JA	1:600	1



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Date:	File Ref:	Drawn:	Scale:	Sheet:
3 JULY 2025	6235	CRS/JA	1:600	2

17 May 2019 Project No. 1418584-307-L-Rev1

Mac Hull
Contract Project Manager
Mobil Oil Australia Pty Ltd
[redacted]

MOBIL FORMER DEPOT, GUNNEDAH (NA02)
NO FURTHER ACTION REPORT

Dear Mac,

1.0 INTRODUCTION

Golder Associates Pty Ltd (Golder) was commissioned by Mobil Oil Australia Pty Ltd (Mobil) to undertake environmental site assessment works at the Mobil Gunnedah site (Facility ID. NA02) located at 16-24 Wentworth Street, Gunnedah, NSW ("the site"). A non-statutory Environmental Audit of the site was conducted by Ms Fiona Robinson of Ramboll Australia Pty Ltd (the Auditor).

The end point goals with respect to covered[1] contamination is to:

a) make the site suitable for residential use[2]; and

b) confirm offsite areas impacted by the site are suitable for their as of right land use.

This letter has been prepared to confirm that the final site conditions meet these end point goals and that No Further Action (NFA) is required for environmental investigations at the site.

2.0 BACKGROUND

This letter should be read in conjunction with the following:

1. This letter should be read in conjunction with the "*Site Audit Report- Former Depot, Gunnedah, NSW*" (ref: FR 024), dated 18 February 2019 (Attached).
2. Confirmation regarding no further regulation was received from NSW Environment Protection Authority (NSW EPA) was received on 7 February 2012 (attached).

[1] Subagreement between Mobil and Golder Associates Pty Ltd (Golder) covering Environmental Remediation Services, Cost to Objective 4 Program, Agreement Nbr. A2561208 (SAP 4603000525), dated 13 June 2016.

[2] As defined in subagreement between Mobil and Golder covering Environmental Remediation Services Cost to Closure 4 Program, Agreement Nbr. A2561208 (SAP 4603000525), dated 13 June 2016. *"General Non-Sensitive Commercial Use means any non-petroleum use of a site for commercial purposes excluding any which would be considered as sensitive such as, (1) residential, (2) childcare, (3) nursery school, preschool or other education facility, (4) playground, athletic field, recreation area or camp ground or other public space, (5) private garden, (6) place of worship, (7) hotel, motel, inn, bed and breakfast, or rooming house, (8) nursing home, rehabilitation centre, hospital, or community centre, (9) brothel, (10) agricultural and (11) commercial food processing, preparation or distribution".*

Golder Associates Pty Ltd
124 Pacific Highway St. Leonards, New South Wales 2065 Australia T: +61 2 9478 3900 +61 2 9478 3901

A.B.N. 64 006 107 857

Several phases of environmental assessment have been conducted at the site. The results of the historical assessments have been utilised to prepare the Statement of Environmental Audit and Site Audit Report.

3.0 CONCLUSIONS

Based on the completion and findings of the Site Audit Report and reciept of the letter from NSW EPA, with respect to covered contamination Golder considers:

- The conditions on-site are considered suitable for Residential land use; and
- The covered contamination located off-site and originated from on-site operations is considered suitable for the as of right land use.

Golder concludes that no further action is warranted in regards to assessment, monitoring or remediation of covered contamination at the site or off-site.

Golder Associates Pty Ltd

Andrew Boothe
Senior Project Manager

TAB/KDG/jd

CC: Scott Porman – Mobil Oil Australia

Attachments: Attachment 1: Site Audit Report
Attachment 2: EPA Correspondence
Attachment 3: Important Information Relating to this Report

\\golder gds\gap\sydney\jobs\env\2015\1418584_exxonmobil ctc3\correspondence out\1418584-307-l-gunnedah nfa\1418584-307-l-rev1-gunnedah nfa docx

ATTACHMENT 1

Site Audit Report

Prepared for

Mobil Oil Australia Pty Ltd

Prepared by

Ramboll Australia Pty Ltd

Date

February 2019

Project Number

318000133 / AS121942

Audit Number

FR 024

SITE AUDIT REPORT

FORMER DEPOT, GUNNEDAH, NSW (NA02)

RAMBOLL

RAMBOLL

18 February 2019

Mobil Oil Australia Pty Ltd
Attn.: Mac Hull
[redacted]

[redacted]

Dear Mac,

SITE AUDIT REPORT - FORMER DEPOT, GUNNEDAH, NSW (NA02)

I have pleasure in submitting the Site Audit Report for the subject site. The Site Audit Statement, produced in accordance with the NSW *Contaminated Land Management Act 1997* is included as Appendix B. The Audit was commissioned by Mobil Oil Australia Pty Ltd to assess the suitability of the site for its intended residential use.

This Site Audit Report is not currently required by regulation or legislation and is therefore a non-statutory audit.

Thank you for giving me the opportunity to conduct this Audit. Please call me on 9954 8100 if you have any questions.

Ramboll Australia Pty Ltd
[redacted]

[redacted]

Ref 318000133

Yours faithfully,
Ramboll Australia Pty Ltd

Fiona Robinson
EPA Accredited Site Auditor 1506

CONTENTS

LIST OF TABLES

APPENDICES

LIST OF ABBREVIATIONS

Measures

%	per cent
µg/L	Micrograms per Litre
µg/m^3	Micrograms per Cubic Metre
ha	Hectare
km	Kilometres
m	Metre
mAHD	Metres Australian Height Datum
m	Metres below ground level
mg/kg	Milligrams per Kilogram
mg/L	Milligrams per Litre
mg/m^3	Milligrams per Cubic Metre
mm	Millimetre
ppm	Parts Per Million

General

ABC	Added Background Concentrations
ACL	Added Contaminant Limit
ACM	Asbestos Containing Material
ADWG	Australian Drinking Water Guidelines
AHD	Australian Height Datum
ALS	Australian Laboratory Services
ASET	Australian Safer Environment and Technology Pty Ltd. (Laboratory)
AST	Aboveground Storage Tank
ANZECC	Australian and New Zealand Environment and Conservation Council
BaP	Benzo(a)pyrene
BGL	Below Ground Level
BTEX	Benzene, Toluene, Ethylbenzene, Xylenes & Naphthalene
CLM Act	NSW Contaminated Land Management Act 1997
COC	Chain of Custody
Council	Gunnedah Shire Council
DQI	Data Quality Indicator
DQO	Data Quality Objective
EIL	Ecological Investigation Level
EMP	Environmental Management Plan
EPA	Environment Protection Authority (NSW)
ESL	Ecological Screening Level
GIL	Groundwater Investigation Level
GME	Groundwater Monitoring Event
HIL	Health Investigation Level
HSL	Health Screening Level
LCS	Laboratory Control Sample
LOR	Limit of Reporting
LP	Leaded Petrol
MAH	Monocyclic Aromatic Hydrocarbons
Mercury	Inorganic mercury unless noted otherwise
Metals	As: Arsenic, Cd: Cadmium, Cr: Chromium, Cu: Copper, Ni: Nickel, Pb: Lead, Zn: Zinc, Hg: Mercury
ML	Management Limits
MS	Matrix Spike
NATA	National Association of Testing Authorities
NC	Not Calculated
ND	Not Detected
NEHF	National Environmental Health Forum
NEPM	National Environment Protection Measure
NHMRC	National Health and Medical Research Council
NL	Non-Limiting
NFA	No Further Action
n	Number of Samples

OCPs	Organochlorine Pesticides
OEH	Office of Environment and Heritage
OH&S	Occupational Health & Safety
OPPs	Organophosphorus Pesticides
PAHs	Polycyclic Aromatic Hydrocarbons
PCBs	Polychlorinated Biphenyls
pH	A measure of acidity, hydrogen ion activity
PID	Photoionisation Detector
PSH	Phase Separated Hydrocarbon
QA/QC	Quality Assurance/Quality Control
RAP	Remediation Action Plan
RPD	Relative Percent Difference
RSL	Regional Screening Level
SAQP	Sampling Analysis and Quality Plan
SAR	Site Audit Report
SAS	Site Audit Statement
SCEW	Standing Council on Environment and Water
SILs	Soil Investigation Levels
SVOCs	Semi Volatile Organic Compounds
SWL	Standing Water Level
TCLP	Toxicity Characteristic Leaching Procedure
TPHs	Total Petroleum Hydrocarbons
TRHs	Total Recoverable Hydrocarbons
TV	Trigger Value
UCL	Upper Confidence Limit
ULP	Unleaded Petrol
USEPA	United States Environmental Protection Agency
UST	Underground Storage Tank
VOCs	Volatile Organic Compounds
-	On tables is "not calculated", "no criteria" or "not applicable"

1. INTRODUCTION

A site contamination audit ('the Audit') has been conducted in relation to the former fuel depot located at 16-24 Wentworth Street, Gunnedah, NSW ('the site').

The Audit was conducted to provide an independent review by an EPA Accredited Auditor of whether the land is suitable for any specified use or range of uses i.e. a "Site Audit", as defined in Section 4 (1) (b) (iii) of the NSW *Contaminated Land Management Act 1997* (the CLM Act).

1.1 Scope of the Audit

Details of the Audit are:

Requested by:	Mac Hull on behalf of Mobil Oil Australia Pty Ltd (Mobil)
Request/Commencement Date:	7 November 2015
Auditor:	Initially Graeme Nyland (GN525) (the previous Auditor) and transferred to Fiona Robinson 29 June 2018 (the Auditor)
Accreditation No.:	1506

The scope of the Audit included:

- Review of the following reports, which were completed prior to the engagement of the previous Auditor:
  - 'Environmental Site Assessment: Mobil Service Station, Gunnedah, NSW', dated 23 August 1993 and referenced S93C071/R193. Prepared by Otek Australia Pty Ltd (Otek). This will hereafter be referred to as '**the Otek ESA**'
  - 'Modified Environmental Site Assessment for Fuel Hydrocarbon Contamination: Fuel Depot Facility Wentworth Street, Gunnedah, NSW', dated November 1995 and referenced Syd/129 58G208A. Prepared by RUST PPK Pty Ltd (PPK). This will hereafter be referred to as '**the PPK Modified ESA**'
  - 'Decommissioning and Site Validation Report: Fuel Depot Facility Wentworth Street, Gunnedah, NSW, SAP No. NA02', dated April 1997 and referenced Rev A 58H105A Syd/PR_0174. Prepared by PPK. This will hereafter be referred to as '**the PPK Decommissioning and Validation Report**'
  - 'Phase 1 ESA: Mobil Depot Gunnedah (NA02), Gunnedah, NSW', dated 22 December 2004 and referenced 51556-291-559 Version 2. Prepared by URS Australia Pty Ltd (URS). This will hereafter be referred to as '**the URS Phase 1 ESA**'
  - 'Phase 2 ESA: Mobil Depot Gunnedah (NA02), Gunnedah, NSW Cnr Wentworth and Little Barber Streets', dated 18 February 2005 and referenced 51556-454\MSS Gunnedah – Final Phase 2 ESA Report Version 1. Prepared by URS. This will hereafter be referred to as '**the URS Phase 2 ESA**'
  - 'Post Phase 2 ESA: Former Mobil Depot Gunnedah (NA02), Cnr Wentworth & Little Barber Streets, Gunnedah, NSW', dated 16 April 2008 and referenced 42645612 Final report – PP2ESA Gunnedah. Prepared by URS. This will hereafter be referred to as '**the PP2 ESA**'
  - 'Annual Groundwater Monitoring Event: Former Mobil Depot Gunnedah [NA02], Corner Wentworth & Little Barber Streets, Gunnedah NSW', dated 25 March 2011 and referenced 42424364/01/03 Final. Prepared by URS. This will hereafter be referred to as '**the 2010 GME**'

- 'Interim Groundwater Monitoring Event: Former Mobil Depot Gunnedah (NA02), Corner Wentworth & Little Barber Streets, Gunnedah NSW', dated 8 August 2012 and referenced 42424417/01/01 Final. Prepared by URS. This will hereafter be referred to as '**the 2011 GME**'
- 'Demolition of Commercial Premises: Former Mobil Depot Gunnedah (NA02), 16-24 Wentworth Street, Gunnedah NSW', dated 23 November 2012 and referenced 42424450/01/01 Final. Prepared by URS. This will hereafter be referred to as '**the URS Demolition Report**'
- 'Former Mobil Depot Gunnedah (NA02): Groundwater Monitoring Event 2014', dated 18 November 2014 and referenced 0251931GMR_SRS_Final. Prepared by Environmental Resource Management Australia Pty Ltd (ERM). This will hereafter be referred to as '**the 2014 GME**'

- Review of the following reports, which were completed subsequent to the engagement of the previous Auditor:
  - 'NFA Strategy Document: CTC Program – NA02 Gunnedah', dated November 2015 and referenced 1418584-055-R-Rev02. Prepared by Golder Associates Pty Ltd (Golder). This will hereafter be referred to as '**the NFA Strategy**' where NFA refers to 'No Further Action'.
  - 'Cost to Closure 3 – NA02 Gunnedah: NFA Soil and Groundwater Assessments', dated 7 June 2017 and referenced 1418584-120-L-Rev02. Prepared by Golder Associates Pty Ltd (Golder). This will hereafter be referred to as '**the NFA Report**'
  - 'Cost to Closure 3 – NA02 Gunnedah: NFA Soil Vapour Assessment', dated 11 October 2018 and earlier draft 7 June 2017 and referenced 1418584-234-R-Rev0. Prepared by Golder. This will hereafter be referred to as '**the NFA Soil Vapour Report**'.
- A site visit by the previous Auditor on 28 June 2016 and the Auditor on 12 July 2018
- Discussions with Mobil, and with Golder who undertook a review of the historical reports detailing decommissioning and investigation works and who subsequently completed the NFA Strategy.

1.2 Background

The site was acquired by the Vacuum Oil Company in 1927 and subsequently by Mobil in 1993, during which time it was used for fuel distribution purposes. The majority of fuel related infrastructure was removed by PPK in 1996 (the PPK Decommissioning and Validation Report), although some infrastructure, including at least two underground storage tanks (USTs), had been removed prior to this. Subsequently, the remaining non-fuel related infrastructure was removed by URS in 2012 (the URS Demolition Report). Numerous phases of soil vapour, soil, and groundwater investigation works have been completed onsite prior to, and after the infrastructure removal works.

2. SITE DETAILS

2.1 Location

The site locality is shown on Attachment 1, Appendix A.

The site details are as follows:

Street address:	16-24 Wentworth Street, Gunnedah, 2380
Identifier:	Lot 7 Section 35 of Deposited Plan 758492
	Lot 9 Section 35 of Deposited Plan 758492
	Lot 8 of Deposited Plan 666021
	(Attachment 2, Appendix A)
Local Government:	Gunnedah Shire Council
Owner:	Mobil
Site Area:	Approximately 5,850 m^2

The boundaries of the site are well defined by Wentworth Street to the east, Little Barber Street to the north, residential properties to the west and a rail corridor to the south. A fence also surrounds the site on all sides.

2.2 Zoning

The current zoning of the site is 'R3 – Medium Density Residential' under the Gunnedah Local Environmental Plan, 2012. The surrounding area is zoned as follows:

- North: 'R3 – Medium Density Residential immediately north', followed by 'RE1 – Public Recreation' approximately 145 metres (m) northeast
- East: 'R2 – Low Density Residential'
- South: 'SP2 – Infrastructure' (rail), followed by 'R2 – Medium Density Residential' and 'RE1 – Public Recreation' on the adjacent side of the rail corridor
- West: 'R3 – Medium Density Residential'.

2.3 Adjacent Uses

The site is located within a predominantly residential area. The surrounding site uses include:

- North: Little Barber Street immediately north, followed by low density residential properties. Kitchener Park is located approximately 145 m to the northeast of the site
- East: Wentworth Street followed by low density residential properties, some of which appear to have swimming pools
- South: the Werris Creek Mungindi Railway corridor immediately to the south of the site, followed by low density residential properties and numerous public recreational areas (Arthur Heath Park located approximately 75 m to the southwest and Mary Davis Park approximately 120 m to the southeast)
- West: low density residential properties.

The closest surface water receptors include:

- An unnamed tributary of Namoi River located approximately 630 m to the northeast of the site at its closest point
- The Namoi River is located approximately 1.2 kilometres (km) to the northwest of the site at the closest point

- The Mooki River is located approximately 2 km to the northeast-east of the site at its closest point. The confluence of the Namoi River and Mooki River is located approximately 2.3 km to the northeast of the site.

The 1:25,000 Gunnedah 8936-11S Map indicates that the topography of the area surrounding the site is generally flat with a northeasterly gradient of approximately 2%. The approximate elevation of the site is 280 m Australian Height Datum (AHD) (the NFA Strategy).

2.4 Site Condition

The NFA Report noted that all visible structures, buildings and infrastructure had been removed from the site and that the site was vacant. The 2014 GME also noted the following:

- The site is predominantly flat, although is located in an area which generally slopes to the northeast[1]
- There was no visible hydrocarbon product or surface staining observed on or offsite
- The site was covered in grass which had no obvious signs of vegetation stress.

At the time of the Auditor's visit, observations were consistent with those listed above and undulations and depressions were noted across the generally flat, grassed and vacant site surface.

2.5 Proposed Development

At the time of the issue of the Site Audit Report (SAR) there are no formal development plans for the site, although it is understood that the site is to be made suitable for 'any type' of residential purpose. Thus, for the purposes of the Audit, the 'residential with soil access' land use scenario will be assumed with the possibility that a basement could be constructed.

[1] The URS Demolition Report indicates that a depression associated with the removal of the sewer line was levelled using "*borrowed clean fill from within the depot*" to prevent ponding of surface water, although the source onsite of the borrowed fill and the location is was subsequently placed were not specified.

3. SITE HISTORY

URS provided a site history based on aerial photographs, site photographs, NSW EPA records, local public library records, WorkCover dangerous goods records and/or Certificates of Title (the Phase 1 ESA). A review of the available information indicates that aside from the potential use by previous owners (who are likely to have used the site for agricultural purposes), the site was used as a fuel distribution facility between from circa 1927 to the early 1990s. Decommissioning works commenced in 1996 when fuel related infrastructure was removed. The remainder of the non-fuel related infrastructure and disconnection of services was completed in 2012. A summary of the site infrastructure is presented in Table 4.2 in Section 4.

Mobil advised that fuel infrastructure was removed in 1996/7 and a remaining office building was removed in 2012.

3.1 Auditor's Opinion

In the Auditor's opinion, the site history provides an adequate indication of past land uses and activities, with the primary potential for contamination arising from the former use of the site as a fuel distribution depot. While the poor resolution of some of the historical aerial photographs makes it difficult to distinguish some structures onsite, it is considered this has been adequately compensated for during the investigations by a high density of sampling and suitable analysis. In addition, although there is no information about the use of the site prior to 1927, it is considered likely that it would have been used for agricultural purposes and the potential for significant contamination is considered to be low.

4. CONTAMINATION POTENTIAL

The URS Phase 1 ESA provided information on contaminants of potential concern (CoPC) which may be present onsite resulting from historic activities. These have been summarised by the Auditor in Table 4.1. The known fuel related infrastructure onsite is summarised in Table 4.2.

Table 4.1: Contaminants of Potential Concern

Area	Activity	Potential Contaminants ***(Auditor's Additional CoPC)***
Primary Sources		
Across the site	Control of vegetation at the site	Herbicides and organochlorine pesticides (OPCs)
Across the site	Fuel distribution (See Table 4.2)	Benzene, toluene, ethylbenzene and xylenes (BTEX) associated with unleaded petrol (ULP), leaded petrol (LP) and diesel Total petroleum/ total recoverable hydrocarbons (TPHs/TRHs) associated with ULP, LP and heating oils Lead (LP) Polycyclic aromatic hydrocarbons (PAHs)
Eastern boundary	Use of hazardous building materials	Asbestos in eaves and external soffits of the site office
Secondary Sources		
Across the site	Imported fill material	TRH, metals and "*other contaminants*"
Western boundary	Separator (thought to have been used to capture contaminated water from the depot prior to being pumped out and transported offsite)	Not specified *BTEX, PAHs, lead and TRH*
Western and eastern boundary	Sewer	Not specified *Heavy metals and potentially biological pathogens*
South and east of the site	Drum filing and maintenance activities, including: • Former drum cleaning service pit (eastern boundary) • Former drum store/fill points and filling platform near the southern boundary	Not specified *BTEX, PAHs, heavy metals and TRH*
South eastern corner	Garage maintenance activities	Not specified *BTEX, PAHs, heavy metals and TRH*

Table 4.1: Contaminants of Potential Concern		
Area	**Activity**	**Potential Contaminants** ***(Auditor's Additional CoPC)***
Primary Sources		
Across the site	Phase separated hydrocarbons in soil and groundwater	BTEX, PAHs, lead and TRH

Table 4.2 Tank Inventory		
Tank Identification	**Capacity/ Product**	**Comments**
AST 01	45,000/ ULP	Noted to be decommissioned during the PPK Modified ESA but removed prior to the PPK Decommissioning and Validation Report Formerly located in the southern AST bund
AST 02	45,000/ LP	Noted to be decommissioned during the PPK Modified ESA but removed prior to the PPK Decommissioning and Validation Report Formerly located in the southern AST bund
AST 03	45,000/ LP	Noted to be decommissioned during the PPK Modified ESA but removed prior to the PPK Decommissioning and Validation Report Formerly located in the northern AST bund
AST 04	45,000/ LP	Noted to be decommissioned during the PPK Modified ESA but removed prior to the PPK Decommissioning and Validation Report Formerly located in the northern AST bund
AST 05	40,000/ ADO	Only cradle evident at time of PPK Decommissioning and Validation Report (AST removed prior) Formerly located in the southern AST bund
AST 06	45,000/ LP	Noted to be decommissioned during the PPK Modified ESA but removed prior to the PPK Decommissioning and Validation Report Formerly located in the northern AST bund
AST 07	40,000/ ADO	Only cradle evident at time of PPK Decommissioning and Validation Report (AST removed prior) Formerly located in the southern AST bund
AST 08	40,000/ heating oil	Only cradle evident at time of PPK Decommissioning and Validation Report (AST removed prior) Formerly located in the southern AST bund
AST 09	45,000/ distillate	Noted to be decommissioned during the PPK Modified ESA but removed prior to the PPK Decommissioning and Validation Report Formerly located in the southern AST bund
UST 10	4,400/ LRP	Removed during the PPK Decommissioning and Validation Report works Located near the eastern boundary UST farm with UST 11
UST 11	4,400/ ULP	Removed during the PPK Decommissioning and Validation Report works Located near the eastern boundary UST farm with UST 12
UST 12	15,000/ distillate	Believed to have been historically removed (assessed by TP01 during the NFA report). Mobil provided a confirmatory statement that this tank had been removed. Identified in the Otek ESA but not in the PPK investigations. Located in the southwest corner of the site

Table 4.2 Tank Inventory		
Tank Identification	**Capacity/ Product**	**Comments**
Diesel bowser	N/A	Historically removed Located in the southwestern corner of the site on the southern side of the former concrete driveway Not noted in the URS Phase 1 ESA or subsequent reports. Potential underground pipe/s connecting the diesel bowser and UST 12 (understood to have contained diesel)
Underground pipework	LP, ULP, distillate, ADO, heating soil	One section identified pipework extending from near the sump to the rail unloading area located offsite to the south in the rail corridor in the PPK Modified ESA. Trenching in this location was shown on a drawing included in the PPK Decommissioning and Validation Report and is assumed to have been the result of the removal of this pipework. An additional two trenches were also located in the southern part of the site (as shown on a drawing in the PPK Decommissioning and Validation report), and may have been the result of the removal of underground pipework, although no information about these are provided in the PPK Decommissioning and Validation report
Separator	Unknown	Believed to have been historically removed (assessed by TP04 during the NFA report). Mobil provided a confirmatory statement that this all infrastructure has been removed. First identified in the URS Phase 1 ESA and identified as still being present onsite during the inspection on 5 August 2003, although it was not discussed/noted in subsequent reports
Tank Truck Fill Stand	N/A	Removed during the PPK Decommissioning and Validation Report works Located immediately south of the southern AST bund
Sump	N/A	Removed during the PPK Decommissioning and Validation Report works Located immediately south of the southern AST bund
Former Pump Slab and Fill Points	N/A	Removed during the PPK Decommissioning and Validation Report works Located immediately east of the southern AST bund

4.1 Auditor's Opinion

The Auditor considers that potential for contamination and the analyte lists used by PPK, URS, ERM and Golder adequately reflects the site history and condition, although notes that in addition to the above, the outline of what appears to be three additional ASTs are located in the northern AST bund to the immediate west of ASTs 3, 4 and 6. These were reportedly removed from the site along with UST 12 prior to the first inspection of the site in 1995. Mobil provided a confirmatory statement that all site infrastructure had been removed.

Mobil also advised that review of their records "*...has revealed no evidence of the use or storage of firefighting foams (or fires) on site.*"

5. STRATIGRAPHY AND HYDROGEOLOGY

Following a review of the reports provided, a summary of the site stratigraphy and hydrogeology was compiled as follows.

5.1 Stratigraphy

5.1.1 Regional

URS (the Phase 1 ESA) reviewed the regional geological map of the vicinity of the site (NSW Department of Water Resources 1:250,000 Liverpool Plains Catchment Map) and reported that the regional geological setting comprised the following:

- Narrabri Formation - comprising silt, clay, sand (alluvium and colluvium) from surface to approximately 10 metres below ground level (m)
- Mauls Creek Formation – comprising shale, lithic sandstone and coal from 10 m to depths greater than 30 m.

5.1.2 Local

The site specific geology encountered during the investigations completed at the site (the Otek ESA, the PPK Decommissioning and Validation Report, the URS Phase 2 ESA, the PP2 ESA and the 2010 GME) is consistent with expectations based on the regional geology and is summarised in Table 5.1.

Table 5.1: Stratigraphy

Depth (m)	Subsurface Profile
0.0 – 2.5 m Deeper at locations of the former excavations that have been backfilled with the excavated and landfarmed site sourced soil).	Fill: brown and occasionally red, sandy CLAY with some gravel and cobbles
2.5 – 12.0	Natural: brown and occasionally orange, grey and red clayey SAND/ sandy CLAY with some silt and gravel
5.5 – 19.0 (maximum vertical depth investigated)	Natural: weather sandstone with intermittent clay and sand layers, grading to sandstone

The Auditor completed a review of the potential for acid sulfate soils to exist onsite (http://www.asris.csiro.au/themes/AcidSulfateSoils.html), which indicated that there was an extremely low probability of acid sulfate soils.

5.2 Hydrogeology

5.2.1 Regional

A search of the surrounding groundwater monitoring bores registered with the NSW Department of Primary Industries Office of Water was completed as part of the NFA Strategy on 17 August 2015, which identified that 64 bores were registered in the surrounding 500 m of the site. Of the 64 registered bores, 63 were reportedly associated with Groundwater Works, with the remaining bore used for monitoring purposes.

The NFA Strategy stated that the NSW Department of Water Resources 1:250,000 Catchment Map for Liverpool Plains 1987 indicated that the regional groundwater resides within the underlying sandstone with a yield of between 0.5 and 5.0 litres per second. The salinity (based on the total dissolved solids (TDS)) ranges between 3,000 to 7,000 milligrams per litre (mg/L).

5.2.2 Local

The observations in Table 5.2 presents the site specific observations in relation to groundwater.

Table 5.2: Site-Specific Hydrogeology

Aspect	Details
Aquifers Identified	• The investigated aquifer resides within the underlying sandstone bedrock which was assessed as being unconfined in the NFA Strategy • No indications of a perched or shallower aquifer were noted in the investigations
Depth to Water	• Groundwater was present at a depth of approximately 13 m beneath the site and has ranged from 12.92 m (in MW12 in 2011) to 15.325 m (in MW03 in 2016) and is currently at an average depth of ~14.5 m. • In general, groundwater levels were highest in 2012 and have subsequently exhibited a decreasing trend and were at the deepest levels measured over the monitoring periods in the most recent GME (September 2016) • A fluctuation of approximately 0.8 m has been observed over the monitoring period.
Light Non-Aqueous Phase Liquid (LNAPL) presence and indications of contamination	LNAPL has not been reported in any wells onsite, although the following indications of potential contamination have historically been reported onsite: • Hydrocarbon odour and sheen in MW03 in the 2004, 2005 and 2010 GMEs • Hydrocarbon odour and sheen noted in MW04 in the 2005 and 2010 GMEs • A hydrocarbon odour and sheen were noted in MW09 in the 2010 GME • Hydrocarbon odour noted in MW03 in 2014 & 2016 • Slight hydrocarbon odour noted in MW04 in 2014 • No sheen was reported in 2014 or 2016.
Hydraulic Gradient	The hydraulic gradient of groundwater during the 2014 GME was calculated to be 0.006
Groundwater Flow	The groundwater flow direction has consistently been towards the Namoi River to the northeast of the site The 2012 GME calculated that the velocity of the flow beneath the site was expected to range between 0.001 and 1 metres per year
Groundwater Quality	Geochemical results from the 2014 GME indicated the following: • The measured TDS ranged between 1091.75 to 2612.50 mg/L, indicating that the groundwater below the site is brackish • The pH ranged from 6.83 to 7.18, indicating near neutral conditions

Table 5.2: Site-Specific Hydrogeology	
Aspect	**Details**
	• The dissolved oxygen ranged from 0.36 to 3.90 parts per million (ppm), indicating weakly aerobic conditions • The redox potential ranged from -34.0 to -298.6 millivolts, indicating a reducing environment Data from the 2016 GME was consistent with the above. The 2014 GME report concluded that the field measurements were sufficiently similar to infer that they were measured from a single aquifer.

5.3 Auditor's Opinion

Overall, the Auditor considers that the subsurface conditions at the site (including fill, natural soil, bedrock and groundwater) are sufficiently understood for the purpose of the Audit.

The Auditor agrees that based on a review of the measured parameters onsite, the TDS values are likely to preclude the abstraction of groundwater for potable purposes. The Auditor also agrees that based on a review of the field measurements that the groundwater monitoring wells have targeted a single, unconfined aquifer.

6. EVALUATION OF QUALITY ASSURANCE AND QUALITY CONTROL

The Auditor has assessed the overall quality of the data by review of the information presented in the referenced reports listed in Section 1.1, supplemented by field observations. The data sources are summarised in Table 6.1.

Table 6.1: Summary of Intrusive Investigations

Report	Works	Analytical Data Obtained
The Otek ESA Attachment 3, Appendix A	Soil vapour survey with PID at 18 locations (SP-1 to SP-18) to depths of 1.5 m Collection of soil samples from 8 soil bores (B-1 to B-8)	Photoionisation detector (PID) readings at 0.5 and 1.5 m Soil: BTEX (13), TPHs (13) and cadmium, lead, chromium and arsenic (4)
The Modified PPK ESA Attachment 4, Appendix A	6 x soil bores (GUN 1 to GUN 6) to depths of between 4.0 and 8.0 m using solid flight augers Collection of soil samples (GUN1-1, GUN1-4, GUN2-1, GUN2-2, GUN3-1, GUN3-3, GUN4-2, GUN4-3, GUN5-3, GUN5-4, GUN6-2 and GUN6-3)	PID readings on soil samples Soil: BTEX (12), TPHs (12) and lead (12)
The PPK Decommissioning and Validation Report Attachment 5, Appendix A	Decommissioned infrastructure included: concrete cradles and slabs for AST 5, 7 and 8, the drum filling platform, store building and adjacent store, UST 10 and 11, earth bunding, garage and services pit and underground pipework Eight excavations were completed in areas where soils was assumed to have been impacted as listed below and subsequent collection of validation samples (1-73, 90-95, 97-104, 146, 271-274 and 292-293): • AST farm - 14.9 x 5.8 x 2.6 m (225 m^3) • Gantry & cradle AST - 18.6 x 20.8 x 5.5 m (2,127 m^3) • Drum store and platform - 26.5 x 13.3 x 4.2 m (1,460 m^2) • Trenches (various) (94 m^2) • Service bay - 5 x 1 x 1 m (20 m^3) • Store - 8 x 2.5 x 0.5 m (10 m^3) • Absorption bed and drainage line - 3 x 8 x 1.5 m (36 m^3) • USTs - 4 x 4 x 3 m to 9 (39 m^3) Stockpile, land farm, sample (74-89, 105 I 110, 112 to 145, 147 to 244, 270, 290 and	PID readings on soil samples Soil: BTEX (301), TPHs (301) and lead (301)

Table 6.1: Summary of Intrusive Investigations		
Report	**Works**	**Analytical Data Obtained**
	291) and reinstate the excavations with the stockpiled material 18 test pits (TP1–TP18) to a maximum depth of 1.3 m on a 8.5 m grid	
URS Phase 2 ESA Attachment 6, Appendix A	59 x soil bores (SB01 to SB59) to depths of between 4.0 and 19 m (including 7 to a depth of between 16.5 and 19.0 m using solid stem augers and air hammer and 49 by hand augering or solid stem augers to a depth of 2.0 m) and collection of soil samples Installation of 7 onsite groundwater monitoring wells (MW01 to MW007) and collection of groundwater samples	PID readings on soil samples Soil (including QA/QC): BTEX (96), TPH (96), metals (96), speciated phenols (96), PAHs (96), trihalomethanes (96) volatile halogenated hydrocarbons (96) and fumigants (96) Groundwater (including QA/QC): BTEX (9), TPH (9), metals (9), speciated phenols (9), PAHs (9), halogenated aromatics (4) and halogenated aliphatics (4)
PP2 ESA Attachment 7, Appendix A	4 x soil bores (MW08 to MW11) to depths of 18.0 m using solid stem augers and air hammer and collection of soil samples 3 x onsite groundwater monitoring wells (MW08 to MW10) and 1 offsite monitoring well (MW11) and collection of groundwater samples Completion of a utility pit vapour survey on three offsite utility pits using a PID	PID readings on soil samples Soil (including QA/QC): BTEX (6), TPH (6), metals (6), PAHs (6), speciated phenols (6), chlorinated aliphatic compounds (6), chlorinated aromatic compounds (6), chlorinated hydrocarbons (6), fumigants (6), vinyl chloride (6) and trihalomethanes (6) Groundwater (including QA/QC): BTEX (13), TPH (13), metals (13), phenolic compounds (13), PAHs (13), chlorinated aliphatic compounds (13), chlorinated aromatic compounds (13), fumigants (13), vinyl chloride (13) and natural attenuation parameters (5)
GME (2010) Attachment 7, Appendix A	1 x soil bore (MW12) to a depth of 18.0 m using solid stem augers and collection of soil samples	Soil: BTEX (2), TPH (2), lead (1), PAHs (1) and speciated phenols (1)

Table 6.1: Summary of Intrusive Investigations		
Report	**Works**	**Analytical Data Obtained**
	Installation of 1 onsite monitoring well (MW12) and collection of groundwater samples	Groundwater (including QA/QC): BTEX (14), TPH (14), metals (14), PAHs (14), speciated phenols (14), chlorinated aromatic compounds (14), chlorinated aliphatic compounds (14), fumigants (14), trihalomethanes (14) and natural attenuation parameters (5)
GME (2011)	Collection of groundwater samples	Groundwater (including QA/QC): BTEX (12), TPH (12), metals (12), PAHs (12), chlorinated aromatic compounds (12), chlorinated aliphatic compounds (12), fumigants (12), trihalomethanes (12) and natural attenuation parameters (12)
URS Demolition Report	Removal of hazardous building materials (asbestos) and demolition of the office building near the eastern boundary. Removal of material offsite Levelling the work site depression with site won material	No analytical data obtained
GME (2014)	Collection of groundwater samples Complete a sensitive receptor survey	Groundwater (including QA/QC): BTEX (12), TRH (12), metals (12), PAHs (12), trihalomethanes (12), volatile organic compounds (12), chlorinated hydrocarbons (12) and natural attenuation parameters (3)
NFA Report Attachment 8, Appendix A	Excavating 4 test pits to a depth of 2.5 m in the following areas: • Vicinity of former UST12 (TP01) • Vicinity of MW03 (TP02) • Vicinity of impacts near SB08 & SB44 (TP03) • Vicinity of former separator (TP04) Installing a soil vapour well near MW03 at a depth of 1.5 m (SV01). No soil vapour	Soil: TPH (13), BTEXN (13), PAHs (3), phenols (3) Groundwater: TPH (3), BTEXN (3), sulphate (3), ferrous iron (3), nitrate (3), methane (3)

Table 6.1: Summary of Intrusive Investigations		
Report	**Works**	**Analytical Data Obtained**
	sample was collected. 1 x soil sample was analysed at the base of the installation Gauging of all wells. Collection and analyses of a groundwater sample from MW03 plus two duplicate samples	
NFA Soil Vapour Report Attachment 9, Appendix A	5 x soil vapour probes at 3 x locations at depths of 1.5 m & 3.5 m (SV02, SV03/04 & SV05/06) Collection and analyses of 5 x soil samples at the base of the installation Collection and analyses of 14 x soil vapour samples on 5 October 2017 & 15 December 2017	Soil: TPH, BTEXN, lead, MTBE, 1,2-dibromomethane & 1,2-dichloroethane (5) Soil Vapour (5 October 2017 & 15 December 2017): 6 + 1 duplicate x BTEXN, TPH, MTBE, 1,2-dibromomethane & 1,2-dichloroethane (i.e. 14 total)

The Auditor has assessed the overall quality of the data by review of the information presented in the referenced reports, supplemented by field observations. The Auditor's assessment follows in Tables 6.2 and 6.3.

Table 6.2: QA/QC – Sampling and Analysis Methodology Assessment	
Sampling and Analysis Plan and Sampling Methodology	**Auditor's Opinion**
Data Quality Objectives (DQO) No specific DQOs were provided in accordance with the seven step process outlined in DEC (2006) for the intrusive investigation works completed onsite. However, project objectives were clearly defined and sampling strategies were developed to achieve the stated objectives.	*Acceptable* Overall the omission of specific DQOs for the majority of the investigation works is not considered to affect the outcome of the Audit as works were appropriately designed around the project objectives
Sampling pattern, locations, density and depth *Soil:* investigation locations were both targeted (particularly in the PPK Decommissioning and Validation Report when fuel related infrastructure was being demolished) and grid based to identify any potential contamination hotspots not directly below or in the vicinity of known fuel related infrastructure (particularly in the URS Phase 2 ESA). Boreholes were completed to a maximum depth of 19.0 m and samples were generally collected every 0.5 to 1.0 m. The majority of samples submitted for laboratory analysis were located in the top 2 m, although samples as deep as 10.0 to 11.0 m were submitted as part of the URS Phase 2 ESA. In addition, samples were submitted from each lithological unit,	*Acceptable* In the Auditor's opinion, the sampling pattern, location, density and depth were acceptable based on field observations and the site history. The sampling density exceeded the NSW EPA (1995) *Sampling Design Guidelines*

Table 6.2: QA/QC – Sampling and Analysis Methodology Assessment	
Sampling and Analysis Plan and Sampling Methodology	**Auditor's Opinion**
including the fill material, the unconsolidated natural material and the underlying sandstone bedrock *Groundwater:* groundwater samples were first obtained onsite in 2004 after previous attempts to intercept groundwater were unsuccessful. Groundwater sampling was all completed on the same aquifer, which resided in the natural underlying bedrock *Soil vapour survey:* The Otek ESA completed a soil vapour survey at 18 locations around in the site, concentrated in the vicinity of the infrastructure (note that the majority of the known fuel related infrastructure was still in place at the time the survey was completed and consequently no samples were obtained directly below the infrastructure). The soil vapour survey included taking PID samples at 0.5 and 1.5 m *Soil Vapour Assessment:* The NFA Soil Vapour Report included installation of 3 nested (1.5 m/3.5 m) soil vapour probes: • SV01/1.5 m & SV02/3.5 m - adjacent to UST 10/11 and drum cleaning excavations (near MW03) • SV03/1.5 m & SV04/3.5 m - North eastern end of the AST Farm & Gantry excavation (near sample locations SB06 & 101 where residual impacts may remain at depth) • SV05/1.5 m & SV06/3.5 m South eastern end of former drum store excavation	
Well construction *Groundwater:* the 12 groundwater monitoring wells were installed using a combination of hollow stem augers, solid stem and air hammer. All the monitoring wells were installed by URS over three phases of investigation. Screens were generally 6 m in length installed in the base of the well (between 16.5 and 19.0 m) in the underlying sandstone aquifer. Wells were constructed of 50 mm uPVC. A bentonite seal of 0.3 to 0.5 m thickness was placed above the screen and the well backfilled with soil cuttings or cement grout to the ground surface. All wells were developed subsequent to installation and prior to purging and sampling. The wells were finished with lockable caps and gatic covers. *Soil Vapour Survey*: soil vapour sampling was completed by drilling the surface with a 25 millimetre (mm) masonry bit using an electric rotary hammer drill *Soil Vapour Probes:* Soil vapour probes were installed using ¼ inch Teflon tubing and stainless steel implants at	*Acceptable* The long groundwater well screen intervals could lead to dilution of groundwater within the wells. However, considering the site specific conditions and single unconfined aquifer the wells are considered sufficient to provide an indication of the groundwater conditions at the site.

Table 6.2: QA/QC – Sampling and Analysis Methodology Assessment	
Sampling and Analysis Plan and Sampling Methodology	**Auditor's Opinion**
1.5 m and 3.5 m. The implant was backfilled with sand and the sealed with bentonite.	
Sample collection method *Soil*: samples in the Otek ESA were collected either from a split spoon or directly from the augers. The sample collection methodology in the PPK Decommissioning and Validation Report was not detailed. Soil samples collected during the URS investigation works were collected either via a split soon, directly off the solid flight augers, from a hand auger or from push tube sample liners. Soil samples were collected by excavator in 2016 for the NFA report. *Groundwater*: samples were collected by disposable Teflon bailers in the Phase 2 ESA, Post Phase 2 ESA and the 2010 GME. Groundwater samples were collected by low flow techniques in the 2012, 2014 & 2916 GMEs (unspecified for the 2012 GME but dual tubing was used, so presumably bladder or a micropurge pump and a micropurge pump in the 2014 GME) *Soil Vapour (PID):* the hole was advanced with the bit to one half metre at which time the PID tube (with a slotted metal tip attached) was lowered into the hole. After monitoring the vapour concentrations for 5 minutes at half a metre, the metal tip was attached to a 16 mm diameter hollow metal rods. The rods were subsequently driven into the ground approximately 1.5 m with the rotary hammer. *Soil Vapour:* Samples were collected using 1.4 L Summa Canisters. Sampling train consisted of Teflon tubing, glass moisture trap, and the canister. The probe and train were purged with a volume of 3 times the total bore and train volume. Samples were collected over a 20 minute period.	*Acceptable* There is a potential for loss of volatiles to have occurred during soil sampling from the solid stem auger flights, however this is not considered to be significant in the context of the Audit given that the majority of samples were not collected from the auger flights and that analytical results were supplemented by field observations Initial groundwater sample collection by bailers may have resulted in a loss of volatiles via disturbance of the water column. Again, this is not considered to be significant in the context of the overall Audit as samples were collected by low flow sampling techniques in the two most recent GMEs
Decontamination procedures *Soil:* decontamination procedures in the Otek ESA, the PPK Decommissioning and Validation Report and the 2010 GME report (where monitoring well MW12 was installed) were not discussed. The push tubes and augers were reportedly decontaminated with Decon 90 solution and rinsed with potable water in the URS Phase 2 ESA and the PP2 ESA. Decontamination was not discussed in the NFA report. However, presumably minimal equipment was required for sampling from an excavator. *Groundwater*: where equipment was re-used between wells (including the interface probe), it was reportedly	*Acceptable* The Auditor does not consider the lack of information on decontamination in early phases of investigation and 2016 to be significant as additional investigation data was collected in later investigations and minimal data was collected in 2016.

Table 6.2: QA/QC – Sampling and Analysis Methodology Assessment	
Sampling and Analysis Plan and Sampling Methodology	**Auditor's Opinion**
decontaminated with a Decon 90 solution and rinsed to deionised/ tap water in all the GMEs	
Sample handling and containers Samples were placed into prepared and preserved sampling bottles and jars provided by the laboratory and chilled during storage and subsequent transport to the laboratories and groundwater samples for heavy metals analysis were field filtered. Some of the samples were received by the laboratory in excess of 10 °C, although an attempt to chill had been made either by ice or ice bricks.	*Acceptable* The Auditor does not consider the non-conformances to be significant in the context of the Audit overall
Chain of Custody (COC) Completed CoC forms were provided in the majority of reports, with the exception of some of the laboratory reports for the PPK Decommissioning and Validation Report	*Acceptable* Given that subsequent sampling was undertaken onsite, the Auditor does not consider that lack of CoCs for some of the sample batches in the PPK Decommissioning and Validation Report to be significant in the context of the Audit
Detailed description of field screening protocols *Soil:* field screening for volatiles in the Otek ESA was completed by placing a soil sample in a zip-lock bag, equilibration of the sample for 10 minutes and subsequent insertion of the photoionisation detector (PID) probe subsequently inserted. Field screening completed for the PPK Decommissioning and Validation Report was undertaken by half filling a glass jar with soil, equilibration for 10 minutes and insertion of the PID. PID readings were provided for the majority of samples in subsequent works, although details of how the PID readings were obtained were not detailed. Samples submitted for analysis in the URS Phase 2 ESA and PP2 ESA were reportedly partially based on the results of the field screening results and also appear to have bene taken into consideration for the NFA report. *Groundwater:* Field parameters were measured during well sampling and development	*Acceptable* The Auditor does not consider the lack of information on the methodology for the field screening protocols to be significant in the context of the Audit, based on the additional field observations and laboratory analytical data supplied
Calibration of field equipment The following calibration information was provided in the reports: • Otek ESA: no calibration information/ evidence provided	*Acceptable* The Auditor does not consider the lack of some field screening methodology details or calibration information in the context of the Audit. In considering the data holistically, the field screening

Table 6.2: QA/QC – Sampling and Analysis Methodology Assessment	
Sampling and Analysis Plan and Sampling Methodology	**Auditor's Opinion**
• PPK Decommissioning and Validation Report: no calibration information/ evidence provided • URS Phase 2 ESA: field calibration sheets for the PID and water quality metre (no equipment supplier calibration information was provided). Equipment was reportedly calibrated each day prior to use • PP2 ESA: supplier water quality and interface probe and calibration sheets. PID was reportedly calibrated each day prior to use • 2010 GME: field calibration sheets for pH and conductivity probe. PID was reportedly calibrated each day prior to use • 2011 GME: continuous ambient monitoring wing PID and lower explosive limit meter which were reportedly calibrated each day prior to use • URS Demolition Report: no calibration information presented • 2014 GME: supplier calibration certificates for water quality metre • 2016 NFA Report: Not provided	works are considered to have been completed in line with industry standards
Sampling logs Soil logs were provided within the body of the reports where boreholes were completed for the majority of investigation works with the exception of logs and sample descriptions for the PPK Decommissioning and Validation Report were not included in the version supplied to the Auditor for review Groundwater field sampling records were also provided for all the GMEs completed onsite	*Acceptable* Given the high density of sampling completed in subsequent investigations onsite, the Auditor does not consider the lack of information on the soil descriptions in the PPK Decommissioning and Validation Report to be significant in the context of the Audit

Table 6.3: QA/QC – Field and Lab Quality Assurance and Quality Control	
Field and Lab QA/QC	**Auditor's Opinion**
Field quality control samples Field quality control samples included trip spikes, trip blanks, rinsate blanks, inter and intra-laboratory duplicates	*Acceptable*
Field quality control results The results of field quality control samples were generally within appropriate limits with the exception of a few RPD	*Acceptable* Overall, in the context of the dataset reported, the elevated

Table 6.3: QA/QC – Field and Lab Quality Assurance and Quality Control	
Field and Lab QA/QC	**Auditor's Opinion**
exceedances for metals, TPHs and PAHs (mainly in the soil samples), which were attributed to either sample heterogeneity or differences in analytical procedures by the different analysing laboratories	RPD results are not considered significant and the field quality control results are acceptable
NATA registered laboratory and NATA endorsed methods Laboratories used included: ALS, MGT, Amdel, SGS, MGT LabMark and Eurofins. All laboratory certificates were NATA stamped	*Acceptable*
Analytical methods Analytical methods were included in the laboratory test certificates. The laboratories provided brief method summaries of in-house NATA accredited methods used based on USEPA and/or APHA methods (excluding asbestos) for extraction and analysis in accordance with the guidelines at the time	*Acceptable*
Holding times Review of the COCs and laboratory certificates indicate that the holding times had all been met with the exception of iron for groundwater samples in the 2010 GME report, which exceeded the extraction time by 1 day	*Acceptable* The Auditor does not consider the extraction time exceedance for iron by 1 day to be significant as iron was analysed in groundwater samples in subsequent GMEs
Laboratory Limits of Reporting (LORs) *Soil:* LORs were less than the threshold criteria for the contaminants of concern. *Groundwater:* LORs were less than the threshold criteria for the key contaminants of concern (volatile TPH, BTEXN) LORs were increased in some samples and exceeded the screening criteria for the volatile chlorinated compounds 1,2 dibromoethane and 1,2 dichloroethane (anti knock additives to leaded fuels) which were also present at the site.	*Acceptable* The significant of the groundwater LORs is assessed in Section 9.
Laboratory quality control samples Laboratory quality control samples including duplicates, blanks, surrogate and matrix spikes and laboratory control samples were analysed by the laboratories at frequencies generally in accordance with the NATA certification. Some quality control samples, including matrix spikes, laboratory control samples, matrix duplicates and laboratory duplicates were not completed for some of the laboratory analytical reports in the Otek ESA and the PPK Decommissioning and Validation Report	*Acceptable* Where laboratory quality control samples were not completed at frequencies in accordance with the NATA accreditation in the earlier investigations, it is not considered to be significant in the context of the Audit as additional analytical data was subsequently obtained and sampling appears to have been completed in

Table 6.3: QA/QC – Field and Lab Quality Assurance and Quality Control	
Field and Lab QA/QC	**Auditor's Opinion**
	accordance with industry standards
Laboratory quality control results Laboratory quality control results were typically within the acceptable range adopted by the laboratories, with the exception of the following: • Some surrogate results (mostly for phenolic compounds and volatile hydrocarbon compounds) which were outside the criteria of 70-130%, although were generally within the internal laboratory recovery limits • The laboratory control samples for fumigants, halogenated compounds and trihalomethanes in the 2011 GME were less than 70% (the lowest recovery was 61%), although were within the internal laboratory acceptable limits	*Acceptable* In the context of the dataset reported, the non-conformances in the laboratory quality control results are not considered significant and the laboratory quality control results are acceptable
Data Quality Indicators (DQI) and Data Evaluation (completeness, comparability, representativeness, precision, accuracy) With the exception of the Otek ESA which made no conclusions on the reliability of the data obtained, the investigations concluded that the data obtained was generally of suitable reliability The NATA certified laboratory results sheets indicate that the project laboratory was generally achieving levels of performance within its recommended control limits during the period when the samples from this program were analysed	An assessment of the data quality with respect to the five category areas has been undertaken by the Auditor and is summarised below

In considering the data as a whole the Auditor concludes that:

- While data is likely to be representative of the overall conditions, the borehole logs were not provided in the version of the PPK Validation and Decommissioning Report received by the Auditor, the density of subsequent sampling events was considered to be sufficient to compensate for this
- The data is complete
- There is a high degree of confidence that data is comparable for each sampling and analytical event and that the RPDs for field and laboratory duplicate and triplicate samples were generally within the acceptable limits
- The laboratories provided sufficient information to conclude that data is of sufficient precision
- While most of the data is likely to be accurate, there is some doubt regarding possible loss of volatiles. This is because no trip spikes were used, and although samples were recorded as having generally been received at the primary laboratory in good (chilled) condition, some of the samples were received by the laboratory in excess of 10 °C. In addition, some of the soil samples were collected directly from the augers which could lead to the loss of volatiles.

Furthermore, some of the earlier groundwater samples were collected using a bailer, which could also have led to the loss of volatiles. These are not considered to be significant in the context of the Audit as a whole however, based on additional lines of evidence and in the case of groundwater monitoring, the most recent groundwater results were collected through low flow sampling techniques.

7. ENVIRONMENTAL QUALITY CRITERIA

7.1 Soil

On 11 April 2013, the Standing Council on Environment and Water (SCEW) agreed to amend the National Environment Protection (Assessment of Site Contamination) Measure 1999 (NEPM 1999 (2013)). The amendment came into effect on 16 May 2013. To enable its implementation in NSW, the list of approved guidelines under section 105 of the *Contaminated Land Management Act 1997* was updated by NSW EPA to include the amended ASC NEPM and its associated schedules.

NSW EPA has advised that the amended NEPM 1999 (2013) and its supporting schedules apply to works completed after 15 May 2013. The majority of the soil investigations were completed prior to this date and the consultants sourced assessment criteria in line with the original NEPM 1999 for residential sites from the Soil Investigation Levels for Urban Redevelopment Sites in NSW in DEC (2006) Guidelines for the NSW Site Auditor Scheme and the EPA (1994) Guidelines for Assessing Service Station Sites for assessing TPH and BTEX results. The primary contaminants of concern at the site were light fraction petroleum hydrocarbons (F1, F2 and benzene). There are differences in the criteria for these fractions between the original and amended NEPM 1999 (2013), with the original NEPM 1999 being less conservative for benzene and petroleum hydrocarbons in the F2 fraction. Therefore, the Auditor reviewed the soil data against the amended NEPM 1999 (2013). Based on the proposed unrestricted residential end point the Tier 1 (screening) criteria for 'low density residential with access to soil' or an Urban Residential setting were referred to.

- Human Health Assessment
  - Health Based Investigation Levels (HIL A)
  - Soil Health Screening Levels (HSL A) for Vapour Intrusion. Criteria were adopted for a sand geology and given the potential for construction of basements the most conservative depth range of 0 to <1 m was applied.
  - Asbestos was not identified as a contaminant of concern in soil.
- Terrestrial Ecological Assessment
  - Ecological Screening Levels (ESL Urban Residential) assuming coarse soil.
  - Ecological Investigation Levels (EIL Urban Residential). In the absence of site specific soil data on pH, clay content, cation exchange capacity and background concentrations, the published range of the added contaminant values have been applied as an initial screen.
- Management Limits (ML Residential) assuming coarse soil.
- Aesthetics
  - The Auditor has considered the need for remediation based on the 'aesthetic' contamination as outlined in the NEPM (2013).

7.1.1 Auditor's Opinion

The criteria adopted by the Auditor were largely consistent with those considered by Golder for the NFA report. However, Golder adopted a sand soil type for data collected at depths shallower that 2m depth and a clay soil type for soils greater than 2 m depth. This was not significant in the context of the data set reviewed.

7.2 Groundwater

The Auditor has assessed the groundwater data in reference to Tier 1 (screening) criteria for 'low to high density residential' land use from the following:

- Human Health Assessment

- NEPM (2013) Groundwater Health Screening Levels (HSL A) for vapour intrusion (sand, 8+ m) which would allow for construction of a basement given that groundwater is present at depth of approximately 13 – 15 m.
- NEPM (2013) Drinking water criteria as a conservative screen where HSLs are not available (including 1,2 dichloroethane).
- USEPA RSL Residential Tap Water Criteria for use where NEPM (2013) drinking water guidelines or HSLs are not available (including 1,2 dibromoethane and some speciated phenols and cresols).

- Ecological Assessment
  - Groundwater Investigation Levels (GILs) listed in NEPM (2013) for protection of aquatic ecosystems referenced in ANZECC (2000) *Australian and New Zealand Guidelines for Fresh and Marine Water Quality*. Trigger values (TVs) provided are concentrations that, if exceeded, indicate a potential environmental problem at the point of use and 'trigger' further investigation. The fresh water 95% level of protection was adopted.

7.2.1 Auditor's Opinion

Golder adopted a clay soil type. The HSL A for F1 is non-limiting in clay but not in sand (which is 1,000 µg/L) and the HSL A for benzene is 5,000 µg/L in clay and 900 µg/L in sand. This had a bearing on the interpretation of the F1 and benzene for the data set reviewed and resulted in the Auditor assessing an increased potential soil vapour risk.

7.3 Soil Vapour

The Auditor assessed the soil vapour data in reference to Tier 1 (screening) criteria for "residential" land use as follows:

- Human Health Assessment
  - NEPM 1999 (2013) Soil Vapour Health Screening Levels (HSL A) for vapour intrusion (sand, 1 to <1, 1 to <2 and 2 to <4 m).

Criteria for commercial/industrial land use at depth of 0 to <1 m was used to assess a basement car parking scenario.

The specific criteria adopted by the Auditor are summarised in Table 7.1.

Table 7.1: Soil Vapour Assessment criteria, Sand (mg/m³)

Analyte	0 m to <1 m HSL A/HSL D	1 m to <2 m HSL A	2 m to <4 m HSL A
F1 – TPH (C_6-C_{10} - BTEX)	180/680	640	1300
F2 – TPH (>C_{10}-C_{16} - naphthalene)	130/500	560	1200
Benzene	1/4	3	6
Toluene	1300/4800	3800	7300
Ethyl benzene	330/1300	1100	2200
Xylenes	220/840	750	1500
Naphthalene	0.8/3	3	6

7.3.1 Auditor's Opinion

Golder also adopted these criteria. Some typographic errors were noted in the units presented in the tabulated results in the NFA Soil Vapour Report, the Auditor corrected these when assessing the data.

Golder also used Resident Vapour Intrusion Screening Levels (May 2018) adjusted for a target cancer risk level of $1x10^{-5}$ for MTBE (3.6 mg/m^3), 1,2-dibromomethane (EDB) (0.0016 mg/m3) & 1,2-dichloroethane (0.036 mg/m^3) for assessing sub-slab concentrations. The Auditor is of the opinion these values provide a reasonable screening tool. The LOR for these analytes were below the adopted criteria for all samples with the exception of EDB (0.021 mg/m^3).

Golder assessed this to be acceptable because EDB was not positively detected in any sample and additional attenuation would expected before an indoor air concentrations were realised. The Auditor is of the opinion that this is reasonable and considers that the risk of EDB posing a soil vapour intrusion risk is low and acceptable based on the data reviewed.

8. EVALUATION OF SOIL ANALYTICAL RESULTS

8.1 Excavation Validation

Analytical results for the final validation samples from the walls and the base of the excavations reported in the PPK (1997) Decommissioning and Validation Report are summarised in Table 8.1 based on the corresponding sample depth and includes duplicate samples.

Table 8.1: Excavation Wall & Base Validation Samples (mg/kg)

Analyte	n	Detections	Maximum	n > Human Health Screening Criteria (NEPM, 2013)	n > Terrestrial Ecological Screening Criteria (NEPM, 2013)
0 m to <1m					
TPH C_6-C_{10} - BTEX or C_6-C_9 – BTEX (F1)	31	1	21	0 above HSL A of 45	0 above ESL of 180
TPH >C_{10}-C_{16} - naphthalene or C_{10}-C_{14} (F2)	31	5	**398**	**1 (plus 2 x dups) above HSL A of 110**	**1 (plus 2 x dups) above ESL of 120**
TPH >C_{16}-C_{34} or C_{15}-C_{28} (F3)	31	4	130	0 above ML of 2,500	0 above ESL of 300
TPH >C_{34}-C_{40} or C_{29}-C_{36} (F4)	31	0	<100	0 above ML of 10,000	0 above ESL of 2,800
Naphthalene	0	NA	NA	HSL A of 3	EIL of 170
Benzene	31	0	<0.01	0 above HSL A of 0.5	0 above ESL of 50
Toluene	31	0	<0.01	0 above HSL A of 160	0 above ESL of 85
Ethyl Benzene	31	2	0.09	0 above HSL A of 55	0 above ESL of 70
Xylenes	31	3	0.12	0 above HSL A of 40	0 above ESL of 105
Lead	31	24	87	0 above HIL A of 300	0 above Generic ACL of 1100
1 m to <2m					
TPH C_6-C_{10} - BTEX or C_6-C_9 – BTEX (F1)	20	2	**57**	**1 above HSL A of 45**	0 above ESL of 180
TPH >C_{10}-C_{16} - naphthalene or C_{10}-C_{14} (F2)	20	6	**650**	**6 above HSL A of 110**	**6 above ESL of 120**
TPH >C_{16}-C_{34} or C_{15}-C_{28} (F3)	20	3	208	0 above ML of 2,500	0 above ESL of 300
TPH >C_{34}-C_{40} or C_{29}-C_{36} (F4)	20	0	<100	0 above ML of 10,000	0 above ESL of 2,800
Naphthalene	0	NA	NA	HSL A of 3	EIL of 170

Table 8.1: Excavation Wall & Base Validation Samples (mg/kg)					
Analyte	**n**	**Detections**	**Maximum**	**n > Human Health Screening Criteria (NEPM, 2013)**	**n > Terrestrial Ecological Screening Criteria (NEPM, 2013)**
Benzene	20	1	0.08	0 above HSL A of 0.5	0 above ESL of 50
Toluene	20	2	0.9	0 above HSL A of 160	0 above ESL of 85
Ethyl Benzene	20	5	1.4	0 above HSL A of 55	0 above ESL of 70
Xylenes	20	5	12.4	0 above HSL A of 40	0 above ESL of 105
Lead	20	16	54	0 above HIL A of 300	0 above Generic ACL of 1100
2 m to 4m					
TPH C_6-C_{10} - BTEX or C_6-C_9 – BTEX (F1)	21	1	32	0 above HSL A of 45	0 above ESL of 180
TPH >C_{10}-C_{16} - naphthalene or C_{10}-C_{14} (F2)	21	4	**660**	**4 above HSL A of 110**	**3 above ESL of 120**
TPH >C_{16}-C_{34} or C_{15}-C_{28} (F3)	21	3	**630**	0 above ML of 2,500	**1 above ESL of 300**
TPH >C_{34}-C_{40} or C_{29}-C_{36} (F4)	21	0	<100	0 above ML of 10,000	0 above ESL of 2,800
Naphthalene	0	NA	NA	HSL A of 3	EIL of 170
Benzene	21	0	<0.01	0 above HSL A of 0.5	0 above ESL of 50
Toluene	21	0	<0.01	0 above HSL A of 160	0 above ESL of 85
Ethyl Benzene	21	2	0.06	0 above HSL A of 55	0 above ESL of 70
Xylenes	21	2	1	0 above HSL A of 40	0 above ESL of 105
Lead	21	21	7.3	0 above HSL A of 40	0 above ESL of 105
4m +					
TPH C_6-C_{10} - BTEX or C_6-C_9 – BTEX (F1)	22	5	**373**	**4 above HSL A of 45**	**2 above ESL of 180**
TPH >C_{10}-C_{16} - naphthalene or C_{10}-C_{14} (F2)	22	13	**4500**	**11 above HSL A of 110**	**10 above ESL of 120**
TPH >C_{16}-C_{34} or C_{15}-C_{28} (F3)	22	10	**760**	0 above ML of 2,500	**4 above ESL of 300**
TPH >C_{34}-C_{40} or C_{29}-C_{36} (F4)	22	0	<100	0 above ML of 10,000	0 above ESL of 2,800
Naphthalene	0	NA	NA	HSL A of 3	EIL of 170

Table 8.1: Excavation Wall & Base Validation Samples (mg/kg)					
Analyte	**n**	**Detections**	**Maximum**	**n > Human Health Screening Criteria (NEPM, 2013)**	**n > Terrestrial Ecological Screening Criteria (NEPM, 2013)**
Benzene	22	1	0.08	0 above HSL A of 0.5	0 above ESL of 50
Toluene	22	1	0.08	0 above HSL A of 160	0 above ESL of 85
Ethyl Benzene	22	11	4	0 above HSL A of 55	0 above ESL of 70
Xylenes	22	12	8.8	0 above HSL A of 40	0 above ESL of 105
Lead	22	19	11	0 above HSL A of 300	0 above Generic ACL of 1,100

Based on the available excavation validation data, the majority of residual petroleum hydrocarbon impact (exceeding the HSLs A, 0 to <1 m, in the F1 and F2 fractions) appears to be located within the drum store excavation (near the fill points and the lines form the railway) and the AST Farm & Gantry excavation (downgradient from former UST pit and drum cleaning service pit). The highest level of impact (exceeding HSL A in half the samples analysed and with a maximum concentration of 4,500 mg/kg F2) appears to be at depths of approximately 4–5 m or greater and may coincide with a layer of weathered sandstone (logged as clayey sand) present at some locations at the top of the sandstone unit.

Significant benzene, F1 and F2 impact has also been observed in groundwater MW03 located within the former UST Pit (as discussed in Section 9) suggesting an associated loss of product from the former USTs and/or the impact from the former drum cleaning service pit in this area.

The petroleum hydrocarbon impact may have historically migrated along this layer at the top of the sandstone.

Shallower (lesser) impact (maximum 660 mg/kg F2) (in samples analysed at 1.5 m and 2 m) appeared to be located near the former drum fill point and distribution lines from the railway and in the closer vicinity of the former USTs. However, no excavation logs are available to confirm the analysed samples are representative of the worst zones of impact.

Additional data was collected systematically from soil bores, test pits and monitoring wells across the site between 1993 and 2016 (see Section 8.2).

8.2 Systematic Investigations

Additional systematic data is summarised in Table 8.2 and includes duplicate samples.

Table 8.2: Grid Validation Samples (mg/kg)					
Analyte	**n**	**Detections**	**Maximum**	**n > Human Health Screening Criteria (NEPM, 2013)**	**n > Terrestrial Ecological Screening Criteria (NEPM, 2013)**
0 m to <1m					

Table 8.2: Grid Validation Samples (mg/kg)					
Analyte	**n**	**Detections**	**Maximum**	**n > Human Health Screening Criteria (NEPM, 2013)**	**n > Terrestrial Ecological Screening Criteria (NEPM, 2013)**
TPH C_6-C_{10} - BTEX or C_6-C_9 – BTEX (F1)	73	2	4.5	0 above HSL A of 45	0 above ESL of 180
TPH >C_{10}-C_{16} - naphthalene or C_{10}-C_{14} (F2)	73	2	67	0 above HSL A of 110	0 above ESL of 120
TPH >C_{16}-C_{34} or C_{15}-C_{28} (F3)	73	8	**454**	0 above ML of 2,500	**1 above ESL of 300**
TPH >C_{34}-C_{40} or C_{29}-C_{36} (F4)	73	4	180	0 above ML of 10,000	0 above ESL of 2,800
Naphthalene	30	0	<0.5	HSL A of 3	EIL of 170
Benzene	73	0	<0.2	0 above HSL A of 0.5	0 above ESL of 50
Toluene	73	5	1.6	0 above HSL A of 160	0 above ESL of 85
Ethyl Benzene	73	0	<0.2	0 above HSL A of 55	0 above ESL of 70
Xylenes	73	0	<0.6	0 above HSL A of 40	0 above ESL of 105
Lead	69	65	124	0 above HIL A of 300	0 above Generic ACL of 1100
Phenols	20	0	<0.5	0 above HIL A of 3,000	-
Total PAHs	26	1	4	0 above HIL A of 300	-
Other VOCs	2	0	<0.5	O above LOR	-
1 m to <2m					
TPH C_6-C_{10} - BTEX or C_6-C_9 – BTEX (F1)	49	2	3	0 above HSL A of 45	0 above ESL of 180
TPH >C_{10}-C_{16} - naphthalene or C_{10}-C_{14} (F2)	49	1	**1,720**	**1 above HSL A of 110**	**1above ESL of 120**
TPH >C_{16}-C_{34} or C_{15}-C_{28} (F3)	49	2	**3,420**	**1 above ML of 2,500**	**1 above ESL of 300**
TPH >C_{34}-C_{40} or C_{29}-C_{36} (F4)	49	0	<100	0 above ML of 10,000	0 above ESL of 2,800
Naphthalene	20	0	<0.5	0 above HSL A of 3	0 above EIL of 170
Benzene	49	0	<0.2	0 above HSL A of 0.5	0 above ESL of 50
Toluene	49	0	<0.2	0 above HSL A of 160	0 above ESL of 85

Table 8.2: Grid Validation Samples (mg/kg)					
Analyte	**n**	**Detections**	**Maximum**	**n > Human Health Screening Criteria (NEPM, 2013)**	**n > Terrestrial Ecological Screening Criteria (NEPM, 2013)**
Ethyl Benzene	49	0	<0.2	0 above HSL A of 55	0 above ESL of 70
Xylenes	49	0	<0.2	0 above HSL A of 40	0 above ESL of 105
Lead	46	44	18	0 above HIL A of 300	0 above Generic ACL of 1100
Phenols	16	0	<0.5	0 above HIL A of 3,000	-
Total PAHs	17	0	<0.5	0 above HIL A of 300	-
Other VOCs	9	0	<0.5	0 above LOR	-
2 m to 4m					
TPH C_6-C_{10} - BTEX or C_6-C_9 – BTEX (F1)	23	2	3.5	0 above HSL A of 45	0 above ESL of 180
TPH >C_{10}-C_{16} - naphthalene or C_{10}-C_{14} (F2)	23	4	**2570**	**4 above HSL A of 110**	**3 above ESL of 120**
TPH >C_{16}-C_{34} or C_{15}-C_{28} (F3)	23	4	**5740**	**3 above ML of 2,500**	**4 above ESL of 300**
TPH >C_{34}-C_{40} or C_{29}-C_{36} (F4)	23	0	<100	0 above ML of 10,000	0 above ESL of 2,800
Naphthalene	12	3	2.6	0 above HSL A of 3	0 above EIL of 170
Benzene	23	0	<0.2	0 above HSL A of 0.5	0 above ESL of 50
Toluene	23	3	2.6	0 above HSL A of 160	0 above ESL of 85
Ethyl Benzene	23	1	0.54	0 above HSL A of 55	0 above ESL of 70
Xylenes	23	1	2.7	0 above HSL A of 40	0 above ESL of 105
Lead	20	19	13	0 above HSL A of 40	0 above ESL of 105
Phenols	9	0	<0.5	0 above HIL A of 3,000	-
Total PAHs	9	3	25	0 above HIL A of 300	-
BaP	6	0	<0.5	0 above HIL A of 3	0 above ESL of 0.7
Other VOCs	1	0	<0.5	0 above LOR	-
4m +					
TPH C_6-C_{10} - BTEX or C_6-C_9 – BTEX (F1)	17	2	2	0 above HSL A of 45	0 above ESL of 180

Table 8.2: Grid Validation Samples (mg/kg)					
Analyte	**n**	**Detections**	**Maximum**	**n > Human Health Screening Criteria (NEPM, 2013)**	**n > Terrestrial Ecological Screening Criteria (NEPM, 2013)**
TPH >C_{10}-C_{16} - naphthalene or C_{10}-C_{14} (F2)	17	3	**125** (MW04)	**1 above HSL A of 110**	**1 above ESL of 120**
TPH >C_{16}-C_{34} or C_{15}-C_{28} (F3)	17	0	<100	0 above ML of 2,500	0 above ESL of 300
TPH >C_{34}-C_{40} or C_{29}-C_{36} (F4)	17	0	<100	0 above ML of 10,000	0 above ESL of 2,800
Naphthalene	17	0	<0.5	0 above HSL A of 3	0 above EIL of 170
Benzene	17	0	<0.2	0 above HSL A of 0.5	0 above ESL of 50
Toluene	17	0	<0.2	0 above HSL A of 160	0 above ESL of 85
Ethyl Benzene	17	0	<0.2	0 above HSL A of 55	0 above ESL of 70
Xylenes	17	0	<0.6	0 above HSL A of 40	0 above ESL of 105
Lead	17	16	34	0 above HSL A of 300	0 above Generic ACL of 1,100
Phenols	17	0	<0.5	0 above HIL A of 3,000	-
Total PAHs	17	0	<0.5	0 above HIL A of 300	-
Other VOCs	6	0	<0.5	0 above LOR	-

The majority of the soil bores were terminated at approximate 2 m (at approximately 50 locations) or approximately 4 m (at approximately 20 locations) with some deeper analysed from the groundwater monitoring wells (at approximately 6 locations).

Petroleum hydrocarbon impact exceeding HSL A in the F2 fraction (and MLs in the F3 fraction at SB08) was consistent with the excavation validation data and indicated residual impact to the north of the AST Farm & Gantry (SB08 & SB44) excavation between depths of 2 and 3 m (with the samples at 4 m being clean) and at 5 m (above the sandstone at MW04) (with the sample at 8.5 m at the interface with the sandstone being clean). Potential vapour intrusion risk was assessed by soil vapour sampling (Section 10) and found to be low and acceptable.

The remainder of the data did not indicate significant widespread impact within the top 2 m of soil. The majority of results were below the LOR and the occasional low concentrations of heavy end petroleum hydrocarbons were detected (well below assessment criteria) in shallow soil to the south of the AST Farm & Gantry excavation (in the former concrete driveway area) and between the former garage and office (near the Wentworth Street entrance).

8.2.1 Auditor's Opinion

The residual impact was assessed against conservative assessment criteria relevant for a depth of 0 to 1 m to allow for possible future changes in elevation associated with construction of a basement. In the absence of a soil vapour intrusion risk at the relevant depths the residual

impact at depth (below 2 m) was not considered to pose an unacceptable risk to the proposed land use. This is discussed further in Section 12.

8.3 Land Farmed Stockpiles

The stockpiles generated from the excavations reported in the PPK (1997) Decommissioning and Validation Report were reportedly turned three times over a period of three to four months. Analytical results for the final validation samples are presented in Table 8.3 and includes duplicate samples.

Table 8.3: Excavation Stockpile Validation Samples - Soil Remaining Onsite (mg/kg) (PPK 1997)

Analyte	N	Detections	Maximum	n > Human Health Screening Criteria (NEPM, 2013)	n > Terrestrial Ecological Screening Criteria (NEPM, 2013)
TPH C_6-C_{10} - BTEX or C_6-C_9 – BTEX (F1)	166	1	2	0 above HSL A of 45	0 above ESL of 180
TPH >C_{10}-C_{16} - naphthalene or C_{10}-C_{14} – naphthalene (F2)	166	13	**300**	**1 above HSL A of 110**	**1 above ESL of 120**
TPH >C_{16}-C_{34} or C_{15}-C_{28} (F3)	166	22	880	1 above ML of 2,500	0 above ESL of 300
TPH >C_{34}-C_{40} or C_{29}-C_{36} (F4)	166	2	800	0 above ML of 10,000	0 above ESL of 2,800
Naphthalene	0	NA	NA	HSL A of 3	EIL of 170
Benzene	166	0	<0.01	0 above HSL A of 0.5	0 above ESL of 50
Toluene	166	0	<0.01	0 above HSL A of 160	0 above ESL of 85
Ethyl Benzene	166	3	0.02	0 above HSL A of 55	0 above ESL of 70
Xylenes	166	4	0.04	0 above HSL A of 40	0 above ESL of 105
Lead	166	161	55	0 above HIL A of 300	0 above Generic ACL of 1100

The stockpile validation data did not indicate significant widespread residual petroleum hydrocarbon impact. The remediated soil was reportedly reinstated in the excavations to pre-existing levels in 0.5 m intervals and compacted.

8.4 Potential Odour

PID readings elevated above background and up to 1,667 ppm were detected in nearly every sample of the land farmed soil used to reinstate the excavations. No field observation or logs were reported. This data in now 20 years old, however the potential for residual odours to be present was considered in the context of the future residential use of the site.

Two test pits were advanced through the historic backfill materials by Golder for the NFA report (TP02 and TP03) and no odours or aesthetic issues were observed with the exception of a faint

hydrocarbon odour at 0.5 m depth in TP01. The sample analysed from 0.5 m depth in TP01 reported a PID reading of 2.1 ppm and concentrations of petroleum hydrocarbons were below the laboratory LOR. Therefore, the identified odour was not considered by Golder to limit the future residential use of the site.

The NFA report stated that approximately nine investigation locations through historic backfill materials and approximately 60 soil bores were conducted at other location across the site during the URS Phase 2 ESA in 2005.

Odorous materials where present were generally below depths of 6 m. The exception was some odorous material at approximately 2 m depth in soil bore SB08. This location was reassessed by TP03 for the NFA report to a depth of 2.5 m and no odours were noted and petroleum hydrocarbons were below the laboratory LOR.

Golder concluded that *"It is plausible that some odorous soils remain in discrete areas on the site, as identified in TP01. However, as demonstrated by the URS (2005) investigations and recent Golder investigations, these are likely to be limited in extent and nature and are likely to degrade further with time. When considered within the context of aesthetic considerations which would trigger further assessment as described within NEPM (2013), the site does not have highly malodourous soils (e.g. strong residual hydrocarbon odours), and therefore residual odours (if any) are not considered to limit the future use of the site."*

8.4.1 Auditor's Opinion

The Auditor agrees that unacceptable odours do not appear to be present within the top 2 m of soil. Odours may remain at depth in areas of residual soil impact discussed in Sections 8.1 & 8.2 including the following areas:

- North-east of the former drum store excavation
- North/north-east of the former AST Farm & Gantry excavation
- Adjacent to the former UST 10/UST 11 and drum cleaning pit excavations.

9. EVALUATION OF GROUNDWATER ANALYTICAL RESULTS

A summary of the groundwater monitoring events undertaken at the site is summarised in Table 6.1. Significant lead and petroleum hydrocarbon impact was not detected in the majority of wells as summarised in Table 9.1

Table 9.1: Evaluation of Groundwater Analytical Results

Well	Location	Summary of Results
MW1	Down/across-gradient of AST Farm & Gantry and adjacent separator	5 x GMEs. Low concentrations of F2 to F4 (max 200 µg/L of F3) detected in 2005 only, below criteria. BTEXN not detected Max lead 3 µg/L and <1 µg/L in latest two rounds.
MW2	Within upgradient portion of AST Farm	5 x GMEs. TPH, BTEXN & lead not detected.
MW5	Within former Drum Store & adjacent to former distillate tank	5 x GMEs. Low concentrations of F3 (max 213 µg/L of F3) detected in 2004 only. BTEXN not detected Max lead 6 µg/L and <1 µg/L in latest three rounds.
MW6	Upgradient (southern) corner	5 x GMEs. TPH, BTEXN & lead not detected.
MW7	Downgradient AST Farm	4 x GMEs. TPH, BTEXN not detected. Max lead 10 µg/L.
MW8	Upgradient of AST Farm	4 x GMEs. TPH, BTEXN & lead not detected.
MW11	Offsite Wentworth Street adjacent UST Pit & Service Bay Garage	4 x GMEs. TPH, BTEXN not detected. Max lead 4 µg/L and <1 µg/L in latest three rounds.
MW12	Down/across-gradient of Drum Store excavation.	3 x GMEs. TPH, BTEXN & lead not detected.

More significant impact was detected within and downgradient of the AST Farm & Gantry and UST Pit excavations (MW3, MW4 & MW9) and downgradient of the former garage and drum filling platform (MW10) and is summarised in Table 9.2.

Table 9.2: Evaluation of Groundwater Analytical Results (µg/L)

Location	Well	Analyte	Jan 04	Jul 05	Dec 10	Nov 11	Jun 14	Sep 16
		F1	0	***7,660***	***4,399***	***2,222***	***3,940***	***2,200***

Table 9.2: Evaluation of Groundwater Analytical Results (µg/L)

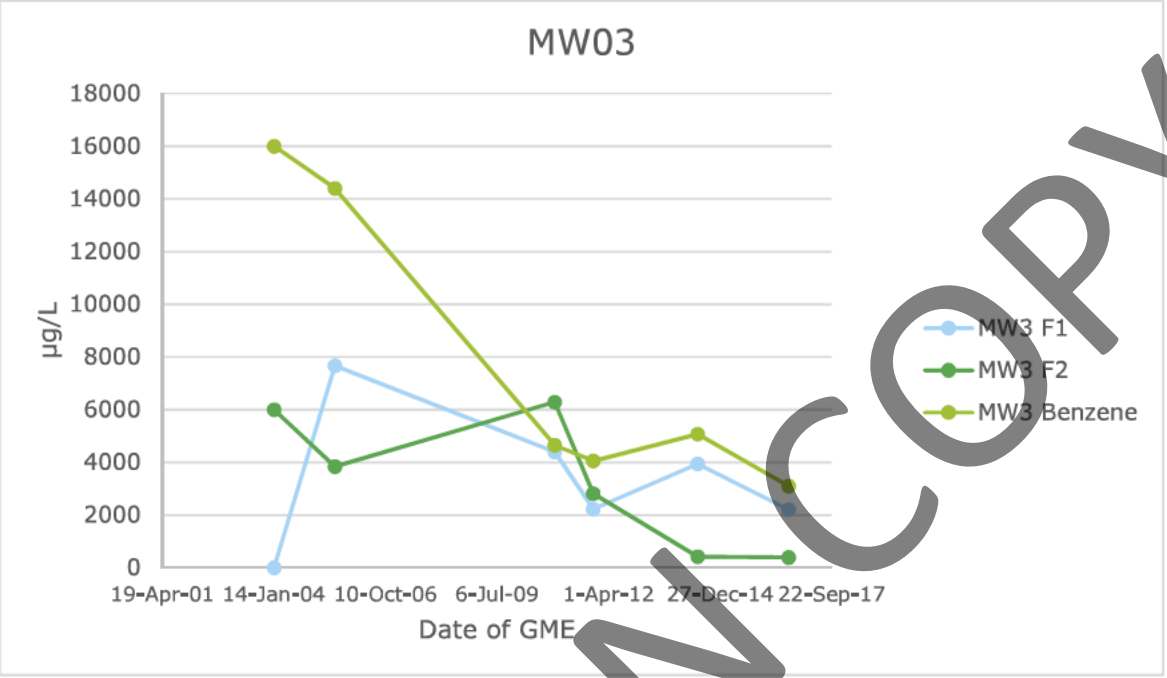
Location	Well	Analyte	Jan 04	Jul 05	Dec 10	Nov 11	Jun 14	Sep 16
Within UST Pit	URS MW3	F2	***6,000***	***3,839***	***6,286***	***2,810***	420	390
		F3	1,050	600	950	230	<100	<100
		F4	200	140	<50	<50	<100	<100
		Benzene	***16,000***	***14,400***	***4,650***	***4,050***	***5,070***	***3,100***
		Toluene	8,300	5190	854	562	117	<10
		Ethyl Benzene	510	1,270	865	436	527	270
		Xylenes	8,400	2,880	2,032	1,240	950	310
		Naphthalene	263	221	254	109	95	60
		Phenols						
		Lead	13	18	5	5	2	-
		1,2 dibromoethane	255	180	<50	<50	<20	-
		1,2 dichloroethane	172	275	135	91	109	-
Within AST Farm & Gantry	URS MW4	F1	<20	***9,616***	***1,096***	209	600	-
		F2	***1,770***	***114,040***	***3,007***	399	230	-
		F3	479	5,700	740	<100	130	-
		F4	<50	150	<50	<50	<100	-
		Benzene	276	428	72	24	20	-
		Toluene	8	36	6	<5	<2	-
		Ethyl Benzene	<2	1340	103	27	9	-
		Xylenes	1,915	7,080	13	<4	<2	-
		Naphthalene	52	2,960	3	11	<5	-
		Lead	6	267	2	1	<1	-
		1,2 dichloroethane	-	<10	8	<50	7	-
Downgradient Tank Pit & Service Bay/Garage	URS MW9	F1	-	***984***	***2,685***	46	80	-
		F2	-	***1,001***	***13,144***	210	<100	-
		F3	-	<100	6,440	<100	<100	-
		F4	-	70	160	<50	<100	-
		Benzene	-	22	34	1	2	-

Table 9.2: Evaluation of Groundwater Analytical Results (µg/L)								
Location	**Well**	**Analyte**	**Jan 04**	**Jul 05**	**Dec 10**	**Nov 11**	**Jun 14**	**Sep 16**
		Toluene	-	8	17	<5	<2	-
		Ethyl Benzene	-	9	130	9	5	-
		Xylenes	-	307	674	14	7	-
		Naphthalene	-	39	256	<5	6	-
		Lead	-	17	6	1	<1	-
		1,2 dichloroethane	-	21	<10	<10	<5	-
Downgradient former garage and drum filling platform	URS MW10	F1	-	***12,811***	-	-	-	-
		F2	-	***5,891***	-	-	-	-
		F3	-	200	-	-	-	-
		F4	-	<50	-	-	-	-
		Benzene	-	24	-	-	-	-
		Toluene	-	48	-	-	-	-
		Ethyl Benzene	-	259	-	-	-	-
		Xylenes	-	6,658	-	-	-	-
		Naphthalene	-	99	-	-	-	-
		Lead	-	78	-	-	-	-

Notes:
Bold exceeds HSL A, sand 8 m+ (benzene 900 µg/L, F1 & F2 1000 µg/L) and/or GIL (benzene 950 µg/L)
- Not analysed
Underline exceeds GIL for lead of 3.4 µg/L or DWG or RSL for VOCs

Measurable thicknesses of phase separated hydrocarbons were not detected in any of the twelve groundwater monitoring wells. Sheen and odour has been historically observed in MW03, MW04, MW09 and MW10. However, sheen was not present in the 2014 and 2016 gauging events. However, odour was noted in MW04 (2014) and MW03 (2014 & 2016).

Concentrations of petroleum appear to have decreased since monitoring commenced in 2014 as shown on the graph below for MW03.



9.1.1 Auditor's Opinion

Concentrations of F1 and benzene remain above HSL A (for sand) in MW3 (and close to or below the corresponding HSL A for benzene in clay). There also appears to be some correlation with groundwater levels with relative increases in concentrations observed when the water levels declined in 2014. The potential vapour intrusion risk in this area was assessed (Section 10) and the risks were found to be low and acceptable.

There is only one year of data for MW10. However, based on the trends observed in the other wells it is unlikely that concentrations exceeding HSLs remain in this well.

There appears to be some impact to groundwater levels by lead from petroleum sources. The maximum concentrations of 267 µg/L was located beneath the AST Farm & Gantry excavation in 2005. However, concentrations were much lower in the subsequent years. The other concentrations reported (maximum of 18 µg/L and maximum of 5 µg/L in recent years) are unlikely to pose a risk to offsite ecological receptors.

Phenols and cresols were also detected. However, concentrations were all well below the corresponding GIL or RSL.

Anti-knock additives used in leaded fuels (1,2 dibromoethane, 1,2 dichloroethane) were detected exceeding the assessment criteria. Therefore, further assessment of the potential for soil vapour intrusion was undertaken for these analytes (Section 10). Given lead and antiknock agents appeared to be present at the site MTBE was also included in the soil vapour suite (as this had not been tested in groundwater).

10. EVALUATION OF SOIL VAPOUR RESULTS

Six soil vapour wells (SV01 to SV06) were installed to 1.5 m and 3.5 m and sampled over two events to assess vapour conditions associated with residual soil and groundwater impacts at depth including the potential for basement construction.

The locations included:

- Vicinity of MW03 where residual soil and groundwater impacts remain at depth (SV01/1.5 m & SV02/3.5 m)
- Beneath the former drum store excavation (i.e. in the vicinity of SB25 & validation sample 63) where it appears residual soil impacts remain at depth (SV05/1.5 m & SV06/3.5 m)
- North-eastern end of the AST Farm & Gantry excavation (i.e. in the vicinity of SB06 & validation sample 101) were it appears residual soil impacts remain at depth (SV03/1.5 m & SV04/3.5 m).

Results are summarised in Table 10.1 and Attachment 9, Appendix A.

Table 10.1: Summary of Soil Vapour Analytical Results

Location	Depth (m)	5 October 2017	15 December 2017
SV01	1.5	BTEXN, MTBE, EDB, 1,2-DCA <LOR F1 25 mg/m^3 < HSL A F2 3.4 mg/m^3 < HSL A	BTEXN, MTBE, EDB, 1,2-DCA, F1 (<0.5 mg/m3), F2 (<0.5 mg/m3) <LOR
SV02	3.5	Ethylbenzene, MTBE, EDB, 1,2-DCA <LOR Benzene 0.0088 mg/m^3 < HSL A Toluene 0.014 mg/m^3 < HSL A Xylenes 0.079 mg/m^3 < HSL A Naphthalene 0.120 mg/m^3 < HSL A F1 120 mg/m^3 < HSL A F2 22 mg/m3 < HSL A	BTEXN, MTBE, EDB, 1,2-DCA, F1 (<0.6 mg/m3), F2 (<0.6 mg/m3) <LOR Benzene 0.04 mg/m^3 < HSL A
SV03	1.5	BTEXN, MTBE, EDB, 1,2-DCA <LOR F1 18 mg/m^3 < HSL A F2 57 mg/m^3 < HSL A	BTEXN, MTBE, EDB, 1,2-DCA, F1 (<0.5 mg/m3), F2 (<0.5 mg/m3) <LOR
SV04	3.5	BTEXN, MTBE, EDB, 1,2-DCA <LOR F1 280 mg/m^3 < HSL A & D F2 160 mg/m^3 < HSL A & D	TEXN, MTBE, EDB, 1,2-DCA, F1 (<0.6 mg/m3), F2 (<0.6 mg/m3) <LOR Benzene 0.011 mg/m^3 < HSL A
SV05	1.5	BTEN, MTBE, EDB, 1,2-DCA <LOR Xylenes 0.020 + <0.011 mg/m^3 < HSLA F1 150 mg/m^3 < HSL A	BTEN, MTBE, EDB, 1,2-DCA, F2 (<0.6 mg/m3) <LOR Xylenes 0.018 + < 0.012 mg/m^3 < HSL A F1 1.1 mg/m^3 < HSL A

Table 10.1: Summary of Soil Vapour Analytical Results			
Location	**Depth (m)**	**5 October 2017**	**15 December 2017**
		F2 68 mg/m^3 < HSL A	
SV06	3.6	BTEXN, MTBE, EDB, 1,2-DCA <LOR F1 70 mg/m^3 < HSL A F2 40 mg/m^3 < HSL A	BTEXN, MTBE, EDB, 1,2-DCA, F1 (<0.6 mg/m3), F2 (<0.6 mg/m3) <LOR

Concentrations of soil vapour were below the corresponding assessment criteria in all samples.

10.1.1 Auditor's Opinion

These results indicate the risk from residual soil and groundwater contamination at depth is low and acceptable.

11 CONTAMINATION MIGRATION POTENTIAL AND ASSESSMENT OF RISK

11.1 Auditor's Opinion

Based on the excavation validation data at depth (which the Auditor notes is now quite old, but that no equivalent current data has been collected as a replacement) it appears likely that soil impacts remain at depth (below at least 2 m) beneath and downgradient of the Drum Store, UST and AST Farm and Gantry excavations. Groundwater concentrations of volatile petroleum hydrocarbons, although exhibiting decreasing trends are still elevated (particularly at MW03) beneath former fuel infrastructure and hydrocarbon impact has migrated laterally and vertically through soil and rock and the full extent of this at depth has not been delineated. It is considered acceptable to leave this insitu and un-delineated given the results of the soil vapour sampling indicated the absence of a significant risk to human health from soil vapour intrusion including the potential for construction of a basement, the source has been removed and the contamination will degrade over time.

Significant petroleum hydrocarbon and anti-knock impacts do not appear to migrating offsite with concentrations below the LOR in the downgradient wells including MW7 and MW11. The maximum concentrations reported for lead in recent years (maximum of 18 µg/L and maximum of 5 µg/L) and the concentrations detected in the most downgradient wells (MW7 and MW11) of 10 and 4 µg/L respectively are unlikely to pose a risk to offsite ecological receptors as they only slightly exceed the GIL of 3.4 µg/L and do not exceed the drinking water criterion of 10 µg/L.

There is a large amount of data and field observations (logs) within the top 2 m of the site which has adequately assessed and validated the site for residential land use. The NFA Report notes that there may be some residual odours in discrete areas on the site and that these are likely to be limited in extent and nature though are expected to degrade further with time. The NFA Report concludes that the "site does not have highly malodourous soils (e.g. strong residual hydrocarbon odours), and therefore residual odours (if any) are not considered to limit the future use of the site". Based on the available data the Auditor agrees this is a reasonable conclusion within the top 2 m.

12. COMPLIANCE WITH REGULATORY GUIDELINES AND DIRECTIONS

12.1 Guidelines

The Auditor has used guidelines currently made and approved by the EPA under section 105 of the NSW *Contaminated Land Management Act 1997*.

The investigation was generally conducted in accordance with SEPP 55 Planning Guidelines and reported in accordance with the OEH (2011) *Guidelines for Consultants Reporting on Contaminated Sites*. The checklist included in that document has been referred to.

12.2 Regulation

As of January 2019, the site is listed on the NSW EPA 'List of NSW contaminated sites notified to EPA' under Section 60 of the CLM Act. The EPA Management Class is 'Regulation under CLM Act not required'. The Auditor contacted the EPA by email on 16 January 2019 to discuss the site as required by EPA (2107) 'Guidelines for the NSW Site Auditor Scheme" prior to finalisation of the audit. EPA advised that their regulatory unit had no issues with completion of the audit.

12.3 Development Approvals

Removal of tanks and demolition was completed prior to the audit.

12.4 Waste Disposal

Excavated soil was land farmed and reused on site as backfill.

12.5 Imported Materials

No material appears to have been imported.

12.6 Conflict of Interest

The Auditor has considered the potential for a conflict of interest in accordance with the requirements of section 3.2.3 of the NSW EPA (2017) *Guidelines for the NSW Site Auditor Scheme*.

The Auditor considers that there are no conflicts of interest, given that:

1. The Auditor is not related to a person by whom any part of the land is owned or occupied.
2. The Auditor does not have a pecuniary interest in any part of the land or any activity carried out on any part of the land.

The Auditor has not reviewed any aspect of work carried out by, or a report written by, the site auditor or a person to whom the site auditor is related.

13. CONCLUSION

The NFA Soil Vapour Report concludes the site is suitable for residential land use and that no further action is warranted in regards to assessment, monitoring or remediation of contamination at the site or offsite.

Soil impacts remain at depth (below at least 2 m) beneath the excavations associated with the remediation of the former drum store and underground and above ground tank farms. Groundwater concentrations of volatile petroleum hydrocarbons, although exhibiting decreasing trends are still elevated beneath former fuel infrastructure and hydrocarbon impact has migrated laterally and vertically through soil and rock and the full extent of this at depth has not been delineated. It is considered acceptable to leave this insitu and un-delineated given the depth and the results of the soil vapour sampling indicated the absence of a significant risk to human health from soil vapour intrusion. There is no evidence of off site migration. The Auditor notes that there may be some residual odours in discrete areas on the site and that these are likely to be limited in extent and nature and are expected to degrade further with time.

Based on the information presented in the consultants reports and observations made on site, and following the Decision-making process for assessing urban redevelopment sites in NSW EPA (2017) *Guidelines for the NSW Site Auditor Scheme (3rd Edition)*, the Auditor concludes that the site is suitable for the purposes of 'residential with gardens and accessible soil'.

14. OTHER RELEVANT INFORMATION

This Audit was conducted on the behalf of Mobil for the purpose of assessing whether the land is suitable for the proposed residential land use i.e. a "Site Audit" as defined in Section 4 (1) (b) (iii) of the CLM Act.

This summary report may not be suitable for other uses. The consultants included limitations in their reports listed in Section 1.1. The Audit must also be subject to those limitations. The Auditor has prepared this document in good faith, but is unable to provide certification outside of areas over which the Auditor had some control or is reasonably able to check.

The Auditor has relied on the documents referenced in Section 1.1 of the Site Audit Report in preparing the Auditors' opinion. If the Auditor is unable to rely on any of those documents, the conclusions of the audit could change.

It is not possible in a Site Audit Report to present all data which could be of interest to all readers of this report. Readers are referred to the referenced reports for further data. Users of this document should satisfy themselves concerning its application to, and where necessary seek expert advice in respect to, their situation.

APPENDIX A
ATTACHMENTS

Attachment 1: Site Locality Plan

Attachment 2: Site Layout

Attachment 3: Soil Investigation Locations (Otek, 1993)

Attachment 4: Soil Investigation Locations (PPK, 1997)

Attachment 5: Excavation Validation Samples (PPK, 1997)

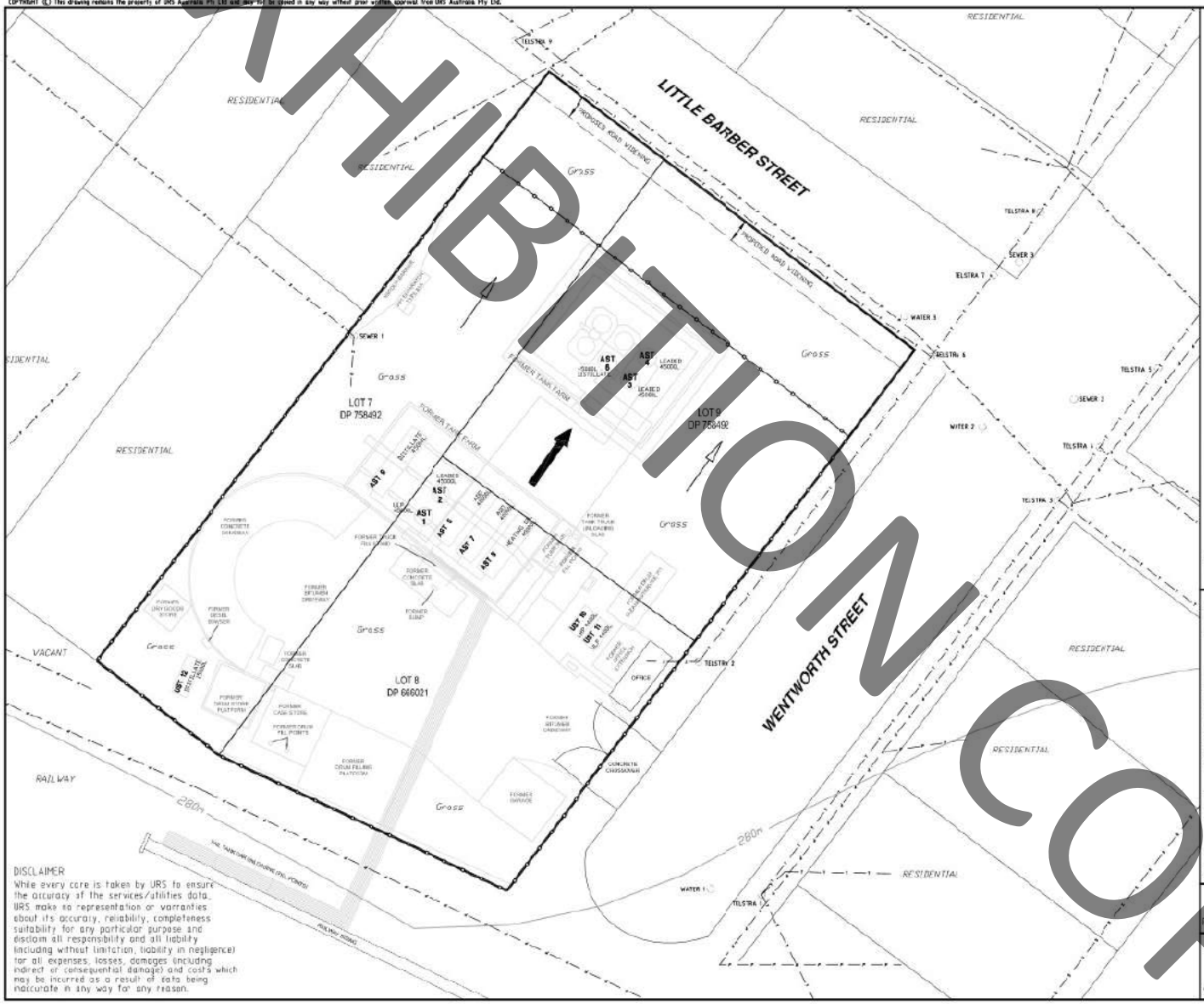
Attachment 6: Soil Investigation Locations (URS, 2005)

Attachment 7: Groundwater Investigation Location

Attachment 8: Summary of Soil Investigation Locations

Attachment 9: Soil Vapour Locations & Results

Attachment 1: Site Locality Plan



DISCLAIMER
While every care is taken by URS to ensure the accuracy of the services/utilities data, URS make no representation or warranties about its accuracy, reliability, completeness suitability for any particular purpose and disclaim all responsibility and all liability including without limitation, liability in negligence) for all expenses, losses, damages (including indirect or consequential damage) and costs which may be incurred as a result of data being inaccurate in any way for any reason.

N

LEGEND

- SEWER 1 — MANHOLE FOR ALL SERVICES
- GROUNDWATER FLOW
- SURFACE WATER DRAINAGE
- —6m— SURFACE LEVEL CONTOUR (mAHD)
- SITE BOUNDARY
- FENCE
- SEWER
- TELSTRA
- POWER

NOTE:
SITE TOPOGRAPHY IS GENERALLY FLAT

10 0 10 m
SCALE 1:500 (A3)

SOURCE: MOBIL Dwg No. C6744 (09/03/73)
MOBIL Dwg No. C5780-B (04/12/76)
MOBIL Dwg No. 60012 (27/05/86)

CLIENT
MOBIL OIL AUSTRALIA PTY LTD

PROJECT
PHASE 1 ENVIRONMENTAL SITE ASSESSEMENT - MOBIL DEPOT GUNNEDAH (NA02) GUNNEDAH, NSW

TITLE
DETAILED SITE LAYOUT MAP

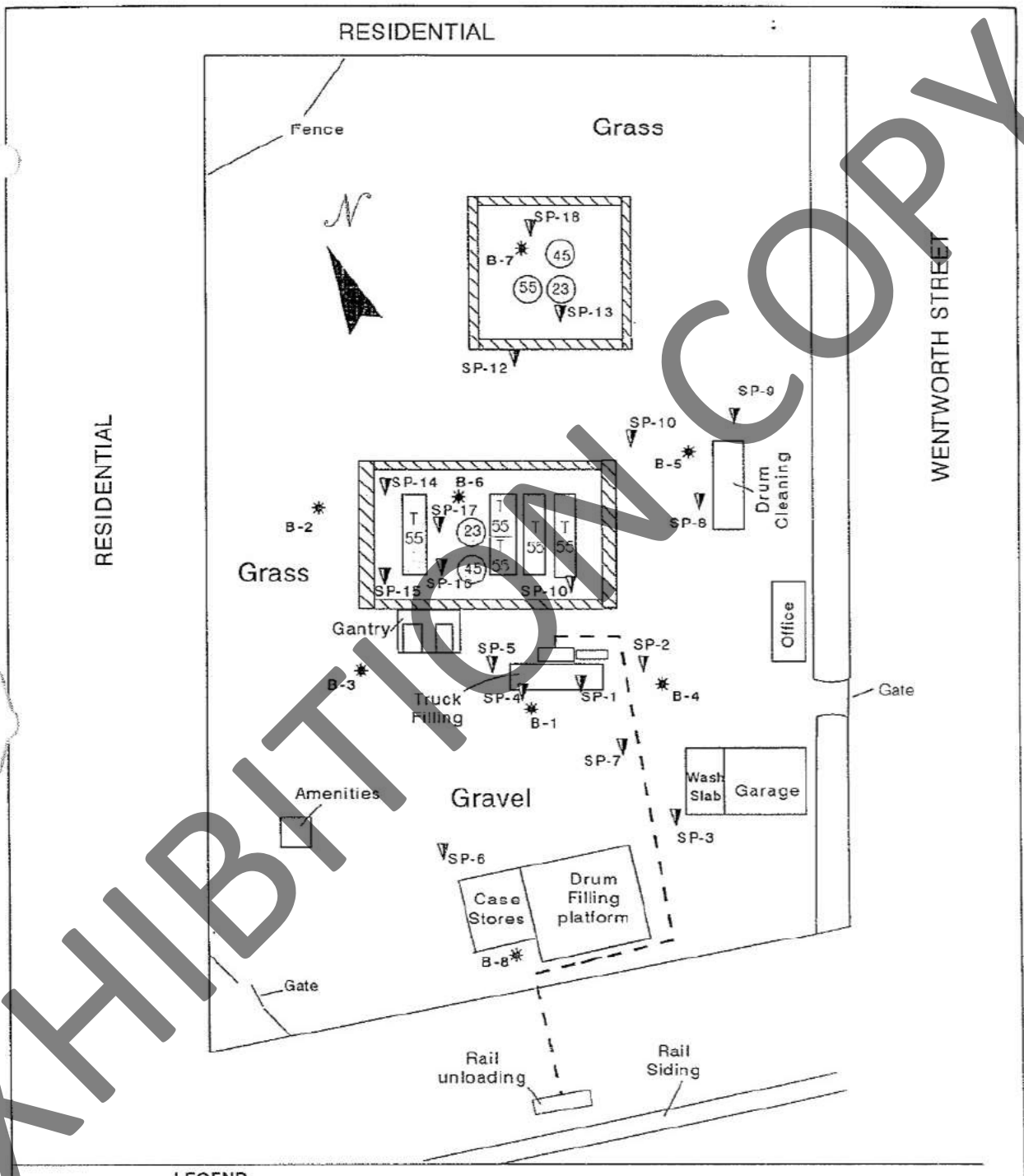
FIGURE
3 A3

DATE: **24-09-03** JOB No: **51556-201-559**
REVISION: **A** FILE No: **-G-003.DWG**
PREPARED: **CR**
CHECKED: **CR**
APPROVED: **CE**

URS

Attachment 2: Site Layout

Attachment 3: Soil Investigation Locations (Otek, 1993)



LEGEND

B-5 SOIL BORING LOCATION

SP-13 SOIL VAPOUR POINT LOCATION

23 ABOVE GROUND STORAGE TANK

FORMER LOCATION OF AST

PIPING (underground)

BUND WALL

SCALE 1:600

Metres

0 10 20 30

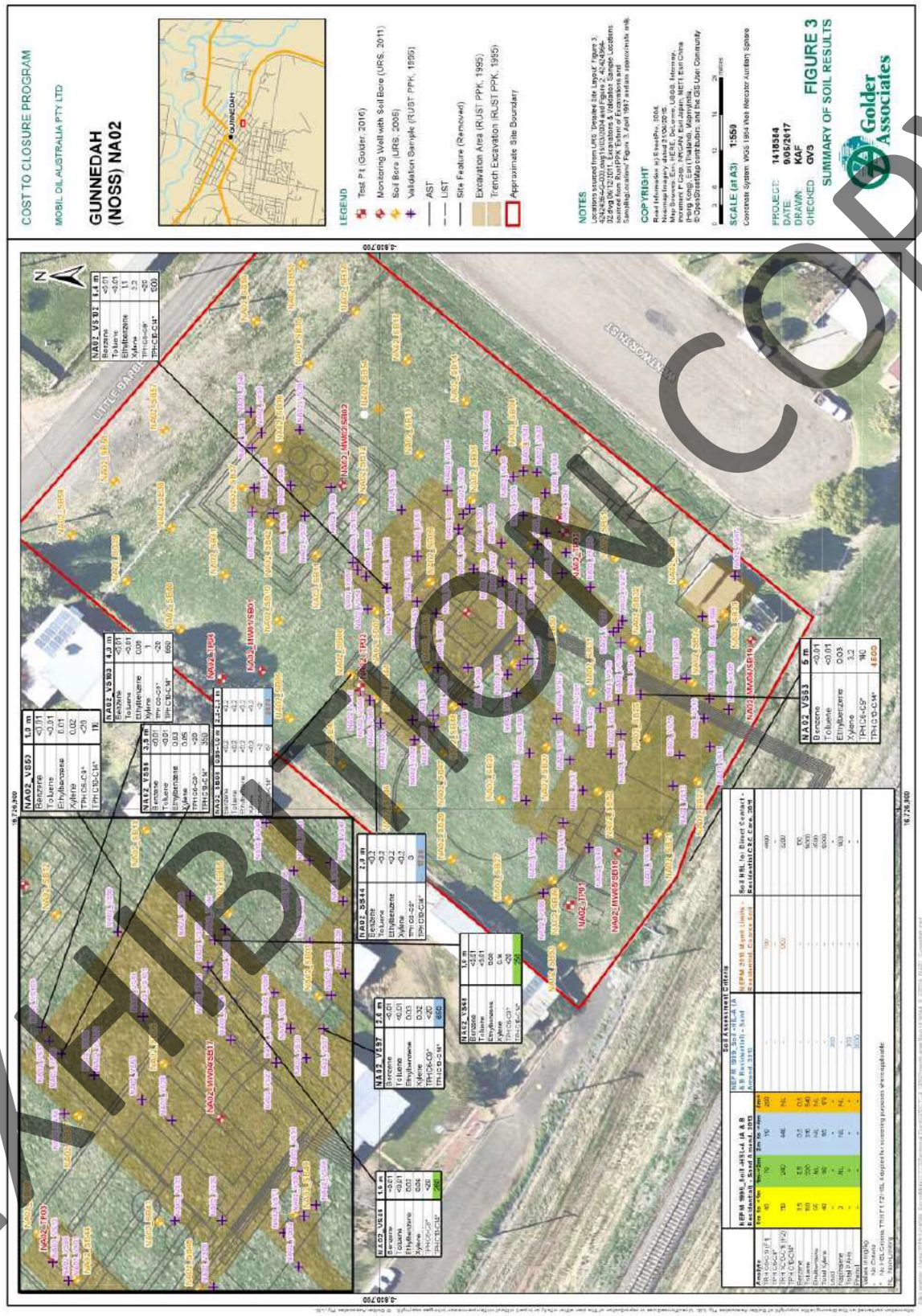
OTEK AUSTRALIA PTY LTD		REPORT REF: ESA - MOBIL DEPOT GUNNEDAH			
DRAWN	DATE	CHECKED	DATE	JOB No	
MAB	10/8/93	[illegible]	23-8-93	S93C071	
TITLE: SITE MAP				FIG. No. 2	

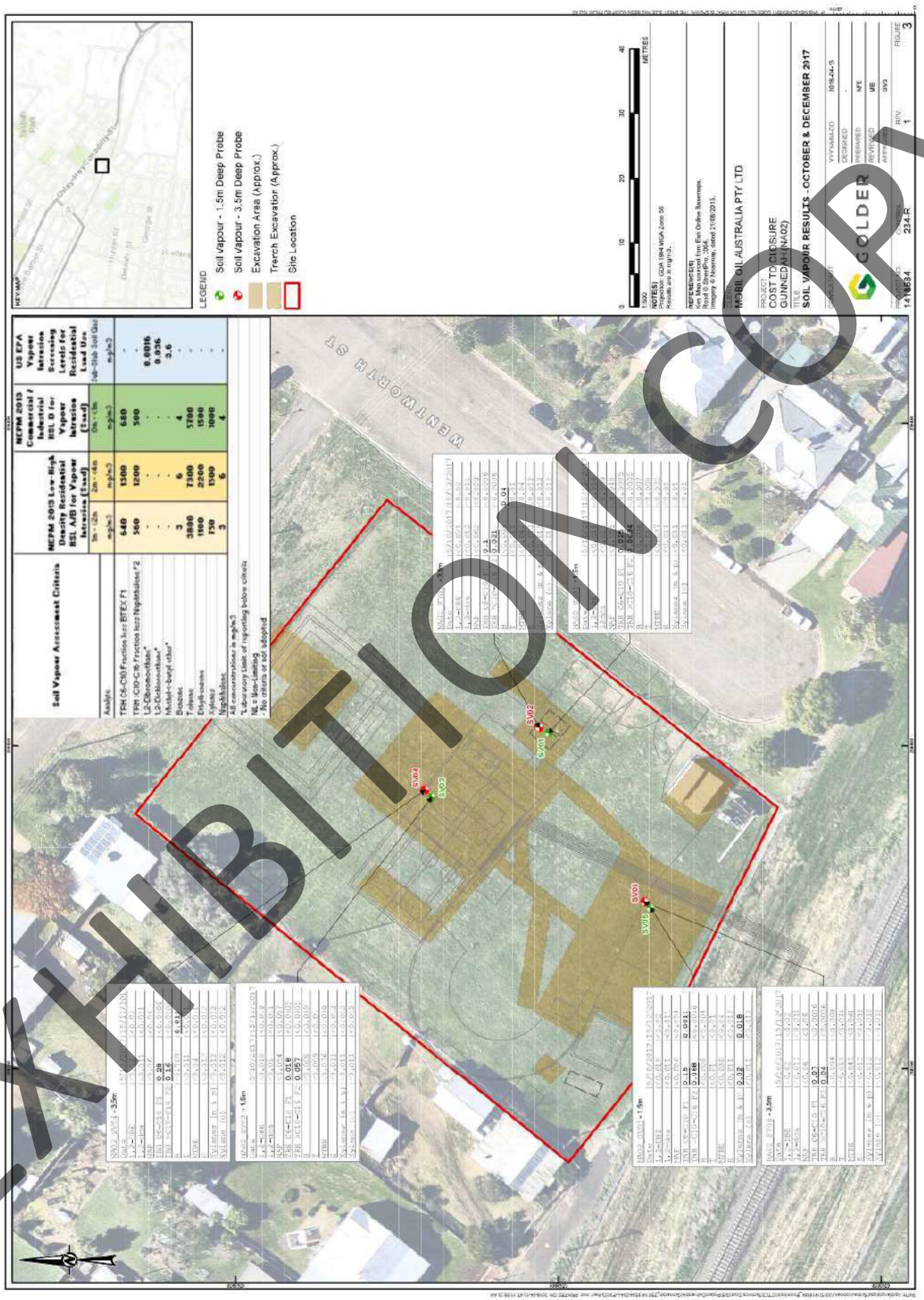
Attachment 4: Soil Investigation Locations (PPK, 1997)

Attachment 5: Excavation Validation Samples (PPK, 1997)

Attachment 6: Soil Investigation Locations (URS, 2005)

Attachment 7: Groundwater Investigation Locations





APPENDIX B
SITE AUDIT STATEMENT

NSW Site Auditor Scheme

Site Audit Statement

A site audit statement summarises the findings of a site audit. For full details of the site auditor's findings, evaluations and conclusions, refer to the associated site audit report.

This form was approved under the *Contaminated Land Management Act 1997* on 12 October 2017.

For information about completing this form, go to Part IV.

Part I: Site audit identification

Site audit statement no. FR 024

This site audit is a:

- ☐ statutory audit
- ☑ non-statutory audit

within the meaning of the *Contaminated Land Management Act 1997*.

Site auditor details

(As accredited under the *Contaminated Land Management Act 1997*)

Name Fiona Robinson

Company Ramboll Australia Pty Ltd

[redacted]

Site details

Address: 16-24 Wentworth Street, Gunnedah

Postcode 2380

Property description

(Attach a separate list if several properties are included in the site audit.)

Lot 7 Section 35 of Deposited Plan 758492, Lot 9 Section 35 of Deposited Plan 758492, Lot 8 of Deposited Plan 666021

Local government area: Shire of Gunnedah

Area of site (include units, e.g. hectares) 5,850 m²

Current zoning: R3 – Medium Density Residential

Regulation and notification

To the best of my knowledge:

- ❑ **the site is** the subject of a declaration, order, agreement, proposal or notice under the *Contaminated Land Management Act 1997* or the *Environmentally Hazardous Chemicals Act 1985,* as follows: (provide the no. if applicable)
  - ❑ Declaration no.
  - ❑ Order no.
  - ❑ Proposal no.
  - ❑ Notice no.

☑ **the site is not** the subject of a declaration, order, proposal or notice under the *Contaminated Land Management Act 1997* or the *Environmentally Hazardous Chemicals Act 1985*.

To the best of my knowledge:

☑ the site **has** been notified to the EPA under section 60 of the *Contaminated Land Management Act 1997*

❑ the site **has not** been notified to the EPA under section 60 of the *Contaminated Land Management Act 1997*.

Site audit commissioned by

Name Mac Hull

Company Mobil Oil Australia Pty Ltd

[redacted]

Contact details for contact person (if different from above)

Name As above

Phone

Email

Nature of statutory requirements (not applicable for non-statutory audits)

- ❑ Requirements under the *Contaminated Land Management Act* 1997 (e.g. management order; please specify, including date of issue)

- ❑ Requirements imposed by an environmental planning instrument (please specify, including date of issue)

- ❑ Development consent requirements under the *Environmental Planning and Assessment Act 1979* (please specify consent authority and date of issue)

- ❑ Requirements under other legislation (please specify, including date of issue)

Purpose of site audit

☑ **A1** To determine land use suitability

Intended uses of the land: residential with access to soil

OR

A2 To determine land use suitability subject to compliance with either an active or passive environmental management plan

Intended uses of the land:

OR

(Tick all that apply)

- ❑ **B1** To determine the nature and extent of contamination
- ❑ **B2** To determine the appropriateness of:
  - ❑ an investigation plan
  - ❑ a remediation plan
  - ❑ a management plan
- ❑ **B3** To determine the appropriateness of a **site testing plan** to determine if groundwater is safe and suitable for its intended use as required by the *Temporary Water Restrictions Order for the Botany Sands Groundwater Resource 2017*
- ❑ **B4** To determine the compliance with an approved:
  - ❑ **voluntary management proposal** or
  - ❑ **management order** under the *Contaminated Land Management Act 1997*
- ❑ **B5** To determine if the land can be made suitable for a particular use (or uses) if the site is remediated or managed in accordance with a specified plan.

Intended uses of the land:

Information sources for site audit

Consultancies which conducted the site investigations and/or remediation:

Otek Australia Pty Ltd (Otek)

RUST PPK Pty Ltd (PPK)

URS Australia Pty Ltd (URS)

Environmental Resource Management Australia Pty Ltd (ERM)

Golder Associates (Golder)

Titles of reports reviewed:

- 'Environmental Site Assessment: Mobil Service Station, Gunnedah, NSW', dated 23 August 1993 and referenced S93C071/R193. Prepared by Otek.

- 'Modified Environmental Site Assessment for Fuel Hydrocarbon Contamination: Fuel Depot Facility Wentworth Street, Gunnedah, NSW', dated November 1995 and referenced Syd/129 58G208A. Prepared by PPK.
- 'Decommissioning and Site Validation Report: Fuel Depot Facility Wentworth Street, Gunnedah, NSW, SAP No. NA02', dated April 1997 and referenced Rev A 58H105A Syd/PR_0174. Prepared by PPK.
- 'Phase 1 ESA: Mobil Depot Gunnedah (NA02), Gunnedah, NSW', dated 22 December 2004 and referenced 51556-291-559 Version 2. Prepared by URS.
- 'Phase 2 ESA: Mobil Depot Gunnedah (NA02), Gunnedah, NSW Cnr Wentworth and Little Barber Streets', dated 18 February 2005 and referenced 51556-454\MSS Gunnedah – Final Phase 2 ESA Report Version 1. Prepared by URS.
- 'Post Phase 2 ESA: Former Mobil Depot Gunnedah (NA02), Cnr Wentworth & Little Barber Streets, Gunnedah, NSW', dated 16 April 2008 and referenced 42645612 Final report – PP2ESA Gunnedah. Prepared by URS.
- 'Annual Groundwater Monitoring Event: Former Mobil Depot Gunnedah [NA02], Corner Wentworth & Little Barber Streets, Gunnedah NSW', dated 25 March 2011 and referenced 42424364/01/03 Final. Prepared by URS.
- 'Interim Groundwater Monitoring Event: Former Mobil Depot Gunnedah (NA02), Corner Wentworth & Little Barber Streets, Gunnedah NSW', dated 8 August 2012 and referenced 42424417/01/01 Final. Prepared by URS.
- 'Demolition of Commercial Premises: Former Mobil Depot Gunnedah (NA02), 16-24 Wentworth Street, Gunnedah NSW', dated 23 November 2012 and referenced 42424450/01/01 Final. Prepared by URS.
- 'Former Mobil Depot Gunnedah (NA02): Groundwater Monitoring Event 2014', dated 18 November 2014 and referenced 0251931GMR_SRS_Final. Prepared by ERM.
- 'Cost to Closure 3 – NA02 Gunnedah: NFA Soil and Groundwater Assessments', dated 7 June 2017 and referenced 1418584-120-L-Rev0. Prepared by Golder.
- 'NFA Strategy Document: CTC Program – NA02 Gunnedah', dated November 2015 and referenced 1418584-055-R-Rev02. Prepared Golder.
- 'Cost to Closure 3 – NA02 Gunnedah: NFA Soil and Groundwater Assessments', dated 7 June 2017 and referenced 1418584-120-L-Rev02. Prepared by Golder.
- 'Cost to Closure 3 – NA02 Gunnedah: NFA Soil Vapour Assessment', dated 11 October 2018 and earlier draft 7 June 2017 and referenced 1418584-234-R-Rev2. Prepared by Golder.

Other information reviewed, including previous site audit reports and statements relating to the site:

Site audit report details

Title Site Audit Report – Former Mobil Fuel Depot, Gunnedah, NSW (NA02)

Report no. FR 024 (Ramboll Ref: AS121743/318000133) Date January 2019

Part II: Auditor's findings

Please complete either Section A1, Section A2 or Section B, not more than one section. (Strike out the irrelevant sections.)

- Use **Section A1** where site investigation and/or remediation has been completed and a conclusion can be drawn on the suitability of land uses **without the implementation** of an environmental management plan.
- Use **Section A2** where site investigation and/or remediation has been completed and a conclusion can be drawn on the suitability of land uses **with the implementation** of an active or passive environmental management plan.
- Use **Section B** where the audit is to determine:
  - (B1) the nature and extent of contamination, and/or
  - (B2) the appropriateness of an investigation, remediation or management plan[1], and/or
  - (B3) the appropriateness of a site testing plan in accordance with the *Temporary Water Restrictions Order for the Botany Sands Groundwater Source 2017*, and/or
  - (B4) whether the terms of the approved voluntary management proposal or management order have been complied with, and/or
  - (B5) whether the site can be made suitable for a specified land use (or uses) if the site is remediated or managed in accordance with the implementation of a specified plan.

[1] For simplicity, this statement uses the term 'plan' to refer to both plans and reports.

Section A1

I certify that, in my opinion:

The **site is suitable** for the following uses:

(Tick all appropriate uses and strike out those not applicable.)

- ~~☐ Residential, including substantial vegetable garden and poultry~~
- ~~☐ Residential, including substantial vegetable garden, excluding poultry~~
- ☑ Residential with accessible soil, including garden (minimal home-grown produce contributing less than 10% fruit and vegetable intake), excluding poultry
- ☑ Day care centre, preschool, primary school
- ☑ Residential with minimal opportunity for soil access, including units
- ☑ Secondary school
- ☑ Park, recreational open space, playing field
- ☑ Commercial/industrial
- ~~☐ Other (please specify):~~

~~OR~~

- ~~☐ I certify that, in my opinion, the **site is not suitable** for any use due to the risk of harm from contamination.~~

Overall comments:

The site was used for fuel distribution purposes from 1927. The fuel related infrastructure (and surrounding soil) was reportedly removed by 1997 and non-fuel related infrastructure was removed in 2012. Numerous phases of soil vapour, soil, and groundwater investigation works have been completed onsite prior to, and after the infrastructure removal works.

Soil impacts remain at depth (below at least 2 m) beneath the excavations associated with the remediation of the former drum store and underground and above ground tank farms. Groundwater concentrations of volatile petroleum hydrocarbons, although exhibiting decreasing trends are still elevated beneath former fuel infrastructure and hydrocarbon impact has migrated laterally and vertically through soil and rock and the full extent of this at depth has not been delineated. It is considered acceptable to leave this insitu and un-delineated given the depth and the results of the soil vapour sampling indicated the absence of a significant risk to human health from soil vapour intrusion.

Odours in soil and groundwater may remain at depth in areas of residual impact.

Section A2

I certify that, in my opinion:

Subject to compliance with the **attached** environmental management plan[2] (EMP), the site is suitable for the following uses:

(Tick all appropriate uses and strike out those not applicable.)

- ☐ Residential, including substantial vegetable garden and poultry
- ☐ Residential, including substantial vegetable garden, excluding poultry
- ☐ Residential with accessible soil, including garden (minimal home-grown produce contributing less than 10% fruit and vegetable intake), excluding poultry
- ☐ Day care centre, preschool, primary school
- ☐ Residential with minimal opportunity for soil access, including units
- ☐ Secondary school
- ☐ Park, recreational open space, playing field
- ☐ Commercial/industrial
- ☐ Other (please specify):

_____

EMP details

Title _____

Author _____

Date _____ No. of pages _____

EMP summary

This EMP (attached) is required to be implemented to address residual contamination on the site.

The EMP: (Tick appropriate box and strike out the other option.)

- ☐ requires operation and/or maintenance of **active** control systems[3]
- ☐ requires maintenance of **passive** control systems only[3].

[2] Refer to Part IV for an explanation of an environmental management plan.
[3] Refer to Part IV for definitions of active and passive control systems.

~~Purpose of the EMP:~~

~~Description of the nature of the residual contamination:~~

~~Summary of the actions required by the EMP:~~

~~How the EMP can reasonably be made to be legally enforceable:~~

~~How there will be appropriate public notification:~~

~~Overall comments:~~

Section B

Purpose of the plan[4] which is the subject of this audit:

_____

_____

_____

I certify that, in my opinion:

(B1)

☐ The nature and extent of the contamination **has** been appropriately determined

☐ The nature and extent of the contamination **has not** been appropriately determined

AND/OR (B2)

☐ The investigation, remediation or management plan **is** appropriate for the purpose stated above

☐ The investigation, remediation or management plan **is not** appropriate for the purpose stated above

AND/OR (B3)

☐ The site testing plan:

☐ **is** appropriate to determine

☐ **is not** appropriate to determine

if groundwater is safe and suitable for its intended use as required by the *Temporary Water Restrictions Order for the Botany Sands Groundwater Resource 2017*

AND/OR (B4)

☐ The terms of the approved voluntary management proposal* or management order** (strike out as appropriate):

☐ **have** been complied with

☐ **have not** been complied with.

*voluntary management proposal no.

_____

**management order no.

_____

AND/OR (B5)

☐ The site **can be made suitable** for the following uses:

(Tick all appropriate uses and strike out those not applicable.)

☐ Residential, including substantial vegetable garden and poultry

☐ Residential, including substantial vegetable garden, excluding poultry

[4] For simplicity, this statement uses the term 'plan' to refer to both plans and reports.

- ☐ ~~Residential with accessible soil, including garden (minimal home-grown produce contributing less than 10% fruit and vegetable intake), excluding poultry~~
- ☐ ~~Day care centre, preschool, primary school~~
- ☐ ~~Residential with minimal opportunity for soil access, including units~~
- ☐ ~~Secondary school~~
- ☐ ~~Park, recreational open space, playing field~~
- ☐ ~~Commercial/industrial~~
- ☐ ~~Other (please specify):~~

_____

~~IF the site is remediated/managed* in accordance with the following plan (**attached**):~~

~~*Strike out as appropriate~~

~~Plan title~~ _____

~~Plan author~~ _____

~~Plan date~~ _____ ~~No. of pages~~ _____

~~SUBJECT to compliance with the following condition(s):~~

_____

_____

_____

_____

_____

~~Overall comments:~~

_____

_____

_____

_____

_____

_____

Part III: Auditor's declaration

I am accredited as a site auditor by the NSW Environment Protection Authority (EPA) under the *Contaminated Land Management Act 1997.*

Accreditation no. 9808

I certify that:

- I have completed the site audit free of any conflicts of interest as defined in the *Contaminated Land Management Act 1997,* and
- with due regard to relevant laws and guidelines, I have examined and am familiar with the reports and information referred to in Part I of this site audit, and
- on the basis of inquiries I have made of those individuals immediately responsible for making those reports and obtaining the information referred to in this statement, those reports and that information are, to the best of my knowledge, true, accurate and complete, and
- this statement is, to the best of my knowledge, true, accurate and complete.

I am aware that there are penalties under the *Contaminated Land Management Act 1997* for wilfully making false or misleading statements.

Signed Joe Robinson

Date 18.2.19

Part IV: Explanatory notes

To be complete, a site audit statement form must be issued with all four parts.

How to complete this form

Part I

Part I identifies the auditor, the site, the purpose of the audit and the information used by the auditor in making the site audit findings.

Part II

Part II contains the auditor's opinion of the suitability of the site for specified uses or of the appropriateness of an investigation, or remediation plan or management plan which may enable a particular use. It sets out succinct and definitive information to assist decision-making about the use or uses of the site or a plan or proposal to manage or remediate the site.

The auditor is to complete either Section A1 or Section A2 or Section B of Part II, **not** more than one section.

Section A1

In Section A1 the auditor may conclude that the land is *suitable* for a specified use or uses OR *not suitable* for any beneficial use due to the risk of harm from contamination.

By certifying that the site is *suitable*, an auditor declares that, at the time of completion of the site audit, no further investigation or remediation or management of the site was needed to render the site fit for the specified use(s). **Conditions must not be** imposed on a Section A1 site audit statement. Auditors may include **comments** which are key observations in light of the audit which are not directly related to the suitability of the site for the use(s). These observations may cover aspects relating to the broader environmental context to aid decision-making in relation to the site.

Section A2

In Section A2 the auditor may conclude that the land is *suitable* for a specified use(s) subject to a condition for implementation of an environmental management plan (EMP).

Environmental management plan

Within the context of contaminated sites management, an EMP (sometimes also called a 'site management plan') means a plan which addresses the integration of environmental mitigation and monitoring measures for soil, groundwater and/or hazardous ground gases throughout an existing or proposed land use. An EMP succinctly describes the nature and location of contamination remaining on site and states what the objectives of the plan are, how contaminants will be managed, who will be responsible for the plan's implementation and over what time frame actions specified in the plan will take place.

By certifying that the site is suitable subject to implementation of an EMP, an auditor declares that, at the time of completion of the site audit, there was sufficient information satisfying guidelines made or approved under the *Contaminated Land Management Act 1997*

(CLM Act) to determine that implementation of the EMP was feasible and would enable the specified use(s) of the site and no further investigation or remediation of the site was needed to render the site fit for the specified use(s).

Implementation of an EMP is required to ensure the site remains suitable for the specified use(s). The plan should be legally enforceable: for example, a requirement of a notice under the CLM Act or a development consent condition issued by a planning authority. There should also be appropriate public notification of the plan, e.g. on a certificate issued under s.149 of *the Environmental Planning and Assessment Act 1979*.

Active or passive control systems

Auditors must specify whether the EMP requires operation and/or maintenance of active control systems or requires maintenance of passive control systems only. Active management systems usually incorporate mechanical components and/or require monitoring and, because of this, regular maintenance and inspection are necessary. Most active management systems are applied at sites where if the systems are not implemented an unacceptable risk may occur. Passive management systems usually require minimal management and maintenance and do not usually incorporate mechanical components.

Auditor's comments

Auditors may also include **comments** which are key observations in light of the audit which are not directly related to the suitability of the site for the use(s). These observations may cover aspects relating to the broader environmental context to aid decision-making in relation to the site.

Section B

In Section B the auditor draws conclusions on the nature and extent of contamination, and/or suitability of plans relating to the investigation, remediation or management of the land, and/or the appropriateness of a site testing plan in accordance with the *Temporary Water Restrictions Order for the Botany Sands Groundwater Source 2017*, and/or whether the terms of an approved voluntary management proposal or management order made under the CLM Act have been complied with, and/or whether the site can be made suitable for a specified land use or uses if the site is remediated or managed in accordance with the implementation of a specified plan.

By certifying that a site *can be made suitable* for a use or uses if remediated or managed in accordance with a specified plan, the auditor declares that, at the time the audit was completed, there was sufficient information satisfying guidelines made or approved under the CLM Act to determine that implementation of the plan was feasible and would enable the specified use(s) of the site in the future.

For a site that *can be made suitable*, any **conditions** specified by the auditor in Section B should be limited to minor modifications or additions to the specified plan. However, if the auditor considers that further audits of the site (e.g. to validate remediation) are required, the auditor must note this as a condition in the site audit statement. The condition must not specify an individual auditor, only that further audits are required.

Auditors may also include **comments** which are observations in light of the audit which provide a more complete understanding of the environmental context to aid decision-making in relation to the site.

Part III

In **Part III** the auditor certifies their standing as an accredited auditor under the CLM Act and makes other relevant declarations.

Where to send completed forms

In addition to furnishing a copy of the audit statement to the person(s) who commissioned the site audit, statutory site audit statements must be sent to

- the **NSW Environment Protection Authority**: nswauditors@epa.nsw.gov.au or as specified by the EPA

  AND

- the **local council** for the land which is the subject of the audit.

ATTACHMENT 2

EPA Correspondence

NSW EPA

ENVIRONMENT PROTECTION AUTHORITY

Your reference: Former Mobil Depot, Gunnedah
Our reference: D0C10/39403
Contact: Matthew James, 9995 5707

Mr Wai-Sun Seto
Mobil Oil Australia Pty Ltd
[redacted]

Dear Mr Wai-Sun,

Former Mobil Depot Gunnedah
Corner Wentworth and Little Barber Streets, Gunnedah

I refer to your notification of contamination at the above site under section 60 of the *Contaminated Land Management Act 1997* (the Act). Thank you for providing the accompanying reports for our review.

We have assessed the available information on contamination against the matters listed under s12 of the Act, and determined that there is no reason to believe that the contamination is significant enough to warrant regulation for the following reasons:

- No direct human exposure to the contamination is present as the site is fenced and vacant, and the contaminated groundwater is over 13 metres below ground level.
- Sampling has not identified groundwater contamination off site.

If you wish to discuss any matters raised above please contact Matthew James [redacted]

Yours sincerely

7/2/2012

NIALL JOHNSTON
Manager Contaminated Sites
Environment Protection Authority

[redacted]

ATTACHMENT 3

Important Information Relating to this Report

IMPORTANT INFORMATION RELATING TO THIS REPORT – MOBIL

The document ("Report") to which this page is attached and which this page forms a part of, has been issued by Golder Associates Pty Ltd ("Golder") subject to the important limitations and other qualifications set out below.

This Report constitutes or is part of services ("Services") provided by Golder to Mobil Oil Australia Pty Ltd ("Mobil") under and subject to a contract between Golder and Mobil ("Contract"). The contents of this page are not intended to and do not alter Golder's obligations (including any limits on those obligations) to Mobil under the Contract. Terms defined in the Contract have the same meaning in this section of this Report.

Golder has performed the Services in accordance with the Contract as a third party independent contractor qualified to provide certification by means of a direct expression of opinion as to the No Further Action status of a No Further Action Site (including any Contamination issues where applicable) and/or delivery of Interim Monitoring Services to and Interim Monitoring Site and that such reports have been commissioned on the basis not only for reliance by Mobil upon the opinions expressed but also for reliance by and the benefit of any purchaser from Mobil, any lender to a purchaser from Mobil, any lessor to Mobil, any assignee of a real estate interest from Mobil or any owner, occupier (howsoever described) or user of land or person otherwise affected by Covered Contamination (including, for example, a purchaser from an owner of the land, a lessee from an owner of the land or an assignee of a lessee from an owner of the land.)

Subject to application of any law to the contrary, no person referred to above shall obtain any rights against Golder hereunder that are greater than the rights which Mobil would have had against Golder if it was Mobil that had suffered the loss and damage that is alleged to have been suffered by such person.

In no circumstances is Mobil making any statement, representation, warranty or endorsement as to the adequacy or otherwise of any No Further Action report or Interim Monitoring report of documentation provided to Mobil by Golders which Mobil may distribute to a third party.

This Report has been prepared in the context of the circumstances and purposes referred to in, or derived from, the Contract and Golder accepts no responsibility for use of the Report, in whole or in part, in any other context or circumstance or for any other purpose.

The scope of Golder's Services and the period of time they relate to are determined by the Contract and are subject to restrictions and limitations set out in the Contract. If a service or other work is not expressly referred to in this Report, do not assume that it has been provided or performed. If a matter is not addressed in this Report, do not assume that any determination has been made by Golder in regards to it.

At any location relevant to the Services conditions may exist which were not detected by Golder, in particular due to the specific scope of the investigation Golder has been engaged to undertake. Conditions can only be verified at the exact location of any tests undertaken. Variations in conditions may occur between tested locations and there may be conditions which have not been revealed by the investigation and which have not therefore been taken into account in this Report.

Golder accepts no responsibility for and makes no representation as to the accuracy or completeness of the information provided to it by or on behalf of Mobil or sourced from any third party. Golder has assumed that such information is correct unless otherwise stated and no responsibility is accepted by Golder for incomplete or inaccurate data supplied by Mobil or any other person for whom Golder is not responsible. Golder has not taken

account of matters that may have existed when the Report was prepared but which were only later disclosed to Golder.

Having regard to the matters referred to in the previous paragraphs on this page in particular, carrying out the Services has allowed Golder to form no more than an opinion as to the actual conditions at any relevant location. That opinion is necessarily constrained by the extent of the information collected by Golder or otherwise made available to Golder. Further, the passage of time may affect the accuracy, applicability or usefulness of the opinions, assessments or other information in this Report. This Report is based upon the information and other circumstances that existed and were known to Golder when the Services were performed and this Report was prepared. Golder has not considered the effect of any possible future developments including physical changes to any relevant location or changes to any laws or regulations relevant to such location.

Where permitted by the Contract, Golder may have retained subconsultants affiliated with Golder to provide some or all of the Services. However, it is Golder which remains solely responsible for the Services and there is no legal recourse against any of Golder's affiliated companies or the employees, officers or directors of any of them.

By date, or revision, the Report supersedes any prior report or other document issued by Golder dealing with any matter that is addressed in the Report.

Any uncertainty as to the extent to which this Report can be used or relied upon in any respect should be referred to Golder for clarification.