



Servicing & Infrastructure Report



Oakdale Planning Proposal

**1455-1475 Burragorang Rd and
1838 Barkers Lodge Rd, Oakdale**

Prepared for: Morehuman Oakdale ATF
MH Property No. 3

Date: February 2024

Our Reference: 030-22

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Annexures:

- A. Sydney Water Feasibility Letter, dated 6 July 2023
- B. Endeavour Energy Technical Review, dated 1 September 2023
- C. Jemena Technical Advice, dated 3 August 2023
- D. NBN technical Advice, dated 3 August 2023

Issue	Date	Author	Approved
A	26/02/2024	Nikta Pilbala	Adrian Miller



1. Introduction

Colliers international Engineering & Design Pty Ltd (CED) has been engaged by Morehuman Oakdale Pty Ltd Atf MH Property No.3 (MH Property No.3) to prepare a Servicing and Infrastructure Report to support the Oakdale Planning Proposal. The Oakdale Planning Proposal seeks to rezone approximately 22.7 hectares of land within Oakdale to enable urban development for new housing, internal roads, environmental conservation, environmental management, and stormwater management. The site is located wholly within the Wollondilly Shire Local Government Area and is approximately 70 kilometres south-west of the Sydney CBD.

This report provides information regarding the current and proposed capacity of services including water and wastewater, electricity, gas, and telecommunications for the extent of land covered under the Planning Proposal, which has an estimated yield of 212 lots including:

- 208 residential lots;
- 3 super lots for Environmental Conservation and Environmental Management; and
- 1 lot containing a permanent stormwater basin.

2. Subject Site

The subject site (the Site) comprises of three lots located at 1455-1475 Burragorang Road and 1838 Barkers Lodge Road within Oakdale in Wollondilly Shire Local Government Area (LGA). The lots are legally known as:

- Lot 1 DP 734561
- Lot 2 DP 734561
- Lot 6 DP 734561

The Site is currently zoned RU1- Primary Production and a small portion of land, fronting Barkers Lodge Road is zoned R2- Low Density Residential. It has a minimum lot size control of 16ha for RU1 land and 700 sqm for R2 land under the Wollondilly LEP 2011. The Site is located to the southeast of Barkers Lodge Road's intersection with Burragorang Road and is accessible from both roads.

Figure 1 shows the location of the Subject Site outlined in Red.

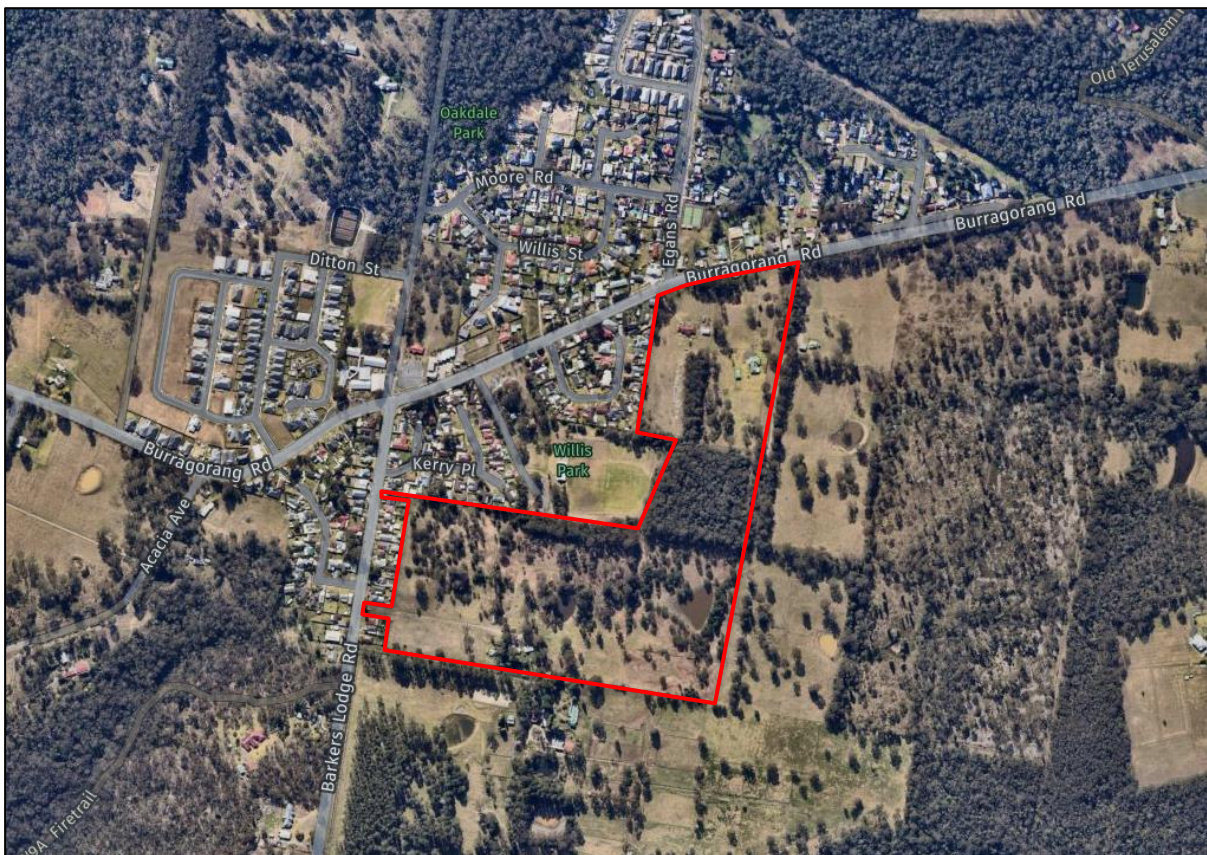


Figure 1: The Site's location (Source: Nearmap 2024)

3. Proposal

A subdivision layout in **Figure 2** (overleaf) has been prepared by CED (NSW) which also demonstrates the proposed zoning across the subject Site.

The Site is proposed to be rezoned from RU1- Primary Production to the following zones:

- R2 – Low Density Residential;
- C2 – Environmental Conservation; and
- C3 – Environmental Management.

The residential component of the Site will provide housing supply to meet the local demand in the area. The conservation zoned land will protect the ecological features of the Site and the Environmental Management (C3) zoned land will provide opportunities for the locale to engage with nature.

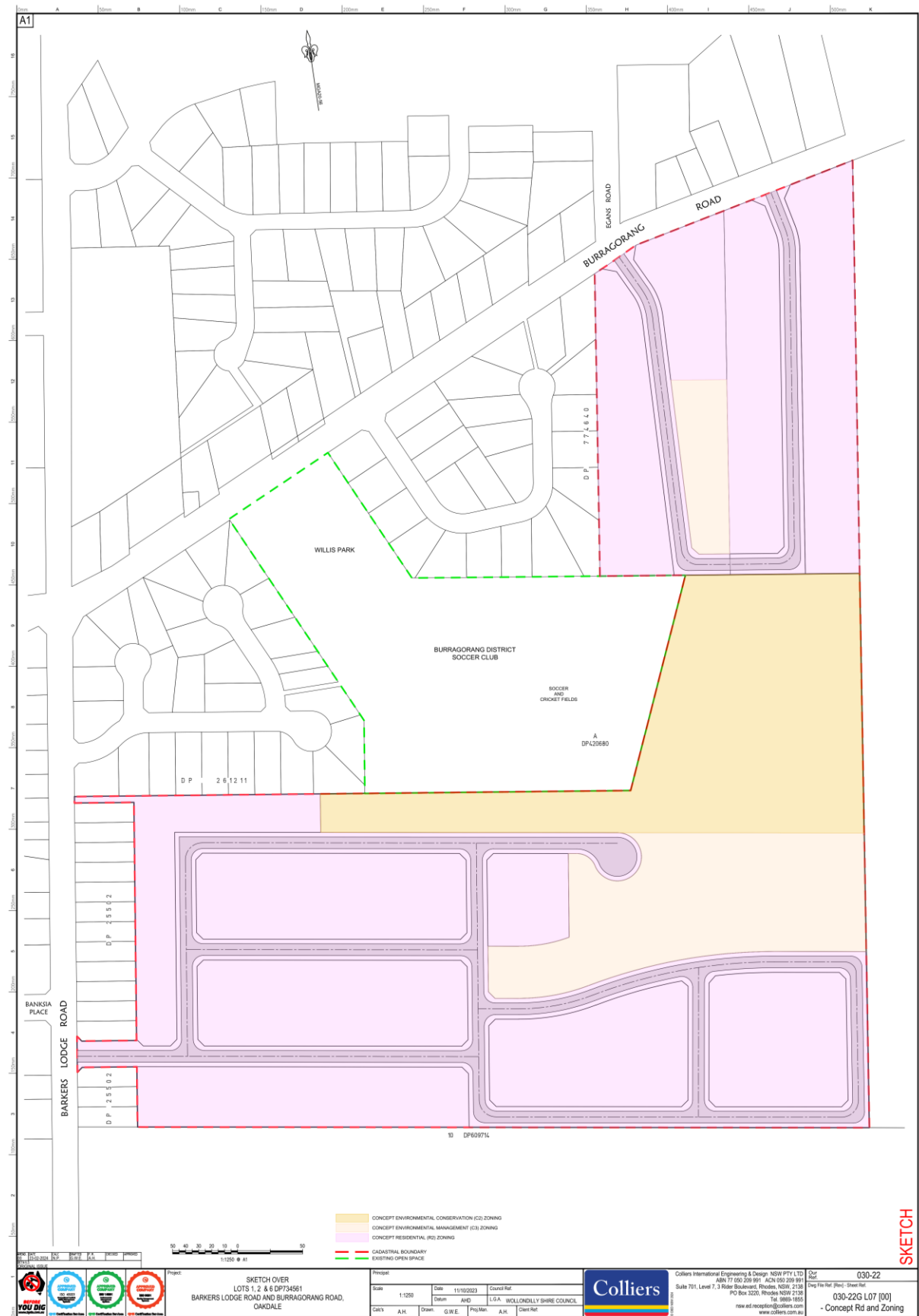


Figure 2: Proposed zoning overlay subdivision layout plan (Source: CED, 2024)

4. Methodology

This report has been prepared in consultation with the relevant infrastructure agencies of Government including:

- Sydney Water;
- Endeavour Energy;
- Jemena; and
- NBN.

We have relied on a number of technical reports and advice letters in preparing this report including:

- Feasibility Letter from Sydney Water regarding possible potable water and wastewater supply;
- CED (NSW) wastewater servicing assessment of the Site;
- Technical Review Advice from Endeavour Energy;
- NBN Co. advice contained in the COMEX Design letter; and
- Technical advice from Jemena Gas.

5. Potable Water

5.1 Background

A feasibility letter (**Attachment A**) was provided by Sydney Water dated 6 July 2023 regarding potable water services for the development of the site. A Dial Before You Dig search was also conducted, which shows the location of watermain to get connection and service the Site.

Figure 3 (overleaf) shows the existing Sydney Water's asset location within the vicinity of the Site.

5.2 Current

According to the Sydney Water's advice, the Site falls within the Oakdale Water Supply Zone (WSZ) which has adequate capacity to service the future development of the Site.

The Dial Before You Dig plan shows the nearest potential connection points including a 250mm DICL main across Burratorang Road and a 300mm DICL main along the Barkers Lodge Road.

5.3 Proposal

The developer will construct the connection to the existing water infrastructure on Burratorang Road and Barkers Lodge Road based on the requirements that will be specified by Sydney Water under a Section 73 Certificate.

5.4 Next Steps

Sydney Water's approval to check the capacity and any potential lead-in watermain extension will be required as it is subject to change according to Sydney Water's servicing plan for the area. Detailed requirements including specific connection points and extension requirements will be confirmed once a Section 73 Application has been lodged and reviewed by Sydney Water.

The potential watermain connection points along Burratorang Road and Barkers Lodge Road are shown on **Figure 3** (overleaf).

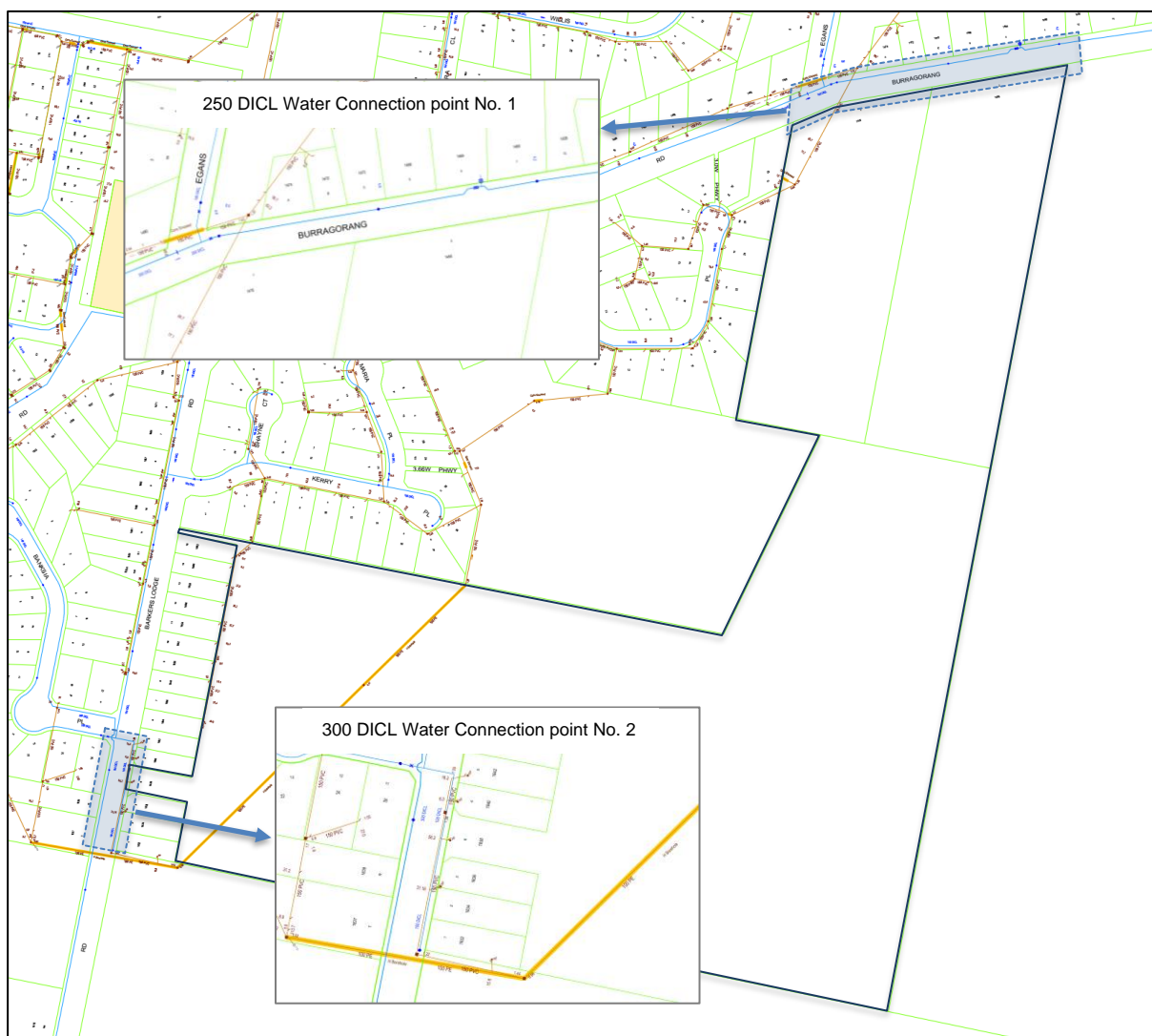


Figure 3: Watermains location and potential connection points (DBYD, edited by CED – September 2023)

6. Wastewater

6.1 Background

A feasibility letter (**Attachment A**) was provided by Sydney Water dated 6 July 2023 regarding wastewater services for the development of the site. A Dial Before You Dig search was also conducted, which shows the location of wastewater mains to get connection and service the Site.

6.2 Current

The DBYD plan indicates a 100PE concrete encased sewer main traversing diagonally the southwest portion of the Site from Barkers Lodge Road to Willis Park (**Figure 4**) connecting to a 150PVC sewer main. The sewer continues crossing the northern west portion of the Site and drains into the 225mm PVC sewer main approximately 150m north of the Site.

Figure 4 (overleaf) shows the location and details of wastewater infrastructure within the Site and ultimate sewer main it drains into.

According to the feasibility Letter:

- The Site is within the catchment area of West Camden Water Recycling Plant (WRP), which will not have capacity prior to 2028 to service this rezoning; and
- The network capacity of the Oakdale Pressure Sewer System needs to be assessed for connection and servicing the Site.

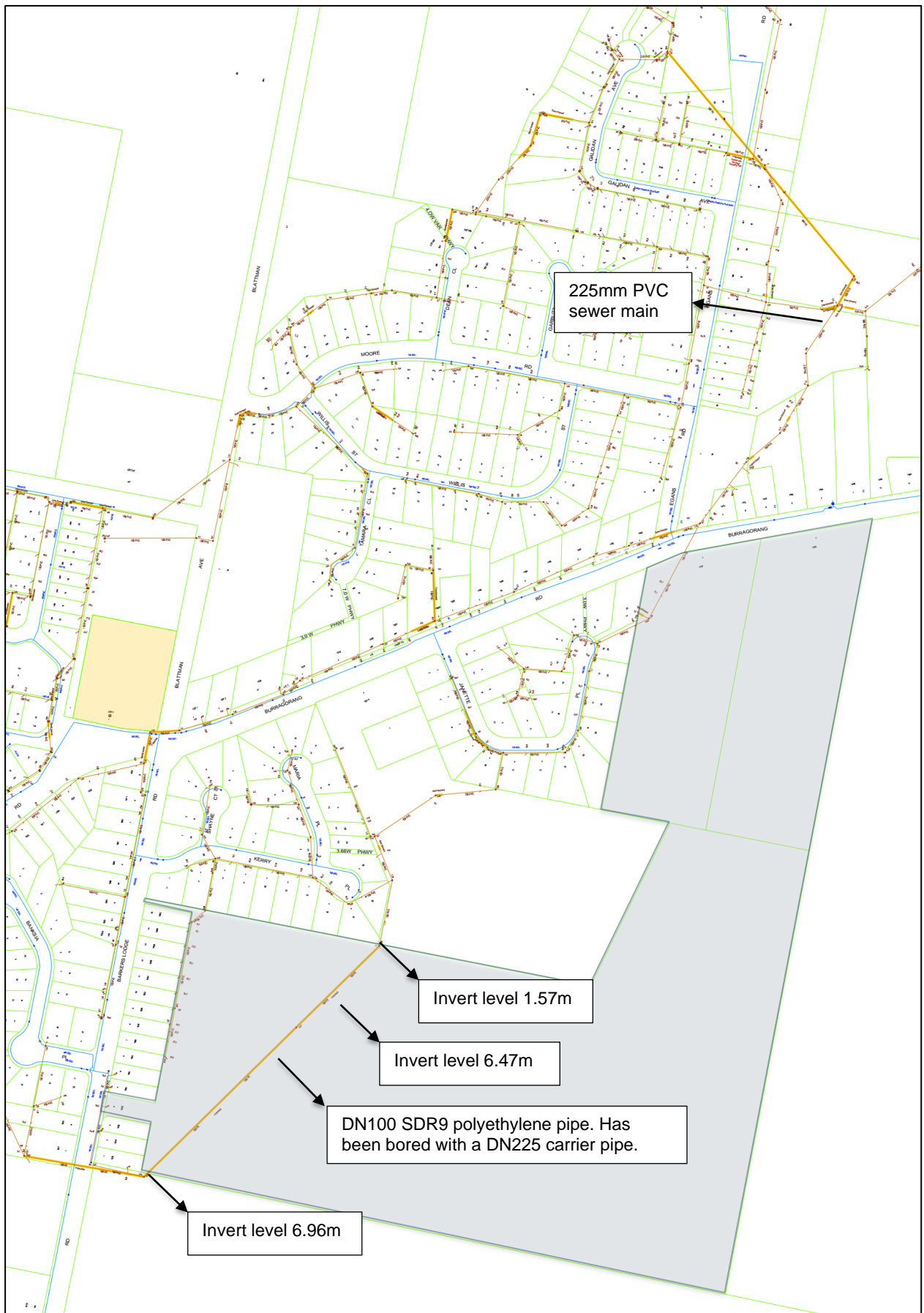


Figure 4: The location and details of Sewer main within the Site (Source: DBYD – Feb. 2024)

6.3 Proposed

A high-level assessment of the existing sewer levels was conducted by CED which indicates that the proposed development can be serviced by gravity sewer.

Sydney Water's wastewater infrastructure downstream is currently being upgraded, as such a detailed sewer modelling assessment will be warranted at DA stage to confirm the capacity of the sewer network and the sewer invert levels at downstream.

Our analysis of the Site's topography and existing sewer assets suggests the following servicing strategy:

- Design and construct the internal reticulation main extensions - The existing 100mm PE sewer main will be deviated based on the proposed road layout;
- Construct DN225 UPVC sewer main along the Site's eastern boundary which will be bored sewer in steel (trenchless) encasing pipe at a slope of 1.48% for approximately 400m and trenching for the remaining distance;
- Extend the proposed DN225 sewer main across Burragorang Road and connect to the existing sewer main at the back of 1460 Burragorang Road; and
- Upsize the existing DN150 main to DN 225 to cater for the anticipated sewer flow.

The proposed servicing strategy facilitates servicing the site under an integrated approach for the entire site without the need to divide the site into two separate catchments and connection points.

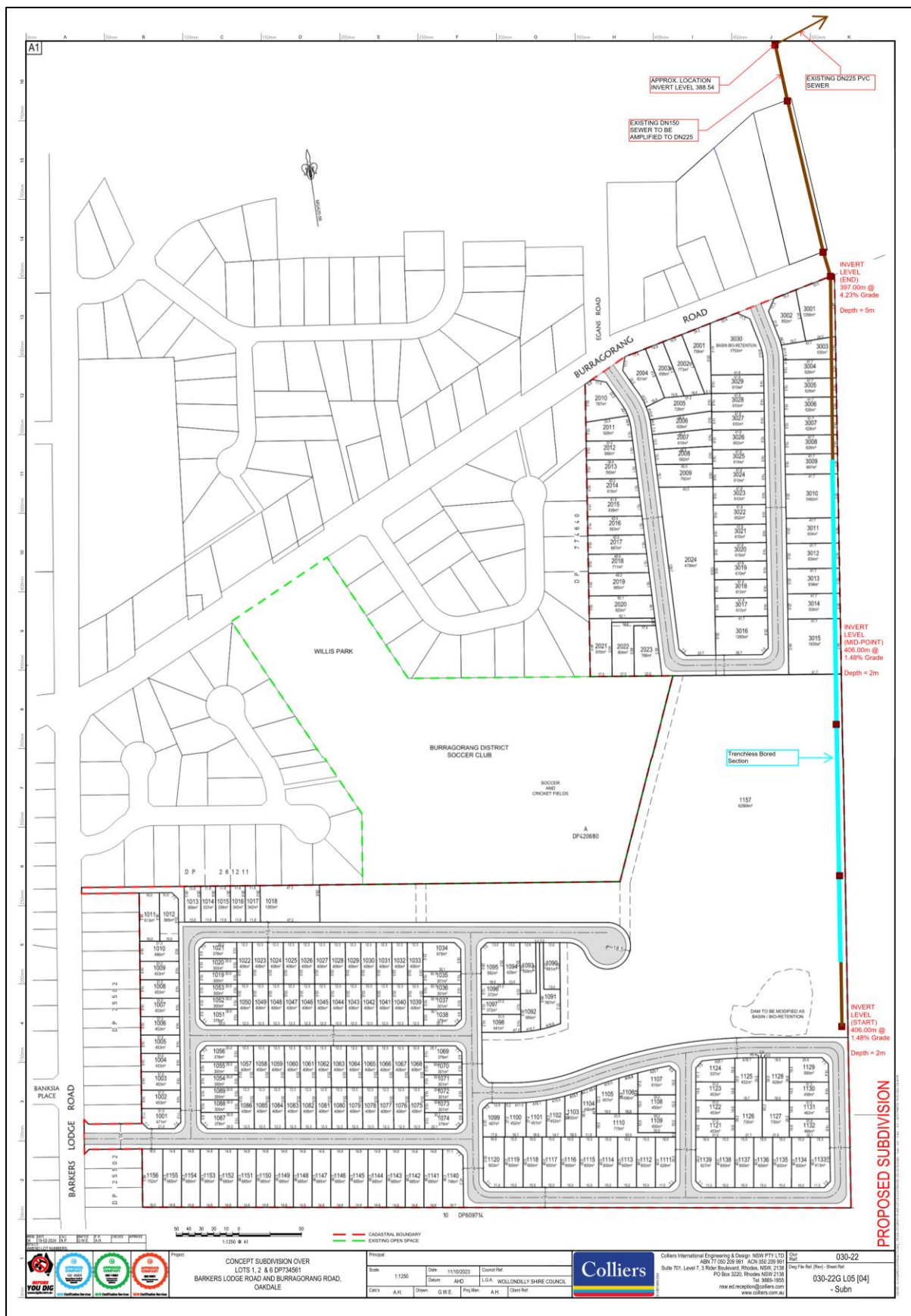
It is anticipated that the rezoning, DA and development process will take about four years and therefore the required network capacity to service the proposed development can be planned by Sydney Water in advance of the development occurrence.

Figure 5 (overleaf) shows the servicing strategy plan in detail.

6.4 Next Steps

The next steps in progressing the delivery of wastewater infrastructure consists of the following:

- Sydney Water to carry out hydraulic modelling and assessment to confirm the required infrastructure upgrade to service the proposed development; and
- A Section 73 Application needs to be submitted to Sydney Water at the DA stage to determine detailed servicing requirements for the development.



7. Electricity

7.1 Background

The Site is located within the Endeavour Energy (EE) electricity supply zone. A technical review was requested from Endeavour Energy regarding the estimated required capacity and arrangements to service the proposed development.

Endeavour Energy provided response on 1 September 2023 with Reference Number ENL4824. (**Attachment B**)

7.2 Current

The Site is located within the supply zone of Oakdale Zone substations. **Figure 6** shows the location of zone station in relation to the Site.

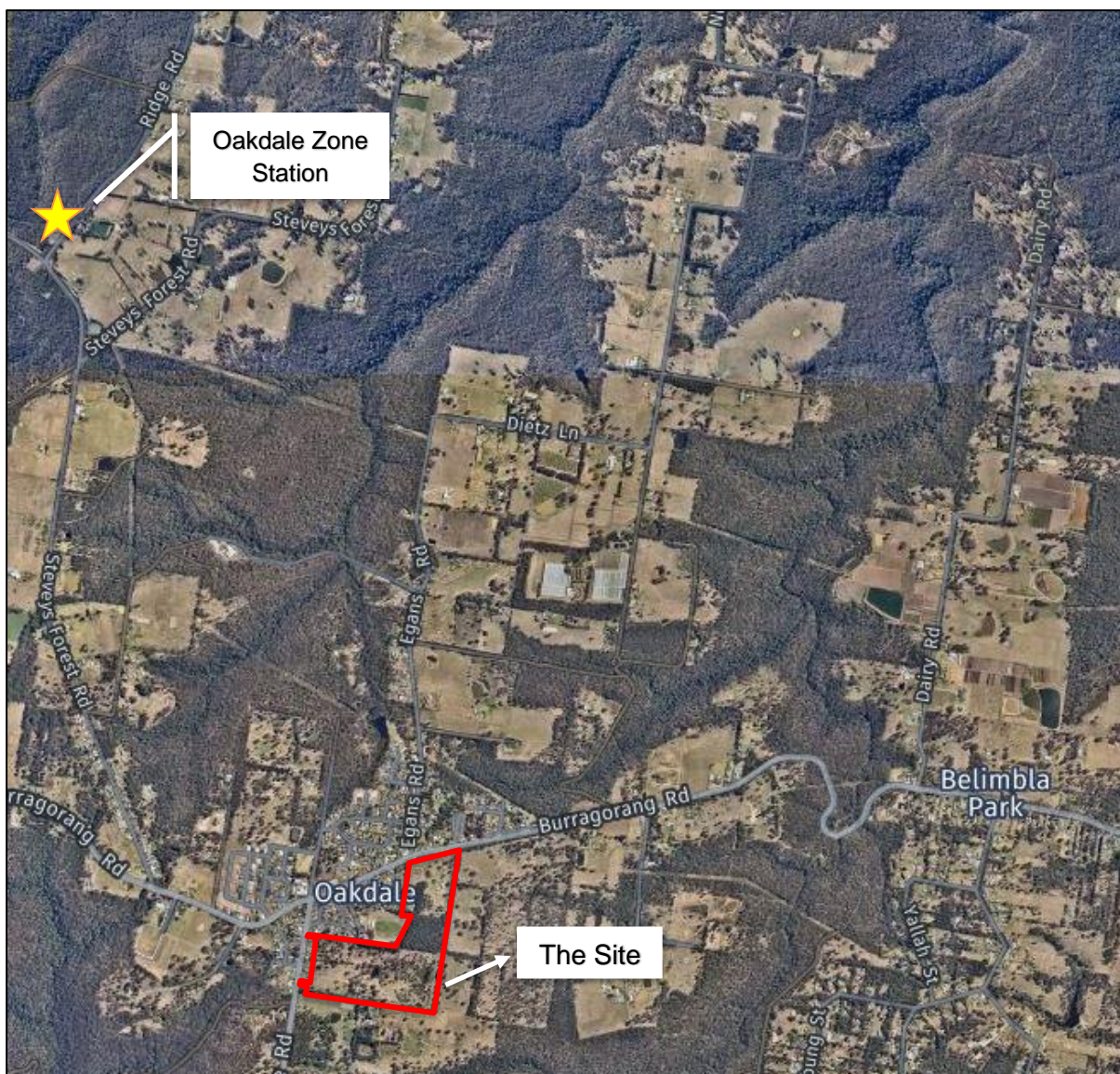


Figure 6: Location of Electricity Zone Stations servicing the Site (Source: NearMap with CED markups)

7.3 Proposed

The preliminary technical review received from Endeavour Energy indicates that the proposed development will create an estimated demand of 840kVA which is feasible to be serviced via the existing spare capacity of the adjacent 11kV feeder (H745) on Barkers Lodge Road.

It also will trigger 1-3 distribution PM substations with a size range of 315kVA to 500kVA, pending LV voltage drop calculation during detailed design.

Ducts might be required at some points to avoid trenching driveways for further developments in the future, which can be designed within the DA Stage.

7.4 Next Steps

The next steps in progressing the delivery of electricity infrastructure consists of the following:

- Engage Endeavour Energy's Network Planning team to confirm method of supply or reserve capacity on the network based on an on-site validation; and
- Engage a Level 3 accredited service provider to undertake the design and construction of the required works and seek the required EE's approval of the submitted plans.



8. Natural Gas

8.1 Background

Jemena Gas has been engaged to seek confirmation of any existing natural gas supply and assets servicing in the Oakdale area. An advice (**Attachment C**) was provided by Jemena's network Development Specialist on 3 August 2023.

8.2 Current

Jemena does not provide natural gas network in the subject area and there is no planned network extension in the near future.

8.3 Proposed

The development cannot be serviced by natural gas and will rely on electricity for domestic purposes.

9. Telecommunications

9.1 Background

NBN Co. is the default Statutory Infrastructure Provider (SIP) providing most Australian premises with superfast broadband and voice telephone services. Communication Excavations (COMEX) has been consulted to determine the existing capacity and any initial requirements.

9.2 Current

According to the NBN Co. network map and COMEX Design advice (**Attachment D**), telecommunication services are available for the entirety of the study area, which is serviced by NBN's fixed line infrastructure. (**Figure 7**)

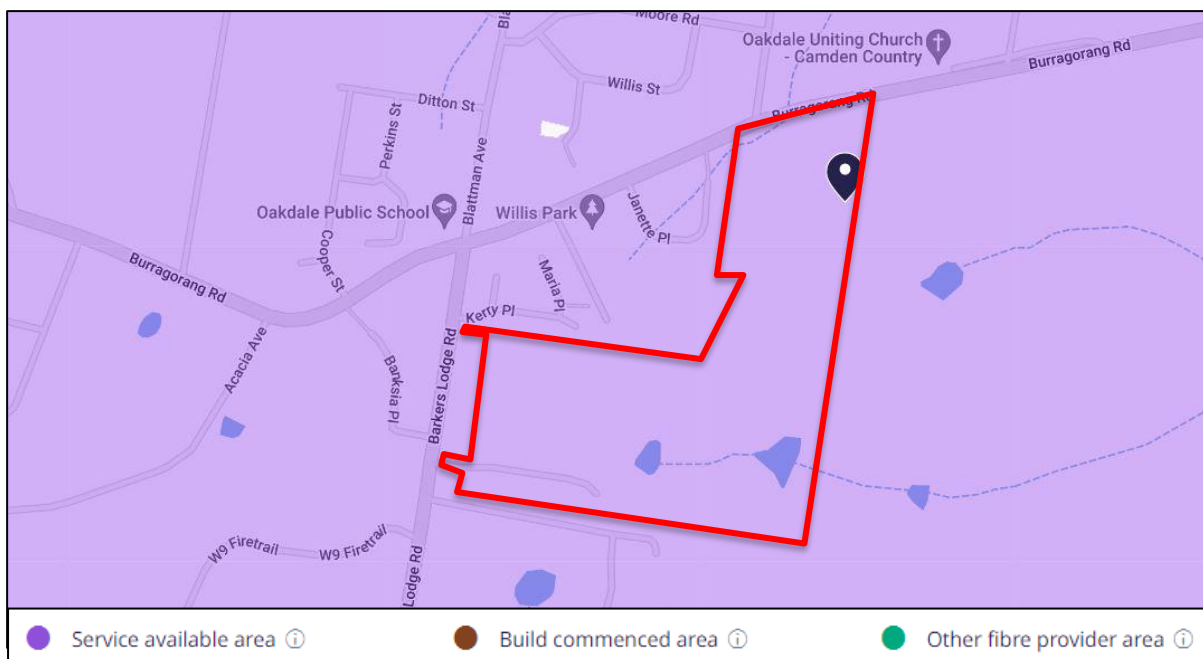


Figure 7: NBN rollout Map (NBN 2023)

9.3 Proposed

The proposed development sits adjacent to NBN's fixed line as well as within NBN's wireless footprint. Therefore, it can be serviced by NBN Co. in accordance with NBN Co. design and build guidelines.

NBN has already provisioned other new developments in Oakdale with Fibre (FTTP) technology so the latest NBN Fibre technology has already been provisioned in the area which be used for the proposed development as well.

Further investigation and detailed design will be required to determine the depth and extent of infrastructure. A qualified NBN designer will need to be engaged at the detailed design stage to facilitate the reticulation of fibre telecommunication services throughout the proposed development, and connection to the existing infrastructure, allowing for a single point of connection for each proposed lot.



9.4 Next Steps

The next steps in progressing the delivery of telecommunications infrastructure consists of the following:

- Engage NBN Co. to discuss and determine timing and stages of development at least 6 months prior to stage 1 completion; and
- Engage a qualified service provider to design and deliver the detailed telecommunication network for the site in compliance with NBN Co. design and build guidelines.

10. Conclusion

The Servicing Infrastructure Report provides an overview of the existing utilities and the required infrastructure to service the Site in consultation with the relevant infrastructure agencies.

• Water

According to the Sydney Water's advice, the Site falls within the Oakdale Water Supply Zone (WSZ), which has adequate capacity to service the future development of the Site.

The developer will construct the connection to the existing water infrastructure on Burragorang Road and Barkers Lodge Road based on the requirements that will be specified by Sydney Water under Section 73 Certificate.

• Sewer

A preliminary analysis by CED suggests that sufficient network capacity of the wastewater infrastructure will be available to service the site subject to the downstream main upgrade from DN150 to DN225. Considering that Sydney Water's wastewater infrastructure downstream is currently being upgraded, a more detailed assessment of the sewer network will be completed during the DA stage to confirm any required asset amplification.

Based on high-level analysis of the site's topography and existing sewer assets, the proposed servicing strategy includes:

- Design and construct the internal reticulation main extensions and redirect the existing 100mm PE sewer main to align with the proposed road layout;
- Instal a DN225 UPVC sewer main along the eastern boundary of the site, utilize trenchless methods for approximately 400m and trench for the remaining distance;
- Extending the DN225 sewer main across Burragorang Road and connecting it to the existing sewer main behind 1460 Burragorang Road; and
- Increase the size of the existing DN150 main to DN225 to accommodate the expected sewer flow.

Planning for the necessary network capacity can be coordinated with Sydney Water in advance of the development process, which is expected to span approximately four years through rezoning, DA approval, and construction phases.

• Gas

There is no existing natural gas supply and assets servicing the Oakdale area. Jemena do not have any planned network extension in the near future. Therefore, the development cannot be serviced by natural gas and will rely on electricity for domestic purposes.

• Electricity

The proposed development will be feasible to be serviced via the existing spare capacity of the adjacent 11kV feeder (H745) on Barkers Lodge Road subject to provision of 1-3 distribution PM substations with a size range of 315kVA to 500kVA. The voltage drop calculation during the detailed design will confirm the final size of distribution substations.

• Telecommunication

Telecommunication has been confirmed as being available for the entire development.

Appendix A - Sydney Water Feasibility Letter, 6 July 2023

Case Number: 206819

July 6, 2023

Morehuman Oakdale ATF MH Property No. 3
c/- METROWATER MANAGEMENT

Feasibility Letter

Developer: Morehuman Oakdale ATF MH Property No. 3
Your reference: 030-22
Development: Lot 2 DP734561 1455 BURRAGORANG RD, Oakdale
Development Description: Proposed 160 lot subdivision
Your application date: May 16, 2023

Dear Applicant

This Feasibility Letter (Letter) is a guide only. It provides general information about what our requirements could be if you applied to us for a Section 73 Certificate (Certificate) for your proposed subdivision. **The information is accurate at today's date only.**

We have not allocated any system capacity to your proposal from the investigation into this Feasibility advice. This advice is only an indication of our systems and possible requirements as of today. Where there is system capacity, it may have been fully utilised by the time you obtain a Consent. The requirements applied to any approved Development proposal may differ significantly in the future since the original advice was issued.

If you obtain development consent for that subdivision from your consent authority (this is usually your local Council) they will require you to apply to us for a Section 73 Certificate. You will need to submit a new application (and pay another application fee) to us for that Certificate by using your current or another Water Servicing Coordinator (WSC).

We'll then send you either a:

- Notice of Requirements (Notice) and Developer Works Deed (Deed)
or
- Certificate.

These documents will be the definitive statement of our requirements.

There may be changes in our requirements between the issue dates of this Letter and the Notice or Certificate. The changes may be:

- if you change your proposed development eg the development description or the plan/site layout, after today, the requirements in this Letter could change when you submit your new application
- if you decide to do your development in stages then you must submit a new application (and pay another application fee) for each stage.

Infrastructure contributions for drinking water and wastewater will be payable on all developments that require a Section 73 Compliance Certificate to be issued from 1 July 2024 onwards. Infrastructure contributions help recover the cost of providing infrastructure to new developments. Please refer to the Costs section of this letter for more information.

You have made an application for specific information.

1. Water and Sewer Works

1.1 Water

Each lot in your subdivision must have:

- a frontage to a drinking water main that is the right size and can be used for connection
- its own connection to that water main and a property service (main to meter) that is available for the fitting of a meter.

We've assessed your application and found that:

- This proposed rezoning is located within Oakdale WSZ and currently the system has capacity to service the development.
- Capacity needs to be confirmed at Section 73 stage.

4.2 Sewer

Each lot in your subdivision must have a sewer main that is the right size and can be used for connection. That sewer must also have a connection point within each lot's boundaries.

We've assessed your application and found that:

This proposed rezoning is partially located within the West Camden wastewater system catchment.

Treatment Capacity

West Camden WRP is currently at capacity and **will not** have capacity prior to ~2028 to service this rezoning.

Network Capacity

The development is located approximately 2.3km from the Oakdale Pressure Sewer System (PSS). The developer will need to engage a consultant to assess the network capacity of the PSS.

Infrastructure Contributions

Infrastructure contributions for drinking water and wastewater will be payable on all developments that require a Section 73 Compliance Certificate to be issued from 1 July 2024 onwards.

The infrastructure contributions are set in accordance with the Development Servicing Plans registered with the Independent Pricing and Regulatory Tribunal (IPART) and in accordance with *Independent Pricing and Regulatory Tribunal Act*.

The contributions will be gradually reintroduced such that they will be capped at 25 percent in 2024-25 and 50 percent in 2025-26, with full contributions payable from 1 July 2026 onwards, in line with a transition plan approved by the NSW Government.

You can find more information on the reintroduction of drinking water and wastewater contributions at <https://www.sydneywatertalk.com.au/infrastructure-contributions>.

If applicable, Sydney Water will confirm the amount of the infrastructure contribution for your development, we anticipate this information will be available in late 2023.

Fire Fighting

We don't consider whether the existing water main(s) talked about above is adequate for fire fighting purposes for your development. We cannot guarantee that this water supply will meet your Council's fire fighting requirements.

Definition of fire fighting systems is the responsibility of the developer and is not part of the Section 73 process. It is recommended that a consultant should advise the developer regarding the fire fighting flow of the subdivision and the ability of our systems to provide that flow in an emergency. Sydney Water's Operating Licence directs that our mains are only required to provide domestic supply at a minimum pressure of 15 m head.

No warranties or assurances can be given about the suitability of this document or any of its provisions for any specific transaction. It does not constitute an approval from us and to the extent that it is able, we limit its liability to the reissue of this Letter or the return of your application fee. You should rely on your own independent professional advice.

END

Appendix B – Endeavour Energy Technical Review

RE: ENL4824 - 1,6,2, 1838 BARKERS LODGE ROAD OAKDALE - <Technical response> - Binh Van Ha



Binh Van Ha <Binh.VanHa@endeavourenergy.com.au>

To Pilbala, Nikta

This sender Binh.VanHa@endeavourenergy.com.au is from outside your organization.

Follow up. Start by Friday, 1 September 2023. Due by Friday, 1 September 2023.
You replied to this message on 26/02/2024 12:19 PM.

Hi Nikta,

Please refer below Capacity planning study response.

Network Planning has the following HV requirements for ENL4824 - 1838 BARKERS LODGE ROAD OAKDALE:

1. Load for this ENL has been estimated to be around 840kVA
2. This would typically require 1-3 distribution PM substations, pending LV voltage drop calculations, ranging in size from 315kVA to 500kVA.
3. There is enough spare capacity on adjacent 11kV feeder H745 on Barkers Lodge Rd and Burragorang Rd to supply this proposed subdivision.
4. Future ducts may be requested to service area east of this site, should it ever be zoned for redevelopment as well, to avoid trenching driveways.

This advice provided is in response to a Technical Review Request only and does not constitute a formal method of supply. An application must be submitted and subsequent designs certified or approvals granted before Endeavour Energy accepts a method of supply or reserve capacity on the network or spare ducts for the development. Also, this response is based on our current desktop information/records which requires on-site validation to confirm accuracy.

Note we provide standard email response but if require further formal letter head report etc. this will incur additional fees for our time to setup.

Regard,

Binh Ha | Customer Solutions Engineering Specialist

P 02 9853 4380 M 0407 196 130
Level 40-42, 8 Parramatta Square
10 Darcy Street, Parramatta, NSW 2150.

endeavourenergy.com.au |



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together**







Endeavour Energy respectfully acknowledges the Traditional Custodians on whose lands we live, work, and operate and their Elders past, present and emerging.

Appendix C - Jemena Advice Email

RE: 030-22- Oakdale Rezoning- Request for Technical Advice



Neale Hilton <Neale.Hilton@jemena.com.au>

To  Pilbala, Nikta;  Gas Mains_New Estates;  LANDS;  Stephen Angel

 Follow up. Start by Thursday, 3 August 2023. Due by Thursday, 3 August 2023.

Nikta

Currently Jemena does not have Natural Gas network in this area of Sydney and no network expansion into The Oaks is planned.

Regards

Neale Hilton

Network Development Specialist –
Residential Medium Density/High Rise

Jemena

Level 14, 99 Walker Street, North Sydney, NSW 2060
M 0402 060 151

neale.hilton@jemena.com.au | www.jemena.com.au



Appendix D - NBN Advice Email

Re: 030-22- Oakdale Rezoning Project- Request for advice



Peter Rule <peter@comex.net.au>
To: Nikita Pibala
Cc: info@comex.net.au



You replied to this message on 03/08/2023 11:18 AM.
If there are problems with how this message is displayed, click here to view it in a web browser.

Hi Nikita

The proposed development area at Oakdale sits adjacent to NBN's fixed line footprint and currently sits within NBN's wireless footprint.

With the potential lot yield of around 160 lots, NBN will accept a development application in this area as it is adjacent to the fixed line area and the lot yield exceeds the minimum of 5 lots.

NBN has already provisioned other new developments closeby in Oakdale with Fibre (FTTP) technology so the latest NBN Fibre technology has already been provisioned in the area.

NBN will ensure that sufficient capacity has been provisioned to the proposed development if an application is approved and accepted by the Developer and NBN at least 6 months before the first service connection is required.

NBN may potentially charge a small backhaul fee to provision Fibre to the developer however this is unlikely due to the higher lot yield.

An application will need to be made to NBN to confirm exact backhaul requirements and cost.

NBN will charge the standard \$600 fee per lot unless a discounting arrangement can be negotiated prior to the agreement being signed.

Let me know if you require further information.

Regards

Peter Rule
Development Manager
0409 164 251
www.comex.net.au



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