

ENGINEERING SUMMARY REPORT

Yanchep Foreshore Management Plan

JDS242368 November 2025

DRAFT

Prepared for:

City of Wanneroo
On behalf of UDLA

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1 Introduction and Key Objectives

JDSi Consulting Engineers (JDSi) have been commissioned by UDLA, on behalf of the City of Wanneroo (CoW), to complete the detailed engineering design and services upgrade works to support the implementation of the Yanchep Foreshore Management Plan (FMP).

The key objectives of this report are to summarise the current status of the engineering design and approvals related to:

- Earthworks, Roadworks and Drainage (City of Wanneroo)
- Water and Sewer Reticulation (Water Corporation)
- Gas Reticulation (ATCo)
- Communications (NBN Co)
- Electrical Reticulation (Western Power)

A copy of the current engineering design drawings are included in Appendix B.

Further work is needed to finalise the detailed engineering design and relevant authority approvals to a construction ready status, and this will be progressed in consultation with the City of Wanneroo and other stakeholders.

To avoid duplication of information from previous reports and to emphasise the current status of the detailed engineering design, the majority of background information on the site has intentionally not been included in this report.

2 Background Information

The following documents and data have informed the preparation of the detailed engineering design. In addition, the previous reports by JDSi provide further background context to this Engineering Summary Report.

- Yanchep Lagoon Concept Design Report (AIE Engineering, April 2024)
- Yanchep Lagoon Preliminary Foreshore Management Plan (UDLA, December 2024)
- Engineering Services Report (JDSi, November 2024)
- Brazier Road Drawings (City of Wanneroo, May 2025)
- Gap Analysis Report (JDSi, July 2025)
- Service Authority Guidelines, Standards and Planning Data (Various)

3 Construction

Construction of the Civil and Services Upgrade works can progress under a typical civil construction contract (AS2124 or similar) and in accordance with City of Wanneroo's procurement policies.

As is typical for most civil contracts, the following will need to be resolved prior to commencement of works:

- Construction Management Plan (including dust, noise, vibration, WHS etc)
- Traffic and Pedestrian Management Plan
- Vegetation Retention Management Plan
- Unexpected Finds Protocol
- Contract Insurances

Based on current advice from CoW, the following staged delivery of the works is proposed:

3.1 Stage 1

- Brazier Rd (east) through to Yanchep Beach Rd.
- Installation of power, gas and communications services.
- Works have been tendered, with contract award to occur late November 2025.
- It is anticipated that construction will commence in January 2026 with completion by May 2026.
- CoW to deliver road upgrades to Brazier Rd under a separate contract, following completion of the services installation.

3.2 Stage 2

- Capricorn Ave (north)
- Installation of power, gas and communications services.
- Construction of road and drainage upgrades.
- Completion approximately Q2 2027.
- Works will support the BOGH development.

3.3 Stage 3

- Brazier Rd (south) through to Wilkie Ave.
- Installation of water, power, gas and communications services.
- Construction of earthworks, roads and drainage upgrades.
- Installation of sewer infrastructure in coordination with the proposed WWPS.
- Completion approximately Q2 2028.
- Works will support the Retail and Fishermans Hollow developments.

3.4 Unstaged

- Earthworks, drainage and services to support the proposed Beach Bar development adjacent the Yanchep Surfclub.
- Timing and scope is subject to confirmation from CoW.

4 Study Area

The Yanchep Lagoon Foreshore Masterplan areas is approximately 35 ha in size and is located approximately 50km north of Perth, within the City of Wanneroo.

The Site is generally bounded by existing residential properties, with Capricorn Esplanade and Beachhaven Drive to the north; Yanchep Beach Road and Two Rocks Road to the east; and Wilke Avenue to the south. The western boundary of the Site is the Yanchep Lagoon.



Figure 1: Site Location

Brazier Road dissects the masterplan boundary area in the north and south direction and turns to Yanchep Beach Road to the east.

There are pine bollard and chainmesh fences that delineate roadways and the vegetated dunes. Steep changes in grade, particularly at the foreshore, are built up with limestone retaining walls.

Most of the Site generally consists of uncleared low-lying vegetation. Medium to large trees are scattered within the masterplan boundary.

4.1 Proposed Development

The future development of the Site includes the following:

- BOGH Development Site
- 2A Beach Bar
- 3A Retail Outlet
- 5A Orange Box and associated Public Toilets

In addition to the proposed developments, the following existing facilities are located in the site:

- 1H Homestead
- Surf Club
- Orion Café

Summarised in Appendix A is the proposed servicing loads for the development sites based on supplied data from City of Wanneroo.

4.2 Topography

Based on the supplied survey data the Site has a generally hilly terrain consistent with a typical dunal topography. The area to the north of Brazier Road ranges from RL 34m AHD and falls to the coastline

(0m AHD). The land between Brazier Road and Wilkie Avenue is also undulating with the lookout point east of the Yanchep Beach Lagoon Café being the highest RL at 30m AHD.

MNG have undertaken detailed survey across the site, including capturing available drainage information. This was completed in July 2025 (MNG Reference 106570).

4.3 Groundwater

The Site is included in the Department of Water and Environmental Regulation's (DWER) online Perth Groundwater Atlas. Based on post 1990 groundwater levels the Average Annual Maximum Groundwater Level (AAMGL) varies across the Site, from approximately 25m below ground level (mbgl) in the east to 5mbgl near the foreshore.

The subject area does not fall within a Water Pollution Control Area.



Figure 2: Depth to groundwater (DWER)

4.4 Geological Conditions

Structerre Consulting completed site specific geotechnical investigations, with the following reports provided in September 2025.

- Geotechnical Investigation (Ref 488681)
- Assessment of Pavement Condition Repot (Ref J487820)
- Site and Soil Evaluation Report (Ref J487861)

The following extracts and key data from the reports are relevant to the future developments on the Site, noting that the reports should be read in their entirety before being used for design purposes.

- Based on results of this investigation the site can be classified as an equivalent Class "A" provided that all unsuitable materials are removed and replaced with engineer-controlled sand fill materials in accordance with earthwork recommendations

Table 2 - Subsurface Soil Profile at proposed Beach Bar (BH01 & BH02)

Depth to Base of Strata (m)	Geological Setting	Material Description
0.2	SURFICIAL	Bitumen, base course and subbase course
0.5	FILL	SAND: fine grained, poorly graded, yellow, very dense, dry (subgrade?)
Not Penetrated (>2.5)	NATURAL	SAND: fine grained, poorly graded, trace of medium sized limestone gravel, pale yellow, dense to very dense, dry

Table 3 - Subsurface Soil Profile at proposed Retail Outlet (BH03 & BH04)

Depth to Base of Strata (m)	Geological Setting	Material Description
Not Penetrated (>2.5)	NATURAL	SAND: fine to medium grained, poorly graded, trace medium gravel, pale brown, loose, dry

Table 4 - Subsurface Soil Profile at proposed Orange Box Café (BH05 & BH06)

Depth to Base of Strata (m)	Geological Setting	Material Description
0.05	SURFICIAL	TOPSOIL
0.9 – 1.5	FILL	SAND: fine grained, poorly graded, pale yellow, loose, moist
Not Penetrated (>2.5)	NATURAL	SAND: medium grained, trace gravel limestone and silt, dark grey, medium dense, moist

The soils encountered are consistent with the expected site conditions as predicted from the Environmental Geology Map. It is important to note that there may be pockets of fill on site that are deeper than that encountered by the investigation boreholes. The subsurface soil conditions encountered are presented in the bore logs, within Appendix C.

Table 8 - Retaining Wall Design Parameters

Parameters	Design Values
Angle of internal friction (Ø)	32°
Coefficient of active earth pressure (Kpai)	0.307
Coefficient of passive earth pressure (Kpa)	3.255
At rest coefficient of earth pressure (K_O)	0.470
Bulk density (KN/m³)	18

Table 9 - Geotechnical Design Parameters

Soil Type	Depths (m)	Friction Angle Ø (°)	Cohesion C (kPa)	Density Y (t/m³)	Elastic Modulus E (MPa)
FILL: SAND (Beach Bar)	0.0 – 0.5	33	0	1.80	20
SAND (Beach Bar)	0.5 - >2.5	38	0	1.85	50
FILL: SAND (Orange Box Café)	0.0 - 1.5	28	0	1.80	15
SAND (Orange Box Café)	1.5 ->2.5	33	0	1.80	15
SAND (Retail Outlet)	0 – >2.5	33	0	1.80	15

Table 3 - Allowable Bearing Capacities for Pad Footings

Minimum Depth of Embedment (m)	Minimum Plan Dimension (m)	Allowable Bearing Capacities (kPa)	Settlement (mm)
0.5	0.5	180	< 20
	1.0	225	
	1.5	> 250*	
	2.0		
1.0	0.5	> 250*	< 20
	1.0		
	1.5		
	2.0		

Table 11 - Allowable Bearing Capacities for Strip Footings

Minimum Depth of Embedment (m)	Minimum Plan Dimension (m)	Allowable Bearing Capacities (kPa)	Settlement (mm)
0.5	0.5	150	< 20
	1.0	215	
	1.5	> 250*	
1.0	0.5	240	< 20
	1.0	> 250*	
	1.5		

** Note: it is recommended to limit these values to 250kPa.*

Figure 3: Geotechnical Criteria (Structerre).

4.5 Acid Sulphate Soils

Acid Sulphate Soil mapping compiled by DWER indicates the Site is generally located within an area of “no risk of acid sulphate soils occurring within 3 m of natural soil surface”. Therefore, excavation works within the Site boundary are not expected to be impacted by Acid Sulphates.

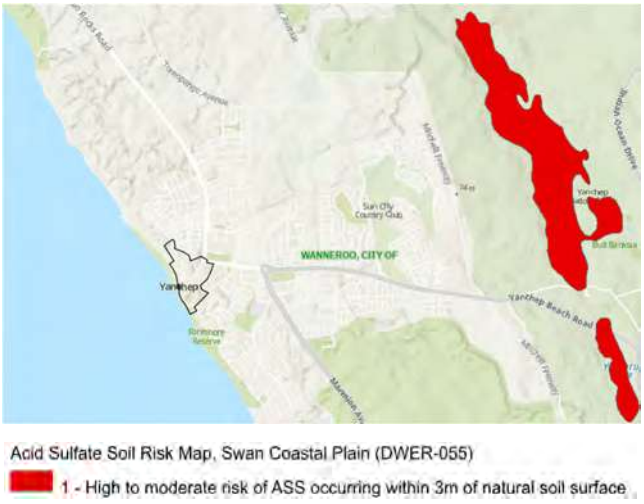


Figure 4: WAPC ASS Mapping

5 Demolition and Clearing

At the commencement of site works any development areas will undergo a demolition and clearing exercise.

Any redundant infrastructure, fencing, scrap material or rubbish located on the Site will need to be removed and disposed of to an approved tipping location prior to progression of earthworks.

Due to the potential ad-hoc land uses on the Site, and the age of some structures noted in historical imagery, there is the potential to encounter Asbestos Containing Material. Any Presumed Asbestos Containing Material (PACM) encountered during the works will trigger a notification by the Contractor in accordance with a site specific 'Unexpected Finds Protocol. Works in the area will cease immediately and the area will be cordoned off and made safe. The project's Environmental Consultant will then provide a methodology to remove and dispose of the material safely to an approved waste handling facility and provide a validation report upon completion of any remediation. All works relating to PACM will be undertaken in accordance with:

- National code of practice for the safe removal of asbestos 2nd edition [NOHSC:2002(2005)], and
- Department of Health's Guidelines for the Assessment, Remediation and Management of Asbestos-Contaminated Sites in Western Australia (2009)

To ensure the protection and integration of existing vegetation a tree retention plan should be implemented which will require the identification and flagging of all trees and vegetation to be retained prior to any earthworks occurring on site. Tree Protection Zones, as prescribed by AS4970, should be established and maintained throughout the works via the use of bunting and fencing where applicable. Any works undertaken within the nominated Tree Protection Zones should be undertaken in consultation with the project Arborist to preserve the health and viability of the retained trees. Clearing areas and any trees to be removed should be marked prior to earthworks commencing and all nominated trees and vegetation should be removed carefully so as to not disturb foliage and roots of any adjoining trees.

6 Earthworks

Bulk earthworks required for the development of the Site should be undertaken in accordance with recommendations contained in the Structerre Geotechnical Investigation Report, which is summarised below:

- All earthworks shall be undertaken in accordance with AS 3798-2007 Guidelines on earthworks for commercial and residential developments.
- All unsuitable materials to be stripped and removed from the site. Unsuitable materials include vegetation, topsoils, uncontrolled filling, and any deleterious and organic materials.
- It is considered that the near surface materials require improvement. Therefore, it is proposed to excavate and stockpile the materials for reuse, provided it is dry, free from clay/silt (i.e., <5%), organic and deleterious materials. The depth of excavation may vary depending on conditions encountered (i.e. groundwater) and is subject to assessment. However, it is envisaged that an average depth of excavation would be approximately 0.4m for the Beach Bar, 0.6m for the Retail Outlet and 1.0m for the Orange Box Cafe.
- Excavations should not exceed 1.2m without adequate temporary shoring and/or safe excavation practices (e.g., benching, and / or batters) or undermine any surrounding structures. A 1V:2H slope should be maintained for temporary excavations. If excavation is required closer than the 1V:2H slope would allow, it is recommended that this office be contacted for retaining design.
- Proof compact the exposed base. The compaction requirements are set out in the table below, as per AS 3798-2007:

Table 7 - Compaction Requirements

Item	Application	Minimum relative compaction %	
		Minimum density ratio (Standard Compaction Effort) (Cohesive soils)	Minimum density index (Cohesionless soils)
1	Commercial – fills to support minor loadings, including floor loading of up to 20kPa and isolated pad or strip footings to 100kPa	98	75
2	Fill to support pavements General Fill Subgrade (to a depth of 0.3m)	 95 98	 70 75

- After excavation, raking and proof compaction, the exposed base is to be assessed and approved by an authorised representative from this office prior to backfilling. At this stage it can be assessed whether any further materials need to be removed or whether further compaction of the base is required.
- The ground level should be built up to design levels with the stockpiled sand materials and imported fill. If required, the imported fill should consist of free draining sand with not more than 5% passing a 75µm sieve and be free of organic matter and other deleterious materials.
- The fill sand materials should be placed in layers not exceeding 300mm loose thickness and compacted to achieve the values stated in the table above. As a guide a minimum of 7 PSP blows over the interval 150 – 450mm, 9 PSP blows over the interval 450 – 750mm and 11 PSP blows over the interval 750 – 1050mm should be achieved, however it is recommended that this be verified with appropriate laboratory testing.

- For design loadings above 100kPa additional compactive effort may be required over the base. Bearing capacities as outlined in Section 4.7 of this report can be achieved with compaction of the base of foundation to a minimum of 95% modified maximum dry density as determined by AS1289 5.2.1 and 5.4.1, to a minimum depth of 0.5m below the base of foundation.
- After remedial earthworks have been completed, the earthworks should be assessed and approved by an authorised qualified representative from this office. It is considered that standard small to medium sized earthmoving equipment would be appropriate for the proposed earthworks. The near surface ground is competent and should not pose an issue to site traffic movements.
- The material encountered on site can be deemed as 'easy' to excavate with medium sized earthwork equipment (i.e., a 20t excavator). Should excavations encounter groundwater, dewatering will be necessary.

Once construction commences on site, all bulk earthwork operations should be witnessed by a suitably qualified Geotechnical Engineer and control testing undertaken in accordance with AS3798.

There is the potential that hard rock, in the form of limestone, may be encountered during bulk earthworks and excavations. This material is typically able to be excavated, albeit at a slower rate, utilising standard civil machinery. Where encountered close to foundations, pavements or services, this material should be over excavated and replaced with clean fill material.

Given the typical geology of the Site and high likelihood of sand drift and dust nuisance, the extent of clearing and earthworks should be limited to the absolute minimum and final batters shall be shaped to as flat a grade as possible. Formal stabilisation, in the form of planting and jute matting, will likely be required for any undeveloped areas where the underlying sandy soil is exposed.

There is an existing CHRMAP published for the area, however JDSi understand a revised study may be in progress. The CHRMAP will indicate development earthworks levels that need to be achieved for various scenarios and development timeframes. This is typically a risk-based approach and will require agreement from the Development owners as part of the detailed design.

7 Roadworks

The surrounding road network is under the control of the CoW and as such all works on and abutting the public roads will be subject to their approval.

Main Roads WA Information Mapping System shows that Brazier Road and Capricorn Esplanade are classed as local distributors. The roads abutting the Master Planning boundary are classed as Distributor B (Yanchep Beach Road) and Local Distributors (Wilkie Avenue).



Figure 5: MRWA Road Hierarchy Map

The existing road network typically consists of engineered pavements with asphalt wearing course and kerbing. Roads generally follow the existing topography and have a curved geometry, with verges of variable width and grade.

The north-south section of Brazier Road and Capricorn Esplanade generally consists of a high-quality road with central medians, on-street parking and concrete pedestrian paths. The east-west section Brazier Road through to Yanchep Beach Road is a lower quality road, with no kerbing or pedestrian pathways.



Figure 6: North-south section of Brazier Road, looking north



Figure 7: East-west section of Brazier Rd, looking east.

The proposed Foreshore Management Plan is not intending to create any new significant roads however works in Stage 2 and 3 will include adjustment of the existing road pavements and the addition of new on-street and off-street parking. For the Stage 3 works, the intent is to convert a portion of Brazier Rd, between Capricorn Esp and the western most carpark, into a one-way road with traffic only permitted to traverse in a southerly direction.

JDSi understand the east-west section of Brazier Road is due to be upgraded with new footpaths and parking by CoW under a separate design package once the Stage 1 Services works are completed.

All new works should be undertaken in accordance with the following criteria:

- City of Wanneroo – Guidelines for Subdivision of Land
- Local Government Guidelines for Subdivisional Development (IPWEA)
- MRWA Guidelines
- Austroads
- Liveable Neighbourhoods
- AS2890 – Parking Facilities

Given the intent is to create a low speed, pedestrian friendly and safe road network the following will be considered as part of the ongoing detailed road design:

- Narrow traffic lanes of 3m widening to 3.5m on proposed bus routes.
- Buffer from traffic lanes to parking bays of 0.8m for parallel bays and 0.5m for angled bays.
- Traffic calming devices such as raised crossings and medians.
- Geometric considerations such as chicanes and small radius kerbing
- Alternative pavement colours and treatments

As noted above, Structerre have completed a geotechnical investigation and pavement assessment report for the existing roads, with relevant details summarised below:

- The general pavement profile of the Brazier Road and Capricorn Esplanade consist of an asphaltic seal of approximately 30mm, overlying a compacted base & subbase providing an overall pavement thickness of between 250mm to 350mm.
- Typical pavement designs above a well compacted sand subgrade, having a minimum California Bearing Ratio (CBR) of 10%, would recommend a pavement thickness of between 280mm and 300mm.
- Visual observations conducted on the road pavement along Brazier Road and Capricorn Esplanade would consider the existing pavement is in a good condition and fit for current purpose/s.

Table 4 - Indicative CBR Values

Material	Indicative CBR (%)	Compaction
SAND (In situ or Imported Fill)	12	95% of MMDD*

** Implies the maximum dry density ratio using Modified compaction in accordance with AS 1289 5.2.1-2003.*

For detailed design and construction of the pavements, it is recommended that the CBR values be verified with laboratory Soaked CBR testing on the anticipated subgrade material.

7.1 Parking

Off-street parking shall be designed in accordance with AS2890.1:2004, noting that this standard is currently under revision. CoW have confirmed the proposed User Class 2 classification is acceptable (Figure 8), noting that this generally aligns with the dimensions of the existing off-street parking areas within the site.

On-street parking shall be designed in accordance with AS2890.5:2020. CoW have confirmed the following classifications and dimensions are acceptable:

- Parallel Bays – 2.3m wide, 50km/hr or less, 6.0m for intermediate spaces and 6.3m for end spaces (Figure 9).
- Angle Bays – Medium Class; 50km/hr road with less than 200 vehicles / hr (Figure 10)

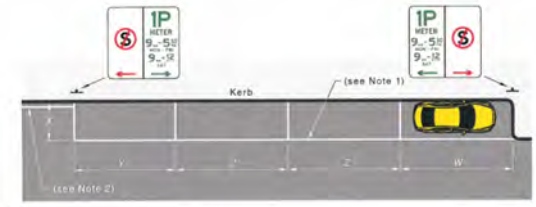
Accessible parking bays will be in accordance with AS2890.6:2022 and will generally be provided at a frequency of 1 per 50 bays.

Based on the current layout there is 359 parking bays, 8 Acrod Bays and 6 motorcycle bays proposed across the precinct.

CLASSIFICATION OF OFF-STREET CAR PARKING FACILITIES

User class	Required door opening	Required aisle width	Examples of uses (Note 1)
1	Front door, first stop	Minimum for single manoeuvre entry and exit	Employee and commuter parking (generally, all-day parking)
1A	Front door, first stop	Three-point turn entry and exit into 90° parking spaces only, otherwise as for User Class 1	Residential, domestic and employee parking
2	Full opening, all doors	Minimum for single manoeuvre entry and exit	Long-term city and town centre parking, sports facilities, entertainment centres, hotels, motels, airport visitors (generally medium-term parking)
3	Full opening, all doors	Minimum for single manoeuvre entry and exit	Short-term city and town centre parking, parking stations, hospital and medical centres
3A	Full opening, all doors	Additional allowance above minimum single manoeuvre width to facilitate entry and exit	Short term, high turnover parking at shopping centres
4	Size requirements are specified in AS/NZS 2890.6 (Note 2)		Parking for people with disabilities

Figure 8 Off-Street Parking User Class



Key
X = width of space including safety buffer
Y = length of end space where vehicles may enter or leave the space directly — 5.4 m min
Z = length of intermediate space — 6.0 m to 6.7 m, depending on parking turn over and traffic volume (see Note 3)
W = length of end space which is obstructed at one end by a kerb or barrier — 6.3 m or length Z of adjacent space, whichever is the greater

NOTE 1 Space markings may be broken or unbroken. Unbroken longitudinal space markings can assist in the guidance of traffic past parking spaces.

NOTE 2 "No Stopping" restrictions may be supplemented by a yellow line 80 mm to 100 mm wide, close to the kerb.

NOTE 3 Where parking turnover is high and vehicles reversing into parking spaces cannot be readily tolerated, increased space lengths, up to 8 m, should be considered.

NOTE 4 For accessible parallel parking, see Clause 4.5.

Figure 9 On-Street parallel bays.

Class	Typical uses
Low	Generally all-day parking, e.g. commuter parking
Medium	Generally more than 2 h parking but less than a full day, e.g. town centre, sports facility, airport visitor parking
High	Generally short-term parking, including areas where children and goods are frequently loaded into vehicles, e.g. at shopping centres
Accessible	Parking spaces for people with disabilities (see also Clause 4.5)

Table 3.3 — Parking space dimensions for angle parking on roads with speed limit 50 km/h or less and less than 200 vehicles/hour

Use classification (see Table 3.2)	30° angle parking			45° angle parking				60° angle parking				90° angle parking			
	Low	Med	High	Low	Med	High	Acc	Low	Med	High	Acc	Low	Med	High	Acc
Required width	4.2	4.6	5.0	3.4	3.5	3.7	3.4	2.8	2.9	3.0	2.8	2.4	2.5	2.6	2.4
Required length (see Note 1)															
L1 = park to wall or high kerb (>150 mm), no overhang	7.5	7.4	7.3	9.1	8.9	8.7	8.7	10.6	10.3	10.0	10.0	11.6	11.2	10.8	10.8
L2 = park to low kerb (not >150 mm), 600 mm overhang	7.2	7.1	7.0	8.7	8.5	8.3	8.3	10.0	9.7	9.4	9.4	11.0	10.6	10.2	10.2
L3 = park to wheel stops at right angles to parking direction	7.6	7.7	7.8	9.4	9.3	9.2	9.2	10.8	10.6	10.3	10.3	11.6	11.2	10.8	10.8

NOTE 1 Either (a) the distance from kerb line to opposite side of road for <200 vehicles/hour in any given hour in both directions, or (b) the distance from kerb line to dividing line for other traffic volumes. Both (a) and (b) include manoeuvre space.

NOTE 2 For further details on dimensions and additional shared area for accessible parking see Clause 4.5.

Figure 10 On-Street Angled Parking

8 Stormwater Drainage

Hitesh Dubal has been engaged by JDSi to prepare a UWMP for the proposed development areas and this will be submitted for approval in conjunction with the detailed engineering drawings.

Based on the Structerre Geotechnical Investigation an insitu permeability of 5m/day can be used for stormwater disposal design subject to the depth of soakwells extending beyond the upper fill profile into the underlying natural sands. This is based on the completed percolation testing of the in-situ soils as set out below.

3.3 Percolation Testing

Percolation testing of the in-situ soils was undertaken in two locations. Results of the testing are summarised below:

Table 5 - In Situ Percolation Test Results

Test Location	Testing Depth (m)	Soil Type	Permeability (m/day)
BH02 (Beach Bar)	0.75 – 1.0	SAND	1.7
BH03 (Retail Outlet)	0.35 – 0.6		*>20
BH06 (Orange Box Café)			1.6

** Permeability exceeded maximum reading on apparatus in accordance with AS 1547:2000. Note permeability is much lower in BH02 (very dense sandfill) and BH06 (fine Fill sand). Whereas BH03 permeability is very high and typical to to the natural clean sand in this area.*

The existing stormwater network for the roadways is not being altered substantially, and it is expected that this can be maintained in its current form, with only minor adjustments to pit locations to suit the new road layout.

The proposed development sites will require the installation of additional drainage infrastructure. It is expected that this will consist of isolated soakwells or underground storage tanks to manage the increased run-off from impermeable areas.

In general, the stormwater management strategy for the Site will:

- Maintain pre-development peak flow rates into and out of the Site.
- Collect and treat the small rainfall event, up to 63% Annual Exceedance Probability (AEP), for retention or detention as close to the source as possible.
- For events up to the 10% Annual Exceedance Probability (AEP) the stormwater should be managed within landscaped areas in road reserves, public open spaces or linear multiple use corridors.
- Retain up to 1% AEP critical event on-site unless there is a downstream basin or water body which has got the capacity to accommodate runoff from the development.
- Set habitable floor levels at least 0.3 m above the 1% AEP flood level of the urban drainage system.
- Utilise a pit and pipe network, or roadside swales where possible, to cater for flows up to 10% AEP rainfall events, while greater than 10% AEP flow will be conveyed via overland flow through the road network.
- Retain and infiltrate rainfall on site using basins and/or underground storage.
- Ensure all basins within the Site are designed to cater for the 1% AEP critical event on-site.

- Controls used to improve stormwater quality will be included within roadside swales, open channels and stormwater retention systems such as planting of specific vegetation and possible utilisation of an amended soil profile to assist in nutrient retention and breakdown.
- The use of native vegetation where practicable, minimal fertiliser application and soil amendment in major drainage areas will assist with the management of groundwater and surface water quality.

The CoW Intramaps shows 2 main systems of pit and pipe drainage, with the locations influenced by the topography of the Site. Based on plans supplied by Wanneroo there is also several Stormtech, or similar type, below ground chambers installed throughout the Site to infiltrate stormwater. As part of any development in the area it is recommended that the design and integrity of these are checked, and any maintenance issues resolved prior to incorporating them into the new design of any stormwater system.

As the CoW will ultimately own and maintain all stormwater infrastructure the design and construction work will need to be undertaken in accordance with their guidelines and standards, as well as the Local Government Guidelines for Subdivisional Development (IPWEA).



Figure 11: Existing drainage infrastructure (CoW Intramaps)

9 Wastewater Reticulation

Based on the results of the site and soil assessment by Structerre, an onsite sewage system is able to be designed and installed to satisfactorily meet the requirements of AS1547 and the Health (Treatment of Sewage and Disposal of Effluent and Liquid Waste) Regulations 1974 and Government Sewerage Policy 2019. JDSi understand this is not the preferred outcome for the Site.

The Water Corporation (WC) owns and maintains the wastewater reticulation network in the surrounding area however there is no reticulated sewer currently able to service the proposed development sites.

All new WC works installed for the Development will need to be designed and constructed in accordance with WC's guidelines, including the Developers Manual; and Design and Construction Requirements for Gravity Sewer DN150 to SN600 (DS50). Any privately owned wastewater systems will need to be designed and constructed in accordance AS3500 and the Plumbers Licensing Board.

WC scheme mapping indicates that the majority of the Site is to be serviced by the future "Yanchep P.S 18" with a sewer design flow of 5.2L/s and a long-term pump rate of 6.9L/s. The location of this is within the Fisherman's Hollow area as indicated in Figure 12.

Based on WC's advice, the long-term plan is for the pressure main from "Yanchep P.S 18" to discharge into the Yanchep Main Sewer which is currently being completed in stages. The discharge access chamber for "Yanchep P.S 18" (N1922) and a portion of the Yanchep main sewer has been constructed upstream, discharging into the Morwell St PS, and pumped to Alkimos. If "Yanchep P.S 18" were to go ahead, WC will need to confirm that there is capacity at the Morwell Street PS to receive flows (6.9L/s) from "Yanchep P.S 18".

Based on advice received from the Water Corporation in November 2025, the design and construction of this new Type 10 WWPS in the vicinity of Fishermans Hollow is included on their 5-year Capital Investment Program. This facility will provide a point of connection and discharge for all wastewater generated on the Site. This pump station and associated infrastructure will be delivered under the Developer Constructed Headworks process, with the Scoping Report Brief due to be submitted by JDSi at the end of November 2025. It is anticipated that this DCWA process will take approximately 2 years to complete.

Assuming the WWPS is installed as part of the Stage 3 works, the proposed development sites can all be serviced by a standard Water Corporation gravity wastewater system. Temporary works, which may include a private package pump station, or the establishment of a tankering point, may be required at completion of the Stage 2 works to service the BOGH development.

The existing or proposed flow from the 1H Homestead site is currently unknown however based on WC scheme planning this site can be serviced via an extension of the gravity network from the existing Sewer Pump Station (PS4) located on Beachhaven Drive. This gravity extension could then be extended to service the 4 existing residential properties to the south of the 1H Homestead site.

Summarised below are the indicative daily wastewater volumes provided by Stantec for each new development site, noting that G.S.D.F is the Gravity Sewer Design Flowrate and has been calculated based on 1.5 times the daily volume. The pumped rate has been calculated based on the WC's standard of 1.33 times the G.S.D.F, noting that 2L/s is the maximum flow rate WC will permit from a private pump station.

Site	Daily Volume (L)	G.S.D.F (L/s)	Pumped Rate (L/S)	Notes
1H Homestead	-	-	-	Flows not yet confirmed.
BOGH Development	27,000	0.47	0.62	Flows not known, estimated to be similar to the 2A Beach Bar noting CoW are to provide a 100mm connection under lease arrangement.
2A Beach Bar	27,000	0.47	0.62	

3A Retail Outlet	20,250	0.35	0.47	
5A Orange Box + Toilets	13,500	0.23	0.31	
Existing Surf Club	-	1.50	2.0	Existing supply. Actual rate not known however assumed to be a max of 2L/s.
Existing Orion Cafe	-	-	-	No known wastewater service.
Miscellaneous	-	-	-	No miscellaneous supplies expected.

The above totals just over 3L/s as a G.S.D.F which is well within 5.2L/s nominated in the WC planning for future “Yanchep P.S 18”.

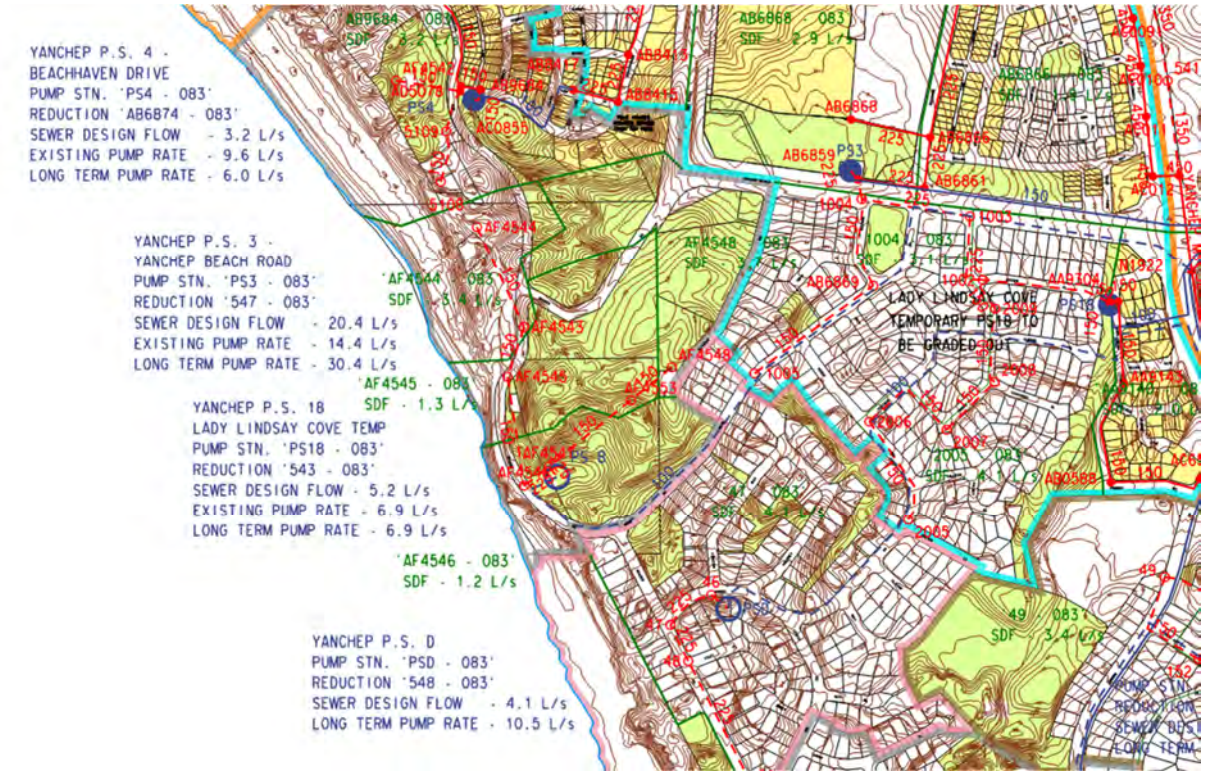


Figure 12: Water Corporation wastewater planning extract.

10 Water Reticulation

WC owns and maintains the potable water reticulation network in the area.

All authority water main extensions required for the development Site should be laid within the existing and proposed road reserves, on the correct alignment and in accordance with the Utility Providers Code of Practice and the WC Water Reticulation Pipelines DN250 and Smaller (DS63).

Based on a desktop review of the WC EsiNET Data and available planning information the existing water reticulation network in the vicinity of the Site consists of:

- DN100 PVC main on Beachhaven Drive.
- DN180 PE main along the east side of Capricorn Esplanade and Brazier Road, from Beachhaven Drive to the existing Yanchep SLSC.
- DN100 PVC and AC mains on Newman Road, Wilkie Avenue and Brazier Road to the south.
- Mary Lindsey Homestead (Lot 661) has an existing service point.
- Yanchep SLSC has an existing service point, both for potable water (DN63 MDPE) and for fire water (DN100 MDPE)

Summarised below are the indicative flow rates provided by Stantec for each new development site. Flows for the Existing Surf Club have been estimated based on CoW supplied meter readings, with daily KL usage apportioned over a 4-hour period to reflect the anticipated short duration usage of the site.

Site	Potable Water		Firewater	Notes
	Flow Rate (L/min)	Meter Size (mm)	Flow Rate (L/s)	
1H Homestead	-	-	-	Existing supply – assumed no upgrade.
BOGH Development	120	40	20	Assumed 20L/s for 2x FHR, subject to final design by developer. Flow rates based on CoW lease arrangement.
2A Beach Bar	80	40	20	
3A Retail Outlet	80	40	10	
5A Orange Box + Toilets	80	40	10	
Existing Surf Club	60	Existing	Existing	Existing supply, meter size to be confirmed. Indicative peak usage less than 60L/min.
Existing Orion Cafe				No known water service.
Miscellaneous	20	20	NA	Minor allowance for drinking water fountains. Depending on location these could be serviced from development sites.

Based on verbal advice from WC it is anticipated that the proposed new developments can be serviced off the existing DN180P PE main along Capricorn Esplanade and Brazier Road. A DN150 PVC mains extension will then be required to interconnect the DN180 PE into the existing mains near the intersection of Brazier Road and Wilkie Avenue. A zone valve will need to be installed near the Brazier Rd / Wilkie Ave intersection. The proposed water reticulation mains will be installed as part of the Stage 3 works as all other developments in Stage 2 can be serviced off the existing mains.

Detailed design plans have been completed and a formal application to Water Corporation for approval will be progressed once final servicing layouts are confirmed.



Figure 13: Existing water infrastructure (Water Corporation EsiNET)

11 Power Supply

Western Power (WP) owns and operates all electrical supply network assets within vicinity of the development area. All new electrical supply equipment and cables will need to be installed in accordance with WP, WASIR (West Australian Service and Installation Requirements), AS3000 specifications and other relevant Australian Standards. All electrical infrastructure internal to the lot will be private infrastructure owned and maintained by the relevant land holder.

There is an existing transformer located at the roundabout near the Surf Club car park, which appears to be sole use and only servicing the parcel of land it occupies. This is supplied by an overhead network to the east along Brazier Drive. Overhead to underground low voltage (LV) infrastructure is present along Wilkie Avenue, servicing the facilities along Brazier Road south via a pole top transformer. Additionally, underground LV infrastructure has been identified near the intersection of Capricorn Esplanade and Beachhaven Drive, supplied by a pad-mounted transformer approximately 130 meters to the east.

JDSi have submitted a Design Information Package for both the Stage 1 works (ML01771) and the Stage 2 and 3 works (MS019999).

The Stage 1 works have been resubmitted to Western Power for Design Conformance Review (DCR) with an Earth Potential Rise (EPR) assessment still to be completed. This EPR assessment will capture all works required for Stages 1, 2 and 3. Applications for Stage 2 and 3 will be submitted on completion of the EPR and once construction timeframes are confirmed.

Summarised below are the indicative loads provided by Stantec for each new development site. Loads for the Existing Surf Club have been estimated based on CoW supplied meter readings with the peak usage rate over the summer period utilised. Loads for the 1H Homestead and Existing Orion Café are based on a standard pillar connection only and these services will be maintained as part of any upgrades.

Site	Load		Notes
	Amps	kVA	
1H Homestead	100	76	Existing supply via mini pillar. Estimate is max mini pillar capability for relevant configuration.
BOGH Development	350	267	As per CoW lease arrangement.
2A Beach Bar	400	305	
3A Retail Outlet	315	240	
5A Orange Box	160	125	
Toilets	32	25	
Existing Surf Club	TBC	140	Existing supply, estimated load based on usage rates supplied by CoW.
Existing Orion Cafe	250	190	Existing supply via uni pillar. Estimate based on maximum uni pillar capacity for relevant configuration.
Future WC WWPS	79	60	Future allowance for WC WWPS at Fishermans Hollow.
EV Charging Bays	100	76	Provisional estimate - 10x7kW EV chargers with a load controller (limited to 3 simultaneous). Locations to be confirmed.
TOTAL DADMD		1504	

It is anticipated that a two new substation (HV switchgear and transformer) will be required. One to be located at 3A retail outlet site to supply the surrounding proposed development, with the other to be on or adjacent to the BOGH Development. HV supply for these substations are expected to be brought from either/both of the existing HV networks on Brazier Road (near Yanchep Beach Road and Two

Rocks Road intersection) or Wilkie Ave, of which will require some of the cable sections to be through existing brownfields areas.

11.1 Lighting

All public roadway lighting is to be delivered to the requirements of the Local Government Authority (LGA) and AS1158. This lighting infrastructure will be in accordance with the WP poles range and utilise LED lighting fixtures. Alternatively, should the CoW decide to own, operate and maintain lighting, privately owned light poles and fixtures can be used in the configuration of their preference.

The nominated lighting category has been confirmed by the CoW as per the below summary.

- Road Reserves (Figure 14) – **PR3**
- Pathways not adjacent roads (Figure 15) – **PP4**
- Carparks (Figure 16) – **PC2**

All Local Area Traffic Management (LATM) devices will require a minimum of 3.5 lux as per AS1158.

CoW are still to confirm if a specific lighting category needs to be achieved on the proposed boardwalk and general POS areas, or if incidental type lighting can be utilised, such as solar powered bollard lighting.

The upgrade of the existing lighting within the site to current AS1158 standards should also be considered to achieve a uniform and consistent outcome.

LIGHTING SUBCATEGORIES FOR ROAD RESERVES IN LOCAL AREAS

1	2	3	4	5	6
Type of road or pathway		Selection criteria[a,b]			Applicable lighting subcategory[c,e]
General description	Basic operating characteristics	Pedestrian/ cycle activity	Fear of crime	Need to enhance amenity	
Collector roads or non-arterial roads which collect and distribute traffic in an area, as well as serving abutting properties	Mixed vehicle and pedestrian traffic	N/A	High	N/A	PR1
		High	Medium	High	PR2
		Medium	Low	Medium	PR3[f] or PR4[f]
		Low	Low	Low	PR5
Local roads or streets used primarily for access to abutting properties, including residential, commercial and industrial precincts		N/A	High	N/A	PR1
		High	Medium	High	PR2
		Medium	Low	Medium	PR3[f] or PR4[f]
		Low	Low	Low	PR5
		N/A	N/A	N/A	PR6[g]
Common area, forecourts of cluster housing		N/A	High	N/A	PR1
		High	Medium	High	PR2
		Medium	Low	Medium	PR3[f] or PR4[f]
		Low	Low	Low	PR5

Figure 14 AS1158 Lighting Categories for Road Reserves

Table 2.2 — Lighting subcategories for pathways

1	2	3	4	5
Type of pathway		Selection criteria[a,b,c]		Applicable lighting subcategory
General description	Basic operating characteristics	Pedestrian/cycle activity	Fear of crime	
Pedestrian, cycle, etc. orientated pathway, e.g. footpaths, including those along local roads[d] and arterial roads[e], walkways, lanes, park paths, cyclist paths	Pedestrian, cycle, mobility devices, scooter, etc. traffic only	N/A	High	PP1[c]
		High	Medium	PP2[c]
		Medium	Medium	PP3
		Medium	Low	PP4
		Low	Low	PP5

Figure 15 AS1158 Lighting Categories for Pathways

LIGHTING SUBCATEGORIES FOR OUTDOOR CAR PARKS (INCLUDING ROOF-TOP CAR PARKS)

1	2	3	4
Type of area	Selection criteria[a,c]		
	Night time vehicle and/or pedestrian movements	Fear of crime	Applicable lighting subcategory[b]
Parking spaces, aisles and circulation roadways	High	High	PC1
	Medium	Medium	PC2
	Low	Low	PC3
Designated parking spaces specifically intended for people with disabilities	N/A	N/A	PCD
For any designated areas for pedestrians to cross	N/A	N/A	PCX

Figure 16 AS1158 Lighting Categories for Outdoor Carparks

12 Gas

Based on a Before You Dig Australia (BYDA) submission there is currently no ATCO Gas network within the Site. There is an existing 63 PE main to the north within Beachhaven Road and a high-pressure 160mm PE gas main at the intersection of Beachside Parade and Yanchep Beach Rd to the east.

Summarised below are the indicative consumption rates provided by Stantec for each new development site. The consumption rate for the BOGH Development is based on the CoW lease arrangement and all other existing facilities do not have a gas connection however may currently rely on bottled gas.

Site	Consumption (MJ/hr)	Notes
1H Homestead	-	No current gas supply
BOGH Development	600	Based on CoW lease arrangement.
2A Beach Bar	1,000	
3A Retail Outlet	1,000	
5A Orange Box + Toilets	500	
Existing Surf Club	-	No current gas supply.
Existing Orion Cafe	-	No current gas supply
Miscellaneous	-	No miscellaneous supplies expected.

Advice received from ATCO Gas in July 2025 is that to supply the nominated consumption rates to the development sites a new 160mm PE main will need to be constructed from the intersection of Beachside Parade and Yanchep Beach Rd, east along Brazier Drive then heading south along Brazier Drive. A 63mm PE main would then be installed north along Capricorn Esp to interconnect to the existing network on Beachhaven Rd.

As of November 2025, ATCO are progressing with a supply agreement which will need to be endorsed by CoW. Once this is completed, ATCO will undertake the design and installation of the mains in accordance with the agreed staging and delivery program.



Figure 17: ATCO Gas BYDA extract.

13 Telecommunications

Based on a Before You Dig Australia (BYDA) submission there is existing Telstra and NBN owned pit and pipe network within the vicinity of the Development.

There is a small NBN network servicing the Yanchep SLSC and associated facilities, however this network does not continue north up Capricorn Esp. This area is serviced from a line heading directly west from the end of Newman Drive. To maintain service, it is imperative that the location and depth of this communications line is established early in the design phase.

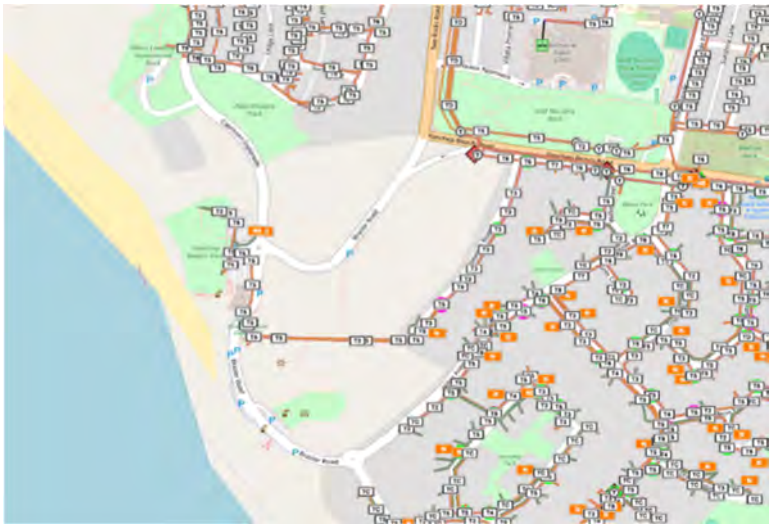


Figure 18 Existing communications network

The NBN Rollout Map indicates that the wider Yanchep area is covered by the NBN network, or other fibre providers, and is 'service ready'. Existing properties to the south of Yanchep Beach Road are covered by a fixed line NBN fibre service. There are other fibre providers nominated for the areas to the north of Yanchep Beach Road.

General communication services for the development will consist of the installation of a standard pit and pipe network in accordance with NBN Co guidelines and standards. The current design practice for road reserves, pavement and verge provisions will make adequate allowance for services in accordance with the agreed Utilities Service Providers handbook. There will be some local land requirements for equipment sites which will be accommodated at detailed subdivision stage.

Based on advice from NBN in July 2025, the new pit and pipe network should be installed to provide interconnection between the existing networks at Yanchep / Brazier; Capricorn / Beachhaven; and Brazier / Wilkie

CoW have endorsed the NBN Master Development Agreement and approval was received for the Stage 1 works in October 2025. Further stage applications will be submitted for the NBN works once construction timeframes are confirmed.

14 Future Activities

Summarised below is a list of the key next steps required to progress the works through to commencement of construction. Note these items are specifically related to the engineering design and approval only. Additional items, in line with City of Wanneroo and other authority requirements, may require resolution prior to construction commencing.

For reference, a copy of the current preliminary engineering drawings are included in Appendix B.

Reference	Item	Description
Overall	Environmental	Final flora surveys expected Q4 2025 with work footprints to be assessed against key recommendations at this time.
	Development Sites	Finalisation of development footprints to enable earthworks pads to be designed.
	Boardwalk	Finalisation of boardwalk footprint and confirmation of any required earthworks.
	UWMP	Works are underway, to be progressed in parallel with the Stage 2 and 3 detailed design.
	Services Locating	Pending progression of detailed design and identification of at-risk services.
	CHRMAP	Confirmation of whether existing CHRMAP is to be used, or if there is an updated report available.
	Road Treatments	Confirmation of any preferred road pavement feature treatments (ie red asphalt, brick paving etc)
	Materials and Specifications	Confirmation from CoW on any preferred details and materials to be utilised in the design.
	Public Transport	Confirmation of future bus routes to ensure road geometry is appropriately designed.
	Future WC WWPS	Submission of Scoping Report Brief by end of November 2025, and progression of DCWA process.
	Lighting	Boardwalk lighting requirements.
	EV Charging Bays	Confirmation from CoW on location and number of EV charging bays.
	Smart Cities	Confirmation from CoW on any additional communications infrastructure that may be required across the precinct (ie security, CCTV, public wi-fi)
	Maintenance / Upgrades	Advice from CoW if there are any ongoing services maintenance issues, intermittent flooding, road failures that could be considered and rectified as part of the proposed works package.
Stage 1	Western Power	Completion of SRT and EPR by JDSi and submission to Western Power, after which the DCR and Quote will be received. This will trigger the creation of the IFC drawing to allow construction to progress.
	ATCO Gas	Completion and endorsement of the supply agreement with CoW. Provision of ATCO design and confirmation of works program.
	NBN	Approved. IFC plan ready for issue Contractor.
	Contractor	Confirmation of final award and progression of construction works.
Stage 2	Detailed Design (Earthworks, Roads and Drainage)	Currently underway, subject to agreement on final layouts and acceptance from CoW.

	Water Corporation (Water)	No reticulation mains are required for the BOGH development. Meter application to be submitted through Building Services for proposed development site.
	Water Corporation (Sewer)	Temporary solution to be resolved for BOGH development.
	Western Power	DCR application to Western Power.
	ATCO Gas	Completion and endorsement of the supply agreement with CoW. Provision of ATCO design and confirmation of works program.
	NBN	Stage application still to be submitted.
	Contractor	Confirmation of final award and progression of construction works.
Stage 3	Detailed Design (Earthworks, Roads and Drainage)	Currently underway, subject to agreement on final layouts and acceptance from CoW.
	Water Corporation (Water)	Design complete, to be submitted to Water Corporation for proposed reticulation mains.
	Water Corporation (Sewer)	Progression of DCWA process, including design of gravity sewer network to each development site.
	Western Power	DCR application to Western Power.
	ATCO Gas	Completion and endorsement of the supply agreement with CoW. Provision of ATCO design and confirmation of works program.
	NBN	Stage application still to be submitted.
	Contractor	Confirmation of final award and progression of construction works.
Beach Bar (unstaged)	Scope	Confirmation of detailed engineering scope and timing, specifically related earthworks, drainage and servicing.

APPENDIX A
PROPOSED SERVICE LOADS

DEVELOPMENT SERVICE LOADS

SITE	WATER		FIRE WATER		SEWER		POWER			GAS		NOTES
	Flow Rate (L/min)	Meter Size	Required (Y/N)	Flow Rate (L/second)	GSDF (L/s)	Daily Volume (L)	# Phase	Amps	kVA	Required (Y/N)	Consumption (MJ/hr)	
1H Homestead							3	100	76			Sewer flows not yet confirmed. Existing water supply, assumed no upgrade. Existing electrical supply via mini pillar. Estimate is max mini pillar capability for relevant configuration. No current gas supply
BOGH Development	120	40	Y	20	0.47	27000	3	350	267	Y	850	Sewer flows not known, estimated to be similar to the 2A Beach Bar noting CoW are to provide a 100mm connection under lease arrangement. Assumed 20L/s for 2x FHR, subject to final design by developer. Flow rates based on CoW lease arrangement. Electrical as per CoW lease arrangement. Gas as per CoW lease arrangement.
2A Beach Bar	80	40mm	Y	20	0.47	27000	3	400	305	TBC	1000	Assumed 750MJ/hr for high use kitchen (fryers and cook tops) plus domestic hot water. 2 x 100mm fire hydrants assumed. Assumed 300pax x 3 (breakfast, lunch, dinner). Max sewer flow rate if pumped sewer is needed similar to surf club is 2L/s. District substation would likely be required for project if electric cooking as peak max demand likely exceed 315A
3A Retail Outlet	80	40mm	Y	10	0.35	20250	3	315	240	TBC	1000	CoW to confirm whether gas is being phased out as part of sustainability plans. Assuming 2 tenancies with high gas demand (e.g. Chinese wok or fish and chips) Based on industry standard 500MJ/hr hour for high use tenancy. Have assumed that based on final tenancy fit outs hydrant is required 1x100mm. Max sewer flow rate if pumped sewer is needed similar to surf club is 2L/s. Elec loads assume elec cooking if gas not provided. Development would likely look to seek limiting load to max from a WP Pillar (green dome) to avoid new tx and substation
Toilets	Shared with orange box		Shared with orange box		Shared with orange box		3	32	25	N/A	N/A	
5A Orange Box	80	40mm	Y	10	0.23	13500	3	160	125	TBC	500	Worst case if gas and extensive hot cooking, single 100mm fire hydrant where street hydrants can't be used. Max sewer flow rate if pumped sewer is needed similar to surf club is 2L/s
Surf Club	60	existing			1.5	TBC		TBC	140			Existing wastewater supply. Actual rate not known however assumed to be a max of 2L/s. Existing water supply, meter size to be confirmed. Indicative peak usage less than 60L/min based on CoW supplied usuage data. Existing electrical supply, estimated load based on usage rates supplied by CoW. No current gas supply.
Orion Café			Existing					250	190			No known wastewater service. No known water service. Existing electrical supply via uni pillar. Estimate based on maximum uni pillar capacity for relevant configuration No current gas supply.
Miscellaneous	20	20						100	76			Minor allowance for drinking water fountains. Depending on location these could be serviced from development sites. Provisional estimate - 10x7kW EV chargers with a load controller (limited to 3 simultaneous). Locations to be confirmed.
								79	60			Future allowance for WC WWPS at Fisherman's Hollow.
TOTAL	**440**				**3.02**				**1504**		**3350**	

APPENDIX B
PRELIMINARY ENGINEERING DRAWINGS

YANCHEP FORESHORE DEVELOPMENT
STAGE 1

DRAWING LIST

JDS242368.01_C000	COVER SHEET
JDS242368.01_C070	CLEARING PLAN
JDS242368.01_C500	PROPOSED GAS LAYOUT
JDS242368.01_E001	POWER RETICULATION LAYOUT SHEET 1 OF 2
JDS242368.01_E002	DETAILS LAYOUT SHEET 2 OF 2
JDS242368.01_T001	NBN PIT AND PIPE DESIGN NOTES AND LEGEND
JDS242368.01_T002	NBN PIT AND PIPE DESIGN PLAN
JDS242368.01_T003	NBN PIT AND PIPE DESIGN STANDARD DETAILS



CONTRACT No. JDS242368.01

CONSULTING ENGINEERS

LEGEND

- APPROVED CLEARING AREA
- PROPOSED SERVICES CLEARING AREA – PERMANENT
- PROPOSED SERVICES CLEARING AREA – TO BE REHABILITATED
- PROPOSED SERVICES CLEARING AREA – CURRENTLY CLEARED
- 2 — LOT NUMBER
- EXISTING TREE
- EXISTING ROAD
- PROPOSED ROAD
- PROPOSED GAS TRENCHING WORKS BY CONTRACTOR
- PROPOSED 160PE GAS BY ATCO
- FUTURE GAS
- EXISTING GAS
- PROPOSED NBN
- PROPOSED NBN PIT
- EXISTING WATER
- PROPOSED UNDERGROUND POWER
- PROPOSED LIGHT POLE
- PROPOSED LIGHT POLE & STREET SIGN
- EXISTING LIGHT POLE (& STREET SIGN)

NOTES

GENERAL

1. THIS DRAWING SHALL BE READ IN CONJUNCTION WITH THE CONTRACT DRAWINGS AND SPECIFICATION
2. ALL DIMENSIONS ARE IN METRES UNLESS OTHERWISE NOTED



WARNING

BEWARE OF UNDERGROUND SERVICES

The location of underground cables are approximate only and their exact position should be checked on site. No guarantee is given that all existing cables and services are shown. Locate all underground cables and services before commencement of work. Refer to Work Health and Safety (General) Regulations 2022.

REV	DATE	DRAWN	CHECKED	APPROVED	
E	10.09.25	MH	BG	BT	CLEARING AREA UPDATED.
D	10.09.25	MH	BG	BT	CLEARING AREA AMENDED.
C	09.09.25	MH	BG	BT	CLEARING AREA TYPES UPDATED AND DRAWING RESCALED.
B	03.09.25	MH	BG	BT	CLEARING AREA UPDATED.
A	29.08.25	DP	BG	BT	ISSUED FOR TENDER

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NOTE
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Certified Quality System to ISO 9001

JDSi CONSULTING ENGINEERS

CLIENT: City of Wanneroo UDLA

PROJECT: YANCHEP FORESHORE DEVELOPMENT STAGE 1

DRAWING TITLE: CLEARING PLAN SHEET 1

DRAWN: D.PORTELA	WAPC No.
DESIGNED: M.HARRIS	SCALE @ A1: 1:500
PROJECT MANAGER: B.TREW	DATUM: AHD / CO-ORDS: PCG94
JDSI PROJECT No.: JDS242368.01	DRAWING No.: C070 / REVISION: E

Plotted By: MHarris Plot Date: 10/09/25 - 16:04 Cad File: C:\12ds\data\JDSI-12DSYN\JDS242368_326\JDS242368.01\CIVIL\Drawings\JDS242368.01_C070.dwg

NOTES

1. REFER TO DRG JDS242368.01-C070 FOR NOTES AND LEGEND.



0 5 10 20 30m
SCALE 1:500 @ ORIGINAL SHEET SIZE A1

WARNING
BEWARE OF UNDERGROUND SERVICES
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REV	DATE	DRAWN	CHECKED	APPROVED	
B	10.09.25	MH	BG	BT	CLEARING AREA UPDATED.
A	09.09.25	MH	BG	BT	CLEARING AREA TYPES UPDATED AND DRAWING RESCALED.

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JDSi CONSULTING ENGINEERS

CLIENT: City of Wanneroo UDLA

PROJECT: YANCHEP FORESHORE DEVELOPMENT STAGE 2

DRAWING TITLE: CLEARING PLAN SHEET 2

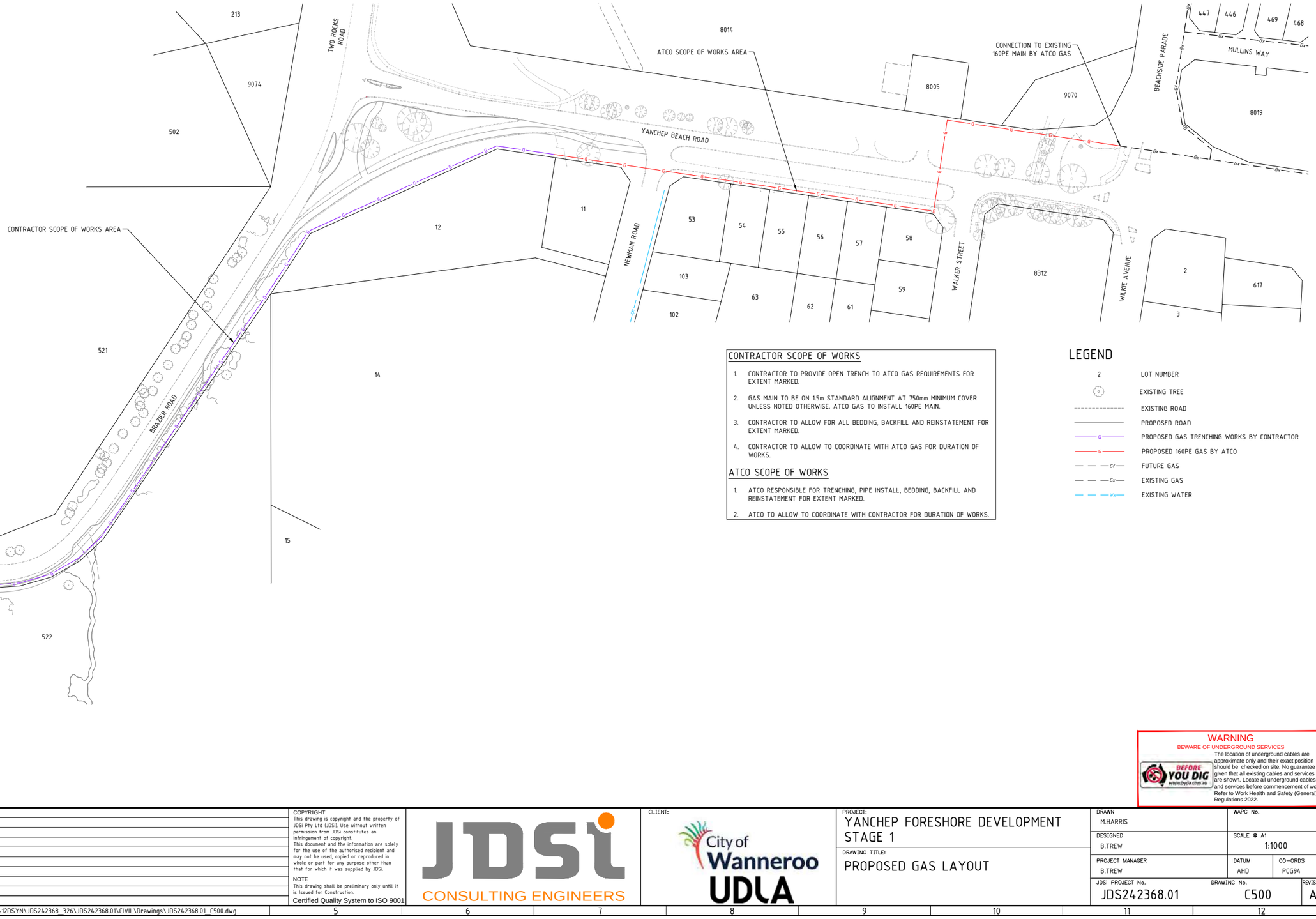
DRAWN: D.PORTELA	WAPC No.
DESIGNED: M.HARRIS	SCALE @ A1: 1:500
PROJECT MANAGER: B.TREW	DATUM: AHD; CO-ORDS: PCG94
JDSI PROJECT No.: JDS242368.02	DRAWING No.: C071; REVISION: B

Plotted By: MHarris Plot Date: 10/09/25 - 16:04 Cad File: C:\12dS\data\JDSI-12DSYN\JDS242368_326\JDS242368.01\CIVIL\Drawings\JDS242368.01_C070.dwg

NOTES

GENERAL

1. THIS DRAWING SHALL BE READ IN CONJUNCTION WITH THE CONTRACT DRAWINGS AND SPECIFICATION
2. ALL DIMENSIONS ARE IN METRES UNLESS OTHERWISE NOTED
3. THE MAINS SHALL BE LAID ON A 1.5m (COMMON TRENCHING) ALIGNMENT MEASURED FROM THE CENTRE OF THE PIPE TO THE ROAD RESERVE BOUNDARY



CONTRACTOR SCOPE OF WORKS

1. CONTRACTOR TO PROVIDE OPEN TRENCH TO ATCO GAS REQUIREMENTS FOR EXTENT MARKED.
2. GAS MAIN TO BE ON 1.5m STANDARD ALIGNMENT AT 750mm MINIMUM COVER UNLESS NOTED OTHERWISE. ATCO GAS TO INSTALL 160PE MAIN.
3. CONTRACTOR TO ALLOW FOR ALL BEDDING, BACKFILL AND REINSTATEMENT FOR EXTENT MARKED.
4. CONTRACTOR TO ALLOW TO COORDINATE WITH ATCO GAS FOR DURATION OF WORKS.

ATCO SCOPE OF WORKS

1. ATCO RESPONSIBLE FOR TRENCHING, PIPE INSTALL, BEDDING, BACKFILL AND REINSTATEMENT FOR EXTENT MARKED.
2. ATCO TO ALLOW TO COORDINATE WITH CONTRACTOR FOR DURATION OF WORKS.

LEGEND

- 2 — LOT NUMBER
- EXISTING TREE
- EXISTING ROAD
- PROPOSED ROAD
- PROPOSED GAS TRENCHING WORKS BY CONTRACTOR
- PROPOSED 160PE GAS BY ATCO
- FUTURE GAS
- EXISTING GAS
- EXISTING WATER

WARNING

BEWARE OF UNDERGROUND SERVICES

The location of underground cables are approximate only and their exact position should be checked on site. No guarantee is given that all existing cables and services are shown. Locate all underground cables and services before commencement of work. Refer to Work Health and Safety (General) Regulations 2022.

REV	DATE	DRAWN	CHECKED	APPROVED	
A	29.08.25	DP	BG	BT	ISSUED FOR TENDER

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JDSi CONSULTING ENGINEERS

CLIENT: City of Wanneroo UDLA

PROJECT: YANCHEP FORESHORE DEVELOPMENT STAGE 1

DRAWING TITLE: PROPOSED GAS LAYOUT

DRAWN: M.HARRIS		WAPC No.	
DESIGNED: B.TREW		SCALE @ A1: 1:1000	
PROJECT MANAGER: B.TREW	DATUM: AHD	CO-ORDS: PCG94	
JDSi PROJECT No.: JDS242368.01	DRAWING No.: C500	REVISION: A	

POP PRIVATELY OPERATED PAYPHONES

APS ASSISTANCE TELEPHONES (EG ELEVATOR AND ROADSIDE PHONES)

MET APPLY TO OTHER TYPE OF METERING POINT (any service)

ATM ATM

PRK BANDSTAND / ROTUNDA / SPORTS FIELD STANDS / OTHER PARK BUILDING

PSD POINT OF SALE DEVICE (vending machine, ticket machine)

TRF Traffic Lights / Traffic Light Controller / Variable Speed Sign / Traffic Signal

PBT Public Transport (bus stop, tram stop, railway station, taxi rank, ferry wharf)

SWT Links / Link Pole / MV / HV Links / ABC Links / Dynamic Switch / Airbrake Switch / Isolator

WAT Water Infrastructure (storage, pumps, valves water supply, waste water, sewerage stations)

GAS Natural Gas Infrastructure

CAM Camera (security / traffic)

CTL Bridge control, swing bridge, traffic control gates, railway boom gates)

MOB Mobile Phone Tower / radio antenna

LIT Street Lighting Pole / street light controller

CAR Unmanned (council) car park

NPL Non Premise Location

PWR Transformer / Kiosk / Pad Mount Sub-station / Pole Mount Transformer

NAP-ID
N Network Access Point (NAP)

MPT-ID
N **Multiport (MPT)**
n is the number of ports (eg 4,6,8,12)

Penetration

CABLE TRAY:

TJL-ID Splice Joint on a Transit Cable (TJL)

DJL-ID Splice Joint on a Distribution Cable (DJL)

LJL-ID Splice Joint on a Local Cable (LJL)

MJL-ID Splice Joint on a Tether Cable (MJL)

AJL-ID Zone Terminal / Splice Joint (AJL)

FDH-ID Fibre Distribution Hub-FDH Cabinet with Cabinet ID shown

PIT-ID 2 Service Drop Access Pit (650mmX280mmX565mm)

PIT-ID 5 Network Boundary/Local Network Pit (Single Lid) (700mmX450mmX650mm)

PIT-ID 6 Distribution/Local Network Connection Pit (Dual Lid) (1360mmX555mmX650mm)

PIT-ID 8 Distribution/Local Network Connection Pit (1360mmX555mmX860mm)

PIT-ID 9 Fibre Distribution Hub (FDH) Pit (2000mmX555mmX900mm)

Shared Trench

NTD nbn NTD

OBBU NBN Optional Battery Backup Unit

PDH nbn Premises Distribution Hub

CTL nbn Cable Transition Location

FDT nbn Fibre Distribution Terminal

FIP nbn NTD Fire Indicator Panel

Riser Riser

LIFT nbn NTD LIFT

AP Access Panel

SEC nbn NTD Security

CET nbn Communications Earth Terminal

DES / QTY Example of descriptor box that will show the type of work and the quantity involved

nbn manhole

Existing Telstra manhole

FAN AAAA Fan Access Node site (FAN)

138A RX CX Multi Dwelling Unit (MDU)

DEPTH / ALIGN DEPTH OVER ALIGNMENT SYMBOL TO BE USED WITH EVERY MARKER POST

Symbol to be used when replacing/removing existing network

PCD Premise Connection Device (PCD)

POLE-ID Pole (showing pole identity)

5 Existing Telstra Pit (2,3,4,5,6,7,8,9)
Telstra exchange

Example of Telstra Major Conduit Layout with Proposed duct marked to be used by NBN

M < _ > NBN MARKER POST
MARKER POST TO BE NUMBERED

CONDUIT CONFIGURATION

CONDUITS AND DUCTS ARE IN LAYER :
< L460 NBN Support - Underground >
AND TERMINOLOGY CATEGORIZED INTO TWO GROUPS IN THE DRAWING AS PER BELOW:
1- DUCT USED WITH LOCAL NETWORK

2-CONDUIT USED WITH LEAD-IN DROPS
ATTRIBUTES ATTACHED ARE AS SHOWN



CABLE CONFIGURATION

CABLE TYPE:
CABLES DIVIDE INTO FOLLOWING CATEGORIES AND ARE COLOUR CODED:

TRANSIT CABLES	COLOUR NO: 1
DISTRIBUTION CABLES	COLOUR NO: 190
LOCAL CABLES	COLOUR NO: 4
TETHER CABLES	COLOUR NO: 3
LEAD IN (DROP) CABLES	COLOUR NO: 5

CABLE SIZE:
CABLE SIZE IS THE TOTAL NUMBER OF OPTIC FIBRES IN THE CABLE AND IS DETERMINED BY A NUMBER FOLLOWED BY F (FIBRE) OR R (RIBBON) IN THE MIDDLE OF THE LINE TYPE

CABLE LOCATION:
CABLE LOCATIONS DETERMINES WHERE THE CABLE IS USED AS PER BELOW:

IN-CONDUIT
AERIAL
BURIED

LINE TYPES ARE CATEGORIZED INTO 3 TYPES:
1- IN-CONDUIT: (XXXF) 312F , ...
2- AERIAL: (XXXF_A) 144_A , ...
3- BURIED: (XXXF_B) 12_B , ...

EXAMPLE:
144 FIBRE AERIAL LOCAL CABLE
1 FIBRE BURIED DROP CABLE
432 FIBRE IN-CONDUIT TRANSIT CABLE

FSA Boundary
FSAM Boundary
FDA Boundary

STAFF WORKING ON THIS ESTIMATE PLEASE NOTE:
The location of other authorities services which may affect this work have not been obtained by the estimator. Constructor to obtain service information before commencing.

DANGER
LASER BEAM
EYE PROTECTION MUST BE WORN

SAFETY FIRST
SAFETY STARTS WITH YOU

DIAL BEFORE YOU DIG
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REV	DATE	DRAFTER	DESCRIPTION	APPROVED
A	29.08.25	NH	ISSUED FOR NBN APPROVAL	BT

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	SIGNATURE	DATE
DD		
WD		
AB		

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Australia's broadband network

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N KEY PLAN

DRAWING TITLE:
YANCHEP FORESHORE DEVELOPMENT
NBN PIT AND PIPE DESIGN
NOTES AND LEGEND

ENABLE#:
STATE: WA REGION: CITY OF WANNEROO
FSA: SAM: ADA:
PROJECT No: STG-W000365849
CADREF No: JDS242368.01_T001
SCALE SHEET No. 1 OF 3 REV. A

SDU Development Information

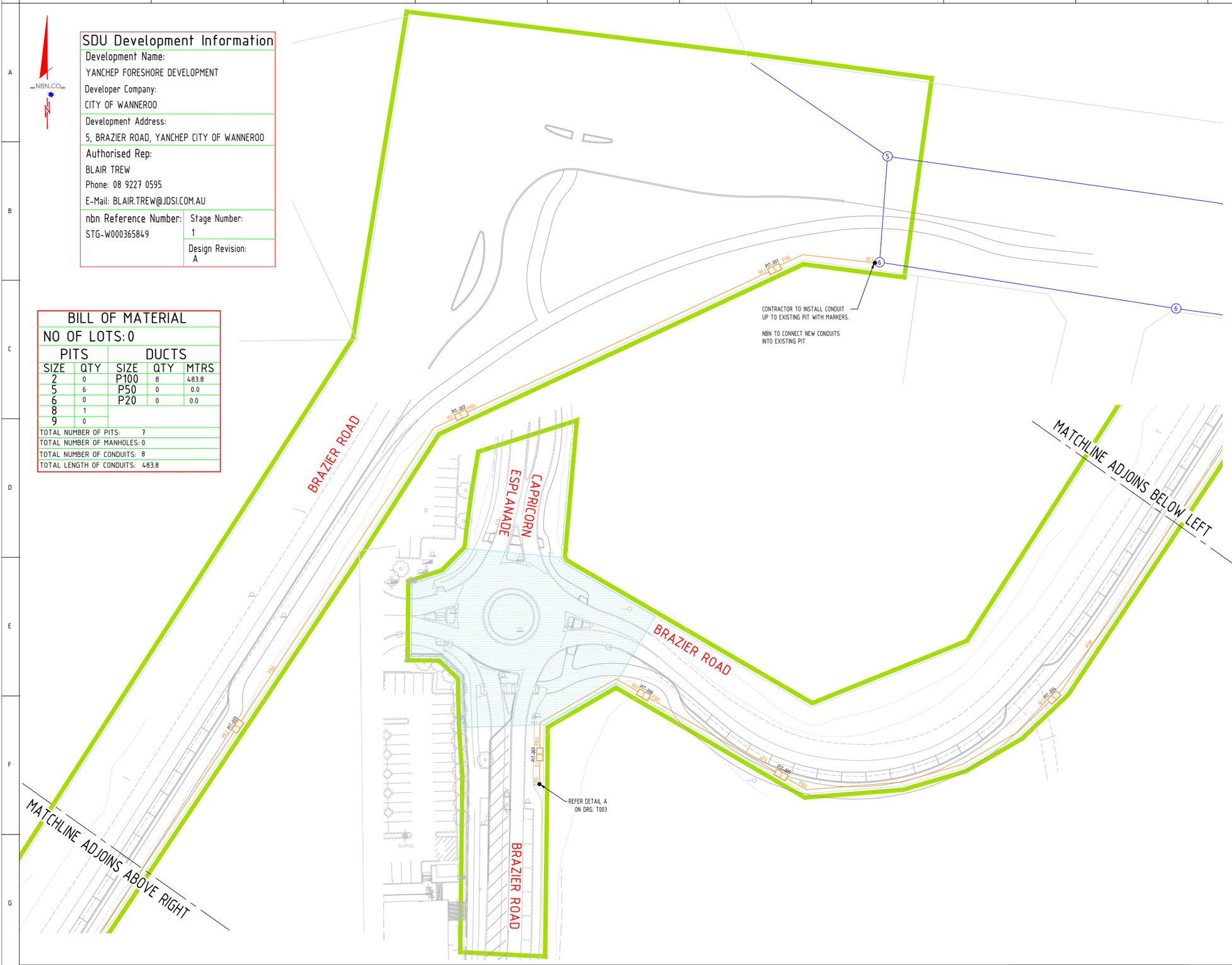
Development Name: YANCHEP FORESHORE DEVELOPMENT	
Developer Company: CITY OF WANNEROO	
Development Address: 5, BRAZIER ROAD, YANCHEP CITY OF WANNEROO	
Authorised Rep: BLAIR TREW Phone: 08 9227 0595 E-Mail: BLAIR.TREW@JDSI.COM.AU	
nbn Reference Number: STG-W000365849	Stage Number: 1
	Design Revision: A

BILL OF MATERIAL

NO OF LOTS: 0

PITS		DUCTS		
SIZE	QTY	SIZE	QTY	MTRS
2	0	P100	8	483.8
5	6	P50	0	0.0
6	0	P20	0	0.0
8	1			
9	0			

TOTAL NUMBER OF PITS: 7
TOTAL NUMBER OF MANHOLES: 0
TOTAL NUMBER OF CONDUITS: 8
TOTAL LENGTH OF CONDUITS: 483.8



NOTE:

1. FOR NBN STANDARD NOTES AND LEGEND REFER TO SHEET 1 OF NBN DRAWING SET.
2. FOR NBN STANDARD DETAILS REFER TO SHEET 3 OF NBN DRAWING SET.
3. DRAWINGS ARE TO BE READ IN CONJUNCTION WITH NBN Co CONDUIT AND PIT NETWORK – GUIDELINES FOR DEVELOPERS DOCUMENT No: NBN-TE-CTO-194 AND JDSi STANDARD SPECIFICATION C600-NBN COMMUNICATION. CONTRACTOR TO ENSURE SPECIFICATION IS AVAILABLE ON SITE. ANY CONFLICTING INFORMATION SHOULD BE TO THE ATTENTION OF THE SUPERINTENDENT PRIOR TO INSTALLATION.
4. CONTRACTOR TO INSTALL CONDUITS, BENDS & PITS IN ROAD RESERVE IN THE 0.6 – 1.2m COMMUNICATIONS ALIGNMENT. CONDUITS ARE TO BE LABELLED TO NBN Co SPECIFICATIONS & INSTALLED COMPLETE WITH DRAW WIRE.
5. ALL SERVICE CONDUITS TO EXTEND PAST RETAINING WALL FOOTINGS AND A MINIMUM OF 1.5m INTO PROPERTY BOUNDARY, COMPLETE WITH DRAW TAPE CAPPED AT BOTH ENDS. CONDUITS TO BE INSTALLED WITH A MINIMUM 300mm COVER. THE DROP STUB SHOULD BE MARKED AND PROTRUDE ABOVE THE SURFACE OF THE GROUND. REFER STANDARD DETAIL.
6. ALL CONDUIT JOINTS ARE TO BE ACHIEVED USING 'SOCKET & SPIGOT' OR 'COUPLER' AND SEALED WITH SOLVENT CEMENT.
7. ALL SERVICE DROP CONDUITS TO BE MARKED AT POINT OF TERMINATION WITHIN LOT. PREFERRED METHOD WILL BE A 23mm/50mm WHITE CONDUIT PROTRUDING FROM GROUND, CLEARLY MARKED 'NBN CO'.
8. ALL CONDUITS MUST ENTER PIT THROUGH SHORT, END WALLS. CONDUITS ARE NOT PERMITTED IN THE LONG, SIDE WALLS.
9. PVC CAPS SHALL BE INSTALLED ON ALL OPEN CONDUIT ENDS.
10. ALL CONDUIT ENDS ENTERING PITS, INCLUDING SERVICE DROP CONDUITS, WILL BE FLANGED, SEALED AND PLUGGED TO PREVENT INGRESS OF WATER, GAS OR SILT AS PER JDSI'S PIT AND PIPE SPECIFICATION. ALL CONDUITS TO BE SEALED AT CABLE READ AND/OR POST CABLE INSTALLATION. FLANGES MUST BE FINISHED FLUSH WITH PIT WALL.
11. PIT LIDS SHALL HAVE SUITABLE PLUGS FITTED TO THE LIFTING HOLES, AS WELL AS A GASKET FITTED BELOW THE PIT.
12. ALL PITS ARE TO BE INSTALLED WITH THEIR LONG SIDE PARALLEL TO THE ADJACENT PROPERTY BOUNDARY OR ROADWAY.
13. ALL PITS ARE TO BE LOCATED TO ACHIEVE A MINIMUM OF 3m CLEARANCE FROM OVERHEAD DISTRIBUTION POLES & A MINIMUM OF 3m FROM A CORNER OF A STREET.
14. ALL PITS AND PIPES SHOWN ARE INDICATIVE OF THEIR ACTUAL POSITION AND SHALL BE INSTALLED IN ACCORDANCE WITH STANDARD ALIGNMENTS AND THE TYPICAL PIT LOCATION DETAIL U.N.O.
15. PITS MUST BE LOCATED A MINIMUM OF 15m FROM TRANSFORMERS AS SHOWN IN POWER PLAN.
16. PITS TO RESIDE IN EITHER A PATHWAY OR VERGE OR GARDEN BED. WHERE POSSIBLE, THE INSTALLATION OF A PIT IN BOTH PATHWAY AND VERGE OR GARDEN BED SIMULTANEOUSLY SHOULD BE AVOIDED. CONTRACTOR TO NOTIFY SUPERINTENDENT IF CONFLICT OCCURS.
17. WHERE NECESSARY, CONTRACTOR SHALL INSTALL SPACER BARS WITHIN PITS PRIOR TO BACK FILLING TO AVOID PIT WALLS CONVEXING OF CONCAVING
18. WHERE PIT IS INSTALLED IN CLOSE PROXIMITY TO STREET LIGHT POLE, CONTRACTOR TO OFFSET PIT TO ENSURE 1m SEPARATION IS ACHIEVED BETWEEN PIT AND POLE.
19. COMMUNICATION CONDUIT, ASSOCIATED FITTING, CAPS, DRAW WIRES, HAUL ROPES, INSTALLATION, TRENCHING, BEDDING AND BACKFILLING ARE TO BE PROVIDED IN ACCORDANCE WITH AS3500, AS2053, AS/ACIF S0009, JDSI STANDARD SPECIFICATION C600-NBN COMMUNICATION AND RELEVANT MANUFACTURER'S RECOMMENDATIONS.
20. UNLESS DIRECTED, UNDER NO CIRCUMSTANCES SHOULD THE CONTRACTOR, CONNECT NBN CO PIT AND PIPE RETICULATION TO EXISTING OR FUTURE PRIVATE CARRIER INFRASTRUCTURE.
21. UNLESS DRAWINGS ARE MARKED 'AS BUILT', MEASUREMENTS BETWEEN PITS SHOULD BE USED AS A GUIDE ONLY.
22. ANY CHANGES MADE TO THE PIT AND PIPE INFRASTRUCTURE SHOWN ON THIS PLAN, MUST BE RECORDED AND PROVIDED TO THE SUPERINTENDENT ON COMPLETION OF THE INSTALLATION. CONTRACTOR SHALL CONSULT THE DESIGNER PRIOR TO MAKING ANY CHANGES.
23. ALL NETWORK IN SHARED TRENCH U.N.O.
24. ALL CONDUITS TO BE INSTALLED BY OPEN EXCAVATION UNLESS NOTED OTHERWISE.

PROJECT LEGEND:

PROPOSED / PRE-CONSTRUCT NBN PIT AND PIPE LAYOUT

EXISTING NBN PIT AND PIPE LAYOUT

STAGE BOUNDARY

ROAD NAME — ROAD NAME

LOT NUMBER — LOT NUMBER

Dx — DUPLEX LOT

Tx — TRIPLEX LOT

GH — GROUP HOUSING LOT

POS — PUBLIC OPEN SPACE

RETAINING WALL

PROPOSED/EXISTING/FUTURE ROADS AND PATHS

EXISTING TELSTRA CONDUIT

EXISTING TELSTRA PIT

PIT EXCLUSION ZONE

NBN ENTRY

NBN EXIT

DEVELOPMENT NBN ENTRY

DEVELOPMENT NBN EXIT

0 5 10 20 30m
SCALE 1:500 @ ORIGINAL SHEET SIZE A1

DESKTOP DESIGN

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REV	DATE	DRAFTER	DESCRIPTION	APPROVED
A	29.08.25	NH	ISSUED FOR NBN APPROVAL	BT

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	SIGNATURE	DATE
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☐ WD		
☐ AB		

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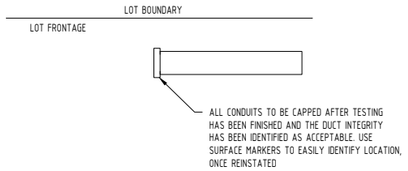
JDSi CONSULTING ENGINEERS

N KEY PLAN



DRAWING TITLE:
YANCHEP FORESHORE DEVELOPMENT
NBN PIT AND PIPE DESIGN
PLAN

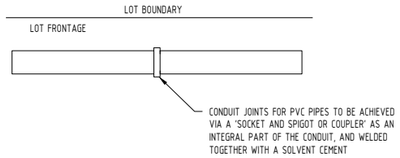
ENABLE#:		
STATE: WA	REGION: CITY OF WANNEROO	
FSA:	SAM:	ADA:
PROJECT No: STG-W000365849		
CADREF No: JDS242368.01_T002		
SCALE 1:500	SHEET No. 2 OF 3	REV. A



CAP CONDUIT BEYOND SURFACING IN PREPARATION FOR FUTURE WORKS

DETAIL A

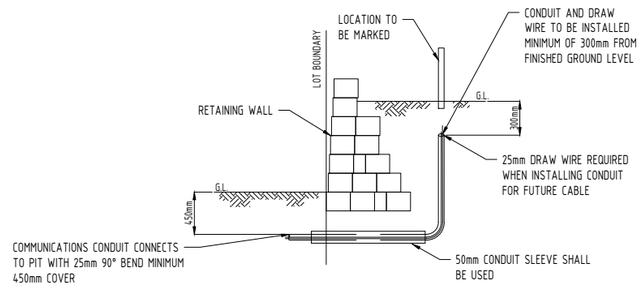
NOT TO SCALE



JOIN TO EXISTING CONDUIT FROM PREVIOUS STAGE

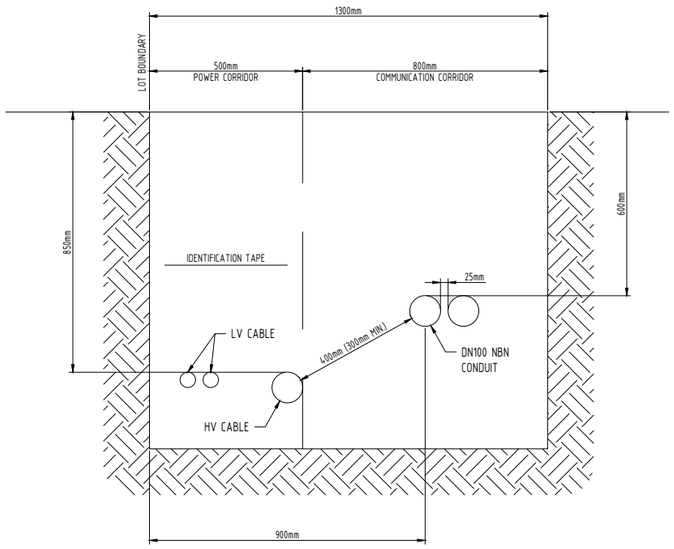
DETAIL B

NOT TO SCALE



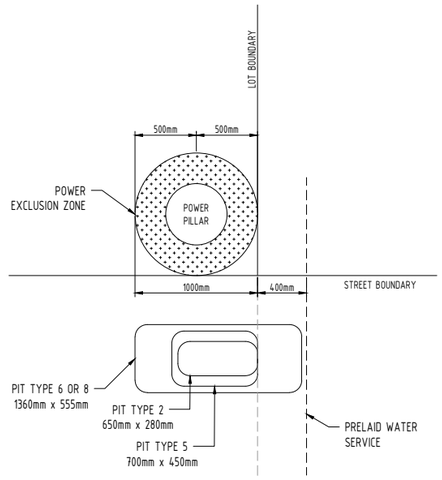
TYPICAL SECTION THROUGH RETAINING WALL WITH COMMUNICATION CONDUIT

NOT TO SCALE



TYPICAL SHARED TRENCHING DETAIL

NOT TO SCALE



TYPE 2 & 5 PITS TO BE ALIGNED WITH LOT BOUNDARY WHEN ADJACENT TO POWER PILLAR OTHERWISE CENTRE OF LOT BOUNDARY.

TYPE 6 & 8 PITS TO BE OFFSET 1m FROM LOT BOUNDARY WHEN ADJACENT TO POWER PILLAR OR PRELAID WATER SERVICE OTHERWISE CENTRE OF LOT BOUNDARY.

TYPICAL PIT LOCATION DETAIL (ADJACENT TO POWER PILLAR OR PRELAID WATER SERVICE)

NOT TO SCALE

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REV	DATE	DRAFTER	DESCRIPTION	APPROVED
A	29.08.25	NH	ISSUED FOR NBN APPROVAL	BT

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JDSi CONSULTING ENGINEERS

N KEY PLAN

DRAWING TITLE:
YANCHEP FORESHORE DEVELOPMENT
NBN PIT AND PIPE DESIGN
STANDARD DETAILS

ENABLE#:		
STATE: WA	REGION: CITY OF WANNEROO	
FSA:	SAM:	ADA:
PROJECT No: STG-W000365849		
CADREF No: JDS242368.01_T003		
SCALE 1:500	SHEET No. 3 OF 3	REV. A

LAT: 31°42'47" S

LONG: 115°37'40" E

NOTES FOR CONTRACTOR:

1. ALL WORKS TO BE COMPLETED TO THE SATISFACTION OF WESTERN POWER REQUIREMENTS AND SPECIFICATIONS. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO RAISE ANY/ALL NON COMPLIANT DETAILS/INSTRUCTIONS TO JDSi PRIOR TO CONSTRUCTION.

2. VERIFY ALL MATERIAL QUANTITIES AGAINST SITE CONDITIONS PRIOR TO QUOTATION AND ADVISE ELECTRICAL CONSULTANTS (JDSi) OF ANY VARIATIONS.

3. CONTRACTOR TO LIASE WITH JDSi TO ORGANISE PRE-HANDOVER INSPECTION WITH WESTERN POWER A MINIMUM OF 5 WEEKS PRIOR TO COMPLETION OF WORKS.
WHEN COMPLEX INTERFACE PROJECTS, ORGANISE PRE-START MEETING WITH CONSTRUCTION MANAGER PRIOR TO COMMENCEMENT

4. LAY CABLES IN ACCORDANCE WITH WP REQUIREMENTS. ALL CABLES NOT IN WP'S UTILITY CABLE ALIGNMENT TO BE IN CONDUIT.

5. PLAN CABLE RUNS FROM THE TRANSFORMER, SWITCHGEAR OR UNIVERSAL PILLAR TO LIMIT THE NUMBER OF STRAIGHT JOINTS. NO JOINTS ARE TO OCCUR IN LANEWAYS. FINAL LOCATION OF ALL JOINTS DIMENSIONED FROM NEAREST BOUNDARY PEG ARE TO BE SHOWN ON THE 'AS CONSTRUCTED' DRAWING.

6. LOCATE AND IDENTIFY EXISTING CABLE ROUTES/DESIGNATIONS AND ORIGIN BEFORE CONSTRUCTION COMMENCES. IF MINIMUM SPACING CANNOT BE ACHIEVED WITH EXISTING CABLES, CONTRACTOR IS TO ENGAGE JDSi. INCLUDE ALL DETAILS ON 'AS CONSTRUCTED' DRAWINGS.

7. MAKE ALLOWANCE FOR TERRACING OF CABLES WHERE REQUIRED.

8. ALL CABLES AT LOCATIONS WHERE TERMINATING/JOINTING TO EXISTING WP ASSETS TO EXTEND 5m PAST PROPOSED LOCATION OF TERMINATION/JOINT. WP STANDARDS FOR CABLE MARKING TO BE FOLLOWED.

9. HAND TRENCH WHEN LAYING NEW CABLE ADJACENT TO ANY EXISTING CABLE.

10. BORE UNDER EXISTING ROADS, REFER DBYD BEFORE COMMENCEMENT.

11. MAKE ALL NECESSARY ARRANGEMENTS TO PROTECT EXISTING PROPERTY FENCING DURING DIRECTIONAL BORING AND EXCAVATION.

12. ALL CABLES NEXT TO RETAINING WALLS SHALL BE IN CONDUIT WHICH ARE TO BE EXTENDED MIN. 1.5m PAST THE EXTENTS OF THE RETAINING WALL WHERE APPLICABLE. NO JOINTS ARE TO OCCUR NEAR NOR ALONG RETAINING WALLS WHERE PRACTICABLE.

13. CABLES INSTALLED IN LANEWAYS WILL BE INSTALLED IN CONDUIT WITH A MINIMUM OF ONE SPARE DUCT.

14. INSTALL HEATSHRINK "END CAP" AT ALL CABLE ENDS.

15. INSTALL HEATSHRINK GLOVES ON LV CABLE TERMINATION ENDS.

16. CLEAN BEDDING SAND TO BE IMPORTED WHERE ROCK IS ENCOUNTERED.

17. ALL ABOVE GROUND ASSETS ARE TO BE INSTALLED ABOVE THE MINIMUM FLOOD LEVEL REQUIREMENTS AND NOT IN A PRECARIOUS POSITION. SERVICE PILLARS AND LOW VOLTAGE (LV) FRAMES ARE TO BE INSTALLED ABOVE THE 1:100 YEAR ARI EVENT PLUS 300mm. HIGH VOLTAGE EQUIPMENT AND SUBSTATIONS ARE TO BE INSTALLED ABOVE THE 1:100 YEAR ARI EVENT PLUS 500mm FREEBOARD. REFER TO UDS 5.3.3.

18. STREETLIGHT POLES MUST NOT BE INSTALLED IN FOOTPATHS. CONTRACTOR TO PEG STREET LIGHT POLE LOCATIONS PRIOR TO INSTALLATION AND NOTIFY JDSi OF ANY CLASHES.

19. INSTALLATION OF STREETLIGHTING TO COMMENCE FOLLOWING WESTERN POWER'S REMOVAL OF POWER LINES.

20. INSTALL THE PILLAR IN ACCORDANCE WITH RELEVANT TYPICAL PILLAR EXCLUSION ZONE DETAIL.

21. SCREENING AROUND SUBSTATION SITES MUST CONSIST OF NON METALLIC MATERIALS OR EARTHED IN ACCORDANCE WITH WA SERVICE AND INSTALLATION REQUIREMENTS MANUAL (WASIR).

22. SUBSTATION EARTHING SYSTEM TEST SHEETS SHALL BE SENT TO JDSi AT THE COMPLETION OF THE EARTHING SYSTEM INSTALLATION.

23. FOR CLARITY, NOT ALL EXISTING ASSETS MAY BE SHOWN. CONTRACTOR RESPONSIBLE FOR SURVEYING/LOCATING EXISTING ASSETS PRIOR TO INSTALLATION OF INFRASTRUCTURE. ANY SAFETY CONCERNS TO BE RAISED WITH JDSi IMMEDIATELY PRIOR TO CONSTRUCTION.

24. CONTRACTOR SHALL ALLOW FOR DEMOLITION & REINSTATEMENT OF ALL EXISTING VERGE TREATMENTS TO COMPLETE THE PROPOSED SCOPE OF WORK TO THE SATISFACTION OF THE SUPERINTENDENT.

25. WORKS ON ALL EXISTING WP ASSETS TO BE UNDERTAKEN BY WP.

26. FOOTINGS TO BE DEEPENED ON ALL RETAINING WALLS WITH _____ HIGHLIGHTING.
CONTRACTOR TO ENSURE FOOTINGS ARE DEEPENED WHERE A WESTERN POWER ASSET IS LOCATED OR A CABLE TURN IS PROPOSED ADJACENT TO RETAINING WALL.
CONTRACTOR TO REFER TO CIVIL RETAINING WALL DRAWINGS.

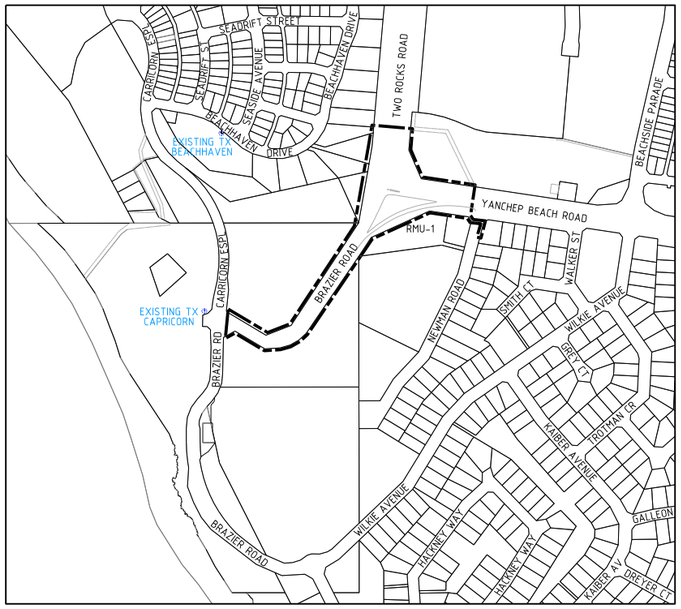
WESTERN POWER SCOPE OF WORKS

1. ALL EXISTING AERIALS AND POLES BETWEEN S#####, S##### AND S##### (INCLUSIVE) TO BE DISCONNECTED AND REMOVED. ALLOW FOR ALL CU MATERIALS FOR A COMPLETE INSTALLATION.
2. REPLACE EXISTING POLE S##### WITH A HV TERMINATION POLE. HV AND SL AERIALS HEADING EAST TO BE TERMINATED. STREETLIGHT AND RESPECTIVE CROSSARM TO BE RE INSTATED. ALLOW FOR ALL CU MATERIALS FOR A COMPLETE INSTALLATION.
3. REPLACE EXISTING POLE S##### WITH A HV TERMINATION POLE. HV AERIALS HEADING NORTH TO BE TERMINATED. ALLOW FOR ALL CU MATERIALS FOR A COMPLETE INSTALLATION.
4. TERMINATE NEW 16SL CABLE TO NEW TERMINATION POLE S##### ALLOW FOR ALL CU MATERIALS FOR A COMPLETE INSTALLATION.
5. TERMINATE NEW 400HV CABLE TO NEW TERMINATION POLE S##### ALLOW FOR ALL CU MATERIALS FOR A COMPLETE INSTALLATION.
6. TERMINATE NEW 400HV CABLE TO NEW TERMINATION POLE S##### ALLOW FOR ALL CU MATERIALS FOR A COMPLETE INSTALLATION.
7. CUT EXISTING 35HV CABLE AND STRAIGHT JOINT NEW 35HV CABLE INTO EXISTING 35HV CABLE. ALLOW FOR ALL CU MATERIALS FOR A COMPLETE INSTALLATION.
8. TERMINATE NEW 25LV CABLE TO EXISTING POLE S#####. ALLOW FOR ALL CU MATERIALS FOR A COMPLETE INSTALLATION.
9. CUT AND ABANDON EXISTING 16SL CABLE, TURN AND TERMINATE INTO NEW PROPOSED STREETLIGHT. ALLOW FOR ALL CU MATERIALS FOR A COMPLETE INSTALLATION.

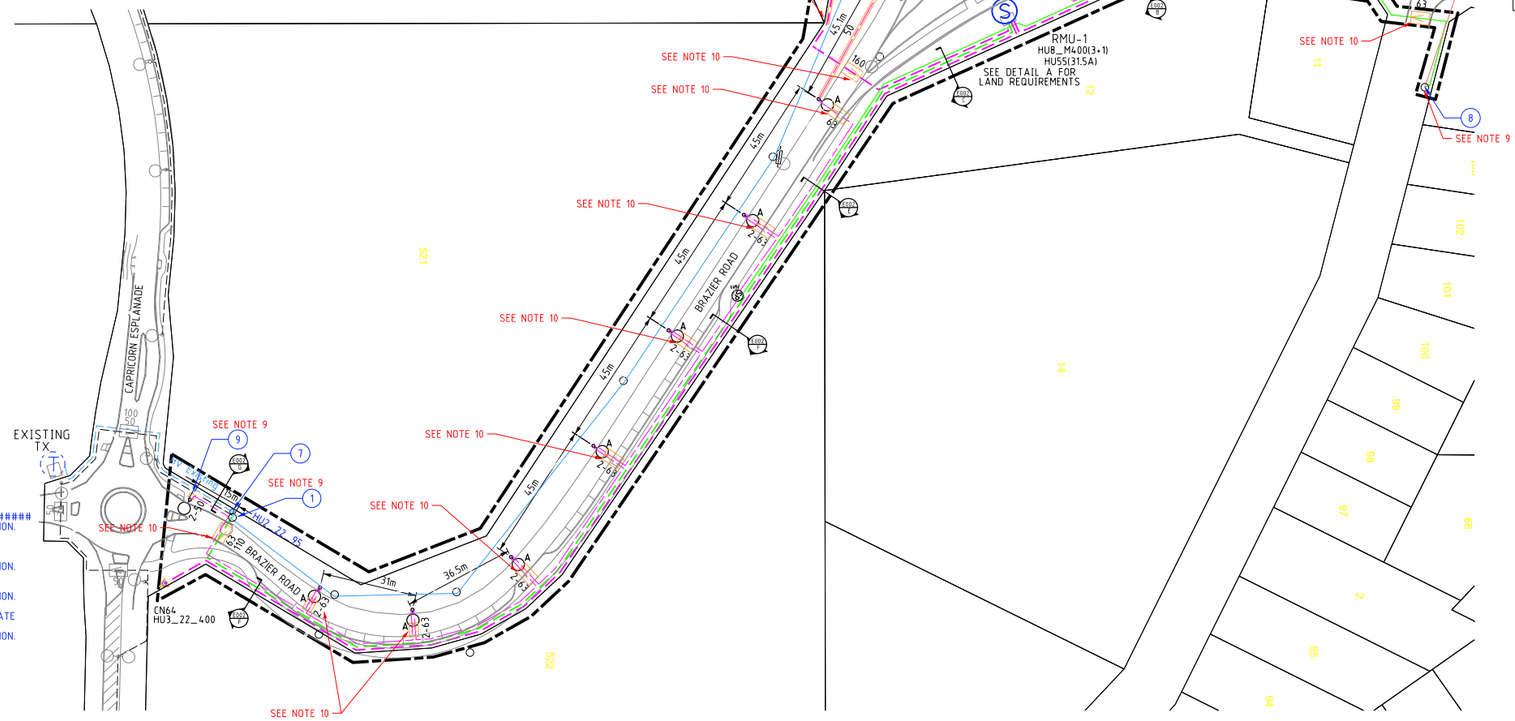
Dimensions and scales to be checked prior to measuring cable lengths.
(Scale bar only valid for sections of drawing that are as per specified scale)

0 10 20 40 60m
SCALE 1:1000 @ ORIGINAL SHEET SIZE A1

0 50 100 200 300m
SCALE 1:5000 @ ORIGINAL SHEET SIZE A1



SITE LOCALITY PLAN
SCALE 1:5000



WARNING

BEWARE OF UNDERGROUND SERVICES

BEFORE YOU DIG www.byda.com.au

The location of underground cables are approximate only and their exact position should be checked on site. No guarantee is given that all existing cables and services are shown. Locate all underground cables and services before commencement of work. Refer to Work Health and Safety (General) Regulations 2022.

GOLDEN SAFETY RULES ARE INDICATIVE ONLY - ALWAYS PERFORM A DETAILED HAZARD ANALYSIS.

ARROW: DIRECTION TO PEG WHICH DUCTS ARE TO BE ALIGNED

DENOTES PREVIOUSLY REQUESTED DUCTS

DUCTS TO BE LAID TO WP SPECIFICATION AS OUTLINED IN UNDERGROUND DISTRIBUTION SCHEMES MANUAL - POLICY AND INSTALLATION OPTIONS.

LEGEND

SCHEME BDY.
RETAINING WALL
RESTRICTED ZONE
EASEMENT

HV CABLES
CN53 - 400mm2 (3X1c)
CN49 - 240mm2 (3X1c)
CN48 - 185mm2 (3X1c)
CN50 - 95mm2 (3X1c)
CN51 - 50mm2 (3X1c)
CN51 - 50mm2 (1c)
CN46 - 35mm2 (3X1c)
CN47 - 35mm2 (1c)
EXISTING HV CABLES (SIZE AND TYPE INDICATED)

LV-SL CABLES
CN45 - 240mm2 (1x3c)
CN44 - 185mm2 (1x3c)
CN43 - 120mm2 (1x3c)
CN42 - 25mm2 (1x3c)
CN41 - 16mm2 SL (1c)
40 C PILOT
EXISTING LV CABLES (SIZE AND TYPE INDICATED)

STREET LIGHTS — EXISTING
POLE BRACKET
SINGLE OUTREACH
DOUBLE OUTREACH
4-WAY
- ALPHA CHARACTER DENOTES STREET LIGHT TYPE. REFER STREET LIGHT SCHEDULE FOR POLE & LUMINAIRE DETAILS.

PILLARS / PITS / ETC
MINI (WORKING END)
UNIVERSAL
MINI
LINK
CABLE MARKER U/G
Serviced Uncleared De-energised Lot
UMS PIT
UTILITIES PIT
BGSP PIT
100/200AMP CUTOUT
CONDUIT / POLY PIPE

TRANSFORMER EXISTING SWITCHGEAR

AERIAL CONDUCTORS AND POLES
NEW POLE (ANY TYPE AS INDICATED)
EXISTING POLE (ANY TYPE AS INDICATED)
HV LV EXISTING AERIAL CONDUCTORS (SIZE AND TYPE INDICATED)

EXISTING INFRASTRUCTURE TYPICALLY DEPICTED USING ABOVE SYMBOLOGY WITH UNPRONOUNCED LINE WEIGHT.

NOT FOR CONSTRUCTION

ISSUED FOR TENDER

NO CHANGES TO DESIGN UNLESS APPROVED BY DESIGN MANAGER

REV	DATE	DRAWN	PROJECT REVIEW	CHECKED	APPROVED	REVISION DESCRIPTION
A	29.08.25	RT/LC	BT	LC	-	ISSUED FOR TENDER

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NOTE
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JDSi CONSULTING ENGINEERS
Certified Quality System to ISO 9001

CLIENT: CITY OF WANNEROO ON BEHALF OF UDLA

PROJECT: YANCHEP FORESHORE STAGE 1

DRAWING TITLE: POWER RETICULATION LAYOUT SHEET 1

DRAWN: L. CONTEMPRATO	WAPC No.: WAPC #
DESIGNED: L. CONTEMPRATO	SCALE @ A1: 1:1000
PROJECT MANAGER: B. TREW	DATUM/COORD: AHD/PCG94
	WP REFERENCE: MS0xxxxx
JDSi PROJECT No.: JDS242368.01	DRAWING No.: E001
	REVISION: -

NOT FOR CONSTRUCTION

ISSUED FOR TENDER

NO CHANGES TO DESIGN UNLESS APPROVED BY DESIGN MANAGER

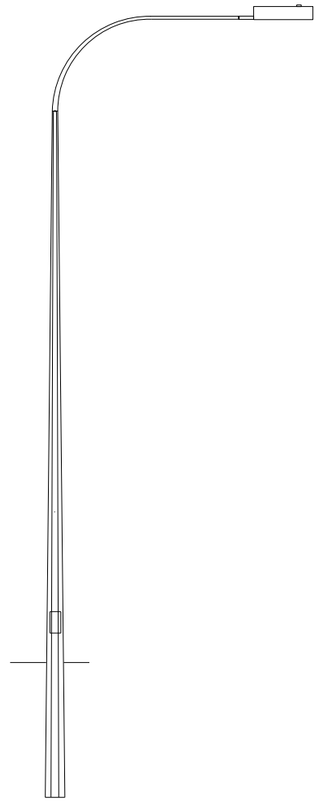
GOLDEN SAFETY RULES ARE INDICATIVE ONLY - ALWAYS PERFORM A DETAILED HAZARD ANALYSIS.

1. DRAWINGS SHALL BE READ IN CONJUNCTION WITH THE CONTRACT DRAWINGS AND SPECIFICATION.

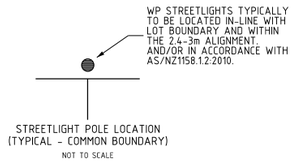
2. FOR NOTES AND LEGEND REFER TO JDS242368.01_E001.

REFER TO WESTERN POWER'S STANDARD DRAWINGS DSPM-3-27 FOR LAND REQUIREMENTS IN ADDITION TO EQUIPMENT AND CULVERT INSTALLATION DETAILS

NOTE:
WESTERN POWER SUBSTATION SITE TO BE INCORPORATED EITHER AS AN EXTENSION OF THE ROAD RESERVE OR PUBLIC OPEN SPACE. NO PIPES, DRAINS OR OTHER SERVICES ARE PERMITTED BENEATH THE SUBSTATION SITE.
IF ANY SUBSTATION LIES WITHIN THE 100 YEAR FLOOD ZONE, THE SUBSTATION MUST NOT BE BELOW THE LOCAL 1:100 YEAR ARI EVENT PLUS 500mm FREEBOARD.
WHERE SOIL IS BUILT UP TO ACCOMMODATE THIS REQUIREMENT IT SHALL BE PERMANENTLY STABILISED TO PREVENT EROSION. RETAINING WALLS AND FOOTINGS OR ANY PART-OF ARE NOT TO ENCROACH ON THE MINIMUM SUBSTATION LAND AREA.



GENERAL STREETLIGHTING
10.5m STANDARD POLE C/W
3m STANDARD SINGLE OUTREACH
STANDARD 70W LED
GALVANISED
(TYPE A)
NOT TO SCALE

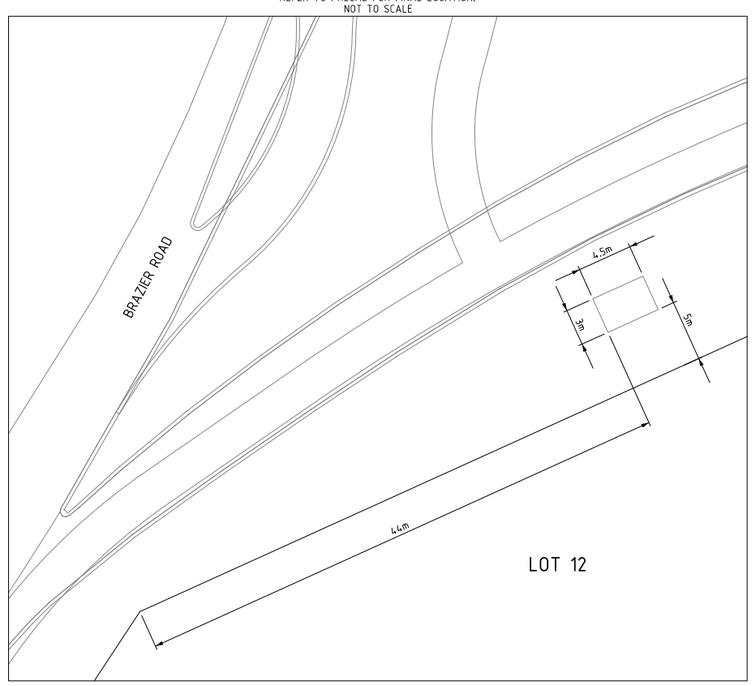


STREETLIGHT POLE LOCATION
(TYPICAL - COMMON BOUNDARY)
NOT TO SCALE

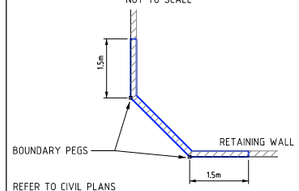
LIGHTING DESIGN TO AUSTRALIAN STANDARD AS/NZS1158.1.1 ROAD LIGHTING FOR VEHICULAR TRAFFIC (CATEGORY V5)

LIGHTING DESIGN TO AUSTRALIAN STANDARD AS/NZS1158.3.1 ROAD LIGHTING FOR PEDESTRIAN AREAS (CATEGORY PR5)

DETAIL 'A'
RMU-1 ON ROAD RESERVE
SUBSTATION LAND REQUIREMENTS
(NOT TO BE USED TO SET OUT TRANSFORMER SITE. REFER TO PRECAL FOR FINAL LOCATION)
NOT TO SCALE

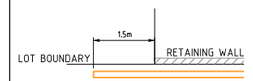


TYPICAL RETAINING WALL DETAIL
WHERE FOOTINGS ARE TO BE DEEPENED
AT TRUNCATIONS
NOT TO SCALE



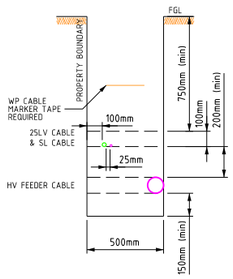
REFER TO CIVIL PLANS
FOR CONSTRUCTION REQUIREMENTS

TYPICAL CONDUIT EXTENSION
AT END OF RETAINING WALL
NOT TO SCALE

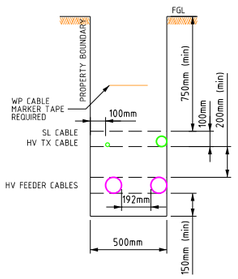


STREETLIGHT SCHEDULE								
TYPE OF EQUIPMENT		No. of UNITS	UNIT WATTAGE	TOTAL WATTAGE	LED COLOUR TEMPERATURE	POLE COLOUR	LUMINAIRE COLOUR	DAILY HRS OPERATION
A	SL9_4E - 10.5m STANDARD POLE COMPLETE WITH 3m SOR. STANDARD 70W LED LUMINAIRE	11	70W	770W	3000K	GALVANISED	GALVANISED	DUSK/DAWN
	TOTAL	11		770W				

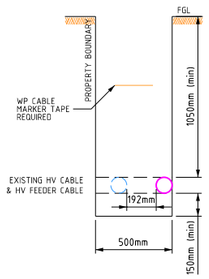
DETAIL 'B'
CABLE TRENCH DETAIL
NOT TO SCALE



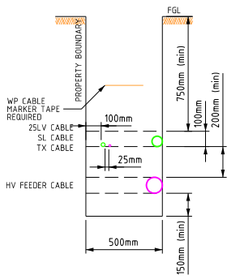
DETAIL 'C'
CABLE TRENCH DETAIL
NOT TO SCALE



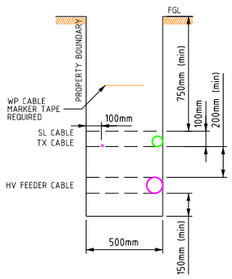
DETAIL 'D'
CABLE TRENCH DETAIL
NOT TO SCALE



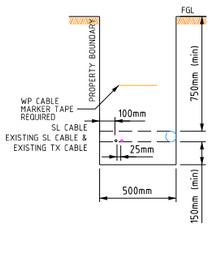
DETAIL 'E'
CABLE TRENCH DETAIL
NOT TO SCALE



DETAIL 'F'
CABLE TRENCH DETAIL
NOT TO SCALE

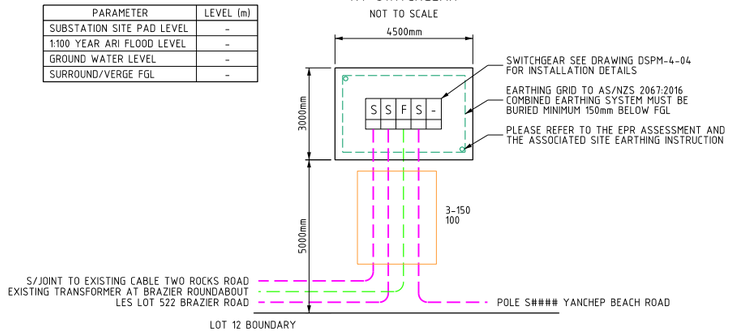


DETAIL 'G'
CABLE TRENCH DETAIL
NOT TO SCALE



PARAMETER	LEVEL (m)
SUBSTATION SITE PAD LEVEL	-
1:100 YEAR ARI FLOOD LEVEL	-
GROUND WATER LEVEL	-
SURROUND/VERGE FGL	-

RMU-1 (DSPM-3-27)
ADJ LOT 12 BRAZIER ROAD
22kV SUBSTATION DETAIL
HV SWITCHGEAR
NOT TO SCALE



REV	DATE	DRAWN	PROJECT REVIEW	CHECKED	APPROVED	REVISION DESCRIPTION
A	29.08.25	RT/LC	BT	LC	-	ISSUED FOR TENDER

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Certified Quality System to ISO 9001

JDSi CONSULTING ENGINEERS

CLIENT:
CITY OF WANNEROO
ON BEHALF OF UDLA

PROJECT:
YANCHEP FORESHORE
STAGE 1

DRAWING TITLE:
DETAILS LAYOUT
SHEET 2

DRAWN	WAPC No.
L. CONTEMPRATO	WAPC #
DESIGNED	SCALE @ A1
L. CONTEMPRATO	AS SHOWN
PROJECT MANAGER	DATUM/COORD / WP REFERENCE
B.TREW	AHD/PCG94 / MS0xxxxx
JDSi PROJECT No.	DRAWING No. / REVISION
JDS242368.01	E002 / A

LAT: 32°32'53" S

LONG: 115°57'31" E

NOTES:

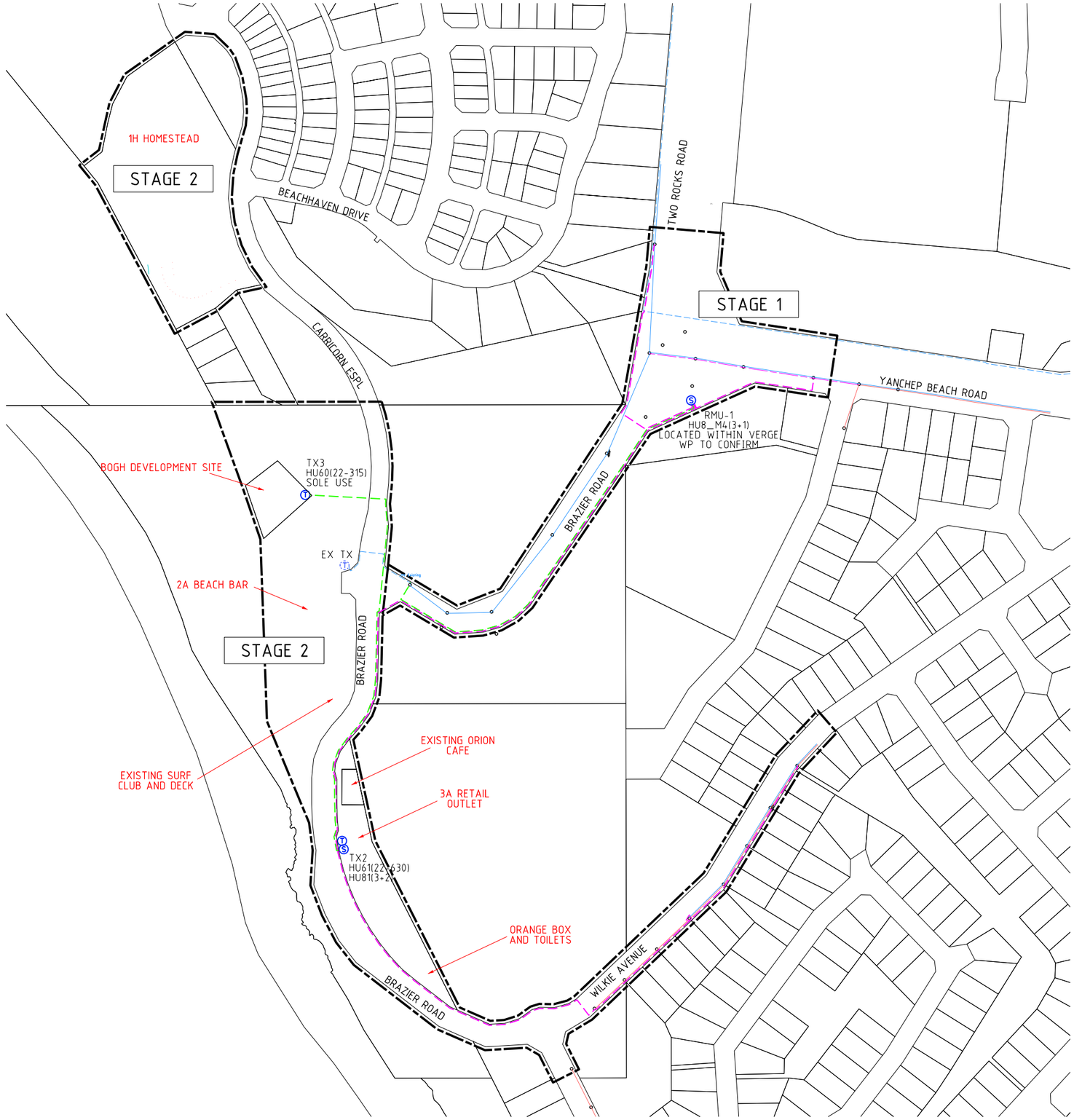
1. WESTERN POWER SITE TO BE INCORPORATED EITHER AS AN EXTENSION OF THE ROAD RESERVE OR PUBLIC OPEN SPACE. NO PIPES, DRAINS AND OTHER SERVICES ARE PERMITTED BENEATH THE SUBSTATION SITE.
IF ANY SUBSTATION LIES WITHIN THE 100 YEAR FLOOD ZONE, SUBSTATION MUST BE 0.5m ABOVE FLOOD LEVEL. WHERE SOIL IS BUILT UP TO ACCOMMODATE THIS REQUIREMENT, IT SHALL BE STABILISED TO PREVENT EROSION.

2. REFER TO LATEST REVISION OF WESTERN POWER DISTRIBUTION SUBSTATION MANUALS FOR EQUIPMENT INSTALLATION DETAILS.

3. FINAL SUBSTATION SIZE AND LOCATIONS AND STAGE SUPPLY PLAN ARE SUBJECT TO CHANGE AND DEPENDANT ON FINAL STAGING LAYOUT PLAN.

4. REFER TO WESTERN POWER FEASIBILITY REPORT WP REFERENCE TBA FOR HV SUPPLY INTERCONNECTION.

5. HV NORMALLY OPEN POINT TO BE DETERMINED AT DETAILED DESIGN STAGE.



LEGEND

- STAGE BOUNDARY
- RETAINING WALL
- GARAGE LOCATIONS

HV CABLES

NEW		EXISTING
	CN53 400mm (3x1c)	
	CN49 240mm (3x1c)	
	CN48 185mm (3x1c)	
	CN50 95mm (3x1c)	
	CN51 50mm (3x1c)	
	CN01 50mm (1c)	
	CN46 35mm (3x1c)	
	CN47 35mm (1c)	

HV ASSETS

TRANSFORMERS (T) — DETAIL AS INDICATED — SWITCHGEAR (S)

AERIAL CONDUCTORS AND POLES

NEW EXIST — POLE (TYPE AS INDICATED)

HV LV — EXISTING CONDUCTOR (SIZE & TYPE AS INDICATED)

EXISTING INFRASTRUCTURE TYPICALLY DEPICTED USING ABOVE SYMBOLOGY WITH UNPRONOUNCED LINE WEIGHT.

LOAD BREAKDOWN (SUBJECT TO CHANGE)

STAGE	SITE	LOAD (kVA)
2	1H HOMESTEAD (EX)	76 (ASSUMPTION, NO CHANGE)
	BOGH DEVELOPMENT (NEW)	267
	2A BEACH BAR (EX)	305 (UPGRADE IF REQUIRED)
	3A RETAIL OUTLET (NEW)	240
	5A ORANGE BOX (NEW)	125
	TOILETS (NEW)	25
	SURF CLUB (EX)	140 (ASSUMPTION, NO CHANGE)
	ORION CAFE (EX)	199 (ASSUMPTION, NO CHANGE)
	PROPOSED WC WWPS (NEW)	60
	EV CHARGING BAYS (NEW)	76
TOTAL		1504

*NOTE
STAGE 1 IS ROAD UPGRADE ONLY AND TO FACILITATE STAGE 2 WORKS

PROPOSED SUBSTATION SCHEDULE (22kV)

SUBSTATION	TRANSFORMER	SWITCHGEAR
RMU-1	-	3+1
TX-2	630kVA (827A)	3+2
TX-3	315kVA (413A)	-

*NOTE
EXISTING TRANSFORMER AT BRAZIER AND CAPRICORN ROUNDABOUT TO BE UTILISED TO SERVICE BALANCE OF THE DEVELOPMENT

NOTE
DEVELOPMENT STAGING, FINAL TRANSFORMER AND SWITCHGEAR LOCATIONS ARE SUBJECT TO CHANGE

0 100 200 400 600m
SCALE 1:10000 @ ORIGINAL SHEET SIZE A1

0 20 40 80 120m
SCALE 1:2000 @ ORIGINAL SHEET SIZE A1

Dimensions and scales to be checked prior to measuring cable lengths. (Scale bar only valid for sections of drawing that are scale 1:2000)

ONLY FOR INFORMATION

NOT FOR CONSTRUCTION

REV	DATE	DRAWN	PROJECT REVIEW	CHECKED	APPROVED	REVISION DESCRIPTION
B	11.09.25	RT	BT	LC	-	ISSUED FOR INFORMATION ONLY
A	12.08.25	LC	BT	LC	-	ISSUED FOR INFORMATION ONLY

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Certified Quality System to ISO 9001

JDSi CONSULTING ENGINEERS

CLIENT: CITY OF WANNEROO ON BEHALF OF UDLA

PROJECT: YANCHEP FORESHORE

DRAWING TITLE: HV CONCEPT LAYOUT SHEET 1

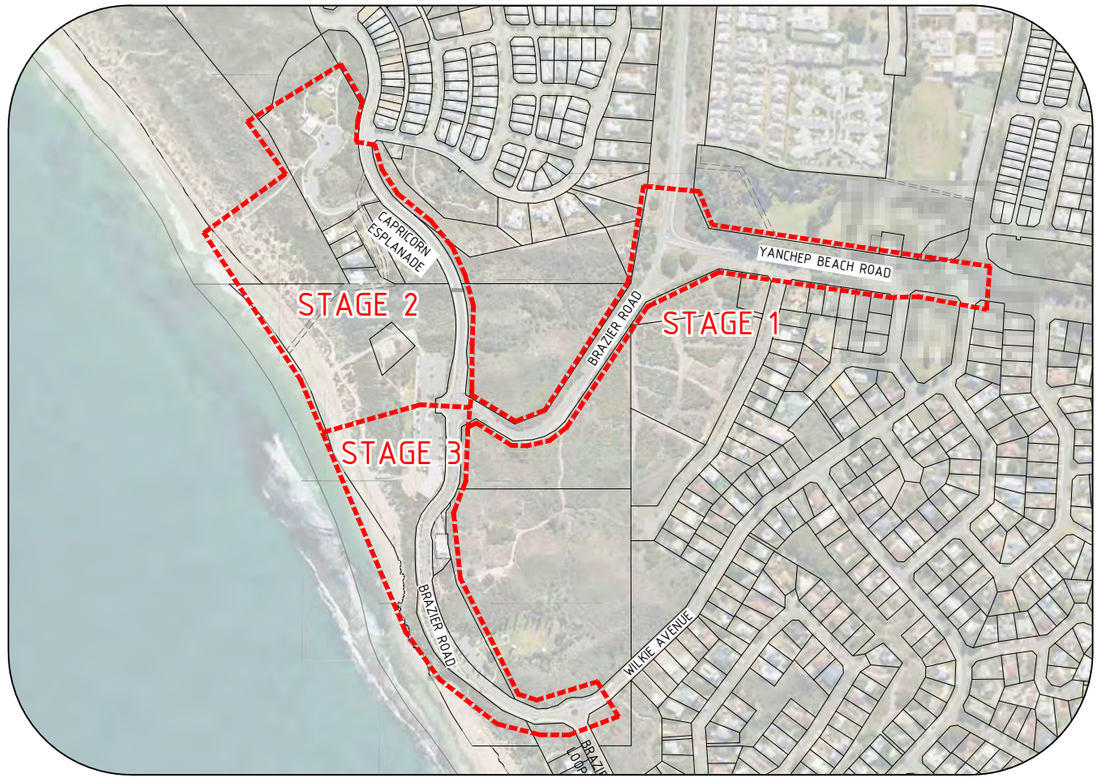
DRAWN: L.CONTEMPRATO	WAPC No.: NA
DESIGNED: L.CONTEMPRATO	SCALE @ A1: 1:2000
PROJECT MANAGER: B.TREW	DATUM/COORD: AHD/PCG94
WP REFERENCE: NA	
JDSi PROJECT No.: JDS242368.00	DRAWING No.: E001
REVISION: B	

YANCHEP FORESHORE DEVELOPMENT
STAGE 2 AND STAGE 3

City of Wanneroo

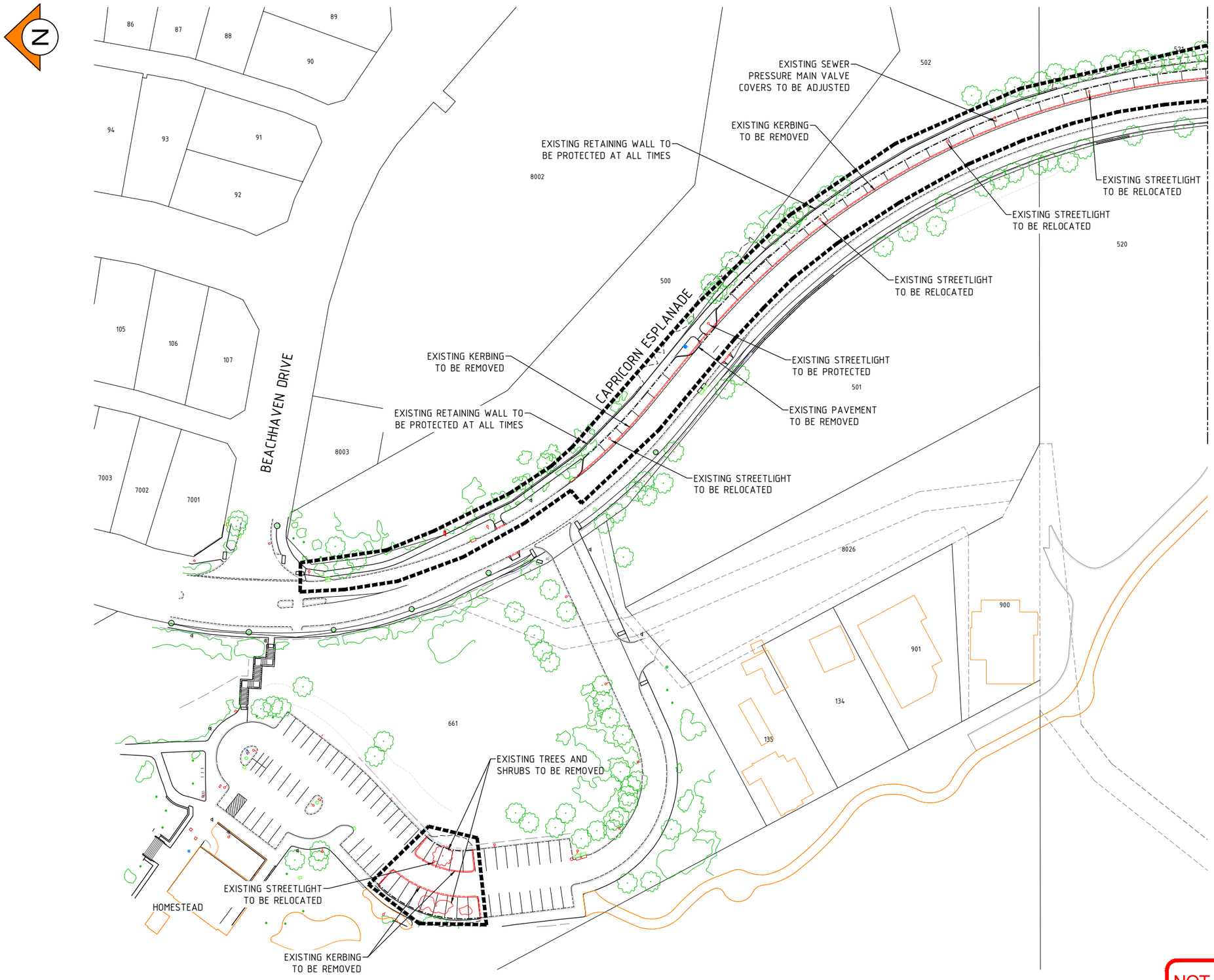
DRAWING LIST

JDS242368.02_C000	COVER SHEET
JDS242368.02_C060	ROAD DEMOLITION PLAN - SHEET 1
JDS242368.02_C061	ROAD DEMOLITION PLAN - SHEET 2
JDS242368.02_C062	ROAD DEMOLITION PLAN - SHEET 3
JDS242368.02_C070	CLEARING PLAN - SHEET 1
JDS242368.02_C071	CLEARING PLAN - SHEET 2
JDS242368.02_C100	BULK EARTHWORKS PLAN - SHEET 1
JDS242368.02_C101	BULK EARTHWORKS PLAN - SHEET 2
JDS242368.02_C102	BULK EARTHWORKS PLAN - SHEET 3
JDS242368.02_C300	ROAD LAYOUT PLAN - SHEET 1
JDS242368.02_C301	ROAD LAYOUT PLAN - SHEET 2
JDS242368.02_C302	ROAD LAYOUT PLAN - SHEET 3
JDS242368.02_C310	ROAD OVERALL LAYOUT PLAN
JDS242368.02_C330	ROAD INTERSECTION DETAILS - SHEET 1
JDS242368.02_C330	ROAD INTERSECTION DETAILS - SHEET 2
JDS242368.02_C330	ROAD INTERSECTION DETAILS - SHEET 3
JDS242368.02_C330	ROAD INTERSECTION DETAILS - SHEET 4
JDS242368.02_C350	DRAINAGE LAYOUT PLAN - SHEET 1
JDS242368.02_C351	DRAINAGE LAYOUT PLAN - SHEET 2
JDS242368.02_C352	DRAINAGE LAYOUT PLAN - SHEET 3
JDS242368.02_C400	WATER RETICULATION PLAN - SHEET 1
JDS242368.02_C401	WATER RETICULATION PLAN - SHEET 2
JDS242368.02_C500	COMBINED SERVICES LAYOUT PLAN - SHEET 1
JDS242368.02_C501	COMBINED SERVICES LAYOUT PLAN - SHEET 2
JDS242368.02_C502	COMBINED SERVICES LAYOUT PLAN - SHEET 3



CONTRACT No. JDS242368.02

UDLA JDSi
CONSULTING ENGINEERS



0 5 10 20 30m
SCALE 1:500 @ ORIGINAL SHEET SIZE A1

NOTES

1. THIS DRAWING SHALL BE READ IN CONJUNCTION WITH THE CONTRACT DRAWINGS AND SPECIFICATION
4. SURVEY DATA PROVIDED BY MNG SURVEY.
5. NO WORKS ARE TO BE UNDERTAKEN WITHIN THE TREE PROTECTION ZONE WITHOUT PRIOR APPROVAL FROM THE PROJECT ARBORIST.
6. CONTRACTOR SHALL REMOVE ALL RUBBISH, MISCELLANEOUS REMNANTS AND THE LIKE FROM WITHIN THE SITE.
7. UPON DISCOVERY OF ANY "UNEXPECTED FIND" THE CONTRACTOR SHALL CEASE WORK IN THE VICINITY OF THIS DISCOVERY, MAKE THE AREA SAFE AND NOTIFY THE SUPERINTENDENT OF THE OCCURRENCE.
8. CONTRACTOR TO MAKE ALLOWANCE FOR ALL ITEMS OF DEMOLITION WORKS CONTAINED OR IMPLIED WITHIN THE DRAWING SET AS NECESSARY FOR THE SATISFACTORY COMPLETION AND PERFORMANCE OF THE WORKS.
9. ALL WORKS IN THE VICINITY OF TREES TO BE RETAINED SHALL BE UNDERTAKEN IN ACCORDANCE WITH THE RECOMMENDATIONS OF THE PROJECT ARBORIST.
10. CONTRACTOR TO ENSURE TPZ'S ARE ERECTED IN ACCORDANCE WITH AS4970. CONTRACTOR SHALL NOTIFY SUPERINTENDENT WHEN PLANNING TO UNDERTAKE WORKS WITHIN TPZ. WORKS WITHIN THE TPZ TO BE UNDERTAKEN ONLY UNDER SUPERVISION OF PROJECT ARBORIST.

LEGEND

- PROPOSED CLEARING AREA
- EXISTING KERBLINE TO REMAIN
- EXISTING KERBLINE TO REMOVED
- EXISTING TREE TO REMAIN REFER NOTE 10
- EXISTING TREELINE TO REMAIN WHERE POSSIBLE - REFER NOTE 10
- EXISTING TREE TO BE REMOVED
- 2 — LOT NUMBER
- EXISTING ASPHALT TO BE REMOVED
- PROPOSED BUILT FORM / LANDSCAPING
- Sx — EXISTING SEWER
- Wx — EXISTING WATER
- Dx — EXISTING DRAINAGE
- UPx — EXISTING UNDERGROUND POWER
- OHx — EXISTING OVERHEAD POWER
- EXISTING POWER POLE
- EXISTING STAY POLE
- UGx — EXISTING GAS
- T — EXISTING TELSTRA

NOT FOR CONSTRUCTION

WARNING
BEWARE OF UNDERGROUND SERVICES
The location of underground cables are approximate only and their exact position should be checked on site. No guarantee is given that all existing cables and services are shown. Locate all underground cables and services before commencement of work. Refer to Work Health and Safety (General) Regulations 2022.

REV	DATE	DRAWN	CHECKED	APPROVED	
B	20.11.25	MH	BT	BT	DRAFT FMP FOR REVIEW.
A	29.08.25	MH	BG	BT	ISSUED FOR REVIEW

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Certified Quality System to ISO 9001

JDSi CONSULTING ENGINEERS

CLIENT: City of Wanneroo UDLA

PROJECT: YANCHEP FORESHORE DEVELOPMENT STAGE 2 AND STAGE 3

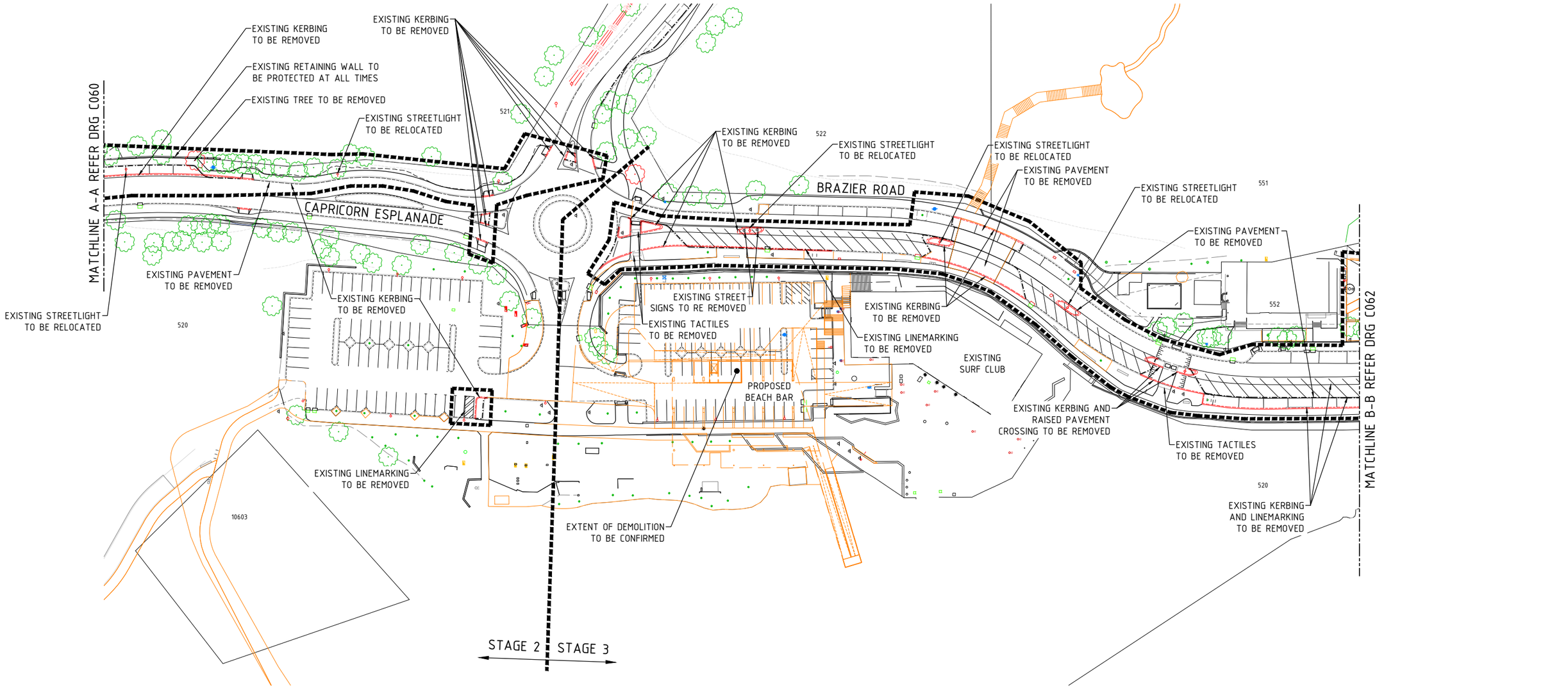
DRAWING TITLE: ROAD DEMOLITION PLAN SHEET 1

DRAWN: M.HARRIS		WAPC No.	
DESIGNED: B.TREW		SCALE @ A1: 1:500	
PROJECT MANAGER: B.TREW	DATUM: AHD	CO-ORDS: PCG94	
JDSi PROJECT No.: JDS242368.02	DRAWING No.: C060	REVISION: B	

Plotted By: MHarris Plot Date: 20/11/25 - 15:43 Cad File: C:\12dS\data\JDSI-12DSYN\JDS242368_326\JDS242368.0\CIVIL\Drawings\JDS242368_C060-C062.dwg

NOTES

1. REFER TO DRAWING JDS242368_C060 FOR NOTES AND LEGEND.



0 5 10 20 30m
SCALE 1:500 @ ORIGINAL SHEET SIZE A1

NOT FOR CONSTRUCTION

WARNING
BEWARE OF UNDERGROUND SERVICES
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REV	DATE	DRAWN	CHECKED	APPROVED	
B	20.11.25	MH	BT	BT	DRAFT FMP FOR REVIEW.
A	29.08.25	MH	BG	BT	ISSUED FOR REVIEW

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JDSi CONSULTING ENGINEERS

CLIENT: City of Wanneroo UDLA

PROJECT: YANCHEP FORESHORE DEVELOPMENT STAGE 2 AND STAGE 3

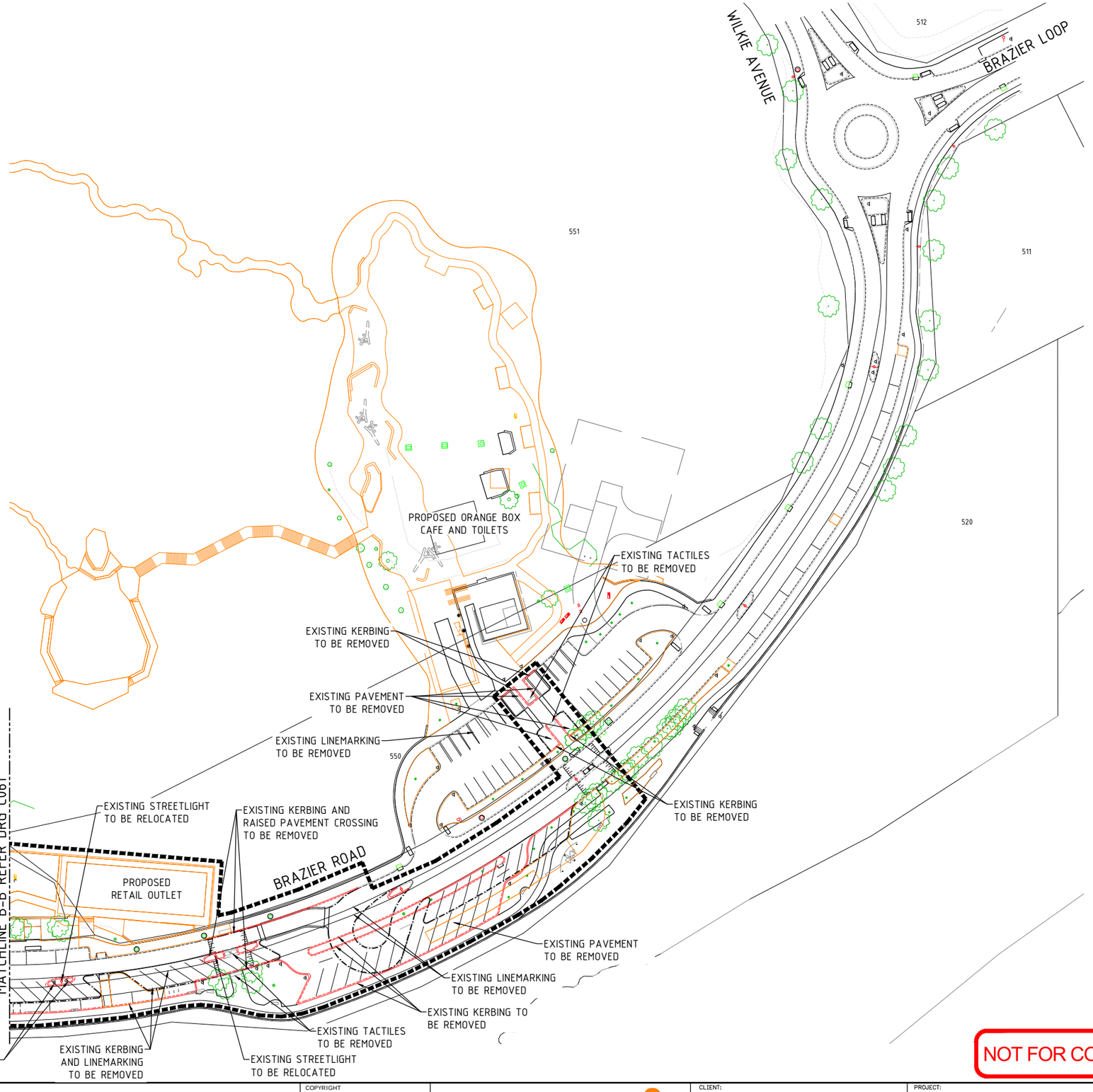
DRAWING TITLE: ROAD DEMOLITION PLAN SHEET 2

DRAWN M.HARRIS		WAPC No.	
DESIGNED B.TREW		SCALE @ A1 1:500	
PROJECT MANAGER B.TREW		DATUM AHD	CO-ORDS PCG94
JDSI PROJECT No. JDS242368.02	DRAWING No. C061		REVISION B

Plotted By: MHarris Plot Date: 20/11/25 - 15:47 Cad File: C:\12dS\data\JDSI-12DSYN\JDS242368_326\JDS242368.0\CIVIL\Drawings\JDS242368_C060-C062.dwg

NOTES

1. REFER TO DRAWING JDS242368_C060 FOR NOTES AND LEGEND.



NOT FOR CONSTRUCTION

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REV	DATE	DRAWN	CHECKED	APPROVED	
B	20.11.25	MH	BT	BT	DRAFT FMP FOR REVIEW.
A	29.08.25	MH	BG	BT	ISSUED FOR REVIEW

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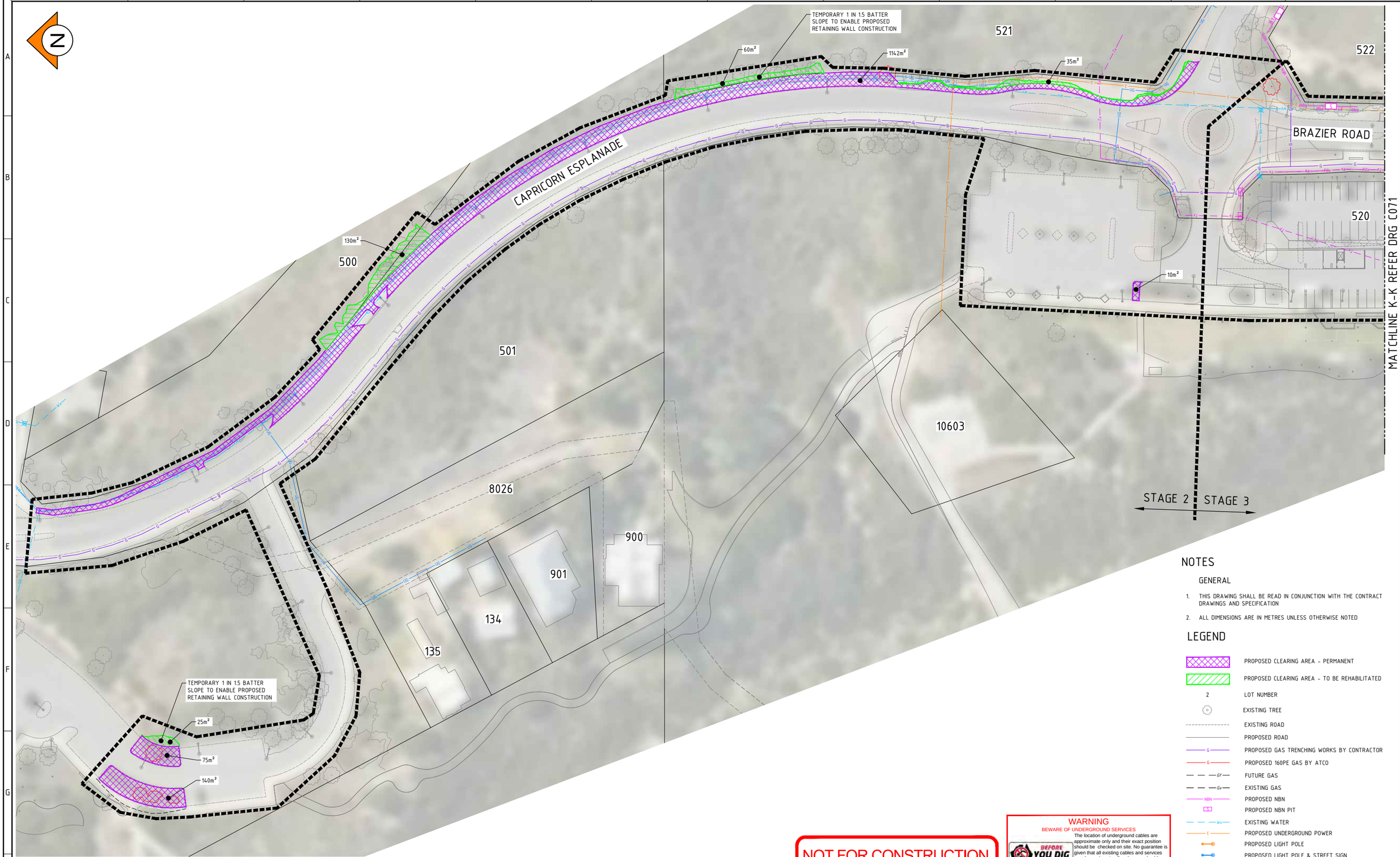
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CLIENT: City of Wanneroo UDLA

PROJECT: YANCHEP FORESHORE DEVELOPMENT STAGE 2 AND STAGE 3

DRAWING TITLE: ROAD DEMOLITION PLAN SHEET 3

DRAWN M.HARRIS	WAPC No.		
DESIGNED B.TREW	SCALE @ A1 1:500		
PROJECT MANAGER B.TREW	DATUM AHD	CO-ORDS PCG94	
JDSI PROJECT No. JDS242368.02	DRAWING No. C062	REVISION B	



NOTES

GENERAL

1. THIS DRAWING SHALL BE READ IN CONJUNCTION WITH THE CONTRACT DRAWINGS AND SPECIFICATION
2. ALL DIMENSIONS ARE IN METRES UNLESS OTHERWISE NOTED

LEGEND

- PROPOSED CLEARING AREA - PERMANENT
- PROPOSED CLEARING AREA - TO BE REHABILITATED
- 2 LOT NUMBER
- EXISTING TREE
- EXISTING ROAD
- PROPOSED ROAD
- G PROPOSED GAS TRENCHING WORKS BY CONTRACTOR
- G PROPOSED 160PE GAS BY ATCO
- Gf FUTURE GAS
- Gx EXISTING GAS
- NBN PROPOSED NBN
- PROPOSED NBN PIT
- Wx EXISTING WATER
- E PROPOSED UNDERGROUND POWER
- PROPOSED LIGHT POLE
- PROPOSED LIGHT POLE & STREET SIGN
- EXISTING LIGHT POLE (& STREET SIGN)

NOT FOR CONSTRUCTION

WARNING
BEWARE OF UNDERGROUND SERVICES
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REV	DATE	DRAWN	CHECKED	APPROVED	
B	20.11.25	MH	BT	BT	DRAFT FMP FOR REVIEW.

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NOTE
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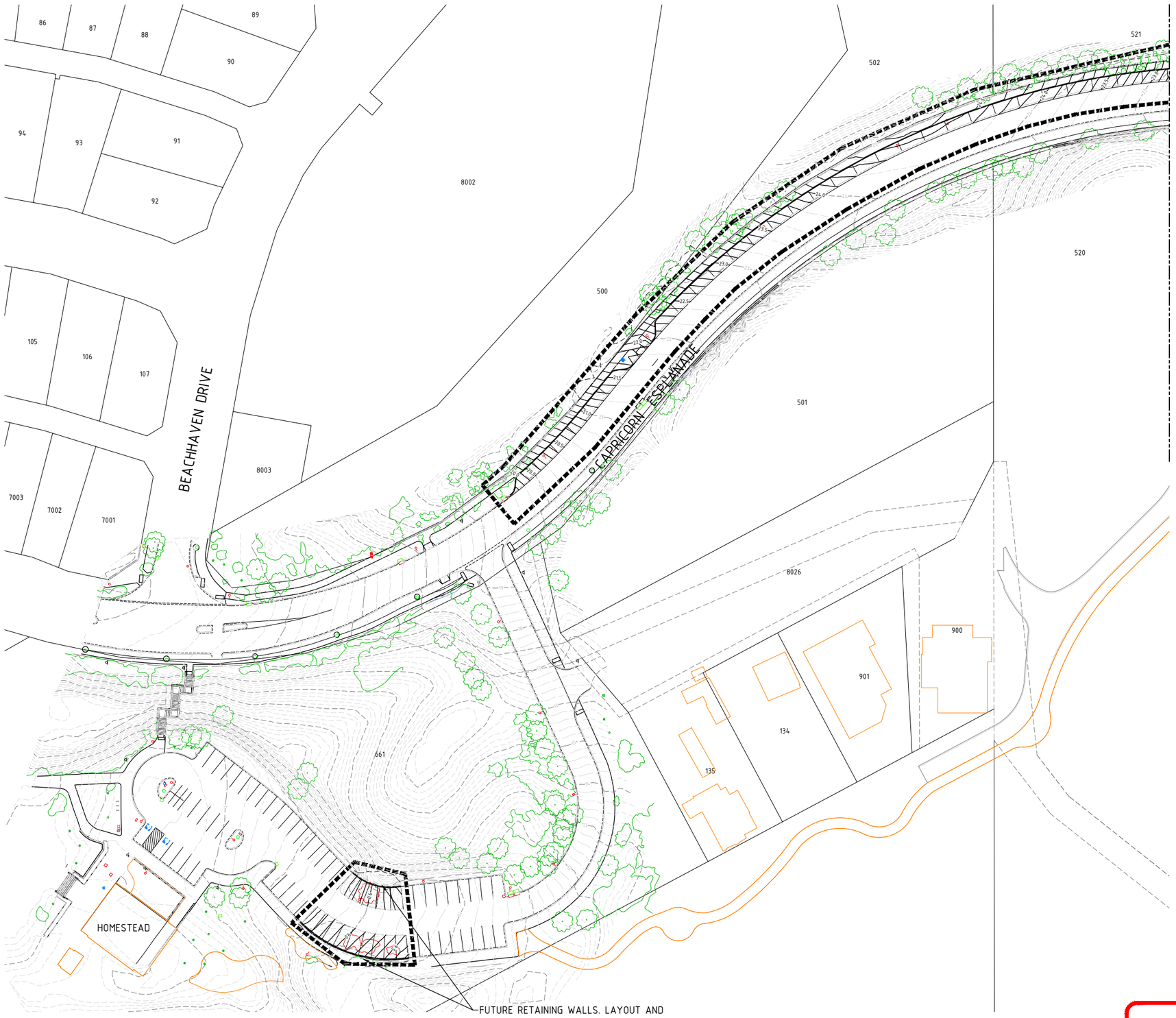
CLIENT: City of Wanneroo UDLA

PROJECT: YANCHEP FORESHORE DEVELOPMENT STAGE 2 AND STAGE 3

DRAWING TITLE: CLEARING PLAN SHEET 1

DRAWN M.HARRIS		WAPC No.	
DESIGNED M.HARRIS		SCALE @ A1	1:500
PROJECT MANAGER B.TREW		DATUM AHD	CO-ORDS PCG94
JDSI PROJECT No. JDS242368.02	DRAWING No. C070		REVISION B

Plotted By: MHarris Plot Date: 20/11/25 - 15:53 Cad File: C:\12dS\data\JDSI-12DSYN\JDS242368_326\JDS242368.0\CIVIL\Drawings\JDS242368_C070-C071.dwg



0 5 10 20 30m
SCALE 1:500 @ ORIGINAL SHEET SIZE A1

NOTES

1. THIS DRAWING SHALL BE READ IN CONJUNCTION WITH THE CONTRACT DRAWINGS AND SPECIFICATION
2. SETOUT OF ROAD CENTERLINE, FACE OF KERB AND EDGE OF SEAL FOR UN-KERBED ROADS SHALL BE BASED ON SUPPLIED AUTOCAD XBASE_JDS242368.0 DATA. ALL OTHER WORKS SHALL BE SETOUT BASED ON INFORMATION CONTAINED ON THE CONTRACT DRAWINGS AND SPECIFICATION
3. ALL DIMENSIONS SHOWN ARE IN METRES UNLESS OTHERWISE SHOWN
4. SURVEY DATA PROVIDED BY MNG.
5. ALL LEVELS SHALL BE DETERMINED FROM BENCH MARKS ESTABLISHED BY THE PROJECT SURVEYOR
6. ALL LEVELS ARE FINISHED SURFACE LEVELS. ROADS, FOOTPATHS AND HARDSTANDS TO BE BOXED OUT TO APPROPRIATE DEPTHS
7. FOR RETAINING WALL LEVELS REFER TO DRAWING C110 OF THIS SET
8. GEOTECHNICAL INSPECTIONS AND ASSESSMENTS TO BE CARRIED OUT AS PER SPECIFICATION AND AT RECOMMENDATION FROM THE PRINCIPAL NOMINATED GEOTECHNICAL CONSULTANT
9. EXISTING SERVICES ARE SHOWN FOR INFORMATION ONLY - FOR CONSTRUCTION DETAILS REFER TO RELEVANT SERVICES DRAWINGS

LEGEND

- LIMIT OF WORKS
- 2 — LOT NUMBER
- 43.15 — PROPOSED LOT LEVEL
- PROPOSED CONTOURS (0.25m INTERVAL)
- EXISTING CONTOURS (0.25m INTERVAL)
- EXISTING RETAINING WALL
- EXISTING ROAD
- PROPOSED ROAD
- EXISTING TREE TO BE REMOVED
- EXISTING TREE TO REMAIN
- EXISTING STREETLIGHT TO BE REMOVED
- Sx — EXISTING SEWER
- Px — EXISTING PRESSURE MAIN
- Wx — EXISTING WATER
- Dx — EXISTING DRAINAGE
- NBNx — EXISTING NBN
- Gx — EXISTING GAS
- Ex — EXISTING UNDERGROUND POWER
- OHx — EXISTING OVERHEAD POWER

NOT FOR CONSTRUCTION

WARNING
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REV	DATE	DRAWN	CHECKED	APPROVED	
B	20.11.25	MH	BT	BT	DRAFT FMP FOR REVIEW.
A	29.08.25	MH	BG	BT	ISSUED FOR REVIEW

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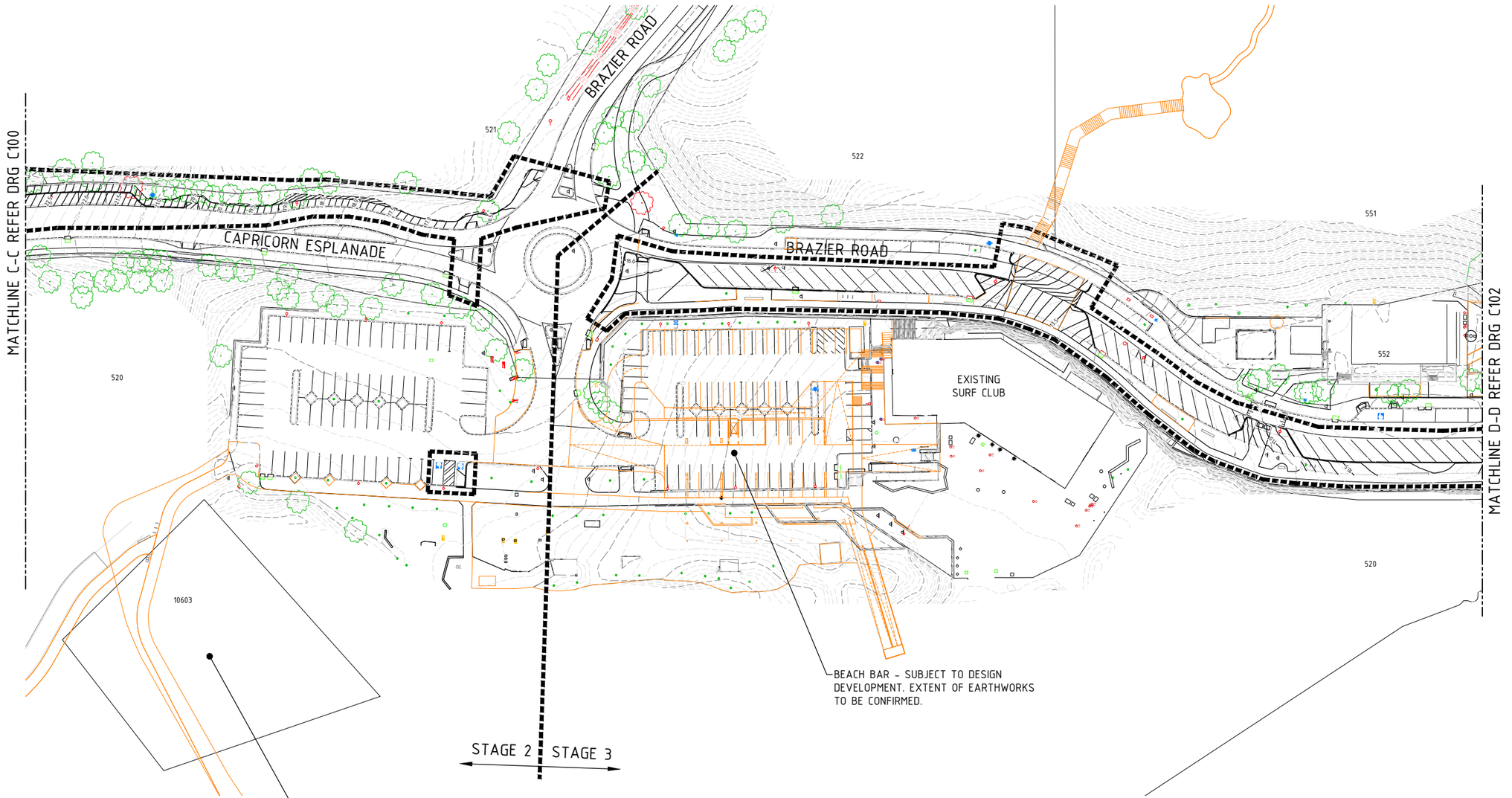
PROJECT: YANCHEP FORESHORE DEVELOPMENT STAGE 2 AND STAGE 3

DRAWING TITLE: BULK EARTHWORKS PLAN SHEET 1

DRAWN M.HARRIS		WAPC No.	
DESIGNED B.TREW		SCALE @ A1	1:500
PROJECT MANAGER B.TREW	DATUM AHD	CO-ORDS PCG94	
JDSi PROJECT No. JDS242368.02	DRAWING No. C100	REVISION B	

NOTES

1. REFER TO DRAWING JDS242368.02_C100 FOR NOTES AND LEGEND.



0 5 10 20 30m
SCALE 1:500 @ ORIGINAL SHEET SIZE A1

NOT FOR CONSTRUCTION

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REV	DATE	DRAWN	CHECKED	APPROVED	
B	20.11.25	MH	BT	BT	DRAFT FMP FOR REVIEW.
A	29.08.25	MH	BG	BT	ISSUED FOR REVIEW

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CLIENT: City of Wanneroo UDLA

PROJECT: YANCHEP FORESHORE DEVELOPMENT STAGE 2 AND STAGE 3

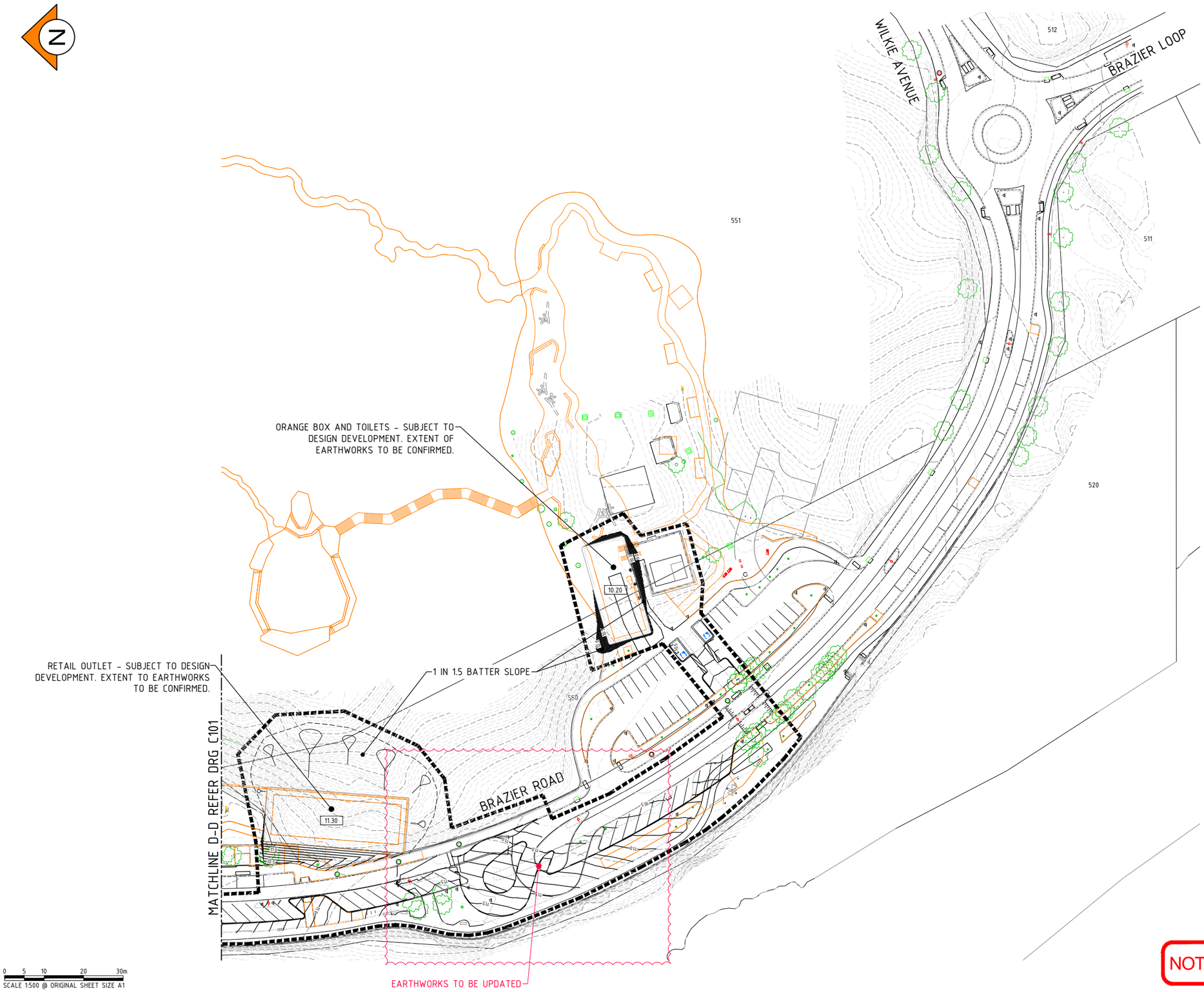
DRAWING TITLE: BULK EARTHWORKS PLAN SHEET 2

DRAWN M.HARRIS		WAPC No.	
DESIGNED B.TREW		SCALE @ A1 1:500	
PROJECT MANAGER B.TREW		DATUM AHD	CO-ORDS PCG94
JDSI PROJECT No. JDS242368.02	DRAWING No. C101		REVISION B

Plotted By: MHarris Plot Date: 20/11/25 - 15:56 Cad File: C:\12dS\data\JDSI-12DSYN\JDS242368_326\JDS242368.0\CIVIL\Drawings\JDS242368_C100-C102.dwg

NOTES

1. REFER TO DRAWING JDS242368.02_C100 FOR NOTES AND LEGEND.



0 5 10 20 30m
SCALE 1:500 @ ORIGINAL SHEET SIZE A1

NOT FOR CONSTRUCTION

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REV	DATE	DRAWN	CHECKED	APPROVED	
B	20.11.25	MH	BT	BT	DRAFT FMP FOR REVIEW.
A	29.08.25	MH	BG	BT	ISSUED FOR REVIEW

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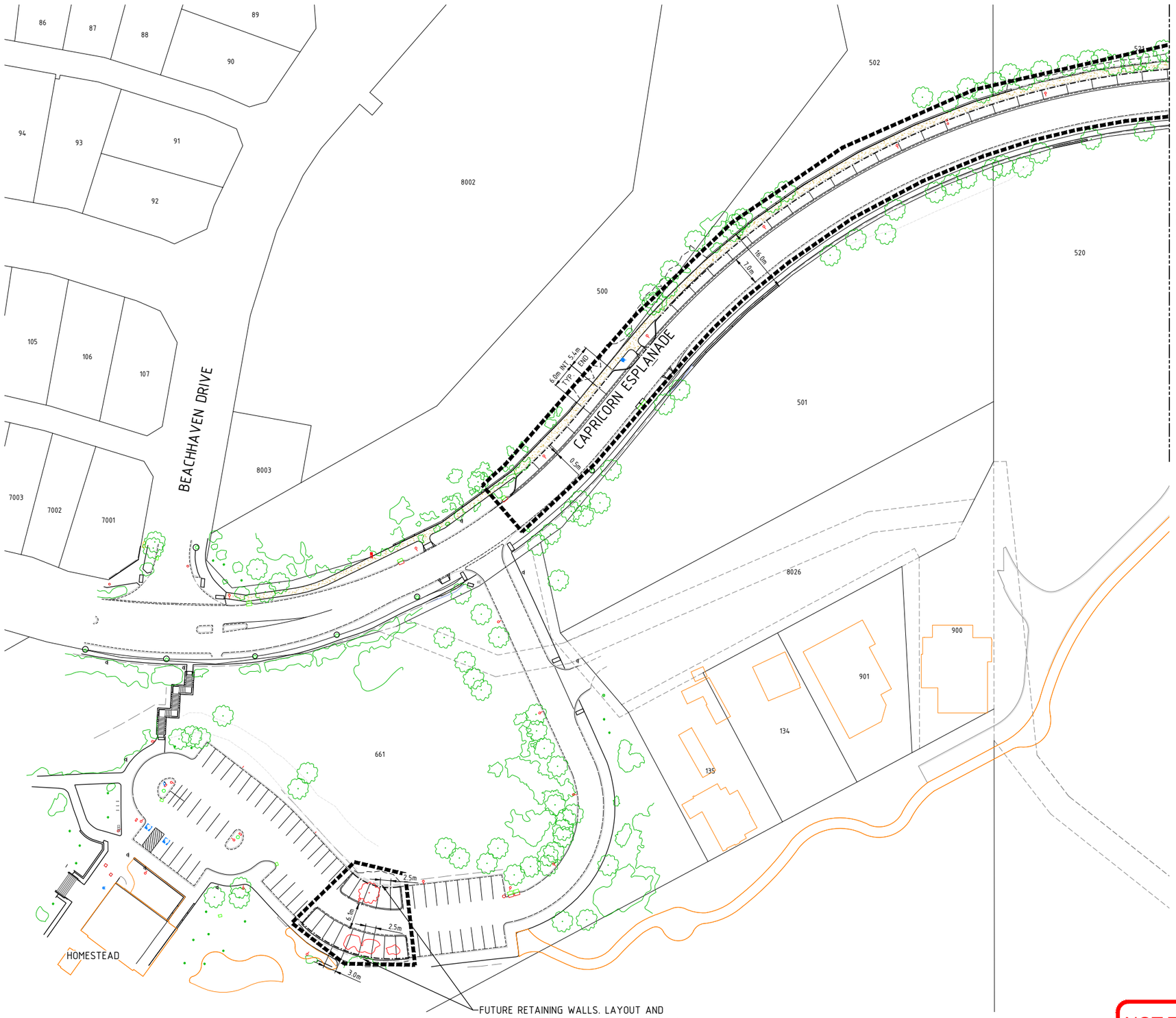
CLIENT: City of Wanneroo UDLA

PROJECT: YANCHEP FORESHORE DEVELOPMENT STAGE 2 AND STAGE 3

DRAWING TITLE: BULK EARTHWORKS PLAN SHEET 3

DRAWN M.HARRIS		WAPC No.	
DESIGNED B.TREW		SCALE @ A1 1:500	
PROJECT MANAGER B.TREW		DATUM AHD	CO-ORDS PCG94
JDSi PROJECT No. JDS242368.02	DRAWING No. C102		REVISION B

Plotted By: MHarris Plot Date: 20/11/25 - 15:56 Cad File: C:\12dS\data\JDSI-12DSYN\JDS242368_326\JDS242368.0\CIVIL\Drawings\JDS242368_C100-C102.dwg



0 5 10 20 30m
SCALE 1:500 @ ORIGINAL SHEET SIZE A1

NOTES

1. THIS DRAWING SHALL BE READ IN CONJUNCTION WITH THE CONTRACT DRAWINGS AND SPECIFICATIONS
2. SETOUT OF ROAD CENTERLINE, FACE OF KERB AND EDGE OF SEAL FOR UN-KERBED ROADS SHALL BE BASED IN SUPPLIED AUTOCAD XBASE_JDS242368.0 DATA. ALL OTHER WORKS SHALL BE SETOUT BASED ON INFORMATION CONTAINED ON THE CONTRACT DRAWINGS AND SPECIFICATION
3. ALL CONSTRUCTION DETAILS TO BE TO LOCAL AUTHORITY SPECIFICATION AND SATISFACTION
4. ALL DIMENSIONS ARE IN METRES UNLESS SHOWN OTHERWISE
5. ALL ROADS TO BE BLACK ASPHALT UNLESS SHOWN OTHERWISE
6. ALL LEVELS SHALL BE DETERMINED FROM BENCHMARKS ESTABLISHED BY THE PROJECT SURVEYOR
7. ALL TRANSITIONS TO EXISTING WORK SHALL BE SMOOTH AND OF NEAT APPEARANCE
8. THE CONTRACTOR SHALL SAW CUT EXISTING PAVEMENT IN A STRAIGHT LINE AND MAKE SMOOTH CONNECTION PRIOR TO CONSTRUCTION COMMENCING
9. THE CONTRACTOR SHALL REPORT ANY DISCREPANCY OR CLASH WITH OTHER SERVICES TO THE SUPERINTENDENT
10. FOR LOCATION OF UNDERGROUND SERVICES REFER TO RELEVANT SERVICES PLAN
11. ALL PARKING BAYS AND EMBAYMENT PARKING AREAS SHALL BE LINE-MARKED IN ACCORDANCE WITH THE SPECIFICATIONS. WHERE AN EDGE OR BOND BEAM IS INSTALLED TO DELINEATE THE EDGE OF THE PARKING BAY THEN THE LINE MARKING ON THAT EDGE MAY BE DELETED WHEN APPROVED BY THE SUPERINTENDENT

LEGEND

- LIMIT OF WORKS
- 2 — PROPOSED LOT NUMBER
- PROPOSED MOUNTABLE KERB
- PROPOSED SEMI MOUNTABLE KERB
- PROPOSED BARRIER KERB
- PROPOSED KERB TRANSITION
- PROPOSED REINFORCED FLUSH EDGE BEAM
- EXISTING KERB
- FUTURE WORKS
- PROPOSED/EXISTING DRAINAGE PIT
- PROPOSED/EXISTING SEWER MANHOLE
- PROPOSED ASPHALT
- EXISTING ASPHALT TO BE REMOVED
- PROPOSED CONCRETE FOOTPATH
- PROPOSED CONCRETE VEHICLE RAMP
- PROPOSED PRAM RAMP IN ACCORDANCE WITH COUNCIL SPECIFICATIONS
- EXISTING RETAINING WALL
- SMITH ST — ROAD NAME

NOT FOR CONSTRUCTION

WARNING
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REV	DATE	DRAWN	CHECKED	APPROVED	
B	20.11.25	MH	BT	BT	DRAFT FMP FOR REVIEW.
A	29.08.25	MH	BG	BT	ISSUED FOR REVIEW

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JDSi CONSULTING ENGINEERS

CLIENT: City of Wanneroo UDLA

PROJECT: YANCHEP FORESHORE DEVELOPMENT STAGE 2 AND STAGE 3

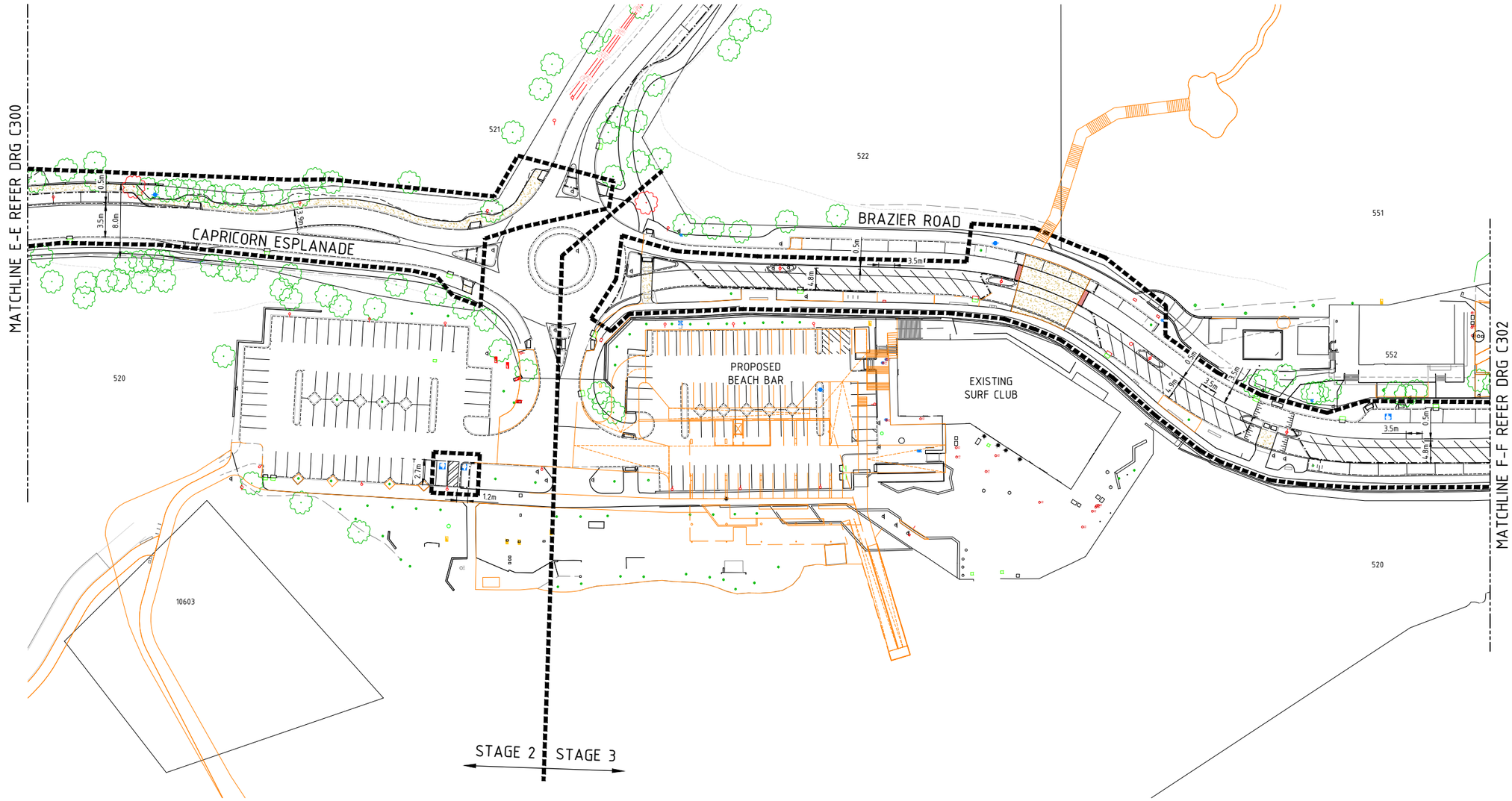
DRAWING TITLE: ROAD LAYOUT PLAN SHEET 1

DRAWN M.HARRIS		WAPC No.	
DESIGNED B.TREW		SCALE @ A1	1:500
PROJECT MANAGER B.TREW		DATUM AHD	CO-ORDS PCG94
JDSI PROJECT No. JDS242368.02	DRAWING No. C300		REVISION B

Plotted By: MHarris Plot Date: 20/11/25 - 16:05 Cad File: C:\12dS\data\JDSI-12DSYN\JDS242368_326\JDS242368.0\CIVIL\Drawings\JDS242368_C300-C302.dwg

NOTES

1. REFER TO DRAWING JDS242368.02_C300 FOR NOTES AND LEGEND.



0 5 10 20 30m
SCALE 1:500 @ ORIGINAL SHEET SIZE A1

NOT FOR CONSTRUCTION

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REV	DATE	DRAWN	CHECKED	APPROVED	
B	20.11.25	MH	BT	BT	DRAFT FMP FOR REVIEW.
A	29.08.25	MH	BG	BT	ISSUED FOR REVIEW

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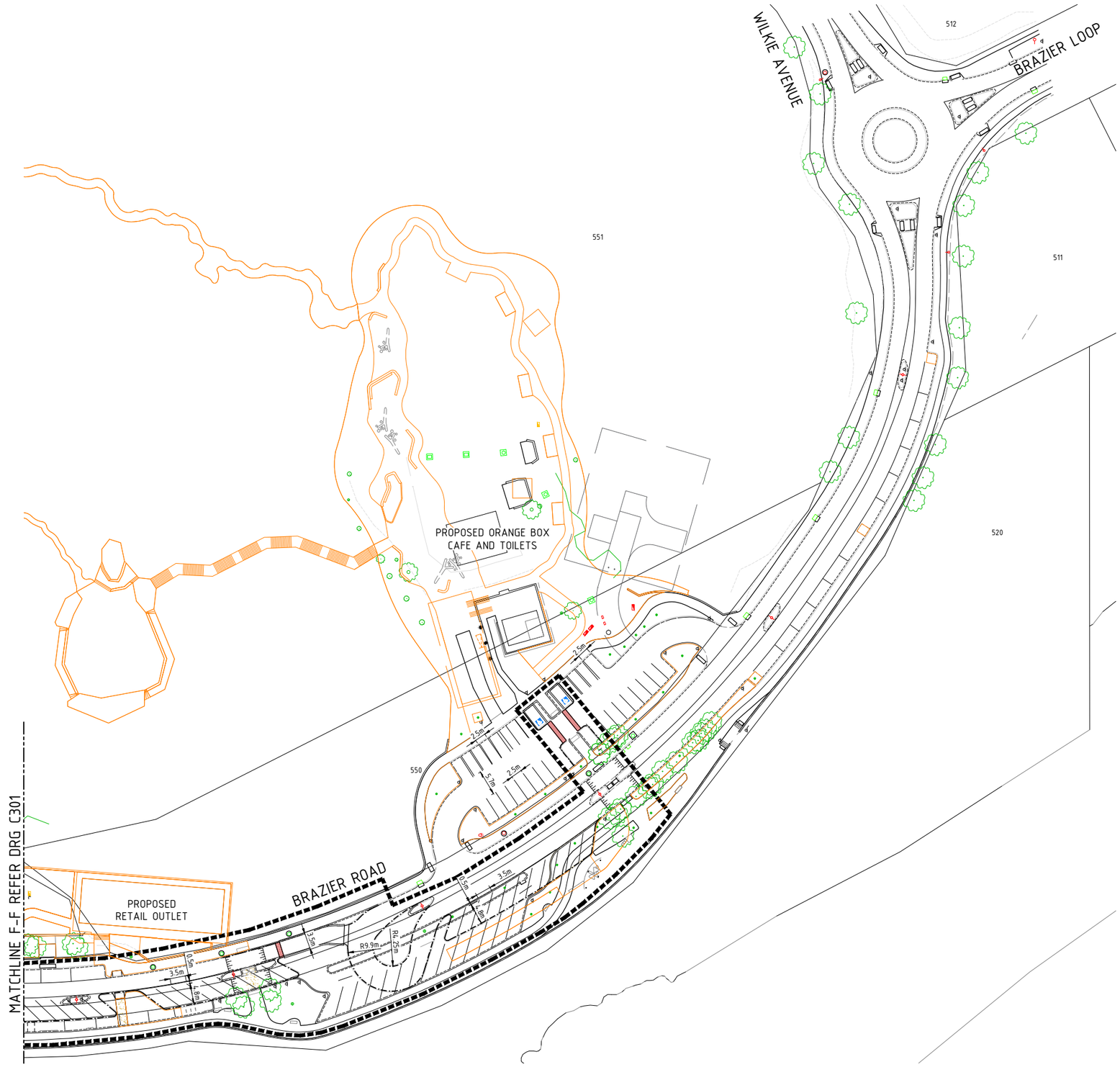
CLIENT: City of Wanneroo UDLA

PROJECT: YANCHEP FORESHORE DEVELOPMENT STAGE 2 AND STAGE 3

DRAWING TITLE: ROAD LAYOUT PLAN SHEET 2

DRAWN M.HARRIS		WAPC No.	
DESIGNED B.TREW		SCALE @ A1 1:500	
PROJECT MANAGER B.TREW		DATUM AHD	CO-ORDS PCG94
JDSi PROJECT No. JDS242368.02	DRAWING No. C301		REVISION B

Plotted By: MHarris Plot Date: 20/11/25 - 16:05 Cad File: C:\12dS\data\JDSI-12DSYN\JDS242368_326\JDS242368.0\CIVIL\Drawings\JDS242368_C300-C302.dwg



NOTES

1. REFER TO DRAWING JDS242368_C300 FOR NOTES AND LEGEND.

0 5 10 20 30m

SCALE 1:500 @ ORIGINAL SHEET SIZE A1

NOT FOR CONSTRUCTION

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A	29.08.25	MH	BG	BT	ISSUED FOR REVIEW

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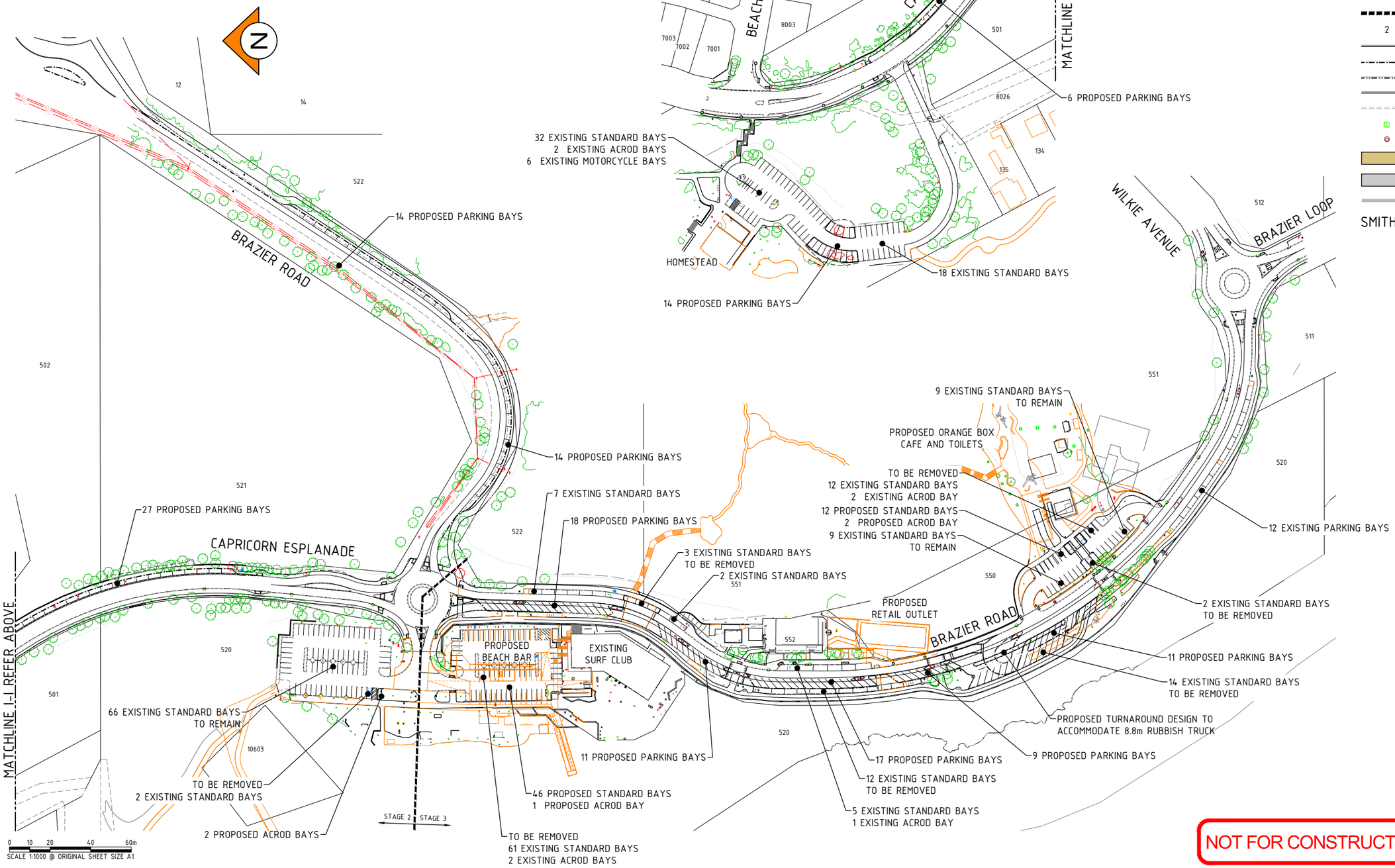
PROJECT: YANCHEP FORESHORE DEVELOPMENT STAGE 2 AND STAGE 3

DRAWING TITLE: ROAD LAYOUT PLAN SHEET 3

DRAWN M.HARRIS		WAPC No.	
DESIGNED B.TREW		SCALE @ A1	1:500
PROJECT MANAGER B.TREW		DATUM AHD	CO-ORDS PCG94
JDSI PROJECT No. JDS242368.02	DRAWING No. C302		REVISION B

Plotted By: MHarris Plot Date: 20/11/25 - 16:05 Cad File: C:\12dS\data\JDSI-12DSYN\JDS242368_326\JDS242368.0\CIVIL\Drawings\JDS242368_C300-C302.dwg

	EXISTING	TO RE REMOVED	TO REMAIN	PROPOSED	TOTAL BAYS
STANDARD BAYS	266	106	160	199	359
ACROD BAYS	7	4	3	5	8
MOTORCYCLE BAYS	6	0	6	0	6
TOTAL	279	110	169	204	373



NOTES

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2. ALL DIMENSIONS ARE IN METRES UNLESS SHOWN OTHERWISE
3. FOR LOCATION OF UNDERGROUND SERVICES REFER TO RELEVANT SERVICES PLAN
4. ALL PARKING BAYS AND EMBAYMENT PARKING AREAS SHALL BE LINE-MARKED IN ACCORDANCE WITH THE SPECIFICATIONS. WHERE AN EDGE OR BOND BEAM IS INSTALLED TO DELINEATE THE EDGE OF THE PARKING BAY THEN THE LINE MARKING ON THAT EDGE MAY BE DELETED WHEN APPROVED BY THE SUPERINTENDENT

LEGEND

- LIMIT OF WORKS
- 2 — PROPOSED LOT NUMBER
- PROPOSED MOUNTABLE KERB
- PROPOSED SEMI MOUNTABLE KERB
- PROPOSED BARRIER KERB
- PROPOSED REINFORCED FLUSH EDGE BEAM
- EXISTING KERB
- PROPOSED/EXISTING DRAINAGE PIT
- PROPOSED/EXISTING SEWER MANHOLE
- PROPOSED ASPHALT
- EXISTING ASPHALT TO BE REMOVED
- PROPOSED/EXISTING RETAINING WALL
- SMITH ST — ROAD NAME

WARNING
BEWARE OF UNDERGROUND SERVICES
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NOT FOR CONSTRUCTION

REV	DATE	DRAWN	CHECKED	APPROVED	
B	20.11.25	MH	BT	BT	DRAFT FMP FOR REVIEW.
A	29.08.25	MH	BG	BT	ISSUED FOR REVIEW

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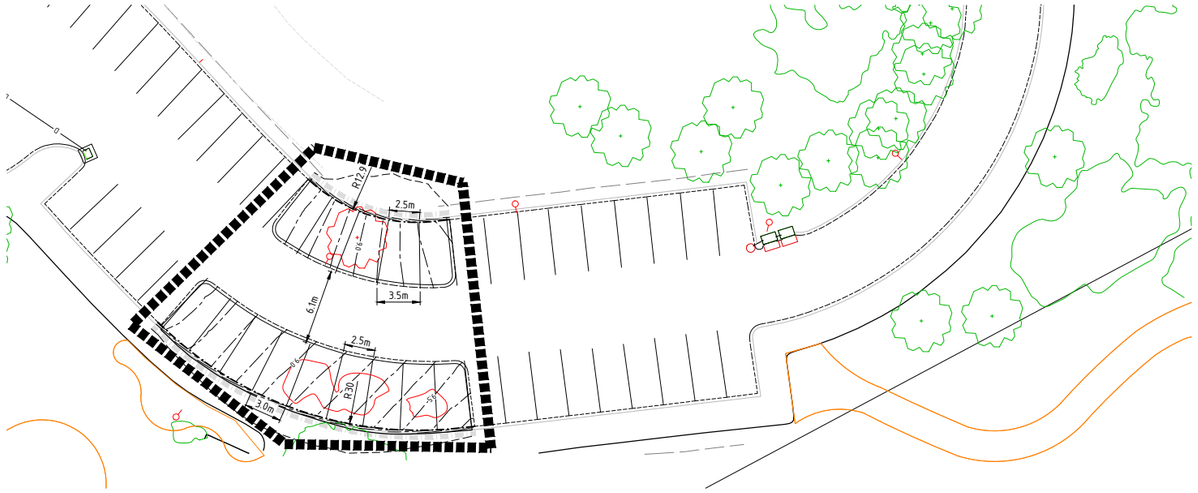
CLIENT: City of Wanneroo UDLA

PROJECT: YANCHEP FORESHORE DEVELOPMENT STAGE 2 AND STAGE 3

DRAWING TITLE: ROAD OVERALL LAYOUT PLAN

DRAWN M.HARRIS		WAPC No.	
DESIGNED B.TREW		SCALE @ A1 1:500	
PROJECT MANAGER B.TREW		DATUM AHD	CO-ORDS PCG94
JDSI PROJECT No. JDS242368.02	DRAWING No. C310		REVISION B

Plotted By: MHarris Plot Date: 20/11/25 - 16:29 Cad File: C:\12dS\data\JDSI-12DSYN\JDS242368_326\JDS242368.0\CIVIL\Drawings\JDS242368_C310.dwg

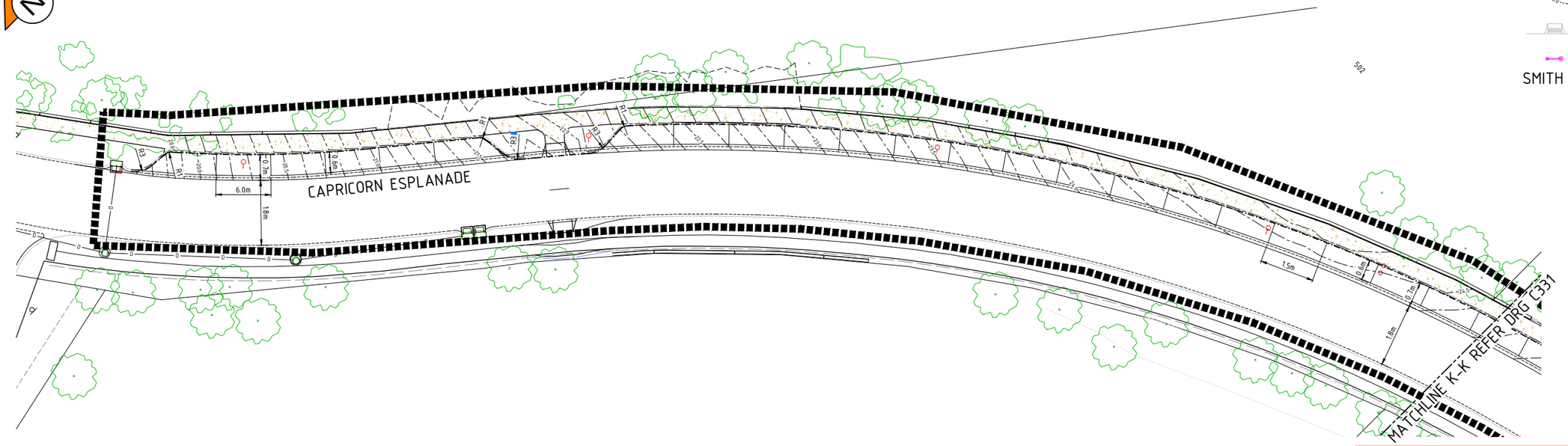


NOTES

1. THIS DRAWING SHALL BE READ IN CONJUNCTION WITH THE CONTRACT DRAWINGS AND SPECIFICATION
2. SETOUT OF ROAD CENTERLINE, FACE OF KERB AND EDGE OF SEAL FOR UN-KERBED ROADS SHALL BE BASED ON SUPPLIED AUTOCAD XBASE_JDS242368.0 DATA. ALL OTHER WORKS SHALL BE SETOUT BASED ON INFORMATION CONTAINED ON THE CONTRACT DRAWINGS AND SPECIFICATION
3. ALL CONSTRUCTION DETAILS TO BE TO LOCAL AUTHORITY SPECIFICATION AND SATISFACTION
4. ALL DIMENSIONS ARE IN METRES UNLESS SHOWN OTHERWISE
5. ALL LEVELS SHALL BE DETERMINED FROM BENCHMARKS ESTABLISHED BY THE PROJECT SURVEYOR
6. ALL TRANSITIONS TO EXISTING WORK SHALL BE SMOOTH AND OF NEAT APPEARANCE
7. ALL TRENCHING, PIPE BEDDING AND BACKFILLING SHALL BE IN ACCORDANCE WITH AS3725
8. THE CONTRACTOR SHALL REPORT ANY DISCREPANCY OR CLASH WITH OTHER SERVICES TO THE SUPERINTENDENT
9. THE CONTRACTOR SHALL SAW CUT EXISTING PAVEMENT IN A STRAIGHT LINE AND MAKE SMOOTH CONNECTION
10. ALL PARKING BAYS AND EMBAYMENT PARKING AREAS SHALL BE LINE-MARKED IN ACCORDANCE WITH AS 2890 AND THE SPECIFICATION. ROAD MARKING PAINT SHALL COMPLY WITH AND BE APPLIED IN ACCORDANCE WITH AS 4049 AND THE AUSTRALIAN PAINT APPROVAL SCHEME SPECIFICATIONS. WHERE AN EDGE OR BOND BEAM IS INSTALLED TO DELINEATE THE EDGE OF THE PARKING BAY, THEN THE LINE MARKING ON THAT EDGE MAY BE DELETED WHEN APPROVED BY THE SUPERINTENDENT
11. TACTILE GROUND SURFACE INDICATORS (TGSI) TO BE INSTALLED TO AS1428.4

LEGEND

- 2 — PROPOSED LOT NUMBER
- PROPOSED MOUNTABLE KERB
- PROPOSED SEMI MOUNTABLE KERB
- PROPOSED KERB 1m TRANSITION
- PROPOSED REINFORCED FLUSH EDGE BEAM
- EXISTING KERB
- FUTURE WORKS
- PROPOSED DRAINAGE & SEP
- PROPOSED DRAINAGE & CSEP
- PROPOSED DRAINAGE & JP
- PROPOSED DRAINAGE & GP OR CGP
- EXISTING DRAINAGE & PITS
- FUTURE DRAINAGE & PITS
- PROPOSED/EXISTING SEWER (AC & MS)
- PROPOSED/EXISTING WATER (HYDRANT & VALVE)
- DESIGN CONTOURS (0.1m INTERVAL)
- PROPOSED PRAM RAMP IN ACCORDANCE WITH COUNCIL SPECIFICATIONS TGSI TO BE INSTALLED WHERE INDICATED
- PROPOSED STREET LIGHT
- SMITH ST — ROAD NAME



0 2.5 5 10 15m
SCALE 1:250 @ ORIGINAL SHEET SIZE A1

NOT FOR CONSTRUCTION

WARNING
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CLIENT: City of Wanneroo UDLA

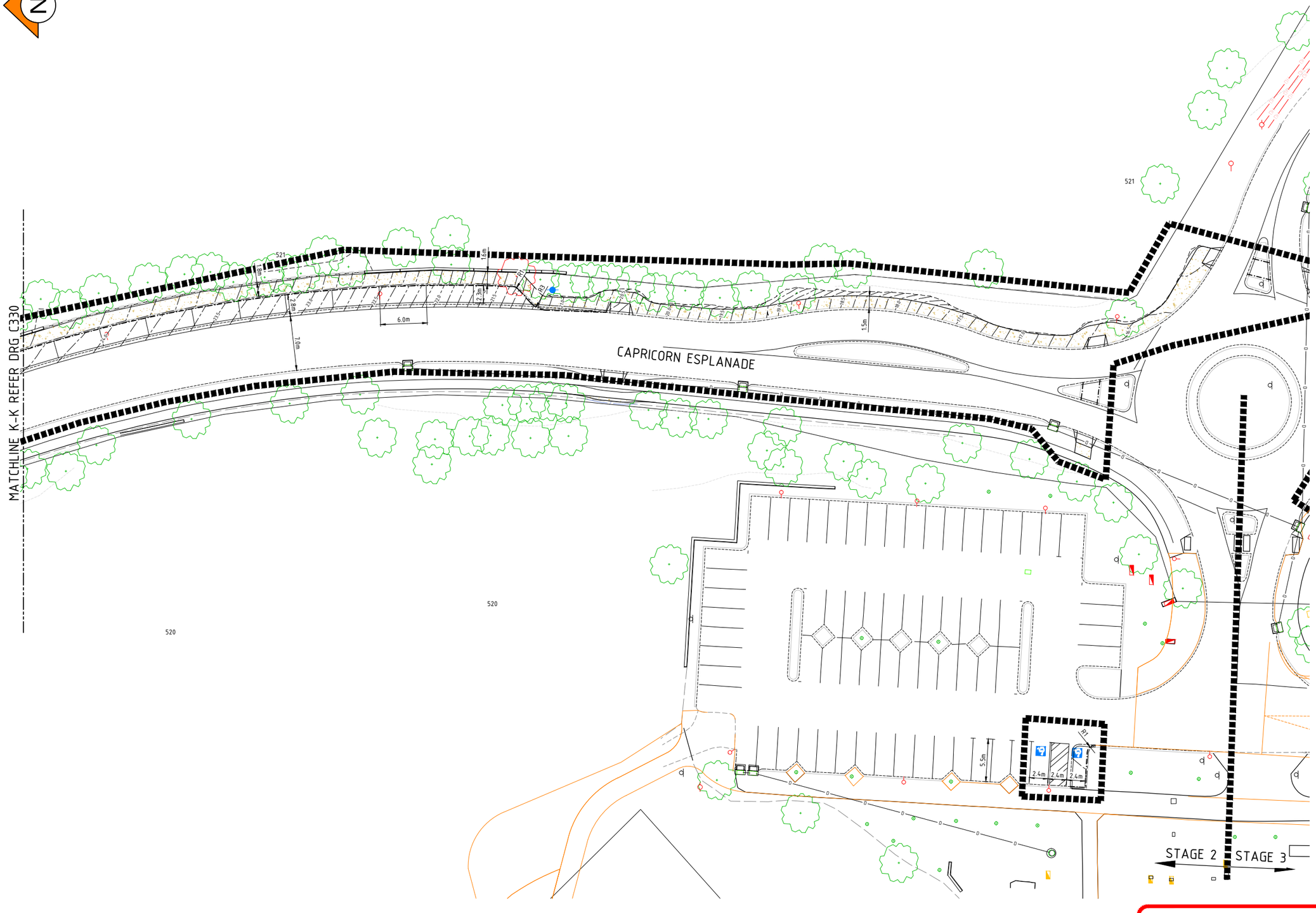
PROJECT: YANCHEP FORESHORE DEVELOPMENT STAGE 2 AND STAGE 3

DRAWING TITLE: ROAD INTERSECTION DETAILS SHEET 1

DRAWN: M.HARRIS		WAPC No.	
DESIGNED: B.TREW		SCALE @ A1: 1:500	
PROJECT MANAGER: B.TREW		DATUM: AHD	CO-ORDS: PCG94
JDSI PROJECT No.: JDS242368.02	DRAWING No.: C330	REVISION: B	

NOTES

1. REFER TO DRAWING JDS242368.02_C330 FOR NOTES AND LEGEND.



0 2.5 5 10 15m

SCALE 1:250 @ ORIGINAL SHEET SIZE A1

NOT FOR CONSTRUCTION

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CLIENT: City of Wanneroo UDLA

PROJECT: YANCHEP FORESHORE DEVELOPMENT STAGE 2 AND STAGE 3

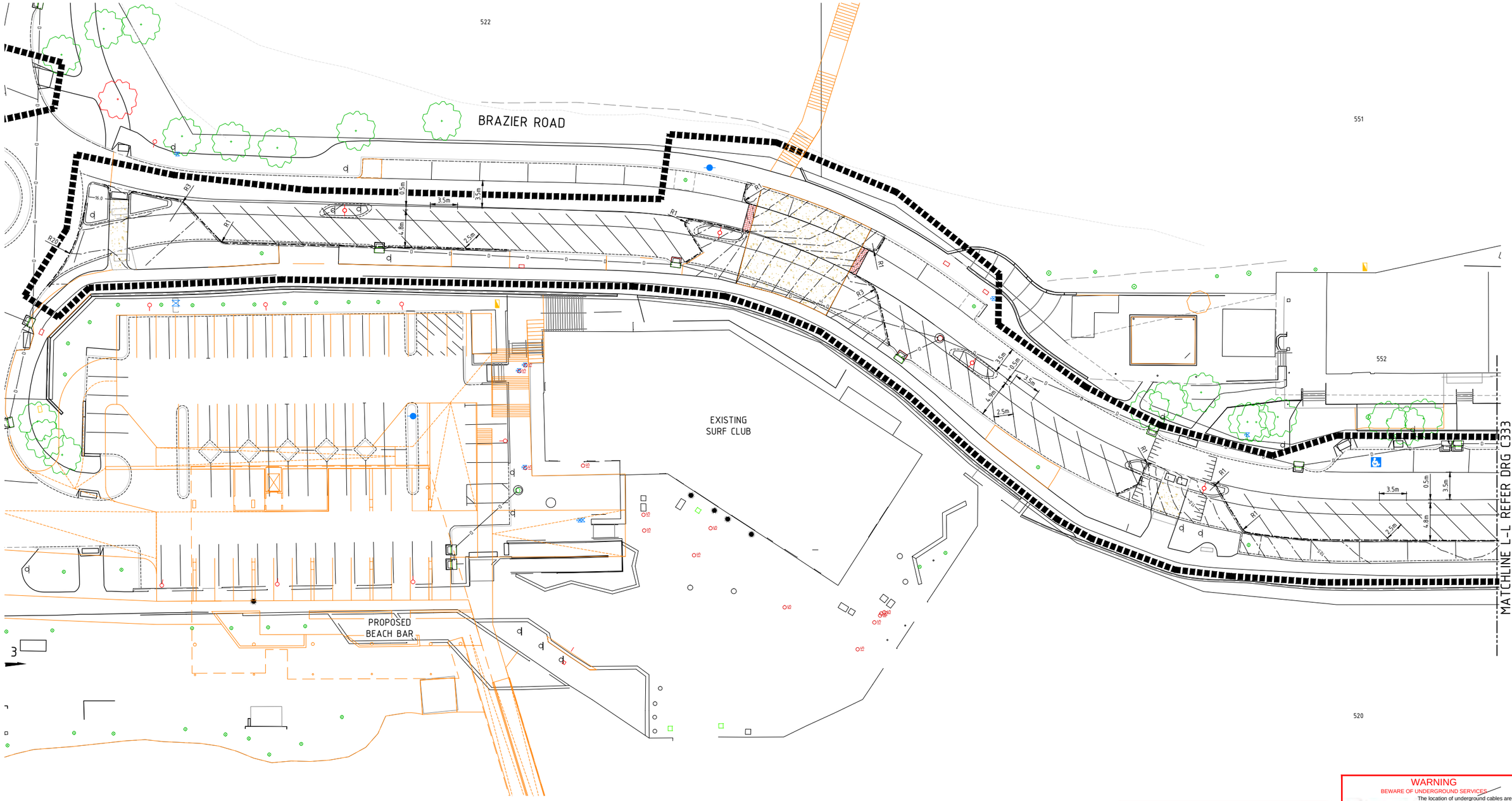
DRAWING TITLE: ROAD INTERSECTION DETAILS SHEET 2

DRAWN M.HARRIS		WAPC No.	
DESIGNED B.TREW		SCALE @ A1 1:500	
PROJECT MANAGER B.TREW		DATUM AHD	CO-ORDS PCG94
JDSI PROJECT No. JDS242368.02	DRAWING No. C331		REVISION B

Plotted By: MHarris Plot Date: 20/11/25 - 16:36 Cad File: C:\12dS\data\JDSI-12DSYN\JDS242368_326\JDS242368.0\CIVIL\Drawings\JDS242368_C330-C333.dwg

NOTES

1. REFER TO DRAWING JDS242368.02_C330 FOR NOTES AND LEGEND.



0 2.5 5 10 15m

SCALE 1:250 @ ORIGINAL SHEET SIZE A1

NOT FOR CONSTRUCTION

WARNING

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CLIENT: City of Wanneroo UDLA

PROJECT: YANCHEP FORESHORE DEVELOPMENT STAGE 2 AND STAGE 3

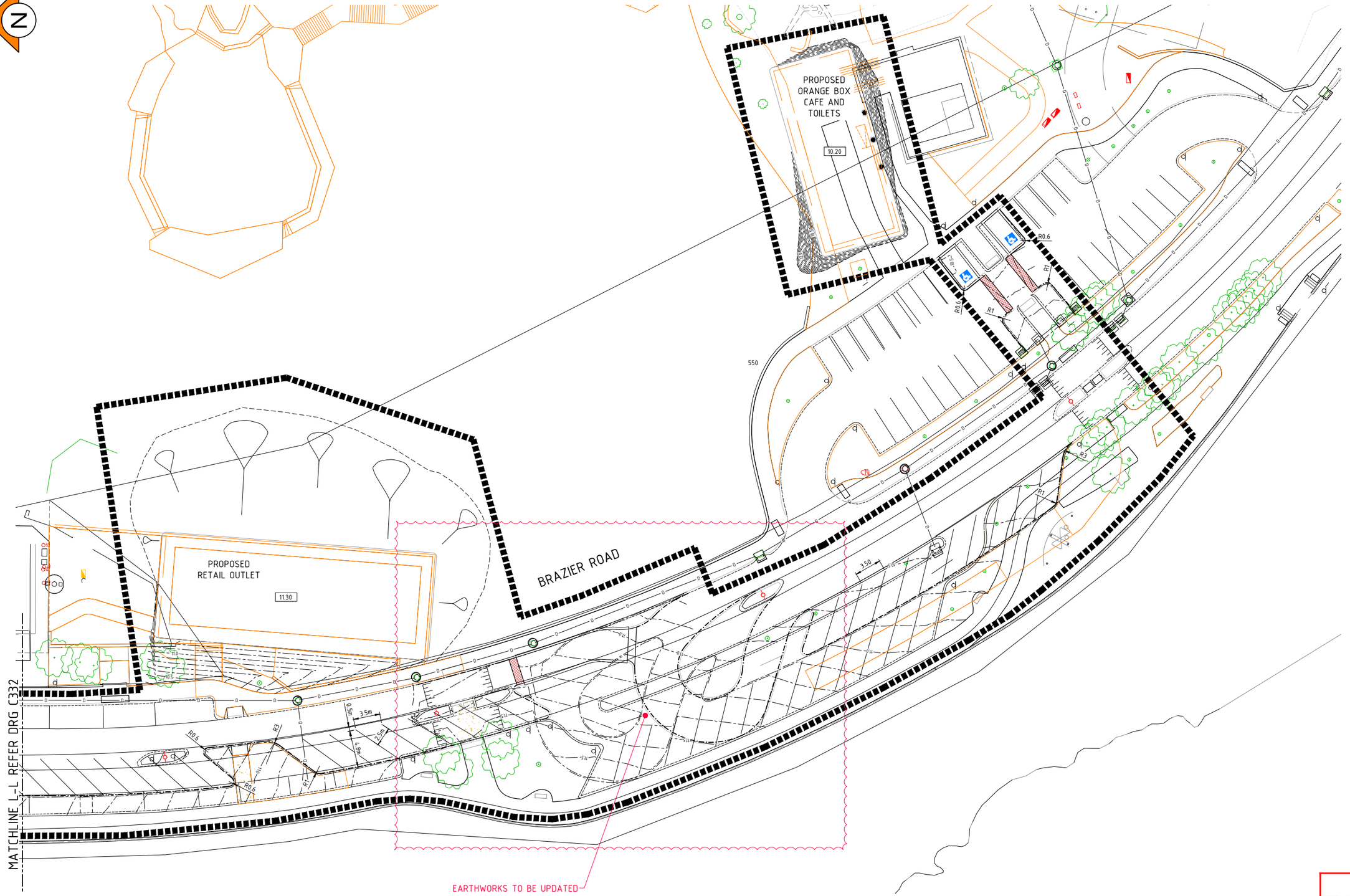
DRAWING TITLE: ROAD INTERSECTION DETAILS SHEET 3

DRAWN M.HARRIS		WAPC No.	
DESIGNED B.TREW		SCALE @ A1 1:500	
PROJECT MANAGER B.TREW		DATUM AHD	CO-ORDS PCG94
JDSi PROJECT No. JDS242368.02	DRAWING No. C332		REVISION B

Plotted By: MHarris Plot Date: 20/11/25 - 16:36 Cad File: C:\12dS\data\JDSI-12DSYN\JDS242368_326\JDS242368.0\CIVIL\Drawings\JDS242368_C330-C333.dwg

NOTES

1. REFER TO DRAWING JDS242368.02_C330 FOR NOTES AND LEGEND.



0 2.5 5 10 15m
SCALE 1:250 @ ORIGINAL SHEET SIZE A1

NOT FOR CONSTRUCTION

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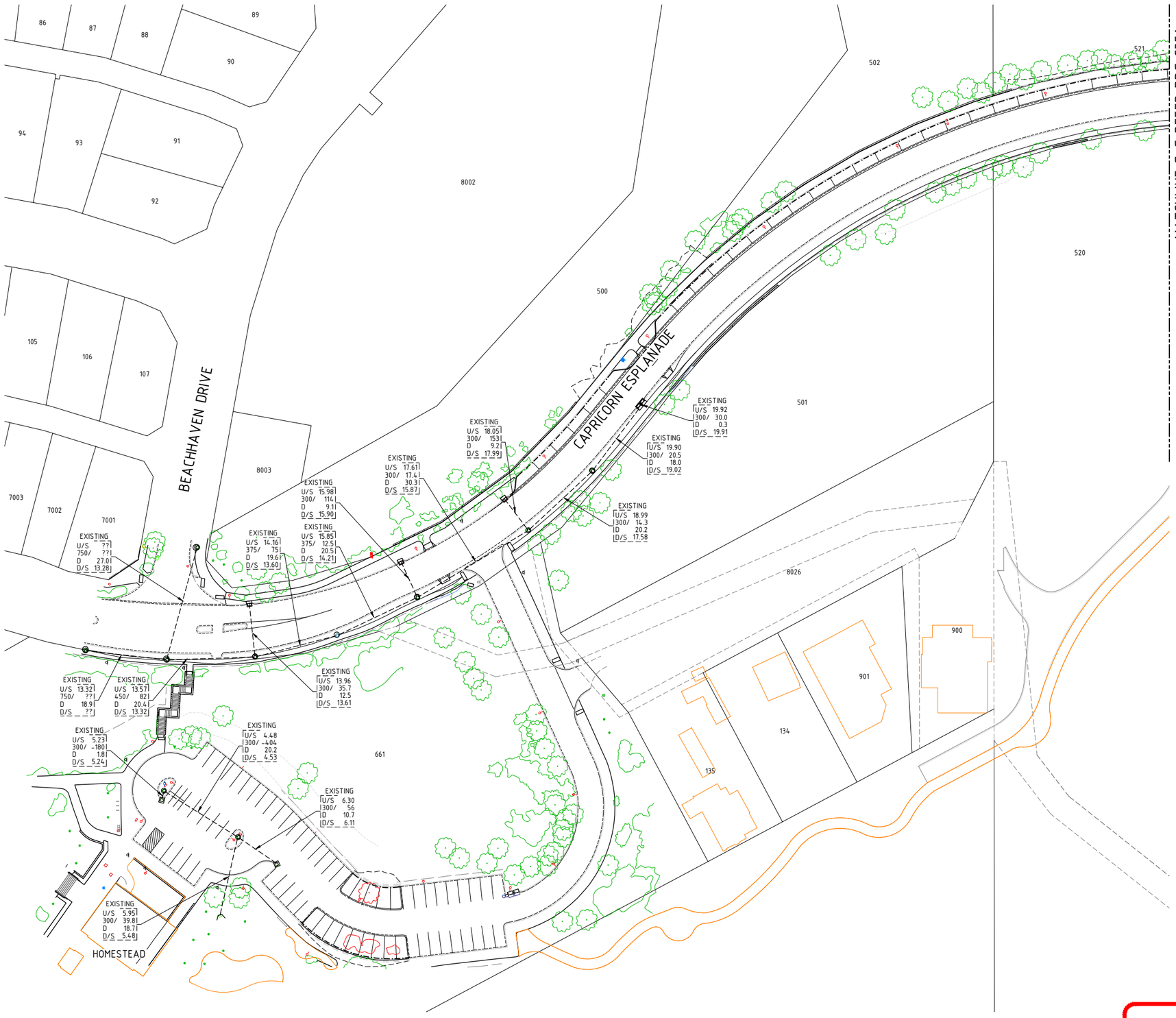
CLIENT: City of Wanneroo UDLA

PROJECT: YANCHEP FORESHORE DEVELOPMENT STAGE 2 AND STAGE 3

DRAWING TITLE: ROAD INTERSECTION DETAILS SHEET 4

DRAWN M.HARRIS		WAPC No.	
DESIGNED B.TREW		SCALE @ A1	1:500
PROJECT MANAGER B.TREW		DATUM AHD	CO-ORDS PCG94
JDSI PROJECT No. JDS242368.02	DRAWING No. C333		REVISION B

Plotted By: MHarris Plot Date: 20/11/25 - 16:36 Cad File: C:\12dS\data\JDSI-12DSYN\JDS242368_326\JDS242368.0\CIVIL\Drawings\JDS242368_C330-C333.dwg



0 5 10 20 30m
SCALE 1:500 @ ORIGINAL SHEET SIZE A1

NOTES

1. THIS DRAWING SHALL BE READ IN CONJUNCTION WITH THE CONTRACT DRAWINGS AND SPECIFICATION
2. SETOUT OF ROAD CENTERLINE, FACE OF KERB AND EDGE OF SEAL FOR UN-KERBED ROADS SHALL BE BASED ON SUPPLIED AUTOCAD XBASE_JDS242368.0 DATA. ALL OTHER WORKS SHALL BE SETOUT BASED ON INFORMATION CONTAINED ON THE CONTRACT DRAWINGS AND SPECIFICATION
3. THE CONSTRUCTION OF WORKS SHALL BE TO THE APPROVAL OF THE LOCAL AUTHORITY
4. ALL DIMENSIONS ARE IN METRES UNLESS SHOWN OTHERWISE
5. ALL LEVELS SHALL BE DETERMINED FROM BENCHMARKS ESTABLISHED BY THE PROJECT SURVEYOR
6. ALL TRENCHING, PIPE BEDDING AND BACKFILLING SHALL BE IN ACCORDANCE WITH AS3725
7. ALL DRAINAGE PITS SHALL BE LOCATED AS SHOWN IRRESPECTIVE OF PIPE LENGTHS SHOWN ON THE DRAWINGS
8. AT LOW POINTS THE ENTRY PITS SHALL BE LOCATED AT THE LOW POINT OF THE ROAD PAVEMENT
9. THE DRAINAGE PIT LIDS SHALL BE SET TO SUIT THE VERGE SLOPE, NOMINALLY 2% UPWARDS FROM THE TOP OF BACK OF KERB
10. WHERE A SEWER LINE INTERSECTS WITH STORMWATER DRAINAGE LINE AND THE SEWER PASSES OVER THE DRAIN THEN THE SEWER SHALL HAVE A TIMBER PILE AND KEEL PROVIDED FOR THE FULL EXTENT NECESSARY TO SUPPORT THE SEWER DURING EXCAVATION FOR THE DRAIN
11. THE CONTRACTOR SHALL IMMEDIATELY REPORT ANY DISCREPANCY OR CLASH WITH OTHER SERVICES TO THE SUPERINTENDENT
12. ALL JUNCTION PITS LOCATED IN THE ROAD PAVEMENT SHALL HAVE TRAFFICABLE LIDS
13. IRRIGATION DUCTS TO BE DETERMINED ON SITE WITH SUPERINTENDENT
14. FOR SERVICE CROSSING LEVELS REFER TO DRAINAGE LONGITUDINAL SECTIONS
15. ROAD PAVEMENT TYPES AND BRICK PAVING REMOVED FOR CLARITY - REFER TO PAVEMENT DRAWING FOR DETAILS
16. IN CIRCUMSTANCES WHERE MULTIPLE PIPES ENTER A LINER A MINIMUM OF 40% OF THE LINER SHALL REMAIN IN ANY HORIZONTAL PLANE

LEGEND

- LIMIT OF WORKS
- 2 — LOT NUMBER
- PIPE DIA-CLASS / GRADE / IL IL / LENGTH(m) — PROPOSED DRAINAGE WITH NOTATION
- CLASS (CLASS IF NOT CLASS 2) / U/S 00.00 UPSTREAM INVERT LEVEL / 300/ 0.0 PIPE DIA / GRADE / D 0.0 LENGTH / D/S 00.00 DOWNSTREAM INVERT LEVEL
- PROPOSED DRAINAGE
- EXISTING DRAINAGE
- EXISTING DRAINAGE TO BE REMOVED
- FUTURE DRAINAGE
- PROPOSED JUNCTION PIT
- PROPOSED SIDE ENTRY PIT
- PROPOSED DOUBLE SIDE ENTRY PIT
- PROPOSED COMBINATION SIDE ENTRY/GULLY PIT
- PROPOSED GULLY PIT
- JP 1 / CH 0.0 — PIT TYPE / PIT NUMBER / CHAINAGE
- JP — JUNCTION PIT
- DSEP — DOUBLE SIDE ENTRY PIT
- GP — GRATED PIT (TRAPPED WHEN IN SWALES)
- SEP — SIDE ENTRY PIT
- CSEP — COMBINATION SIDE ENTRY/GULLY PIT
- LCP — LOT CONNECTION PIT
- BUP — BUBBLE-UP PIT
- GPT — GROSS POLLUTANT TRAP
- S — PROPOSED/EXISTING/FUTURE SEWER
- PM — PROPOSED/EXISTING/FUTURE PRESSURE MAIN
- SIL 00.00 / DIL 00.00 / CLR 0.00 — SEWER INVERT LEVEL / DRAINAGE INVERT LEVEL / CLEARANCE
- PROPOSED/EXISTING RETAINING WALL

WARNING
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NOT FOR CONSTRUCTION

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A	29.08.25	MH	BG	BT	ISSUED FOR REVIEW

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CLIENT: City of Wanneroo UDLA

PROJECT: YANCHEP FORESHORE DEVELOPMENT STAGE 2 AND STAGE 3

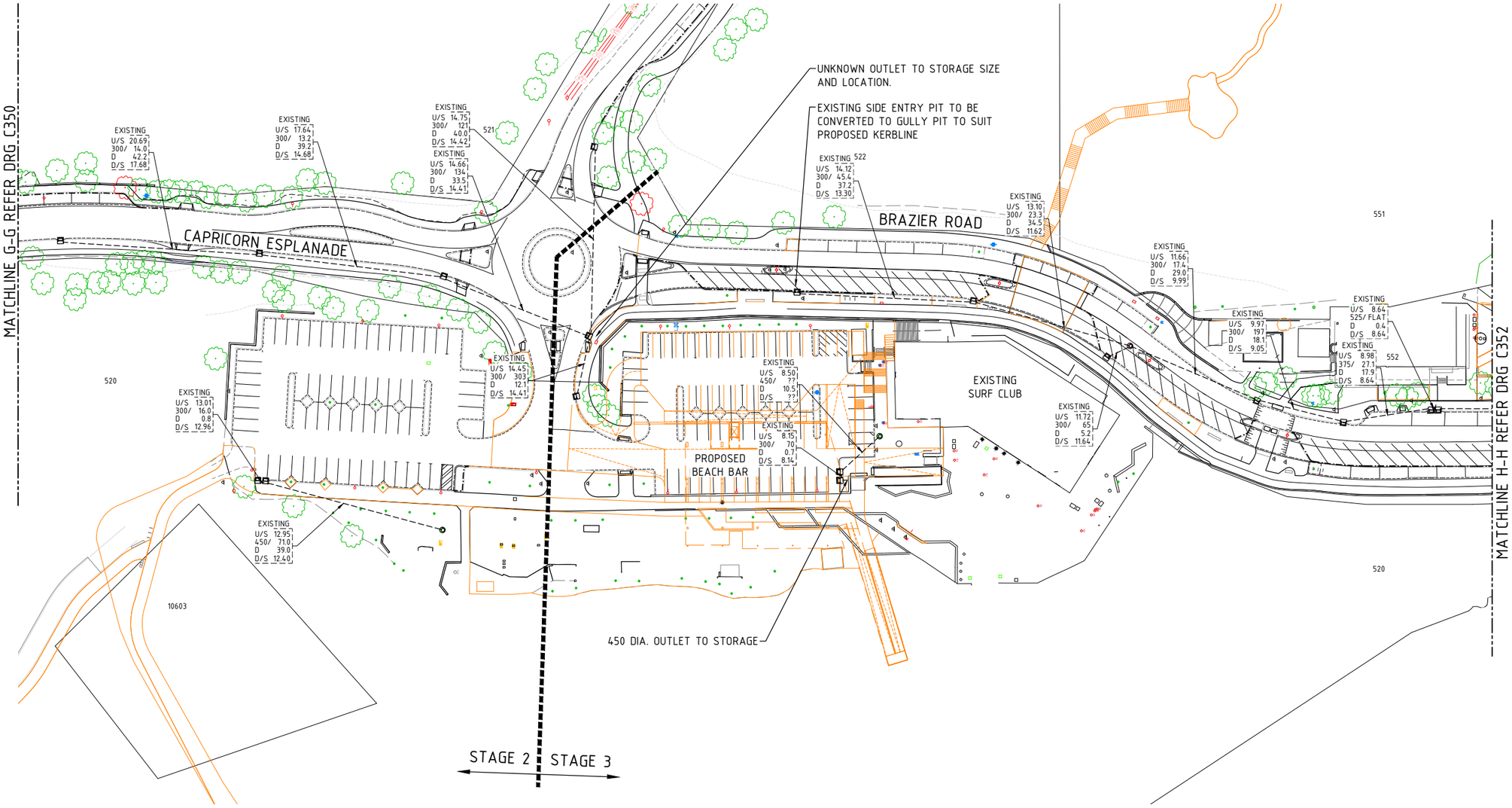
DRAWING TITLE: DRAINAGE LAYOUT PLAN SHEET 1

DRAWN M.HARRIS		WAPC No.	
DESIGNED B.TREW		SCALE @ A1	1:500
PROJECT MANAGER B.TREW	DATUM AHD	CO-ORDS PCG94	
JDSi PROJECT No. JDS242368.02	DRAWING No. C350		REVISION B

Plotted By: MHarris Plot Date: 20/11/25 - 16:41 Cad File: C:\12dS\data\JDSI-12DSYN\JDS242368_326\JDS242368.0\CIVIL\Drawings\JDS242368_C350-C352.dwg

NOTES

1. REFER TO DRAWING JDS242368.02_C350 FOR NOTES AND LEGEND.



0 5 10 20 30m
SCALE 1:500 @ ORIGINAL SHEET SIZE A1

NOT FOR CONSTRUCTION

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A	29.08.25	MH	BG	BT	ISSUED FOR REVIEW

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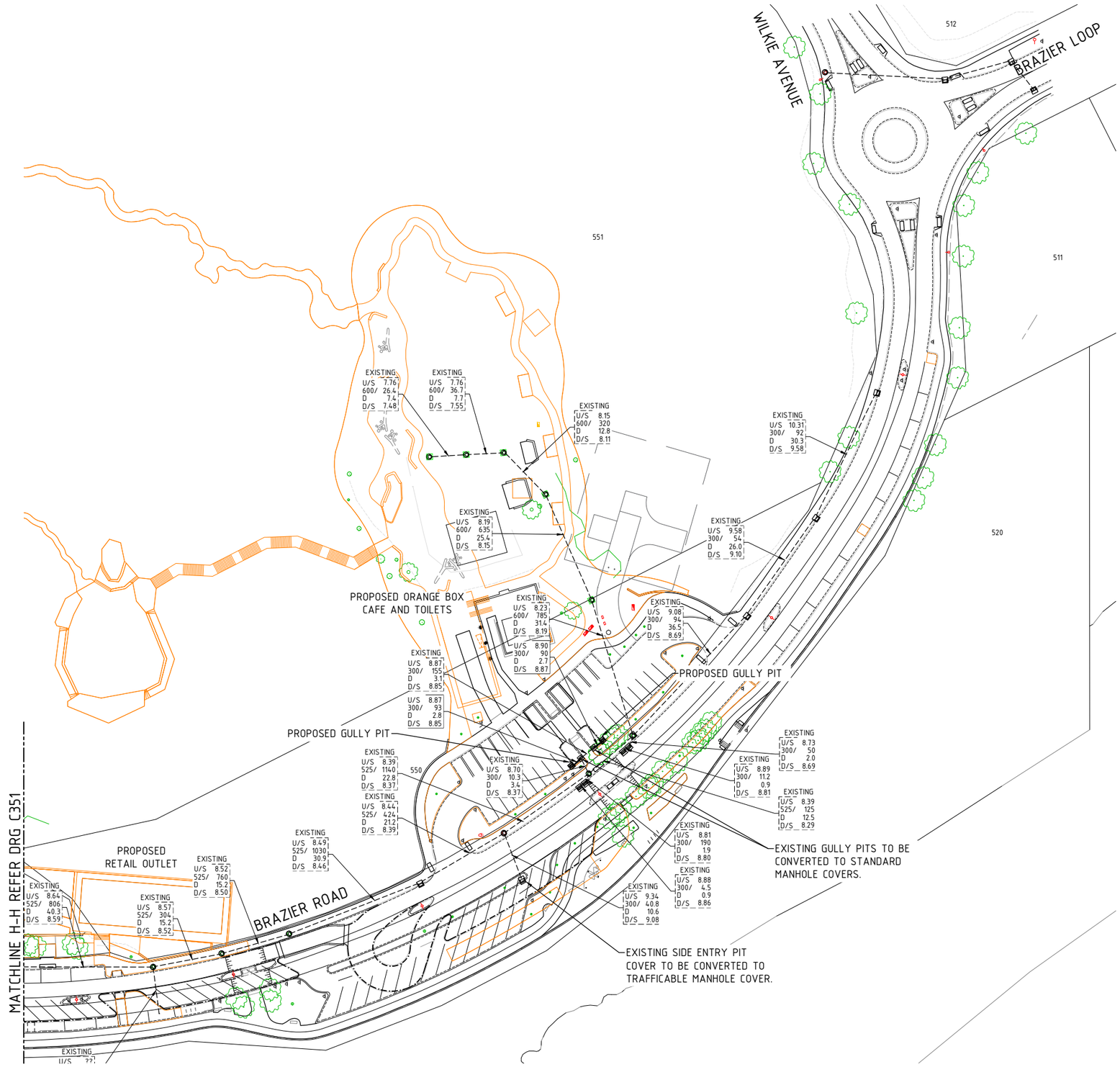
PROJECT: YANCHEP FORESHORE DEVELOPMENT STAGE 2 AND STAGE 3

DRAWING TITLE: DRAINAGE LAYOUT PLAN SHEET 2

DRAWN M.HARRIS		WAPC No.	
DESIGNED B.TREW		SCALE @ A1 1:500	
PROJECT MANAGER B.TREW		DATUM AHD	CO-ORDS PCG94
JDSI PROJECT No. JDS242368.02	DRAWING No. C351		REVISION B

NOTES

1. REFER TO DRAWING JDS242368.02_C350 FOR NOTES AND LEGEND.



0 5 10 20 30m
SCALE 1:500 @ ORIGINAL SHEET SIZE A1

NOT FOR CONSTRUCTION

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A	29.08.25	MH	BG	BT	ISSUED FOR REVIEW

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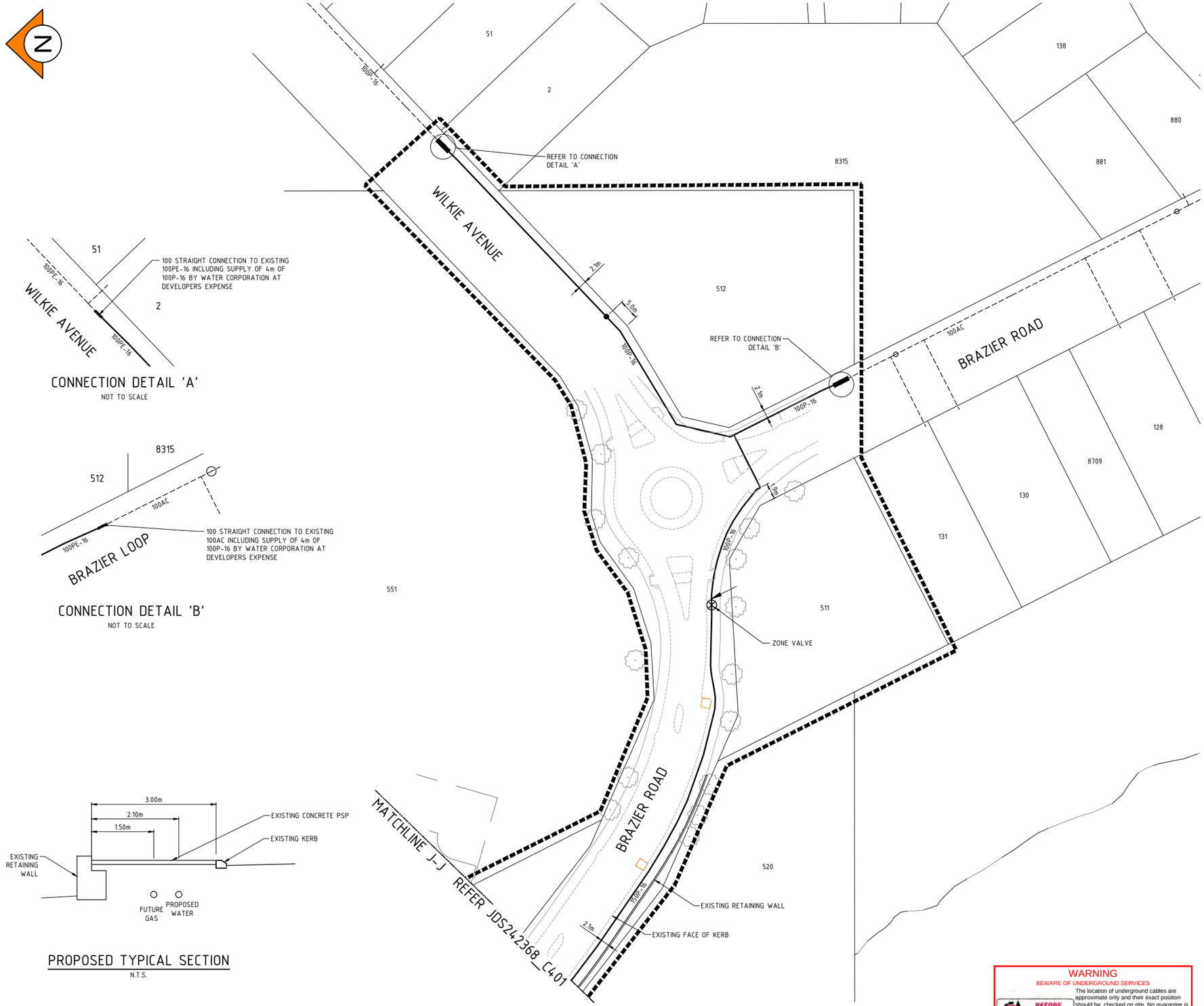
CLIENT: City of Wanneroo UDLA

PROJECT: YANCHEP FORESHORE DEVELOPMENT STAGE 2 AND STAGE 3

DRAWING TITLE: DRAINAGE LAYOUT PLAN SHEET 3

DRAWN M.HARRIS		WAPC No.	
DESIGNED B.TREW		SCALE @ A1	1:500
PROJECT MANAGER B.TREW		DATUM AHD	CO-ORDS PCG94
JDSI PROJECT No. JDS242368.02	DRAWING No. C352		REVISION B

Plotted By: MHarris Plot Date: 20/11/25 - 16:41 Cad File: C:\12dS\data\JDSI-12DSYN\JDS242368_326\JDS242368.0\CIVIL\Drawings\JDS242368_C350-C352.dwg



100 STRAIGHT CONNECTION TO EXISTING 100PE-16 INCLUDING SUPPLY OF 4m OF 100P-16 BY WATER CORPORATION AT DEVELOPERS EXPENSE

CONNECTION DETAIL 'A'

NOT TO SCALE

100 STRAIGHT CONNECTION TO EXISTING 100AC INCLUDING SUPPLY OF 4m OF 100P-16 BY WATER CORPORATION AT DEVELOPERS EXPENSE

CONNECTION DETAIL 'B'

NOT TO SCALE

PROPOSED TYPICAL SECTION

N.T.S.

0 5 10 20 30m

SCALE 1:500 @ ORIGINAL SHEET SIZE A1

NOTES

GENERAL

1. THIS DRAWING SHALL BE READ IN CONJUNCTION WITH THE CONTRACT DRAWINGS AND SPECIFICATION
2. THE CONSTRUCTION OF THE WORKS SHALL COMPLY WITH THE WATER CORPORATION'S DESIGN STANDARDS 63. (DS63)
3. ALL WELDING AND JOINING OF THERMOPLASTICS TO COMPLY WITH WATER CORPORATIONS SPECIFICATION WS-2
4. ALL DIMENSIONS ARE IN METRES UNLESS OTHERWISE NOTED
5. THE MAINS SHALL BE LAID ON A 2.1m (COMMON TRENCHING) ALIGNMENT MEASURED FROM THE CENTRE OF THE PIPE TO THE ROAD RESERVE BOUNDARY (U.O.N.)
6. THE MAINS SHALL BE LAID BETWEEN A MINIMUM AND MAXIMUM COVER IN ACCORDANCE WITH THE WATER CORPORATION DESIGN STANDARDS 63. (DS63)
7. ALL SERVICES TO LOTS SHALL BE FULLY PRELAID UNLESS NOTED OTHERWISE
8. THE CONTRACTOR SHALL REPORT ANY DISCREPANCY OR CLASH WITH OTHER SERVICES TO THE SUPERINTENDENT
9. THE CONTRACTOR SHALL ENSURE THAT COVER ON WATER MAIN TO BE LOWERED TO ACCOMMODATE FUTURE INTERSECTIONS
10. CONTRACTOR TO MAKE ALLOWANCE FOR, INCLUDING BUT NOT LIMITED TO - EXCAVATION, SITE SAFETY, BACKFILL AND REINSTATEMENT AT CONNECTION POINTS
11. CONTRACTOR TO CONFIRM LEVEL OF EXISTING WATER AT CONNECTION POINT. IF EXISTING WATER PIPE IS NOT TO WATER CORPORATION STANDARD DEPTH CONTRACTOR SHALL NOTIFY SUPERINTENDENT PRIOR TO COMMENCEMENT OF WORKS
12. CONTRACTOR TO ENSURE 300mm MIN SEPARATION BETWEEN SERVICE TAPPING LOCATIONS. FOR FURTHER INFORMATION REFER TO DS63

MAINS AND SERVICES

CONSTRUCT MAINS OF:

100P-16	-	176.0m
150P-16	-	412.5m
VALVES	-	0
ZONE VALVES	-	1
HYDRANTS	-	4

CONSTRUCT SERVICES OF:

SHORT SINGLE	-	0
SHORT DUAL	-	0
LONG SINGLE	-	2
LONG DUAL	-	0
DEFERRED SERVICE	-	2
TOTAL LOTS SERVED	-	4

LEGEND

- 150P-16 — PROPOSED WATER MAIN LAYOUT, MAIN SIZE AND TYPE
- 150P-16 — EXISTING WATER MAIN LAYOUT, MAIN SIZE AND TYPE
- 150P-16 — FUTURE WATER MAIN LAYOUT, MAIN SIZE AND TYPE
- **SERVICE CROSSING** COMPLETE
- PROPOSED HYDRANT
- PROPOSED SLUICE VALVE
- CHANGE IN PIPE SIZE
- FP — BLANK END AND FLUSHING POINT
- FL FR — SERVICE LOCATION
- "D" — DEFERRED SERVICE
- PROPOSED/EXISTING RETAINING WALL
- RETICULATION AREA BOUNDARY
- EXISTING KERBLINE
- EXISTING FOOTPATH
- EXISTING RETAINING WALL
- EXISTING TREES

NOT FOR CONSTRUCTION

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FOR MANAGER, DEVELOPMENT SERVICES

WARNING

BEWARE OF UNDERGROUND SERVICES

The location of underground cables are approximate only and their exact position should be checked on site. No guarantee is given that all existing cables and services are shown. Locate all underground cables and services before commencement of work. Refer to Work Health and Safety (General) Regulations 2022.

CITY OF WANNEROO

SUB FILE No. : .

FILE No. : .

REV	DATE	DRAWN	CHECKED	APPROVED	
B	20.11.25	MH	BT	BT	DRAFT FMP FOR REVIEW.
A	29.08.25	MH	BG	BT	ISSUED FOR INITIAL WATER CORPORATION APPROVAL.

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NOTE
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Certified Quality System to ISO 9001

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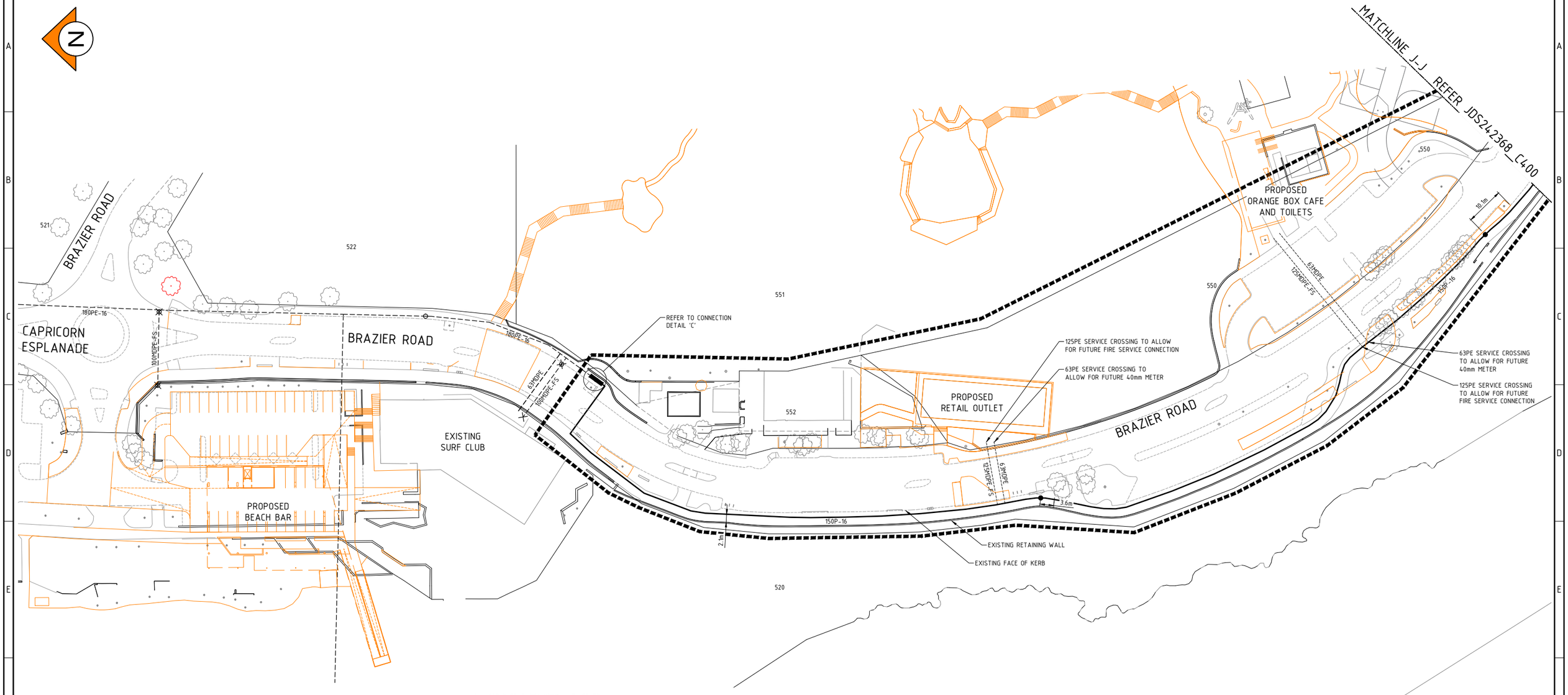
CLIENT: City of Wanneroo UDLA

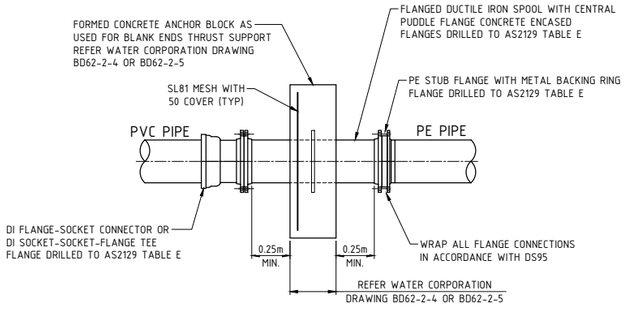
PROJECT: YANCHEP FORESHORE DEVELOPMENT STAGE 2 AND STAGE 3

DRAWING TITLE: WATER RETICULATION PLAN SHEET 1

DRAWN M.HARRIS		WAPC No.	
DESIGNED B.TREW		SCALE @ A1 1:500	
PROJECT MANAGER B.TREW		DATUM AHD	CO-ORDS PCG94
JDSI PROJECT No. JDS242368.02	DRAWING No. C400		REVISION B

Plotted By: MHarris Plot Date: 20/11/25 - 16:43 Cad File: C:\12dS\data\JDSI-12DSYN\JDS242368_326\JDS242368.0\CIVIL\Drawings\JDS242368_C400-C401.dwg

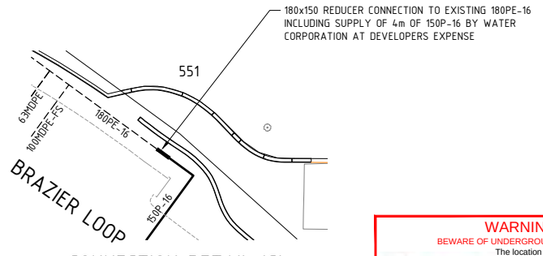




REFER TO WATER CORPORATION STD DRAWING BD62-8-36 FOR FURTHER DETAILS

PE TO PVC TRANSITION DETAIL

NOT TO SCALE



CONNECTION DETAIL 'C'

NOT TO SCALE

0 5 10 20 30m

SCALE 1:500 @ ORIGINAL SHEET SIZE A1

WARNING

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CITY OF WANNEROO

SUB FILE No. : .

FILE No. : .

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FOR MANAGER, DEVELOPMENT SERVICES

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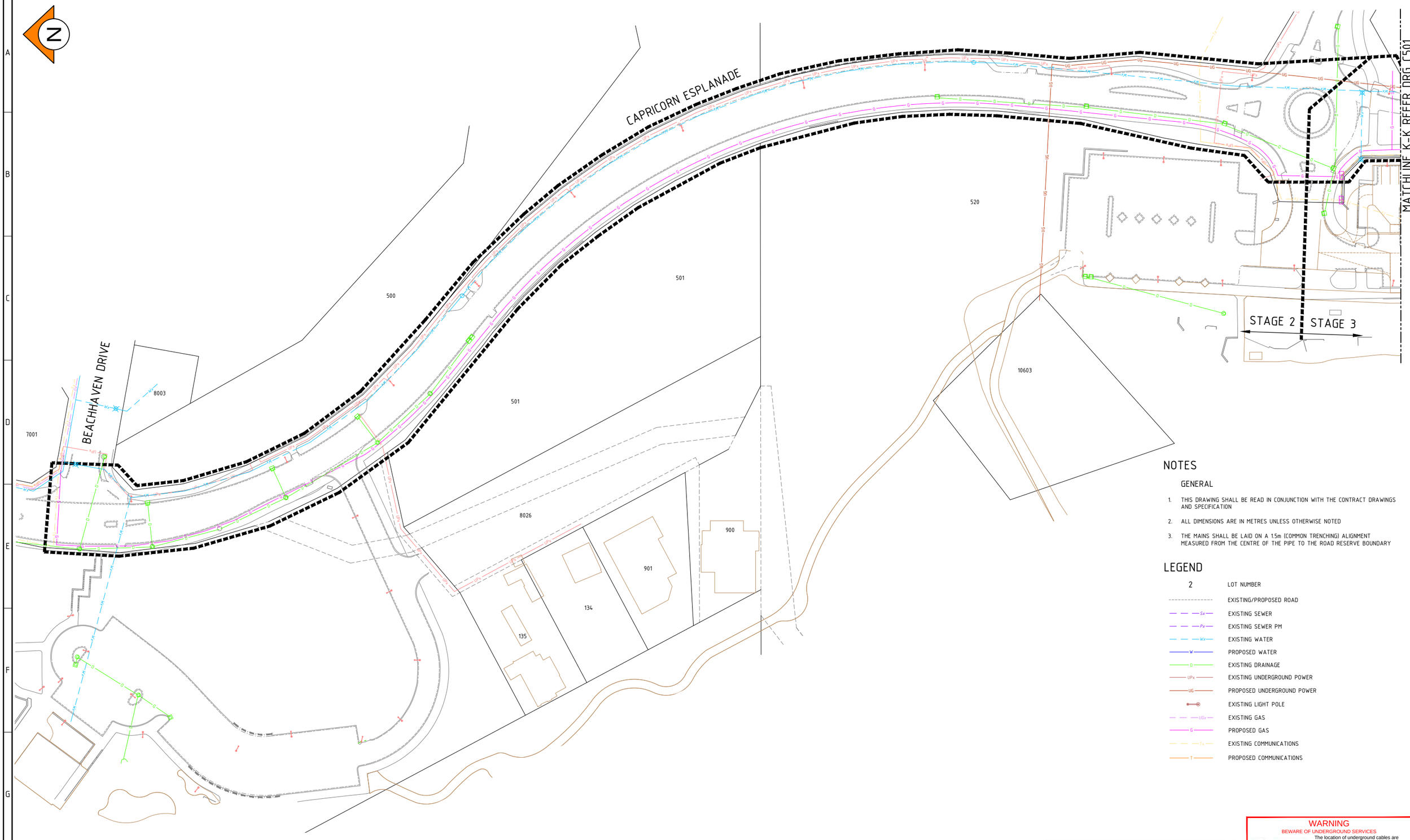
CLIENT: City of Wanneroo UDLA

PROJECT: YANCHEP FORESHORE DEVELOPMENT STAGE 2 AND STAGE 3

DRAWING TITLE: WATER RETICULATION PLAN SHEET 2

DRAWN M.HARRIS		WAPC No.	
DESIGNED B.TREW		SCALE @ A1	1:500
PROJECT MANAGER B.TREW	DATUM AHD	CO-ORDS PCG94	
JDSi PROJECT No. JDS242368.02	DRAWING No. C401	REVISION B	

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0 5 10 20 30m
SCALE 1:500 @ ORIGINAL SHEET SIZE A1

NOTES

GENERAL

1. THIS DRAWING SHALL BE READ IN CONJUNCTION WITH THE CONTRACT DRAWINGS AND SPECIFICATION
2. ALL DIMENSIONS ARE IN METRES UNLESS OTHERWISE NOTED
3. THE MAINS SHALL BE LAID ON A 1.5m (COMMON TRENCHING) ALIGNMENT MEASURED FROM THE CENTRE OF THE PIPE TO THE ROAD RESERVE BOUNDARY

LEGEND

2	LOT NUMBER
	EXISTING/PROPOSED ROAD
Sx	EXISTING SEWER
Px	EXISTING SEWER PM
Wx	EXISTING WATER
W	PROPOSED WATER
D	EXISTING DRAINAGE
UPx	EXISTING UNDERGROUND POWER
UG	PROPOSED UNDERGROUND POWER
	EXISTING LIGHT POLE
GGx	EXISTING GAS
G	PROPOSED GAS
Tx	EXISTING COMMUNICATIONS
T	PROPOSED COMMUNICATIONS

NOT FOR CONSTRUCTION

WARNING
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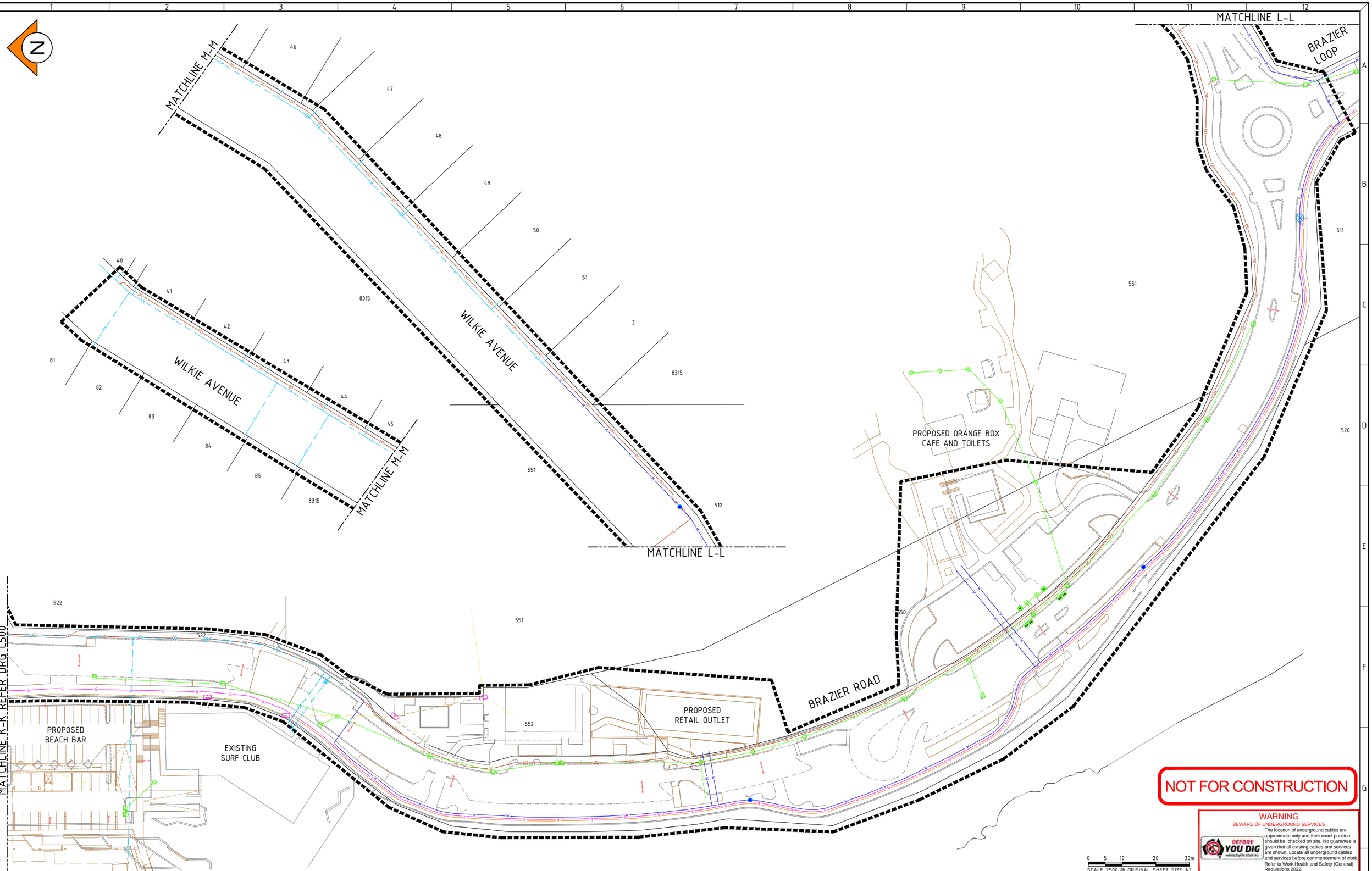
CLIENT: City of Wanneroo UDLA

PROJECT: YANCHEP FORESHORE DEVELOPMENT STAGE 2 AND STAGE 3

DRAWING TITLE: COMBINED SERVICES LAYOUT PLAN SHEET 1

DRAWN M.HARRIS		WAPC No.	
DESIGNED B.TREW		SCALE @ A1	1:500
PROJECT MANAGER B.TREW		DATUM AHD	CO-ORDS PCG94
JDSi PROJECT No. JDS242368.02	DRAWING No. C500		REVISION B

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B	20.11.25	MH	BT	BT	DRAFT FMP FOR REVIEW.

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CLIENT: City of Wanneroo UDLA

PROJECT: YANCHEP FORESHORE DEVELOPMENT STAGE 2 AND STAGE 3

DRAWING TITLE: COMBINED SERVICES LAYOUT PLAN SHEET 2

DRAWN M.HARRIS		WAPC No.	
DESIGNED B.TREW		SCALE @ A1	1:500
PROJECT MANAGER B.TREW		DATUM AHD	CO-ORDS PCG94
JDSi PROJECT No. JDS242368.02	DRAWING No. C501		REVISION B

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