



C O N S U L T I N G

Integrated Water Management Plan

Kingscliff Mixed Use Development – 4-8 Bells
Boulevard, Kingscliff

Prepared for Bells Boulevard Pty Ltd
By Planit Consulting Pty Ltd

Integrated Water Management Plan

J8878 - Kingscliff Mixed Use Development – 4-8 Bells Boulevard, Kingscliff

Bells Boulevard Pty Ltd

www.planitconsulting.com.au



Company Details

Name	Planit Consulting Pty Ltd
ABN	20 099 261 711
Address	Suite 9A, 80-84 Ballina Street, Lennox Head NSW 2478
Mailing Address	PO Box 161, Lennox Head NSW 2478
Telephone	(02) 6687 4666
Email	administration@planitconsulting.com.au
Website	www.planitconsulting.com.au

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Approval Details

Approved By	Click or tap here to enter text.
Email	niekv@planitconsulting.com.au
Signature	

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1 Statement of Compliance (SSD-83069459)

I Niek van Oers confirm this Integrated Water Management Plan addresses the requirements of SEAR No. 11 (Water Management) and 19 (Flood Risk) and relevant State and local legislation, policies, and guidelines including:

- Tweed Shire Council DCP;
- Tweed Shire Council Engineering Design Practitioner;
- Queensland Urban Drainage Manual; and
- All relevant standards referenced in the above documentation.

I further confirm that none of the information contained in the Integrated Water Management Plan is false or misleading.

For and on Behalf of Planit Consulting:



Niek van Oers

MIEaust; NER; RPEQ

2 Executive Summary

This Integrated Water Management Plan (IWMP) has been prepared in support of the DA for the proposed mix development at 4-8 Bells Boulevard, Kingscliff. Planit Consulting was engaged by Bells Boulevard Pty Ltd to assess, and report on the water requirements associated with this development.

The proposed development process involves the demolition of the existing carpark structure on the site, and the construction of a five-storey mixed used development, incorporating 71 residential units, retail and communal areas, and a two-basement levels of carparking.

The subject site measures 4,450m² and borders Bells Blvd to the north, a lot under construction (3-5 Barrel St Kingscliff, Lot 1 DP1310938) to the south, Gunnamatta Ave to the east, and Casuarina Way to the south. The surrounding area contains a mixture of single and multi-occupancy residential, commercial and short stay uses.

HMC preliminary geotechnical investigations on the site have revealed the following:

- Moderate to high permeability sand with the hydraulic conductivity (K_{sat}) ranged between approximately 2.5m/day and 5.4m/day; and
- Groundwater was not observed for a depth more than 8.0 metre below the surface;

As per TSC flood mapping, the site is located outside the mapped flood affected area.

It is proposed that all runoff from the site ground and roof areas is directed into an infiltration system which shall be located under the basement carparking area. This infiltration system shall be sized to fully infiltrate all runoff from roof and hardstand areas during rainfall events of a magnitude of up to the Q_{3_{month}} event. Overflow from the infiltration cell shall be directed towards a discharge pit in the north-west corner of the subject site and into Council's network.

The infiltration system has been sized using the following design parameters.

- Infiltration Area = 30m²;
- Storage Perimeter = 24m;
- Storage height = 1.9m;
- Saturated Conductivity, K_{sat} : 125mm/hr; and
- Storage Volume (m³) = 57m³.

It was found that infiltration system is adequately sized to ensure compliance with Council's Q_{3_{month}} event infiltration requirements. To ensure that Stormwater quality targets are met, runoff from ground and basement areas is directed into the infiltration system via a STC5 model HumeCeptor. As per Council specifications, runoff from roof areas shall bypass this device.

Water reticulation is available via an existing water main parallel to the eastern boundary of the site along Gunnamatta Ave. It is proposed that the new bulk meter will be required for the development site. An increase in demand of 6lET is expected with a peak hourly demand of 8.55L/s. No issues with meeting this demand are anticipated.

Sewer reticulation is available via an existing sewer main parallel to the eastern boundary of the site along Gunnamatta Ave. It is proposed to provide a new property connection to connect into the existing sewer reticulation network. An increase in demand of peak instantaneous demand of 3.87L/s is anticipated. No issues with meeting this demand are anticipated.

Based on the assessment undertaken, it is believed that the proposed development can be readily serviced in a sustainable manner.

3 Introduction

3.1 Project Background

This Integrated water Management Plan accompanies an Environmental Impact Statement (EIS) pursuant to Part 4 of the *Environmental Planning and Assessment Act 1979* (EP&A Act), in support of a State Significant Development Application (SSDA) and concurrent planning proposal (PP) for the construction of the proposed development at 4-8 Bells Boulevard, Kingscliff, reference SSD-83069459.

The proposed development seeks development consent for a new mixed-use building on the site. The proposal will include the following works:

- Construction of a five-storey mixed use development with ground level retail fronting Bells Boulevard and Gunnamatta Avenue and ground level residential units, with residential units contained on levels 1-4 (inclusive), and rooftop communal open space;
- A total of 71 residential units of which 2 will be affordable housing units. These affordable housing units are to be retained as such for 15 years and managed by a registered Community Housing Provider;
- Excavation for two basement levels of carparking with 193 carparking spaces and associated services;
- Removal of 23 trees on site; and
- Landscaping and a communal open space network with a focus on wellness including a rooftop pool, indoor communal space and ground level outdoor communal open space designed around a central lawn.

This report addresses:

- The Secretary's Environmental Assessment Requirements (SEARs) issued for the project (Table 1);
- Tweed Shire Council's submission (Council ref DA26/0072 LN7082) on version 2.1 of this report to the Department of Planning on 17 February 2026 (Table 2); and
- The Department of Planning's Request for additional information dated 20 March 2026 (Ref: SSD-83069459) which refers to Council's RFI

Table 1: SEARs

SEAR	Section of Report/ Response
11 Water Management Detail the proposed drainage design and servicing infrastructure to be incorporated as part of the Development (Stormwater and Wastewater) Demonstrate how the development complies with Council's drainage requirements and identify proposed stormwater treatment and water quality management measures to minimise adverse environmental impacts	Section 5 (Permanent Measures) Planit has proposed stormwater quality devices as per TSC Specification D5 & D7. Section 6 (During Construction) Planit has provided a list of sediment and erosion control measures in accordance with Council Specification C211 Section 7 (Water and Wastewater) An assessment of existing and proposed infrastructure and preliminary demand calculations have been provided.
19 Flood Risk Identify the flood planning area and level as set out in the relevant EPI and other supporting documents to determine • The flood extent and velocity up to the probable maximum flood and risk on-site having regard to adopted flood studies and floodplain risk management studies and plans • The site access and egress routes • The potential effect on climate change	Section 4.5. Planit has identified that the development site is located wholly outside an area impacted by flood and accordingly, no further investigations or mitigation strategies are required.

- Any relevant provisions of the NSW Flood Risk Management Manual and any other relevant guidelines.

Where the development is occurring on flood prone land, a flood impact and risk assessment must be prepared [...].

Detail any flood risk management measures that are to be incorporated as part of the development having regard to relevant guidelines [...].

Table 2: Response to Council Submission

Tweed Shire Council Submission	Section of Report/ Response	Status
6.1 Stormwater Infiltration Pit in Basement Parking access and maintenance of the infiltration pit difficult. Additionally, the location increases structural foundation problems due to the movement of fine sands from the significant volume of stormwater disposal into the infiltration pit. This can cause movement and future structural integrity issues for the building. The stormwater infiltration pit should be relocated from the basement parking to the ground level to ensure stormwater overflow can drain to the street. This will eliminate structural integrity issues and enable adequate maintenance of the pit at road level.	Sections 5.1.3 and 5.3.2. Planit has proposed a revised location of the infiltration cell outside the basement footprint. For maintenance purposes, the cell is accessible from the ground level and located adjacent to the development's service vehicle area. Two grated access covers shall be incorporated into the infiltration cell, which also provide an opportunity for overflow to the street.	Addressed Proposal amended to comply
6.2. Charged Stormwater System Stormwater overflow from the infiltration pit is designed as 'charged', i.e. not able to discharge into the public stormwater system by gravity. Charged stormwater systems are not accepted due to blockage issues which present problems such as flooding the basement, structural failure of underground pipes, and potential structural failure of the basement wall as the charged stormwater system is proposed through the basement wall of the building. Charged stormwater systems, due to their impacts, are not supported by Council. The stormwater infiltration pit is to be moved from the basement to ground level to ensure stormwater can flow by gravity to the public stormwater system in the surrounding road network.	Section 5.1.3 The revised tank location eliminates the requirement for a charged overflow system. Overflow from the revised infiltration cell shall be directed to the kerb of the adjacent street via overland flow as per Council's development specifications. Two 900x900 access/ overflow pits allow for a total flow with of 1.8m to allow for adequate dispersion of flows and safe flow depths and velocities. Updated infiltration calculations have been attached to the revised IWMP.	Addressed Proposal amended to comply
6.3. Stormwater Quality Stormwater Quality has not been adequately addressed. A proprietary stormwater treatment device is required to treat stormwater before discharge into a stormwater infiltration pit. A Stormwater Quality treatment device removes pollutants such as sediment and oil from the basement and hardstand areas before release into the environment. The Stormwater Management Plan proposes litter baskets which do not sufficiently remove pollutants such as oil and heavy metals. A proprietary stormwater treatment device capable of removing pollutants, oils, and sediments prior to discharge should be included in the stormwater infiltration pit. An updated Stormwater Management Plan is required addressing the above requirements to relocate the infiltration pit to ground level and provide a proprietary stormwater quality treatment device to remove pollutants from stormwater prior to release into the environment.	Section 5.3 For permanent stormwater quality treatment, a HumeCeptor is proposed directly upstream of the infiltration cell. Its sizing and configuration are in accordance with Council's Specification D7 and takes into consideration the total impervious ground area and combined basement footprint.	Addressed Proposal amended to comply

3.2 Site Description

The site is located at 4-8 Bells Boulevard, Kingscliff and is located in the Tweed Shire Local Government Area. The site is legally known as Lot 2 DP131098. An aerial view of the site (outlined in red) is presented in Figure 1.

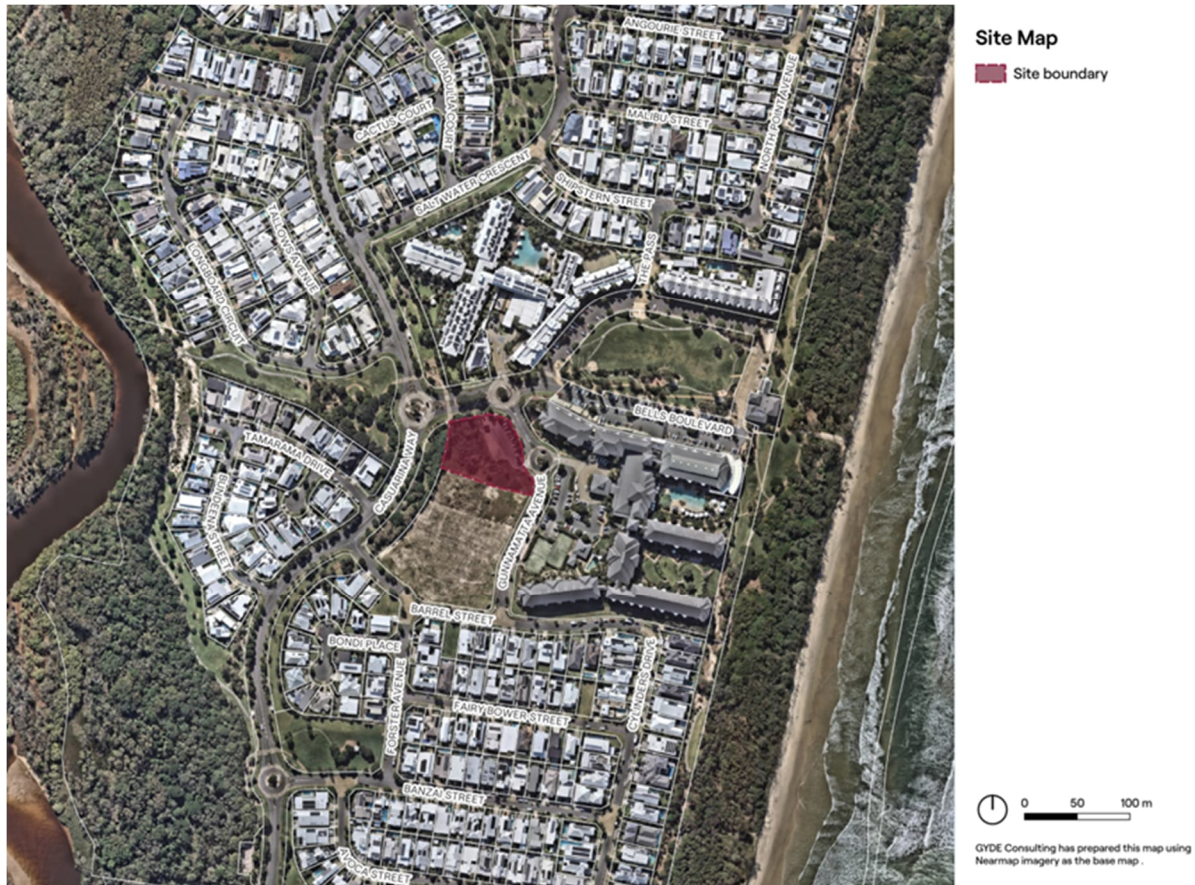


Figure 1: Aerial view of the site, outlined in red (Source: Gyde)

The site has an approximate area of 4,450m² and is currently vacant of any structures. An informal bitumen sealed carpark containing 27 spaces is located in the northeast part of the site, which is enforced by way of a restriction on the existing title of the land.

The centre of the site is clear of vegetation, with any vegetation located along the street frontages or abutting the western boundary. A public reserve runs along the site's western boundary containing a concrete footpath and extensive vegetation.

The site is relatively level around the street frontages, with levels ranging between RL 9.85m at Gunnamatta Avenue to RL 10.39m at the corner of Bells Boulevard and Casuarina Way. The rear of the site has been excavated to the lowest point of RL 7.15m.

The site is located on the gateway to a part of Kingscliff known as 'the Salt Precinct' (Figure 2). This part of the Salt Precinct is centred around the Salt Central Park, which is bordered by two major tourism developments, those being the Peppers and Mantra resorts. Salt Central Park is activated by a retail precinct with shops, cafes and restaurants known as Salt Village.



Figure 2: Site context plan (Source SJB)

Refer to Table 3 for additional details, Figure 1 and 2 for the subject site in its existing condition, and Appendix A for the site survey.

Table 3: Project Details Summary

Component	Details
Applicant	Bells Boulevard Pty Ltd
SSD Project Reference	SSD-83069459
Project Name	Kingscliff Mixed Use Development – 4-8 Bells Boulevard, Kingscliff
Street Address	4-8 Bells Blvd, Kingscliff, NSW
Local Government Area (LGA)	Tweed Shire Council (TSC)
Climatic Region	Sub-tropical
Zoning	SP3 - Tourist
Proposed Development Type	Mixed Use Development
Site Area (m²)	4,450m ²
TSC LGA Map Reference:	Lot 2 DP1310938

3.3 Scope

This report presents the results of an assessment of

- The subject site including locality, existing services, soil characteristics, flooding and topography;
- Stormwater management including catchment analysis, stormwater conveyance, stormwater quantity, stormwater quality and sediment and erosion control;
- Services assessment including water reticulation and sewer reticulation; and
- Conclusions and Recommendations.

4 Civil Site Assessment

4.1 Proposed Site Description

The proposed development seeks development consent for a new mixed-use building on the site. The proposal will include the following works:

- Construction of a five-storey mixed use development with ground level retail fronting Bells Boulevard and Gunnamatta Avenue and ground level residential units, with residential units contained on levels 1-4 (inclusive), and rooftop communal open space;
- A total of 71 residential units of which 2 will be affordable housing units. These affordable housing units are to be retained as such for 15 years and managed by a registered Community Housing Provider;
- Excavation for two basement levels of carparking with 193 carparking spaces and associated services;
- Removal of 23 trees on site; and
- Landscaping and a communal open space network with a focus on wellness including a rooftop pool, indoor communal space and ground level outdoor communal open space designed around a central lawn.

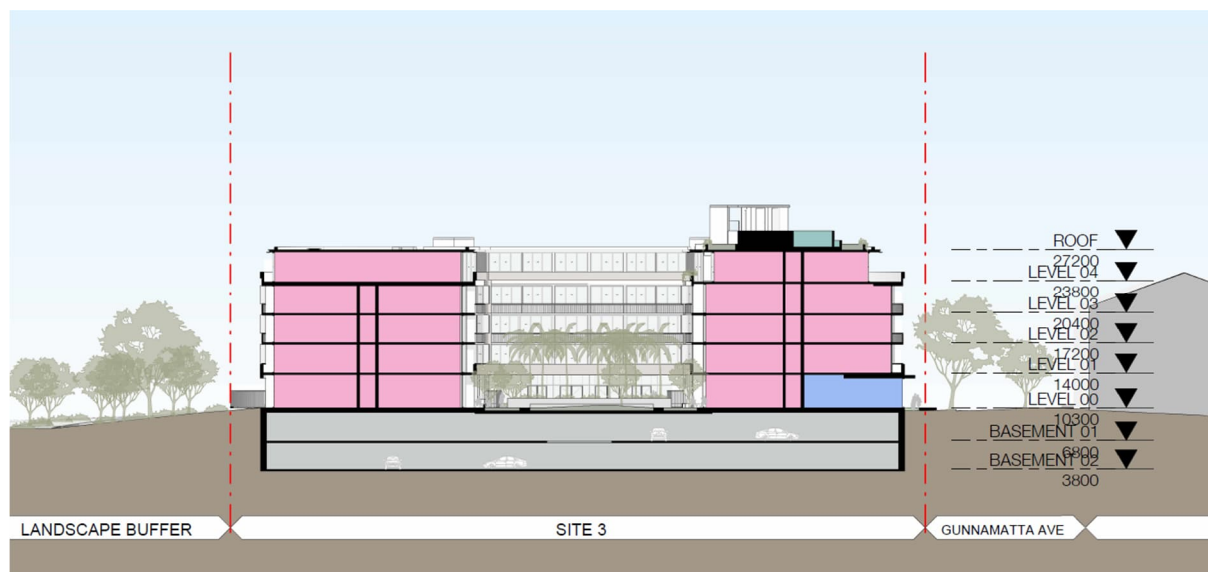


Figure 3: Proposed Development Section Layout (Source: SJB Architecture (NSW) Pty Ltd)

4.2 Existing Site Description

The subject site (Figure 4) is located at 4-8 Bells, Boulevard, Kingscliff, NSW and forms part of the Tweed Shire Council LGA. The site is located on Lot 2 DP1310938 and has a total footprint of 4,450m².

The site borders Bells Blvd to the north, a lot under construction (3-5 Barrel Street Kingscliff, Lot 1 DP1310938)) to the south, Gunnamatta Ave to the east, and Casuarina way to the south. The surrounding area contains a mixture of single and multi-occupancy residential, commercial and short stay uses. Refer to Figure 2 below for a visual of the existing site.

A feature survey of the site has been prepared by B&P Surveys Consulting Surveyors. To confirm the locations of existing services, a 'Dial Before You Dig' (DBYD) search has been requested within the vicinity of the development area, the result of which are included in Appendix B.

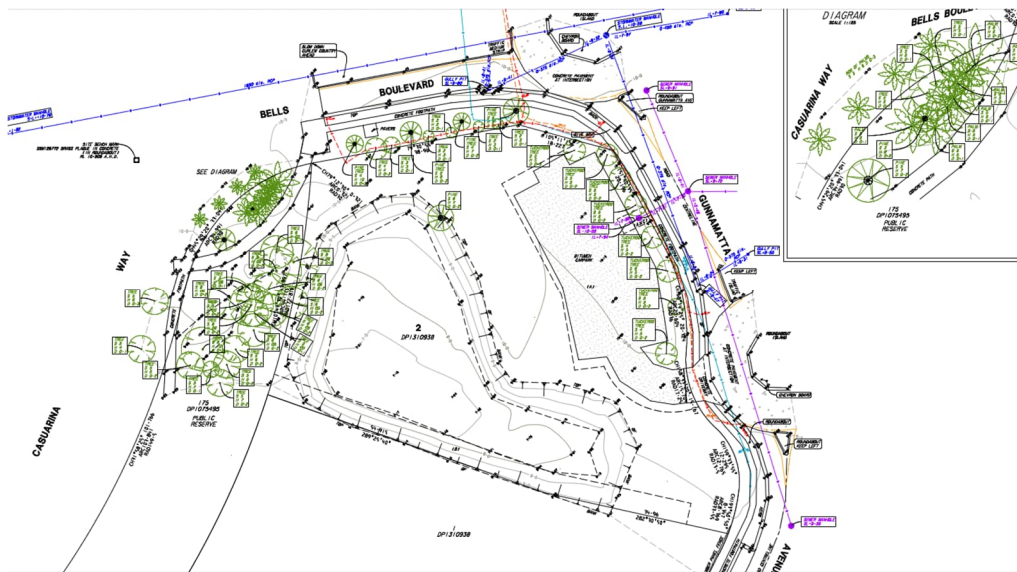


Figure 4: Existing Site Conditions (Source: B & P Surveys – Site Survey)

4.3 Statutory Requirements and Engineering Standards:

All Stormwater works shall be in accordance with:

- Tweed Shire Council DCP;
- Tweed Shire Council Engineering Design Specifications and Standard Drawings;
- Queensland Urban Drainage Manual; and
- All relevant standards referenced in the above documentation.

In addition, input has been sought from Council in the form of Targeted Development Assessment Panel (DAP) advice. This correspondence has been included as Appendix C.

4.4 Geotechnical Investigations

Geotechnical investigations have been carried out onsite by HMC which revealed the following:

- Moderate to high permeability sand with the hydraulic conductivity (K_{sat}) ranged between approximately 2.5m/day and 5.4m/day;
- Groundwater has not been observed for a depth more than 8.0 metre below the natural surface level (i.e. >2m below the maximum excavation depth for the basement);
- The proposed works is anticipated not to intercept groundwater; and
- It is highly likely that no dewatering is required.

Refer to Appendix D for further details of HMC geotechnical report requirements.

4.5 Flood Planning

Based on review of the TSC Interactive mapping, it is evident that the subject site is not located within a designated Flood Planning Area (Figure 5). The TSC DCP defines “Flood Liable Land” as:

“Area of land which is subject to inundation by floods. For areas of the Tweed Valley and the Coastal Creeks floodplains, designated on Flood Maps in Appendix C it includes land subject to inundation in the probable maximum flood (PMF).”

A review of the TSC Appendix C – PMF Level Maps clearly confirms that the subject site lies outside the area mapped as inundated under the PMF. Refer to Figure 6 and Appendix E for further details.

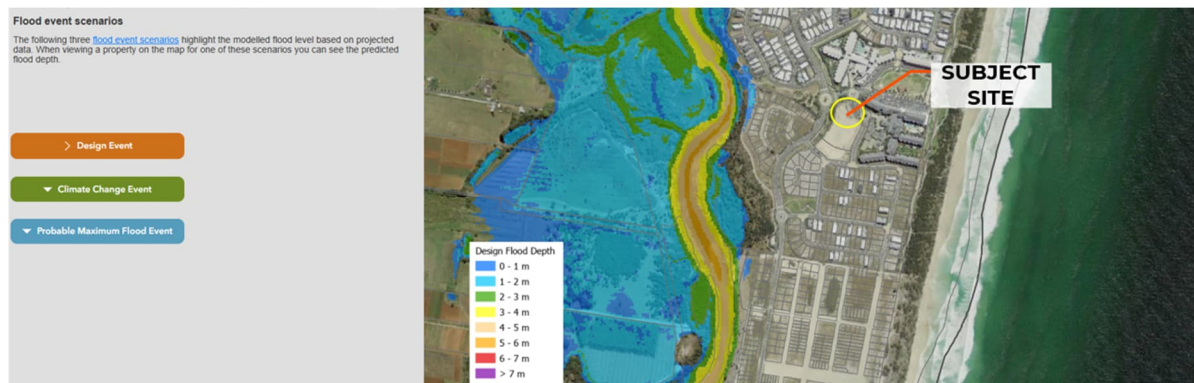


Figure 5: Design Flood Depth Mapping (Source: TSC Interactive Mapping)

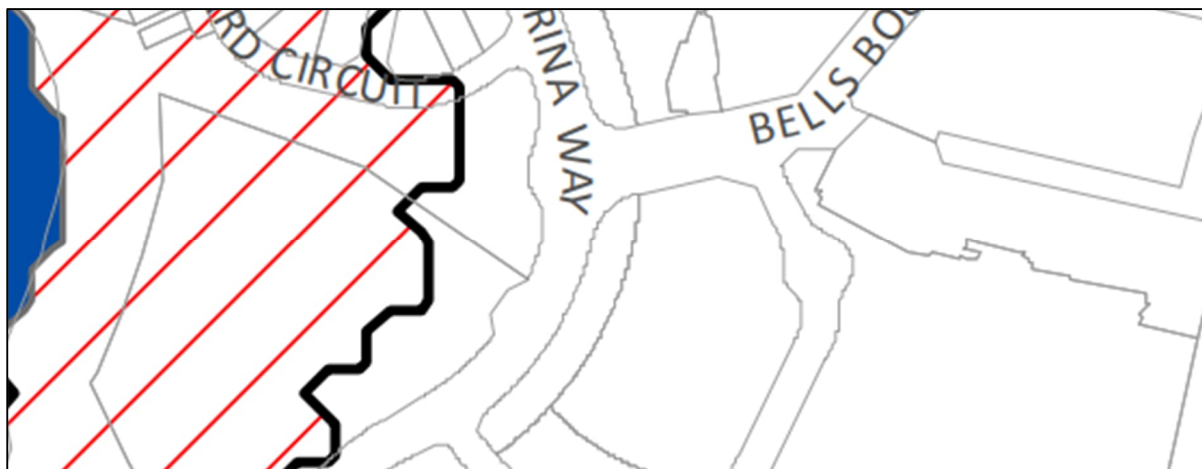


Figure 6: TSC DCP Appendix C – PMF Mapping

Given that the site is located outside the mapped flood affected area, it is recommended that the basement crest level be set at or just above the adjacent top of kerb level. The driveway ramp should be graded at approximately 2.5% (upward) from the top of kerb to the basement entry.

It is also noted that the subject site is located significantly above the PMF level of the nearest allotment that is mapped within an area subject to flood inundation.

The proposed vehicle access is located near a local high point in the roadway (adjacent to the roundabout), and therefore no significant stormwater inflow issues are anticipated. Any typical runoff from the exposed areas on the downgrade of the ramp can be effectively managed through the installation of trench grates and a pump out system as per standard practice for basement carparks. Details of such an arrangement shall be subject to detailed design.

Accordingly, no detailed flood assessment has been completed as part of this development.

4.6 Topography

The site currently grades towards an existing vegetated basin located in the south-western quadrant of the subject site. The high point is situated in the north-eastern section at RL 10.33m AHD, while the low point is located at the centre of the basin in the south-western section at RL 7.15m AHD. This represents an approximate typical grade of 6% across the site.

5 Stormwater Management Plan

5.1 Catchment Analysis

5.1.1 Existing Site Conditions

It is pre-development state, all runoff from the site appears to be directed to the central south-western quadrant into a vegetated basin. It is believed that most runoff infiltrates into the ground and is disposed of internally within the subject site.

A small external catchment located along the north-western boundary currently contributes to overland flow across the subject site. Appropriate mitigate measures will need to be implemented to prevent external runoff from entering the site and adversely impacting assets and amenity within the proposed built form. Refer to Section 5.1.4 for further details.

Refer to Figure 7 for a visual of the existing site catchment and Table 4 for a summary of the catchment breakdown.

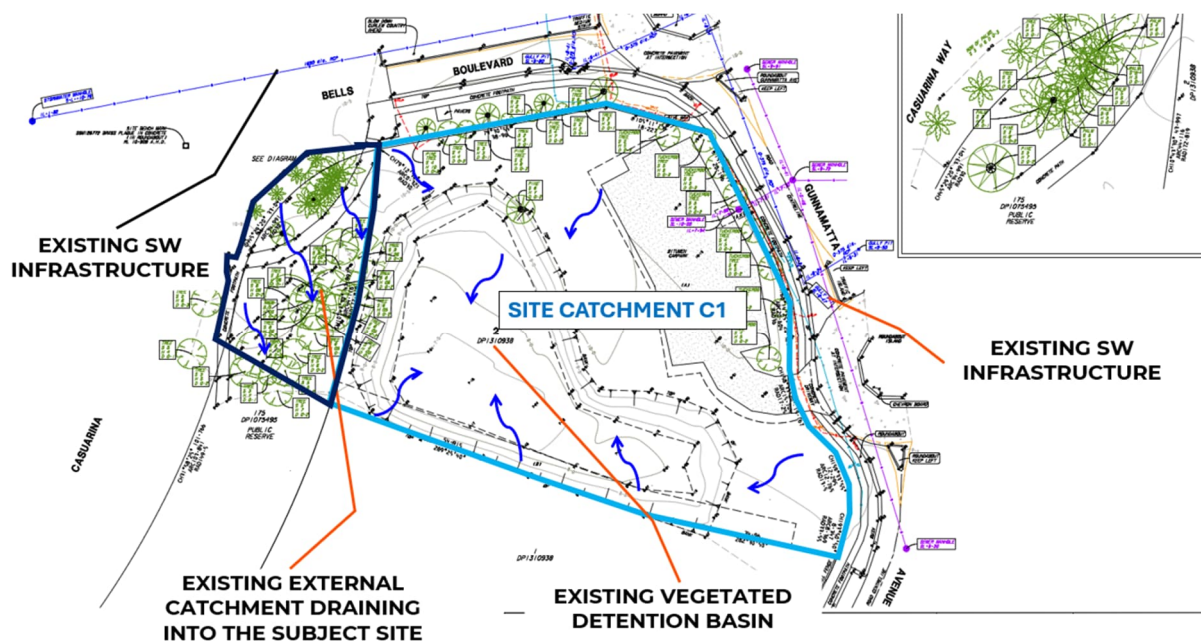


Figure 7: Pre-Development Catchment Plan (Adopted from Site Survey)

Table 4: Existing Site Catchment Breakdown

Catchment	Area (m ²)	Impervious Area (m ²)	Impervious %
Total Site (C1)	4,450m ²	735m ²	17%
External Catchment Area	750m ²	115m ²	15%

5.1.2 Proposed Development Stormwater Conveyance

The proposed development scenario will increase the impervious area of the site and can be represented in accordance with the following catchment breakdown:

- Roof Catchment (2,600m²).
 - o It is proposed that this catchment shall be collected by internal building drainage system (subject to detailed design). Roofs shall drain to a proposed infiltration trench to the southeast of the site prior to discharging to the Legal Point of Discharge on Gunnamatta Avenue (refer Section 6.1.3);

- Ground Catchment (1,850m²):
 - o The ground catchment includes a communal open space including walkways and landscaped areas. Runoff from these areas will be collected through a network of surface pits (subject to detailed design) and directed to the proposed infiltration trench via a proprietary treatment system (refer Section 5.3); and
 - o An overland flowpath will be provided for any overflows beyond the capacity of the internal network.
- Basement Catchment:
 - o Based on the PMF levels (Section 4.6), it is anticipated no runoff shall be direct into the basement from external catchment. Any runoff from the exposed areas on the basement down ramp can be effectively managed through the installation of a trench gate (or approved equivalent) and pump out system.

The proposed infiltration system shall be sized to fully infiltrate all runoff from roof and ground areas during rainfall of a magnitude of up to the $Q_{3\text{month}}$ event. Overflow from the infiltration cell shall be directed to the existing stormwater network on Gunnamatta Avenue via an overflow pit as directed by Council (Appendix C, DAP Advice).

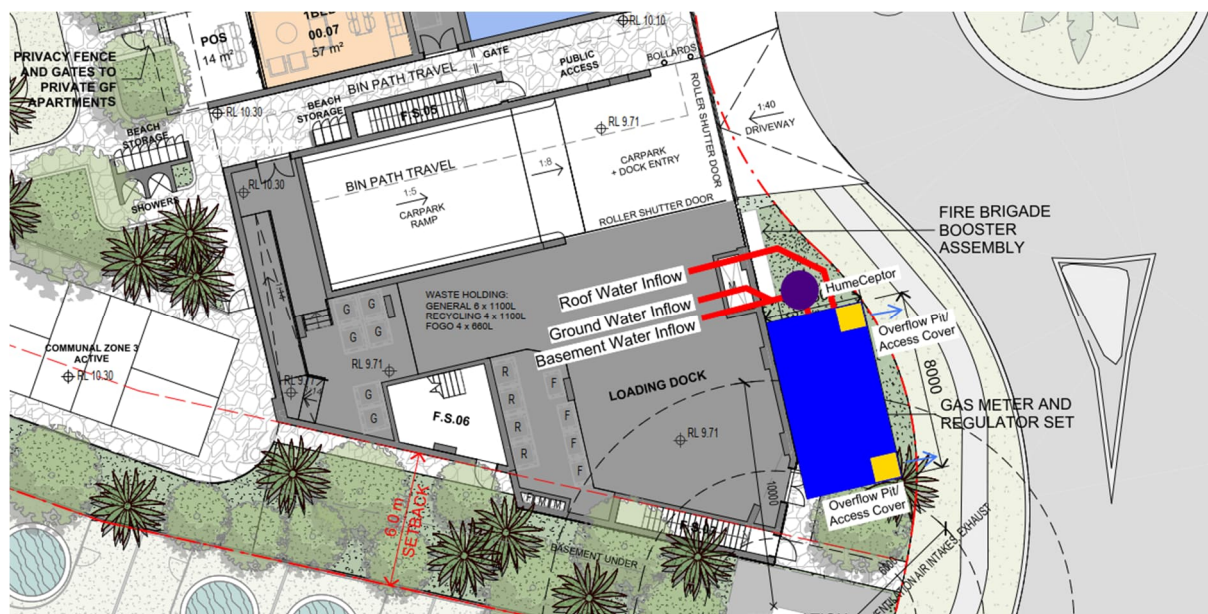


Figure 8: Schematic Diagram of Stormwater Strategy

The proposed infiltration system has been designed in accordance with the Rational Method (QUDM 2017) and the Water Sensitive Guidelines for Southeast Queensland using rainfall data from the Australian Bureau of Meteorology (BOM) and Specification D5 of Council's design standards. Detailed calculations are presented in Appendix G. Soil and groundwater parameters used in the design process have been obtained from the geotechnical report prepared by HMC (Refer Appendix D).

5.1.3 Lawful Point of Discharge (LPD)

The pre-development site currently drains towards an internal vegetated detention basin located in the south-western quadrant of the subject site. It is assumed that majority of surface-runoff infiltrates into the underlying ground.

The proposed development will adopt a similar drainage approach to the existing conditions, incorporating an infiltration system in the southeast corner of the site to manage stormwater runoff on-site for events up to the $Q_{3\text{month}}$ event.

Any runoff directed towards the infiltration tank more than the 3-month design event shall be directed towards the street via overland flow and into Council's drainage network.

It is noted that the full infiltration of the runoff associated with storms up to the $Q_{3\text{month}}$ event in magnitude has been prescribed by Council as per the obtained development advice (Appendix C).

It is also acknowledged that Council recommends against locating the proposed infiltration tank below the lower basement. Based on this direction, two suitable locations for the infiltration tank were identified, which are located outside the footprint of the proposed basement.

- The northwest corner of the site, near the intersection between Bells Boulevard and Casuarina Way; and
- The southeast corner of the site, adjacent to Gunnamatta Avenue.

The second option (Gunnamatta Avenue) is believed to be most suitable with consideration for ongoing maintenance operations (Refer Section 5.3.2).

5.1.4 External Catchments

The proposed external catchment to the west of the site should be shaped to grade away from the proposed development. Minor earthworks may be required on the western side of the boundary (subject to detailed design).

5.2 Stormwater Quantity

Table 5 provides an overview of requirements based on Council's DAP response.

Table 5: Stormwater Quantity Requirements (Council's DAP Response)

TSC DAP Requirement	Proposed Development Compliance
"There is no requirement for On-site Detention limited to 200l/s/ha or to pre-development rates"	N/A
"There is no requirement to provide a separate public drainage system draining to Cudgen Creek in addition to the existing stormwater drainage system"	N/A
"Development is required to comply with the following positive covenant on the land; 1. Terms of Positive Covenant number 3 in the plan All roof water from houses, buildings, or structures shall be discharged to an approved infiltration pit located on the subject property. The infiltration pit shall be approved by the Principal Certifying Authority,"	All roof- and surface water to discharge into the proposed infiltration cell located on the subject site.
"Infiltration is required to be designed to the following standards: Roof water from dwellings or structures must be discharged to an approved infiltration pit located on the lot burdened. Infiltration devices are to be sized to accommodate the 3-month average recurrence interval storm event as a minimum. Surcharge overflow from the infiltration area to the street gutter or public drainage system must occur by visible surface flow, not piped."	Refer to Appendix D for the infiltration calculations demonstrating the ARI 3-month event can be fully infiltrated prior to surcharge overflow to Councils existing network. Planit is proposing an overflow pit which incorporates outflow in the form of visible surface flow.
"Infiltration located below the basement is unlikely to be supported. Due to issues such as interference with ground water, difficult maintenance access and limited or no provision for overflow to the street or public drainage system."	The proposed infiltration system is located outside the basement footprint.
"The development is to ensure the placement for infiltration of stormwater can adequately drain to the street and is sized appropriately for the development."	The proposed location of the system allows for an uninterrupted overflow path to the street.

It is proposed that on-site Infiltration is provided via a tank located in the southeast corner of the site. Hydraulic calculations in accordance with the rational method and the *Water Sensitive Guidelines for Southeast Queensland* have been performed to determine whether the proposed infiltration

system adequately ensures that on-site detention target are met. A summary of calculation results is provided in Table 6.

Table 6: On-Site Detention Calculations Summary for the Q_{3month} Event

	5m Q ₃ month	10m Q ₃ month	20m Q ₃ month	30m Q ₃ month	1h Q ₃ month	2h Q ₃ month	3h Q ₃ month	6h Q ₃ month	12h Q ₃ month
Post-Development Peak Flow	0.039 m ³ /s	0.030 m ³ /s	0.023 m ³ /s	0.018 m ³ /s	0.012 m ³ /s	0.008 m ³ /s	0.006 m ³ /s	0.004 m ³ /s	0.002 m ³ /s
Post-Development Runoff Volume	11.6m ³	17.4m ³	24.3m ³	28.4m ³	31.8m ³	31.9m ³	46.1m ³	48.4m ³	83.6m ³
Combined Storage/Infiltration Capacity	57.2 m ³	57.4m ³	57.9m ³	58.2m ³	59.4m ³	61.7m ³	64.1m ³	71.2m ³	58.4m ³
Performance of the Proposed System	Meets targets	Meets targets	Meets targets	Meets targets	Meets targets	Meets targets	Meets targets	Meets targets*	Meets targets

The results demonstrate that the proposed infiltration system is appropriately sized to meet Council's Q_{3month} infiltration requirements. As the 3-month represents the critical storm for total runoff volume, the system will effectively mitigate post development flows in accordance with TSC requirements.

The infiltration system has been sized using the following design parameters.

- Infiltration Area = 30m²;
- Storage Perimeter = 24m;
- Storage height = 1.9m;
- Saturated Conductivity, K_{sat}; 125mm/hr; and
- Storage Volume (m³) = 57m³.

Detailed infiltration calculations are provided in Appendix G.

5.3 Stormwater Quality

To comply with TSC stormwater quality requirements, the infiltration system is to be designed in accordance with the criteria in the Table 7:

Table 7: TSC DCP D7 -Infiltration Water Quality Requirements

TSC DCP D7 – Stormwater Quality Requirements	Proposed Development Devices
Infiltration area is to be sized with a safety factor of 2 (this is to allow for long-term deterioration in infiltration rate)	HMC geotechnical report details a calculated hydraulic conductivity (K _{sat}) ranged between approx. 2.5m/day and 5.4m/day. This corresponds to an infiltration rate of 104mm/hr to 225mm/hr, indicating soils with high permeability. A FOS of 2 has been applied over the infiltration area in the i calculations to ensure the ARI-3month event is fully infiltrated for the proposed development scenario.
Runoff entering infiltration trenches/basins shall be pre-treated to remove sediment and gross pollutants.	Upstream of the proposed infiltration tank, the development is to include: - o Proprietary system (Humeceptor) to treat runoff from all ground areas; and - o Pre-treatment devices (leaf guards and/ or first flush) for runoff from roof areas.
The infiltration rate for infiltration devices shall be determined as follows: (i) Conduct percolation tests on the site in accordance with Appendix G of AS/NZS 1547:2012, On-site Domestic-wastewater management, (ii) if the above yields a result 6m/day, the rate	According to HMC geotechnical report the site yields a range of 2.5m/day – 4.5m/day indicating high permeability sandy soil. For this assessment, the 25 th percentile has been used 3m/day (equates to 125mm/hr) as a conservative parameter for the infiltration calculations.

for design may not exceed 6m/day unless this rate is confirmed by independently determining the coefficient of permeability of the soil in accordance with AS 1289.6.7.3. Notwithstanding these tests, the maximum infiltration rate that may be used for design purposes is 12m/day.	
For water quality treatment, as a minimum requirement, trenches are to be sized to accommodate the ARI 3-month design storm and infiltrate this storm within a 24-hour period (with a safety factor of 2), before surcharging occurs	The infiltration system has been designed to accommodate the ARI 3-month design storm and infiltrate this storm within a 24-hour period (including a FOS of 2) before surcharging occurs. Refer to Appendix D for further details
Where infiltration trenches/basins are to be used for disposal (as opposed to treatment) of runoff, sizing will depend on volumetric objectives.	Complies
Where practical, infiltration trench surcharge (from storm events with runoff greater than trench capacity) is to be directed onto grass filter areas on the site and graded so that it discharges to the street (or interallotment drain) in un-concentrated, overland sheet flow.	Noted – Stormwater overflow during major events (1 in 100 ARI) from the proposed infiltration trench is to be directed into Councils kerb along Gunnamatta Avenue. .

5.3.1 Proposed Treatment Train

To achieve compliance with Council's stormwater quality objectives, a deemed-to-comply solution in accordance with Council specification D7 is proposed.

- **Roof Areas.** As per Section 5.1.2, the total roof area is 2600m².
 - o As per the Subdivision Manual, no requirements for treatment of roof areas exist for roof areas within the deemed-to-comply solutions.
 - o It is recommended that, to minimise maintenance requirements within the proposed infiltration system, runoff from roof area is directed through first-flush devices or leave guards.
 - o Runoff from roof areas shall be routed via a separate conveyance network to prevent intermixing with runoff from ground areas prior to treatment.
- **Ground Areas** As per Section 5.1.2, the total ground area is 1,850m².
 - o Ground floor landscaped area outside the basement footprint (i.e. deep soil) are approximately 500m². Accordingly, the total impervious ground area is 1,350m².
 - o In accordance with section D7.12.1 of the Subdivision Manual, it is proposed that runoff from impervious ground areas is treated via a proprietary treatment system prior to discharge into the infiltration tank.
 - o Based on the impervious ground area, system storage requirements include:
 - Sediment: 0.135ha x 9m³/ha = 1.22m³.
 - Oil: 0.135ha x 2m³/ha = 0.27m³.
 - o A STC5 model HumeCeptor has a total sediment storage capacity of 3m³ and an oil storage capacity of 1.02m³ (total storage capacity of 4.55m³).
- **Basement Areas.** The total trafficable basement area (i.e. discounting all plant rooms, storage areas, etc.) is approximately 6,000m² across two levels.
 - o A combined sediment and oils storage volume of 0.5m³ for each 1000m² of basement area is required, which shall be provided in the form of the additional capacity (i.e. in excess of requirements for the ground area) within the proposed HumeCeptor.

In summary, it is proposed that stormwater quality treatment targets are met via the use of a STC5 Humeceptor:

- Total storage capacity: 4.55m³

- o Required Storage for ground area: 1.49m³ (oil and sediment).
- o Required Storage for basement area: 3.00m³ (oil and sediment).
- o Unused Capacity: 0.06m³.

Refer to the civil drawings in Appendix F for a schematic of the proposed treatment train including the proprietary treatment device and infiltration cell. .

5.3.2 Maintenance Requirements

To ensure the continuous effectiveness of the proposed treatment and infiltration system, regular maintenance during the operational stage of the development is required. Anticipated maintenance activities include:

- Inspection of all elements of the proposed stormwater network and implementation of corrective action as required. This is typically undertaken during regular service activities;
- Removal of captured oil and sediment from the HumeCeptor and infiltration cell. As per the manufacturer's recommendations, servicing should take place every three months on average. Vacuum truck access will be required to undertake this activity.
- Inspection and maintenance of the infiltration tank including cleaning of the infiltration medium. This is typically recommended to take place every three months. Vacuum truck access will be required to undertake this activity.

It is proposed that a detailed maintenance plan is developed as part of detailed design and implemented on completion of construction of the development. However, to ensure the practicality of meeting the maintenance requirements, it is acknowledged that typical servicing procedures should be considered as part of early design.

Ongoing maintenance will incorporate the following:

- **Plant access.** For servicing of the HumeCeptor and infiltration cell, vacuum truck access is available. The proposed service area adjacent to the HumeCeptor can adequately accommodate a truck with the following dimensions:
 - o Width = 2.44m and length = 6.70m
 - o Height is 2.80m
 - o Tank size is 3kL.Such a vehicle is available locally from most major plant hire companies. For the feasibility of this proposal, Planit has confirmed that such a vehicle, a modified version of an Isuzu FRS500, can be supplied by Kennards Hire in Burleigh West.
- **Vacuum Excavation.** Based on proximity between the service area and the entry of the HumeCeptor and infiltration cell, no issues are foreseen with access.
- **Inspection.** Based on available access and location of the inspection openings, no issues with access for inspection and maintenance.
- **Disposal.** All sediment extracted from the treatment system shall be discarded off-site at a suitable location.

6 Sediment and Erosion Control

The objective of the proposed sediment and erosion control measures is to ensure that there are no worsening of stormwater quality and no reduction in the environmental values of the downstream receiving waters caused by construction activities on the subject site during the construction and operational phase of the development.

The control of stormwater quality during construction activities shall be achieved through the implementation of Erosion and Sediment Controls in accordance with the requirements of TSC C211. The measures are to be implemented before the commencement of any construction works and should be inspected regularly, and after heavy storm events to ensure they are achieving their desired purpose. The measures to be used on site include:

- Minimise the number of site access points (limit to one where possible) and provide stabilised site access.
- Stabilised site access to be provided at access to shake down all vehicles entering and leaving the site, minimising the transport of sediment off-site. All vehicles must use the designated site access to enter or leave the site.
- Installation of downstream sediment barriers prior to commencement of any works.
- Sediment fences are to be installed downstream of works and exposed soils to ensure contaminated run-off is filtered and sediment captured before it can make its way into the downstream receiving environment.
- Turf Strips where required.
- Cut-off drains are to be formed at the top of batter slopes:
- Cut-off drains will allow the discharge of water to be conveyed and directed to the most desirable points of discharge to ensure suitable sediment treatment is achieved.
- External catchment is to be conveyed around the area of works and discharged at appropriate location.
- Stabilise and protect earthwork areas immediately once earthwork profiles are achieved.
- Stockpile materials in protected locations away from overland flow paths and protected by sediment fence boundaries:
- Stockpile locations will be in an elevated, level area nominally 5m away from any water body or channel. Upslope protection measures (i.e. sandbags or equal) are to be used to divert run-off in the event of rain, and sediment fences are to be installed downstream of any erodible stockpile. At the end of each day or in the event of rain or high winds, stockpiles are to be covered and secured. Appropriate locations of stockpiles are to be determined by the site manager at the time of construction.
- Sediment fence to be used on low side of any areas of soil disturbance (e.g. road formation, house pad, soil stockpiles, etc).
- Rock filter dams and gypsum filled bags, flock blocks or equivalent placed on low side of check dam spillway, are to be provided in key locations to treat stormwater run-off from the works area.
- Site is to be watered during the construction phase to minimise the generation of dust.
- When wind speeds reach 35km/h, all dust generating construction activities must cease onsite.

The following inspection program shall be established by the Site Contractor and monthly Check Sheet reports shall be submitted to the Supervising Engineer:

- Daily inspection of the site stabilised access points and amendments as necessary.
- Formal weekly inspection of erosion and sediment controls.
- Inspections after 10mm rainfall events in 24 hours.

- Testing of runoff after significant rainfall events to ensure a max. discharge of 50mg/L suspended solids.

In addition to the inspection details, the following information will be recorded:

- List frequency and method of removal of material from stabilised access point.
- Volume of material removed from in/around sediment controls.
- Location of site where materials are disposed.
- Any repairs/additions as appropriate.

7 Service Assessment

7.1.1 Water Demand

TSC provides reticulated water supply to tenants within the local government area and is responsible for all reticulated water supply to the development. Water reticulation is available via the existing 200mm Ductile Iron (DI) water main parallel to the eastern boundary of the site. For further details refer to Appendix B (DBYD).

To estimate the peak instantaneous demand water supply demand calculations have been completed. Calculations are presented in Table 8. These flow rates have been based on the calculated ET's peak demand of the sites with The ET rates calculated based on the Tweed Shire Councils 'Water and Sewer Equivalent Fees and Charges 2025/2026' and the proposed development schedule provided by the architect. Peak hourly demand was calculated using a rate of 0.05L/s/ET as stated in the TSC DCP D11 Water supply.

As part of the development, it is expected that a DN150 property connection and bulk water meter be provided. In addition, it is anticipated that a booster station will need to be provided, however, this would need to be confirmed by a hydraulic consultant and carrying out pressure tests in the detailed design phase.

Table 8: Estimated Water Demand Calculations

Parameter	Value	Notes
Estimated Total Equivalent Tenement (ET)	61	Based on Architectural Drawings and TSC rates
Equivalent Population (EP)	171	2.8EP per ET
Peak Hourly Demands (L/s)	8.55	TSC Rate - 0.05L/s per EP (TSC)
Average Day Demand (370L/p) day	63	KL/day (TSC DCP 11.05 Rate: 370L/EP/Day)
Maximum Day Demand (700L/p day)	120	KL/day (TSC DCP 11.05 Rate: 700L/EP/Day)

7.1.2 Sewer Demand

TSC provides reticulated sewer to residential customers within the local area and is responsible for all reticulated sewer to the development. Sewer reticulation is available via the existing PVC-U150 gravity main that connects into a sewer rising main (PVC-U-225) along the eastern boundary. A sewer manhole is located on the eastern boundary of the site which is at a Surface Level (SL) 10.30 RL and Invert Level 7.93. It is expected that a new DN150 property connection shall be provided to accommodate the sewer flows from the development.

To estimate the design peak flow from the proposed development site, calculations have been completed and are presented in Table 9. These calculations have been based on the Tweed Shire Council's 'Water and Sewer Equivalent Fees and Charges 2025/2026' and the proposed development schedule provided by the architect as well as standards and specifications noted within WSA.

Table 9: Estimated Sewer Demand Calculations

Level	Land-use	TSC ET Rate	Quantity	ETs
0	1 x Bedroom Units	0.5ET per 1 Bedroom Units	3	2
	2 x Bedroom Units	0.75ET per 2 Bedroom Units	4	3
	3 x Bedroom Units	1ET per 3 x Bedroom Units	0	0
	Retail Area	0.003ET per m ²	681m ²	2
	Communal/ Wellness	0.003ET per m ²	370 m ²	1
1	1 x Bedroom Units	0.5ET per 1 Bedroom Units	2	1
	2 x Bedroom Units	0.75ET per 2 Bedroom Units	14	11

Integrated Water Management Plan

J8878 - Kingscliff Mixed Use Development – 4-8 Bells Boulevard, Kingscliff

Bells Boulevard Pty Ltd

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	3 x Bedroom Units	1ET per 3 x Bedroom Units	2	2
2	1 x Bedroom Units	0.5ET per 1 Bedroom Units	2	1
	2 x Bedroom Units	0.75ET per 2 Bedroom Units	14	11
	3 x Bedroom Units	1ET per 3 x Bedroom Units	2	2
3	1 x Bedroom Units	0.5ET per 1 Bedroom Units	1	1
	2 x Bedroom Units	0.75ET per 2 Bedroom Units	10	8
	3 x Bedroom Units	1ET per 3 x Bedroom Units	5	5
4	1 x Bedroom Units	0.5ET per 1 Bedroom Units	0	0
	2 x Bedroom Units	0.75ET per 2 Bedroom Units	4	3
	3 x Bedroom Units	1ET per 3 x Bedroom Units	8	8
	Pool + Amenities Area	0.003ET per m ²	164 m ²	0
	Total ET			61
	Sewer Design Peak Flow (L/s)			3.87

Based on the above calculations. The peak sewer flow from the site is expected to increase by 3.87L/s. A breakdown of these sewer flow calculations is presented within Appendix H.

8 Conclusion/Recommendations

This integrated water management plan (IWMP) has been prepared in support of the proposed development located at 4-8 Bell Blvd, Kingscliff NSW. This IWMP details the overall stormwater quantity and quality requirement of the site to mitigate the impacts of the development both during its construction and operation phase. Accordingly, the following is recommended:

- Treatment of runoff from ground and basement areas shall be via a proprietary treatment device (HumeCeptor) as per Council's deemed-to-comply solutions.
- The development shall incorporate an infiltration system with a storage volume of 57m³;
- The proposed infiltration system has been designed to accommodate and infiltrate the ARI – 3- month design storm within a 24-hour period (which includes a FOS of 2) prior to discharging;
- An overflow pit is to be connected to the infiltration cell to discharge to the kerb; and
- Water and Sewer servicing is available along the eastern boundary and proposed development demand calculations have been provided.

In addition, a summary of anticipated impacts of the development and proposed mitigation measures is presented in Table 10.

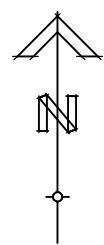
Table 10: Mitigation of Impacts Associated with the Development

Potential Impact	Mitigation Measure	Timing of Measure
Issues associated with increase in runoff due to reduction in pervious area of the site.	Incorporate infiltration tank into building fabric.	Design and construction phases.
	Regular maintenance of stormwater network including infiltration system.	Throughout the life of the building.
Issues associated with stormwater contaminants due to urbanisation of the site.	Incorporate pre-treatment system into the into building fabric.	Design and construction phases.
	Regular maintenance of stormwater network including infiltration system.	Throughout the life of the building.
Issues associated with stormwater contaminants during construction because of the disturbance of the site.	Implement sediment and erosion controls in accordance with Chapter 6 of this report.	During construction

Based on the assessment undertaken, it is believed that the proposed development can manage stormwater appropriately in a sustainable way and that no adverse impacts will occur due to the proposed development.

Appendix A – Site Survey

M.G.A.



(A) EASEMENT FOR PARKING VARIABLE WIDTH (DP1092351)
(B) EASEMENT FOR BATTER 4 WIDE (DP1310938)
(C) EASEMENT TO DRAIN SEWAGE 3 WIDE (DP1310938)



Scale in Metres - 1:250

REV. A 5-12-25 TREE ADDED
Revision
Client:
PODIA

IMPORTANT NOTES :
DATE OF SURVEY: 2/10/2025, 7/10/2025 & 15/10/2025
DATUM FOR LEVEL: SSM126772 RL 10.909 A.H.D.
CONTOUR INTERVAL - 0.5 m
TITLE BOUNDARIES SHOWN HEREON HAVE BEEN DETERMINED BY FIELD SURVEY.
THIS SURVEY IS OF GENERAL TOPOGRAPHY ONLY.
NATURAL SURFACE INDICATED BY DECIMAL POINT.
PRIOR TO ANY DEMOLITION, EXCAVATION OR CONSTRUCTION ON THE SITE, THE RELEVANT AUTHORITIES SHOULD BE CONTACTED FOR POSSIBLE LOCATION OF FURTHER UNDERGROUND SERVICES AND DETAILED LOCATION OF ALL SERVICES.

SV	DENOTES WATER STOP VALVE
FLH	DENOTES FIRE HYDRANT
ELM	DENOTES ELECTRICITY LIGHT POLE
EPIL	DENOTES ELECTRICITY PILLAR
EPIL	DENOTES TELSTRA PILLAR
EPIL	DENOTES TELSTRA PIT
EPIL	DENOTES SEWER LINE
EPIL	DENOTES STORMWATER LINE
EPIL	DENOTES LINEMARKING
EPIL	DENOTES UNDERGROUND ELECTRICITY LINES
EPIL	DENOTES WATER MAIN
EPIL	DENOTES UNDERGROUND TELECOMMUNICATIONS LINE

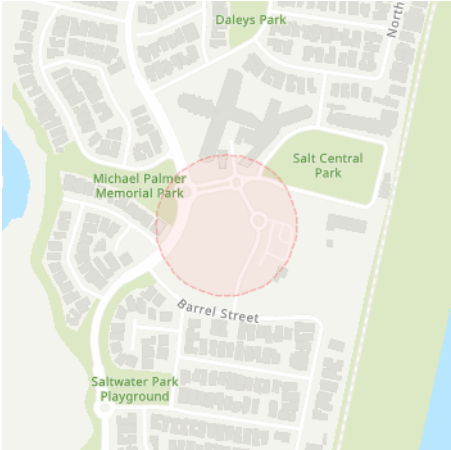
DETAIL & CONTOUR SURVEY	
LOT 2 IN DP1310938 4-8 BELLS BOULEVARD KINGSCLIFF	
Parish of CUDGEN County of ROUS	
SCALE 1:250 AT A1 1:500 AT A3	REF. No. M31854 DATE 10-10-2025 DRAWING No./Size 27174 B Sheet 1 of 1 Rev. A

B & P SURVEYS CONSULTING SURVEYORS ACN 01017236 142 MURWILLUMBAH STREET MURWILLUMBAH NSW 2484 Australia Telephone: (02) 66721924 Facsimile: (02) 66722518 Email: mbah@bpsurveys.com.au Home page: www.bpsurveys.com.au	
Offices Also At : Nerang Ph: (07) 55960370 Tweed Heads Ph: (07) 55363611	



Appendix B – Dial Before you Dig (DBYD)

[Review responses online](#) ↗



Received 5 of 6 responses

Waiting for more

4-8 Bells Boulevard, Kingscliff NSW 2487

Job dates
03/11/2025 → 03/11/2025

These plans expire on
1 Dec 2025

Lodged by
Chaej Wrencher

Authority	Status	Page
 BYDA Confirmation		2
 Elgas (Formerly Kleenheat)	Waiting	-
 Essential Energy	Received	4
 NBN Co NswAct	Received	14
 Optus and or Uecomm Nsw	Received	26
 Telstra NSW North	Received	40
 Tweed Shire Council	Received	49

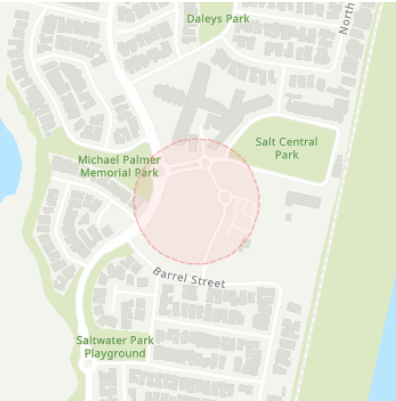
Contact Details

Contact	Contact number	Company	Enquirer ID
Chaej Wrencher	0412 861 023	planit	3034495
Email		Address	
chaej@Planitconsulting.com.au		Shop 9a 80-84 Ballina Street Lennox Head NSW 2478	

Job Site and Enquiry Details

WARNING: The map below only displays the location of the proposed job site and does not display any asset owners' pipe or cables. The area highlighted has been used only to identify the participating asset owners, who will send information to you directly.

Enquiry date	Start date	End date	On behalf of	Job purpose	Locations	Onsite activities
03/11/2025	03/11/2025	03/11/2025	Utility Tweed Shire Council	Excavation	Both Road, Nature Strip, Footpath	Manual Excavation



Check that the location of the job site is correct. If not, you must submit a new enquiry.

If the scope of works change or plan validity dates expire, you must submit a new enquiry.

Do NOT dig without plans. Safe excavation is your responsibility. If you don't understand the plans or how to proceed safely, please contact the relevant asset owners.

User Reference	Address	Notes/description
4-8 Bells Boulevard	4-8 Bells Boulevard Kingscliff NSW 2487	-

Your Responsibility and Duty of Care

- Lodging an enquiry does not authorise project commencement.** Before starting work, you must obtain all necessary information from all affected asset owners.
- If you don't receive plans within 2 business days, contact the asset owner & quote their sequence number.
- Always follow the 5Ps of Safe Excavation (page 2), and locate assets before commencing work.
- Ensure you comply with State legislative requirements for Duty of Care and safe digging.
- If you damage an underground asset, you MUST advise the asset owner immediately.
- By using the BYDA service, you agree to the [Privacy Policy](#) and [Term of Use](#).
- For more information on safe digging practices, visit www.byda.com.au

Asset Owner Details

Below is a list of asset owners with underground infrastructure in and around your job site. It is your responsibility to identify the presence of these assets. Plans issued by Members are indicative only unless specified otherwise. Note: not all asset owners are registered with BYDA. You must contact asset owners not listed here directly.

Referral ID (Seq. no)	Authority Name	Phone	Status
263597330	Elgas (Formerly Kleenheat)	(03) 9706 0215	NOTIFIED
263597332	Essential Energy	13 23 91	NOTIFIED
263597331	NBN Co NswAct	1800 687 626	NOTIFIED
263597334	Optus and or Uecomm Nsw	1800 505 777	NOTIFIED
263597335	Telstra NSW North	1800 653 935	NOTIFIED
263597333	Tweed Shire Council	(02) 6670 2460	NOTIFIED

END OF UTILITIES LIST



Plan

Plan your job. Use the BYDA service at least one day before your job is due to begin, and ensure you have the correct plans and information required to carry out a safe project.



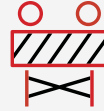
Prepare

Prepare by communicating with asset owners if you need assistance. Look for clues onsite. Engage a skilled Locator.



Pothole

Potholing is physically sighting the asset by hand digging or hydro vacuum extraction.



Protect

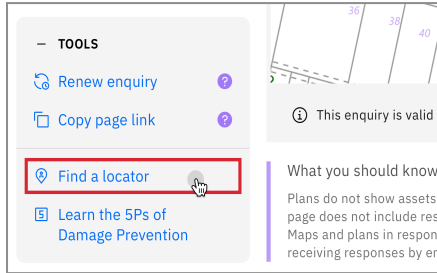
Protecting and supporting the exposed infrastructure is the responsibility of the excavator. Always erect safety barriers in areas of risk and enforce exclusion zones.



Proceed

Only proceed with your excavation work after planning, preparing, potholing (unless prohibited), and having protective measures in place.

Engage a skilled Locator



When you lodge an enquiry you will see skilled Locators to contact

Visit the Certified Locator website directly and search for a locator near you

certloc.com.au/locators

Get FREE Quotes for Contractors & Equipment Fast



Use isseekplant's FREE marketplace to get quotes for the equipment or services you need on your project. Compare quotes from trusted local contractors and get your project done on time and in budget.

1. Fill out your job details in our FREE quick quote form.
2. We send the request to trusted local contractors.
3. The local contractors will contact you directly with quotes

GET QUOTE

Use isseekplant to find trusted contractors near you today, visit:
blog.isseekplant.com.au/byda-isp-get-quotes

Book a FREE BYDA Session



BYDA offers free training sessions to suit you and your organisation's needs covering safe work practices when working near essential infrastructure assets. The free sessions are offered in two different formats - online and face-to-face.

To book a session, visit:
byda.com.au/contact/education-awareness-enquiry-form

BOOK NOW

Referral

263597332

Member Phone

13 23 91

Responses from this member

Response received Mon 3 Nov 2025 4.15pm

File name	Page
Response Body	5
Coversheet_E_PLANS_FOUND.pdf	6
Coversheet_EW_ASSETS_FOUND.pdf	7
EW_ASSETS_FOUNDsafetyNotice.pdf	9
plot161063851484874627239.pdf	13

Asset Name: 50215
Date of enquiry: 3/11/2025 4:13:00 PM
Notification No: 51592643 (Job No)
Sequence No: 263597332

Customer's Name: Chaej Wrencher
Customer's Phone No: +61412861023

Address supplied for dig site location
4-8 Bells Boulevard, Kingscliff, NSW

You will require a PDF viewer such as Adobe Acrobat Reader to view the attached documents.
Adobe Acrobat Reader is freely available at <http://get.adobe.com/reader/>.

Date: Monday, 3 November 2025

To: Chaej Wrencher

Company: planit

Address: Shop 9a,80-84 Ballina Street Lennox Head NSW 2478

ELECTRICAL CABLE LOCATION

Dear Chaej Wrencher

With reference to your enquiry:

- **Location:** 4-8 Bells Boulevard Kingscliff NSW 2487
- **Sequence No:** 263597332
- **Dial Before You Dig Job No:** 51592643
- **Dial Before You Dig Customer No:** 3034495



Caution!

**PLAN DOES NOT IDENTIFY ALL UNDERGROUND ASSETS IN
THIS AREA. DO NOT COMMENCE EXCAVATION BEFORE
CALLING TECHNICAL ENQUIRIES ON 13 23 91.**



CABLE/PIPE LOCATION
Assets were found in the search area

COMPANY NAME:	planit
ATTENTION:	Chaej Wrencher
SEARCH LOCATION:	4-8 Bells Boulevard Kingscliff NSW 2487
SEQUENCE NO:	263597332
DATE:	Monday, 3 November 2025

Provision of Plans:

Please find enclosed plans depicting approximate locations of **Essential Energy** assets in the search location. **The excavator must not assume that there may not be assets owned by other network operators in the search location.**

Underground assets searched for	Underground assets found
Essential Energy Electrical	☒
Essential Energy Water & Sewerage	☐

Plans are updated from time to time to record changes to underground assets and may be updated by Essential Energy without notice. In the event that excavation does not commence within 28 days of receipt of a plan, a new plan should be obtained.

The excavator must retain the plans on site for the duration of the works.

The excavator shall report all damage made to Essential Energy assets immediately. Note that damage includes gouges, dents, holes and gas escapes.

IN CASE OF EMERGENCY OR TO REPORT DAMAGE:
PHONE 13 20 80

DISCLAIMER

Please be aware that plans may **not** reflect alterations to surface levels or the position of roads, buildings, fences etc. **Cable and pipe locations are approximate**, and the plans are **not** suitable for scaling purposes. *Essential Energy does not retain plans for privately-owned underground electrical or water & sewerage assets located on private property. Privately-owned underground electrical assets located on private property are the responsibility of the owner.*

The plans have been prepared for Essential Energy's sole use and benefit. **Essential Energy cannot and does not warrant the accuracy or completeness of the plans.** Essential Energy supplies them at no cost with the object of reducing the serious risk of unintentional damage being caused to its cables and pipes. **Essential Energy does not accept any responsibility for any omissions, inaccuracies or errors in the plans, or any reliance place on the material. Any reliance placed on any plan provided in response to your request is at your own risk.**

Essential Energy retains all intellectual and industrial property rights which exists or may exist in or with respect to the plan(s). The material provided is not to be copied or distributed beyond you.

You release Essential Energy from and against all claims, demands, actions and proceedings arising out of or in any way related to the use of the provided material.

Location of Assets on Site:

The plans indicate only that cables and pipes may exist in the general vicinity – they do not pinpoint the exact location of the cables and pipes.

If it is found that the location of cables or pipes on the plans can be improved, please notify Essential Energy on 13 23 91.

All individuals have a duty of care they must observe when working in the vicinity of underground cables and pipes. It is the **excavator's responsibility to visually expose the underground cables and pipes manually, ie. by using hand-held tools and non-destructive pot-holing techniques prior to any mechanical excavation.** The excavator will be held responsible for all damage caused to the Essential Energy network or cables and pipes, and for the costs associated with the repair of any such damage. The excavator will also be held responsible for all damage caused to any persons.

When digging in the vicinity of underground assets, persons should observe the requirements of the applicable Codes of Practice published by the NSW Work Cover Authority or Safe Work Australia, and any amendments from time to time by the Authorities, including although not limited to:

- Excavation Work
- Managing Electrical Risks in the workplace
- How to manage and control asbestos in the workplace

(Please refer to <https://www.nsw.gov.au/search?q=codes+of+practice>)

When digging in the vicinity of **electrical assets** persons should observe the requirements of the **Electricity Supply Act 1995.**

Persons excavating near live underground electrical reticulation and/or earthing cables **must exercise extreme caution at all times and adhere to the requirements of Essential Energy's Electrical Safety Rules.** (These are available on our website: <http://www.essentialenergy.com.au/content/safety-community> and include:

- [Company Procedure: Work Near Essential Energy's Underground Assets](#)
- [Asbestos Fact Sheet](#)

In some situations, these procedures call for work to be performed by authorised staff.

Should there be any doubt as to the exact location of any underground electrical assets, and the potential for conflict with live underground cables caused by excavation at your work site, you should contact

13 23 91 to arrange for an on-site visit by an Essential Energy representative. No construction or mechanical excavation work is to commence prior to this on-site visit and approval being obtained.

When digging in the vicinity of **water or sewer assets** persons should observe the requirements of the **Water Management Act 2000.**

Should there be any doubt as to the exact location of any underground water and sewer assets, and the potential for conflict with underground water and sewer pipes caused by excavation at your work site, you should contact **13 23 91** to arrange for an on-site visit. No construction or excavation work is to commence prior to this on-site visit and approval being obtained.

Prior Notification:

Please note that for excavation depths greater than 250mm near power poles and stays you should allow for **advance notice** in your construction program to permit Essential Energy time to allocate the necessary field resources to carry out the inspection at the site a **minimum of fourteen (14) working days prior to work commencing.**

For further information please call 13 23 91.

When working near underground electrical infrastructure

NSW legislation requires people who are planning to do excavation work to obtain copies of underground electricity cable plans through Dial Before you Dig (Phone 1100) and to make sure that the plans are no more than 30 days old when excavation commences.

The aim of the legislation is to ensure that when workers dig or drive items near underground electricity cables, ducting, and pipes, they will establish the exact location of the cables and thus avoid coming into contact with them or damaging them. These items carry vital services such as electricity, water, gas and communications, and establishing their location before digging will help ensure worker safety and prevent damage to the network which may cause disruption of essential services to local communities.

Excavate safely and protect underground assets

Dial Before You Dig (DBYD) is the first step to excavating safely. You should use DBYD when you will be undertaking (but not restricted to) the following:

- > Any excavation using machinery digging deeper than 150mm. This includes but is not restricted to back hoes, excavators, borers & kangaroo hammers (ploughing or ripping activities)
- > Any excavation using hand tools deeper than 300mm which includes shovels, spades and crow bars
- > Any vertical or horizontal boring.

Note: The above examples are general and may not cover all situations in the regulations where a DBYD would be required e.g. driving metal posts in the ground.

Regardless of the size of your project you should lodge an enquiry with DBYD before commencing work. This applies to small tasks like backyard landscaping, driving items into the ground as well as heavy work such as directional boring or directional drilling. DBYD strive to respond to enquiries within two business days.

Dial Before You Dig

- > Phone 1100
- > Web www.1100.com.au
- > Download the DBYD iPhone app



The Essential First Step

When a DBYD has been obtained, contact Essential Energy on **13 23 91** to identify any underground pipes and/or cables in the vicinity of excavation works to be carried out. Allow at least **two weeks or 10 working days advance notice** in your construction program to permit Essential Energy time to allocate the necessary field resources to carry out an onsite inspection if required. This service may incur a fee & should be stated at the time of making the appointment.

In the event the excavation does not commence within 28 days of receipt of a plan, a new plan should be obtained. The excavator **must** retain the plans on site for the duration of the excavation works.

Your responsibility

All individuals have a duty of care they must observe when working in the vicinity of underground cables, ducts and pipes. Be aware of the requirement set out in the latest WorkCover Codes of Practice 'Work near Underground Assets Guideline' and 'Work near Overhead Powerlines' which can be viewed at www.workcover.nsw.gov.au or you can purchase a copy of the Code of Practice by contacting WorkCover on 1300 799 003.

You should also be familiar with Essential Energy's operational procedures 'Work near Essential Energy's underground assets' CEOP8041 and 'Construction work near electricity network' CEOP1116, which can be found at essentialenergy.com.au/construction

- > **Employers:** If you're an employer or employing someone to excavate, complete construction or drive items into the ground even at home you have a legal obligation to ensure their safety
- > **Excavators:** It is the excavator's responsibility to visually expose the underground pipes and cables manually before any construction begins.

Note – when excavating involving high pressure water or compressed air to break up the ground, which is then removed by a powerful vacuum unit to expose critical utilities after they have been electronically located to confirm identity, size, number of services and depth, checks should be carried out to ensure the pressure is acceptable for all cables and other assets which may be found prior to commencing pot holing by this method. Warning: CONSAC cables shouldn't be potholed by this method and must be de-energised before any work carried out near them. It's recommended to only use air/vacuum equipment to pot hole that operates at or less than 13,790Kpa (2000psi).

Be safe, because they need you



No Go Zone for powered excavation

Extract from WorkCover "Work near Underground Assets"

TABLE 1: Types of assets and limits of underground approach

Assets	Clearances	No Go Zone for Powered Excavation	Controls	Typical Depths
Low voltage electricity cables – voltages less than or equal to 1000V (1kV)	Close proximity with the use of hand tools	300 mm	Must contact asset owner for specific conditions	450 – 750 mm
Electricity conductors from 11,000V (11kV) up to 33,000V (33 kV)	Close proximity with the use of hand tools	600 mm	Must contact asset owner for specific conditions	900 mm
Underground sub-transmission cables 33,000V up to 132,000V (132 kV)	Must contact asset owner	Must contact asset owner	Must be carried out under the supervision of the asset owner	900 mm
High Voltage Electricity cables – voltages from 1000V (1kV) up to (33 kV)	Close proximity with the use of hand tools	Must contact asset owner	Must contact asset owner for specific conditions	600 – 1000 mm
Extra High Voltage Electricity Transmission cables – voltages above (132 kV) and 330,000V (330 kV)	Must contact asset owner	Must contact asset owner	Work must be carried out under the supervision of the asset owner	800 – 1200 mm

How to expose cables or pipes

Location plans provide an indication of the presence of underground assets only; they do not pinpoint the exact location. This is why manual exposure is required, which can be done by potholing. Underground assets must first be exposed by pot-holing with non-conductive tools to identify their location. Excavation with hand tools shall be carried out carefully up to, but not closer than, the minimum distances specified in Table 1. Several potholes may need to be dug manually to determine and satisfy yourself of the exact locations of cables or pipes to avoid any mishaps. Manual pot-holing needs to be undertaken with extreme care, common sense and while employing techniques least likely to damage cables. For example, orientate shovel blades and trowels parallel to the cable rather than digging across the cable. Look out for sand, plastic strips or specially marked bricks when excavating, which signal the presence of underground cables.

Only once all underground assets have been located, marked and protected against damage can the excavation proceed with caution.

No Go Zone for powered excavation

Directional boring is powered excavation and contact with the asset owner must be made before excavation takes place. For directional boring across the line of an asset a minimum clearance of **300 mm** from the asset shall be maintained. When boring across the line of an underground asset, the location of the asset/s shall be positively proven by hand digging (pot-holing) or by another approved method and a safety observer appointed.

Note: Where the risk assessment identifies a potential risk of making contact with either underground assets, safety observer/s would be required. The safety observer's

responsibility is to ensure that approach distances from underground and overhead assets are maintained.

For boring under electricity cables, the only true way of knowing where the directional drill is, is to "see" it. It is necessary to excavate a slit trench at right angles to the approaching drill and 500mm deeper than the asset being protected and beside the cables to confirm the depth of the cables and ensure the drill is not within the minimum approach distance of the cable (specified in Table 1).

For directional boring parallel to the asset and at the level of the asset, a clearance of **500 mm** shall be maintained from the edge of the nearest asset and pot holed at 10m intervals to ensure clearances are maintained with a safety observer appointed.

The four Ps of safe excavation

- 1. Plan** – Plan your job. Use the Dial Before You Dig service before your job is due to begin to help keep your project safe. Contact Essential Energy on 13 23 91 to identify any underground pipes and/or cables in the vicinity
- 2. Pothole** – Potholing (digging by hand) is a method to assist in establishing the exact location of all underground infrastructure. Only use air/vacuum equipment to pot hole that operates at or less than 13,790Kpa (2000psi)
- 3. Protect - Protecting and supporting exposed infrastructure is the excavator's responsibility.** Always erect safety barriers in areas at risk to protect underground networks
- 4. Proceed** – But ONLY when you have planned, potholed and put the protective measures in place.

Be safe, because they need you



Digging safely

You cannot be too careful when it comes to safe excavation. Avoiding underground ducting pipe and cable damage is as simple as having the right tools, the right skills and the right information.

- > Study the plans you receive from asset owners thoroughly
- > Check to see if they relate to the area you requested and make sure you understand them. If you are unclear about what the symbols mean or how to proceed, contact the relevant network owner
- > Check the work area for other forms of electrical equipment, including street lights, ground substations, phone boxes or traffic lights – all good indicators that underground cables will be present
- > Remember underground cables can also be present even if overhead powerlines have been identified
- > Never assume the depth or alignment of pipes and cables. Installed networks assets may not have been installed in a straight line
- > Always observe any instructions stated on the plans provided by the asset owner
- > Remember, plans and maps identifying the location of underground cables and depths can alter after road upgrades or developments and underground assets may be as little as a few millimetres below the surface
- > Other service lines (for example gas mains (pipes) and communication cables) can also be present. Shared trenches are frequently used on underground runs to premises
- > New electrical cables are sometimes laid using existing old conduits
- > Various methods of protecting underground cables may be utilised (for example electrical bricks, conduits, concrete or flat PVC barriers) or may be direct buried or installed by under-boring methods which may have no visual disturbance of the ground
- > Ensure overhead & electrical structures aren't undermined during excavation.

Earth cables

Earth cables are an important part of all electrical installations and have two main purposes:

- > To safeguard against the possibility of danger to life
- > To maintain the good working order of the electrical network.

They can have potentially dangerous electrical current flowing through them. Usually they have a green and yellow covering but could be a bare cable buried directly in the ground.

Even if the map provided does not show underground cables, earth cables may be present. These earth cables are usually associated with electrical equipment located

on the pole such as transformers, switching equipment, permanent earthing points or Padmount / kiosk subs.

It's recommended that if any excavation is to take place within **10m** of a power pole with a cable running down it into the ground, contact is made with Essential Energy on **13 23 91** to have the earthing system located. While an effort is made to install the earthing under the powerline and guy if installed, sometimes circumstances may require a variation to this, so do not assume where they are installed. The distance and configuration that the earthing cable is installed varies due to the soil conditions and system type (e.g. Single wire earth return (SWER)).

Additional earthing electrodes stakes may be installed to ensure the required earthing reading is obtained.

WARNING:SWER installations

- > Contacting SWER earthing can be deadly
- > Voltage is present on SWER transformer earthing systems either at 12.7 kV or 19.1kV
- > NO excavation is allowed within 10 metres of a SWER transformer pole.

Excavating around electrical poles

Anyone intending to excavate around any electrical item risks serious injury or death as a result of contact with underground cables or the earthing system.

Assets around poles

For excavation depths greater than 250mm near power poles and stays you must arrange for an Essential Energy representative to attend the worksite 2 weeks prior to work commencing. Call Essential Energy on **13 23 91**. More information is available in Essential Energy's operational procedure, 'Work near Essential Energy's underground assets: CEOP8041' which can be found at essentialenergy.com.au/construction

Unless otherwise agreed, underground assets and other obstructions around poles are to be kept a minimum distance of 300mm from the periphery of the pole, to allow inspections by the asset owner employees.

No excavation within 10 metres of a SWER transformer pole is to occur without the approval of the local electricity asset owner. It should be noted that the NSW Service and Installation Rules require a sketch of the underground service/consumers mains to be marked inside the switchboard.

The risks are higher for those earthing systems of the SWER constructions as the earthing is utilised as the return path.

Be safe, because they need you



Typically any electrical item installed on a pole will have an earth wire running down the pole into the ground, which includes:

- > Transformers in urban and rural situations
- > Isolation, protection and regulation items.

Transformers located on the ground (padmount and kiosk), besides having underground electrical cables, will have an earthing system installed around them.

Damaged earthing

If an earth cable has been damaged, maintain a clearance of eight (8) meters and contact Essential Energy on **13 23 91**. **DONT ATTEMPT** to re-join the cable - this will place you at serious risk.

Operating near underground cables and earths

- > Underground cables should never be moved or relocated unless under the express authority of the organisation or person responsible for the powerlines
- > The excavator shall report all damage made to Essential Energy assets immediately. Damage includes: gouges, dents, holes and gas escapes
- > Never undermine poles, cables, earthing cable, pad-mount and kiosk substations.



Above: Poles with become unstable if undermined

Make sure it can't go wrong

You should ensure that people at work, their equipment (tools and plant) or materials do not come within close proximity to underground powerlines unless:

- > A written risk assessment has been completed and a safe system of work implemented
- > The relevant safety precautions and worker training requirements, including WorkCover Codes of Practice and Essential Energy's requirements, have been implemented and complied with.

If working in close proximity to underground cables is unavoidable and the risk assessment has been completed, the following should be considered to control the risks and ensure work safety:

- > Have the power switched off by Essential Energy
- > Consider all conductors as live unless it is positively known they have been de-energised
- > Where appropriate, provide ground markings to identify location and warn workers of the presence of underground power and other assets.

Emergency situations

In the event that contact with an underground powerline occurs or cables are exposed or damaged, remembering the following points could help save a life:

- > If the situation is at all life threatening, immediately contact the Emergency Services on 000 (triple zero)
- > Call Essential Energy's 24-hour supply interruptions line – **13 20 80** to switch off the power if required or report damage or exposure cables / conduits
- > If any other underground assets are damaged you should contact the affected asset owners immediately
- > Treat underground cables as alive, even if they appear to be dead
- > Keep everyone at least eight metres away from the incident site, the person or any machinery making contact with underground cable
- > Don't panic or touch the person receiving the electric shock – this could place you at risk
- > Untrained, unequipped persons should not attempt to rescue a person receiving an electric shock. All too often secondary deaths occur when others go to the aid of earlier victims
- > Remain on/inside the machinery until the supply is disconnected
- > If possible, break contact between the machinery and underground cable.



For more information

Essential Energy's Public Safety team is available to facilitate Electrical Awareness sessions and discuss any questions relating to electrical safety. For more information on electrical safety please call

- > Essential Energy General Enquiries 13 23 91
- > Essential Energy Supply Interruptions 13 20 80
- > WorkCover NSW 13 10 50
- > Dial Before You Dig www.1100.com.au 1100

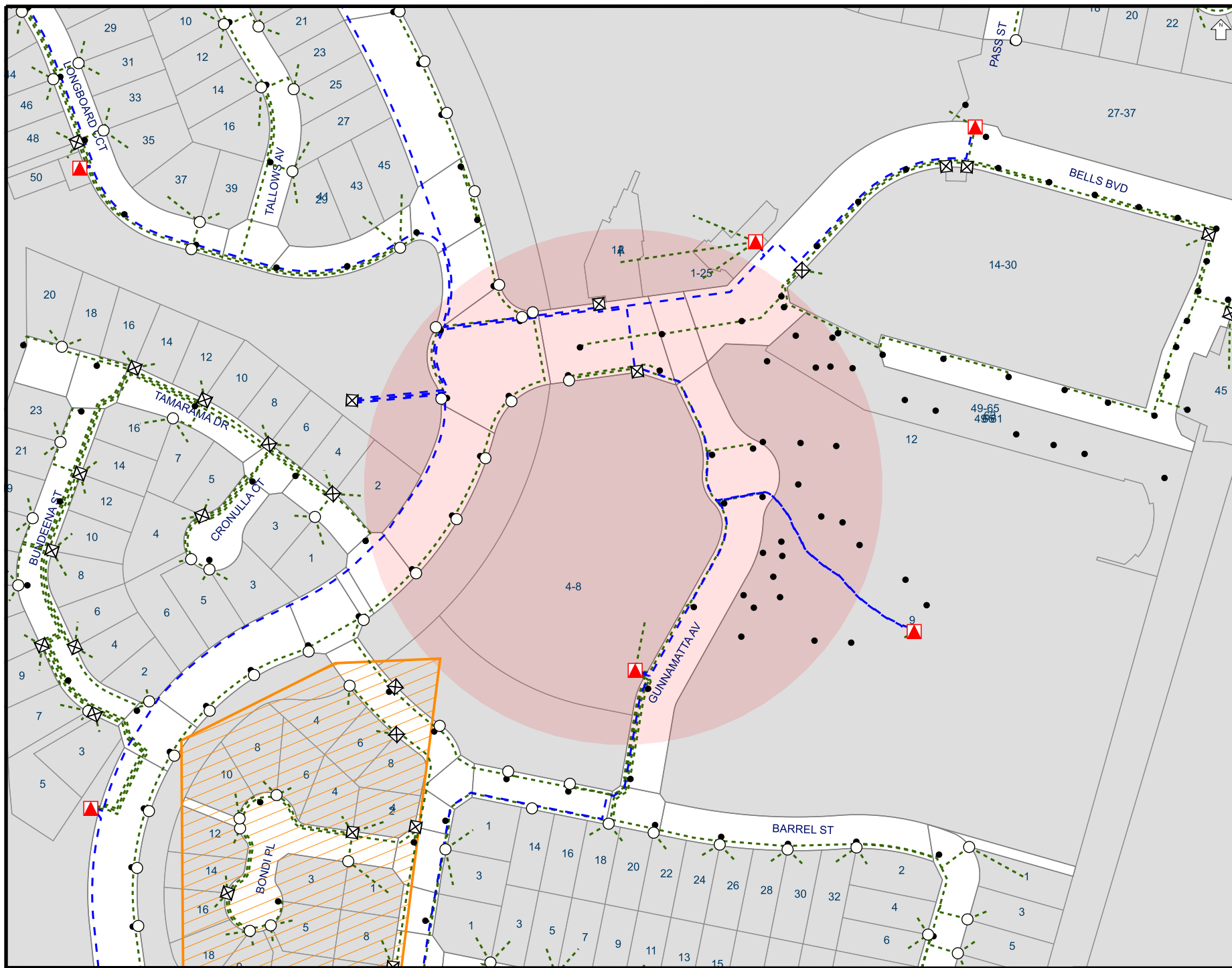
- > Follow us  
- > or visit essentialenergy.com.au/safety

Safety first: Before you dig or drive items into the ground

1. Contact DBYD
2. DO NOT attempt to excavate within 10m of any power pole or electrical item
3. Contact Essential Energy on 13 23 91 for assistance to locate cables and earthing
4. Locate asset: Pot-hole
5. Proceed only if you have satisfied yourself it is safe.

Be safe, because they need you





Overhead wires not shown
LOOK UP & LIVE!

LEGEND

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

Critical Assets

Contact Essential Energy
on 13 23 91

- Zone Substation
- Underground Cable
- Underground Fibre

Proposed Works

- Area of proposed works

Proposed assets are shown as
orange symbols

THE INFORMATION ON THIS
MAP MAY NOT BE
ACCURATE.

If details are
incorrect, please
notify

Essential Energy on
13 23 91
(or fax 1800 354 636)

ISSUE DATE: 03/11/2025

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

A4 SCALE: 1:2270



Referral263597331

Member Phone1800 687 626

Responses from this member

Response received Mon 3 Nov 2025 4.16pm

File name	Page
Response Body	15
263597331_20251103_051537453217_1.pdf	16
4678_NBN_Dial_Before_You_Dig_Poster_20170517.pdf	20
Disclaimer_263597331_20251103_051537453217.pdf	22

Hi Chaej Wrencher,

Please find attached the response to your DBYD referral for the address mentioned in the subject line. The location shown in our DBYD response is assumed based off the information you have provided. If the location shown is different to the location of the excavation then this response will consequently be rendered invalid.

Take the time to read the response carefully and note that this information is only valid for 28 days after the date of issue.

If you have any further enquiries, please do not hesitate to contact us.

Regards,
Network Services and Operations
NBN Co Limited
P: 1800626329
E: dbyd@nbnco.com.au
www.nbnco.com.au

Confidentiality and Privilege Notice

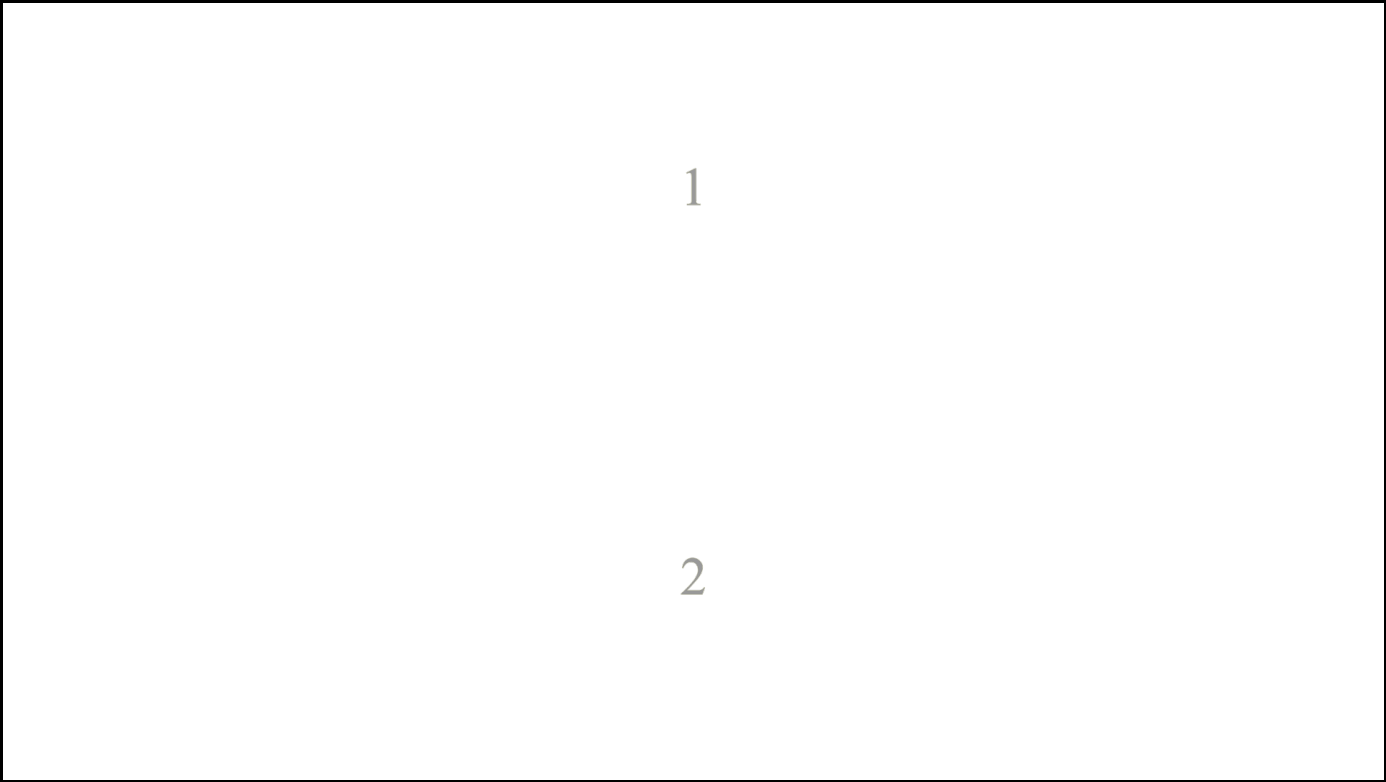
This e-mail is intended only to be read or used by the addressee. It is confidential and may contain legally privileged information. If you are not the addressee indicated in this message (or responsible for delivery of the message to such person), you may not copy or deliver this message to anyone, and you should destroy this message and kindly notify the sender by reply e-mail. Confidentiality and legal privilege are not waived or lost by reason of mistaken delivery to you. Any views expressed in this message are those of the individual sender, except where the sender specifically states them to be the views of NBN Co Limited

Please Do Not Reply To This Mail

To: Chaej Wrencher
Phone: Not Supplied
Fax: Not Supplied
Email: chaej@Planitconsulting.com.au

Dial before you dig Job #:	51592643	
Sequence #	263597331	
Issue Date:	03/11/2025	
Location:	4-8 Bells Boulevard , Kingscliff , NSW , 2487	

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

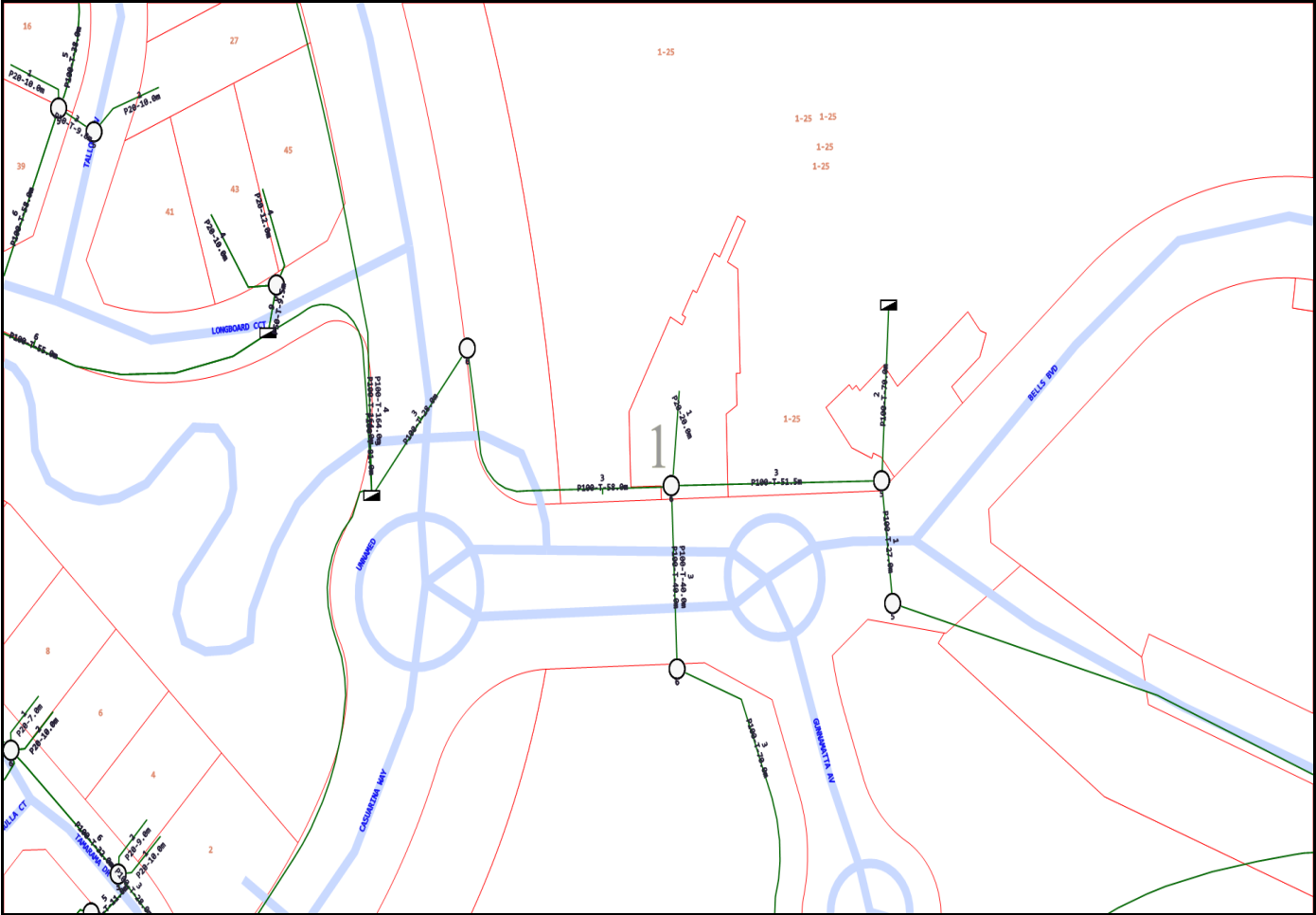




LEGEND



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





Working near **nbn**TM cables

nbn has partnered with Dial Before You Dig to give you a single point of contact to get information about **nbn** underground services owned by **nbn** and other utility/service providers in your area including communications, electricity, gas and other services. Contact with underground power cables and gas services can result in serious injury to the worker, and damage and costly repairs. You must familiarise yourself with all of the Referral Conditions (meaning the referral conditions referred to in the DBYD Notice provided by **nbn**).

Practice safe work habits

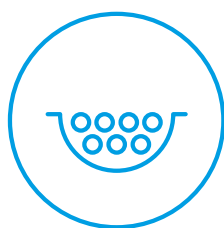
Once the DBYD plans are reviewed, the Five P's of Excavation should be adopted in conjunction with your safe work practices (which must be compliant with the relevant state Electrical Safety Act and Safe Work Australia "Excavation Work Code of Practice", as a minimum) to ensure the risk of any contact with underground **nbn** assets are minimised.



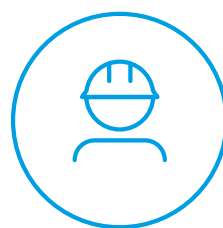
Plan: Plan your job by ensuring the plans received are current and apply to the work to be performed. Also check for any visual cues that may indicate the presence of services not covered in the DBYD plans.



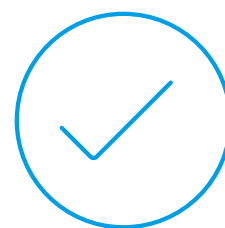
Prepare: Prepare for your job by engaging a DBYD Certified Plant Locator to help interpret plans and identify on-site assets. Contact **nbn** should you require further assistance.



Pothole: Non-destructive potholing (i.e. hand digging or hydro excavation) should be used to positively locate **nbn** underground assets with minimal risk of contact and service damage.

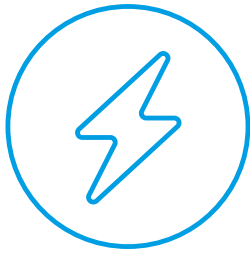


Protect: Protecting and supporting the exposed **nbn** underground asset is the responsibility of the worker. Exclusion zones for **nbn** assets are clearly stated in the plan and appropriate controls must be implemented to ensure that encroachment into the exclusion zone by machinery or activities with the potential to damage the asset is prevented.

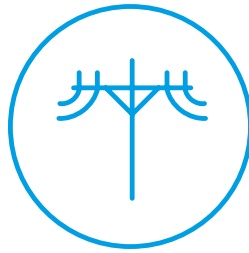


Proceed: Proceed only when the appropriate planning, preparation, potholing and protective measures are in place.

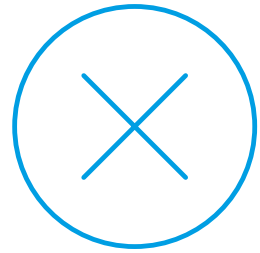
Working near **nbn**TM cables



Identify all electrical hazards, assess the risks and establish control measures.



When using excavators and other machinery, also check the location of overhead power lines.



Workers and equipment must maintain safety exclusion zones around power lines.

Once all work is completed, the excavation should be re-instated with the same type of excavated material unless specified by **nbn**. Please note:

- Construction Partners of **nbn** may require additional controls to be in place when performing excavation activities.
- The information contained within this pamphlet must be used in conjunction with other material supplied as part of this request for information to adequately control the risk of potential asset damage.

Contact

All **nbn**TM network facility damages must be reported online [here](#).
For enquiries related to your DBYD request please call 1800 626 329.

Disclaimer

This brochure is a guide only. It does not address all the matters you need to consider when working near our cables. You must familiarise yourself with other material provided (including the Referral Conditions) and make your own inquiries as appropriate.

nbn will not be liable or responsible for any loss, damage or costs incurred as a result of reliance on this brochure.

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To: Chaej Wrencher
Phone: Not Supplied
Fax: Not Supplied
Email: chaej@Planitconsulting.com.au

Before You Dig Australia Job #:	51592643	 BEFORE YOU DIG www.byda.com.au Zero Damage - Zero Harm
Sequence #	263597331	
Issue Date:	03/11/2025	
Location:	4-8 Bells Boulevard , Kingscliff , NSW , 2487	

Information

The area of interest requested by you contains one or more assets.

nbn™ Assets	Search Results
Communications	Asset identified
Electricity	No assets

In this notice **nbn™ Facilities** means *underground fibre optic, telecommunications and/or power facilities, including but not limited to cables, owned and controlled by nbn™*

Location of nbn™ Underground Assets

We thank you for your enquiry. In relation to your enquiry at the above address:

- **nbn's** records indicate that there **ARE nbn™** Facilities in the vicinity of the location identified above ("Location").
- **nbn** indicative plan/s are attached with this notice ("Indicative Plans").
- The Indicative Plan/s show general depth and alignment information only and are not an exact, scale or accurate depiction of the location, depth and alignment of **nbn™** Facilities shown on the Plan/s.
- In particular, the fact that the Indicative Plans show that a facility is installed in a straight line, or at uniform depth along its length cannot be relied upon as evidence that the facility is, in fact, installed in a straight line or at uniform depth.
- You should read the Indicative Plans in conjunction with this notice and in particular, the notes below.
- You should note that, at the present time, the Indicative Plans are likely to be more accurate in showing location of fibre optics and telecommunications cables than power cables. There may be a variation between the line depicted on the Indicative Plans and the location of any power cables. As such, consistent with the notes below, particular care must be taken by you to make your own enquiries and investigations to precisely locate any power cables and manage the risk arising from such cables accordingly.
- The information contained in the Indicative Plan/s is valid for 28 days from the date of issue set out above. You are expected to make your own inquiries and perform your own investigations (including engaging appropriately qualified plant locators, e.g BYDA Certified Locators, at your cost to locate **nbn™** Facilities during any activities you carry out on site).

We thank you for your enquiry and appreciate your continued use of the Before You Dig Australia Service. For any enquiries related to moving assets or Planning and Design activities, please visit the **nbn Commercial Works** website to complete the online application form. If you are planning to excavate and require further information, please email dbyd@nbnco.com.au or call 1800 626 329.

Notes:

1. You are now aware that there are **nbn™** Facilities in the vicinity of the above property that could be damaged as a result activities carried out (or proposed to be carried out) by you in the vicinity of the Location.
2. You should have regard to section 474.6 and 474.7 of the *Criminal Code Act 1995* (CoA) which deals with the consequences of interfering or tampering with a telecommunications facility. Only persons authorised by **nbn** can interact with **nbn's** network facilities.
3. Any information provided is valid only for **28 days** from the date of issue set out above.

Referral Conditions

The following are conditions on which **nbn** provides you with the Indicative Plans. By accepting the plans, you are agreeing to these conditions. These conditions are in addition, and not in replacement of, any duties and obligations you have under applicable law.

1. **nbn** does not accept any responsibility for any inaccuracies of its plans including the Indicative Plans. You are expected to make your own inquiries and perform your own investigations (including engaging appropriately qualified plant locators, e.g BYDA Certified Locators, at your cost to locate **nbn™** Facilities during any activities you carry out on site).
2. You acknowledge that **nbn** has specifically notified you above that the Indicative Plans are likely to be more accurate in showing location of fibre optics and telecommunications cables than power cables. There may be a variation between the line depicted on the Indicative Plans and the location of any power cables.
3. You should not assume that **nbn™** Facilities follow straight lines or are installed at uniform depths

along their lengths, even if they are indicated on plans provided to you. Careful onsite investigations are essential to locate the exact position of cables.

4. In carrying out any works in the vicinity of **nbn**™ Facilities, you must maintain the following minimum clearances:
 - 300mm when laying assets inline, horizontally or vertically.
 - 500mm when operating vibrating equipment, for example: jackhammers or vibrating plates.
 - 1000mm when operating mechanical excavators.
 - Adherence to clearances as directed by other asset owner's instructions and take into account any uncertainty for power cables.
5. You are aware that there are inherent risks and dangers associated with carrying out work in the vicinity of underground facilities (such as **nbn**™ fibre optic, copper and coaxial cables, and power cable feed to **nbn**™ assets). Damage to underground electric cables may result in:
 - Injury from electric shock or severe burns, with the possibility of death.
 - Interruption of the electricity supply to wide areas of the city.
 - Damage to your excavating plant.
 - Responsibility for the cost of repairs.
6. You must take all reasonable precautions to avoid damaging **nbn**™ Facilities. These precautions may include but not limited to the following:
 - All excavation sites should be examined for underground cables by careful hand excavation. Cable cover slabs if present must not be disturbed. Hand excavation needs to be undertaken with extreme care to minimise the likelihood of damage to the cable, for example: the blades of hand equipment should be aligned parallel to the line of the cable rather than digging across the cable.
 - If any undisclosed underground cables are located, notify **nbn** immediately.
 - All personnel must be properly briefed, particularly those associated with the use of earth-moving equipment, trenching, boring and pneumatic equipment.
 - The safety of the public and other workers must be ensured.
 - All excavations must be undertaken in accordance with all relevant legislation and regulations.
7. You will be responsible for all damage to **nbn**™ Facilities that are connected whether directly, or indirectly with work you carry out (or work that is carried out for you or on your behalf) at the Location. This will include, without limitation, all losses expenses incurred by **nbn** as a result of any such damage.
8. You must immediately report any damage to the **nbn**™ network that you are/become aware of. Notification may be by telephone - 1800 626 329.
9. Except to the extent that liability may not be capable of lawful exclusion, **nbn** and its servants and agents and the related bodies corporate of **nbn** and their servants and agents shall be under no liability whatsoever to any person for any loss or damage (including indirect or consequential loss or damage) however caused (including, without limitation, breach of contract negligence and/or breach of statute) which may be suffered or incurred from or in connection with this information sheet or any plans (including Indicative Plans) attached hereto. Except as expressly provided to the contrary in this information sheet or the attached plans (including Indicative Plans), all terms, conditions, warranties, undertakings or representations (whether expressed or implied) are excluded to the fullest extent permitted by law.

All works undertaken shall be in accordance with all relevant legislations, acts and regulations applicable to the particular state or territory of the Location. The following table lists all relevant documents that shall be considered and adhered to.

State/Territory	Documents
National	Work Health and Safety Act 2011
	Work Health and Safety Regulations 2011
	Safe Work Australia - Working in the Vicinity of Overhead and Underground Electric Lines (Draft)

	Occupational Health and Safety Act 1991
NSW	Electricity Supply Act 1995
	Work Cover NSW - Work Near Underground Assets Guide
	Work Cover NSW - Excavation Work: Code of Practice
VIC	Electricity Safety Act 1998
	Electricity Safety (Network Asset) Regulations 1999
QLD	Electrical Safety Act 2002
	Code of Practice for Working Near Exposed Live Parts
SA	Electricity Act 1996
TAS	Tasmanian Electricity Supply Industry Act 1995
WA	Electricity Act 1945
	Electricity Regulations 1947
NT	Electricity Reform Act 2005
	Electricity Reform (Safety and Technical) Regulations 2005
ACT	Electricity Act 1971

Thank You,

nbn BYDA

Date: 03/11/2025

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Referral
263597334

Member Phone
1800 505 777

Responses from this member

Response received Mon 3 Nov 2025 4.17pm

File name	Page
Response Body	27
263597334 - Optus Plan.pdf	28
263597334 - Optus Response Letter.pdf	29

Optus - Before You Dig Australia - REFERRAL NOTIFICATION

This referral has been successfully processed by Optus and the results are contained in the attached files.

Notice: Please DO NOT REPLY TO THIS EMAIL as it has been automatically generated and replies are not monitored.

If you have any queries or attachments missing please contact:

Network Operations Centre
1 Lyonpark Road,
Macquarie Park, NSW 2113
Ph: 1800 505 777
Fax: 1300 307 035

You will require Adobe Reader to view attachments.

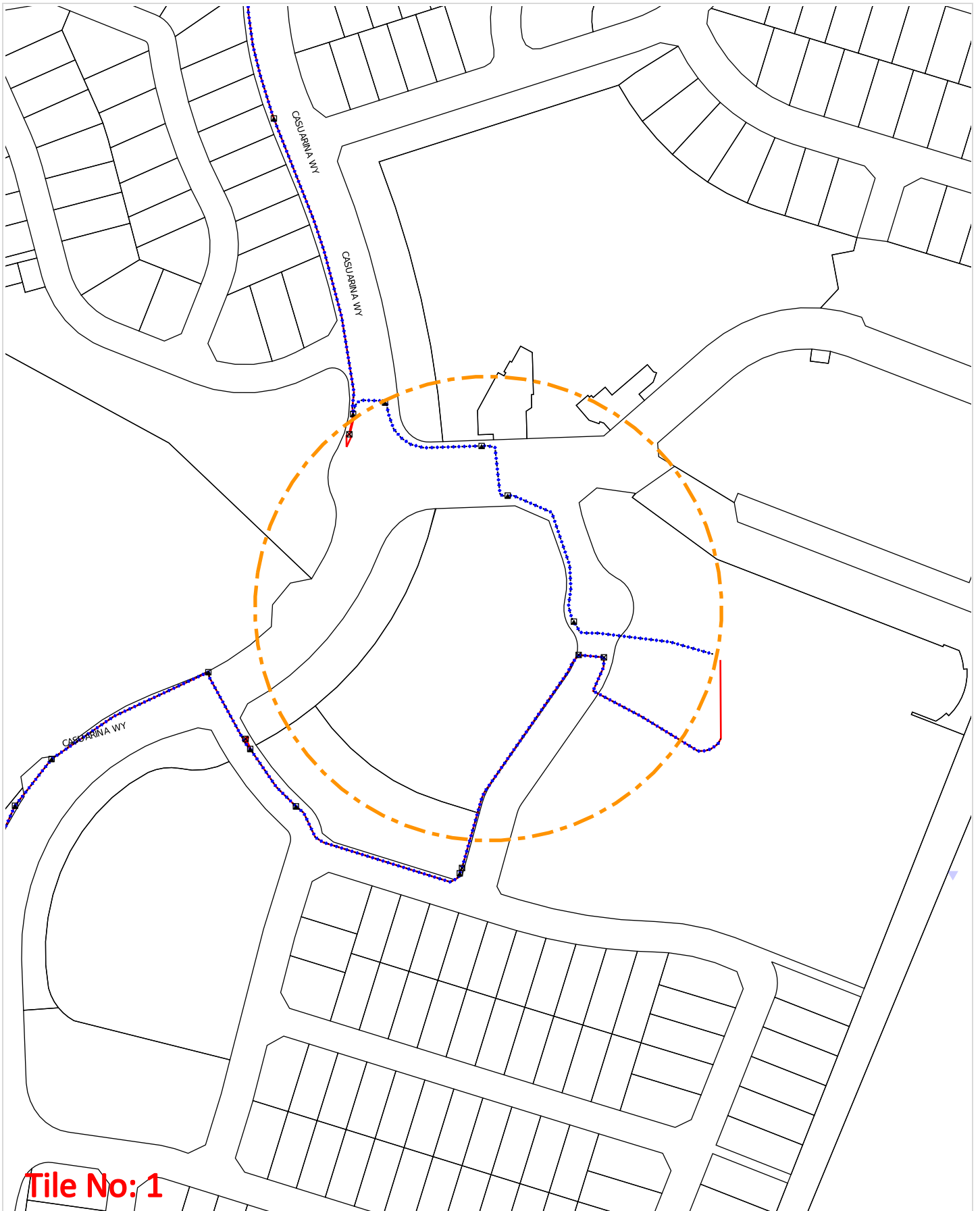
<http://www.adobe.com/downloads/>

We thank you for your enquiry and appreciate your continued use of the “Before You Dig Australia Service” Asset Analysis Service. If you require further information in relation to Optus and/or Uemcomm cables please contact Optus on above.

This reply relates only to the location indicated above and is valid for 30 days from the sent date. Where additional works are planned that have not been specified within this reply, Optus require that an additional enquiry be submitted to Before You Dig Australia enquiry Service: <http://www.byda.com.au>

In the case of no additional location request being submitted, Optus will hold the relevant party responsible for any damage to Optus and/or Uecommm plant and all expenses incurred by Optus as a result of asset damage.

This e-mail may contain confidential information. If you are not the intended recipient, please notify Network Operations Centre immediately and delete this e-mail from your system. You must not disclose this e-mail to anyone without express permission from the sender. The contents of all e-mails sent to and received from Optus may be scanned, stored, or disclosed to others at Optus’ discretion.



WARNING: This document is confidential and may also be privileged. Confidentiality nor privilege is not waived or destroyed by virtue of it being transmitted to an incorrect addressee. Unauthorised use of the contents is therefore strictly prohibited. Any information contained in this document that has been extracted from our records is believed to be accurate, but no responsibility is assumed for any error or omission. Optus Plans and information supplied are valid for 30 days from the date of issue. If this timeline has elapsed, please raise a new enquiry.

Sequence Number: 263597334

Date Generated: 03 Nov 2025



For all Optus DBYD plan enquiries –
Email: Fibre.Locations@optus.net.au
For urgent onsite assistance contact 1800 505 777
Optus Limited ACN 052 833 208



Date: 03 Nov 2025
To: Chaej Wrencher
Company: planit
Address: Shop 9a,80-84 Ballina Street
Lennox Head, NSW 2478

ENQUIRY DETAILS

Location: 4-8 Bells Boulevard, Kingscliff, NSW 2487
Sequence No.: 263597334
BYDA Reference: 51592643

In relation to your enquiry concerning the above location, Optus advises as follows:

Optus records indicate that there ARE underground Optus FIBRE OPTIC TELECOMMUNICATIONS ASSETS in the vicinity of the above location as per the attached drawing(s).

PLEASE NOTE that any interference with these assets may be considered an offence under the Criminal Code Act 1995 (Cth). Optus reserves the right to seek compensation for loss or damage to its assets including consequential loss.

This reply is valid for a period of 30 days from the date above.

IMPORTANT INFORMATION

Asset location drawings provided by Optus are reference diagrams and are provided as a guide only. The completeness of the information in these drawings cannot be guaranteed. Exact ground cover and alignments cannot be provided with any certainty as these may have altered over time. Depths of telecommunications assets vary considerably as do alignments. It is essential to identify the location of any Optus assets in the vicinity prior to engaging in any works.

All Optus assets in the vicinity of any planned works will need to be electronically located to ascertain their general location. Depending on the scope of planned works in the vicinity, the assets may also need to be physically located.

YOU MUST ENGAGE THE SERVICES OF ONE OF THE OPTUS ASSET ACCREDITED LOCATORS TO CARRY OUT ASSET LOCATION (REFER LIST OF ACCREDITED LOCATORS AT THE END OF THIS OPTUS RESPONSE).

Unless otherwise agreed with Optus, where an on-site asset location is required, the requestor is responsible for all costs associated with the locating service including (where required) physically exposing the Optus asset.

DUTY OF CARE

When working in the vicinity of telecommunications assets you have a legal "Duty of Care" and non-interference that must be observed.

It is your responsibility as the requesting party (as a landowner or any other party involved in the planned works) to design for minimal impact to any existing Optus asset. Optus can assist at the design stage through consultation.

It is also your, as the requesting party (or your representative's), responsibility to:

- Obtain location drawings (through the Before You Dig Australia process) of any existing Optus assets at a reasonable time before any planned works begin;
- Have an Optus Accredited Asset Locator identify the general location of the Optus asset and physically locate the asset where planned works may encroach on its alignment; and
- Contact Optus for further advice where requested to do so by this letter.

DAMAGE TO ANY OPTUS ASSET MUST BE REPORTED TO 1800 505 777 IMMEDIATELY

You, your head contractor, and any relevant subcontractor are all responsible for any Optus asset damage as a result of planned activities in the vicinity of Optus assets.

This applies where works commence prior to obtaining Optus drawings, where there is failure to follow instructions or during any construction activities.

Optus reserves the right to recover compensation for loss or damage to its assets including consequential loss. Also, you, your head contractor and any relevant subcontractor may also be liable for prosecution under the Criminal Code Act 1995 (Cth).

ASSET RELOCATIONS

You are not permitted by law to relocate, alter or interfere with any Optus asset under any circumstance. Any unauthorised interference with an Optus asset may lead to prosecution under the Criminal Code Act 1995 (Cth). Enquiries relating to the relocation of Optus assets must be referred to the relevant Optus Damages and Relocations Team (refer to "FURTHER ASSISTANCE").

APPROACH DISTANCES

On receipt of Optus asset location drawings and prior to commencing any planned works near an Optus asset, engage an Optus Accredited Locator to undertake a general location of the Optus asset.

Physical location of the Optus asset by an Optus Accredited Locator will also be required where planned works are within the following approach distances of the general location of the Optus asset:

- In built up metropolitan areas where road and footpaths are well defined by kerbs or other features a minimum clear distance of 1 meter must be maintained from the general location of the Optus asset.
- In non-established or unformed metropolitan areas, a minimum clear distance of 3 meters must be maintained from the general location of the Optus asset.
- In country or rural areas where wider variations may exist between the general and actual location of an Optus asset may exist, then a minimum clear distance of 5 meters must be maintained from the general location of the Optus asset.

If planned works are parallel to the Optus asset, then the Optus asset must be physically located by an Optus Accredited Locator at a minimum of 5 meter intervals along the length of the parallel works prior to work commencing.

Under no circumstances is crossing of any Optus asset permitted without physical location of the asset being carried out by an Optus Accredited Locator. Depending on the asset involved an Optus representative may be required onsite.

The minimum clearances to the physical location of Optus assets for the following specific types of works must be maintained at all times.

Note: Where the clearances in the following table cannot be maintained or where the type of work differs from those listed then advice must be sought from the relevant Optus Damages and Relocations Team (refer to "FURTHER ASSISTANCE").

Type of Works	Clearance to Physical Location of Optus Asset
Jackhammers / Pneumatic Breakers	Not within 1 meter.
Light duty Vibrating Plate or Wacker Packer type compactors (not heavy road construction vibrating rollers etc.)	500mm compact clearance cover before a light duty compactor can be used over any Optus conduit. No compaction permitted over Optus direct buried cable without prior approval from Optus.
Boring Equipment (in-line, horizontal and vertical)	Not within 5 meters parallel of the Optus asset location without an Accredited Optus Asset Locator physically exposing the Optus asset and with an Optus representative onsite. Not to cross the Optus asset without an Accredited Optus Asset Locator physically exposing the Optus asset and with an Optus representative onsite.

Type of Works	Clearance to Physical Location of Optus Asset
Heavy vehicle Traffic (over 3 tonnes)	Not to be driven across Optus conduits with less than 600mm of cover. Not to be driven across Optus direct buried cable with less than 1.2 meters of cover. Once off crossings permitted, multiple crossing (e.g. road construction or logging) will require Optus approval. Accredited Optus Asset Locator to physically expose the Optus asset to verify actual depth.
Mechanical Excavators, Farm Ploughing, Vertical Hole installation for water bore or fencing etc.	Not within 1 meter. Accredited Optus Asset Locator to physically expose the Optus asset to verify actual location.

ASSET CLEARANCES AFTER COMPLETION OF WORKS

All Optus pits and manholes must be a minimum of 1 meter from the back of any kerb, 3.5 meters of the road surface without a kerb or not within 15 meters of street intersection.

In urban areas Optus conduit must have the following minimum depth of cover:

- Footway 600mm;
- Roadway 1 meter at drain invert and at road centre crown.

In rural areas Optus conduit must have a minimum depth of cover of 1 meter and direct buried cable 1.2 meters.

In cases where it is considered that the above clearances cannot be maintained at the completion of works, advice must be sought from the relevant Optus Damages and Relocations Team (refer "Further Assistance").

FURTHER ASSISTANCE

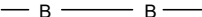
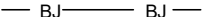
Further assistance on asset clearances, protection works, or relocation requirements can be obtained by contacting the relevant Optus Damages and Relocations Team on the following email address:

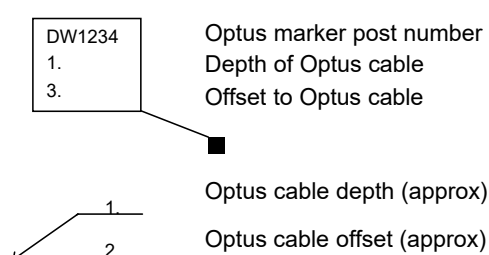
NFODamages&RelocationsDropbox@optus.com.au

Further assistance relating to asset location drawings etc. can be obtained by contacting the Optus Network Operations Asset Analysis Team on 1800 505 777.

OPTUS ENGINEERING DRAWING SYMBOLS

	Optus underground cable		Optus manhole/pit
	Optus underground IOF cable		Other Utility manhole/pit
	Optus conduit		Optus marker post
 OR 	Optus cable in Other Utility conduit		Railway / Tram line
	Southern Cross conduit		Highway / Major Road
	Indigo conduit		Arterial Road
	Uecomm conduit		Council Road - minor
	Optus aerial fibre cable		

	Optus underground cable
	Optus cable buried jointly with third party utility
	Optus cable in conduit with subducts





Optus Accredited Asset Locators

Name	Company Name	Phone	Email	State	Region/Service Area
Drew Misko	Australian Subsurface Pty Ltd	0427 879 600	admin@australiansubsurface.com	ALL	ALL
Andrew Watson	Subsurface Mapping Solutions Pty Ltd	0408 839 723	admin@subsurfacems.com.au	ALL (Not TAS)	South East QLD + Aus wide
Chris Gordon	Heavy Construction Solutions	1300 859 027	chris.gordon@heavycs.com.au	VIC, NSW, QLD, SA, TAS	All
Anthony Emmer-son	Taylor's Development Strategists	03 9501 2800	a.emmerson@taylorstds.com.au	All	Nation Wide
Nathan Kelleher	Seeker Utility Engineering Pty Ltd	1300 733 583	info@seekerutility.com.au	VIC, NSW, ACT, QLD, TAS	Melbourne, regional Victoria, Sydney & regional NSW, all ACT, Brisbane QLD, Hobart & regional TAS
Sean Henry	Asset Survey Solutions	1300 035 796	info@assetsurvey.com.au	VIC, QLD, NSW, SA	VIC, QLD, NSW, SA
Suhairee Suhaimi	BCE Spatial	08 9791 7411	harry@bcespatial.com.au	WA/SA/VIC/NSW	All Regions
Alan Cordner	Alcom Fibre Services Pty Ltd	0400 300 337	alcomfibre@bigpond.com	NSW	Sydney, NSW
Daniel Rogers	D&D Rogers Pty Ltd T/as Bradmac Locating Services	0407662605	info@bradmaclocating.com.au	NSW	Sydney and surrounds
Shane Buckley	Cable & Pipe Locations Pty Ltd	0408730430	shane@cableandpipelocations.com.au	NSW	North Coast, Mid-North Coast, Northern Rivers, Central West, New England
Annabelle Pegler	Down Under Detection Services (DUDS)	0418 267 964	apegler@duds.net.au	NSW	All
Michael Grant	M&K Grant Bega Bobcats Pty Ltd	0427 260 423	zzbobcat@bigpond.net.au	NSW	Bega, Far South Coast
Antony Critcher	Geotrace Australia	1300 562 284	antony@geotrace.com.au	NSW	Entire Region
Sarah Martin	Hydro Digga	0447 774 000	admin@hydrodigga.com	NSW	Mid North Coast
Nathan Ellis	Utility Locating Services	0404 087 555	mail@uls.com.au	NSW	Sydney only

Scott O'Malley	Coastal Cable Locators Pty Ltd	0427 975 777	scott@coastalcablelocators.com.au	NSW	South Coast
Liam Bolger	Brandon Construction Services	0438 044 008	liam.bolger@hotmail.com	NSW	Sydney
Karen Durkin	Durkin Construction Pty Ltd	02 9712 0308	karen@durkin.au	NSW/ACT	Entire NSW and ATC
Theresa Donnelly	Locate and Map	(02) 8753 0049	admin@locateandmap.com.au	NSW	Greater Sydney Region
Ken Browne	Riteway Traffic Control Pty Ltd	0419 212 969	kbrowne@ritewaytc.com.au	NSW	Central Coast, Newcastle
Jean-Max Monty	Civilscan	1300 575 488	info@civilscan.com.au	NSW	Sydney, Central Coast, Hunter, Blue Mountains, Southern Highlands, Illawarra
Scott Hunter	Hunter Ground Search	0409327345	admin@hunter-groundsearch.net.au	NSW	Hunter, Upper Hunter, Central Coast, Newcastle
Damien Black	Mid North Coast Hydro Digging & Service Locating P/L	0418 409 465	djblack1@bigpond.com	NSW	Mid North Coast
Joseph Restuccia	ProLocate	0415 633 393	joe.restuccia@prolocate.com.au	NSW	NSW Wide
Barry Maloney	Online Pipe & Cable Locating	1300 665 384	Office@onlinepipe.com.au	NSW	Sydney, Central Coast, Canberra, Wollongong, Newcastle
Sam Romano	Locating Services	0403 065 510	sam.romano@locatingservices.com.au	NSW	NSW All
Scott Allison	CRUX Surveying Australia Pty Ltd	0285822300	scottallison@cruxsurveying.com.au	NSW	Sydney Metro
Donna Wullaert	Commence Communications Pty Ltd	02 6226 3869	admin@commencecomms.com.au	NSW	Canberra/ Yass / Bungendore/ Goulburn and surrounding regional areas
Grant Pearson	Warrabinya Services	0423 651 615	grant@warrabinya.com.au	NSW	Greater Sydney region
Stephen Fraser	Advanced Ground Locations	(02) 4930 3195	steve_agl@hotmail.com	NSW	Newcastle, Hunter Valley, Central Coast, Taree & Surrounding Areas
Mark Smith	Armidale Electrical	02 6772 3702	office@armidale-electrical.com.au	NSW	Northern Tablelands/Northern NSW
Samantha Guptill	Australian Locating Services	1300 761 545	admin@locating.com.au	NSW	All NSW
Clay Laneyrie	Laneyrie Electrical	0411142627	bindy@laneyrieelectrical.com.au	NSW	Illawarra, South Coast, Shoalhaven, Southern Highlands

Reece Gainsford	East Coast Locating Services	0431 193 111	admin@eastcoastlocatings-services.com.au	NSW	Newcastle/Maitland/ Hunter / Sydney / Central Coast / upper hunter / Port Stephens
Jason Vane	Smartscan Locators Pty Ltd	1300 778 923	bookings@sslocators.com.au	NSW	Sydney, Wollongong, Central Coast
Alex Farcash	Newcastle Locating Services	0410698599	admin@newcastlelocatings-services.com.au	NSW	NSW
Amer El Chami	Site Scan Pty Ltd	0449 992 520	office@sitescan.net.au	NSW	All NSW
Ali El Najjar	Sydney Service Locators	0449 205 705	Info@sydney serviced locators.com.au	NSW	Sydney only
Paul Wallis	Beveridge Williams	0431 458 878	wallisp@bevwill.com.au	NSW	NSW Wide
Cameron Handley	Wombat Underground Services	0407477038	accounts@wombatunderground-services.com.au	NSW	ALL
Simon Williams	Geoscope Utility Detection Services Pty Ltd	1300 750 350	info@geoscopelocating.com.au	NSW	Sydney only
Laurence Mead	Astrea Pty Ltd	1300 009 346	admin@astrea.com.au	NSW	Sydney only
Braydon Greenwood	City Coast Services	0422432813	braydon.greenwood@live.com.au	NSW	NSW
Jim Morrison	Absolute Utilities Pty Ltd	0429 496 375	jim@absoluteutilities.com.au	NSW	Mid North Coast
Declan Dowd	Dowds Pipe And Cable Locating	0434 635 134	accounts@pipeandcable.com.au	NSW	Sydney/Wollongong
Nicholas Schneider	Subsurface Utility Solutions	0421157372	nick@subsurf.com.au	NSW	Sydney only
Ricky Evans	Riverina Cable Locating	0411444980	ricky@riverinacablelocating.com.au	NSW	Riverina, Murray
Adrian Ruane	Road and Rail Excavations Pty Ltd	0414 594 063	cody@roadandrailexcavations.com.au	NSW	Sydney only
Billy Cameron	Locate Down Under Pty Ltd	0431275034	info@locatedownunder.com.au	NSW	Sydney only
Daniel Hudson	Geosurv Locating Pty Ltd	1300 554 675	dan@geosurv.com.au	NSW	Sydney only
Roneel Chand	JDG Civil	0416506891	sadhunaam@gmail.com	NSW	Sydney only
Tim Briggs	Deetect Locating Services	0414630852	deetect.locating@outlook.com	NSW	ACT / NSW
Sean Ferriter	Utech Solutions Pty Ltd	1300 427 614	seanf@vaughancivil.com.au	NSW	Sydney only
Mark Restuccia	Direct Connect Locating PTY LTD	0400507690	info@dclocating.com.au	NSW	NSW only
Ali Chahine	Underground Industries	0406906787	info@undergroundindustries.com.au	NSW	Sydney only

Scott Copetti	Metiri	0435 710 399	scott@metiri.com.au	NSW	Newcastle & Hunter Region
Alex Trevisan	VFT	61 458 488 173	admin@vftes.com	NSW	Sydney only
Roneel Chand	Tonagh Civil Pty Ltd,	0416506891	roneel@tonaghcivil.com.au	NSW	All Regions
Brett Pickup	BAP Services Pty Ltd	0434006009	Brett@bapservices.com.au	NSW	All Areas, Sydney, Illawarra, Newcastle, ACT
Patrick Billingham	OzDetect Pty Ltd	0497700667	patrick@ozdetect.com.au	NSW	NSW
Cameron Brown	Sub Scan Australia	0421751343	admin@subscan.com.au	NSW	Norther Rivers
Jesse Gavin	LCG GLOBAL PTY LTD	1300032740	info@lcgsolutions.com.au	NSW	All NSW
Rob Moate	Dig Safe NSW Pty Ltd	0477 900 200	rob@digsafensw.com.au	NSW	All Regions
Michael Nicholls	LocateX	0487 043 596	info@locatex.com.au	NSW	Sydney, Central Coast, New-castle
Brad Mccorkindale	b4 u dig locators	0447818260	jon@b4udiglocators.com	NSW	central west nsw
Euan Gow	Jurovich Surveying	1300 750 000	egow@jurovichsurveying.com.au	WA/NSW/SA	All state
Paul Linton	Utility Mapping	1300 627 746	plinton@isgroup.io	NSW/VIC/QLD/WA/NT	Sydney/ Melbourne/ Brisbane/ Perth/ Darwin
Karen Durkin	Durkin Construction Pty Ltd	02 9712 0308	karen@durkin.au	NSW/ACT	Entire NSW and ACT
Andrew Findlay/ Anthony Hart	LiveLocates	1300 517 062	info@livelocates.com.au	NSW/ACT	South Coast NSW, ACT, Snowy Mountains, Snowy Valley
Ian Brown	A1 Locate Services Pty Ltd	0400 484 828	Ian.brown@a1locate.com.au	NSW/ACT	Illawarra, Shoalhaven, South Coast, Southern Highlands & all NSW & ACT
Jason Steger	Steger & Associates Reg-istered Land Surveyors	0400 008 641	jason.steger@steger.com.au	ACT/NSW	ACT & Surrounds
Samuel Hathaway	Landmark Surveys	02 6280 9608	admin@landmarksurveys.com.au	NSW/ACT	ACT & Southern NSW
Kaisar Sefian	Australian Utility Search Pty Ltd	0424 841 888	kaisar@aususearch.com.au	NSW/ACT	Sydney to Canberra & all in between
Daniel Fox	Epoca Environmental Pty Ltd	1300 376 220	daniel@epocaenvironmen-tal.com.au	NSW & ACT	All NSW & ACT
Scott Tancred	SureSearch Underground Services	1300 884 520	Scott.Tan-cred@suresearch.com.au	NSW/ACT QLD	NSW, Sydney, Northern NSW, Canberra, QLD, South East QLD.
Justin Martinez	LCG GLOBAL PTY LTD	0401749007	J.martinez@lcgsolutions.com.au	NSW, ACT, QLD, VIC	All regions
Troy Redden	On Point Utility Locating	1300 66 76 46	Troy@onpointlocating.com.au	NSW/QLD	Throughout both states

Geoff Campbell	CLS Locating	0450759497	geoffrey@campbellslocating.com.au	NSW/QLD	All QLD, Northern Rivers, NSW
Patrick Popovic	Site And See Pty Ltd	0479 162 692	patrick@siteandsee.com.au	QLD/NSW	Northern NSW, South East QLD
Kelsee Stevens	Abletech Underground Group	07 5293 7746	admin@abletechunderground.com.au	QLD / NSW	QLD / NSW
George Koenig	Downunder Locations(NSW) Pty Ltd	0438243856	downunderlocations@gmail.com	NSW/QLD	Tweed Heads/Gold Coast/Northern Rivers/Brisbane
Rhys Lambert	Provac / one find cables	1300 734 772	rhys@provac.net.au	QLD	South East QLD
Paul Beaton	Cairns Asset Locations	0448 157 227	paul.beaton@clarketrenching.com.au	QLD	FNQ to NT Border
Chris Hall	D C Locators Pty Ltd	0419 679 741	dcloc@powerup.com.au	QLD	Brisbane, Ipswich
Benji Lee	LADS	0478 915 237	benji@ladsqld.com.au	QLD	South East QLD
Ian Lambert	Lambert Locations Pty Ltd	07 5562 8400	admin@lambertlocations.com.au	QLD	South East QLD & Northern NSW
Ross Clarke	FNQ Cable Locators Pty Ltd	0428 775 655	onlineco@bigpond.net.au	QLD	QLD REGION
Col Greville	Bsure Locators	0488 520 688	admin@bsurelocators.com.au	QLD	Wide Bay & Burnett, Central and Western Queensland, Western Downs
Matthew Carr	Pensar	0405609739	matty.carr@pensar.com.au	QLD	Brisbane
Lacey Wallace	GeoRadar Asutrialia Pty Ltd	(07) 4331 5588	accounts@georadar.net.au	QLD	Widebay, Central QLD, Emerald & Surroundings
Craig Waite	C Locate	0437 808 444	clocate@bigpond.com	QLD	South East
Jeffrey Lenehan	Syndicate	0404141270	jlenehan@syndicate.com.au	QLD	Brisbane
Toni O'Dell	Utility Location Services	1300 001 857	qldops@utilitylocation-services.com.au	QLD	South East QLD
Jenny Dziduch	1300 Locate Pty Ltd	1300 562 283	admin@1300locate.com.au	QLD	All Queensland, Northern NSW
Brendon Smith	Advanced Locating PTY LTD	0424678823	admin@advancedlocating.com.au	QLD	Gold Coast
Bruce Normyle	Dynamic Locator Services	0434 731 933	Bruce@dynamicexcavations.com.au	QLD	SEQ
Robert Rutledge	Safe Dig Services	+61 7 3376 0856	rrutledge@safedig.com.au	QLD	Brisbane
Michael Falla	ICUC Locating Services Pty Ltd	0410085365	michael.falla@icuclocatingservices.com.au	QLD	South East QLD

Ben Stephens	DTS Group TA Electros-can	0434 140 556	ben.s@electroscanqld.com.au	QLD	Queensland
Adam Lloyd	Aussie HydroVac Services	07 3287 7818	adam.lloyd@aussiehydrovac.com.au	QLD	All
Michael Prentice	Onsite Utility Locations	0437 172 601	admin@onsiteutilitylocations.com.au	QLD	SEQ
Roland Mollison	LandPartners Pty Ltd	0439 488 545	roland.mollison@landpartners.com.au	QLD	South East Queensland
Duncan McGrath	Abletech Underground Group	0418 511 767	duncan@abletechunderground.com.au	QLD	QLD Wide
Daniel Poppi	Ace Cable Locations	0431517837	acecablelocations@bigpond.com	QLD	Wide Bay Burnett
Jason Bastow	Utility Underground	0414454015	jason@utilityunderground.com.au	QLD	QLD / NSW
Aidan Waszaj	South-East Scanning Pty Ltd	0421 193 439	aidan@southeastscanning.com.au	QLD	Southeast Queensland
Josh Brinn	i-LOCATE	0418 105 902	josh@i-lec.com.au	QLD	QLD only
Carl Molloy	Provac Melbourne	0451 104 611	melbourne@provac.net.au	VIC	Melbourne Region
Olivier Davies	Central Locating Pty Ltd	0439995894	ollie@centrallocating.com.au	VIC	Geelong and surrounding area
Tina Brereton	D-Tech Ground & Over-head	03 9544 8933	tina@d-tech.net.au	VIC	ALL
Josh Taylor	Advanced Locations Victoria Pty Ltd	0427846716	josh@advancedlocationsvic.com.au	VIC	All Victoria
Ben Minutoli	Geelong Cable Locations	1800 449 543	ben@geelongcablelocations.com.au	VIC	Melbourne, Geelong, Country Victoria
Mick McGoldrick	Locate Cables	0404 241 679	mick@locatecables.com	VIC	Western Victoria
Phi Nguyen	Asset Detection Services Pty Ltd	1300 300 100	Phi.nguyen@assetdetection.com.au	VIC	Melbourne/VIC
Maurice Tobin	Drain Solutions	0412 111600	info@drainsolutions.com.au	VIC	Melbourne Metro
Leigh French	Veris Australia VIC	(03) 7019 8400	melbourne@veris.com.au	VIC	Melbourne
Ben Wooldridge	Controltech Solutions	0447 760 759	ben.wooldridge@controltechsolutions.com.au	VIC	Melbourne
Chris Sandlant	Access Utility Engineering P/L	03 9799 8788	Chris.sandlant@accessue.com.au	VIC	Victoria & Regional
Shaun Stephen	STS Locating Services	0405 181 734	stslocatingservices@gmail.com	VIC	All VIC
Glen Foreman	Underground Services Detection Pty Ltd	0402 748 889	undergroundservices@bigpond.com	VIC	Victoria

Clinton Carver	Insight Underground Pty Ltd	0468 900 273	clinton@insightunderground.com.au	VIC	Victoria
Lindsay Botha	L B Underground Service Locations & Engineering	0499 658 677	lb.locations.engineering@gmail.com	VIC	Metro and Regional Victoria
Damien Nielsen	ELS Environmental Location Systems Pty Ltd	0499 499 137	bookings@elsvic.com.au	VIC	Victoria only
Tyler Blake	CHS Group	0409 437 750	tyler.blake@chsgroup.com.au	VIC	Horsham VIC
Craig Jackson	Survey Management Solutions	0400647299	craigj@surveyms.com.au	VIC	All Regions
Chloe Milligan	Tequa Plumbing and Civil	0351432666	civil@tequa.au	VIC	Gippsland only
David Hunter	Ballarat Locating Services	0488 501 261	dave@ballaratlocating.com.au	VIC	Western Victoria, Melbourne
Alex Jones	HR Utilities	1300 533 612	info@hrutilities.com.au	VIC	All of VIC
Ashley Stevens	ABS HYDRO Pty Ltd	0422 798 476	ashley.stevens@abshydro.com.au	NSW/VIC	All of VIC, Regional NSW
Robert Wootton	Trenchless Pipelaying Contractors (TPC)	08 8376 5911	tpc@trenchlesspipelaying.com.au	SA	All
Marc Rose	SADB	0488190699	marc@sadb.com.au	SA	Adelaide only
Deninis Stray	Pinpoint Services Mapping	(08) 8130 1600	hello@pinpointsm.com.au	SA	Adelaide
Michael Gear	Michael Gear	08 82788732	admin@mgsurveys.com.au	SA	South Australia
Matthew Cooper	Fulton Hogan	0447 320 581	Matthew.Cooper@fulton-hogan.com.au	SA	Adelaide
Liam Catchpole	Apex Service Locating Pty Ltd	0458 924 471	liam@apexvacolutions.com.au	SA	Adelaide and Surroundings
Bradley Gosling	Engineering Surveys	0433506880	bgosling@engsurveys.com.au	SA	Adelaide
Jason Shelvock	SA Underground Pty Ltd	0430 067 476	jason@saunderground.com.au	SA	All SA
Stephanie Leong	Platinum Locating Services	08 94080625	enquiries@platinumlocating.com.au	WA	WA
Henry Westbrook	Cable Locates & Consulting	08 9524 6600	admin@cablelocates.com.au	WA	All WA
Cameron Swift	Mikcomm Communication	08 9337 1125	cswift@mikcomm.com.au	WA	All
Tobi Lawrence-Ward	Abaxa	08 9256 0100	enquiries@abaxa.com.au	WA	Perth, Southwest, Western Australia
Ben Upton	TerraVac Vacuum Excavation	0433 374 802	locations@terravac.com.au	WA	Perth

Dale Shearsmith	Subtera	1300 046 636	dale@subtera.com.au	WA	WA
Liam Davies	Bunbury Telecom Service	897260088	admin@btswa.com.au	WA	WA
Edel O'Connor	Kier Contracting	0456 190 910	edel@kier.com.au	WA	Perth Metro & greater region; Regional WA
Nigel Nunn	CCS Group / Utility Locating Solutions	08 9385 5000	enquiry@ccswa.com.au	WA	Perth
Jeremy Brown	Spotters Asset Locations Pty Ltd	0459 130 677	jeremy@spottersassetlocations.com.au	WA	All
Reece Topham	Prime Locate	0400 888 406	reece@primelocate.com.au	WA	All
Rhyce Murphy	RM Surveys	08 9457 7900	rhyce.murphy@rmsurveys.com.au	WA	All
James Horton	Westscan Pty Ltd	1300 858 404	westscan1@gmail.com	WA	All
Ashleigh Austin	Veris WA	0419 024 696	perth@veris.com.au	WA	Perth Metro & Regional
Tim Daws	Award Contracting Pty Ltd	0411 878 895	info@awardcontracting.com.au	WA	Metro & Country Regions
Stephen Steart	Cabling WA Pty Ltd	0422 845 586	ssteart@cablingwa.com.au	WA	Perth Metro
Devvyn Barto	Pulse Locating	0431402738	devvyn.barto@pulselocating.com.au	WA	Western Australia
Shane McQuoid	Find Wise Location Services	0407992758	shane@findwise.com.au	WA	Perth
Alex King	KR SURVEYS	0400077933	alex@krsurveys.com.au	WA	Statewide
Cody Foster	Precision Locating Pty Ltd	0473029391	cody@precisionlocating.net	WA	Statewide
Scott Harrison	Triodia Scanning services PTY LTD	0438 664 196	booking@triodiascanning.com.au	WA	Perth/ Regional
Stuart Speckman	FYFE	08 8944 7888	Stuart.Speckman@fyfe.com.au	NT/SA/NSW	NT/SA/NSW
Wayne Parslow	Danisam	0417 089 865	danisam@westnet.com.au	NT	Darwin NT and Surrounds
Heather Easter	Archers Underground Service Pty Ltd	0418 737 299	admin@auslocations.com.au	TAS	Statewide
Scott Crerar	Paneltec Group	0400 895 637	scott@paneltec.com.au	TAS	All
Hayden Stone	Utility Detection & Mapping	03 61712555	admin@udmgroup.com.au	TAS	Statewide

Referral

263597335

Member Phone

1800 653 935

Responses from this member

Response received Mon 3 Nov 2025 4.20pm

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Attention: Chaej Wrencher

Site Location: 4-8 Bells Boulevard, Kingscliff, NSW 2487

Your Job Reference: 4-8 Bells Boulevard

Please do not reply to this email, this is an automated message -

Thank you for requesting Telstra information via Before You Dig Australia (BYDA). This response contains Telstra Information relating to your recent request.

 Accredited Plant Locator	General Contact Information including applications required to view Cable Plans - DWF & PDF
 Telstra Duty of Care V32	Your responsibility and Legal requirements working near Telstra's Assets
 Telstra Map Legend 4.0	Common Symbols on Cable Plans and Safe Clearance distances when working near Telstra Assets

Please note:

When working in the vicinity of telecommunications plant you have a 'Duty of Care' that must be observed.

Ensure you read all documents (attached) - they contain important information.

In particular please read and familiarise yourself with the Before you Dig Australia - BEST PRACTISE GUIDES and The five Ps of safe excavation <https://www.byda.com.au/before-you-dig/best-practice-guides/>, as these documents set out the essential steps that must be undertaken prior to commencing construction activities.

 Best practice guides and the five P's of safe excavation	These are the essential steps to be undertaken prior to commencing construction activities	Essential Steps : Link 5 P's: Link
	We highly recommend using certified locators where possible.	CERTLOC : Link
 1800 653 935 Telstra Plan Services	Whenever in doubt please contact this number for Telstra BYDA map related enquiries email Telstra.Plans@team.telstra.com	Note: that Telstra plans are only valid for 60 days from the date of issue
 How to Report Damage to Telstra Equipment	If you think you have damaged Telstra Assets, please Report it ASAP.	Call: 13 22 03 Report Online: Link

	It is a criminal offence under the 'Criminal code act 1995' to tamper or interfere with Telecommunications infrastructure. Telstra will take action to recover compensation for the damage caused to property and assets, and for interference with the operation of Telstra's networks and customer service.
	Telstra plans contain confidential information and are provided on the basis that they are used solely for identifying location or vicinity of Telstra's infrastructure to avoid damage to this infrastructure occurring as part of any digging or other excavation activity. You must not use Telstra's plans for any other purpose or in a way that will cause loss or damage. You must comply with any other terms of access to the data that have been provided by you by Telstra (including conditions of use or access).

WARNING - MAJOR CABLES and/or OPTIC FIBRE IN THE AREA.

Phone 1800 653 935 for further assistance.

Note: In some areas Telstra fibre routes may be marked as "Amcom", as Telstra has purchased much of this infrastructure. If in doubt, please contact Telstra Plan services on the number above. Telstra plans and information are only valid for 60 days from the date of issue.

WARNING:

Telstra plans and location information conform to Quality Level 'D' of the Australian Standard AS 5488 - Classification of Subsurface Utility Information. As such, Telstra supplied location information is indicative only. Spatial accuracy is not applicable to Quality Level D. Refer to AS 5488 for further details. The exact position of Telstra assets can only be validated by physically exposing them. Telstra does not warrant or hold out that its plans are accurate and accepts no responsibility for any inaccuracy. Further on site investigation is required to validate the exact location of Telstra assets prior to commencing work. A Certified Locating Organisation is an essential part of the process to validate the exact location of Telstra assets and to ensure the assets are protected during construction works. See the **Before You Dig Australia - BEST PRACTISE GUIDES and The five Ps of safe excavation**
<https://www.byda.com.au/before-you-dig/best-practice-guides/>.

Please note that:

- it is a criminal offence under the *Criminal Code Act 1995* (Cth) to tamper or interfere with telecommunications infrastructure.
- Telstra will take action to recover compensation for damage caused to property and assets, and for interference with the operation of Telstra's networks and customers' services.

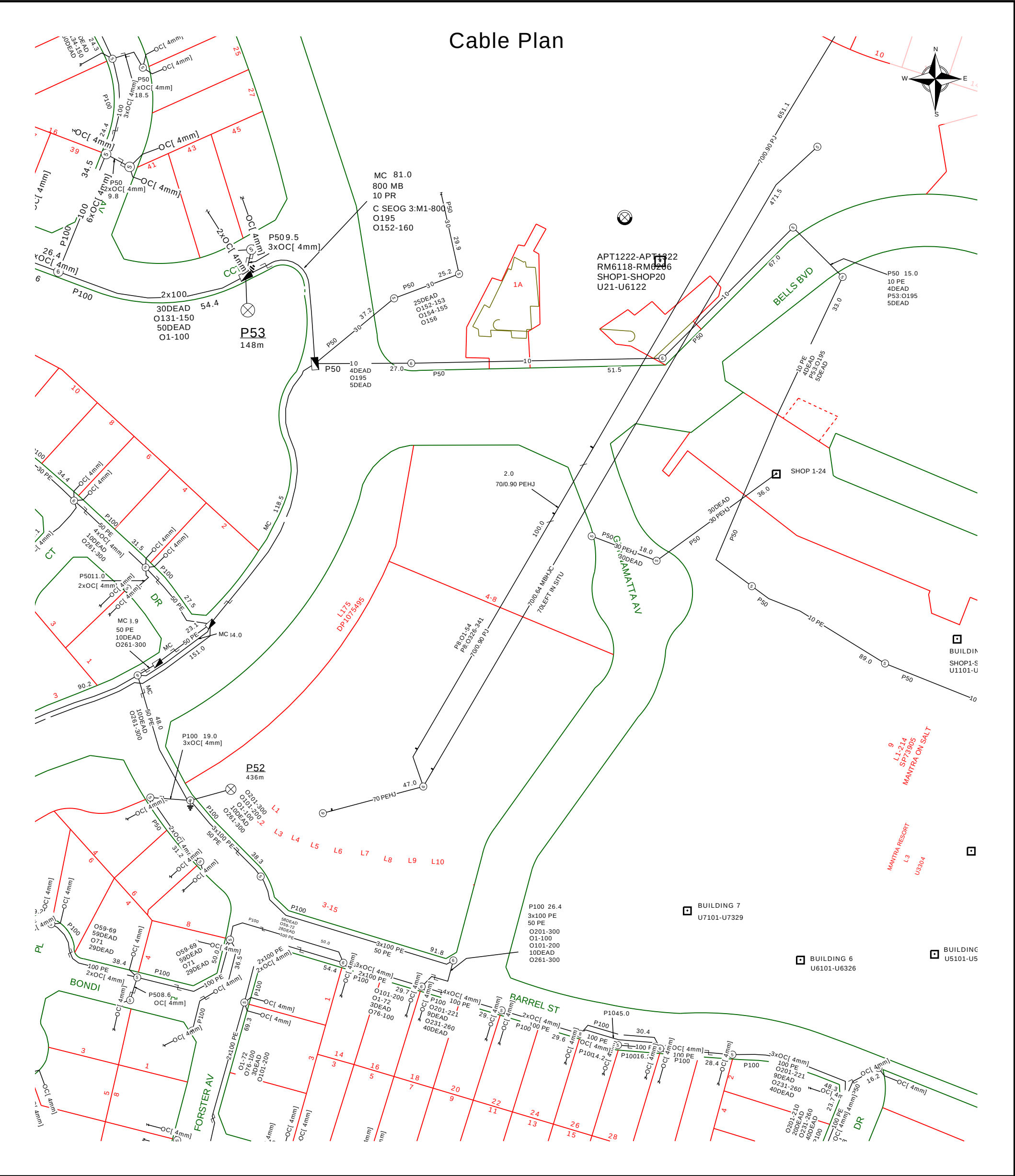
Telstra's plans contain Telstra's confidential information and are provided on the basis that they are used solely for identifying the location or vicinity of Telstra's infrastructure to avoid damage to this infrastructure occurring as part of any digging or other excavation activity. You must not use Telstra's plans for any other purpose or in a way that will cause Telstra loss or damage and you must comply with any other terms of access to the data that have been provided to you by Telstra (including Conditions of Use or Access).

(See attached file: *Telstra Duty of Care v33.0a.pdf*)

(See attached file: *Telstra Map Legend v4_0c.pdf*)

(See attached file: *AccreditedPlantLocators 2025-09-16a.pdf*)

(See attached file: *263597335.pdf*)



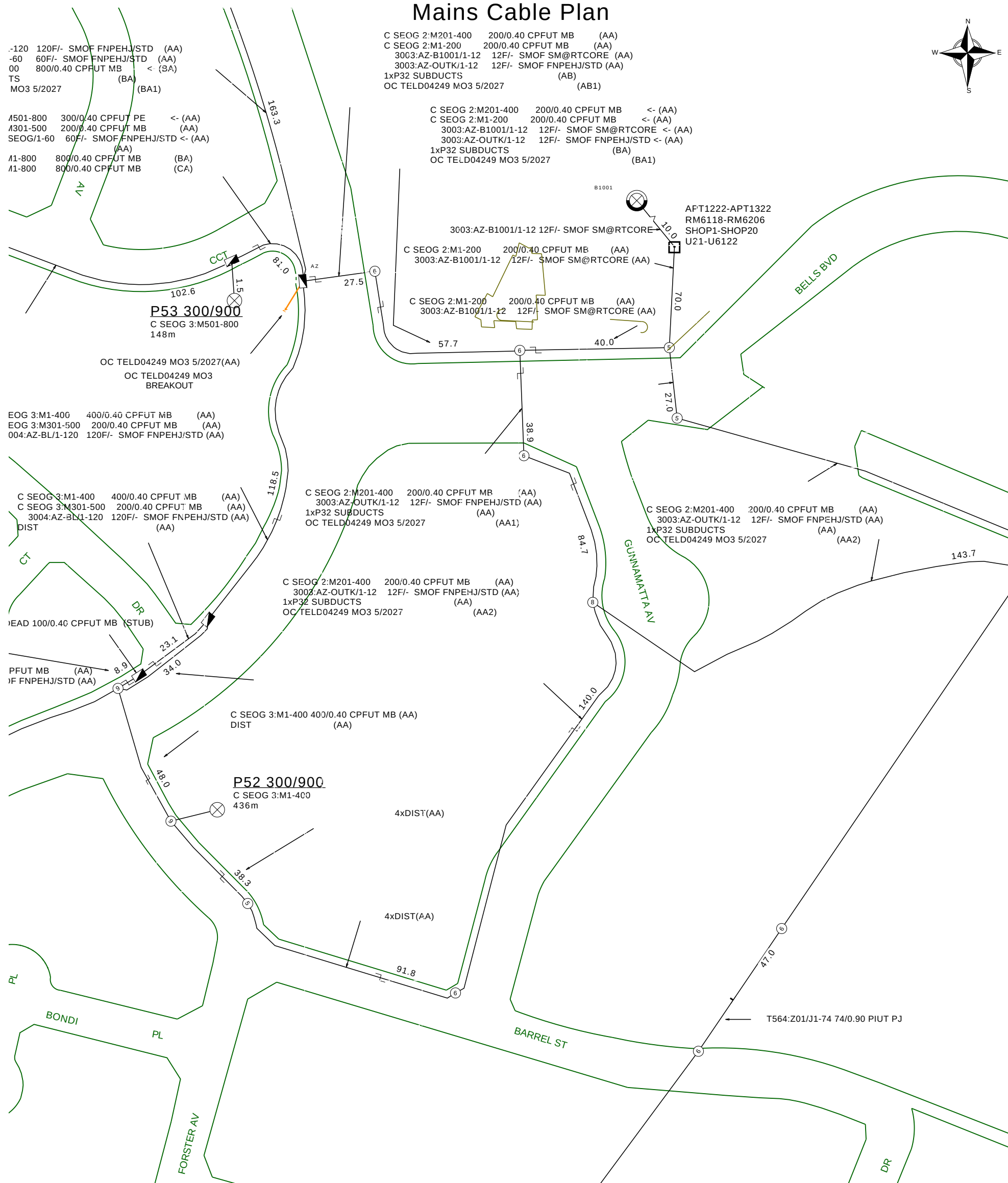
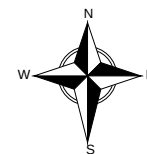
	Report Damage:https://service.telstra.com.au/customer/general/forms/report-damage-to-telstra/ Ph - 13 22 03 Email - Telstra.Plans@team.telstra.com Planned Services - ph 1800 653 935 (AEST bus hrs only) General Enquiries	Sequence Number: 263597335 CAUTION: Fibre optic and/ or major network present in plot area. Please read the Duty of Care and contact Telstra Plan Services should you require any assistance.
TELSTRA LIMITED A.C.N. 086 174 781 Generated On 03/11/2025 16:18:22		

The above plan must be viewed in conjunction with the Mains Cable Plan on the following page

WARNING
Telstra plans and location information conform to Quality Level "D" of the Australian Standard AS 5488-Classification of Subsurface Utility Information. As such, Telstra supplied location information is indicative only. Spatial accuracy is not applicable to Quality Level D. Refer to AS 5488 for further details. The exact position of Telstra assets can only be validated by physically exposing it. Telstra does not warrant or hold out that its plans are accurate and accepts no responsibility for any inaccuracy. Further on site investigation is required to validate the exact location of Telstra plant prior to commencing construction work. A Certified Locating Organisation is an essential part of the process to validate the exact location of Telstra assets and to ensure the asset is protected during construction works.

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

C SEOG 2:M201-400 200/0.40 CPFUT MB (AA)
 C SEOG 2:M1-200 200/0.40 CPFUT MB (AA)
 3003:AZ-B1001/1-12 12F/- SMOF SM@RTCORE (AA)
 3003:AZ-OUTK/1-12 12F/- SMOF FNPEHJ/STD (AA)
 1xP32 SUBDUCTS (AB)
 OC TELD04249 MO3 5/2027 (AB1)



TELSTRA LIMITED A.C.N. 086 174 781

Sequence Number: 263597335

CAUTION: Fibre optic and/ or major network present in plot area. Please read the Duty of Care and contact Telstra Plan Services should you require any assistance.

The above plan must be viewed in conjunction with the Mains Cable Plan on the following page

Telstra plans and location information conform to Quality Level "D" of the Australian Standard AS 5488-Classification of Subsurface Utility Information. As such, Telstra supplied location information is indicative only. Spatial accuracy is not applicable to Quality Level D. Refer to AS 5488 for further details. The exact position of Telstra assets can only be validated by physically exposing it. Telstra does not warrant or hold out that its plans are accurate and accepts no responsibility for any inaccuracy. Further on site investigation is required to validate the exact location of Telstra plant prior to commencing construction work. A Certified Locating Organisation is an essential part of the process to validate the exact location of Telstra assets and to ensure the asset is protected during construction works.

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

General Information



Before you Dig Australia – BEST PRACTISE GUIDES
<https://www.byda.com.au/before-you-dig/best-practice-guides/>

OPENING ELECTRONIC MAP ATTACHMENTS –

Telstra Cable Plans are generated automatically in either PDF or DWF file types.
Dependent on the site address and the size of area selected.
You may need to download and install free viewing software from the internet e.g.



DWF Map Files (all sizes over A3)
Autodesk Viewer (Internet Browser) <https://viewer.autodesk.com/> or
Autodesk Design Review <http://usa.autodesk.com/design-review/> for DWF files.
(Windows PC)



PDF Map Files (max size A3)
Adobe Acrobat Reader <http://get.adobe.com/reader/>



Telstra New Connections / Disconnections
13 22 00



Telstra Protection & Relocation: 1800 810 443 (AEST business hours only).
[Email](#)
Telstra Protection & Relocation Fact Sheet: [Link](#)
Telstra Protection & Relocation Home Page [Link](#)



Telstra Aerial Assets Group (overhead network)
1800 047 909

Protect our Network:

by maintaining the following distances from our assets:

- 1.0m Mechanical Excavators, Farm Ploughing, Tree Removal
- 500mm Vibrating Plate or Wacker Packer Compactor
- 600mm Heavy Vehicle Traffic (over 3 tonnes) not to be driven across Telstra ducts or plant.
- 1.0m Jackhammers/Pneumatic Breakers
- 2.0m Boring Equipment (in-line, horizontal and vertical)

For more info contact a [CERTLOC Certified Locating Organisation \(CLO\)](#) or
Telstra Location Intelligence Team 1800 653 935

Before You Dig Australia

Think before you dig

This document has been sent to you because you requested plans of the Telstra network through Before You Dig Australia (BYDA).

If you are working or excavating near telecommunications cables, or there is a chance that cables are located near your site, you are responsible to avoid causing damage to the Telstra network.

Please read this document carefully. Taking your time now and following the BYDA's Best Practices and 5 Ps of Safe Excavation <https://www.byda.com.au/before-you-dig/best-practice-guides/>

can help you avoid damaging our network, interrupting services, and potentially incurring civil and criminal penalties.

Our network is complex and working near it requires expert knowledge. Do not attempt these activities if you are not qualified to do so.



Disclaimer and legal details

*Telstra advises that the accuracy of the information provided by Telstra conforms to Quality Level D as defined in AS5488-2013.

It is a criminal offence under the Criminal Code Act 1995 (Cth) to tamper or interfere with telecommunications infrastructure.

Telstra will also take action to recover costs and damages from persons who damage assets or interfere with the operation of Telstra's networks.

By receiving this information including the indicative plans that are provided as part of this information package you confirm that you understand and accept the risks of working near Telstra's network and the importance of taking all the necessary steps to confirm the presence, alignments and various depths of Telstra's network. This in addition to, and not in replacement of, any duties and obligations you have under applicable law.

When working in the vicinity of a telecommunications plant you have a "Duty of Care" that must be observed. Please read and understand all the information and disclaimers provided below.

The Telstra network is complex and requires expert knowledge to interpret information, to identify and locate components, to pothole underground assets for validation and to safely work around assets without causing damage. If you are not an expert and/or qualified in these areas, then you must not attempt these activities. Telstra will seek compensation for damages caused to its property and losses caused to Telstra and its customers. Construction activities and/or any activities that potentially may impact on Telstra's assets must not commence without first undertaking these steps. Construction activities can include anything that involves breaking ground, potentially affecting Telstra assets.

If you are designing a project, it is recommended that you also undertake these steps to validate underground assets prior to committing to your design.

This Notice has been provided as a guide only and may not provide you with all the information that is required for you to determine what assets are on or near your site of interest. You will also need to collate and understand all information received from other Utilities and understand that some Utilities are not a part of the BYDA program and make your own enquiries as appropriate. It is the responsibility of the entities arranging for the works to be performed, supervising the works, and undertaking the works to protect Telstra network during excavation / construction works.

Telstra owns and retains the copyright in all plans and details provided in conjunction with the applicant's request. The applicant is authorised to use the plans and details only for the purpose indicated in the applicant's request. The applicant must not use the plans or details for any other purpose.

Telstra plans or other details are provided only for the use of the applicant, its servants, agents, or CERTLOC Certified Locating Organisation (CLO). The applicant must not give the plans or details to any parties other than these and must not generate profit from commercialising the plans or details. If the Applicant is aware of another party or parties about to perform or performing works at the location, it should ensure that the other party or parties have lodged a BYDA enquiry and obtained plans for that location. If you are undertaking excavations works you must follow the 5Ps of Safe Excavation. The 5 Ps of Safe Excavation are set out in the video in the below link.

<https://www.byda.com.au/education/resources/>

Telstra, its servants or agents shall not be liable for any loss or damage caused or occasioned by the use of plans and or details so supplied to the applicant, its servants and agents, and the applicant agrees to indemnify Telstra against any claim or demand for any such loss or damage.

Please ensure Telstra plans and information provided always remains on-site throughout the inspection, location, and construction phase of any works.

Telstra plans are valid for 60 days after issue and must be replaced if required after the 60 days.

Data Extraction Fees

In some instances, a data extraction fee may be applicable for the supply of Telstra information. Typically, a data extraction fee may apply to large projects, planning and design requests or requests to be supplied in non-standard formats. For further details contact Telstra Location Intelligence Team.

Telstra does not accept any liability or responsibility for the performance of or advice given by a CERTLOC Certified Locating Organisation (CLO). Certification is an initiative taken by Telstra towards the establishment and maintenance of competency standards. However, performance and the advice given will always depend on the nature of the individual engagement.

Neither the Certified Locating Organisation nor any of its employees are an employee or agent for Telstra. Telstra is not liable for any damage or loss caused by the Certified Locating Organisation or its employees.

Once all work is completed, the excavation should be reinstated with the same type of excavated material unless specified by Telstra.

The information contained within this pamphlet must be used in conjunction with other material supplied as part of this request for information to adequately control the risk of potential asset damage.

When using excavators and other machinery, also check the location of overhead power lines.

Workers and equipment must maintain safety exclusion zones around power lines

WARNING: Telstra plans and location information conform to Quality Level 'D' of the Australian Standard AS 5488 - Classification of Subsurface Utility Information. As such, Telstra supplied location information is indicative only. Spatial accuracy is not applicable to Quality Level D. Refer to AS 5488 for further details. Telstra does not warrant or hold out that its plans are accurate and accepts no responsibility for any inaccuracy shown on the plans. **FURTHER ON SITE INVESTIGATION IS REQUIRED TO VALIDATE THE EXACT LOCATION OF TELSTRA PLANT PRIOR TO COMMENCING CONSTRUCTION WORK.** A plant location service is an essential part of the process to validate the exact location of Telstra assets and to ensure the assets are protected during construction works. The exact position of Telstra assets can only be validated by physically exposing them. Telstra will seek compensation for damages caused to its property and losses caused to Telstra and its customers.

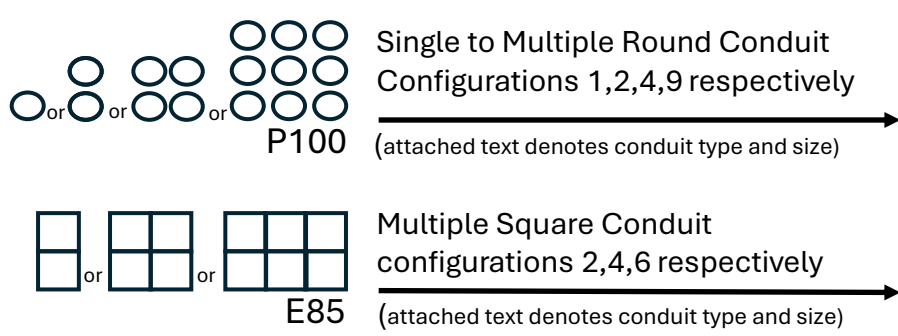
Privacy Note

Your information has been provided to Telstra by BYDA to enable Telstra to respond to your BYDA request. Telstra keeps your information in accordance with its privacy statement. You can obtain a copy at www.telstra.com.au/privacy or by calling us at 1800 039 059 (business hours only).

LEGEND



	Leadin terminates at a Customer Address		Cable Joining Pit Number / Letter indicating Pit type/size
	Exchange Major Cable Present		Elevated Joint (above ground joint on buried cable)
	Pillar / Cabinet Above ground Free Standing		Telstra Plant in shared Utility trench
	Above ground Complex Equipment Please note: Powered by 240v electricity		Aerial cable / or cable on wall
OC	Other Carrier Telecommunication Cable/ Asset. Not Telstra Owned		Aerial cable (attached to joint use Pole e.g., Power Pole)
DIST	Distribution cables in Main Cable Ducts		Marker Post Installed
MC	Main Cable ducts on a Distribution Plan		Buried Transponder
	Blocked or Damaged Duct		Marker Post & Transponder
	Footway Access Chamber (can vary between 1-lid to 12-lid)		Optical Fibre Cable Direct Buried
	NBN Pillar		Direct Buried Cable
	Third Party Owned Network Non-Telstra		nbn owned network



Some examples of conduit type and size:

A - Asbestos cement, P - PVC / Plastic, C - Concrete, GI - Galvanised Iron, E - Earthenware

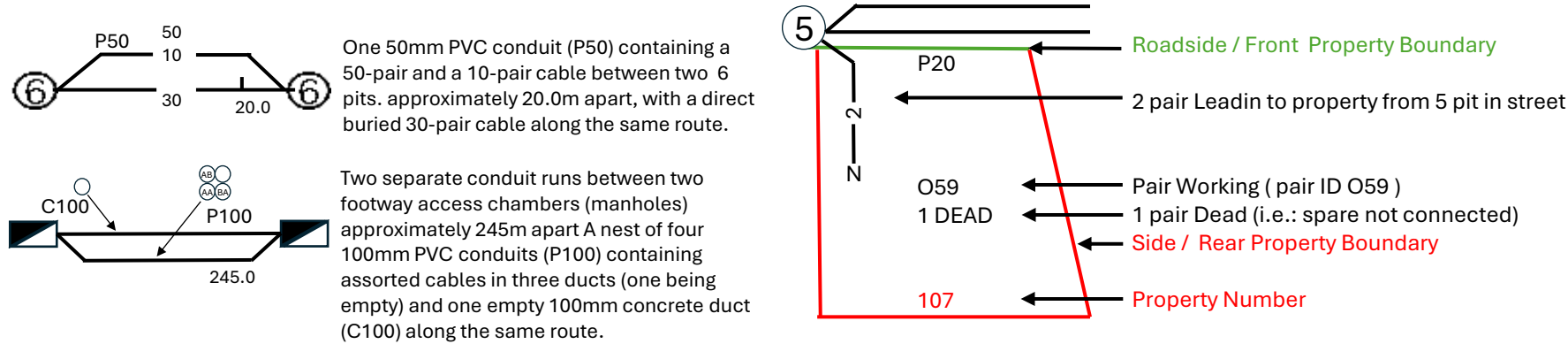
Conduit sizes nominally range from 20mm to 100mm

P50 50mm PVC conduit

P100 100mm PVC conduit

A100 100mm asbestos cement conduit

Some Examples of how to read Telstra Plans



The 5 Ps of Safe Excavation

<https://www.byda.com.au/before-you-dig/best-practice-guides/>

Plan	Prepare	Pothole	Protect	Proceed
Plan your job. Use the BYDA service at least one day before your job is due to begin, and ensure you have the correct plans and information required to carry out a safe project.	Prepare by communicating with asset owners if you need assistance. Look for clues onsite. Engage a Certified Locator.	Potholing is physically sighting the asset by hand digging or hydro vacuum extraction.	Protecting and supporting the exposed infrastructure is the responsibility of the excavator. Always erect safety barriers in areas of risk and enforce exclusion zones.	Only proceed with your excavation work after planning, preparing, potholing (unless prohibited), and having protective measures in place.

Referral
263597333

Member Phone
(02) 6670 2460

Responses from this member

Response received Mon 3 Nov 2025 4.13pm

File name	Page
Response Body	50
263597333.pdf	51

This referral has been successfully processed by Tweed Shire Council and the results are contained in the attached files.

Please DO NOT REPLY TO THIS EMAIL as it has been automatically generated and replies are not monitored.

Sequence No: 263597333
Date: 03/11/2025
Enquirer: 3034495
Contact: Chaej Wrencher
Email: chaej@Planitconsulting.com.au
Phone: +61412861023
Address: Shop 9a 80-84 Ballina Street, Lennox Head NSW
Site Address: 4-8 Bells Boulevard, Kingscliff NSW
Activity: Manual Excavation
Job Number: 51592643

We thank you for your enquiry and appreciate your continued use of the Before You Dig Australia Asset Analysis Service.

Tweed Shire Council

p (02) 6670 2400 | **f** (02) 6670 2557 | **e** tsc@tweed.nsw.gov.au | **w** www.tweed.nsw.gov.au
Civic and Cultural Centre Tumbulgum Road Murwillumbah NSW 2484 | PO Box 816 Murwillumbah NSW 2484

Customer Service: (02) 6670 2400 or 1300 292 872 ABN: 90 178 732 496
Our values: transparency | customer focus | fairness | reliability | progressiveness | value for money | collaboration

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Before You Dig Australia(BYDA) Pipeline Location Information

Customer Service | 1300 292 872 | (02) 6670 2400
PO Box 816 Murwillumbah NSW 2484
Fax (02) 6670 2429 | ABN 90 178 732 496
tsc@tweed.nsw.gov.au | www.tweed.nsw.gov.au

To:

planit - Chaej Wrencher
Shop 9a 80-84 Ballina Street
Lennox Head NSW 2478

Email: chaej@Planitconsulting.com.au

Phone: +61412861023

Enquiry Details

Utility ID	17550
Sequence Number	263597333
Enquiry Date	03/11/2025 15:13
Response	AFFECTED
Address	4-8 Bells Boulevard Kingscliff
Location in Road	Road,Nature Strip,Footpath
Activity	Manual Excavation

Enquirer Details

Customer ID	3034495
Contact	Chaej Wrencher
Company	planit
Email	chaej@Planitconsulting.com.au
Phone	+61412861023

Enquirer Responsibilities

Asbestos Cement Pipes: Some of Council's pipe assets are constructed of AC (Asbestos Cement). In most instances our plans will indicate the pipe construction material. For any diggings in the vicinity of these pipes you need to be aware of health implications of disruption to AC pipes. Individual risk assessments need to be conducted when working near these pipes to ensure protection of your staff.

Internal Drainage: Map does not cover internal drainage to property, internal water connection, water meter details or sewerage pipe details

Damage: Tweed Shire Council reserves all rights to recover compensation for any damage to Sewer mains, Water mains and Stormwater.

On Site Locations: Tweed Shire Council provides on site location for BYDA requests only. For onsite sewer mains, water mains and stormwater drain locations please contact Tweed Shire Council on (02) 6670 2460 at least 2 to 3 days prior to commencement.



Overview Map

Sequence No: 263597333
4-8 Bells Boulevard Kingscliff

Date: 03/11/2025



1:5000 @ A3 Portrait

Legend:
 BYDA Work Area

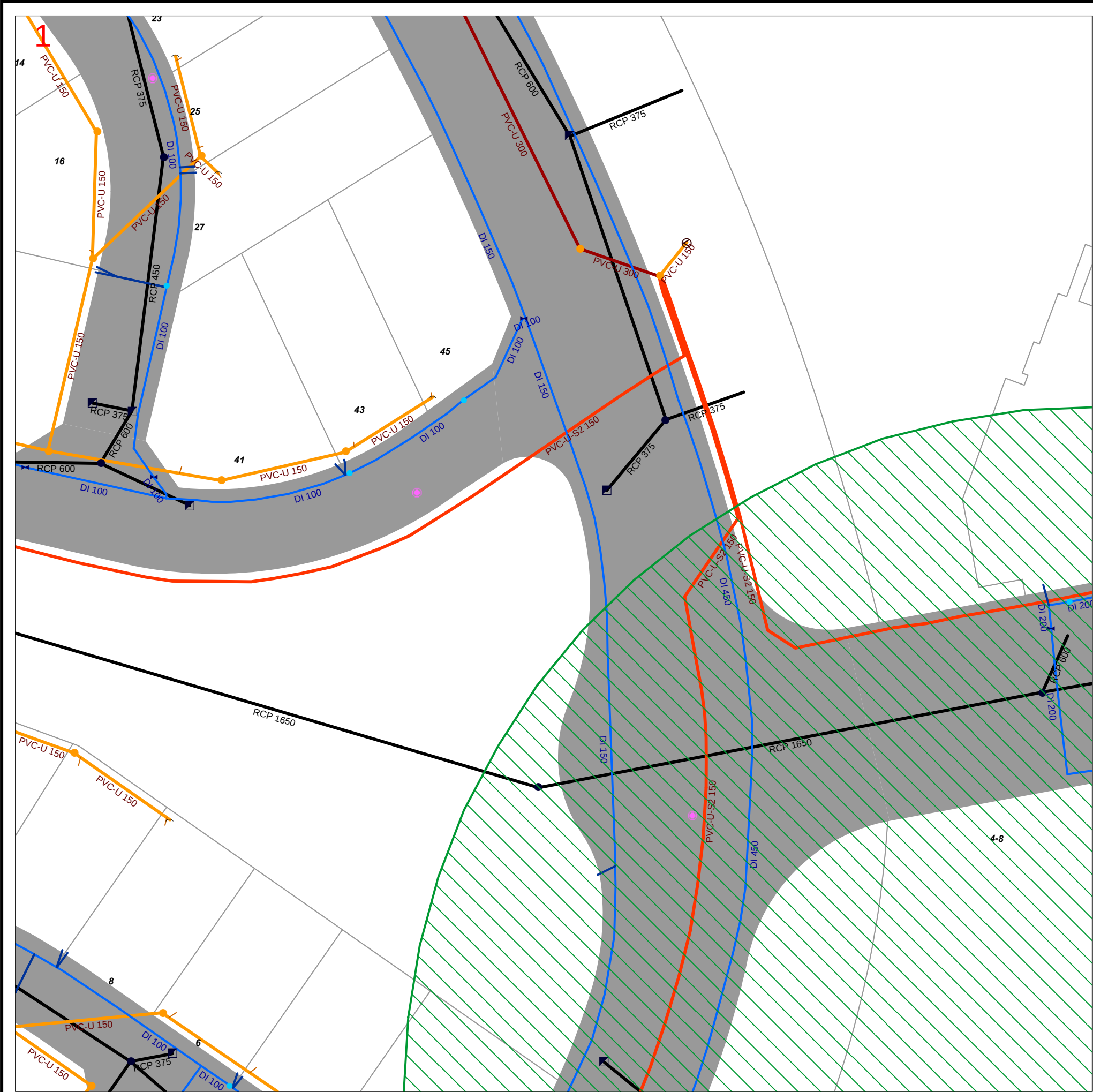
Imagery sourced from OpenStreetMaps

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Map 1

Sequence No: 263597333
4-8 Bells Boulevard Kingscliff



Sewer Pipeline	Sewer Node	Stormwater Pipe (Survey)	Stormwater Node (Survey)	Water Pipe Location	SCIMS Survey Marks
Sewer Rising Main Sewer Rising Main (Abandoned) Sewer Rising Main (Private) Sewer Gravity Main (Abandoned) Sewer Gravity Overflow Sewer Gravity Main (Private) Sewer Service Connection	End Cap Public Manhole Public Property Pump Public Pump Station Vacuum Chamber Vent Stack Communication Node Communication Cables	Stormwater Pipe (Survey) Stormwater Culvert (Survey) Stormwater Pipe Stormwater Pipe (Abandoned) Stormwater Pipe (Private) Stormwater Culvert Stormwater Culvert (Abandoned) Stormwater Channel Stormwater Channel (Abandoned)	Manhole Drop Inlet Kerb Inlet Wingwall Stormwater Node Manhole Drop Inlet Kerb Inlet Wingwall Private Stormwater Point	Water Main Water Main (Abandoned) Water Main (Private) Water Main (Recycled) Water Service Connections Water Node Gate Valve Hydrant Pressure Reducing Valve Pressure Sustaining Valve Pump Reservoir Scour Valve	CP CR GB MM PM SS TS General Property Boundary BYDA Work Area Flood Levee



1:500 @ A3 Portrait

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Please note that water pipes and sewer rising mains operate under high pressure and present a significant risk for any work around them while live. These mains will have associated thrust blocks that should also be considered in design/construction clearances.

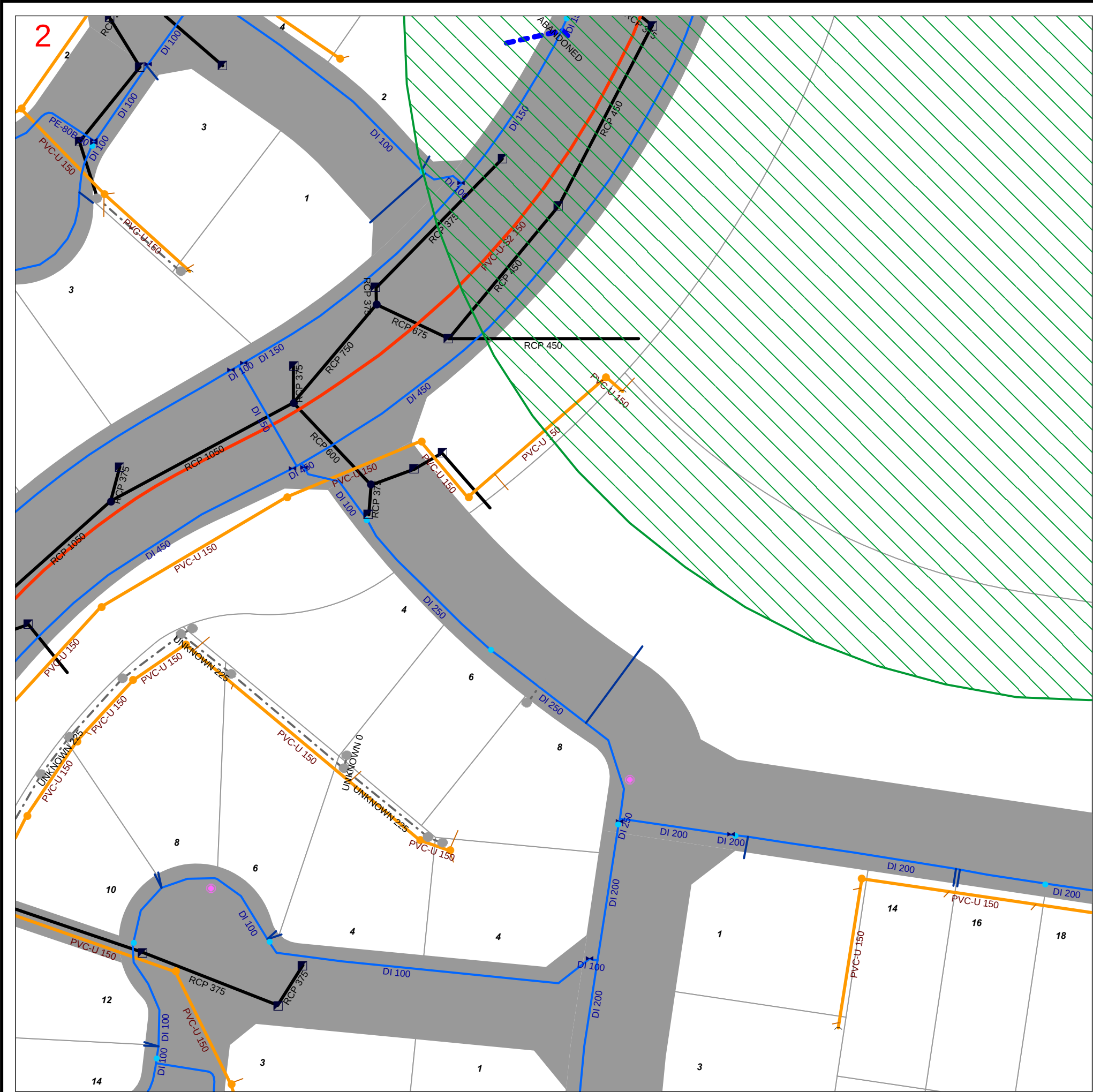


Map 2

Sequence No: 263597333
4-8 Bells Boulevard Kingscliff



Date: 03/11/2025

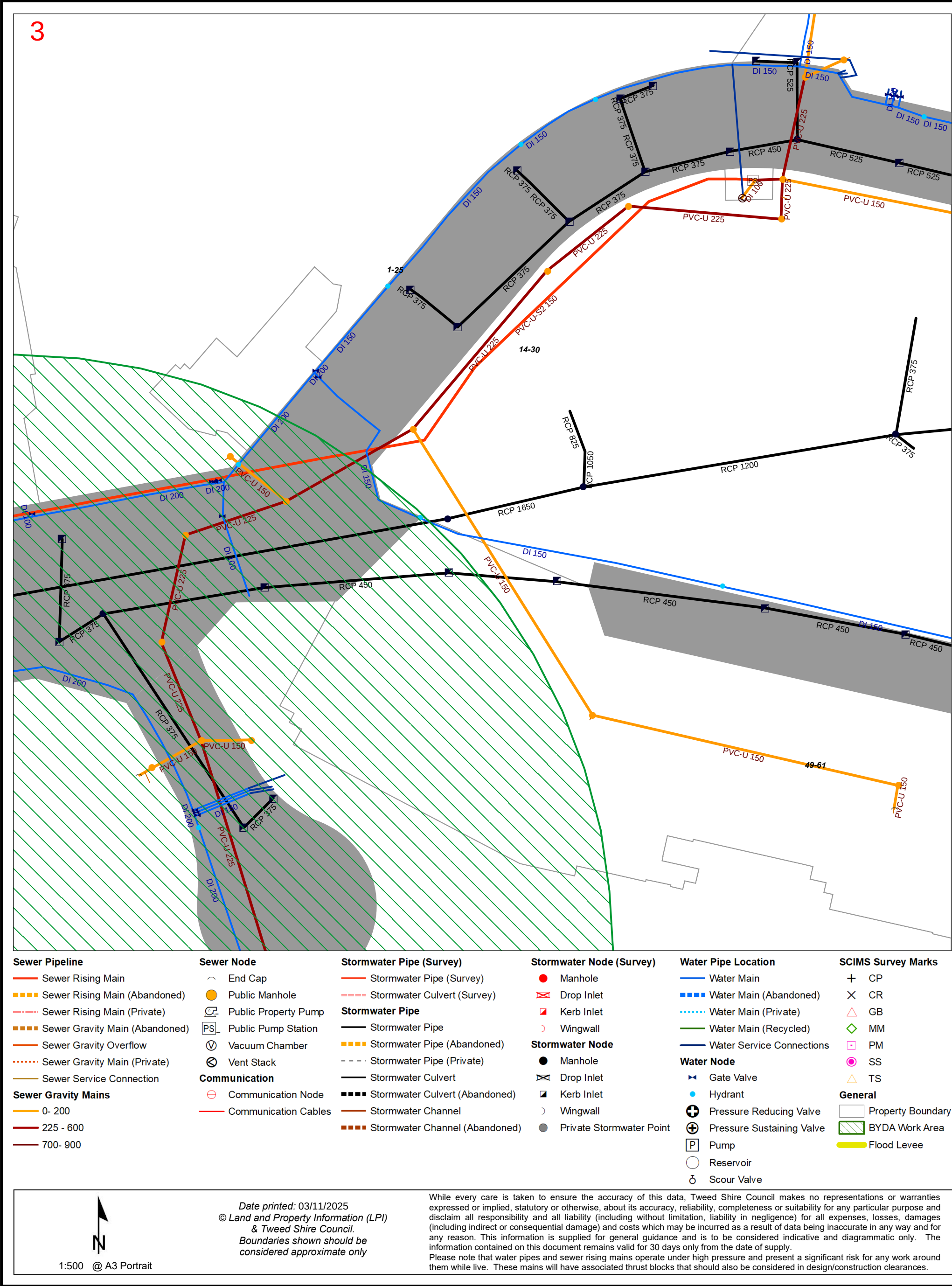


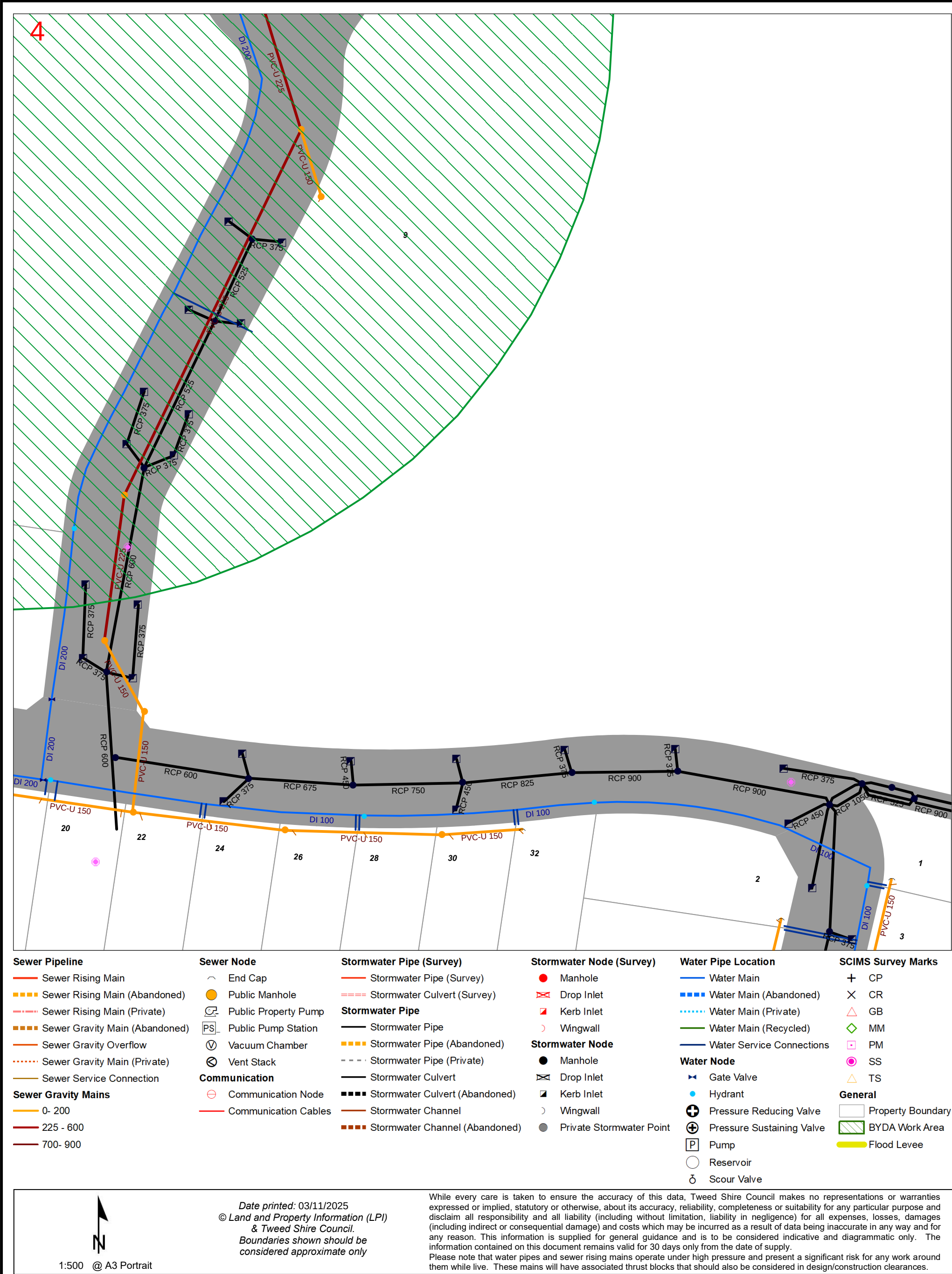
Sewer Pipeline	Sewer Node	Stormwater Pipe (Survey)	Stormwater Node (Survey)	Water Pipe Location	SCIMS Survey Marks
Sewer Rising Main	End Cap	Stormwater Pipe (Survey)	Manhole	Water Main	CP
Sewer Rising Main (Abandoned)	Public Manhole	Stormwater Culvert (Survey)	Drop Inlet	Water Main (Abandoned)	CR
Sewer Rising Main (Private)	Public Property Pump	Stormwater Pipe	Kerb Inlet	Water Main (Private)	GB
Sewer Gravity Main (Abandoned)	Public Pump Station	Stormwater Pipe	Wingwall	Water Main (Recycled)	MM
Sewer Gravity Overflow	Vacuum Chamber	Stormwater Pipe (Abandoned)	Stormwater Node	Water Service Connections	PM
Sewer Gravity Main (Private)	Vent Stack	Stormwater Pipe (Private)	Manhole	Water Node	SS
Sewer Service Connection	Communication	Stormwater Culvert	Drop Inlet	Gate Valve	TS
Sewer Gravity Mains	Communication Node	Stormwater Culvert (Abandoned)	Kerb Inlet	Hydrant	General
0- 200	Communication Cables	Stormwater Channel	Wingwall	Pressure Reducing Valve	Property Boundary
225 - 600		Stormwater Channel (Abandoned)	Private Stormwater Point	Pressure Sustaining Valve	BYDA Work Area
700- 900				Pump	Flood Levee
				Reservoir	
				Scour Valve	

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Appendix C – DAP Advice

12 November 2025

Mr Van Oers
administration@planitconsulting.com.au

 **02 6670 2400**
 tsc@tweed.nsw.gov.au
 tweed.nsw.gov.au
   
 PO Box 816
Murwillumbah NSW 2484

Dear Mr van Oers

Request for Technical Direction (Stormwater) - Proposed Mixed Use Development at 4-8 Bells Boulevard

We understand that Planit Consulting has been engaged to develop a Stormwater strategy for a proposed multi-storey mixed use development at 4-8 Bells Boulevard, Kingscliff as set out in your letter dated 15 October 2025.

In preparing same you have requested advice regarding compliance with the following requirements:

- **D5.16.1** – *Installation of Stormwater Detention is required on redevelopment sites where under capacity downstream drainage systems exists.*
- **D5.16.3** – *The development shall limit the maximum discharge rate to 200l/s/ha for all storm events up to and including the ARI 100 storm event [...]*

Planit Consulting is requesting the following technical direction from Council:

- Confirmation on whether Council has any modelling or data to confirm whether unused capacity exists within the existing 1650mm Stormwater Main directly to the north of the subject site.
 - *In lieu of this data Planit requests access to any design data (ie detailed design plans and approved stormwater management plan) Council may have for the original subdivision of the locality to assist in the development of a detailed hydraulic model.*
- *Confirmation on whether the 200l/s per ha criterion is applicable to a proposal on the site; and*
- *In lieu of traditional on-site detention, confirmation that Council would accept a proposal that seeks to upgrade the public drainage system up to its ultimate discharge into a tidal system. This upgrade would be sized to, at a minimum, cater for the increase in flows that are a result of the proposal.*
- *Confirmation of Council's conditions, should this proposal be accepted.*

In response to the quires above, please be advised as follows:

- No modelling data is available on the capacity of the 1650mm diameter stormwater main.
- An '**Access to Information**' application is required to be submitted for 'detailed design plans and approved stormwater management plan' associated with the original subdivision.

Further information on Access to Information applications can be found here - [Access to information | Tweed Shire Council](#).

- Work as executed details for the 1650mm diameter piped stormwater system can be provided through Council's GIS Team (Email - gismail@tweed.nsw.gov.au).
- There is no requirement for On-site Detention limited to 200 l/s/ha or to pre-development rates.
- There is no requirement to provide a separate public drainage system draining to Cudgen Creek in addition to the existing stormwater drainage system.
- Development is required to comply with the following positive covenant on the land.

1. Terms of Positive Covenant number 3 in the plan

All roof water from houses, buildings, or structures shall be discharged to an approved infiltration pit located on the subject property. The infiltration pit shall be approved by the Principal Certifying Authority,

- Infiltration is required to be designed to the following standards:
 - Roof water from dwellings or structures must be discharged to an approved infiltration pit located on the lot burdened. Infiltration devices are to be sized to accommodate the 3 month average recurrence interval storm event as a minimum. Surcharge overflow from the infiltration area to the street gutter or public drainage system must occur by visible surface flow, not piped.
 - Infiltration located below the basement is unlikely to be supported. Due to issues such as interference with ground water, difficult maintenance access and limited or no provision for overflow to the street or public drainage system.
 - The development is to ensure the placement for infiltration of stormwater can adequately drain to the street and is sized appropriately for the development.
- On site treatment of stormwater runoff would be required prior to discharge into the public system in accordance with Council's [Development Design Specification D5 – Stormwater Design](#) and [Development Design Specification D7 – Stormwater Quality](#). An application under Section 68 of the *Local Government Act 1993* should accompany the development application to identify all site drainage, stormwater quality devices and proposed stormwater outlets and any required erosion and sedimentation control measures.
- Stormwater management plan prepared by a qualified engineer in accordance with Council's [Development Design Specification D5 – Stormwater Design](#) and [Development Design Specification D7 – Stormwater Quality](#) is to be provided with the development application.
- Conditions will be provided at Development Application stage following the submission of a Stormwater Management Plan prepared by a qualified Engineering addressing [D5 – Stormwater Design](#) and [D7 – Stormwater Quality](#).

For more information regarding this matter please contact Valerie Conway on 02 6670 2605, alternatively please contact our Customer Service team on 02 6670 2400 during business hours.

Yours sincerely



Valerie Conway

Team Leader Development Assessment

Appendix D - Geotechnical Report



GEOTECHNICAL AND GROUNDWATER IMPACT ASSESSMENT

Kingscliff Mixed-Use Development

December 2025

Prepared for: Bells Boulevard Pty Ltd

**Lot 2 DP 1310938
4-8 Bells Boulevard
Kingscliff NSW**

HMC2025.1646.02

RE: Lot 2 DP 1310938, 4-8 Bells Boulevard, Kingscliff NSW.

HMC Environmental Consulting Pty Ltd is pleased to present our report for a Geotechnical and Groundwater Impact Assessment on for the abovementioned site.

We trust this report meets with your requirements. If you require further information, please contact HMC Environmental Consulting directly on the numbers provided.

HMC Environmental Consulting Suite 29, Level 2, 75-77 Wharf Street PO Box 311 Tweed Heads NSW 2485	PH: 0755 368 863 Email: admin@hmcenvironment.com.au Web: www.hmcenvironment.com.au ABN: 60 108 085 614
Title:	Geotechnical and Groundwater Impact Assessment
Job No:	2025.1646.02
Client:	Bells Boulevard Pty Ltd

Document Record:				
Version	Date	Prepared by	Checked by	Issued by
Draft Issue A	04.10.2025	MT	MT	KH
Final Issue A	04.12.2025	MF	MT	KH
Final Issue B	9.12.2025	KH		

Distribution List	Date	Version	Comments
Bells Boulevard Pty Ltd	04.10.2025	Draft Issue A	For review
Bells Boulevard Pty Ltd	04.12.2025	Final Issue A	For Lodgement
Bells Boulevard Pty Ltd	9.12.2025	Final Issue B	Final plans for lodgement

This report should be cited as '*HMC Environmental Consulting (2025). Geotechnical and Groundwater Impact Assessment, Kingscliff Mixed-Use Development: Lot 2 DP 1310938, 4-8 Bells Boulevard, Kingscliff NSW. Report No. HMC2025.1646.01, December 2025*'

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1 INTRODUCTION

A mixed-use development is proposed on the property located at Lot 2 DP 1310938, 4-8 Bells Boulevard, Kingscliff NSW. It is proposed to construct a five-storey building with a double level basement, and ancillary works including earthworks and landscaping. The proposal includes a mixture of residential units, retail, wellness facilities and communal areas on the ground floor, and four levels of residential units. This project would be Stage 3 of the master-planned development for this site following the Stage 1 Torrens Title subdivision and Stage 2 Row Housing proposals.

The property is currently vacant and partially used as informal carparking. The site has been subject to approved landform modification including imported fill placement.

This report accompanies an Environmental Impact Statement (EIS) pursuant to Part 4 of the Environmental Planning and Assessment Act 1979 (EP&A Act), in support of a State Significant Development Application (SSDA) and concurrent planning proposal (PP) for the construction of the proposed development at 4-8 Bells Boulevard, Kingscliff, reference SSD-83069459.

This report addresses the Secretary's Environmental Assessment Requirements (SEARs) issued for the project, notably Item 12. Ground and Groundwater Conditions:

"Assess potential impacts on soil resources and related infrastructure and riparian lands on and near the site and including soil erosion.

Where required provide a Geotechnical and Groundwater Impact Assessment in accordance with relevant Groundwater Guidelines. If the proposed development is on land identified as having high salinity or acid sulfate soil potential in an EPI provide a Salinity Management Plan or Acid Sulfate Soil Management Plan that includes appropriate management measures and strategies."

This assessment has been prepared to address the Secretary's Environmental Assessment Requirements (SEARs) for the State Significant Development (SSD). It specifically relates to groundwater conditions, the potential need for dewatering, and any potential impacts on groundwater-dependent ecosystems (GDEs), wetlands, groundwater users or structural stability.

Additional assessment (soil permeability) was also completed to provide information to inform stormwater management design.

SEARs Requirement	Does Current Assessment Address it?	Explanation
Groundwater extraction / dewatering impacts	Yes	Groundwater is >8.2 m below surface, excavation is above this level. No dewatering, no groundwater take, no cone of depression, no need for groundwater licensing under Water Management Act.
Soil resources, erosion, land stability, riparian land	Yes	Soil is sandy alluvium, low erosion risk. Works are not within riparian setbacks or watercourses. Standard erosion/sediment controls are sufficient to prevent sediment movement. No loss of prime agricultural soil. Minimal soil disturbance.
Geotechnical and Groundwater Impact Assessment (where required)	Yes – and it is justified that a full GIA is not required	Because groundwater is not intercepted, no drawdown or abstraction occurs, the development does not trigger the NSW Aquifer Interference Policy. A brief assessment with permeability testing + groundwater depth is sufficient.

Impacts to GDEs, wetlands, surface water ecosystems	Yes	No change to groundwater level, pressure or flow. No discharge or drawdown. No impact to groundwater-dependent ecosystems, wetlands or streams.
Salinity Management Plan required?	Yes (addressed not required)	Site is not mapped as high salinity risk in SEPP/LEP layers. No change to watertable → no upward mobilisation of salts. Not required.
Acid Sulfate Soil Management Plan required?	Yes (addressed – not required)	Site mapped as Class 4 ASS (only required if excavation is >2 m below ground or below water table). As groundwater is >8 m below ground and excavation is <7, ASS acid generation due to dewatering would not occur risk is negligible → no ASS Management Plan triggered. ASS investigation in separate HMC report
Impacts on infrastructure (settlement, subsidence)	Yes	No groundwater drawdown → no reduction in pore pressure → no ground settlement or damage to structures/pavements.
Off-site impacts / beneficial groundwater users	Yes	No pumping → no change in groundwater availability for users or ecosystems. No bore licensing impacts.

I, Mark Tunks (HMC Environmental Consulting), confirm this Geotechnical and Groundwater Impact Assessment addresses the requirements of SEAR No. 12 and relevant State and local legislation, policies, and guidelines. I further confirm that none of the information contained in the Geotechnical and Groundwater Impact Assessment is false or misleading.



Mark Tunks

1.1 SITE DESCRIPTION

The site is located at 4-8 Bells Boulevard, Kingscliff and is located in the Tweed Shire Local Government Area. The site is legally known as Lot 2 DP131098.

The site has an approximate area of 4,450sqm and is currently vacant of any structures. An informal bitumen sealed carpark containing 27 spaces is located in the northeast part of the site, which is enforced by way of a restriction on the existing title of the land.

The centre of the site is clear of vegetation, with any vegetation located along the street frontages or abutting the western boundary. A public reserve runs along the site's western boundary containing a concrete footpath and extensive vegetation.

The site is relatively level around the street frontages, with levels ranging between RL 9.85m at Gunnamatta Avenue to RL 10.39m at the corner of Bells Boulevard and Casuarina Way. The rear of the site has been excavated to the lowest point of RL 7.15m.

The site is located on the gateway to a part of Kingscliff known as 'the Salt Precinct'. This part of the Salt Precinct is centred around the Salt Central Park, which is bordered by two major tourism developments,

those being the Peppers and Mantra resorts. Salt Central Park is activated by a retail precinct with shops, cafes and restaurants known as Salt Village.

1.2 PROJECT DESCRIPTION

The proposed development seeks development consent for a new mixed-use building on the site. The proposal will include the following works:

- Construction of a five-storey mixed use development with ground level retail fronting Bells Boulevard and Gunnamatta Avenue and ground level residential units, with residential units contained on levels 1-4 (inclusive),
- A total of 69 residential units of which 2 will be affordable housing units. These affordable housing units are to be retained as such for 15 years and managed by a registered Community Housing Provider,
- Excavation for two basement levels of carparking with 183 carparking spaces and associated services,
- Removal of 23 trees on site, and
- Landscaping and a communal open space network with a focus on wellness including a rooftop pool, indoor communal space and ground level outdoor communal open space designed around a central lawn.

2 SITE INFORMATION

Table 1 – Project Summary

Site Address	4-8 Bells Boulevard Kingscliff NSW
Property description	Lot 2 DP 1310938
Report commissioned by	Bells Boulevard Pty Ltd
Proposed development	Kingscliff Mixed-Use Development
Estimated maximum depth of excavation	Maximum depth approximately 8m BGL
Investigator	Mark Tunks
Local Government Authority	Tweed Shire
Investigation date	27 October 2025

3 GROUNDWATER LEVELS AND EXCAVATION DEPTH

Four (4) boreholes up to 8.2m depth below the existing ground surface level were drilled by a drilling contractor Geotechnical Investigations on 27 October 2025. Although no groundwater seepage or wet soil was intercepted within the soil profile during drilling, two (2) boreholes were converted to groundwater monitoring bores to assess site permeability.

As groundwater was not intercepted during drilling, it is confirmed that the groundwater table in this location is at a depth greater than 8.2 m below ground level (BGL). As the survey shows the existing ground surface in the approximate locations of the boreholes ranging from approximately RL9.5-10.4m AHD, the groundwater elevation appears to be below RL 1.3m AHD.

As shown in Table 1, the proposed excavation depth is significantly shallower than the apparent groundwater table; therefore:

Groundwater would not be intercepted during construction.

No dewatering is required.

No groundwater drawdown or cone of depression will develop.

Excavation will remain entirely above the groundwater table.

Table 2 – Summary of Groundwater Elevation Information

Borehole ID	Depth (m)	Approx. Ground Surface Level (m AHD)	Groundwater elevation	Approx. Basement Excavation Elevation ⁽¹⁾	Approx. Lift Well Elevation ⁽²⁾	Groundwater Intercept during excavation
BH1 (GW1)	8.2	9.5	<1.3	3.8	3.0	NO
BH2 (GW2)	8.0	10.4				
BH3	8.0	10.3				
BH4	8.0	10.1				

(1) Assumes basement floor level RL4.3m AHD & excavation depth ~0.5m below floor

(2) Assumes Lift well excavation to 1.3m below basement floor

4 GROUNDWATER BORE DETAILS

The details of the two 50mm UPVC groundwater bores (GW1 & GW2) is summarised in Table 2.

Table 3 – Groundwater Bore Details

Bore ID	Blank	Screen	Stickup
GW1 (south)	6.90	0.75	1.0
GW2 (north)	5.17	0.5	0.83

5 SOIL PERMEABILITY (HYDRAULIC CONDUCTIVITY – KSAT)

5.1 SUMMARY OF GROUNDWATER PERMEABILITY (KSAT) ASSESSMENT

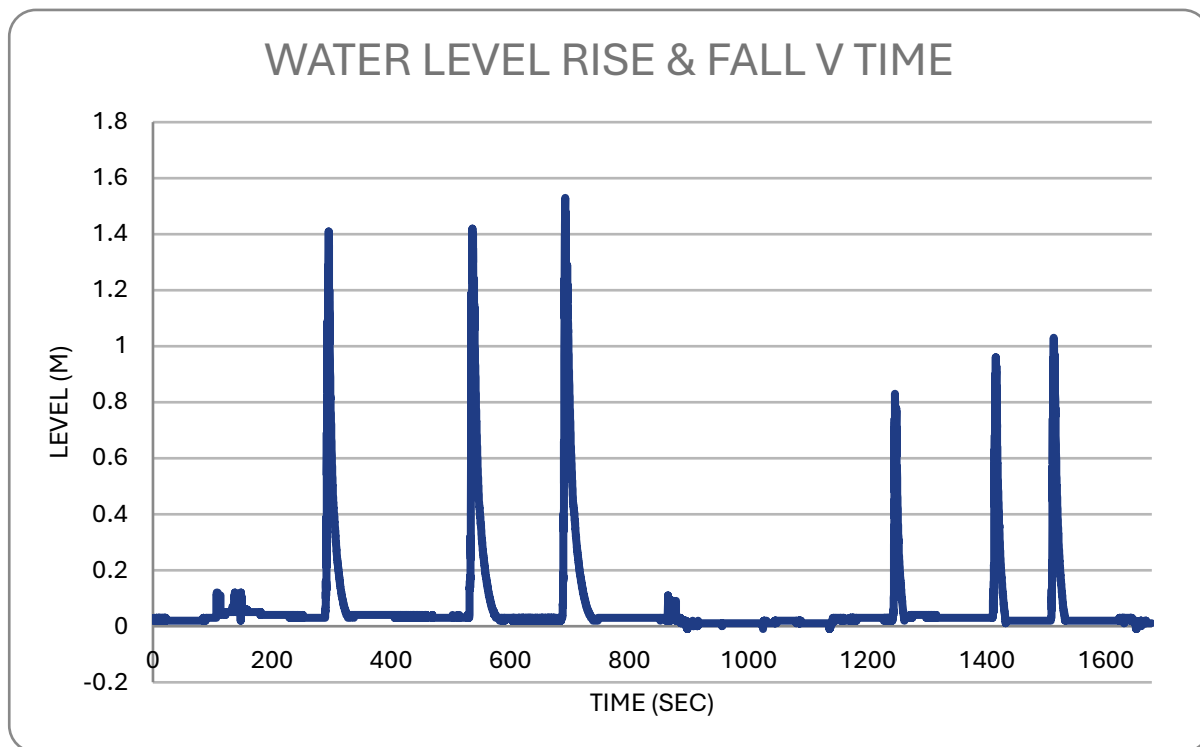
Falling head permeability tests were completed using two 50 mm diameter monitoring bores (GW1 and GW2). Groundwater was not intercepted during drilling (standing water level is >8.2 m below ground surface), so small volumes of water were added to each bore to create a temporary water column. The rate at which this water level declined was recorded with a pressure logger and analysed using the **Bouwer & Rice (1976) method**, which is the standard approach for shallow unconfined aquifers in sandy soils.

The method uses:

- Bore radius = 0.025 m,
- Screen length = 0.75 m (GW1) and 0.50 m (GW2),
- Change in water level (Δh) over time (first 60 seconds),
- A geometric factor that accounts for the effective radius of influence in the aquifer.

The measured water level changes recorded by the pressure logger is shown in the following graph.

Figure 1 – Graph showing Water Level Changes During Permeability Testing



The decline in water level was rapid in all tests, confirming highly permeable sand. The hydraulic conductivity (K_{sat}) was calculated using the formula:

$$K = [(r^2 \times \ln(Re/r)) / (2 \times L)] \times \alpha$$

Where:

- r = bore radius,
- L = screen length,
- α = slope from $\ln(h/h_0)$ vs time (measured),
- Re = estimated radius of aquifer influence (assessed over a range to show sensitivity).

Using this method, the calculated hydraulic conductivity values were:

Bore	K_{sat} (m/day) – Range
GW1	2.5 – 4.5 m/day
GW2	2.3 – 4.2 m/day

The calculated hydraulic conductivity (K_{sat}) ranged between approx. 2.5 m/day and 4.5 m/day, indicating highly permeable sandy soil.

Although the soil profile is highly transmissive, the groundwater table is more than 8 m below the surface, meaning groundwater will not enter excavations and no sustained groundwater pumping is necessary.

6 POTENTIAL IMPACTS ON GROUNDWATER AND RECEPTORS

As groundwater will not be intersected and no dewatering is proposed:

No impacts are expected to groundwater-dependent ecosystems (GDEs), riparian vegetation or wetlands.

No impacts to registered groundwater users or private bores are anticipated.

No change to groundwater levels, pressure or flow direction will occur.

Settlement, subsidence or instability to surrounding infrastructure due to changes associated with extracting groundwater would not occur.

There is no risk of saline intrusion, acid sulfate soil oxidation or contaminant mobilisation associated with groundwater drawdown.

7 CONCLUSION

These results indicate moderate to high permeability sand, but as groundwater is more than 8 m below excavation depth, the works will not intercept groundwater, no dewatering is required, and no impacts are expected to groundwater users, wetlands, or groundwater-dependent ecosystems. No mitigation measures are required.

8 SIGNATURE

This report has been prepared by Mark Tunks of HMC Environmental Consulting, a suitably qualified environmental consultant.

 ...

4 November 2025
Completion Date

Mark Tunks
Principal

9 LIMITATIONS

Any conclusions presented in this report are relevant to the site condition at the time of inspection and legislation enacted as at date of this report. Actions or changes to the site after time of inspection or in the future will void this report as will changes in relevant legislation.

This document has been titled “Geotechnical Assessment” to align with the terminology used in the SEARs table. However, HMC Environmental Consulting has not undertaken geotechnical engineering, structural design, or stability assessment. The scope of this report is strictly limited to environmental aspects of ground and groundwater behaviour, soil erosion risk, and potential impacts on adjacent sites arising from groundwater conditions. All geotechnical design matters must be addressed by a suitably qualified geotechnical engineer.

The findings of this report are based on the objectives and scope of work outlined in Section 1. HMC Environmental has performed the services in a manner consistent with the normal level of care and expertise exercised by members of the environmental assessment profession. No warranties or guarantees expressed or implied, are given. This report does not comment on any regulatory issues arising from the findings, for which a legal opinion should be sought. This report relates only to the objectives and scope of work stated and does not relate to any other works undertaken for the client. The report and conclusions are based on the information obtained at the time of the assessment.

The results of this assessment are based upon site inspections and fieldwork conducted by HMC Environmental personnel and information provided by the client. All conclusions regarding the property area are the professional opinions of the HMC Environmental personnel involved with the project, subject to the qualifications made above. HMC Environmental assume no responsibility or liability for errors in any data obtained from regulatory agencies, information from sources outside of HMC Environmental, or developments resulting from situations outside the scope of this project.

10 APPENDICES

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See following pages

APPENDIX 1 – LOCATION MAPS





Figure 2 - Surrounding Area (Source: Nearmap 2025)

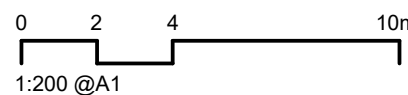
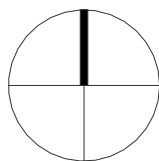


Figure 3 – Subject Site (Source: Nearmap 2025)

APPENDIX 2 – PROPOSED DEVELOPMENT



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Nominated Architects: Adam Haddow-7188 | John Pradel-7004

Rev	Date	Revision	By	Chk.
A	28-11-2025	FOR SSDA	LR	JV

NOTE: MINOR CHANGES TO FORM AND CONFIGURATION MAY BE REQUIRED WHEN DRAWINGS ARE SUBSEQUENTLY PREPARED FOR CONSTRUCTION PURPOSES AFTER THE GRANT OF DEVELOPMENT CONSENT.

Client

**BELLS
BOULEVARD
PTY LTD**

Project

**BELLS BOULEVARD
4-8 BELLS BOULEVARD, KINGSCLIFF**

Drawing Name

FLOOR PLAN - BASEMENT 02

Date

28-11-2025

Scale

1 : 200

Sheet Size

A1

Drawn

LR

Chk.

JV

Job No.

6906

Drawing No.

DA-1001

Revision

/ A

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Surry Hills NSW 2010

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PARKING LEGEND

(E)	EASEMENT
(E)	EASEMENT ACCESSIBLE
(R)	RESIDENTIAL
(SCR)	SMALL CAR RESIDENTIAL
(V)	VISITOR
(RT)	RETAIL
(RT)	RETAIL ACCESSIBLE
(RTS)	RETAIL STAFF
(RTS)	RETAIL STAFF ACCESSIBLE

BICYCLE PARKING SCHEDULE

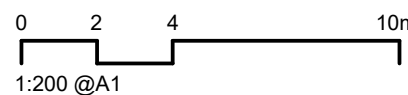
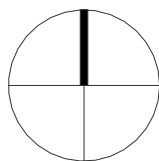
TYPE	COUNT
LEVEL 00	
RETAIL	12
BASEMENT 01	
RESIDENTIAL	50
VISITOR	10
BASEMENT 02	
RESIDENTIAL	19
GRAND TOTAL	91

PARKING SCHEDULE

TYPE	COUNT
BASEMENT 01	
EASEMENT 2600x5400	25
EASEMENT ACCESSIBLE 2600x5400	2
SUBTOTAL	27
RESIDENTIAL 2600x5400	2
SMALL CAR RESIDENTIAL 2000x5000	1
VISITOR 2600x5400	17
SUBTOTAL	20
RETAIL 2600x5400	23
RETAIL ACCESSIBLE 2600x5400	1
SUBTOTAL	24
RETAIL STAFF 2600x5400	6
RETAIL STAFF ACCESSIBLE 2600x5400	1
SUBTOTAL	7
BASEMENT 02	
RESIDENTIAL 2600x5400	106
SUBTOTAL	106
GRAND TOTAL	184

NOT FOR CONSTRUCTION

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Nominated Architects: Adam Haddow-7188 | John Pradel-7004

Rev	Date	Revision	By	Chk.
A	28-11-2025	FOR SSDA	LR	JV

NOTE: MINOR CHANGES TO FORM AND CONFIGURATION MAY BE REQUIRED WHEN DRAWINGS ARE SUBSEQUENTLY PREPARED FOR CONSTRUCTION PURPOSES AFTER THE GRANT OF DEVELOPMENT CONSENT.

Client

**BELLS
BOULEVARD
PTY LTD**

Project

**BELLS BOULEVARD
4-8 BELLS BOULEVARD, KINGSCLIFF**

Drawing Name

FLOOR PLAN - BASEMENT 01

Date

28-11-2025

Scale

1 : 200

Sheet Size

A1

Drawn

LR

Chk.

JV

Job No.

6906

Drawing No.

DA-1002

Revision

/ A

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PARKING LEGEND

- (E) EASEMENT
- (E) EASEMENT ACCESSIBLE
- (R) RESIDENTIAL
- (SCR) SMALL CAR RESIDENTIAL
- (V) VISITOR
- (RT) RETAIL
- (RT) RETAIL ACCESSIBLE
- (RTS) RETAIL STAFF
- (RTS) RETAIL STAFF ACCESSIBLE

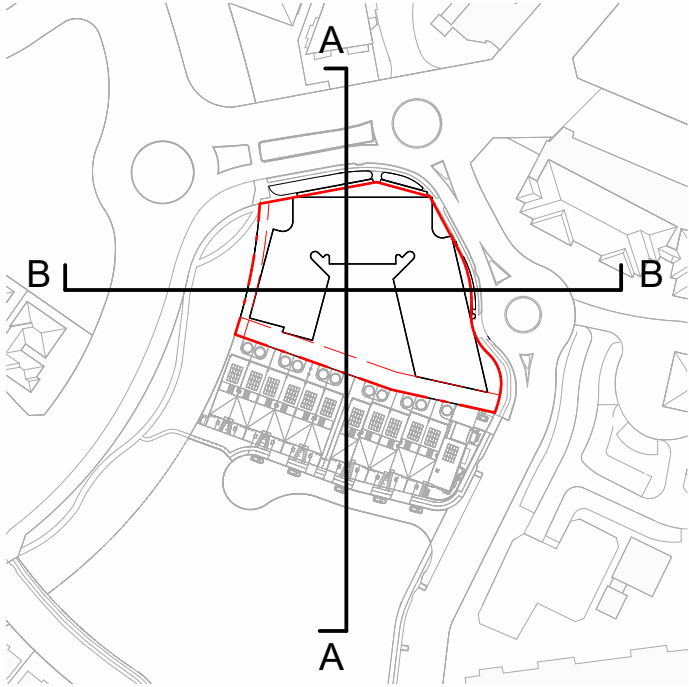
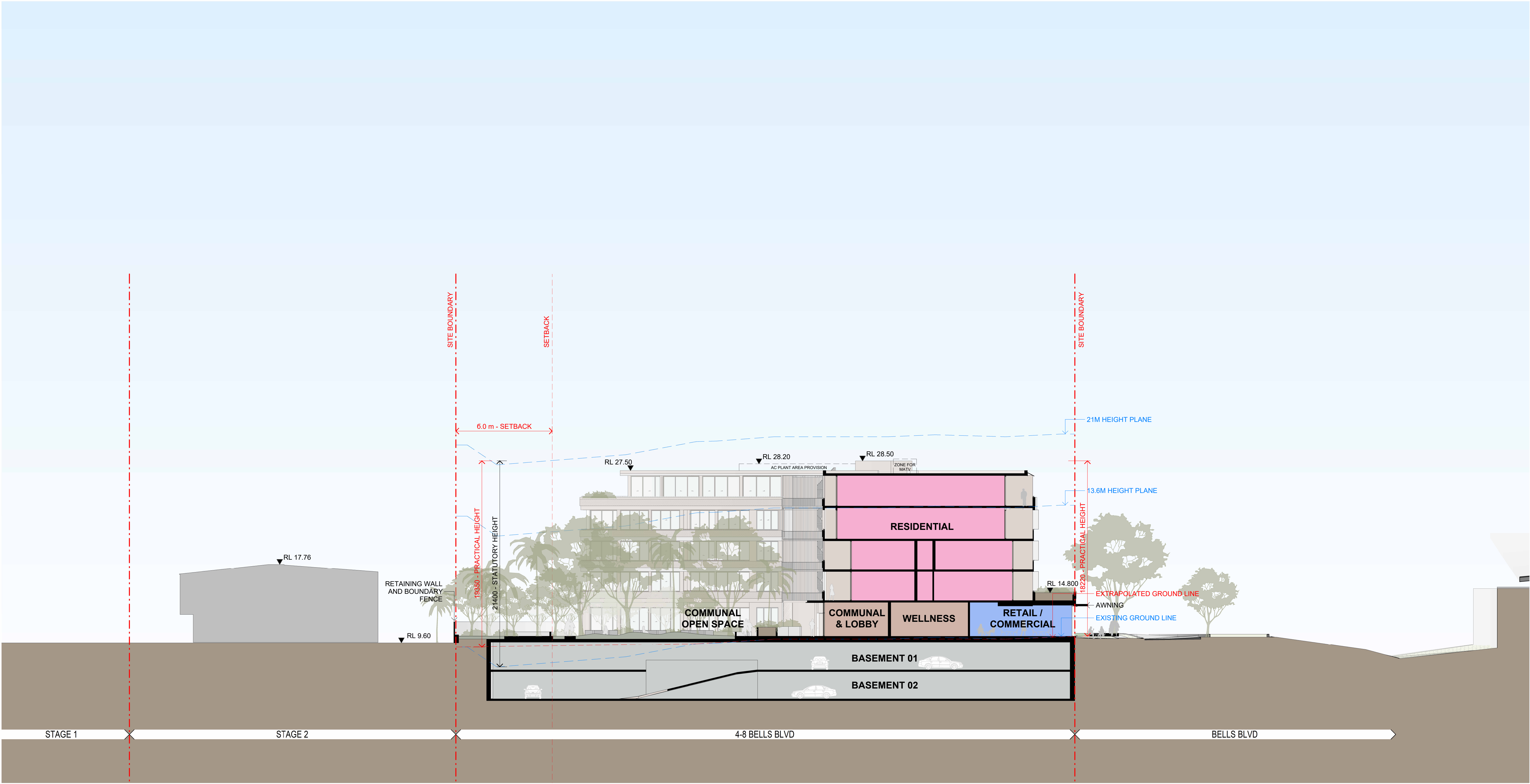
BICYCLE PARKING SCHEDULE

TYPE	COUNT
LEVEL 00 RETAIL	12
BASEMENT 01 RESIDENTIAL VISITOR	50 10
BASEMENT 02 RESIDENTIAL	19
GRAND TOTAL	91

PARKING SCHEDULE

TYPE	COUNT
BASEMENT 01	
EASEMENT 2600x5400	25
EASEMENT ACCESSIBLE 2600x5400	2
SUBTOTAL	27
RESIDENTIAL 2600x5400	2
SMALL CAR RESIDENTIAL 2000x5000	1
VISITOR 2600x5400	17
SUBTOTAL	20
RETAIL 2600x5400	23
RETAIL ACCESSIBLE 2600x5400	1
SUBTOTAL	24
RETAIL STAFF 2600x5400	6
RETAIL STAFF ACCESSIBLE 2600x5400	1
SUBTOTAL	7
BASEMENT 02	
RESIDENTIAL 2600x5400	106
SUBTOTAL	106
GRAND TOTAL	184

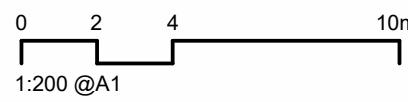
NOT FOR CONSTRUCTION



SECTION A
SCALE 1 : 200

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Nominated Architects: Adam Haddow-7188 | John Pradel-7004



Rev	Date	Revision	By	Chk.
A	28-11-2025	FOR SSDA	LR	JV

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Client

**BELLS BOULEVARD
PTY LTD**

Project

**BELLS BOULEVARD
4-8 BELLS BOULEVARD, KINGSCLIFF**

Drawing Name

BUILDING SECTION A

Date

28-11-2025 1:200

Drawn

LR

Drawing No.

DA-1503

Scale

1:200

Chk.

JV

Sheet Size

A1

Job No.

6906

Revision

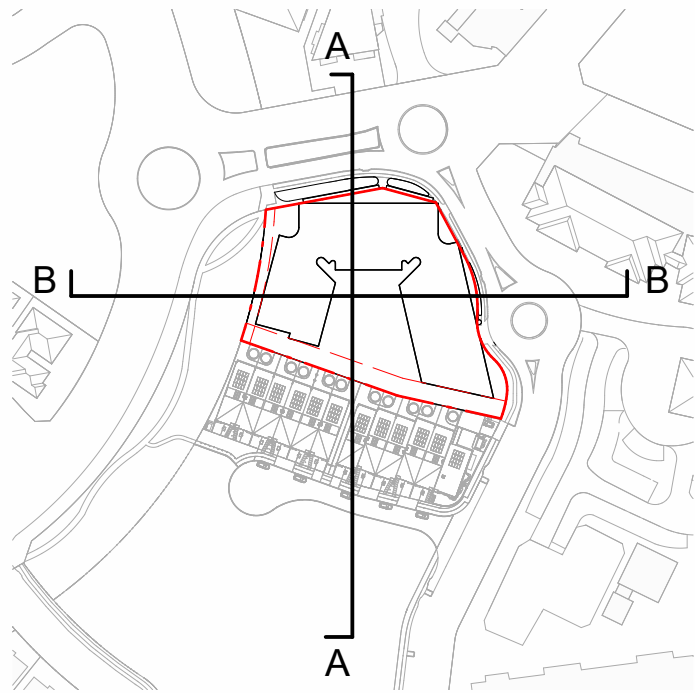
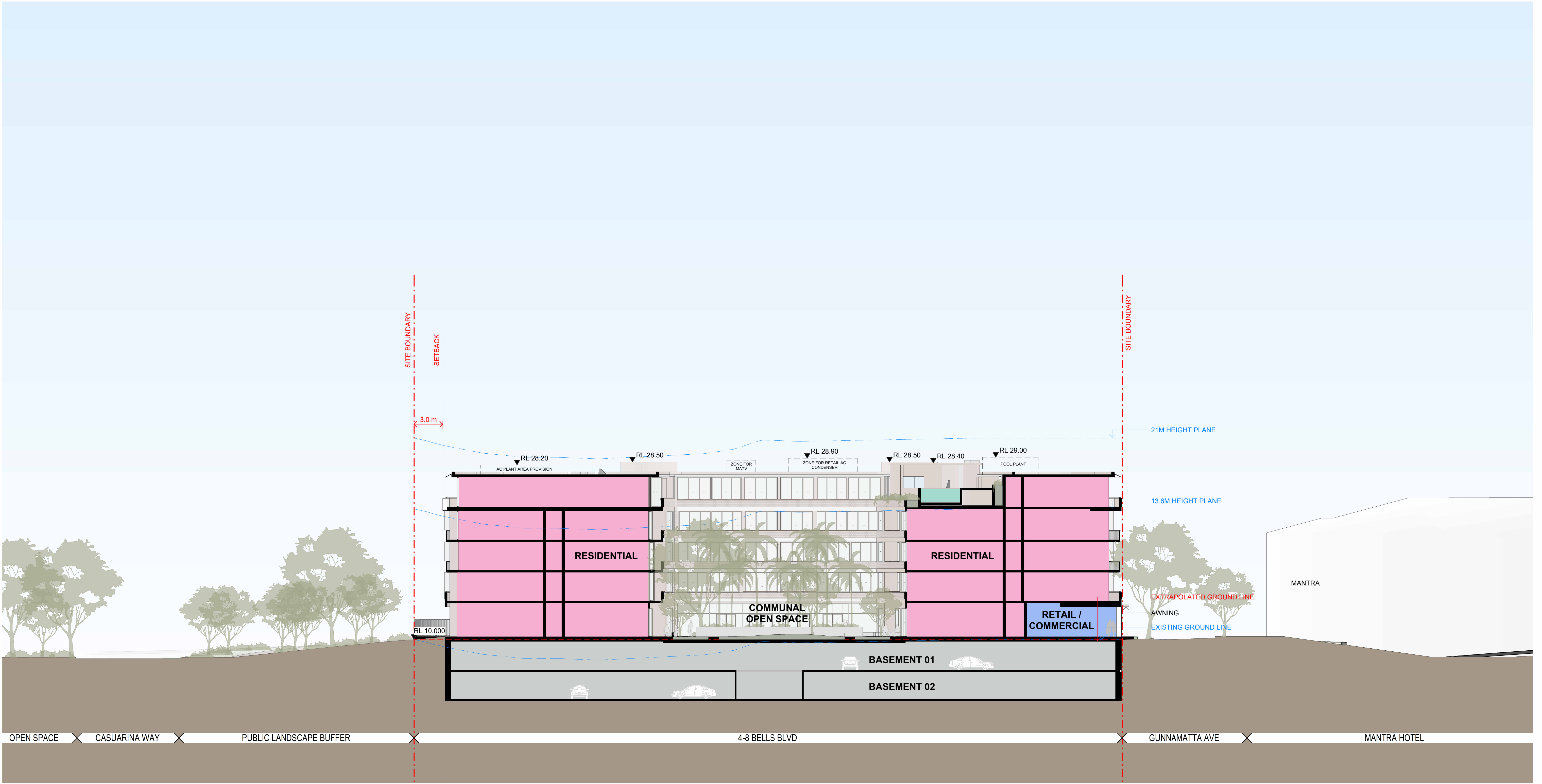
/ A

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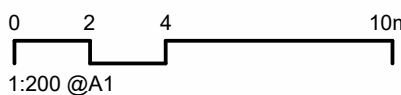




SECTION B
SCALE 1:200

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Nominated Architects: Adam Haddow-7188 | John Pradel-7004



Rev	Date	Revision	By	Chk.
A	28-11-2025	FOR SSDA	LR	JV

NOTE: MINOR CHANGES TO FORM AND CONFIGURATION MAY BE REQUIRED WHEN DRAWINGS ARE SUBSEQUENTLY PREPARED FOR CONSTRUCTION PURPOSES AFTER THE GRANT OF DEVELOPMENT CONSENT.

Client

BELLS BOULEVARD PTY LTD

Project

**BELLS BOULEVARD
4-8 BELLS BOULEVARD, KINGSCLIFF**

Drawing Name

BUILDING SECTION B

Date

28-11-2025

Scale

1:200

Sheet Size

A1

Drawn

LR

Chk.

JV

Job No.

6906

Drawing No.

DA-1504

Revision

/ A

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APPENDIX 3 – SITE PLAN – SITE INVESTIGATION

GEOTECHNICAL AND
GROUNDWATER IMPACT
ASSESSMENT

GROUNDWATER BORE
LOCATIONS

 HMC Groundwater
bores to assess
Permeability



Lot 2 DP 1310938
4-8 Bells Boulevard
Kingscliff NSW

Job: HMC2025.1646
Date: November 2025
Rev:
Drawn: KH
BASE: Nearmap

HMC Environmental Consulting Pty Ltd
Tweed Heads NSW
0755368863
www.hmcenvironment.com.au
admin@hmcenvironment.com.au

Scale:
0 10 20m

 BH2/GW2

 BH4

 BH3

 BH1/GW1

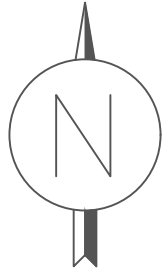
APPENDIX 4 – SETBACKS



GEOTECHNICAL AND
GROUNDWATER IMPACT
ASSESSMENT

Site setbacks

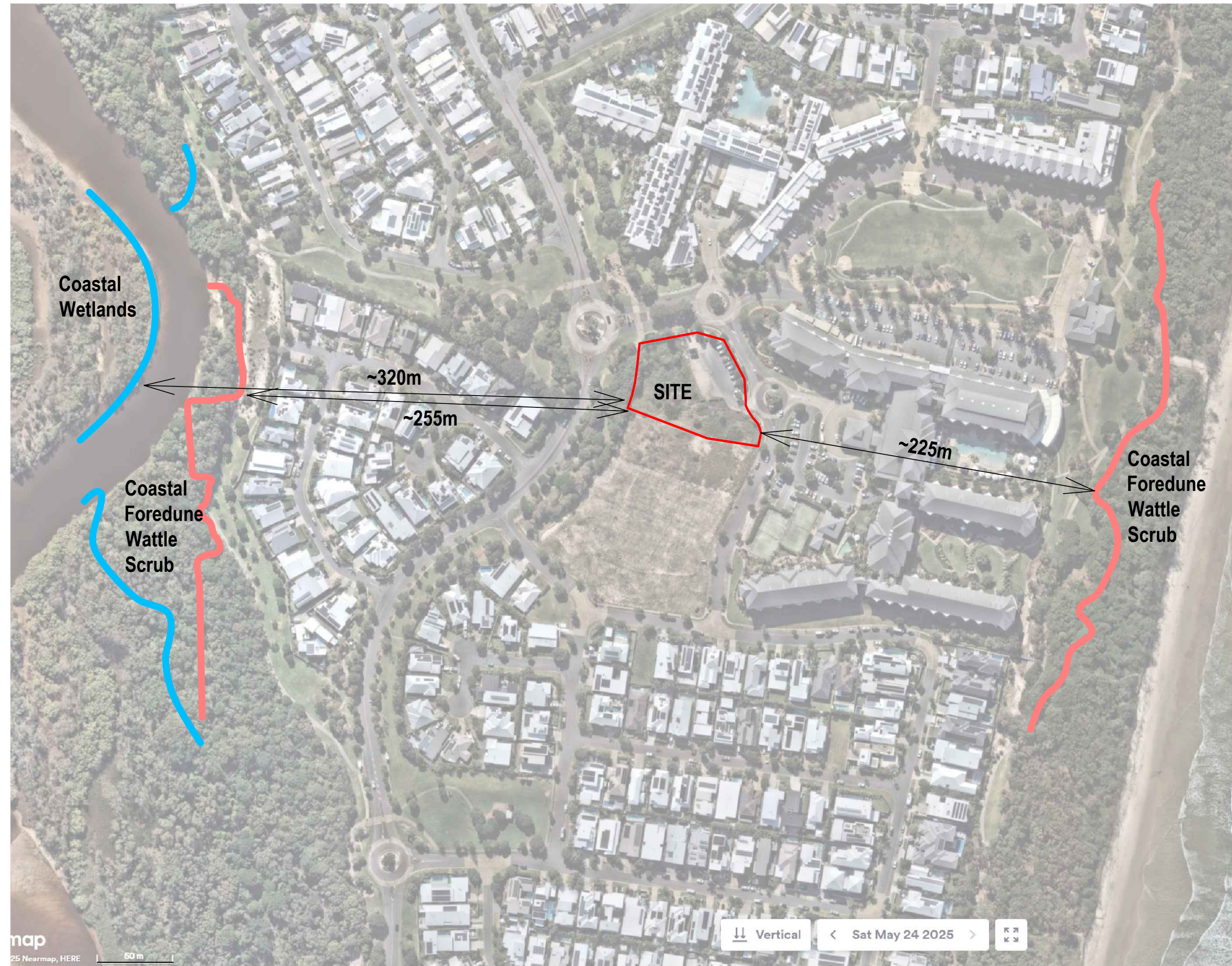
- Groundwater
Dependent
Ecosystems
- Coastal Wetlands



Lot 2 DP 1310938
4-8 Bells Boulevard
Kingscliff NSW

Job: HMC2025.1646
Date: November 2025
Rev:
Drawn: KH
BASE: Nearmap

HMC Environmental Consulting Pty Ltd
Tweed Heads NSW
0755368863
www.hmcenvironment.com.au
admin@hmcenvironment.com.au



APPENDIX 5 - BORELOGS

UTM : 56J
Easting () : 556544.65
Northing () : 6871923.35
Ground Elevation : 10.15 (m)
Total Depth : 8.2 m BGL

Drill Rig : GT 10
Driller Supplier : Geotech Investigations
Logged By : James Walle
Reviewed By : JW
Date : 27/10/2025

Job Number : GI 8131
Client : HMC Environmental Consulting Pty Ltd
Project : Acid Sulfate Soil
Location : 23 Bells Blvd, Kingscliff NSW 2487, Australia
Loc Comment :

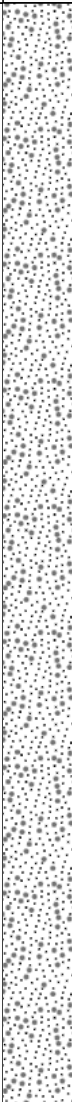
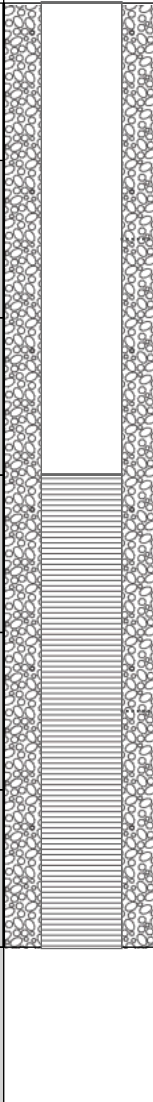
Drilling Method	Elevation (m)	Depth (m)	Soil Origin	Graphic Log	Classification Code	Water	Moisture	Material Description	Samples	A Well Diagram
									ASS	
	10		Fill		GC		M	Fill- Clayey to Sandy GRAVEL GC: low plasticity clay, orange brown mottled pale grey, medium dense to dense, well compacted, fine to coarse sized, fine grained sand.		
	0.5									
	9		Fill		SM		M	Fill- Silty SAND SM: pale brown, fine grained.		
	1.0									
	9		Fill		SM		M			
	1.5									
	2.0									
	8									
	2.5		Fill		SP		M	Fill- None SAND SP: pale brown to yellow brown, fine grained.		
	3.0									
	7									
	3.5		Fill		SP		M			
	4.0									
	6									

This report must be read in conjunction with accompanying notes and abbreviations. It has been prepared for environmental purposes only, without attempt to consider geotechnical properties or the geotechnical significance of the materials encountered. As such it should not be relied upon for geotechnical purposes.

UTM : 56J
Easting () : 556544.65
Northing () : 6871923.35
Ground Elevation : 10.15 (m)
Total Depth : 8.2 m BGL

Drill Rig : GT 10
Driller Supplier : Geotech Investigations
Logged By : James Walle
Reviewed By : JW
Date : 27/10/2025

Job Number : GI 8131
Client : HMC Environmental Consulting Pty Ltd
Project : Acid Sulfate Soil
Location : 23 Bells Blvd, Kingscliff NSW 2487, Australia
Loc Comment :

Drilling Method	Elevation (m)	Depth (m)	Soil Origin	Graphic Log	Classification Code	Water	Moisture	Material Description	Samples	Well Diagram
									ASS	
	6		Alluvial		SP		M	Alluvial- None SAND SP: pale brown, fine grained, difficult to identify fill and natural interface.		
		5.0								
		5.5							5.00-5.50 m:	
		6.0							5.50-6.00 m:	
		6.5							6.00-6.50 m:	
		7.0							6.50-7.00 m:	
		7.5							7.00-7.50 m:	
		8.0							7.50-8.00 m:	
								BH 1 (HMC) Terminated at 8.2 m		

This report must be read in conjunction with accompanying notes and abbreviations. It has been prepared for environmental purposes only, without attempt to consider geotechnical properties or the geotechnical significance of the materials encountered. As such it should not be relied upon for geotechnical purposes.

UTM : 56J
Easting () : 556507.38
Northing () : 6871973.90
Ground Elevation : 10.2 (m)
Total Depth : 8 m BGL

Drill Rig : GT 10
Driller Supplier : Geotech Investigations
Logged By : James Walle
Reviewed By : JW
Date : 27/10/2025

Job Number : GI 8131
Client : HMC Environmental Consulting Pty Ltd
Project : Acid Sulfate Soil
Location : 23 Bells Blvd, Kingscliff NSW 2487, Australia
Loc Comment :

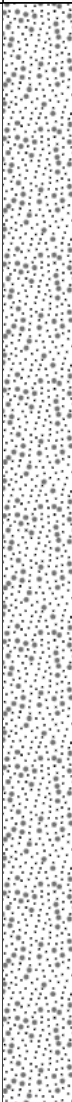
Drilling Method	Elevation (m)	Depth (m)	Soil Origin	Graphic Log	Classification Code	Water	Moisture	Material Description	Samples	Well Diagram
									ASS	
	10	0.5	Fill		GC		M	Fill- Clayey to Sandy GRAVEL GC: low plasticity clay, orange brown mottled pale grey, medium dense to dense, well compacted, fine to coarse sized, fine grained sand.		
	9	2.0	Fill		SM		M	Fill- Silty SAND SM: pale brown, fine grained.		
	7	3.5	Fill		SP		M	Fill- None SAND SP: pale brown to yellow brown, fine grained.		

This report must be read in conjunction with accompanying notes and abbreviations. It has been prepared for environmental purposes only, without attempt to consider geotechnical properties or the geotechnical significance of the materials encountered. As such it should not be relied upon for geotechnical purposes.

UTM : 56J
Easting () : 556507.38
Northing () : 6871973.90
Ground Elevation : 10.2 (m)
Total Depth : 8 m BGL

Drill Rig : GT 10
Driller Supplier : Geotech Investigations
Logged By : James Walle
Reviewed By : JW
Date : 27/10/2025

Job Number : GI 8131
Client : HMC Environmental Consulting Pty Ltd
Project : Acid Sulfate Soil
Location : 23 Bells Blvd, Kingscliff NSW 2487, Australia
Loc Comment :

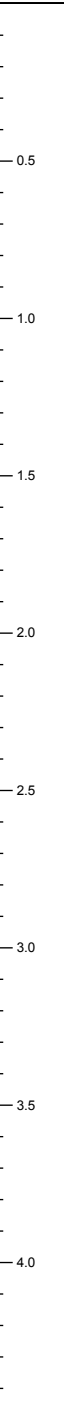
Drilling Method	Elevation (m)	Depth (m)	Soil Origin	Graphic Log	Classification Code	Water	Moisture	Material Description	Samples	Well Diagram
									ASS	
	6		Alluvial		SP		M	Alluvial- None SAND SP: brown and grey, fine grained, difficult to identify fill and natural interface.		
		5.0								
		5.5							5.00-5.50 m:	
		6.0							5.50-6.00 m:	
		6.5							6.00-6.50 m:	
		7.0							6.50-7.00 m:	
		7.5							7.00-7.50 m:	
									7.50-8.00 m:	
								BH 2 (HMC) Terminated at 8 m		

This report must be read in conjunction with accompanying notes and abbreviations. It has been prepared for environmental purposes only, without attempt to consider geotechnical properties or the geotechnical significance of the materials encountered. As such it should not be relied upon for geotechnical purposes.

UTM : 56J
Easting () : 556510.46
Northing () : 6871949.94
Ground Elevation : 9.9 (m)
Total Depth : 8 m BGL

Drill Rig : GT 10
Driller Supplier : Geotech Investigations
Logged By : James Walle
Reviewed By : JW
Date : 27/10/2025

Job Number : GI 8131
Client : HMC Environmental Consulting Pty Ltd
Project : Acid Sulfate Soil
Location : 23 Bells Blvd, Kingscliff NSW 2487, Australia
Loc Comment :

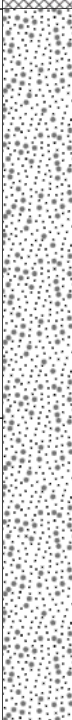
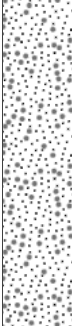
Drilling Method	Elevation (m)	Depth (m)	Soil Origin	Graphic Log	Classification Code	Water	Moisture	Material Description	Samples	Well Diagram
									ASS	
			Fill		GC		M	Fill- Clayey to Sandy GRAVEL GC: low plasticity clay, orange brown mottled pale grey, medium dense to dense, well compacted, fine to coarse sized, fine grained sand.		
			Fill		SM		M	Fill- Silty SAND SM: pale brown, fine grained.		
			Fill		SP		M	Fill- None SAND SP: pale brown to yellow brown, fine grained.		

This report must be read in conjunction with accompanying notes and abbreviations. It has been prepared for environmental purposes only, without attempt to consider geotechnical properties or the geotechnical significance of the materials encountered. As such it should not be relied upon for geotechnical purposes.

UTM : 56J
Easting () : 556510.46
Northing () : 6871949.94
Ground Elevation : 9.9 (m)
Total Depth : 8 m BGL

Drill Rig : GT 10
Driller Supplier : Geotech Investigations
Logged By : James Walle
Reviewed By : JW
Date : 27/10/2025

Job Number : GI 8131
Client : HMC Environmental Consulting Pty Ltd
Project : Acid Sulfate Soil
Location : 23 Bells Blvd, Kingscliff NSW 2487, Australia
Loc Comment :

Drilling Method	Elevation (m)	Depth (m)	Soil Origin	Graphic Log	Classification Code	Water	Moisture	Material Description	Samples	Well Diagram
									ASS	
			Fill		SP		M	Fill- None SAND SP: pale brown to yellow brown, fine grained. (continued)		
			Alluvial		SP		M	Alluvial- None SAND SP: brown and grey, fine grained, difficult to identify fill and natural interface.		
		5.00-5.50 m:								
		5.50-6.00 m:								
		6.00-6.50 m:								
		6.50-7.00 m:								
		7.00-7.50 m:	Alluvial		SP		M	As above, but pale brown and grey.		
		7.50-8.00 m:								
								BH 3 (HMC) Terminated at 8 m		

This report must be read in conjunction with accompanying notes and abbreviations. It has been prepared for environmental purposes only, without attempt to consider geotechnical properties or the geotechnical significance of the materials encountered. As such it should not be relied upon for geotechnical purposes.

UTM : 56J
Easting () : 556534.55
Northing () : 6871953.89
Ground Elevation : 10.1 (m)
Total Depth : 8 m BGL

Drill Rig : GT 10
Driller Supplier : Geotech Investigations
Logged By : James Walle
Reviewed By : JW
Date : 27/10/2025

Job Number : GI 8131
Client : HMC Environmental Consulting Pty Ltd
Project : Acid Sulfate Soil
Location : 23 Bells Blvd, Kingscliff NSW 2487, Australia
Loc Comment :

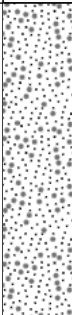
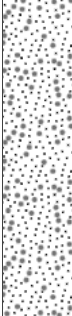
Drilling Method	Elevation (m)	Depth (m)	Soil Origin	Graphic Log	Classification Code	Water	Moisture	Material Description	Samples	Well Diagram
									ASS	
	10		Fill		GC		M	Fill- Clayey to Sandy GRAVEL GC: low plasticity clay, orange brown mottled pale grey, medium dense to dense, well compacted, fine to coarse sized, fine grained sand.		
	0.5									
	9		Fill		SM		M	Fill- Silty SAND SM: pale brown, fine grained.		
	1.0									
	9									
	1.5									
	2.0									
	2.5									
	7		Fill		SP		M	Fill- None SAND SP: pale brown to yellow brown, fine grained.		
	3.0									
	3.5									
	4.0									
	6		Alluvial		SP		M	Alluvial- None SAND SP: grey, fine grained, difficult to identify fill and natural interface.		

This report must be read in conjunction with accompanying notes and abbreviations. It has been prepared for environmental purposes only, without attempt to consider geotechnical properties or the geotechnical significance of the materials encountered. As such it should not be relied upon for geotechnical purposes.

UTM : 56J
Easting () : 556534.55
Northing () : 6871953.89
Ground Elevation : 10.1 (m)
Total Depth : 8 m BGL

Drill Rig : GT 10
Driller Supplier : Geotech Investigations
Logged By : James Walle
Reviewed By : JW
Date : 27/10/2025

Job Number : GI 8131
Client : HMC Environmental Consulting Pty Ltd
Project : Acid Sulfate Soil
Location : 23 Bells Blvd, Kingscliff NSW 2487, Australia
Loc Comment :

Drilling Method	Elevation (m)	Depth (m)	Soil Origin	Graphic Log	Classification Code	Water	Moisture	Material Description	Samples	Well Diagram
									ASS	
		5.0	Alluvial		SP		M	Alluvial- None SAND SP: grey, fine grained, difficult to identify fill and natural interface. (continued)		
		5.5						As above, but brown and grey.	5.00-5.50 m:	
		6.0							5.50-6.00 m:	
		6.5	Alluvial		SP		M		6.00-6.50 m:	
		7.0							6.50-7.00 m:	
		7.5							7.00-7.50 m:	
								BH 4 (HMC) Terminated at 8 m	7.50-8.00 m:	

This report must be read in conjunction with accompanying notes and abbreviations. It has been prepared for environmental purposes only, without attempt to consider geotechnical properties or the geotechnical significance of the materials encountered. As such it should not be relied upon for geotechnical purposes.

APPENDIX 6 - PHOTOGRAPHS

Photo No. 1 Description: View north west towards GW1.	Date 27/10/2025 
Photo No. 2 Description: View north towards GW2.	Date 27/10/2025 

Appendix E – PMF Flood Mapping



Probable Maximum Flood Level Maps

- Sheet 028

Areas predicted to be inundated by
Probable Maximum Flood (PMF)



PMF flood level contours
 — (metres AHD)

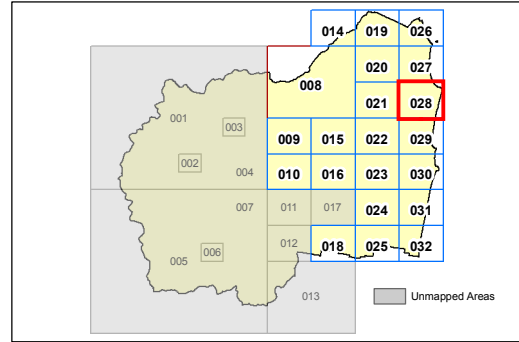
DISCLAIMER:

This map is based on the predictions of the "Tweed Valley Flood Study (update 2009)" and the "Coastal Inundated Areas Flood Study 2009".

The predicted inundated areas only apply to areas within the Model Boundary of the study. Uncoloured parts of the map may also be subject to flooding. The map applies to river flooding only and does not apply to local stormwater catchment flooding. The approximate extent of land liable to flooding has been based on survey data available at the time of preparation. Conditions may have changed since that time. The extent of flooding for individual properties can only be determined by a licensed surveyor. This map has been prepared using the best available data, computer modelling and mapping techniques. However, the accuracy of the study and maps is not absolute and reflects only the accuracy of the data and the techniques used. Tweed Shire Council do not warrant that this map is definitive nor free from error and do not accept liability for any loss caused or arising from reliance upon information provided herein.

Cadastre

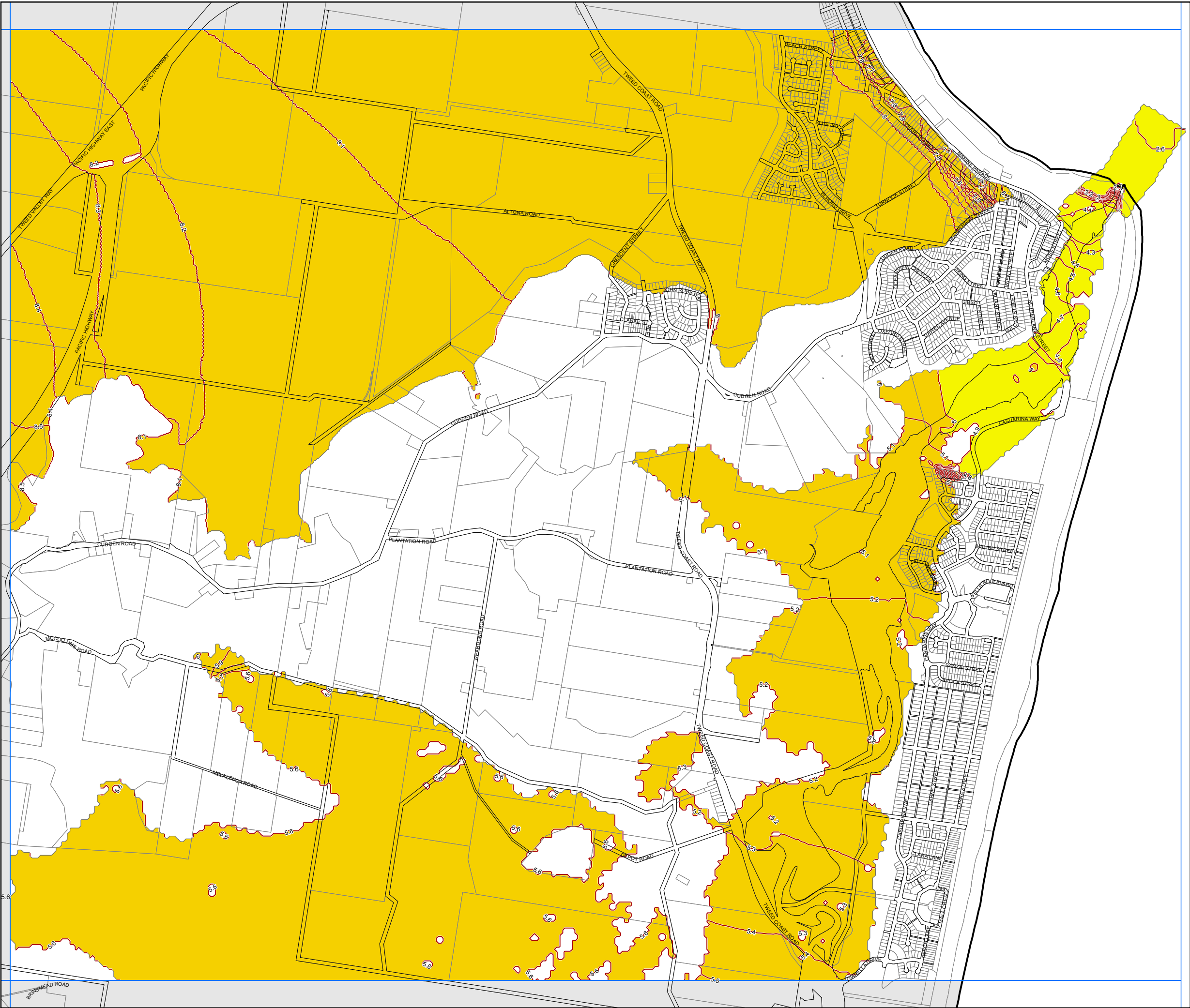
Cadastre 10/05/2010
© Dept. of Lands & Tweed Shire Council



Projection: GDA 1994
MGA Zone 56

0 100 200 400 600 Meters
Scale : 1:20,000 @ A3

Map identification number: DCP_A3_PMF_028_020_20100510



Appendix F – Engineering Plans

100mm AT ORIGINAL SIZE



LEGEND

- SUBJECT SITE BOUNDARY
- EASEMENT
- EXISTING STORMWATER
- EXISTING SEWER
- EXISTING WATER
- EXISTING WATER (BYDA)
- EXISTING ELECTRICAL
- EXISTING ELECTRICAL (BYDA)
- EXISTING TELECOMMS
- EXISTING TELECOMMS (BYDA)
- EXISTING GAS MAIN (BYDA)
- EXISTING CONTOURS MAJOR (1m INTERVALS)
- EXISTING CONTOURS MINOR (0.5m INTERVALS)
- EXISTING TREES
- EXISTING TREES TO BE REMOVED
- PROPOSED SEDIMENT FENCE
- PROPOSED SEDIMENT FILTER BAG
- PROPOSED SHAKE DOWN AREA
- FLOW ARROW



WARNING

BEWARE OF UNDERGROUND SERVICES

THE LOCATION OF UNDERGROUND SERVICES ARE APPROXIMATE ONLY AND THEIR EXACT POSITION SHOULD BE DETERMINED ON SITE BY THE CONTRACTOR. NO GUARANTEE IS GIVEN THAT ALL EXISTING SERVICES ARE SHOWN ON THESE PLANS.

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SCALES:
0 2 4 8 12
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Scale (m)

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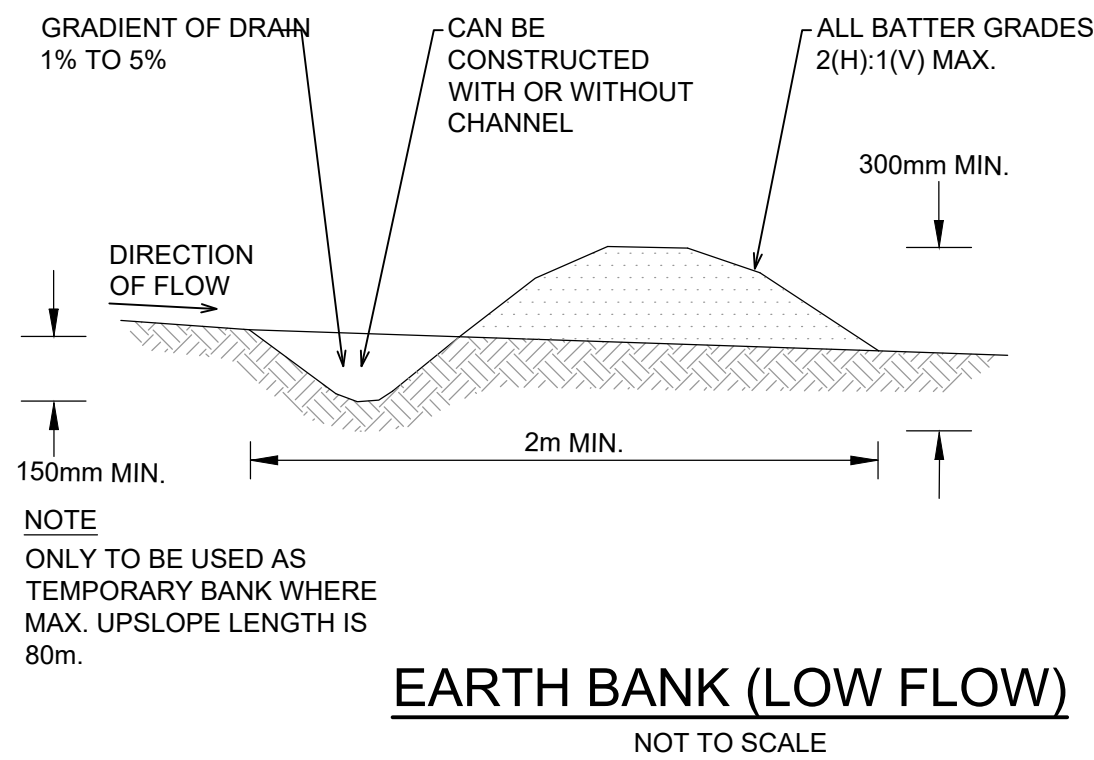
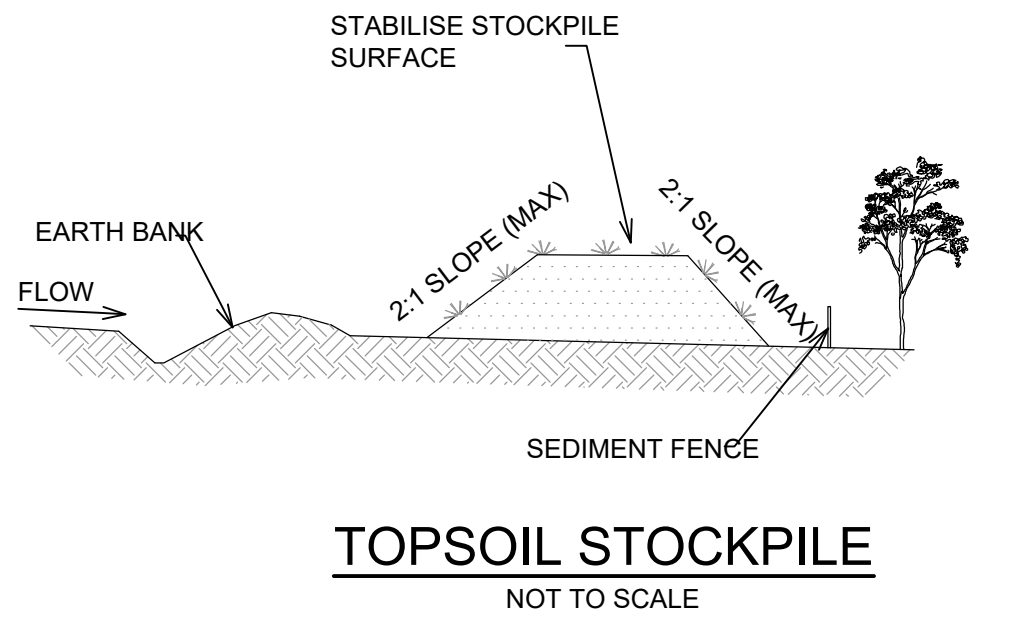
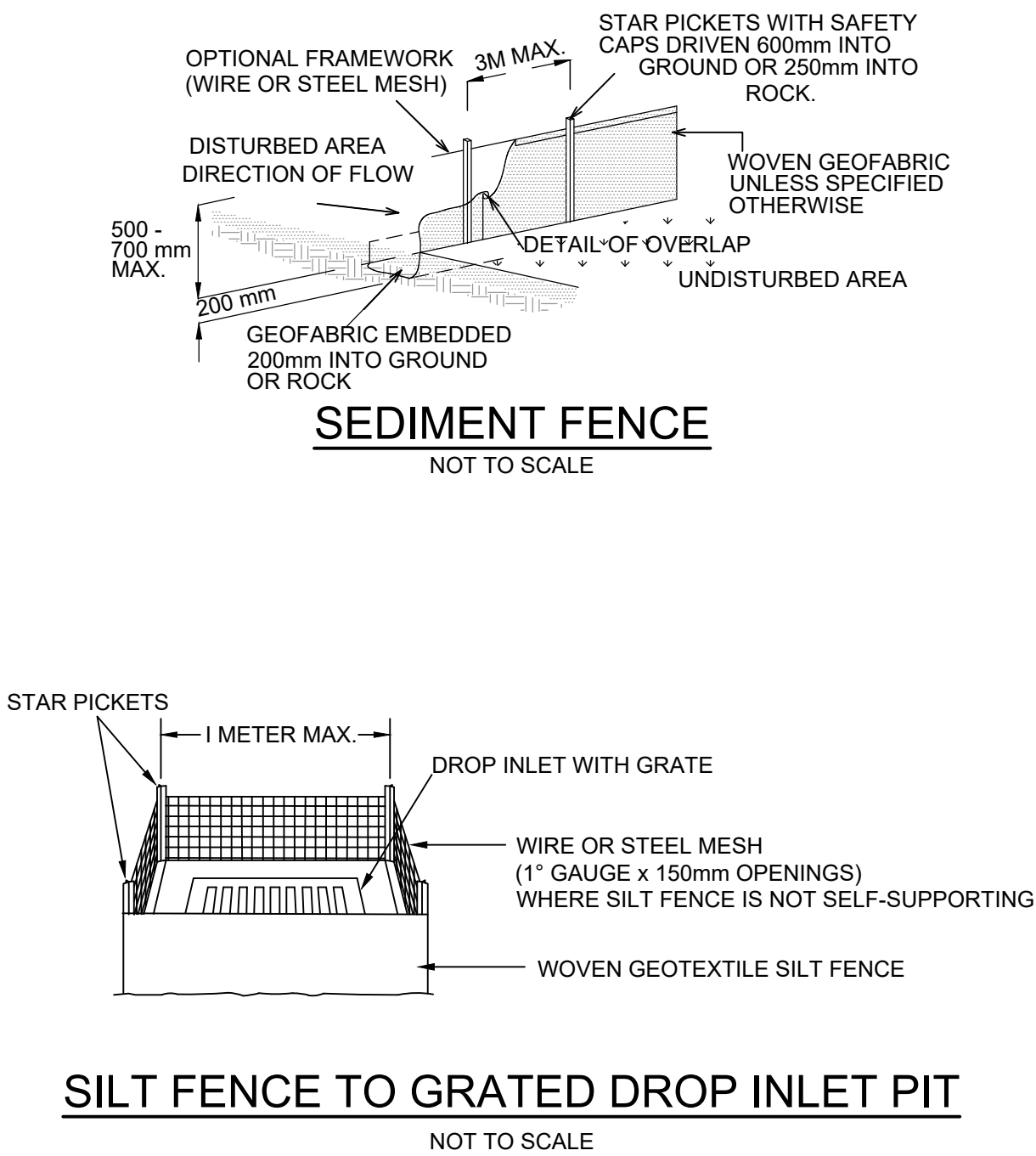
administration@planitconsulting.com.au

CLIENT:
BELLS BOULEVARD PTY LTD

LOCAL GOVERNMENT AUTHORITY:
TWEED SHIRE COUNCIL

PROJECT: 4-8 BELLS BLVD, KINGSCLIFF	ORIGINAL SIZE: A1	PLANIT JOB No.: J8878	DRAWING No.: 0100	REV: B
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100mm AT ORIGINAL SIZE



CONSTRUCTION NOTES

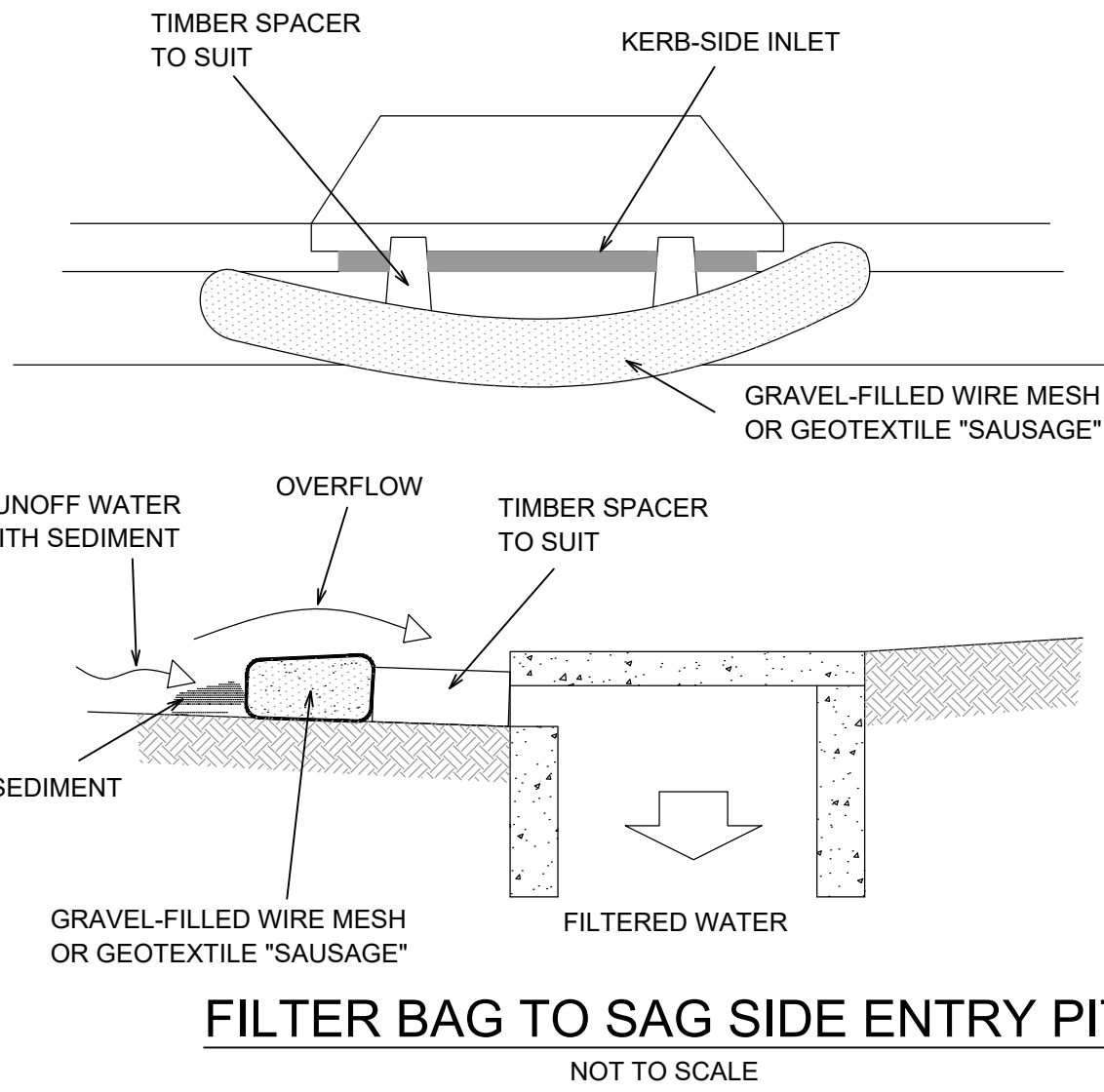
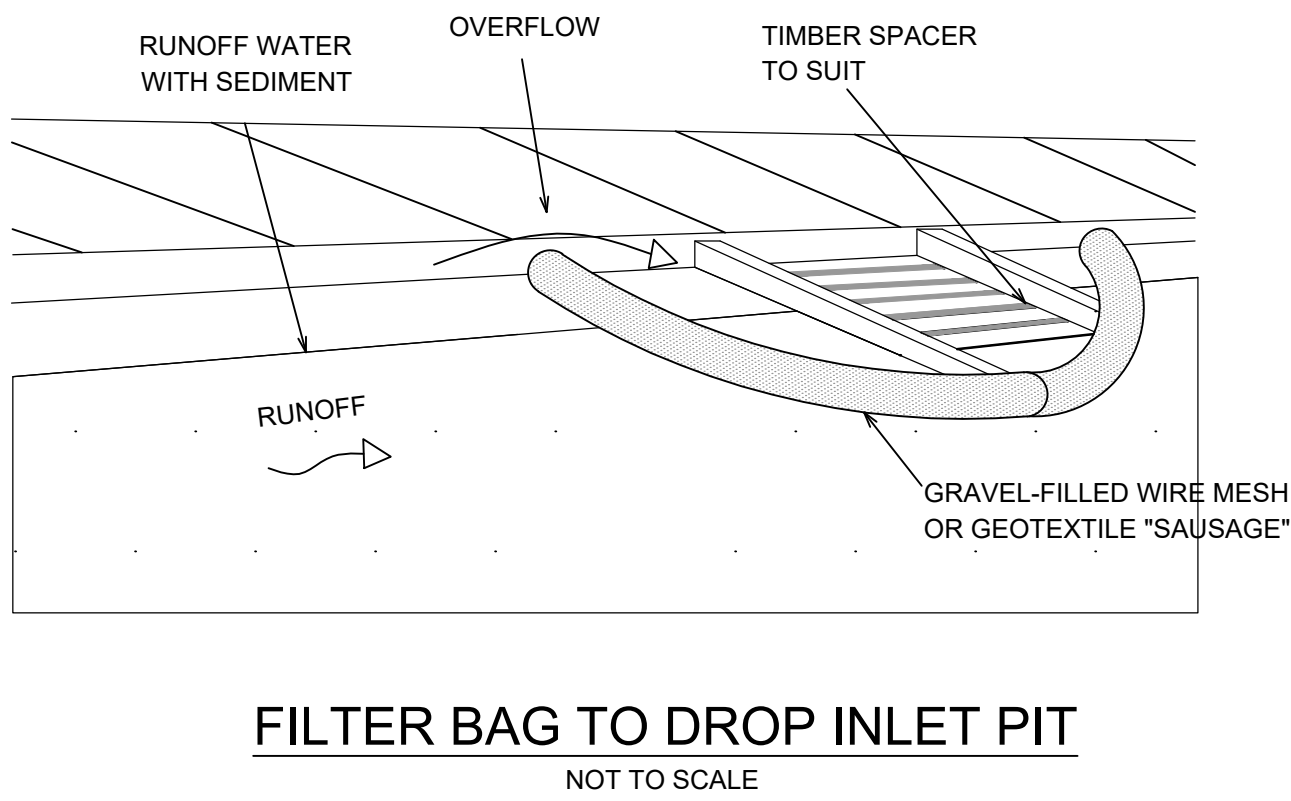
1. FABRICATE A SEDIMENT BARRIER MADE FROM GEOTEXTILE OR STRAW BALES
2. SUPPORT GEOTEXTILE WITH MESH TIED TO POSTS AT 1 METRE CENTRES.
3. DO NOT COVER INLET WITH GEOTEXTILE

CONSTRUCTION NOTES

1. WHERE POSSIBLE LOCATE STOCKPILE AT LEAST 5m FROM EXISTING VEGETATION, CONCENTRATED WATER FLOWS, ROADS AND HAZARD AREAS.
2. CONSTRUCT ON THE CONTOUR AS A LOW, FLAT, ELONGATED MOUND.
3. WHERE THERE IS SUFFICIENT AREA TOPSOIL STOCKPILE SHALL BE LESS THAN 2m IN HEIGHT.
4. REHABILITATE IN ACCORDANCE WITH THE SWMP/ESCP.
5. CONSTRUCT EARTH BANK (STANDARD DRAWING 5-5) ON THE UPSLOPE SIDE TO DIVERT RUNOFF AROUND THE STOCKPILE AND A SEDIMENT FENCE (STANDARD DRAWING 6-8) 1 TO 2m DOWNSLOPE OF STOCKPILE.

CONSTRUCTION NOTES

1. CONSTRUCT WITH GRADIENT OF 1% TO 5%.
2. AVOID REMOVING TREES AND SHRUBS IF POSSIBLE.
3. DRAINS TO BE CIRCULAR, PARABOLIC OR TRAPEZOIDAL CROSS SECTION NOT V-SHAPED.
4. EARTH BANKS TO BE ADEQUATELY COMPACTED IN ORDER TO PREVENT FAILURE.
5. PERMANENT OR TEMPORARY STABILISATION OF THE EARTH BANK TO BE COMPLETED WITHIN 10 DAYS OF CONSTRUCTION.
6. ALL OUTLETS FROM DISTURBED LANDS ARE TO FEED INTO A SEDIMENT BASIN OR SIMILAR.
7. DISCHARGE RUNOFF COLLECTED FROM UNDISTURBED LANDS ONTO EITHER A STABILISED OR AN UNDISTURBED DISPOSAL SITE WITHIN THE SAME SUBCATCHMENT AREA FROM WHICH THE WATER ORIGINATED.
8. COMPACT BANK WITH A SUITABLE IMPLEMENT IN SITUATIONS WHERE THEY ARE REQUIRED TO FUNCTION FOR MORE THAN FIVE DAYS.
9. EARTH BANKS TO BE FREE OF PROJECTIONS OR OTHER IRREGULARITIES THAT WILL IMPEDE NORMAL FLOW.



CONSTRUCTION NOTES

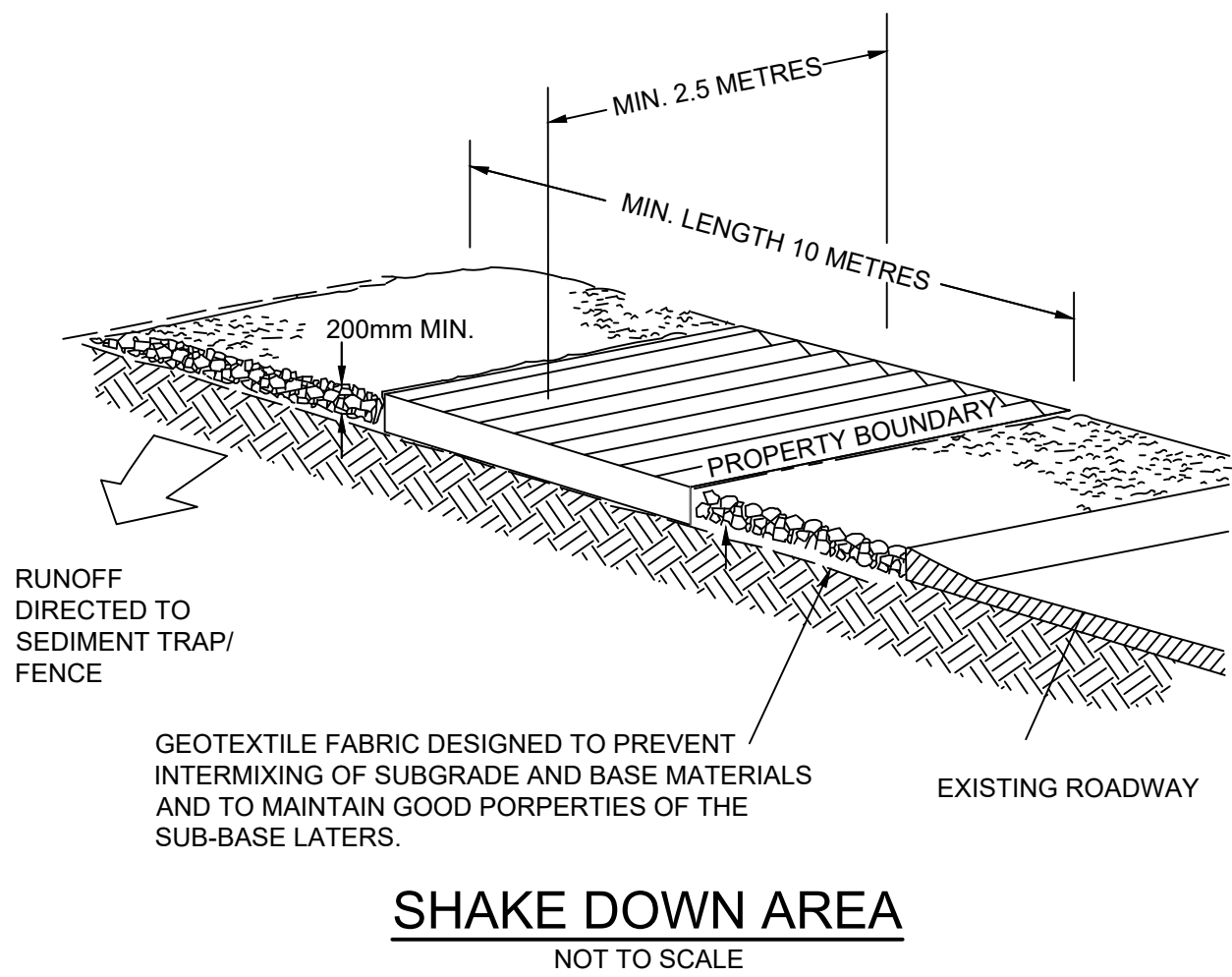
1. FABRICATE A SLEEVE MADE FROM GEOTEXTILE OR WIRE MESH LONGER THAN THE LENGTH OF THE INLET PIT.
2. FILL THE SLEEVE WITH 25mm TO 50mm GRAVEL.
3. FROM AN ELLIPTICAL CROSS-SECTION ABOUT 150mm HIGH x 400mm WIDE.
4. PLACE THE FILTER AT THE OPENING OF THE KERB INLET OR FIELD INLET LEAVING A 100mm GAP AT THE TOP TO ACT AS AN EMERGENCY SPILLWAY.
5. MAINTAIN THE OPENING WITH SPACER BLOCKS.
6. FORM A SEAL WITH THE KERBING AND PREVENT SEDIMENT BYPASSING THE FILTER.
7. FIT TO ALL KERB INLETS AND FIELD INLET PITS AT SAG POINTS.

CONSTRUCTION NOTES

1. COMPACT SUBGRADE
2. OVER WITH NEEDLE PUNCHED GEOTEXTILE.
3. CONSTRUCT 200mm THICK PAD OVER GEOTEXTILE USING ROADBASE OR 30mm AGGREGATE. MINIMUM LENGTH OF 10m AND MINIMUM WIDTH OF 2.5m. GEOTEXTILE MAY BE A WOVEN OR NEEDLE PUNCHED PRODUCT WITH A MINIMUM CBR BURST STRENGTH (AS3706.4-90) of 2500 N.
4. CONSTRUCT HUMPS IMMEDIATELY WITHIN BOUNDARY TO DIVERT WATER TO A SEDIMENT FENCE OR OTHER SEDIMENT TRAP.

NOTE

ALL SLOPES HIGHER THAN 1V:4H TO BE CHECKED BY A SUITABLY QUALIFIED GEOTECHNICAL ENGINEER.



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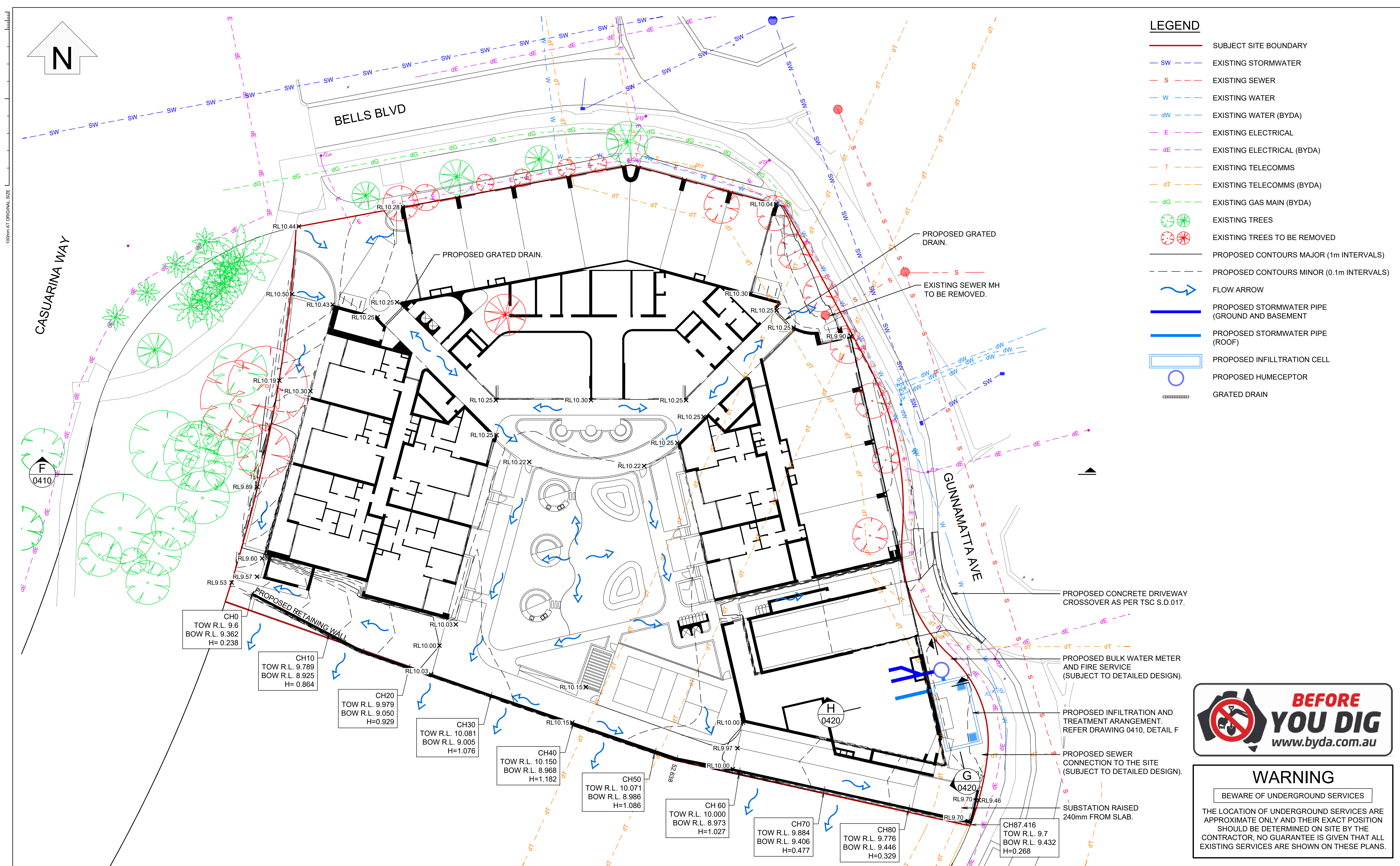
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SUITE 9A, 80-84 BALLINA STREET
PO BOX 161
LENNOX HEAD NSW 2478
PH: 02 6687 4666
ABN: 20 099 261 711


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LOCAL GOVERNMENT AUTHORITY: TWEED SHIRE COUNCIL

PROJECT: 4-8 BELLS BLVD, KINGSCLIFF			
DRAWING TITLE: SEDIMENT & EROSION CONTROL DETAILS			
ORIGINAL SIZE: A1	PLANIT JOB No.: J8878	DRAWING No.: 0110	REV: B



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C	REVISED FOR COUNCIL COMMENT	24/06/26	DM	JH	NVO	NVO

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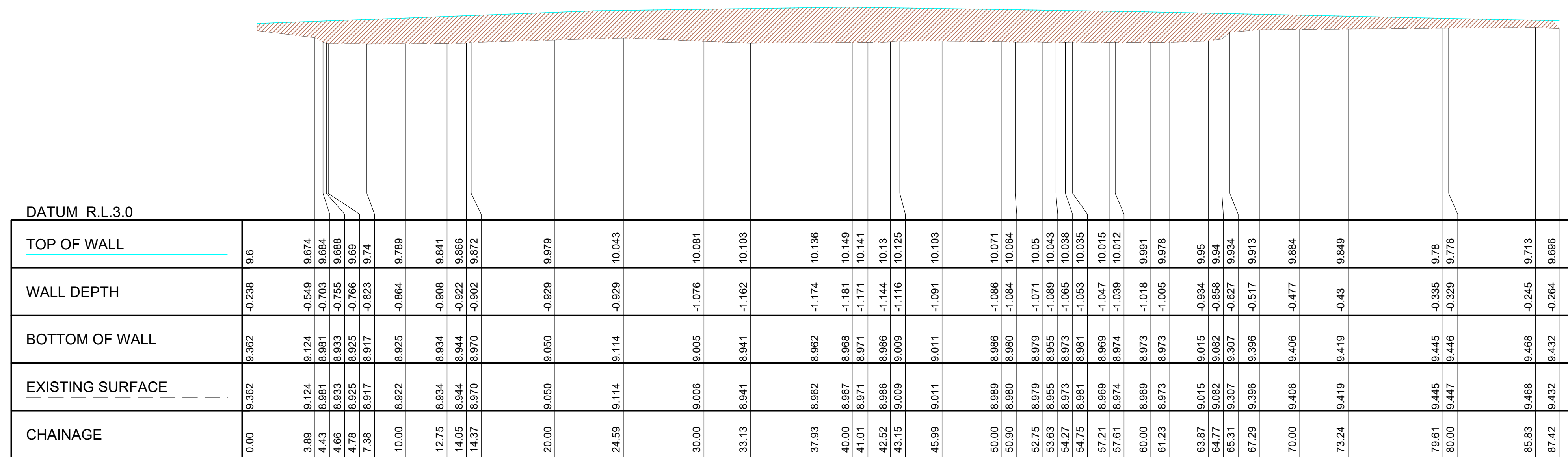
4-8 BELLS BLVD, KINGSCLIFF

DRAWING TITLE:

CIVIL SERVICING & STORMWATER PLAN

ORIGINAL SIZE	PLANIT JOB No.:	DRAWING No.:	REV:
A1	J8878	0300	C

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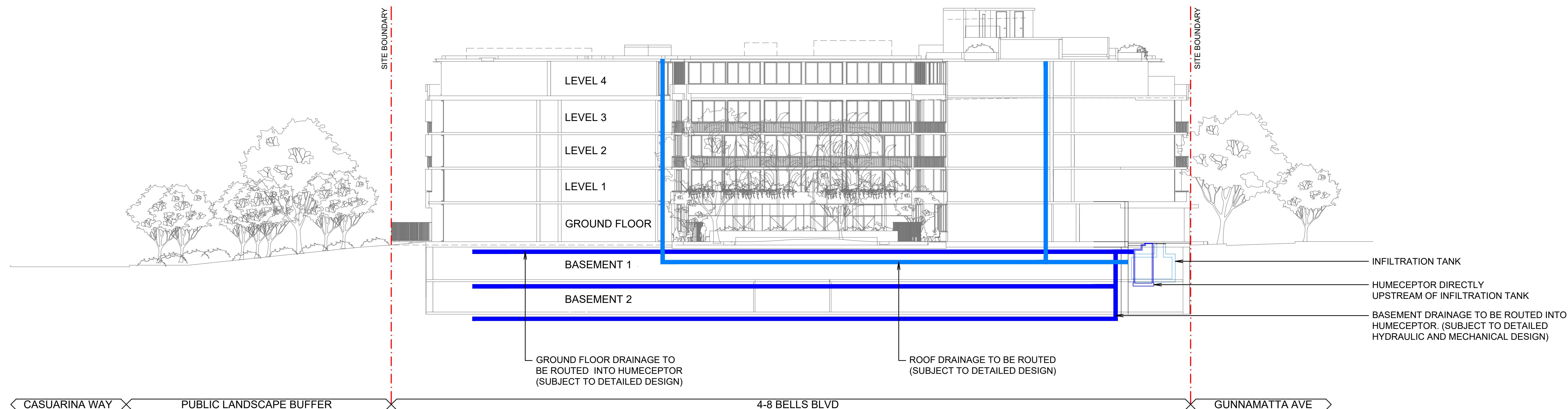


RETAINING WALL LONGITUDINAL SECTION

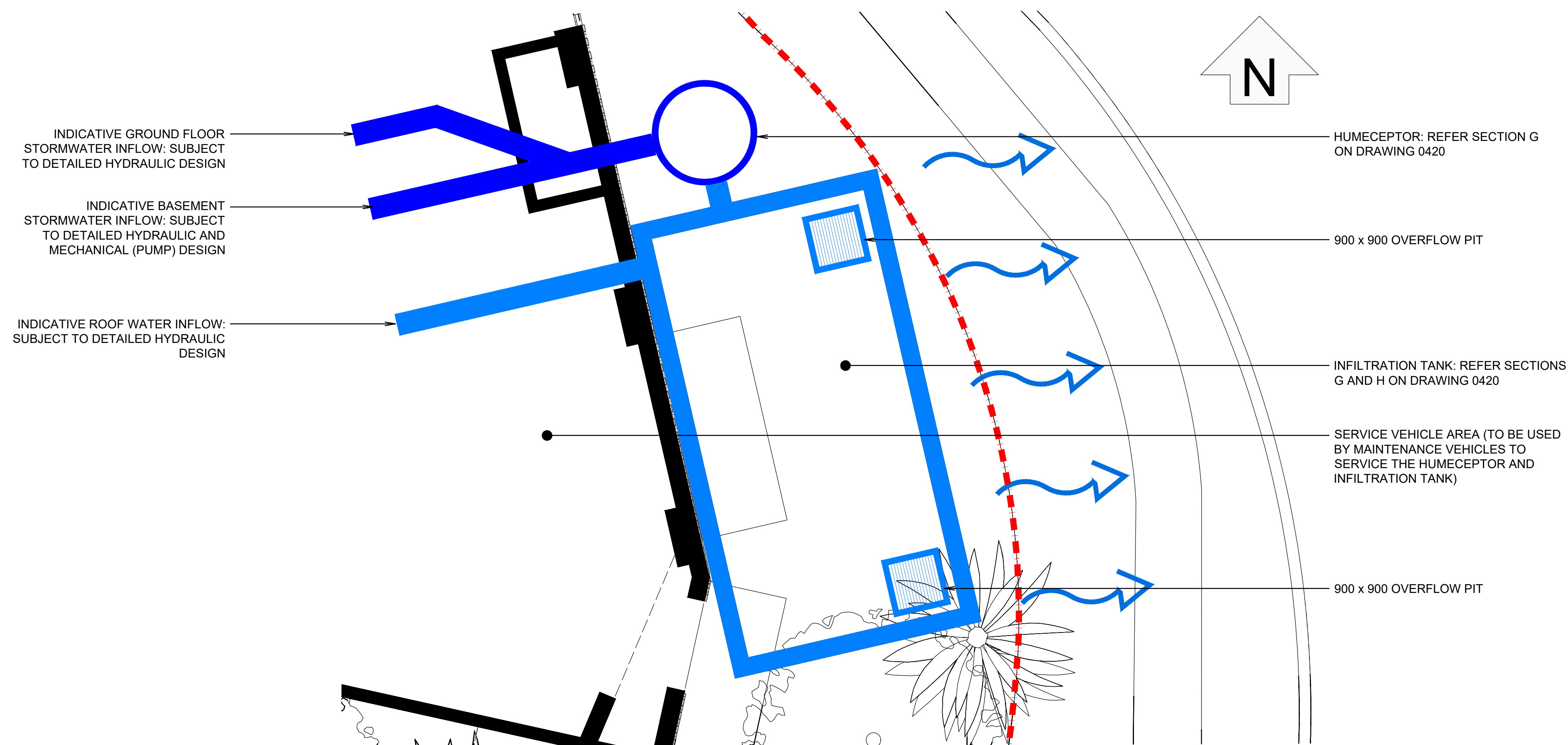
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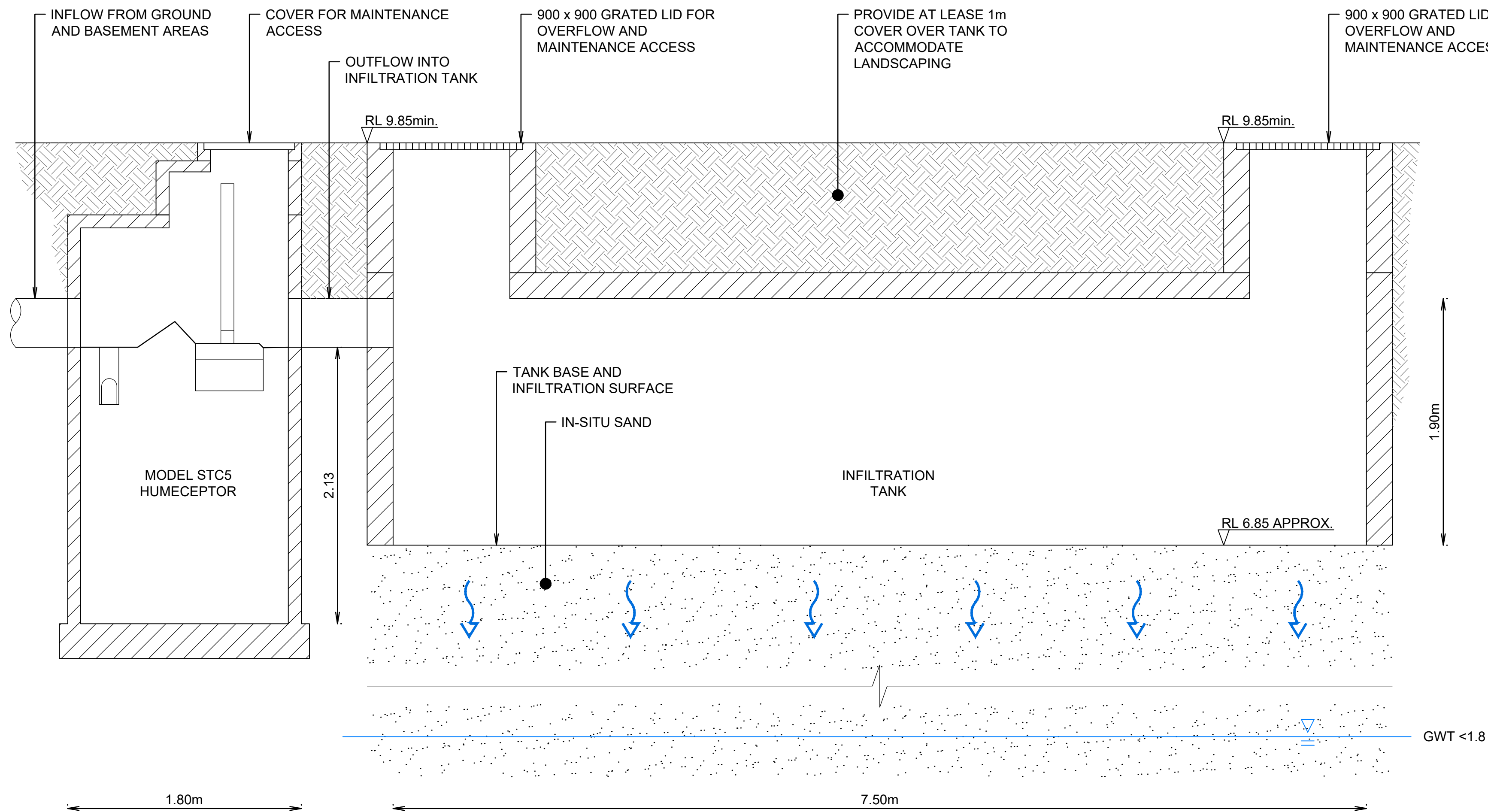


SECTION F
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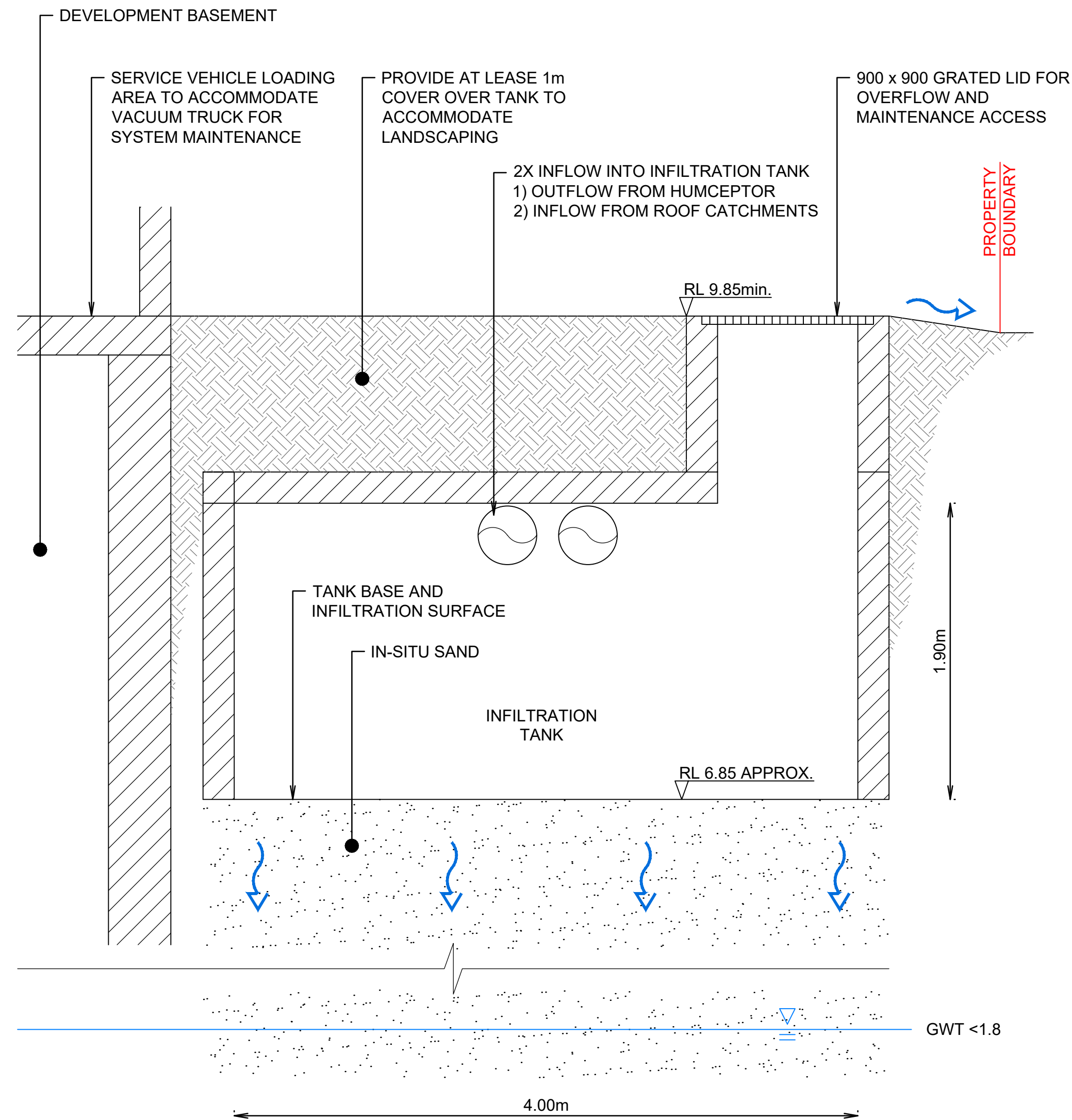
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B	REVISED ISSUE	11/12/25	DM	JH	NVO	NVO											
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100mm AT ORIGINAL SIZE



STORMWATER SECTION G
INFILTRATION CELL AND TREATMENT SYSTEM
SCALE 1:25



STORMWATER SECTION H
INFILTRATION CELL
SCALE 1:25

NOTES:

1. DETAILS SHOWN ARE BASED ON PRELIMINARY ADVICE FROM STRUCTURAL ENGINEER.
2. DETAILS SHOWN ARE BASED ON INVESTIGATIONS BY HMC: NO GROUNDWATER ENCOUNTERED ACROSS BORE HOLES, EACH TO A DEPTH OF 8.2m BELOW EG.
3. INFILTRATION TANK INVERT IS PRELIMINARY ONLY BASED ON FINAL FINAL LEVELS AND STRUCTURAL THICKNESS TO BE CONFIRMED AS PART OF DETAILED DESIGN.

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SCALES: 0 0.25 0.5 1.0 1.5 Full Size 1:25 ; Half Size 1:50 Scale (m)
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PROJECT: 4-8 BELLS BLVD, KINGSCLIFF			
DRAWING TITLE: STORMWATER TREATMENT & DETENTION SYSTEM DETAILS			
ORIGINAL SIZE: A1	PLANIT JOB No.: J8878	DRAWING No.: 0420	REV: C

Appendix G – Infiltration Calculations



On-Site Stormwater Discharge Design (Infiltration) Summary Sheet

Project Details

Project Name:	Bells Boulevard	Planit Ref:	J8878
Street Address:	4-8 Bells Boulevard	Map Ref:	Lot 2 DP1310938
	Kingscliff NSW		
Local Government:	Tweed Shire Council		

Site Characteristics and Hydrological Parameters

Area, A	0.445 ha	$F_{y(100)}$	1.28	C_{100}	1.152
Fraction Impervious, f_i	1	$F_{y(50)}$	1.17	C_{50}	1.053
Runoff Coefficient, C_{10}	0.9	$F_{y(20)}$	1.07	C_{20}	0.963
Concentration Time, T_c	5 mins	$F_{y(10)}$	1	C_{10}	0.9
		$F_{y(5)}$	0.92	C_5	0.828
		$F_{y(2)}$	0.81	C_2	0.729
		$F_{y(1)}$	0.67	C_1	0.603

Rainfall Intensities, I (mm/h)

Bureau of Meteorology

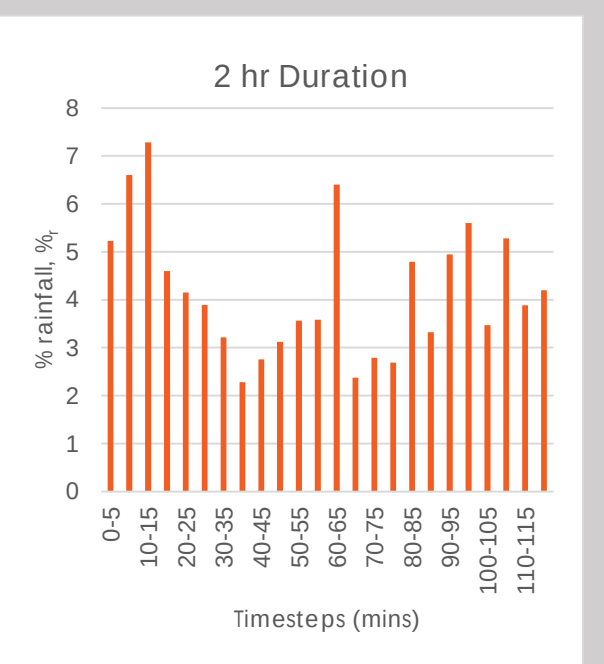
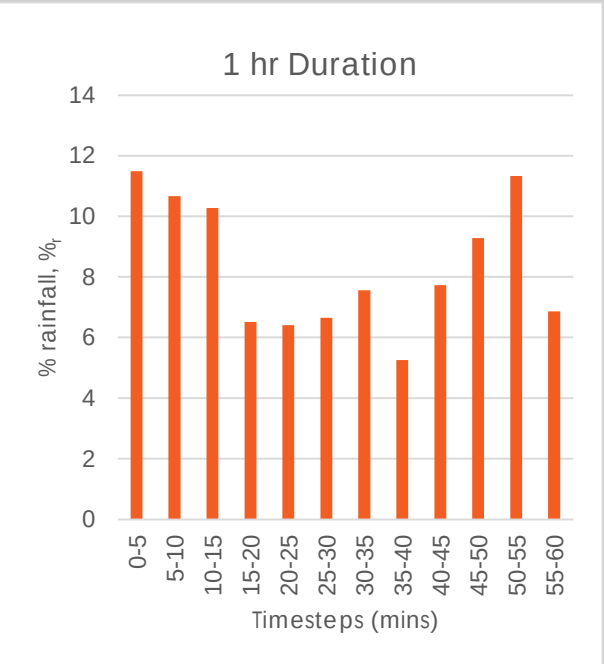
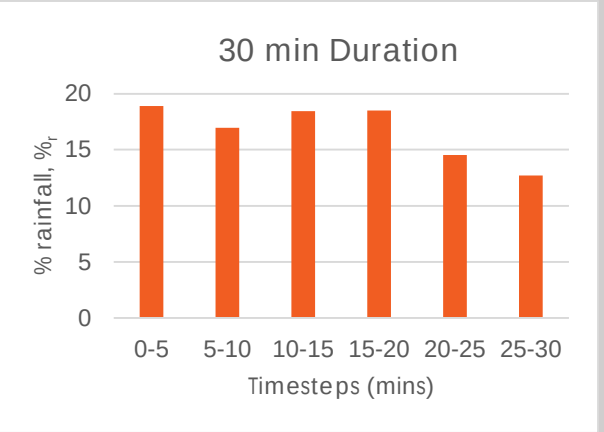
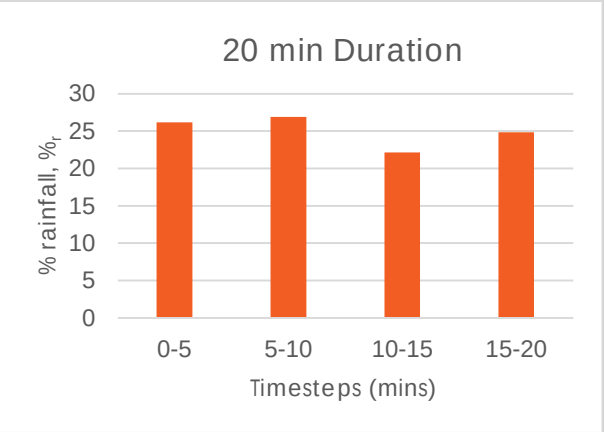
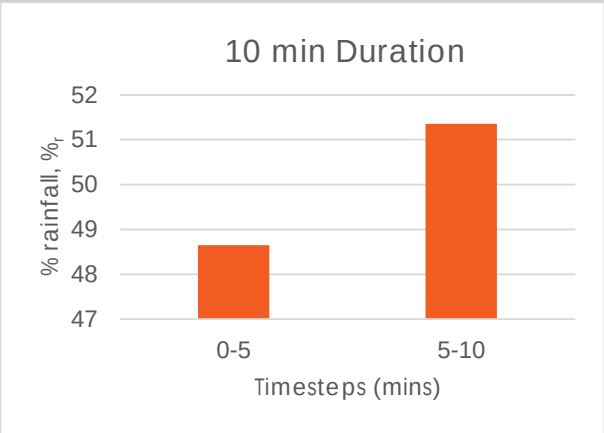
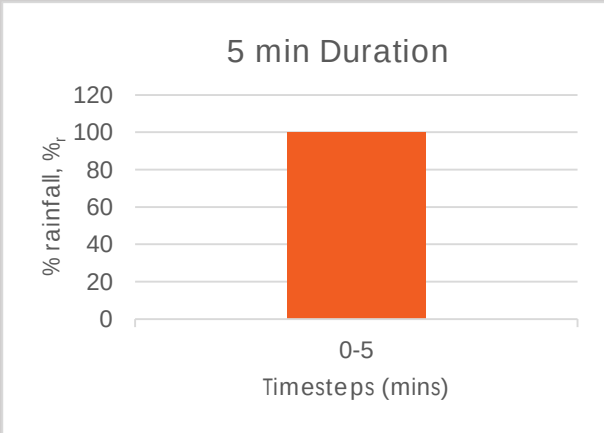
Duration	Average Recurrence Interval (Year)							
	0.25	1	2	5	10	20	50	100
5 mins	52.00	130.00	164.00	198.00	217.00	243.00	277.00	301.00
10 mins	40.00	100.00	126.00	154.00	169.00	190.00	216.00	236.00
20 mins	29.20	73.00	93.00	113.00	125.00	141.00	161.00	177.00
30 mins	24.00	60.00	76.00	93.00	103.00	116.00	133.00	146.00
1 hour	16.36	40.90	51.90	64.40	71.40	81.00	93.40	102.70
2 hours	10.40	26.00	33.10	41.60	46.40	52.90	61.30	67.70
3 hours	7.92	19.80	25.30	32.00	35.80	41.00	47.70	52.70
6 hours	4.96	12.40	16.00	20.40	23.00	26.40	30.90	34.30
12 hours	3.12	7.80	10.10	13.00	14.80	17.10	20.10	22.40
24 hours	2.12	5.30	6.80	9.00	10.20	11.90	14.10	15.70

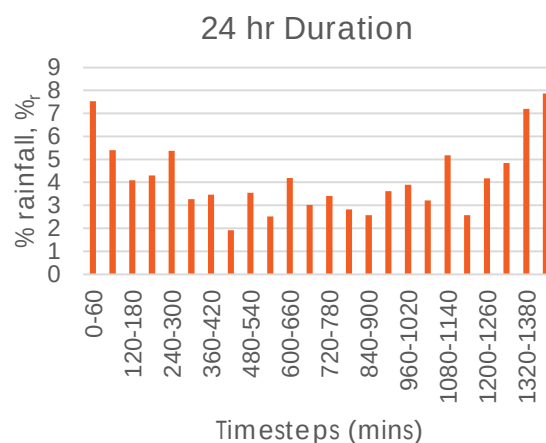
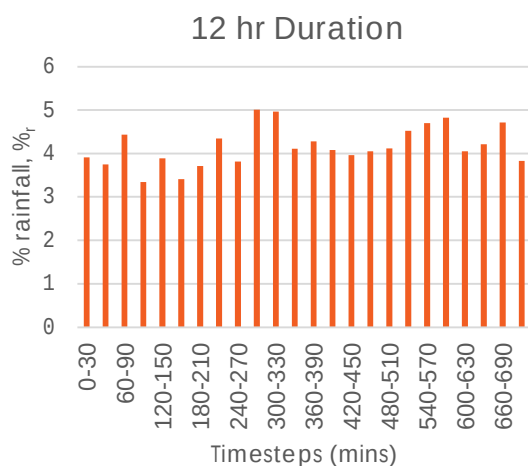
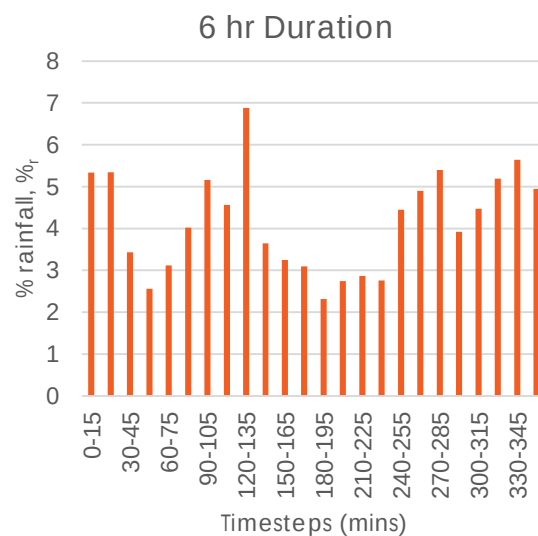
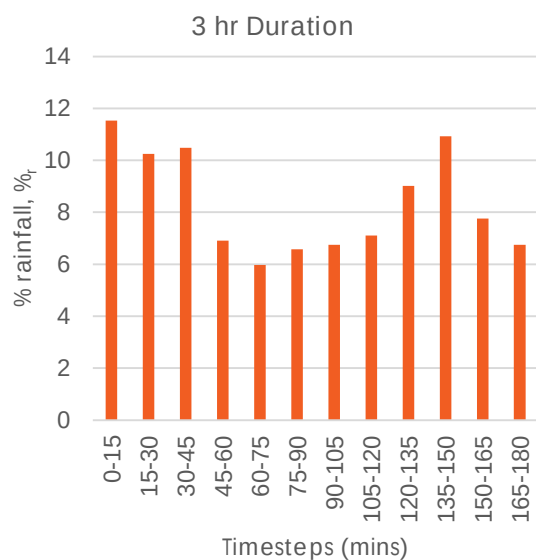
Peak Flows, Q_y (m³/s)

$$Q_y = C_y I A / 360$$

Duration	Average Recurrence Interval (Year)							
	0.25	1	2	5	10	20	50	100
5 mins	0.03876	0.09690	0.14778	0.20265	0.24141	0.28926	0.36055	0.42862
10 mins	0.02982	0.07454	0.11354	0.15762	0.18801	0.22617	0.28115	0.33606
20 mins	0.02176	0.05441	0.08380	0.11566	0.13906	0.16784	0.20956	0.25205
30 mins	0.01789	0.04472	0.06849	0.09519	0.11459	0.13808	0.17312	0.20790
1 hour	0.01219	0.03049	0.04677	0.06591	0.07943	0.09642	0.12157	0.14624
2 hours	0.00775	0.01938	0.02983	0.04258	0.05162	0.06297	0.07979	0.09640
3 hours	0.00590	0.01476	0.02280	0.03275	0.03983	0.04881	0.06209	0.07504
6 hours	0.00370	0.00924	0.01442	0.02088	0.02559	0.03143	0.04022	0.04884
12 hours	0.00233	0.00581	0.00910	0.01331	0.01647	0.02036	0.02616	0.03190
24 hours	0.00158	0.00395	0.00613	0.00921	0.01135	0.01417	0.01835	0.02236

Typical rainfall patterns for various event durations based on historical data are graphically presented below. Data represents the proportion of runoff (volume) for a particular time interval within the total rainfall event as a proportion of total volume of runoff of the overall event (Source: eEwater Toolkit).



Inflow Volumes, V_i (m³)
$$V_i = \sum (t_s Q_y \%_r / \%_{r \max}) \quad t_s = \text{Timestep Size (secs)}$$

Duration	Average Recurrence Interval (Year)							
	0.25	1	2	5	10	20	50	100
5 mins	11.63	29.07	44.34	60.80	72.42	86.78	108.17	128.59
10 mins	17.42	43.55	66.33	92.09	109.84	132.14	164.26	196.34
20 mins	24.30	60.76	93.58	129.15	155.28	187.42	234.01	281.45
30 mins	28.42	71.06	108.81	151.23	182.06	219.39	275.05	330.32
1 hours	31.84	79.61	122.13	172.13	207.43	251.79	317.48	381.91
2 hours	31.94	79.86	122.91	175.46	212.72	259.50	328.80	397.27
3 hours	46.09	115.22	177.99	255.70	310.94	381.03	484.72	585.88
6 hours	48.37	120.92	188.63	273.17	334.77	411.15	526.21	639.03
12 hours	83.59	208.97	327.13	478.23	591.79	731.62	940.35	1146.48
24 hours	72.34	180.85	280.51	421.69	519.47	648.47	840.16	1023.45

Outflow Volumes, V_o (m³) $V_o = (A_{inf} \times FoS + P \ d / 2) \ U \ K_{sat} \ D / 1000$

Duration (D)	V_o	Provided Storage Volume	Value
5	0.196875	Infiltration Area, A_{inf}	30 m ²
10	0.39375	Storage Perimeter, P	24 m
20	0.7875	Storage Height, d	1.9 m
30	1.18125	Conductivity Mod factor, U	0.5
60	2.3625	Saturated Conductivity, K_{sat}	125 mm/h
120	4.725	Factor of Safety (FoS)	0.5
180	7.0875	Storage Volume	57.00 m ³
360	14.175		
720	28.35		
1440	56.7		

Required Storage volumes, V_d (m³) Empty cells denote no storage requirements $V_d = (V_i - V_o)$

Duration	Average Recurrence Interval (Year)							
	0.25	1	2	5	10	20	50	100
5 mins	11.43	28.87	44.14	60.60	72.23	86.58	107.97	128.39
10 mins	17.02	43.15	65.94	91.69	109.45	131.74	163.86	195.94
20 mins	23.52	59.97	92.79	128.36	154.50	186.63	233.22	280.66
30 mins	27.24	69.87	107.63	150.05	180.88	218.21	273.87	329.14
1 hours	29.48	77.25	119.77	169.77	205.07	249.43	315.11	379.54
2 hours	27.22	75.14	118.19	170.73	207.99	254.77	324.08	392.55
3 hours	39.00	108.13	170.90	248.61	303.85	373.94	477.63	578.79
6 hours	34.19	106.75	174.46	259.00	320.59	396.98	512.04	624.86
12 hours	55.24	180.62	298.78	449.88	563.44	703.27	912.00	1118.13
24 hours	15.64	124.15	223.81	364.99	462.77	591.77	783.46	966.75

Suitability of Storage Volume Empty cells denote no storage requirements

Duration	Average Recurrence Interval (Year)							
	0.25	1	2	5	10	20	50	100
5 mins	Yes	Yes	Yes	No	No	No	No	No
10 mins	Yes	Yes	No	No	No	No	No	No
20 mins	Yes	No	No	No	No	No	No	No
30 mins	Yes	No	No	No	No	No	No	No
1 hours	Yes	No	No	No	No	No	No	No
2 hours	Yes	No	No	No	No	No	No	No
3 hours	Yes	No	No	No	No	No	No	No
6 hours	Yes	No	No	No	No	No	No	No
12 hours	Yes	No	No	No	No	No	No	No
24 hours	Yes	No	No	No	No	No	No	No

Emptying Time for Worst Case Duration, t_e (hours) $t_e = (1000 \ V_d \ P \ p / (A_{inf} \ K_{sat}))$

t_e	Average Recurrence Interval (Year)							
	0.25	1	2	5	10	20	50	100
	177	578	956	1440	1803	2250	2918	3578

Appendix H – Sewer Demand Calculations

Project :	4-8 Bells Blvd, Kingscliff	
Job No. :	J7453	
B5.1 Details of the Proposed Development		
A (Gross Plan Area of the Development (Ha))		0.445 Ha
No. of Units (Equivalent Tenements, ET)		61 ET
Equivalent Persons per ET		2.8 EP per ET
Development Density		383.820 EP/Ha
Equivalent Population		170.8 EP
S _{aspect} (Soil aspect - Low Impact = 0.2, Medium = 0.5, High = 0.8)		0.5
N _{aspect} (Network defects and inflow aspect. Low Impact = 0.2, Medium = 0.5, High = 0.8)		0.5
ARI containment standard		5 years
B5.2 Peak Dry Weather Flow (PDWF)		
Average Dry Weather Flow (ADWF) = (180 L/EP/day)		0.356 l/s
"d" Factor = $0.01(\log A)^4 - 0.19(\log A)^3 + 1.4(\log A)^2 - 4.66(\log A) + 7.57$		9.39
PDWF = d * ADWF		3.341 l/s
B5.3 Ground Water Infiltration (GWI)		
GWI = $0.01425 \text{ L/s/HA} * A$		0.00634 l/s
B5.4 Rainwater Dependent Inflow and Infiltration (RDI)		
Leakage Severity Coefficient (C) = S _{aspect} + N _{aspect}		1
1 hour, 20% AEP rainfall intensity (I _{1,20%AEP}) (Tweed Shire Council DCP)		58.0 mm
Factor _{size} = $(40/A)^{0.12}$		1.7
Factor _{containment}		1.3
Intensity (I) = I _{1,20%AEP} * Factor _{size} * Factor _{containment}		129.688
Effective Area (A _{Eff}) = A x (1-0.75*Portion _{impervious})		0.144625 Ha
Rainwater Dependent Inflow and Infiltration (RDI) = $0.028 * A_{\text{Eff}} * C * I$		0.525 l/s
B5.5 Design Flow		
Design Flow	PDWF + GWI + RDI = $3.34126965396 + 0.00634125 + 0.525171556 \text{ l/s}$	3.873 l/s
<i>Coefficients have been adopted from the NRLG Development Design Specification D12 and WSA 02-2014-3.1</i>		