

Service Infrastructure Report

Menangle Park

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EXECUTIVE SUMMARY

This Service Infrastructure Report has been prepared to support an amendment to Campbelltown Local Environmental Plan 2015 (Campbelltown LEP 2015) in relation to the Menangle Park Urban Release Area (URA), which comprises of 958 hectares of land at Menangle Park. The URA incorporates 498 ha of land owned or under the control of Dahua Group (Aust) Pty Ltd (Dahua) with the remaining area owned or under the control of other landowners.

The site was rezoned from rural land to urban purposes on 18 November 2017 to accommodate approximately 3,400 residential lots, a retail/commercial town centre, employment lands and community and recreational facilities.



The proposed amendment builds upon the site's previous rezoning and associated Structure Plan to create a new sustainable, healthy and high quality residential community comprising:

- 5,250 dwellings (an increase of 1,850 dwellings);
- a new major town centre comprising 30,000m² of retail / employment gross floor area;
- a new neighbourhood centre (approximately 3,500m² of employment floor space);
- a revised road and street network to provide better permeability throughout the site;
- sporting fields and parks;
- integrated passive recreation area within a riparian corridor network;
- land for environmental conservation;
- community facilities to support the proposed increase to the population; and
- primary school.

SMEC has been engaged by Dahua to prepare this Service Infrastructure Report. The purpose of this report is to ~~accompany the amendment application for rezoning a~~  outline the existing and proposed (trunk) service infrastructure required for the development of Menangle Park.

The key objectives of this 'Service Infrastructure Report' include:

- Outline the current strategy for developing infrastructure to support the proposed lots within the revised masterplan;
- Provide an indicative alignment and location of trunk lead-in reticulation for all utilities; and
- Discuss any additional infrastructure required to service the revised masterplan.

 The land to which the proposed LEP amendment and planning proposal relates (the site) includes all land owned or under the control of Dahua and six (6) additional properties on the eastern side of Cummins Road owned or under the control of other landowners (refer to legal description of the site and land application map included at **Appendix A**).  Structure Plan, as proposed to be amended, continues to relate to all land within the Menangle Park URA.



 For the purpose of Service Infrastructure Report, an assessment of the proposal's impact has been limited to the land to which the planning proposal relates and / or land owned or under the control of Dahua ~~because the impact does not affect or have a flow on impact on the broader region or sufficient detail in previous studies to support the site's previous rezoning remain current.~~ 

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1. BACKGROUND

Menangle Park is located in an environmentally sensitive area adjacent to the Nepean River. The project site is located south of Campbelltown and is bounded by the Hume Highway to the east and the Nepean River to the south & west.

This Service Infrastructure Report considers the supply of the following services to the Menangle Park Release Area:

- Waste Water (sewer);
- Potable Water (drinking water);
- Electrical Reticulation;
- Telecommunications; and
- Natural Gas.

The information provided in this report is intended to inform Campbelltown City Council of the opportunities and constraints associated with the provision of infrastructure services to the revised precinct. Specifically, the report provides the following information:

- Layout and capacity of existing service networks;
- Indicative utility demands for the current development proposals;
- Current service infrastructure delivery programs from the primary utility suppliers (where available);
- Service infrastructure assets required onsite; and
- Indicative trunk infrastructure service layouts;

The Menangle Park Release Area was officially rezoned in November 2017.

This report outlines the servicing strategy required to service the Menangle Park Urban Release Area as shown in Figure 1 & 2.

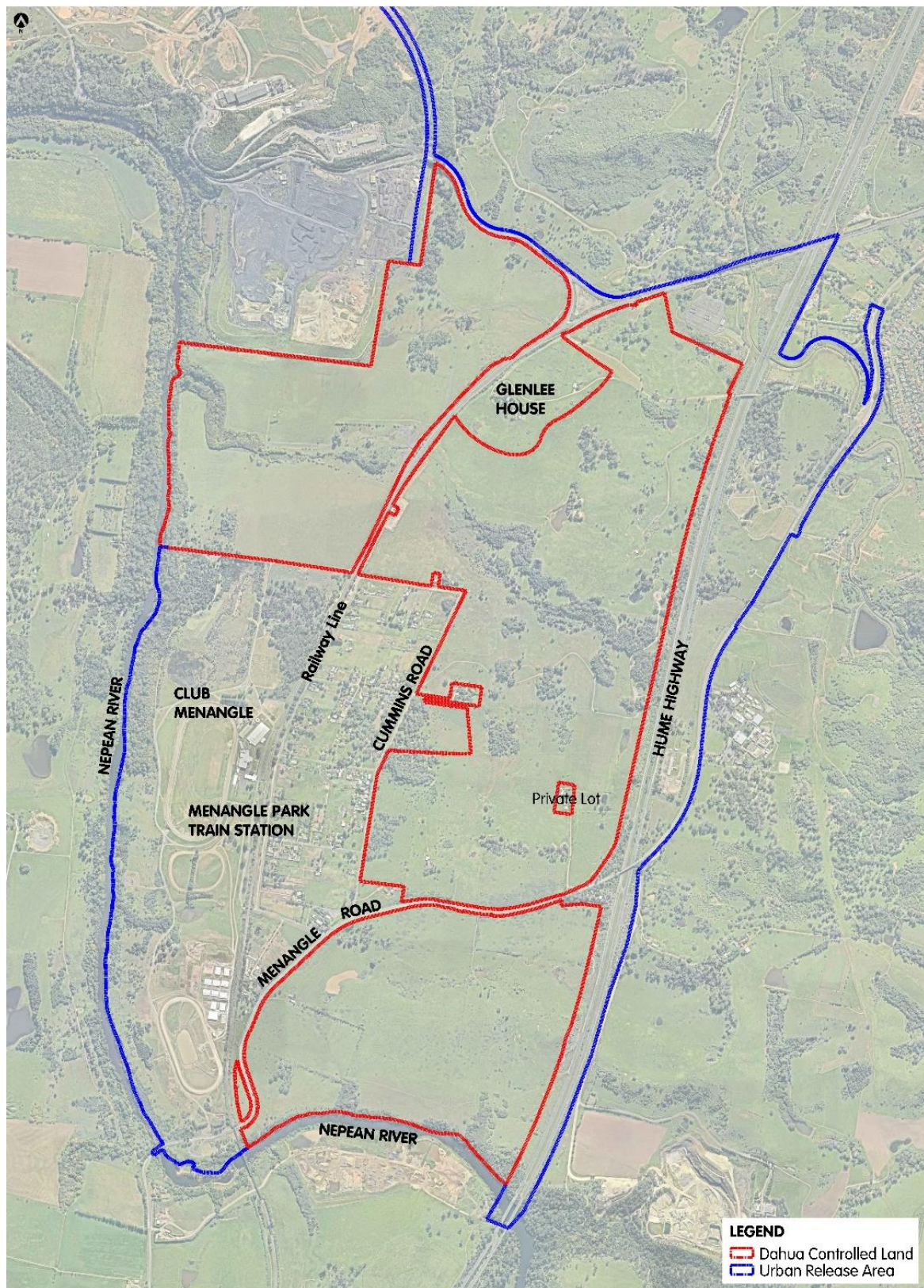


Figure 1: Menangle Park Urban Release Area

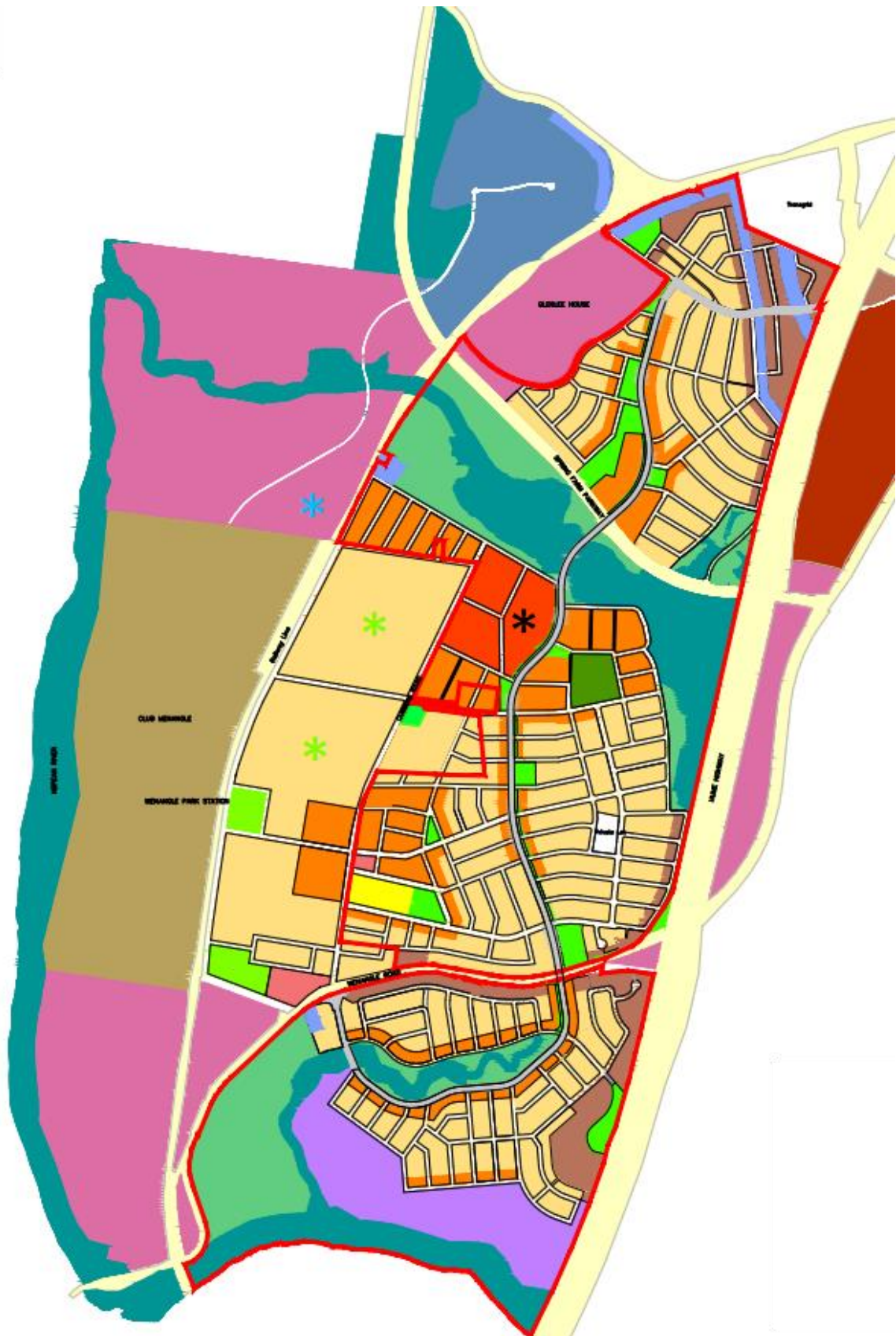


Figure 2: Revised Menangle Park Masterplan

2. REVISED PROPOSAL

As part of the rezoning submission, a proposed land use table based on the new Menangle Park Masterplan Staging Plan was lodged (see Table 1 below). Further to this, the Lot Yield Calculation (Table 2) provided for the Dahua land holdings provides estimates used to anticipate utility demands.

At this timeframes for adjacent developments are not known, however, this adjustment to planning proposal does not seek to change the yields in areas outside the Dahua landholdings.

Proposed Land Use	Area (ha)
School	2.01
Neighbourhood Centre	0.34
Collector Road	8.6
Parks/Open Space	12.82
Infrastructure	7.39
Riparian	86.58
Field/Habitat/Basin	40.23
Sales Office	0.33
Laneways	3.5
Others (Access Road, River etc.)	82
Employment	25.64
Rural / Private Open Space	0.99
TOTAL	270.43

Table 1: Proposed Land Use.

Delivery Period	Yield
Q1-2019 – Q4-2019	255
Q2-2019 – Q4-2019	179
Q4-2019 – Q3-2020	414
Q2-2020 – Q2-2021	351
Q3-2020 – Q2-2021	107
Q2-2021 – Q1-2022	207
Q3-2021 – Q3-2022	400
Q1-2022 – Q1-2023	301
Q2-2022 – Q1-2023	476
Q1-2023 – Q4-2023	435
Q2-2023 – Q2-2024	18
Q3-2023 – Q3-2024	487

Q4-2024 – Q4-2024	185
Q3-2024 – Q2-2025	137
Q2-2024 – Q4-2024	18
TOTAL	3,970

Table 2: Proposed construction timeframes – occupation of dwellings is expected 12 months after construction completion (Dahua land only).

2.1 Sewer and Water Options Planning

As of October 2018, Sydney Water has commenced their options planning process to establish the preferred options for sewer and water infrastructure upgrades for the Menangle Park release area. GHD have been engaged by Sydney Water to complete this process. The timeframes for delivery of this options report are as follows:

1. Preferred servicing concept – 30/01/2019;
2. Draft options assessment report – 26/04/2019; and
3. Final options assessment report (approved option) – 22/05/2019.

Sydney Water have confirmed that the scope of their study includes a review of both the sewer and water requirements for the Menangle Park release area.

Sydney Water have commented that delivery of the approved options will be by Sydney Water either by themselves or under a procurement arrangement with a lead developer.

2.2 Sewer Reticulation

Currently there is no sewage system that services Menangle Park. The existing village is serviced by on-site sewage systems.

Sydney Water has two packages in the process of delivery or design:

Package 1 – Sewer Pumping Station (SP1185)

The first stage of wastewater infrastructure has recently been completed with a pumping station built just north of Fitzpatrick Road. This is ready for operation and can service approximately 700 dwellings. The rising main from this pumping station extends to the north and ultimately connects to the Glenfield Sewer Treatment Plant. This pumping station has the capacity to be upgraded (by adding additional pumps) as required by demand as new stages in the northern catchment are developed. These works are anticipated to be delivered by Sydney Water as the demand requires.

Package 2 – Anticipated delivery commencement late 2020

The second stage of development will come on-line with the development of the southern catchment. This package will include:

- Sewage Pumping Station (SP1186) – south of Menangle Road; and
- 1.9km rising main between SP1186 to SP1185.

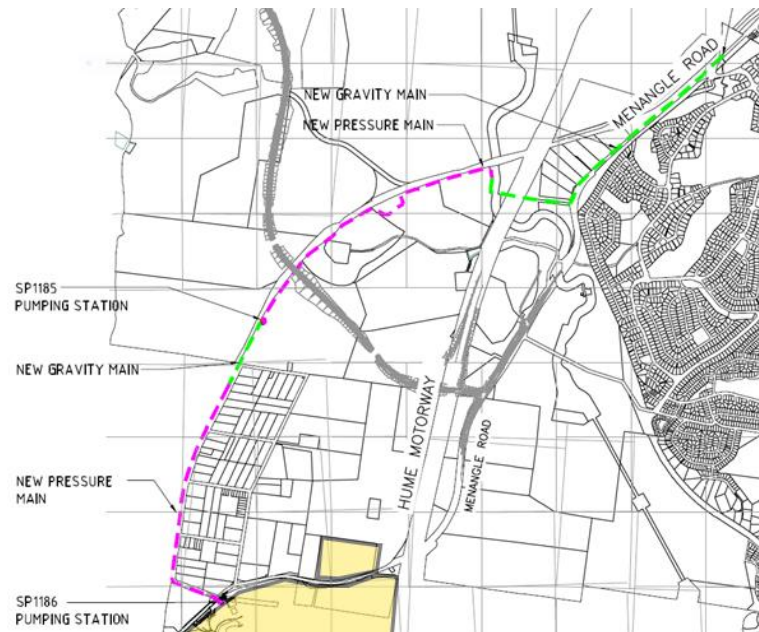


Figure 3: Indicative trunk wastewater system for the Menangle Park Precinct

Sydney Water have advised that both the existing rising main and pumping station SP1185 have been sized based on the zoned lot yield of approx. 3400 lots. An increase in lot yield to 5250 lots or higher will require investigation by Sydney Water to confirm whether a duplication of the rising main to Glenfield Sewer Treatment Plant is required. Sydney Water will also have to consider other potential connections to this pumping station (e.g. Glenlee rezoning). Dahua have communicated the potential for an increase in yield (and anticipated delivery timeframes) as part of a meeting with Sydney Water on April 14th 2018. Sydney Water will adopt the increased yield targets in their options planning review.

2.3 Potable Water Reticulation

The Macarthur Water Filtration Plant currently services Menangle Park and has current capacity to service approximately 700 additional lots within the Menangle Park Release Area (MPRA). Sydney Water currently has two packages of work concerning the MPRA in their Growth Servicing Plan July 2014 – June 2019.

Package 1 – Existing:

The Existing drinking water system can service an additional 700 lots – no additional potable water works in Package 1.

Package 2 – Critical delivery timeframe 2020:

The Campbelltown South Water System will be extended to service the release area. There is capacity in the wider system to cater for an increased lot yield of 6000 dwellings. Sydney Water are currently updating their planning and sizing to service the MPRA. Indicative scope of works:

- 2.4km lead-in water main (DN375 – to be confirmed)
- 810m lead-in main - distribution main (DN315)

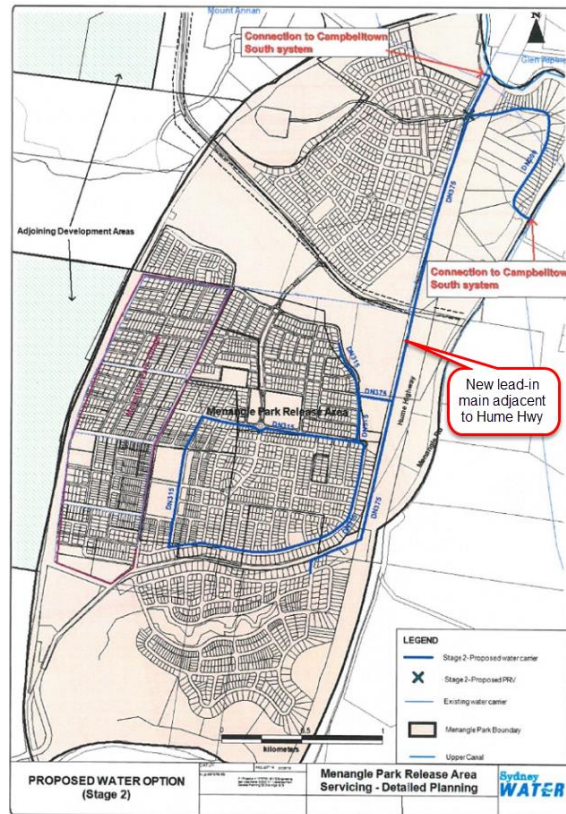


Figure 4 – Sydney Water proposed water main extension from the Growth Servicing Plan

Sydney Water are in the Options Planning process for the watermain extension and a Draft Options report will be available early 2019.

Figure 4 shows a potential route option – to be confirmed by the Options Planning process. Discussions with Sydney Water on October 12, 2018 indicate that Sydney Water may seek to eliminate the risks associated with construction adjacent to the Hume Highway by establishing a route along Menangle Road. Figure 5 shows a potential alternative arrangement.

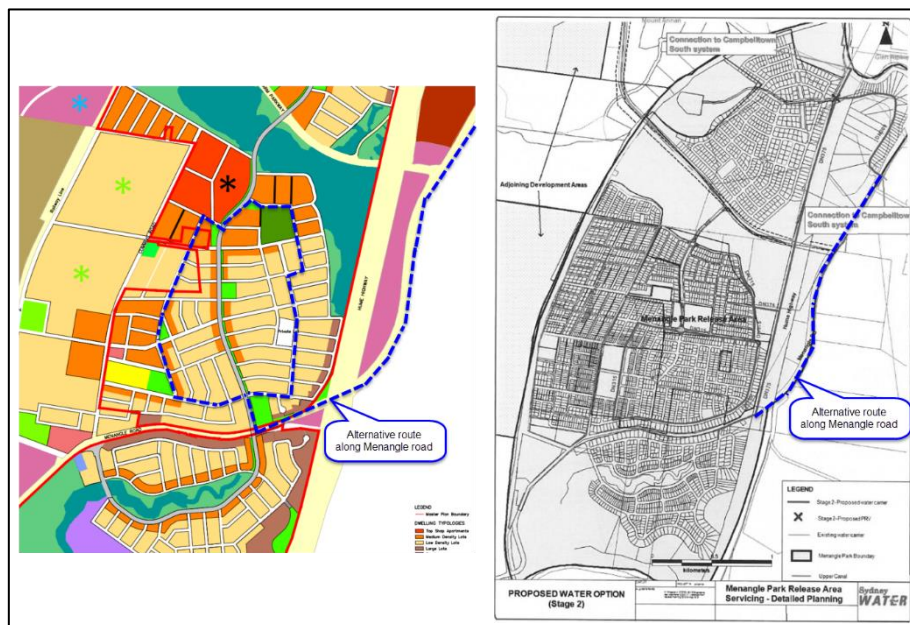


Figure 5 – Indicative potable water lead-in and existing water-mains

2.4 Electrical Reticulation

In terms of high voltage, a 330kv transmission line traverses the northeast corner of the release area from Menangle Road to north of the Hume highway contained within a 60.96 metre wide easement. Two 66kv lines traverse the northeast corner of the release area from Menangle Road to the TransGrid site and are contained within an easement up to 43.4 metres wide

There existing are overhead poles supplying power to the Menangle Park residences from Menangle Road. Servicing of the site as development increases is anticipated to be delivered in the following packages.

Package 1 – Existing Overhead Power

The existing 11kv overhead power lines have the capacity to service an additional 600 lots. Connections will be made to the existing overhead network in Menangle Road to services the first two stages of Menangle Park.

Package 2 – Proposed Zone Substation

Additional feeders will be required to service the development of the precinct. Endeavour Energy is undertaking to a 66 kV feeder to service a zone substation to be located adjacent to the proposed Sydney Water Pump Station as shown in **Figure 6**. As of July 2018 Endeavour Energy has taken possession of the site and is progressing its internal planning approval to carry out the construction of both the feeder and the zone substation. The proponent has had discussions with Endeavour Energy and has committed to carrying out the bulk earthworks and constructing the access way for the proposed substation. It is anticipated that EE will install a temporary zone substation at the start of 2019 with the construction of the final zone substation by 2020. The completed zone substation will service the balance of the Menangle Park precinct.

The 11kV feeders as shown in **Figure 6** are anticipated to be delivered by the lead-developer as the demand increases.

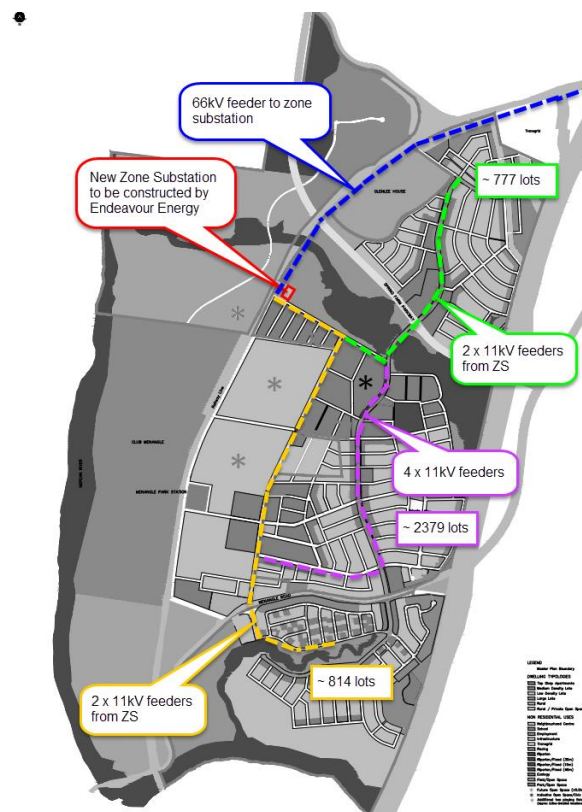


Figure 6 – Indicative electrical lead-in works

2.5 Telecommunications

The existing telecommunication reticulation shown in the 'Dial Before You Dig' documents shows services located in Menangle Road just south of the development. NBN has been installed to the existing Menangle Park area and can be extended to service this release area.

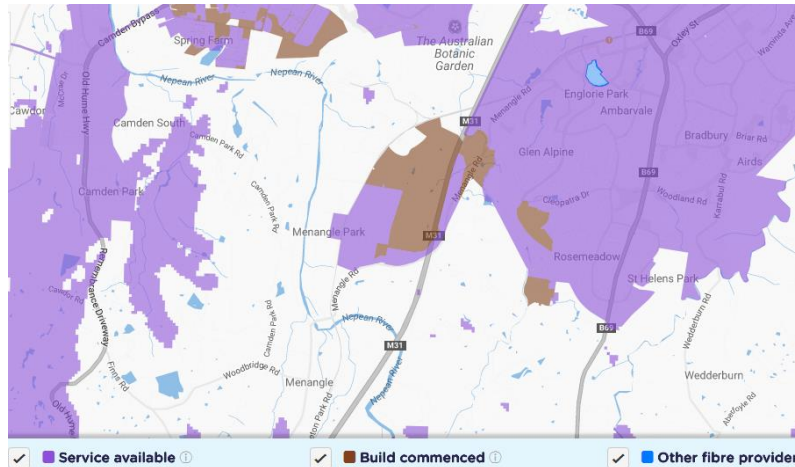


Figure 7 – NBN Rollout Map Menangle Park (source: nbnco.com.au)

2.6 Gas

The main Sydney Moomba natural gas pipeline runs through the northeast portion of the site contained within a 24.385 metre wide easement, contained within a 3 metre easement running within the existing gas easement is the Ethane Gas pipeline. APA owns the eastern gas pipeline which is located within the eastern easement boundary of the 330kv Transmission easement. AGL have a dual gas gathering well in the northwest of the site, adjacent to the Glenlee Washery together with a dual Gas gathering line that runs along the western side of the Main Southern Railway.

There is no existing gas reticulation network available in Menangle Park. The masterplan may be serviced with gas reticulation by constructing 5.4km of lead-in gas main from Kellicar Road, along Menangle Road and enter Menangle Park either at Spring Farm Parkway or Cummins Road.

The provision of gas is subject to a commercial decision by Jemena. It is noted that gas is a non-essential service.

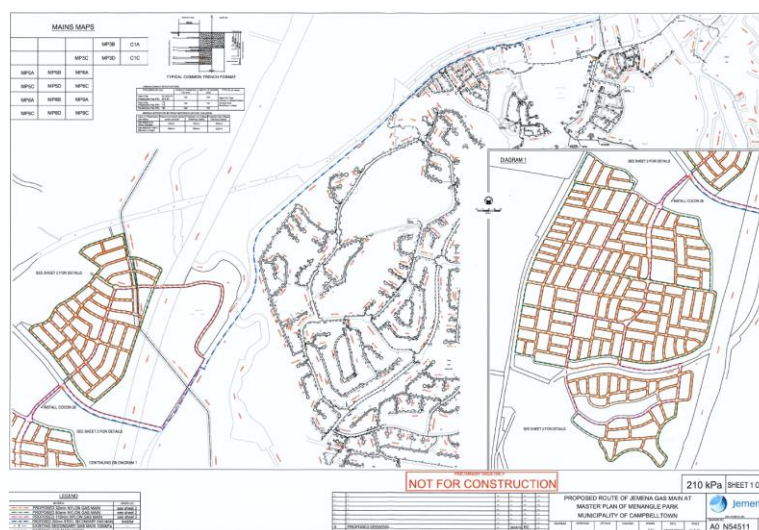


Figure 8 – previous lead-in design by Jemena for Landcom - gas connection to Menangle Park

3. SERVICE DEMAND ESTIMATES

With regard to servicing the future demands of the Menangle Park masterplan and the application to increase yield to approximately 5250 lots for the entire estate we have been in discussions with all the relevant authorities to ensure all future lots will be service adequately.

Sydney Water and Endeavour Energy have been made aware of the proposed increase in servicing demands based on the increase in lot yield. We are consulting with these authorities to include the adjusted yields be reflected in the forward planning for the area and that infrastructure delivery timeframes consider the anticipated lot release timetable for the proposed development.

4. REFERENCES

- Sydney Water – Greater Macarthur Region strategy;
- Dial Before You Dig;
- Menangle Park Release Area, Phase 2 Due Diligence. April 2015, SMEC;
- Menangle Park South Due Diligence, May 2016, SMEC;