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CODE COMPLIANCE REPORT EROSION HAZARD ASSESSMENT

CW25193

PROPOSED DEVELOPMENT AT
**35 Kuring-Gai Avenue
Tarragindi**

PREPARED FOR
Jianfeng Mo & Yanfen Zhou

April 2026

Civil Works Engineers

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**CODE COMPLIANCE REPORT
EROSION HAZARD ASSESSMENT****CW25193****PROPOSED DEVELOPMENT AT
35 Kuring-Gai Avenue
Tarragindi****PREPARED FOR
Jianfeng Mo & Yanfen Zhou****REVISION / CHECKING**

Rev No.	Date	Issued By	Signed	Reviewed By	Signed
0	23.04.26	B. Tavares		J. McDonald	
Authorised By:		R. Andrade	 RPEQ 7675	Dated:	23.04.26

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1. Introduction

This report has been prepared to address the Brisbane City Council (BCC) code compliance requirements, and assess potential for soil erosion and sediment pollution, for the proposed development at 35 Kuring-Gai Avenue, Tarragindi. The applicable BCC codes/forms addressed in this report are:

- Stormwater Code;
- Infrastructure Design Code;
- Filling and Excavation Code; and
- Erosion Hazard Assessment.

This development will be assessed against the development provisions of the Brisbane City Plan 2014. This report is to be read in conjunction with the survey and subdivision plan prepared by Survey 360.

2. Code Compliance Requirements

The tables in the following appendices detail the performance criteria and acceptable solutions as required by BCC. Generally acceptable solutions have been provided for the applicable criteria. Where acceptable solutions were unable to be achieved, alternative solutions have been provided, accompanied by descriptive comments and/or justification.

3. Erosion Hazard Assessment

An Erosion Hazard Assessment is required for any Development Application that will result in soil disturbance, or any Operational Works or Compliance Assessment Application for filling and excavation. This assessment determines the potential risk of soil erosion and sediment pollution as a result of the development.

The assessment checklist confirms that the site is a 'medium risk' site and therefore, a Registered Professional Engineer (RPEQ) or Certified Professional in Erosion and Sediment Control (CPESC) will be engaged to prepare an ESC Program and Plan and supporting documentation.

4. Availability of Electrical, Telecommunications and Gas Service

Electrical Service

There is existing overhead electrical infrastructure within the verge along Kuring-Gai Avenue. The electrical service is available from this infrastructure for the site. This is to be coordinated with the electrical consultant.

Telecommunications Service

There is existing underground telecommunications infrastructure within the verge along Kuring-Gai Avenue. The telecommunications service is available from this infrastructure for the site. This is to be coordinated with the telecommunications consultant.

Gas Service

There is no underground gas infrastructure within the verge along Kuring-Gai Avenue.

5. Conclusion

This report addresses the applicable Brisbane City Council code compliance requirements for the project and confirms that the development can be adequately serviced by existing and proposed infrastructure, and that the development can be generally undertaken in accordance with the relevant engineering codes.

The findings of the Erosion Hazard Assessment have determined that the site is a 'medium risk' for soil erosion and sediment run-off during construction.

Final arrangement and site infrastructure requirements are to be confirmed during the detailed design phase.

APPENDIX A – Concept Engineering Sketch

DO NOT SCALE.
CONFIRM ALL DIMENSIONS ON SITE.
ORIGINAL DRAWING SIZE - A1

ISSUE	AMENDMENT	DATE
A	PRELIMINARY ISSUE	20.04.26

LEGEND

- 3.50--- EXISTING SURFACE CONTOURS
- EXISTING STORMWATER
- PROPOSED STORMWATER
- W EXISTING WATER MAIN
- EXISTING FIRE HYDRANT
- WM EXISTING WATER METER
- PROPOSED WATER SERVICE
- × WATER SERVICE ENTRY POINT
- S EXISTING SEWER
- PROPOSED SEWER
- E(OH) EXISTING OVERHEAD ELECTRICAL
- EP EXISTING ELECTRICITY POLE
- T EXISTING TELECOMMUNICATIONS LINE
- █ EXISTING TELECOMMUNICATIONS PIT
- G EXISTING GAS LINE
- EXISTING CONCRETE TO BE RETAINED
- EXISTING CONCRETE TO BE REMOVED
- EXISTING TREES TO BE RETAINED
- KA● PROPOSED KERB ADAPTOR
- KA○ EXISTING KERB ADAPTOR

ASSOCIATED CONSULTANT

PROJECT
35 KURING-GAI AVENUE
TARRAGINDI

CLIENT
JIANFENG MO &
YANFEN ZHOU
TITLE
CONCEPT SERVICES
SKETCH



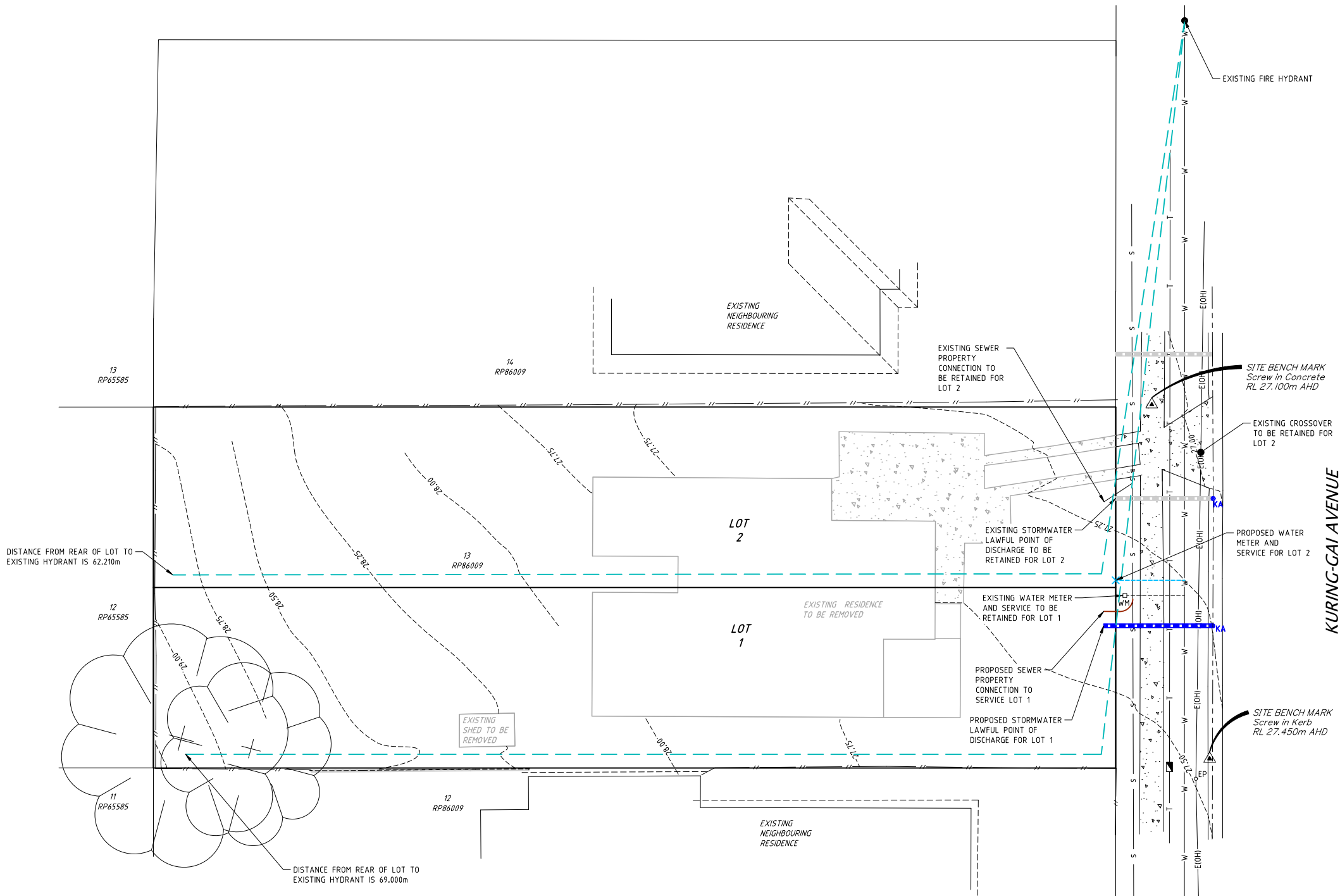
Property Development Solutions

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Designed	BT	Drawn	BT	Date	20.04.26
Approved		Scale	AS SHOWN		
Drawing No.	CW25193-SK01				Rev.
					A

REAL PROPERTY DESCRIPTION

LOT No. 13
PLAN No. RP 86009



PLAN
SCALE 1:100

FIRE HYDRANT NOTE
EXISTING FIRE HYDRANTS IN KURING-GAI AVENUE MEETS THE REQUIREMENTS OF SEQ WS&S D&C CODE SECTION 8.8.8 FOR LOTS 1 & 2.

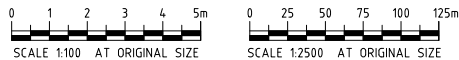
EXISTING SERVICES NOTE
THIS DESIGN HAS BEEN PREPARED BASED ON SERVICE AUTHORITY AS CONSTRUCTED INFORMATION. NO POT HOLING HAS BEEN UNDERTAKEN TO VERIFY EXISTING SERVICE LOCATIONS AND DEPTHS. IT IS THE CONTRACTORS RESPONSIBILITY TO UNDERTAKE POT HOLING TO VERIFY THE DESIGN.

DIAL BEFORE YOU DIG NOTE
IT IS THE CONTRACTORS RESPONSIBILITY TO CONTACT 'DIAL BEFORE YOU DIG' PH.1100 FOR THE LOCATION OF EXISTING PUBLIC UTILITIES PRIOR TO EXCAVATION. ANY DAMAGE CAUSED TO EXISTING PUBLIC UTILITIES BY THE CONTRACTOR WILL BE REPAIRED BY THE RELEVANT AUTHORITY AT THE CONTRACTORS EXPENSE.

PRELIMINARY
NOT FOR CONSTRUCTION



LOCALITY PLAN
SCALE 1:2500



REAL PROPERTY DESCRIPTION
LOT No. 13
PLAN No. RP 86009

APPENDIX B – Survey and Subdivision Plan

PHOTO A



PHOTO B



LEGEND

- | | | | |
|-----|--------------------------|-------|----------------------------------|
| TLO | TRAFFIC LIGHT | G0.00 | GUTTER HEIGHT |
| ☼ | LIGHT POLE | ⊕ | FIRE HYDRANT |
| PP | POWER POLE | ⊕ | WATER VALVE |
| PB | POWER BOX | ⊕ | WATER METER |
| — | O/H ELECTRICAL LINE | — | WATER LINE |
| — | U/G POWER LINE | — | STORMWATER MANHOLE |
| — | TELSTRA PIT | — | GULLY GRATE |
| — | NBN PIT | — | ROOFWATER PIT |
| — | TELSTRA LINE | — | STORMWATER LINE |
| — | GAS MARKER | — | KERB ADAPTOR |
| — | GAS LINE | — | ROCK RETAINING WALL |
| — | SEWER MANHOLE | — | TIMBER RETAINING WALL |
| — | SEWER LINE | — | BLOCK RETAINING WALL |
| ⊕ | TEMPORARY BENCH MARK | — | TOP OF BANK |
| ⊕ | PERMANENT SURVEY MARK | — | BOTTOM/TOE OF BANK |
| ○ | ORIGINAL PEG | — | FENCE |
| ⊕ | LOCATOR POTHOLE | — | SIGN |
| ⊕ | PHOTO NUMBER & DIRECTION | — | SURVEYED CONTOUR 0.25 |
| | | — | NATURAL CONTOUR (BCC BIMAP 2002) |

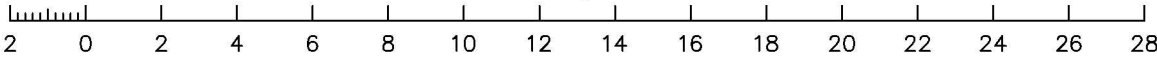
Revision Notes

Rev	Date	Notes
A	19/02/2026	Original Issue

Note: Identification Survey is recommended prior to Construction due to missing original pegs at corners.

Note that the underground location of services is indicative only and has been derived from records obtained from BCC Community Maps & DBYD. This location has not been verified. It is recommended that physical location of these services is carried out prior to construction.

Scale 1:200 – Lengths are in Metres.



Note: The location of Boundary features, including Retaining Walls and Fences are indicative only and are not a true representation of the actual Property Boundaries. An Identification Survey is recommended to determine the accurate location of the Property Boundaries, and the accuracy of any existing Boundary Pegs onsite.

Horizontal Datum: RP86009
Vertical Datum:
AHDD (SmartNet Aus) GPS

Detail Survey

Address: 35 Kuring-Gai Avenue, Tarragindi
Real Property Description: Lot 13 on RP86009
Local Government: Brisbane City Council

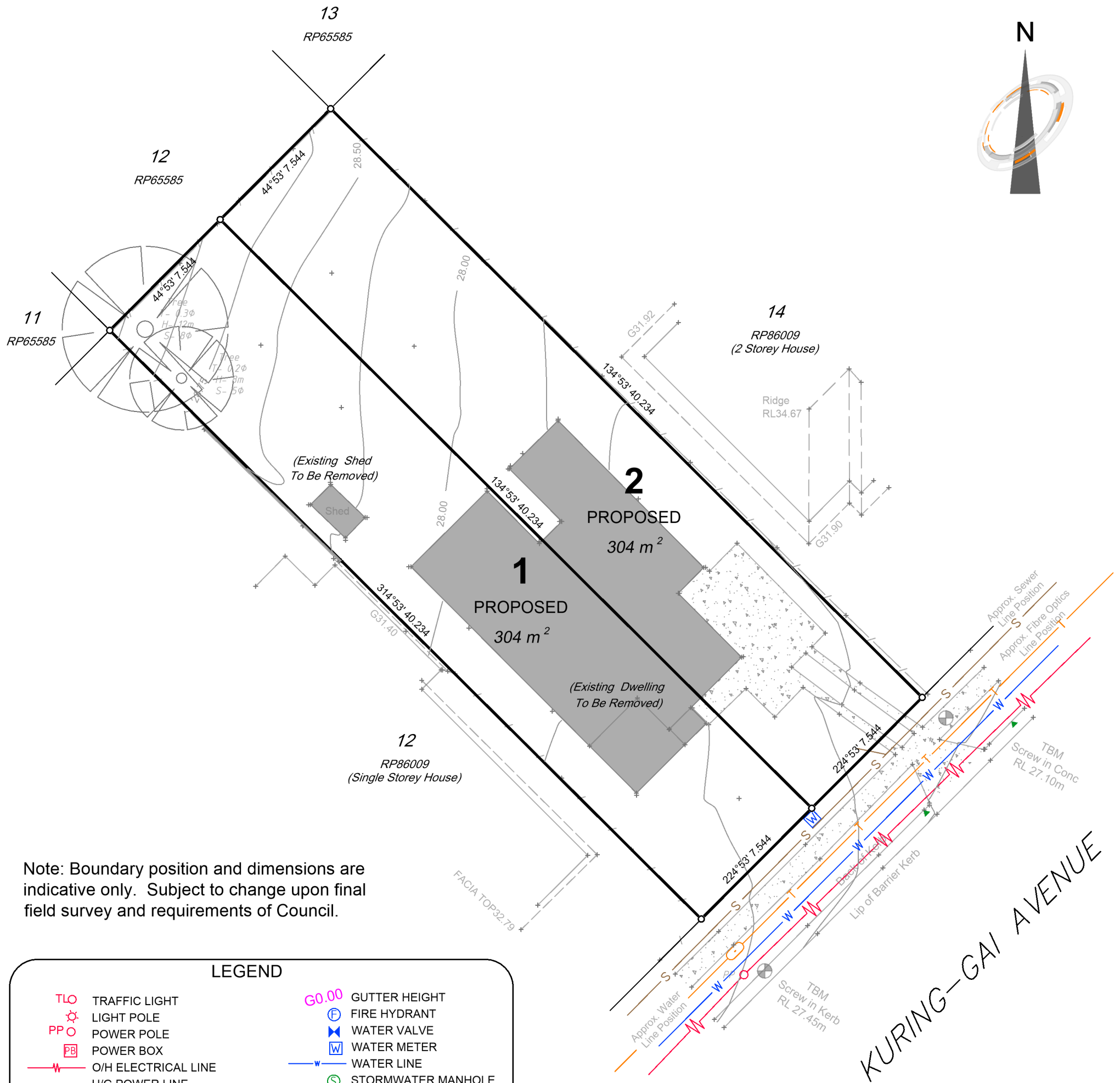
Scale @ A3: 1/200
Surveyed: 17/02/2026
Drafted: 19/02/2026

Client:
Jianfeng Mo & Yafen Zhou

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Drawing Number: 260139
Rev: A
Surveyed by: AL
Drawn By: AL





Note: Boundary position and dimensions are indicative only. Subject to change upon final field survey and requirements of Council.

LEGEND

- TLO

TRAFFIC LIGHT
- ☼

LIGHT POLE
- PP

POWER POLE
- PB

POWER BOX
- O/H ELECTRICAL LINE
- U/G POWER LINE
- TELSTRA PIT
- NBN PIT
- TELSTRA LINE
- GAS MARKER
- GAS LINE
- SEWER MANHOLE
- SEWER LINE
- ⊙

TEMPORARY BENCH MARK
- ⊙

PERMANENT SURVEY MARK
- ORIGINAL PEG
- ⊕

LOCATOR POTHOLE
- ⊕

PHOTO NUMBER & DIRECTION
- G0.00

GUTTER HEIGHT
- ⊕

FIRE HYDRANT
- ⊕

WATER VALVE
- ⊕

WATER METER
- WATER LINE
- ⊕

STORMWATER MANHOLE
- ⊕

GULLY GRATE
- ⊕

ROOFWATER PIT
- STORMWATER LINE
- ⊕

KERB ADAPTOR
- ROCK RETAINING WALL
- TIMBER RETAINING WALL
- BLOCK RETAINING WALL
- TOP OF BANK
- BOTTOM/TOE OF BANK
- FENCE
- ⊕

SIGN
- SURVEYED CONTOUR 0.25
- NATURAL CONTOUR (BCC BIMAP 2002)

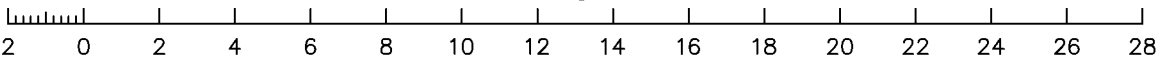
Note: Identification Survey is recommended prior to Construction due to missing original pegs at corners.

Note that the underground location of services is indicative only and has been derived from records obtained from BCC Community Maps & DBYD. This location has not been verified. It is recommended that physical location of these services is carried out prior to construction.

Revision Notes

Rev	Date	Notes
A	27/03/2026	Original Issue

Scale 1:200 – Lengths are in Metres.



Note: The location of Boundary features, including Retaining Walls and Fences are indicative only and are not a true representation of the actual Property Boundaries. An Identification Survey is recommended to determine the accurate location of the Property Boundaries, and the accuracy of any existing Boundary Pegs onsite.

Horizontal Datum: RP86009
Vertical Datum:
AHDD (SmartNet Aus) GPS

Proposed Lots 1 & 2 to Cancel
Lot 13 on RP86009

Address: 35 Kuring-Gai Avenue, Tarragindi
Real Property Description: Lot 13 on RP86009
Local Government: Brisbane City Council

Scale @ A3: 1/200
Surveyed: 17/02/2026
Drafted: 27/03/2026

Client:
Jianfeng Mo & Yafen Zhou

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Email: admin@survey360.com.au

Drawing Number: 260139 PROPOSAL
Rev: A
Surveyed by: AL
Drawn By: AL



APPENDIX C - Stormwater Code

Performance Criteria	Acceptable Solution	Solutions*	Comments	Council Use
Section A—If for a material change of use, reconfiguring a lot, operational work or building work Note—Compliance with the performance outcomes and acceptable outcomes in this section should be demonstrated by the submission of a site-based stormwater management plan for high risk development only.				
PO1 Development provides a stormwater management system which achieves the integrated management of stormwater to: (a) minimise flooding; (b) protect environmental values of receiving waters; (c) maximise the use of water sensitive urban design; (d) minimise safety risk to all persons; (e) maximise the use of natural waterway corridors and natural channel design principles. Editor's note—The stormwater management system to be developed to address PO1 is not intended to require management of stormwater quality.	AO1 Development provides a stormwater management system designed in compliance with the Infrastructure design planning scheme policy .	A	Stormwater runoff from the development is to discharge into the existing kerb and channel along Kuring-Gai Avenue. Design and construction will generally be in accordance with the BCC Infrastructure design planning scheme policy, and QUDM where applicable.	

*Brisbane City Plan 2014
Stormwater Code*

*Performance Criteria and
Acceptable Solutions Table*

<i>Performance Criteria</i>	<i>Acceptable Solution</i>	<i>Solutions*</i>	<i>Comments</i>	<i>Council Use</i>
PO2 Development ensures that the stormwater management system and site work does not adversely impact flooding or drainage characteristics of premises which are up slope, down slope or adjacent to the site.	AO2.1 Development does not result in an increase in flood level or flood hazard on up slope, down slope or adjacent premises.	A	As per the BCC FloodWise Property Report, and Interactive and Flood Awareness Mapping information, the development is not affected by flooding. Refer to Appendix H.	
	AO2.2 Development provides a stormwater management system which is designed in compliance with the standards in the Infrastructure design planning scheme policy .	A	Design and construction will comply with the BCC Infrastructure design planning scheme policy, and QUDM where applicable. Final design of the stormwater system will be undertaken at the detailed design phase.	
PO3 Development ensures that the stormwater management system does not direct stormwater run-off through existing or proposed lots and property where it is likely to adversely affect the safety of, or cause nuisance to properties.	AO3.1 Development ensures that the location of the stormwater drainage system is contained within a road reserve, drainage reserve, public pathway, park or waterway corridor.	A	An allowance will be made for roofwater and impervious surface area to be collected and discharged to the lawful points of discharge.	
	AO3.2 Development provides a stormwater management system which is designed in compliance with the standards in the	A	Design and construction will be in accordance with the BCC Infrastructure design planning scheme policy, and QUDM where applicable.	

Project: 35 Kuring-Gai Avenue, Tarragindi

Solution Legend: A – Acceptable Solution; A/S – Alternate Solution; N/A – Not applicable

Performance Criteria	Acceptable Solution	Solutions*	Comments	Council Use
	Infrastructure design planning scheme policy.			
	A03.3 Development obtains a lawful point of discharge in compliance with the standards in the Infrastructure design planning scheme policy.	A	Lawful point of discharge for the development is the existing kerb and channel along Kuring-Gai Avenue.	
	A03.4 Where on private land, all underground stormwater infrastructure is secured by a drainage easement.	N/A	There is no existing or proposed Council owned stormwater infrastructure on private land.	
PO4 Development provides a stormwater management system which has sufficient capacity to safely convey run-off taking into account increased run-off from impervious surfaces and flooding in local catchments.	A04.1 Development provides a stormwater conveyance system which is designed to safely convey flows in compliance with the standards in the Infrastructure design planning scheme policy.	A	Proposed design provides a stormwater conveyance system to safely convey flows in accordance with the BCC Infrastructure design planning scheme policy, and QUDM where applicable.	
	A04.2 Development provides sufficient area to convey run-off which will comply with the	A	The development site has sufficient area to accommodate the stormwater conveyance system.	

*Brisbane City Plan 2014
Stormwater Code*

*Performance Criteria and
Acceptable Solutions Table*

<i>Performance Criteria</i>	<i>Acceptable Solution</i>	<i>Solutions*</i>	<i>Comments</i>	<i>Council Use</i>
	standards in the Infrastructure design planning scheme policy .			
PO5 Development designs stormwater channels, creek modification works, bridges, culverts and major drains to protect and enhance the value of the waterway corridor or drainage path for fauna movement.	AO5 Development ensures the design of stormwater channels, creek modifications or other infrastructure, permits terrestrial and aquatic fauna movement.	N/A	No such works are proposed.	
PO6 Development ensures that location and design of stormwater detention and water quality treatment: (a) minimises risk to people and property; (b) provides for safe access and maintenance; (c) minimises ecological impacts to creeks and waterways.	AO6.1 Development locates stormwater detention and water quality treatment: (a) outside of a waterway corridor; (b) offline to any catchment not contained within the development.	N/A	Stormwater detention is not required as per BCC Infrastructure design planning scheme policy sections 7.5.2.3.A and 7.5.2.3.D. Water quality measures are not required as development land area is less than 2500m ² and does not result in six or more lots.	
	AO6.2 Development providing for stormwater detention and water quality treatment devices are designed in compliance with	N/A	Stormwater detention is not required as per BCC Infrastructure design planning scheme policy section 7.5.2.3.A and 7.5.2.3.D.	

Project: 35 Kuring-Gai Avenue, Tarragindi

Solution Legend: A – Acceptable Solution; A/S – Alternate Solution; N/A – Not applicable

Performance Criteria	Acceptable Solution	Solutions*	Comments	Council Use
	the standards in the Infrastructure design planning scheme policy .		Water quality measures are not required as development land area is less than 2500m ² and does not result in six or more lots.	
PO7 Development is designed, including any car parking areas and channel works to: (a) reduce property damage; (b) provide safe access to the site during the defined flood event .	A07.1 Development (including any ancillary structures and car parking areas) is located above minimum flood immunity levels in Table 9.4.9.3.B , Table 9.4.9.3.C , Table 9.4.9.3.D , Table 9.4.9.3.E and Table 9.4.9.3.F . Note—Compliance with this acceptable outcome can be demonstrated by the submission of a hydraulic and hydrology report identifying flood levels and development design levels (as part of a site-based stormwater management plan).	A	As per the BCC FloodWise Property Report, and Interactive and Flood Awareness Mapping information, the development is not affected by flooding. Refer to Appendix H.	
	A07.2 Development including the road network provides a stormwater management system that provides safe pedestrian and	A	Design and construction will be in accordance with the BCC Infrastructure design planning scheme policy, and QUDM where applicable.	

*Brisbane City Plan 2014
Stormwater Code*

*Performance Criteria and
Acceptable Solutions Table*

<i>Performance Criteria</i>	<i>Acceptable Solution</i>	<i>Solutions*</i>	<i>Comments</i>	<i>Council Use</i>
	vehicle access in accordance with the standards in the Infrastructure design planning scheme policy .		No pedestrian or vehicle access will be affected due to the design of the stormwater management system.	
PO8 Development designs stormwater channels, creek modification works and the drainage network to protect and enhance the environmental values of the waterway corridor or drainage path.	A08.1 Development ensures natural waterway corridors and drainage paths are retained.	N/A	No such works are proposed.	
	A08.2 Development provides the required hydraulic conveyance of the drainage channel and floodway, while maximising its potential to maximise environmental benefits and minimise scour. Editor's note—Guidance on natural channel design principles can be found in the Council's publication Natural channel design guidelines .	N/A	No such works are proposed.	
	A08.3 Development provides stormwater outlets into waterways, creeks, wetlands and overland flow paths with energy	N/A	No such works are proposed.	

Project: 35 Kuring-Gai Avenue, Tarragindi

Solution Legend: A – Acceptable Solution; A/S – Alternate Solution; N/A – Not applicable

Performance Criteria	Acceptable Solution	Solutions*	Comments	Council Use
	dissipation to minimise scour in compliance with the standards in the Infrastructure design planning scheme policy .			
	AO8.4 Development ensures that the design of modifications to the existing design of new stormwater channels, creeks and major drains is in compliance with the standards in the Infrastructure design planning scheme policy .	N/A	No such works are proposed.	
PO9 Development is designed to manage run-off and peak flows by minimising large areas of impervious material and maximising opportunities for capture and re-use.	AO9 No acceptable outcome is prescribed.	A	All impervious areas will be captured and controlled via an internal stormwater drainage network in accordance with the BCC Infrastructure design planning scheme policy, and QUDM where applicable.	
PO10 Development ensures that there is sufficient site area to accommodate an effective stormwater management system.	AO10 No acceptable outcome is prescribed.	A	There is sufficient area to provide the proposed stormwater system.	

*Brisbane City Plan 2014
Stormwater Code*

*Performance Criteria and
Acceptable Solutions Table*

<i>Performance Criteria</i>	<i>Acceptable Solution</i>	<i>Solutions*</i>	<i>Comments</i>	<i>Council Use</i>
Note—Compliance with the performance outcome should be demonstrated by the submission of a site-based stormwater management plan for high-risk development only.				
PO11 Development provides for the orderly development of stormwater infrastructure within a catchment, having regard to the: (a) existing capacity of stormwater infrastructure within and external to the site, and any planned stormwater infrastructure upgrades; (b) safe management of stormwater discharge from existing and future up-slope development; (c) implication for adjacent and down-slope development.	AO11.1 Development with up-slope external catchment areas provides a drainage connection sized for ultimate catchment conditions that is directed to a lawful point of discharge.	N/A	The upstream allotment is located within the Low Density Residential zone and comprises approximately 607 m ² . It does not satisfy the locational criteria under the Brisbane City Plan 2014 to support future subdivision into smaller lots (approximately 300 m ²), including being within 200 metres walking distance of a Centre zone exceeding 2,000 m ² . Accordingly, the upstream allotment is not identified as having reasonable or foreseeable development potential for further subdivision or intensification under the Planning Scheme.	

Project: 35 Kuring-Gai Avenue, Tarragindi

Solution Legend: A – Acceptable Solution; A/S – Alternate Solution; N/A – Not applicable

Performance Criteria	Acceptable Solution	Solutions*	Comments	Council Use
			On this basis, requiring an upstream stormwater connection would impose an unnecessary and disproportionate burden on the proposed development, particularly given that the upstream land is intended to remain in its existing low-density residential form.	
	AO11.2 Development ensures that existing stormwater infrastructure that is undersized is upgraded in compliance with the Priority infrastructure plan and the standards in the Infrastructure design planning scheme policy .	A	An initial investigation has been performed and it is understood that the existing kerb and channel along Kuring-Gai Avenue is the lawful point of discharge for the development and is able to cater for the development.	
PO12 Development provides stormwater infrastructure which: (a) remains fit for purpose for the life of the development and maintains full functionality in the design flood event;	AO12.1 The stormwater management system is designed in compliance with the Infrastructure design planning scheme policy .	A	Design and construction will be in accordance with the BCC Infrastructure design planning scheme policy, and QUDM where applicable.	
	AO12.2	N/A	There is no existing manhole on private land.	

Project: 35 Kuring-Gai Avenue, Tarragindi

Solution Legend: A – Acceptable Solution; A/S – Alternate Solution; N/A – Not applicable

*Brisbane City Plan 2014
Stormwater Code*

*Performance Criteria and
Acceptable Solutions Table*

<i>Performance Criteria</i>	<i>Acceptable Solution</i>	<i>Solutions*</i>	<i>Comments</i>	<i>Council Use</i>
(b) can be safely accessed and maintained cost effectively; (c) ensures no structural damage to existing stormwater infrastructure.	Development doesn't impact the existing stormwater infrastructure.			
PO13 Development ensures that all reasonable and practicable measures are taken to manage the impacts of erosion, turbidity and sedimentation, both within and external to the development site from construction activities, including vegetation clearing, earthworks, civil construction, installation of services, rehabilitation, revegetation and landscaping to protect: (a) the environmental values and water quality objectives of waters; (b) waterway hydrology; (c) the maintenance and serviceability of stormwater infrastructure.	AO13 No acceptable outcome is prescribed.	A	The design will incorporate measures to mitigate the impacts of erosion and sedimentation arising from construction activities. Erosion and sediment control strategies will be developed during detailed design if required.	

*Brisbane City Plan 2014
Stormwater Code*

*Performance Criteria and
Acceptable Solutions Table*

<i>Performance Criteria</i>	<i>Acceptable Solution</i>	<i>Solutions*</i>	<i>Comments</i>	<i>Council Use</i>
Note—The Infrastructure design planning scheme policy outlines the appropriate measures to be taken into account to achieve the performance outcome.				
PO14 Development ensures that: (a) unnecessary disturbance to soil, waterways or drainage channels is avoided; (b) all soil surfaces remain effectively stabilised against erosion in the short and long term.	AO14 No acceptable outcome is prescribed.	A	The design will incorporate measures to mitigate the impacts of erosion and sedimentation arising from construction activities. Erosion and sediment control strategies will be developed during detailed design if required.	
PO15 Development does not increase: (a) the concentration of total suspended solids or other contaminants in stormwater flows during site construction; (b) run-off which causes erosion either on site or off site.	AO15 No acceptable outcome is prescribed.	A	The design will incorporate measures to mitigate the impacts of erosion and sedimentation arising from construction activities. Erosion and sediment control strategies will be developed during detailed design if required.	
Section B—Additional criteria which apply to high-risk development, being one or more of the following:				

Project: 35 Kuring-Gai Avenue, Tarragindi

Solution Legend: A – Acceptable Solution; A/S – Alternate Solution; N/A – Not applicable

Performance Criteria	Acceptable Solution	Solutions*	Comments	Council Use
(a) a material change of use for an urban purpose which involves greater than 2,500m² of land that: (i) will result in an impervious area greater than 25% of the net developable area; or (ii) will result in 6 or more dwellings. (b) reconfiguring a lot for an urban purpose that involves greater than 2,500m² of land and will result in 6 or more lots; (c) operational work for an urban purpose which involves disturbing greater than 2,500m² of land.				
PO16 Development ensures that the entry and transport of contaminants into stormwater is avoided or minimised to protect receiving water environmental values. Note—Prescribed water contaminants are defined in the Environmental Protection Act 1994. Note—Compliance with the performance outcome should be demonstrated by the submission of a site-based stormwater management plan for high-risk development only.	AO16 Development provides a stormwater management system which is designed in compliance with the standards in the Infrastructure design planning scheme policy.	N/A	Not applicable due to development not involving greater than 2,500m ² of land and not resulting in 6 or more lots.	
PO17 Development ensures that:	AO17 No acceptable outcome is prescribed.	N/A	Not applicable due to development not involving greater than 2,500m ² of land and not resulting in 6 or more lots.	

*Brisbane City Plan 2014
Stormwater Code*

*Performance Criteria and
Acceptable Solutions Table*

<i>Performance Criteria</i>	<i>Acceptable Solution</i>	<i>Solutions*</i>	<i>Comments</i>	<i>Council Use</i>
(a) the discharge of wastewater to a waterway or external to the site is avoided; or (b) if the discharge cannot practicably be avoided, the development minimises wastewater discharge through re-use, recycling, recovery and treatment. Note—The preparation of a wastewater management plan can assist in demonstrating achievement of this performance outcome. Editor's note—This code does not deal with sewerage which is the subject of the Wastewater code.				
Section C—Additional performance outcomes and acceptable outcomes for assessable development for a material change of use or reconfiguring a lot				
PO18 Development protects stormwater infrastructure to ensure the following are not compromised:	AO18 Development protects stormwater infrastructure in compliance with the following:	A	Design and construction will generally be in accordance with the BCC Infrastructure design planning scheme policy.	

*Brisbane City Plan 2014
Stormwater Code*

*Performance Criteria and
Acceptable Solutions Table*

<i>Performance Criteria</i>	<i>Acceptable Solution</i>	<i>Solutions*</i>	<i>Comments</i>	<i>Council Use</i>
(a) the long term infrastructure for the stormwater network in the Long term infrastructure plans; (b) the existing and planned infrastructure for the stormwater network in the Local government infrastructure plan; (c) the provision of long term, existing and planned infrastructure for the stormwater network which: (i) is required to service the development or an existing and future urban development in the planning scheme area; or (ii) is in the interests of rational development or the efficient and orderly planning of the general area in which the site is situated. Editor's note—A condition which requires a proposed development to keep permanent improvements and structures	(a) for long term infrastructure for the stormwater network, the Long term infrastructure plans; (b) for existing and planned infrastructure for the stormwater network, the Local government infrastructure plan; (c) the standards for stormwater drainage in the Infrastructure design planning scheme policy.			

Project: 35 Kuring-Gai Avenue, Tarragindi

Solution Legend: A – Acceptable Solution; A/S – Alternate Solution; N/A – Not applicable

*Brisbane City Plan 2014
Stormwater Code*

*Performance Criteria and
Acceptable Solutions Table*

<i>Performance Criteria</i>	<i>Acceptable Solution</i>	<i>Solutions*</i>	<i>Comments</i>	<i>Council Use</i>
associated with the approved development clear of the area of long term infrastructure , may be imposed.				
PO19 Development provides for the payment of extra trunk infrastructure costs for the following: (a) for development completely or partly outside the priority infrastructure area in the Local government infrastructure plan ; (b) for development completely inside the priority infrastructure area in the Local government infrastructure plan involving : (i) trunk infrastructure that is to be provided earlier than planned in the Local government infrastructure plan ; (ii) long term infrastructure for the stormwater network which is made	AO19 No acceptable outcome is prescribed.	N/A	No trunk and/or long term infrastructure are proposed for the development.	

*Brisbane City Plan 2014
Stormwater Code*

*Performance Criteria and
Acceptable Solutions Table*

<i>Performance Criteria</i>	<i>Acceptable Solution</i>	<i>Solutions*</i>	<i>Comments</i>	<i>Council Use</i>
necessary by development that is not assumed future urban development; (iii) other infrastructure for the stormwater network associated with development that is not assumed future urban development which is made necessary by the development. Editor's note—The payment of extra trunk infrastructure costs for development completely inside the priority infrastructure area in the Local government infrastructure plan is to be worked out in accordance with the Charges Resolution. Editor's note—See section 130 Imposing Development conditions (Conditions for extra trunk infrastructure costs) of the Planning Act 2016.				

APPENDIX D – Infrastructure Design Code

<i>Performance Criteria</i>	<i>Acceptable Solution</i>	<i>Solutions*</i>	<i>Comments</i>	<i>Council Use</i>
PO1 Development provides roads, pavement, edging and landscaping which: (a) are designed and constructed in accordance with the road hierarchy; (b) provide for safe travel for pedestrians, cyclists and vehicles; (c) provide access to properties for all modes; (d) provide utilities; (e) provide high levels of aesthetics and amenity, improved liveability and future growth; (f) provide for the amelioration of noise and other pollution; (g) provide a high-quality streetscape; (h) provide a low-maintenance asset with a minimal whole-of-life cost. Note—This can be demonstrated in an engineering report prepared and certified by a Registered Professional Engineer Queensland in accordance	AO1 Development provides roads and associated pavement, edging and landscaping which are designed and constructed in compliance with the road corridor design standards in the Infrastructure design planning scheme policy .	A	Existing roads and associated pavement, edging and landscaping to be reinstated where disturbed by proposed works.	

Project: 35 Kuring-Gai Avenue, Tarragindi

Solution Legend: A – Acceptable Solution; A/S – Alternate Solution; N/A – Not applicable

<i>Performance Criteria</i>	<i>Acceptable Solution</i>	<i>Solutions*</i>	<i>Comments</i>	<i>Council Use</i>
with the Infrastructure design planning scheme policy .				
PO2 Development provides road pavement surfaces which: (a) are well designed and constructed; (b) durable enough to carry the wheel loads of the intended types and numbers of travelling and parked vehicles; (c) ensures the safe passage of vehicles, pedestrians and cyclists, the discharge of stormwater run-off and the preservation of all-weather access; (d) allows for reasonable travel comfort.	AO2 Development provides road pavement surfaces which are designed and constructed in compliance with the road corridor design standards in the Infrastructure design planning scheme policy .	A	Existing road pavement surfaces to be reinstated where disturbed by proposed works.	
PO3 Development provides a pavement edge which is designed and constructed to: (a) control vehicle movements by delineating the carriageway for all users;	AO3 Development provides pavement edges which are designed and constructed in compliance with the road corridor design standards in the Infrastructure design planning scheme policy .	A	Existing pavement edges to be reinstated where disturbed by proposed works.	

<i>Performance Criteria</i>	<i>Acceptable Solution</i>	<i>Solutions*</i>	<i>Comments</i>	<i>Council Use</i>
(b) provide for people with disabilities by allowing safe passage of wheelchairs and other mobility aids.				
PO4 Development provides verges which are designed and constructed to: (a) provide safe access for pedestrians clear of obstructions and access areas for vehicles onto properties; (b) provide a sufficient area for public utility services; (c) be maintainable by the Council.	AO4 Development provides verges which are designed and constructed in compliance with the road corridor design and streetscape locality advice standards in the Infrastructure design planning scheme policy .	A	Existing verges to be reinstated where disturbed by proposed works.	
PO5 Development provides a lane or laneway identified in a neighbourhood plan which: (a) allows equitable access for all modes; (b) is safe and secure; (c) has 24-hour access; (d) is a low-speed shared zone environment; (e) has a high-quality streetscape.	AO5 Development provides a lane or laneway identified in a neighbourhood plan which is embellished in compliance with the streetscape locality advice standards in the Infrastructure design planning scheme policy .	N/A	Due to the size and nature of the development, no such works are proposed.	

<i>Performance Criteria</i>	<i>Acceptable Solution</i>	<i>Solutions*</i>	<i>Comments</i>	<i>Council Use</i>
PO6 Development of an existing premises provides at the frontage to the site, if not already provided, the following infrastructure to an appropriate urban standard: (a) an effective, high-quality paved roadway; (b) an effective, high-quality roadway kerb and channel; (c) safe, high-quality vehicle crossings over channels and verges; (d) safe, accessible, high-quality verges compatible and integrated with the surrounding environment; (e) safe vehicle access to the site that enables ingress and egress in a forward gear; (f) provision of and required alterations to public utilities; (g) effective drainage; (h) appropriate conduits to facilitate the provision of required street-lighting systems and traffic signals.	AO6 Development of an existing premises provides at the frontage of the site, if not already existing, the following infrastructure to the standard that would have applied if the development involved new premises as stated in the road corridor design standards in the Infrastructure design planning scheme policy : (a) concrete kerb and channel; (b) forming and grading to verges; (c) crossings over channels and verges; (d) a constructed bikeway; (e) a constructed verge or reconstruction of any damaged verge; (f) construction of the carriageway; (g) payment of costs for required alterations to public utility mains, services or installations; (h) construction of and required alterations to public utility mains, services or installations; (i) drainage works;	A	Existing infrastructure at the frontage of the site are to be reinstated where disturbed by proposed works.	

<i>Performance Criteria</i>	<i>Acceptable Solution</i>	<i>Solutions*</i>	<i>Comments</i>	<i>Council Use</i>
PO7 Development provides both cycle and walking routes which: (a) are located, designed and constructed to their network classification (where applicable); (b) provide safe and attractive travel routes for pedestrians and cyclists for commuter and recreational purposes; (c) provide safe and comfortable access to properties for pedestrians and cyclists; (d) incorporate water sensitive urban design into stormwater drainage; (e) provide for utilities; (f) provide for a high level of aesthetics and amenity, improved liveability and future growth; (g) are a low-maintenance asset with a minimal whole-of-life cost; (h) minimise the clearing of significant native vegetation.	(j) installation of electrical conduits. AO7 Development provides cycle and walking routes which are located, designed and constructed in compliance with the road corridor design and off-road pathway design standards in the Infrastructure design planning scheme policy .	A	Existing verges to be reinstated where disturbed by proposed works.	

Performance Criteria	Acceptable Solution	Solutions*	Comments	Council Use
Note—This can be demonstrated in an engineering report prepared and certified by a Registered Professional Engineer Queensland in accordance with the Infrastructure design planning scheme policy .				
PO8 Development provides refuse and recycling collection, separation and storage facilities that are located and managed so that adverse impacts on building occupants, neighbouring properties and the public realm are minimised.	AO8.1 Development provides refuse and recycling collection and storage facilities in accordance with the Refuse planning scheme policy .	A	Existing Council kerbside collection service will suffice.	
	AO8.2 Development ensures that refuse and recycling collection and storage location and design do not have any adverse impact including odour, noise or visual impacts on the amenity of land uses within or adjoining the development. Note—Refer to the Refuse planning scheme policy for further guidance.	A	Existing Council kerbside collection service will suffice.	
PO9 Development ensures that:	AO9.1 Development ensures that the reticulated water and sewerage distribution system	A	Existing water and sewerage infrastructure service the site. Connection will be made into the existing infrastructure.	

<i>Performance Criteria</i>	<i>Acceptable Solution</i>	<i>Solutions*</i>	<i>Comments</i>	<i>Council Use</i>
(a) land used for an urban purpose is serviced adequately with regard to water supply and waste disposal; (b) the water supply meets the stated standard of service for the intended use and fire-fighting purposes.	for all services is in place before the first use is commenced.			
	AO9.2 Development provides the lot with reticulated water supply and sewerage to a standard acceptable to the distributor–retailer.	A	Existing water and sewerage infrastructure service the site. Connection will be made into the existing infrastructure.	
PO10 Development provides public utilities and street lighting which are the best current or alternative technology and facilitate accessibility, easy maintenance, minimal whole-of-life costs, and minimal adverse environmental impacts.	AO10.1 Development provides public utilities and street lighting which are located and aligned to: (a) avoid significant native vegetation and areas identified within the Biodiversity areas overlay map ; (b) minimise earthworks; (c) avoid crossing waterways, waterway corridors and wetlands or if a crossing is unavoidable, tunnel-boring techniques are used to minimise disturbance, and a disturbed area is reinstated and restored on completion of the work. Note—Guidance on the restoration of habitat is included in the Biodiversity areas planning scheme policy .	A	Existing public utilities and street lighting infrastructure service the site. Final requirements and details are to be confirmed with an electrical engineer during the detailed design phase.	

Performance Criteria	Acceptable Solution	Solutions*	Comments	Council Use
	AO10.2 Development provides compatible public utility services and street-lighting services which are co-located in common trenching for underground services.	A	Existing public utilities and street lighting infrastructure service the site. Final requirements and details are to be confirmed with an electrical engineer during the detailed design phase.	
	AO10.3 Development provides public utilities and street lighting which are designed and constructed in compliance with the public utilities standards in the Infrastructure design planning scheme policy .	A	Existing public utilities and street lighting infrastructure service the site. Final requirements and details are to be confirmed with an electrical engineer during the detailed design phase.	
PO11 Development ensures that land used for urban purposes is serviced adequately with telecommunications and energy supply.	AO11 Development provides land with the following services to the standards of the approved supplier: (a) electricity; (b) telecommunications services; (c) gas service where practicable.	A	The site currently has access to electricity and telecommunication services.	
PO12 Development ensures that major public projects promote the provision of affordable, high-bandwidth	AO12 Development provides conduits which are provided in all major Council and government works projects to enable the future provision of fibre optic cabling, if:	N/A	Due to the size and nature of the development, no such works are proposed.	

<i>Performance Criteria</i>	<i>Acceptable Solution</i>	<i>Solutions*</i>	<i>Comments</i>	<i>Council Use</i>
telecommunications services throughout the city.	(a) the additional expense is unlikely to be prohibitive; or (b) further major work is unlikely or disruption would be a major concern, such as where there is a limited capacity road; or (c) there is a clear gap in the telecommunications network; or (d) there is a clear gap in the bandwidth available to the area. Editor's note—An accurate, digital 'as built' three-dimensional location plan is to be supplied for all infrastructure provided in a road.			
PO13 Development provides public art identified in a neighbourhood plan or park concept plan which: (a) is provided commensurate with the status and scale of the proposed development; (b) is sited and designed: (i) as an integrated part of the project design;	AO13 Development provides public art identified in a neighbourhood plan or park concept plan which is sited and designed in compliance with the public art standards in the Infrastructure design planning scheme policy .	N/A	Due to the size and nature of the development, no such works are proposed.	

<i>Performance Criteria</i>	<i>Acceptable Solution</i>	<i>Solutions*</i>	<i>Comments</i>	<i>Council Use</i>
(ii) as conceptually relevant to the context of the location; (iii) to reflect and respond to the cultural values of the community; (iv) to promote local character in a planned and informed manner.				
PO14 Development provides signage of buildings and spaces which promote legibility to help users find their way.	AO14 Development provides public signage: (a) at public transport interchanges and stops, key destinations, public spaces, pedestrian linkages and at entries to centre developments; (b) which details the location of the key destinations, public spaces and pedestrian linkages in the vicinity, the services available within the development and where they are located. Editor's note—Signage is to be in accordance with Local Law Number 1 (Control of Advertisements Local Law) .	N/A	Due to the size and nature of the development, no such works are proposed.	
PO15 Development that provides community facilities which form part of the	AO15 Development that provides community facilities which form part of the	N/A	Due to the size and nature of the development, no such works are proposed.	

*Brisbane City Plan 2014
Infrastructure Design Code*

*Performance Criteria and
Acceptable Solutions Table*

<i>Performance Criteria</i>	<i>Acceptable Solution</i>	<i>Solutions*</i>	<i>Comments</i>	<i>Council Use</i>
development is functional, safe, low maintenance, and fit for purpose.	development is designed in compliance with the community facilities standards in the Infrastructure design planning scheme policy .			
PO16 Development provides public toilets which: (a) are required as part of a community facility or park; (b) are located, designed and constructed to be: (i) safe; (ii) durable; (iii) resistant to vandalism; (iv) able to service expected demand; (v) fit for purpose.	AO16 Development that provides public toilets is designed and constructed in compliance with the public toilets standards in the Infrastructure design planning scheme policy .	N/A	Due to the size and nature of the development, no such works are proposed.	
PO17 Development provides bridges, tunnels, elevated structures and water access structures that are designed and constructed using proven methods, materials and technology to provide for: (a) safe movement of intended users;	AO17 Development that provides bridges, tunnels, elevated structures and water access structures is designed and constructed in compliance with the standards in the Infrastructure design planning scheme policy .	N/A	Due to the size and nature of the development, no such works are proposed.	

<i>Performance Criteria</i>	<i>Acceptable Solution</i>	<i>Solutions*</i>	<i>Comments</i>	<i>Council Use</i>
(b) an attractive appearance appropriate to the general surroundings and any adjacent structures; (c) functionality and easy maintenance; (d) minimal whole-of-life cost; (e) longevity; (f) current and future services. Note—All bridges and elevated and associated elements must be designed and certified by a Registered Professional Engineer Queensland in accordance with the Infrastructure design planning scheme policy .				
PO18 Development provides culverts which are designed and constructed using proven methods, materials and technology to provide for: (a) safety; (b) an attractive appearance appropriate to the general surroundings; (c) functionality and easy maintenance; (d) minimal whole-of-life cost;	AO18 Development that provides culverts is designed and constructed in compliance with the structures standards in the Infrastructure design planning scheme policy .	N/A	Due to the size and nature of the development, no such works are proposed.	

<i>Performance Criteria</i>	<i>Acceptable Solution</i>	<i>Solutions*</i>	<i>Comments</i>	<i>Council Use</i>
(e) longevity; (f) future widening; (g) current and future services; (h) minimal adverse impacts, such as increase in water levels or flow velocities, and significant change of flood patterns. Note—All culverts and associated elements are to be designed and certified by a Registered Professional Engineer Queensland in accordance with the applicable design standards.				
PO19 Development provides batters, retaining walls, and seawalls and river walls which are designed and constructed using proven methods, materials and technology to provide for: (a) safety; (b) an attractive appearance appropriate to the surrounding area; (c) easy maintenance; (d) minimal whole-of-life cost; (e) longevity;	AO19 Development that provides batters, retaining walls, seawalls and river walls is designed and constructed in compliance with the structures standards in the Infrastructure design planning scheme policy .	N/A	No such works are proposed.	

Performance Criteria	Acceptable Solution	Solutions*	Comments	Council Use
(f) minimal water seepage. Note—All retaining walls and associated elements are to be designed and certified by a Registered Professional Engineer Queensland in accordance with the applicable design standards.				
If for development with a gross floor area greater than 1,000m²				
PO20 Development ensures that construction is managed so that use of public spaces and movement on pedestrian, cyclist and other traffic routes is not unreasonably disrupted and existing landscaping is adequately protected from short- and long-term impacts. Note—The preparation of a construction management plan can assist in demonstrating achievement of this performance outcome. Note—The Transport, access, parking and servicing planning scheme policy provides advice on the management of vehicle parking and deliveries during construction.	AO20 Development ensures that during construction: (a) the ongoing use of adjoining and surrounding parks and public spaces, such as malls and outdoor dining, is not compromised; (b) adjoining and surrounding landscaping is protected from damage; (c) safe, legible, efficient and sufficient pedestrian, cyclist and vehicular accessibility and connectivity to the wider network are maintained.	N/A	Gross floor area not greater than 1,000m ² , therefore not applicable.	

<i>Performance Criteria</i>	<i>Acceptable Solution</i>	<i>Solutions*</i>	<i>Comments</i>	<i>Council Use</i>
PO21 Development ensures that construction and demolition activities are guided by measures that prevent or minimise adverse impacts including sleep disturbance at a sensitive use, due to noise and dust, including dust from construction vehicles entering and leaving the site. Note—A noise and dust impact management plan prepared in accordance with the Management plans planning scheme policy can assist in demonstrating achievement of this performance outcome.	AO21.1 Development ensures that demolition and construction: (a) only occur between 6:30am and 6:30pm Monday to Saturday, excluding public holidays; (b) do not occur over periods greater than 6 months.	N/A	Gross floor area not greater than 1,000m ² , therefore not applicable.	
	AO21.2 Development including construction and demolition does not release dust emissions beyond the boundary of the site.	N/A	Gross floor area not greater than 1,000m ² , therefore not applicable.	
	AO21.3 Development construction and demolition does not involve asbestos-containing materials.	N/A	Gross floor area not greater than 1,000m ² , therefore not applicable.	
PO22 Development ensures that: (a) construction and demolition do not result in damage to surrounding property as a result of vibration; (b) vibration levels achieve the vibration criteria in Table 9.4.4.3.B , Table	AO22 Development ensures that the nature and scale of construction and demolition do not generate noticeable levels of vibration.	N/A	Gross floor area not greater than 1,000m ² , therefore not applicable.	

Performance Criteria	Acceptable Solution	Solutions*	Comments	Council Use
9.4.4.3.C , Table 9.4.4.3.D and Table 9.4.4.3.E . Note—A vibration impact assessment report prepared in accordance with the Noise impact assessment planning scheme policy can assist in demonstrating achievement of this performance outcome.				
If for a material change of use or reconfiguring a lot in an urban area (as defined in the Regulation) involving premises that is, or will be, accessed by common private title, where involving buildings, either attached or detached, that are not covered by other legislation mandating fire hydrants				
PO23 Development ensures that fire hydrants are: (a) installed and located to enable fire services to access water safely, effectively and efficiently; (b) suitably identified so that fire services can locate them at all hours.	AO23.1 Above or below ground fire hydrants are provided on residential, commercial and industrial streets and private roads, at not more than 90m intervals, and at each street intersection. Note—On residential streets, above ground fire hydrants may be single outlet. On commercial and industrial streets above ground fire hydrants should have dual valved outlets.	N/A	Proposed development does not involve a common private title and therefore, not applicable.	
	AO23.2 Fire hydrants are identified by:	N/A	Proposed development does not involve a common private title and therefore, not applicable.	

<i>Performance Criteria</i>	<i>Acceptable Solution</i>	<i>Solutions*</i>	<i>Comments</i>	<i>Council Use</i>
	(a) raised reflectorised pavement markers (RRPM) on sealed roads; (b) marker posts at the fence line where on an unsealed road, as road (HR) or path (HP) hydrants.			
PO24 Development ensures road widths and construction within the development, are adequate for refuse vehicles and for fire emergency vehicles to gain access to a safe working area close to buildings and near water supplies whether or not on-street parking spaces are occupied.	AO24 Internal private roads have a minimum roadway clearance between obstructions of 3.5m wide and 4.8m high in addition to any width required for on-street parking.	N/A	Proposed development does not involve a common private title and therefore, not applicable.	
Development for major electricity infrastructure and bulk water supply infrastructure identified on the State Planning Policy Interactive Mapping System where not in the Utility services zone precinct of the Special purpose zone				
PO25 Development avoids or otherwise minimises adverse impacts on surrounding land uses through the use of buffers and setbacks and the appropriate design and location of plant and operational areas within the site.	AO25 No acceptable outcome is prescribed.	N/A	Proposed development is not for major electricity infrastructure and bulk water supply infrastructure and therefore, not applicable.	

Performance Criteria	Acceptable Solution	Solutions*	Comments	Council Use
Development potentially impacting on major electricity infrastructure and bulk water supply infrastructure identified on the State Planning Policy Interactive Mapping System where the infrastructure is not in the Utility services zone precinct of the Special purpose zone				
PO26 Development is sited and designed to: (a) avoid safety risks to people or property; (b) minimise noise and visual impacts to people and property; (c) ensure the physical integrity and operation, maintenance and expansion of the infrastructure is not compromised.	AO26 No acceptable outcome is prescribed.	N/A	Proposed development is not located within the major electricity infrastructure and bulk water supply infrastructure overlays.	

APPENDIX E – Filling and Excavation Code

*Brisbane City Plan 2014
Filling and Excavation Code*

*Performance Criteria and
Acceptable Solutions Table*

<i>Performance Criteria</i>	<i>Acceptable Solution</i>	<i>Solutions*</i>	<i>Comments</i>	<i>Council Use</i>
PO1 Development for filling or excavation minimises visual impacts from retaining walls and earthworks.	AO1 Development ensures that the total height of any cut and fill, whether or not retained, does not exceed: (a) 2.5m in a zone in the Industry zones category; (b) 1m in all other zones, or if adjoining a sensitive zone.	N/A	No earthworks are proposed for the development.	
PO2 Development of a retaining wall proposed as a result of filling or excavation : (a) is designed and constructed to be fit for purpose; (b) does not impact adversely on significant vegetation; (c) is capable of easy maintenance. Editor's note—A retaining wall also needs to comply with the Building Regulation and embankment gradients will need to comply with the Building Regulation .	AO2.1 Development of a retaining structure, including footings, surface drainage and subsoil drainage: (a) is wholly contained within the site; (b) if the total height to be retained is greater than 1m, then: (i) the retaining wall at the property boundary is no greater than 1m above the ground level; (ii) all further terracing from the 1m high boundary retaining wall is 1 vertical unit:1 horizontal unit; (iii) the distance between each successive retaining wall (back of lower wall to face of higher wall) is no less than 1m	N/A	No earthworks are proposed for the development.	

Project: 35 Kuring-Gai Avenue, Tarragindi

Solution Legend: A – Acceptable Solution; A/S – Alternate Solution; N/A – Not applicable

*Brisbane City Plan 2014
Filling and Excavation Code*

*Performance Criteria and
Acceptable Solutions Table*

<i>Performance Criteria</i>	<i>Acceptable Solution</i>	<i>Solutions*</i>	<i>Comments</i>	<i>Council Use</i>
Note—Guidance on the protection of native vegetation is included in the Biodiversity areas planning scheme policy .	horizontally to incorporate planting areas.			
	A02.2 Development of a retaining wall over 1m in height protects significant vegetation on the site and on adjoining land and is designed and constructed in accordance with the structures standards in the Infrastructure design planning scheme policy and certified by a Registered Professional Engineer Queensland .	N/A	No earthworks are proposed for the development.	
	A02.3 Development provides a retaining wall finish that presents to adjoining land that is maintenance free if the setback is less than 750mm from the boundary.	N/A	No earthworks are proposed for the development.	
	A02.4 Development for filling only uses clean fill that does not include any construction rubble or debris.	N/A	No earthworks are proposed, therefore not applicable.	
PO3	A03 Development ensures that a rock anchor:	N/A	No such works are proposed.	

*Brisbane City Plan 2014
Filling and Excavation Code*

*Performance Criteria and
Acceptable Solutions Table*

<i>Performance Criteria</i>	<i>Acceptable Solution</i>	<i>Solutions*</i>	<i>Comments</i>	<i>Council Use</i>
Development ensures that a rock anchor is designed and constructed to be fit for purpose.	(a) is constructed in accordance with the standards in the Infrastructure design planning scheme policy ; (b) where it extends beyond the property boundary, is supported by a letter of consent from the adjoining land and building owners.			
PO4 Development protects all services and public utilities.	AO4 Development protects services and public utilities and ensures that any alteration or relocation of services or public utilities meets the standard design specifications of the responsible service authorities.	A	Any alteration of existing services within the property will be completed by appropriately qualified personnel. Public utilities in the road reserve will be protected during construction.	
PO5 Development provides surface and sub-surface drainage to prevent water seepage, concentration of run-off or ponding of stormwater on adjacent land.	AO5 Development ensures all flows and subsoil drainage are directed to a lawful point of discharge of a surface water diversion drain, including to the top or toe of a retaining wall in accordance with the stormwater drainage section of the Infrastructure design planning scheme policy .	N/A	No retaining walls are required for the development.	
PO6	AO6	N/A	No such works are proposed.	

Project: 35 Kuring-Gai Avenue, Tarragindi

Solution Legend: A – Acceptable Solution; A/S – Alternate Solution; N/A – Not applicable

*Brisbane City Plan 2014
Filling and Excavation Code*

*Performance Criteria and
Acceptable Solutions Table*

<i>Performance Criteria</i>	<i>Acceptable Solution</i>	<i>Solutions*</i>	<i>Comments</i>	<i>Council Use</i>
Development ensures that the design and construction of all open drainage works is undertaken in accordance with natural channel design principles, being the development of a stormwater conveyance system for major flows, by using a vegetated open channel or drain that approximates the features and functions of a natural waterway to enhance or improve riparian values of those stormwater conveyance systems. Editor's note—Guidance on natural channel design principles can be found in the Council's publication Natural channel design guidelines.	Filling or excavation does not involve the construction of open drainage.			
P07 Development for filling or excavation: (a) does not degrade water quality or adversely affect environmental values in receiving waters;	A07.1 Development for filling or excavation provides water quality treatment that complies with the stormwater drainage section of the Infrastructure design planning scheme policy.	N/A	Due to the size and nature of the development, no such works are proposed.	

*Brisbane City Plan 2014
Filling and Excavation Code*

*Performance Criteria and
Acceptable Solutions Table*

<i>Performance Criteria</i>	<i>Acceptable Solution</i>	<i>Solutions*</i>	<i>Comments</i>	<i>Council Use</i>
(b) ensures site sediment and erosion control standards are best practice.	A07.2 Development provides erosion and sediment control standards that are in accordance with the stormwater drainage section of the Infrastructure design planning scheme policy .	A	An erosion and sediment control strategy will be developed during detailed design, for implementation during construction if required.	
PO8 Development for filling or excavation is conducted such that adverse impacts at a sensitive use due to noise and dust are prevented or minimised. Note—A noise and dust impact management plan prepared in accordance with the Management plans planning scheme policy can assist in demonstrating achievement of this performance outcome.	A08.1 Development ensures that no dust emissions extend beyond the boundary of the site, including dust from construction vehicles entering and leaving the site.	A	Erosion and sediment control best practices will be undertaken to limit dust emissions.	
	A08.2 Development for filling or excavation activity only occurs between the hours of 6:30am and 6:30pm Monday to Saturday, excluding public holidays.	N/A	No such works are proposed.	
PO9 Development ensures that vibration generated by the filling or excavation operation does not exceed the vibration	A09 Development involving filling or excavation does not cause a ground-borne vibration beyond the boundary of the site.	N/A	Due to the size and nature of the development, no such works are proposed.	

Project: 35 Kuring-Gai Avenue, Tarragindi

Solution Legend: A – Acceptable Solution; A/S – Alternate Solution; N/A – Not applicable

*Brisbane City Plan 2014
Filling and Excavation Code*

*Performance Criteria and
Acceptable Solutions Table*

<i>Performance Criteria</i>	<i>Acceptable Solution</i>	<i>Solutions*</i>	<i>Comments</i>	<i>Council Use</i>
criteria in Table 9.4.3.3.B, Table 9.4.3.3.C, Table 9.4.3.3.D and Table 9.4.3.3.E. Note—A noise management report prepared in accordance with the Noise impact assessment planning scheme policy can assist in demonstrating achievement of this performance outcome.				
PO10 Development ensures that heavy trucks hauling material to and from the site do not affect the amenity of established areas and limits environmental nuisance impact on adjacent land.	AO10 Development ensures that heavy trucks hauling material to and from the site: (a) occur for a maximum of 3 weeks; (b) use a major road to access the site; (c) only use a minor road for the shortest-most-direct route that has the least amount of environmental nuisance if there is no major road alternative.	A	Where heavy vehicles attend site, the contractor's management plan is to address these requirements.	
PO11 Development for filling or excavation protects the environment and community health and wellbeing from	AO11 Development does not involve: (a) excavation on land previously occupied by a notifiable activity or on land listed on the Environmental	A	There is no evidence of previous notifiable activity having occurred on site as the site is residential in nature.	

Project: 35 Kuring-Gai Avenue, Tarragindi

Solution Legend: A – Acceptable Solution; A/S – Alternate Solution; N/A – Not applicable

*Brisbane City Plan 2014
Filling and Excavation Code*

*Performance Criteria and
Acceptable Solutions Table*

<i>Performance Criteria</i>	<i>Acceptable Solution</i>	<i>Solutions*</i>	<i>Comments</i>	<i>Council Use</i>
exposure to contaminated land and contaminated material.	Management Register or the Contaminated Land Register ; (b) filling with material containing a contaminant.			
PO12 Development provides for: (a) landscaping for water conservation purposes; (b) water sensitive urban design measures which are employed within the landscape design to maximise stormwater use and to reduce any adverse impacts on the landscape; (c) stormwater harvesting to be maximised and any adverse impacts of stormwater minimised.	AO12.1 Development provides landscaping which is designed using the standards in the Landscape design guidelines for water conservation planning scheme policy .	N/A	Due to the size and nature of the development, no such works are proposed.	
	AO12.2 Development ensures that the design and requirements for irrigation are in compliance with the standards in the Landscape design guidelines for water conservation planning scheme policy .	N/A	Due to the size and nature of the development, no such works are proposed.	
	AO12.3 Development provides areas of pavement, turf and mulched garden beds which are drained. Note—This may be achieved through the provision and/or treatment of swales,	N/A	Due to the size and nature of the development, no such works are proposed.	

*Brisbane City Plan 2014
Filling and Excavation Code*

*Performance Criteria and
Acceptable Solutions Table*

<i>Performance Criteria</i>	<i>Acceptable Solution</i>	<i>Solutions*</i>	<i>Comments</i>	<i>Council Use</i>
	spoon drains, field gullies, sub-surface drainage and stormwater connections.			
PO13 Development ensures cutting and filling for the development of canals or artificial waterways avoids adverse impacts on coastal resources and processes.	AO13 Development does not involve the creation of canals or artificial waterways.	N/A	No such works are proposed.	

APPENDIX F – Erosion Hazard Assessment



Erosion Hazard Assessment - June 2014

Brisbane City Council (BCC), *Erosion Hazard Assessment* form must be read in conjunction with the *Erosion Hazard Assessment- Supporting Technical Notes* (June 2014 or later version) for explanatory terms and Certification information.

What is an Erosion Hazard Assessment?

Soil erosion and sediment from urban development, particularly during construction activities, is a significant source of sediment pollution in Brisbane's waterways. The Erosion Hazard Assessment determines whether the risk of soil erosion and sediment pollution to the environment is 'low', 'medium' or 'high'.

When is the EHA required?

An *Erosion Hazard Assessment* form must be completed and lodged with BCC for any Development Application (ie MCU or ROL) that will result in soil disturbance OR Operational Works or Compliance Assessment Application for 'Filling' or Excavation.

Failure to submit this form during lodgement of an application may result in assessment delays or refusal of the application.

Privacy Statement

The personal information collected on this form will be used by Brisbane City Council for the purposes of fulfilling your request and undertaking associated Council functions and services. Your personal information will not be disclosed to any third party without your consent, unless this is required or permitted by law.

Assessment Details

1 Please turn over and complete the erosion hazard assessment.

2 Based on the erosion hazard assessment overleaf, is the site:

☐ A 'low' risk site

Best practice erosion and sediment control (ESC) must be implemented but no erosion and sediment control plans need to be submitted with the development application. Factsheets outlining best practice ESC can be found at <http://www.waterbydesign.com.au/factsheets>

☒ A 'medium' risk site

If the development is approved, the applicant will need to engage a Registered Professional Engineer (RPEQ) or Certified Professional in Erosion and Sediment Control (CPESC) to prepare an ESC Program and Plan and supporting documentation — in accordance with the requirements of the Infrastructure Design Planning Scheme Policy.

☐ A 'high' risk site

If the development is approved, the applicant will need to engage a RPEQ and CPESC to prepare an ESC Program and Plan and supporting documentation — in accordance with the requirements of the Infrastructure Design Planning Scheme Policy. The plans and program will need to be certified by a CPESC.

3 Site Information and Certification

Application number (if known)

Site address

35 KURING-GAI AVENUE, TARRAGINDI

Postcode 4121

I certify that:

- ☒ I have made all relevant enquiries and am satisfied no matters of significance have been withheld from the assessment manager.
- ☒ I am a person with suitable qualifications and/or experience in erosion and sediment control.
- ☒ The Erosion Hazard Assessment was completed in accordance with the Erosion Hazard Assessment Supporting Technical Notes and the BCC Infrastructure Design Planning Scheme Policy.
- ☒ The Erosion Hazard Assessment accurately reflects the site's overall risk of soil erosion and sediment pollution to the environment.
- ☒ I acknowledge and accept that the BCC, as assessment manager, relies, in good faith, on this certification as part of its development assessment process and the provision of false or misleading information to the BCC constitutes an offence for which BCC may take punitive steps/ action against me/ enforcement action against me.

Certified by *Print name*

Roger Andrade

Certifier's signature

R. RPEQ 7675

CIVILWORKS
ENGINEERS

Property Development Solutions

P (07) 3195 8180

E info@civilworks.com.au

W www.civilworks.com.au

Date

16 / 4 / 2026

Table 1: Low Risk Test

		Yes	No
1.1	is the area of land disturbance > 1000 m ²	☐	☒
1.2	does any land disturbance occur in a BCC mapped waterway corridor	☐	☒
1.3	is there any slope on site (longer than three metres in length) before, during or after construction that is steeper than 5%	☒	☐
1.4	does any land disturbance occur below 5 m AHD	☐	☒
1.5	does development involve endorsement of a staging plan	☐	☒
1.6	is there an upstream catchment passing through the site > 1 hectare	☐	☒

Have you answered 'yes' to any of the questions in Table 1?

Yes	No
☒	☐

If 'No' then site is low risk with respect to erosion and sediment control

If 'Yes' then proceed to Table 2

Table 2: Medium Risk Test

		Yes	No
2.1	is the area of land disturbance > 1 hectare	☐	☒

If 'No' then site is medium risk with respect to erosion and sediment control

If 'Yes' then proceed to Table 3

Table 3: High Risk Test

3.1	is there an upstream catchment passing through the site > 1 hectare	☐	☐
3.2	does any land disturbance occurs in a BCC mapped waterway corridor	☐	☐
3.3	is there any slope on site (longer than three metres in length) before, during or after construction that is steeper than 15%	☐	☐

Have you answered 'yes' to any of the questions in Table 3?

Yes	No
☐	☐

If 'No' then site is medium risk with respect to erosion and sediment control

If 'Yes' then site is high risk with respect to erosion and sediment control

APPENDIX G – Dial Before You Dig

[Review responses online](#) ↗



Received 5 of 5 responses
All responses received

35 Kuring Gai Avenue, Tarragindi QLD 4121

Job dates
16/04/2026 → 16/04/2026

These plans expire on
12 May 2026

Lodged by
Mr CivilWorks Construction

Authority	Status	Page
✉ BYDA Confirmation		2
🏠 APA Group Gas Networks (90073)	Received	4
🏠 Brisbane City Council	Received	56
🏠 NBN Co Qld	Received	60
🏠 Queensland Urban Utilities	Received	71
🏠 Telstra QLD South East	Received	78

Contact Details

Contact	Contact number	Company	Enquirer ID
Mr CivilWorks Construction	(07) 3195 8180	-	3009067
Email	Address		
civilworksconstructions@gmail.com	Shop 3 270 Orange Grove Road Salisbury QLD 4107		

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
15/04/2026	16/04/2026	16/04/2026	Private	Excavation	Private	Manual Excavation, Mechanical 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
cw25193	35 Kuring Gai Avenue Tarragindi QLD 4121	-

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
271290678	APA Group Gas Networks (90073)	1800 085 628	NOTIFIED
271290677	Brisbane City Council	(07) 3403 8888	NOTIFIED
271290676	NBN Co Qld	1800 687 626	NOTIFIED
271290679	Queensland Urban Utilities	13 26 57	NOTIFIED
271290680	Telstra QLD South East	1800 653 935	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.



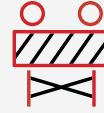
Prepare

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

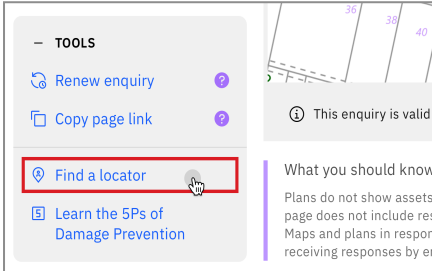
Protecting and supporting the exposed infrastructure is the responsibility of the excavator. Always erect safety barriers in areas of risk and enforce exclusion zones.



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 iseeplant'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 iseeplant to find trusted contractors near you today, visit:
blog.iseekplant.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

APA Group Gas Networks (90073)

Referral
271290678

Member Phone
1800 085 628

Responses from this member

Response received Wed 15 Apr 2026 8.32am

File name	Page
Response Body	5
271290678.pdf	6
400-STD-AM-0001_2 Guidelines for Works Near Existing Gas Assets.pdf	15

PLEASE NOTE: This is an automated response. Please **DO NOT REPLY to this email**. If you require further information in relation to this Before You Dig response, please contact

BYDA_APA@apa.com.au

Enquiry Details:

Impact	affected
Sequence Number	271290678
Enquirer Id	3009067
Activity	Manual Excavation,Mechanical Excavation
Job Number	52884729
User Reference	cw25193
Message	

Site Details:

Address	35 Kuring Gai Avenue Tarragindi QLD 4121
---------	--

Enquirers Details:

Contact	Mr CivilWorks Construction
Company	
Email	civilworksconstructions@gmail.com
Phone	+61731958180
Address	Shop 3 270 Orange Grove Road Salisbury QLD 4107

APA Group

APA

Australia's energy
infrastructure partner



Before You Dig Australia

Classification: Networks

Enquiry date	15/04/2026
Sequence number	271290678
Work site address	35 Kuring Gai Avenue Tarragindi QLD 4121





For your immediate information

THERE IS A GAS PIPELINE OR GAS ASSETS

located in close vicinity to your works.

Enquiry Date: 15/04/2026
Enquirer: Mr CivilWorks Construction
Sequence Number: 271290678
Work Site Address: 35 Kuring Gai Avenue
Tarragindi
QLD 4121

Thank you for your Before You Dig enquiry regarding the location of gas assets.

We confirm there are Gas Assets located in close vicinity of the above location.

Caution: Damage to gas assets may result in explosion, fire and personal injury.

Please ensure you read all the relevant information contained in this response to your BYDA enquiry including reviewing the **APA Guidelines for Works Near Existing Gas Assets** and clearly understand and comply with all requirements relating to your scope of work.

If you have any queries relating to this information, or you are unable to comply with requirements of the APA Guidelines for Works Near Existing Gas Assets contact the APA Before You Dig Officer

- Phone 1800 085 628
- Email BYDA_APA@apa.com.au

for clarification before proceeding with any work.

Before You Dig Checklist



1. Plan

- Review maps provided with this BYDA response and confirm the location of your work site is correct.
 - Review the **APA Guidelines for Works Near Existing Gas Assets** and clearly understand requirements relating to my scope of work.
-



2. Prepare

- Electronically locate gas assets and mark locations.
 - Note: Look for visible evidence of gas assets at the worksite which may not be shown on plans.
-



3. Pothole

- Physically confirm ('prove') the location of gas assets by potholing by hand excavation or non- destructive vacuum excavation methods in accordance with **APA Guidelines for Works Near Existing Gas Assets**.
 - Road authorities, councils, utilities and their authorised contractors and agents are responsible to pothole or use other suitable methods to verify the location and depth of all gas assets, including gas (inlet) services, prior to commencing any works.
-



4. Protect

- Protect gas assets by maintaining clearances whilst excavating and following conditions provided by APA.
 - Where required by APA, only conducting work in proximity to gas assets while Site Watch is on site.
 - Where applicable, APA Authority To Work permit conditions are clearly understood and complied with.
 - Strap and support exposed mains and inlet services. Cover exposed mains to prevent damage until the excavation can be permanently restored.
-



5. Proceed

- Only proceed with your work once you have completed all the planning, preparation, potholing and protection requirements.
 - APA BYDA response (including maps) are on site for reference at all times, and less than 30 days old.
-

Contacts

Contacts APA Group	
Enquiry	Contact Numbers
General enquiries or feedback regarding this information or gas assets.	APA – Before You Dig Officer Phone: 1800 085 628 Email: BYDA_APA@apa.com.au
Gas Emergencies	Phone: 1800 GAS LEAK (1800 427 532)

Site Watch

Site Watch is where an APA field officer attends your work site to monitor and ensure controls are in place to protect critical gas assets from damage during work.

The following rates* apply for this service (1 hour minimum charge):

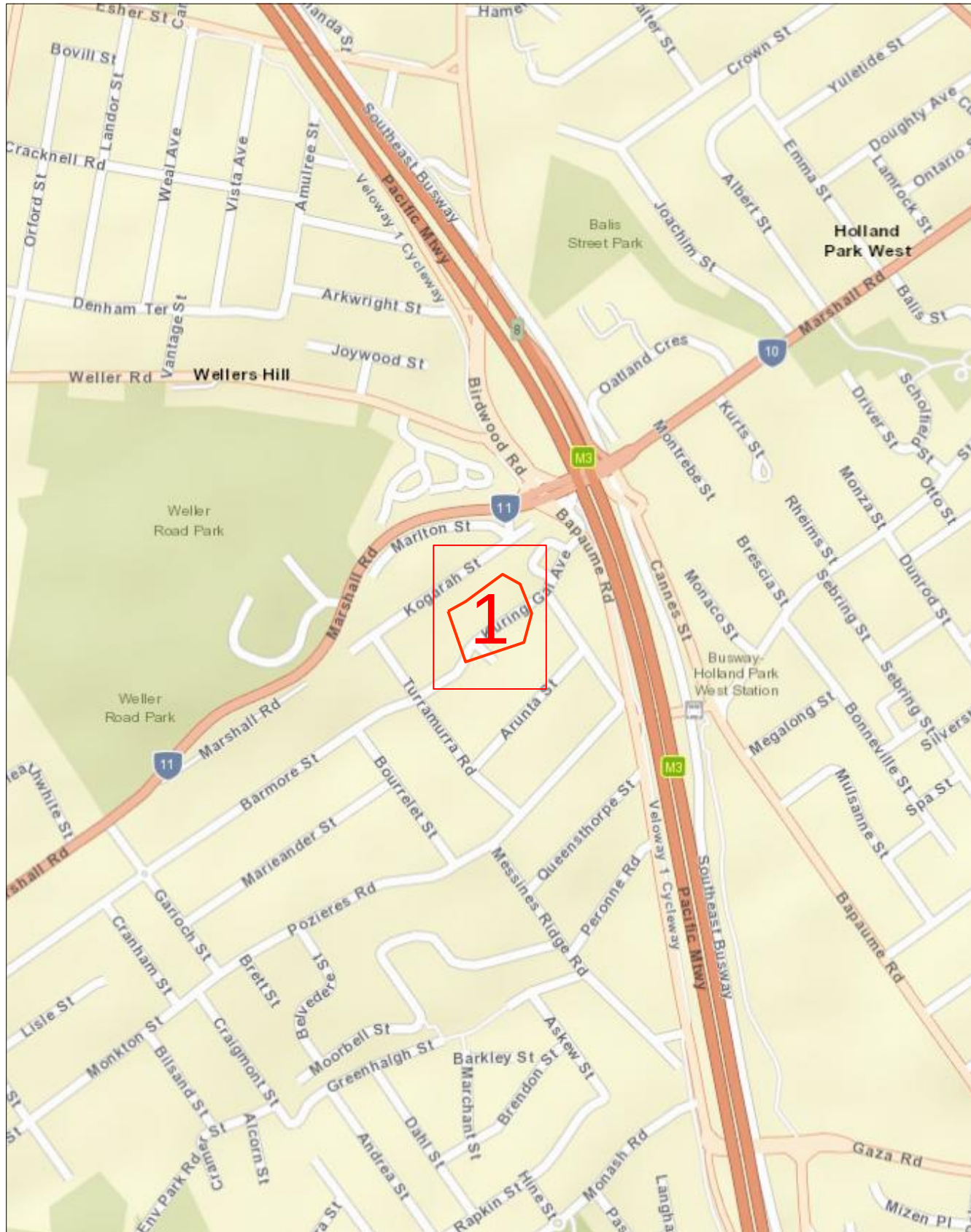
Item	Rate (excl. gst)
Site Watch – Business Hours	\$143.42 per hour
Site Watch – After Hours	\$175.06 per hour
Cancellation Fee	\$286.84
<i>Fee applies where cancelations received after 12pm (midday), 1 business day prior to the booking.</i>	

Contact APA – Before You Dig officer for state specific hours of business.

**The specified rates do not apply to Origin Energy LPG assets. All charges and invoicing related to these assets will be administered directly by Origin Energy. For further information contact Origin Energy.*

Site 35 Kuring Gai Avenue
Address: Tarragindi
QLD 4121

Sequence 271290678
Number:



Scale 1: 6000

Map Sources: Esri, Garmin, HERE, FAO, NOAA, USGS,
© OpenStreetMap contributors, and the GIS User Community



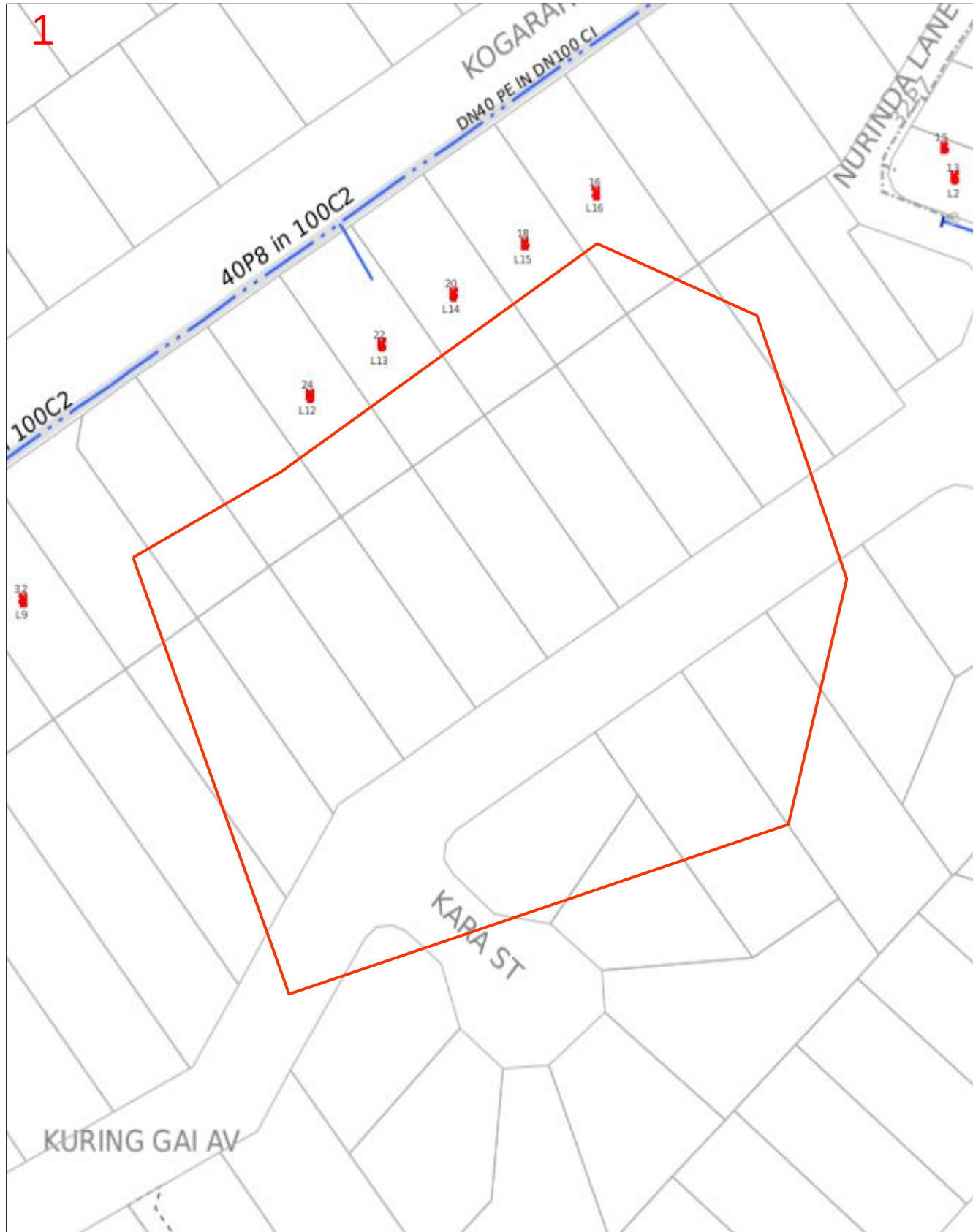
Enquiry Area

Map Key Area



Site 35 Kuring Gai Avenue
Address: Tarragindi
QLD 4121

Sequence 271290678
Number:



Scale 1: 700

Map Sources: Esri, Garmin, HERE, FAO, NOAA, USGS,
© OpenStreetMap contributors, and the GIS User Community



Enquiry Area

Map Key Area



Legend

PIPE LEGEND: GAS TYPE AND PRESSURE

	Low pressure	Medium pressure	High pressure	Transmission
Natural gas				
Natural gas – proposed				
LPG (yellow dash)	not applicable			not applicable
Hydrogen blended (aqua dash)	not applicable			not applicable

PIPE LEGEND: SPECIAL DESIGNATION

	Low pressure	Medium pressure	High pressure	Transmission
Critical main (yellow highlight)				
Casing (grey highlight)				not applicable

These designations typically apply to any pipe type and pressure

PIPE LEGEND: OTHER STATUS

Abandoned pipe	
Idle or inactive pipe	

ABBREVIATION

BoK	Back of kerb	FoK	Front of kerb
C	Depth of cover	NTI	Not tied in
CP	Cathodic protection		

OBJECT SYMBOLS

Valve		CP test station		Syphon	
Buried valve		CP anode		Marker	
Regulator station		CP bond wire		Part service ^A	
Gas connected property		CP rectifier terminal			

^AA live gas service terminated underground within the property boundary, available for future extension to the gas meter.

PIPE CODE AND MATERIAL

P*	Polyethylene (PE)	CU	Copper
P3	Polyvinyl chloride (PVC)	N2	Nylon
S*	Steel	W2	Wrought galv iron
C*	Cast iron	W3	PE coat wrought galv iron

INTERPRETATION EXAMPLE

	High pressure, 40 mm polyethylene in an 80 mm cast iron casing
	Medium pressure, 63 mm steel

Pipe diameter in millimetres is shown before pipe code.
40P6 = 40 mm nominal diameter

This map was created in colour and should be printed in colour

Important information

- Refer to requirements relating to construction, excavation and other work activities in the **APA Guidelines for Works Near Existing Gas Assets** document with this BYDA response.
- BYDA enquiries are valid for 30 days. If your works commence after 30 days from the date of this response a new enquiry is required to validate location information.
- For some BYDA enquiries, you may receive two (2) responses from APA. Please read both responses carefully as they relate to different assets.
- Gas (inlet) services connecting Gas Assets in the street to the gas meter on the property are not marked on the map. South Australia Only – if a meter box is installed on the property, a sketch of the gas service location may be found inside the gas meter box. APA does not guarantee the accuracy or completeness of these sketches.

Free Gas Pipeline Awareness Training and Information

PROFESSIONALS

APA offers online and in-person toolbox forums to support safe work near underground gas assets. Topics include distribution and transmission pipelines, the permit process, and gas emergencies, with content suited for companies of all sizes. A Continuing Professional Development certificate is available upon completion.

Scan the QR code to register for an online toolbox, or email damageprevention@apa.com.au to request an in-person presentation.

HOMEOWNERS

If you're working near your home's gas pipes stay safe and view APA's video guide '**Working Safely Near Gas Lines: A DIY Homeowner's Guide**' which offers simple tips to avoid damaging gas pipes.

Scan the QR code to view the video, or for more information email damageprevention@apa.com.au



Disclaimer and legal details

- This information is valid for 30 days from the date of this response.
- This information has been generated by an automated system based on the area highlighted in your BYDA request and has not been independently verified.
- Map location information is provided as AS5488-2022 Quality Level D, as such supplied location information is indicative only.
- Whilst APA has taken reasonable steps to ensure that the information supplied is accurate, the information is provided strictly on the condition that no assurance, representation, warranty or guarantee (express or implied) is given by APA in relation to the information (including without limitation quality, accuracy, reliability, completeness, currency, sustainability, or suitability for any particular purpose) except that the information has been disclosed in good faith.
- Any party who undertakes activities in the vicinity of APA operated assets has a legal duty of care that must be observed. This legal obligation requires all parties to adhere to a standard of reasonable care while performing any acts that could foreseeably harm these assets.





Guidelines for Works Near Existing Gas Assets

400-STD-AM-0001

Revision 2

OWNER NAME:	Alan Creffield
OWNER TITLE:	Manager of Integrity
APPROVER NAME:	Anastasia Coutie
APPROVER TITLE:	Team Lead – 3 rd Party Engagement
APPROVAL SIGNATURE:	
APPROVAL DATE:	18/08/2023

always powering ahead

DOCUMENT CONTROL & APPROVAL INFORMATION

Summary of Changes

Below is a brief summary of the changes made to the document since the previous issued version.

Revision	Description	Date	Author
0.0	Issue for Use	29.06.2018	Matthew Read
1.0	Issued for Use – document periodic update / major overhaul	01.03.2022	Kahil Parsons
2.0	Removal of incorrect table 2 references to 1. proximity of HV cables 2. Updating separation distances to AS2885.3 BYDA reference update Table 4 Note	16.08.2023	Dale Russell

Printed Working Copy

All printed copies of this document are to be used as reference copies only.

It is the responsibility of those with printed copies to ensure that the document is current.

Responsibility

Any amendments to this document will be the responsibility of the document owner.

Control

Controlled Networks documents including templates are published on the Networks National Document Library (NNDL).

All native copies of published controlled Networks documents are managed by NetworksDocLibrary@apa.com.au in accordance with 400-PR-QM-0001, Networks Controlled Documents Development and Review procedure.

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TERMS OF USE

The “Guidelines for Works Near Existing Gas Assets Standard” is used for APA Networks excavations or third party excavations near APA Network operated assets. This guideline must only be used by the person or entity who received it directly from APA (“You”) to ensure the latest version is used.

APA Networks has provided this document to You subject to the terms of use set out below. By retaining possession of this document, You acknowledge and agree to the following conditions;

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2. This Guidelines document is provided to You to assist in the development of design plans, construction and land use activities.
3. This Guidelines document does not override or supersede APA's Permit to Work (**PTW**) or Excavation policies and procedures.
4. Any proposed works in the vicinity of APA Networks operated assets may also require approval from other utility providers or government agencies. APA Networks has no responsibility for, and makes no representation in relation to, any requirements that may be necessary to obtain such approvals.
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The purpose of this document is to provide guidelines for third parties planning to install new infrastructure or conduct works near existing APA Networks (**APA**) operated assets.

It is intended that this document will be provided to third parties proposing works around existing gas assets for their use during the design and planning phase following initial planning BYDA enquiries. This document does not provide authorisation to undertake the works but provides APA requirements to ensure that any review and acceptance of proposed works is completed as quickly as possible.

1 INTRODUCTION

1.1 Scope of this Document

This document addresses APA's requirements for considering how a third party's proposed works and APA managed works may impact APA Networks operated assets under the following parts:

Part 1 – APA Notification and Authorisation Requirements

Part 2 – Design and Asset Protection Requirements

Part 3 – Construction and Land Use Requirements

Part 4 – Alteration of Existing Gas Assets

APA Networks acts as the asset operator on behalf of entities Australian Gas Networks (**AGN**), Allgas, APA, Origin and Queensland Nitrates (**QNP**) and operates in New South Wales, Northern Territory, Queensland, South Australia and Victoria. The criteria provided in this document only applies to the assets managed by APA Networks on behalf of these companies.

APA also owns and operates natural gas transmission infrastructure on all mainland states and territories of Australia. These assets are operated by a separate APA entity and are out of scope for this document.

A glossary of all terms and abbreviations used in this document is contained in **Section 7**.

A list of all relevant external standards and APA reference documents is contained in **Section 8**.

1.2 Asset Types

APA Networks' operated gas assets include buried pipe, above and below ground stations (e.g. pressure regulation, valves, meters), electrical cables, cathodic protection systems (e.g. test points, anode beds), pits and electrical cabinets. Depending on the gas type and the operating pressure, gas assets are classified as natural gas transmission, natural gas distribution and Liquefied Petroleum Gas (**LPG**) distribution as shown in **Figure 1**.

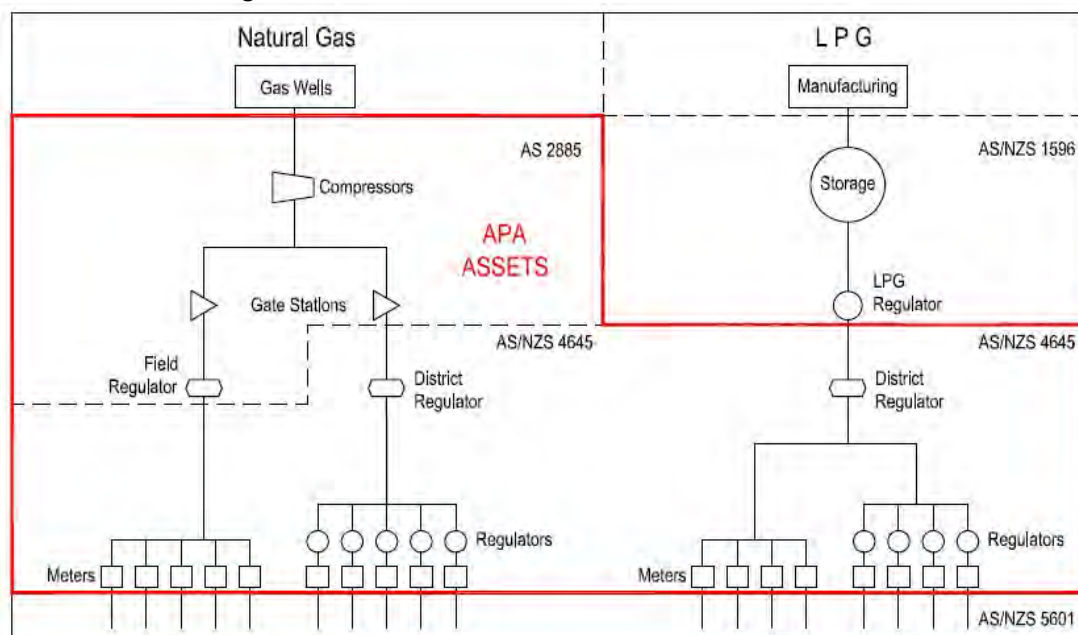


Figure 1 Asset Types and Standards Operated by APA Networks

1.2.1 Natural Gas Transmission

Natural gas transmission pressure assets operate at pressures above 1,050 kPag, and are generally used for transporting large quantities of gas across country. Design, construction and operation of these assets is governed by the AS 2885 suite of Australian Standards (**AS**).

Due to the higher pressure and energy density, there are severe safety, supply and environmental consequences which can result from third party interference. Hence, more stringent requirements and controls are applied to third party works in the vicinity of these assets.

Buried transmission pipelines are constructed from coated steel pipe where the appearance can vary depending on the year of construction, but will generally appear as yellow, black or grey when physically exposed.

1.2.2 Natural Gas Distribution

Natural gas distribution pressure assets operate at pressures below or equal to 1,050 kPag from offtakes of transmission pressure assets, and are generally used to supply consumers such as businesses and homes. Design, construction and operation of these assets is governed by the AS/NZS 4645 suite of Australian Standards.

Due to the lower energy density compared to transmission assets, less stringent requirements and controls are applied to distribution assets. Some distribution assets are deemed critical by APA Networks due to the safety and supply implications that may arise due to a third party strike. These critical distribution assets will be defined on BYDA responses, and some of the controls which are applied to transmission pressure assets (e.g. permit and site watch) will be required.

Buried distribution pressure pipes may be constructed from the following materials and physical appearances when exposed:

- Cast Iron (black);
- Polyethylene (PE) (yellow or black with yellow stripes);
- Steel coated or uncoated (generally yellow, black or grey); and
- Other plastic such as Polyvinyl Chloride (PVC) or nylon (yellow).

Some legacy materials such as cast iron and nylon may require additional protection during construction works due to the unpredictable nature of the materials.

1.2.3 LPG Distribution

LPG distribution pressure assets operate at pressures below 140 kPag from storage compounds and are generally used to supply consumers such as businesses and homes in parts of Queensland, South Australia and Northern Territory. Design, construction and operation of these assets is governed by the AS/NZS 4645 suite of Australian Standards.

Additional safety considerations are required in addition to the requirements for natural gas, as LPG is heavier than air and will pool at the leak point and can accumulate in a trench or excavation.

The same materials used for buried distribution pressure pipes (**Section 1.2.2**) may be used on LPG distribution networks.

1.3 Damage and Emergencies

If you smell gas or damage has occurred, or is suspected, on any gas asset call APA emergency number **1800 GAS LEAK (1800 427 532) or 1800 808 526 for LPG assets.**

Any unreported damage has the potential to escalate and endanger public safety.

Where damage has resulted in a release of gas, you are advised to take the following immediate action:

- Clear the area of all people. Do not under any circumstance re-enter the damage area;
- Where safe to do so, shut off or remove all ignition sources and devices in the area e.g. naked flames, vehicle engines, power tools, mobile phones;
- Do not attempt to stop the flow or repair the damage;
- Allow the gas to vent to air; and
- Once clear of the area, contact the emergency number **1800 427 532 or 1800 808 526 for LPG assets.**

The conditions in this document or as provided by APA Networks are intended to protect the gas assets as well as keep safe any construction crews or general public in the vicinity. Depending on the circumstances, some variation to the conditions in this document may be required or may be provided by an approved APA Networks site watch representative. It is legislated in all jurisdictions that the direction provided by APA is followed.

1.4 General Duty of Care and Responsibility to Obtain Information

Anybody working near a gas asset, or responsible for such work, has a duty of care to exercise caution, to maintain a safe working environment and to meet requirements of all relevant laws and Occupational Health and Safety legislation.

For general enquiries about results from BYDA please contact:

- DBYDNetworksAPA@apa.com.au for Northern Territory, South Australia, Southern New South Wales and Victoria, and;
- PermitsQLD@apa.com.au for Queensland and Northern NSW (incl. Tamworth).

The third party shall make contact with APA through the BYDA process if any clarification is required to determine the approval processes for any proposed land use changes (within the Measurement Length), design works and construction activities within 3 m of a gas asset or within a pipeline easement.

Any works proposed by the third party will only be authorised if APA is satisfied that the works will not affect the integrity of the APA Networks operated assets.

Any person undertaking work near an APA Networks operated asset, or responsible for such work, must ensure that they familiarise themselves with APA requirements.

Working around any gas asset, especially transmission pressure pipelines, without appropriate planning and controls as specified by APA Networks can be extremely dangerous. Damage to a gas asset could result in:

- Possible explosion and fire with the risk of loss of equipment, property, personal injury, and death;
- Loss of gas supply to thousands of customers;
- Substantial repair and gas restoration liability costs to the authority or principal responsible; and,
- Prosecution under the relevant laws governing pipeline and gas safety.

Prior to the commencement of any works within the Protected Zone of transmission pressure or critical gas assets, the Contractor performing the work must receive an Authority to Work Permit (ATWP).

Any works within the Protected Zone of critical assets must comply with any conditions attached to an ATWP and depending upon the nature of the asset and works supported by an approved construction methodology.

Written authorisation in the form of the ATWP must be kept on site at all times, and the holder of the authorisation must comply with all the conditions of the ATWP. The performance of any works near critical APA Networks operated assets without a valid ATWP and full compliance with its conditions will constitute a safety incident and may also result in an infringement notice and associated penalties issued by the regulator of the APA Networks asset.

1.4.1 Additional Transmission Pressure Pipeline Requirements

Where the works proposed by the third party may result in a change in land use within the Measurement Length for a transmission pressure pipeline (as defined in AS/NZS 2885.6 for Pipelines – Gas and Liquid Petroleum), such works may also be subject to formal approval requirements through APA Networks and applicable local and state government planning processes. This may also require a Safety Management Study (**SMS**) Report to be completed and approved by APA Networks. The SMS Report is generated from an SMS workshop involving an SMS facilitator, the third party and APA Networks. APA Networks is the owner of the SMS Report and any resulting recommendations/ actions must be implemented to the satisfaction of APA prior to the commencement of any physical works.

Certain categories of development/ land use change are not appropriate to be located within the Measurement Length of transmission pressure pipelines. In certain circumstances, the otherwise unacceptable risks associated with such developments may be alleviated with the aid of installing protective slabbing over the asset or undertaking other protection and mitigation measures.

2 PROTECTION PROCESS

APA is committed to working cooperatively with third parties to ensure that existing gas assets will be appropriately protected from any proposed works.

The process to be followed for any proposed works is outlined in **Table 1**. This table cross references the relevant section of this document which provides any specific requirements for each gas asset classification. The steps in this table are to be followed in conjunction with the process outlined by BYDA¹, a flow chart is also provided in **APPENDIX A**.

Table 1 Protection Process Summary

Section	Step	Purpose
3	Notification and Authorisation	Identify and locate existing gas assets in the vicinity of any proposed works. Submit BYDA requests to obtain indicative plans of gas assets. Notify APA Networks and obtain approval to verify the exact position by physically proving the position of gas assets at the cost of the third party.
4	Design and Protection Requirements	Review APA Networks design and protection requirements for any proposed infrastructure near gas assets. If acceptable clearance is available in accordance with this section review impact of construction methodology on existing gas assets. If acceptable clearance is not available in accordance with this section and the proposed infrastructure cannot be modified, alteration or protection of the existing gas assets will be required at the cost of the third party.
5	Construction and Land Use Requirements	Review construction methodology for adverse impact to existing gas assets. Some additional protection measures may be required depending on the existing gas assets, the construction methodology and whether land use changes are required. If works meet the requirements of this document, submit work package to APA Networks for review and approval. If approval is given, then undertake works in accordance with APA Networks conditions/ permits. If approval is not given modify work package accordingly. If works do not meet the requirements of this document or APA Networks approval cannot be reached, alteration or protection of the existing gas assets will be required.
6	Alteration	Request alteration of existing gas infrastructure if there is insufficient clearance or construction methods will adversely impact existing gas assets. Alteration of existing gas assets are fully recoverable and may result in delays if not identified early.

2.1 Assessment Information

Throughout the protection process, APA Networks assessment may be required to determine if the proposed works/ installation has sufficient separation or if work can be undertaken with a suitable construction methodology. If APA Networks assessment is required, the following information must be provided to enable an efficient and comprehensive review.

- Due dates or a work program;
- The location / address and extent of proposed works;

¹ BYDA process is available at <https://www.1100.com.au/safety-information/digging-safely/>

- Scope / description of the work impacting APA assets;
- A work package containing detailed design or construction issue drawings with the location of APA assets and the extent of works marked and / or georeferenced. Sufficient details must be provided on the plans to verify locations against APA information, which is typically measured from property boundaries. Plan and cross sectional drawings are typically required, including any proving locations;
- The proposed construction methodology (if available); and
- For critical assets only, a completed permit request form. This form is automatically provided in response to a BYDA enquiry when it is required, with direction for this form included in the BYDA response (refer to **Section 5.2**).

If the information provided is incomplete, or irrelevant information is provided, it may result in a delay of the assessment process and provision of a response. Due to the varying nature of potential works, it is not possible to develop a comprehensive listing of information that will be required for each work type, but the above is provided as a general guideline for what will normally be required.

3 PART 1 - APA NOTIFICATION AND AUTHORISATION REQUIREMENTS

3.1 BYDA Request

The fastest method for obtaining APA Network gas asset locations is to lodge a BYDA request. A response can be expected from APA within two business days, and may include one of three responses as outlined in **APPENDIX A**, depending on the location of the works in relation to existing APA operated gas assets in the vicinity.

For some BYDA requests, APA Networks may provide different responses to different assets affected by the proposed works. In all instances it is the responsibility of the third party to review and follow the direction of all BYDA responses.

The information provided by APA Networks in response to a BYDA request, along with any other plans or subsequent information provided by APA, show only the indicative location of the asset at the time and are a guide only. In most instances it will be necessary to prove the location of all buried assets within the proposed work area.

The following items must be considered when using asset information provided by APA Networks:

- Gas service lines from buried distribution pressure supply mains to consumers may not be shown on plans. Service lines are usually laid at right angles from main to a meter position, except where road conduits are provided; and
- Plans become rapidly outdated and so should be used within 30 days and then destroyed. It is the responsibility of the third party to contact APA Networks to seek the updated or renewal of any information after this time.

APA shall not be liable or responsible for the accuracy of any information supplied.

3.2 Provings and Site Identification

Electronic location (e.g. ground penetrating radar, pipe locators) of gas assets is required to verify the onsite locations and any plans that have been provided.

Physical proving of existing gas assets is required at key locations to verify that the separation and protection criteria provided in this document have been achieved. The location and quantity of provings will depend on the scope of proposed work, but provings will at least be required at infrastructure crossing points or where changes to surface level condition are planned.

Additional verifications are required for works parallel and in close vicinity to existing gas assets. Physical provings at maximum 10 m intervals along straight sections of pipe, along with all bends, branch lines and customer service offtakes to verify asset locations.

Note: Live service offtakes which no longer supply consumers may protrude from the gas asset and are not traceable or identifiable from records.

Note: The maximum physical proving intervals for straight sections of pipe may be adjusted based upon the discretion of APA personnel for extenuating circumstances.

The following items must be considered when proving the location of an existing gas asset:

- Provings must be conducted safely and in accordance with the requirements of **Section 5.5.2**. If damage to a gas asset does occur it should be reported immediately to APA as described in **Section 1.3**.
- Permit and site watch by an APA Networks representative may be required for some proving activities in accordance with **Section 5.2**.

3.3 APA Notification and Authorisation Process

Prior to the third party undertaking any works/ activities or as part of the planning and design phase, the third party shall ensure a BYDA request is submitted. The automated response received from the BYDA system will be tailored based on the criticality of the assets.

For assets operated at distribution pressures and not considered critical mains, a Duty of Care Notice is provided with the BYDA response for the third party to consider. Site watch may be necessary under a duty of care notice where additional protection or other integrity concerns require it.

In the event that works are conducted within the Protected Zone of a transmission pipeline and/ or critical distribution main, these works will require a review approval received from APA prior to commencement of works. Works subject to this requirement are deemed to include, but not limited to, the following activities that fall under **Table 3**;

- Non Destructive Digging (**NDD**);
- Mechanical excavation including trenchless excavation i.e. drilling (boring, horizontal direction drilling (**HDD**), pipeline bursting and tunnelling) for installing infrastructure such as the following;
 - o Roadways, driveways, railways, pavements;
 - o Electrical equipment (cables, overhead transmission lines, telecommunication cable or power poles);
 - o Installation of culverts/ pipes (water, drainage, sewer or reticulation);
 - o Landscaping.

APA will not approve certain activities and structures in the transmission pipeline easement (if applicable), including the following;

- Permanent storage;
- Installation of billboard structures;
- Use and storage for explosives, flammables or corrosives;
- Blasting;
- Structures forming part of any house, house extensions, carports or entertainment areas;
- Dams and other manmade water features. Locations of dams off the pipeline easement/ protected zone must not create run off or drainage towards the pipeline easement;
- Chemically treated effluent coming in contact with the pipeline easement/ protected zone;
- Garbage, sand fill, refuse disposal;
- Airstrips.

The Third Party must submit an enquiry to APA at the earliest possible stage to allow sufficient time for assessment. Submissions should include the following information;

- Land description and map identifying location of the proposed works;
- Types of works to be carried out;
- Intended future use of the land (where relating to change in land use)
- Type and weight of machinery that will be used;
- Any plans or diagrams of the works;
- Timeframe for the works.

The sequence of obtaining APA approval is as follows;

- a) Submit enquiry for Initial Review – The Third Party submits the request prior to works commencing and APA Networks will complete an 'Initial Review'. The third party must not progress any works on site until they receive a response from APA Networks. The two possible outcomes of this stage are a 'No Impact' response or;
- b) Enquiry Escalated for Standard Assessment – The request will be forwarded to APA Networks Field or System Operations personnel for a more detailed appraisal, which may involve contacting the third party, site visits, locating of assets of site, and/or request for additional information. The third party must not progress any work on site until they receive a response from APA Networks. The two possible outcomes of this stage are a 'No Objection under standard conditions' response or;
- c) Enquiry Escalated for Engineering Assessment – The request has been forwarded to the Integrity Third Party Engagement team for additional appraisal and determination of specific conditions. The third party must not progress any works on site until they receive a response from APA Networks. The two possible outcomes of this stage are a 'No Objection under special conditions response' or;

- d) Enquiry Escalated for Alteration – The Integrity Third Party Engagement team triggers the alteration process for this enquiry. The third party will be contacted for additional information and must not progress any work on site until they receive a response from APA Networks.
- e) No Impact – The third party receives a 'No Impact' response and can proceed with the works under appropriate APA Networks requirements e.g. Duty of Care, Authority to Work Permit and/or Site Watch.
- f) No Objection Under Conditions – The third party will receive a No Objection under standard or special conditions response and can progress with the planning of the works under the conditions specified in the response and appropriate APA Networks requirements e.g. Duty of Care, Authority to Work Permit and/or Site Watch.

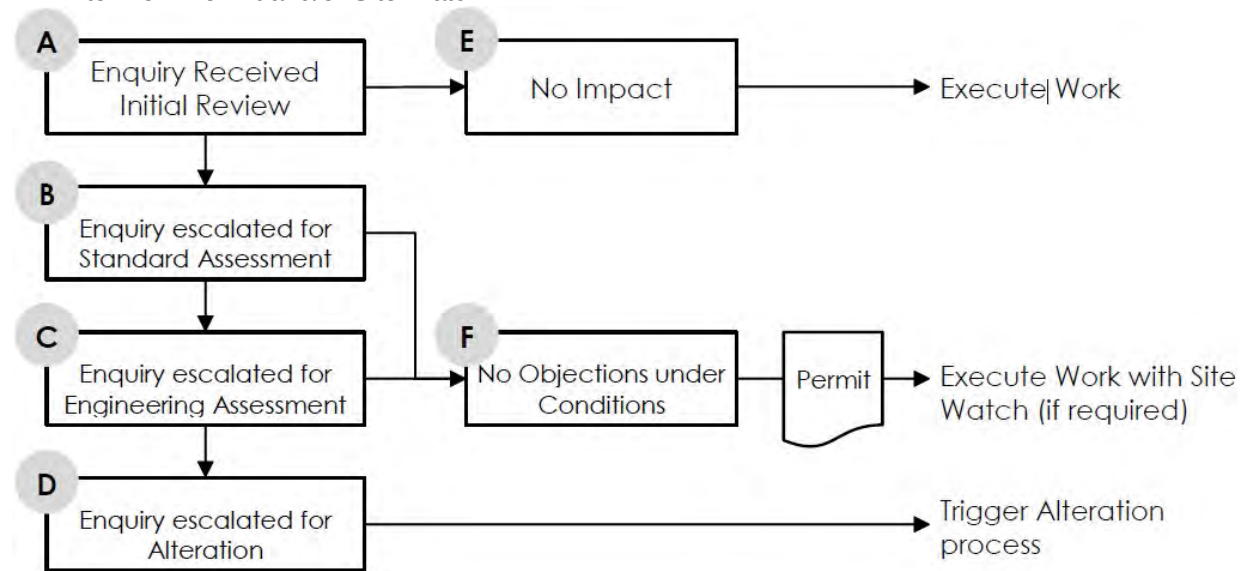


Figure 2 Stages for Third Party Works Authorisation Request

For works around APA Networks transmission pipelines or critical mains the documents take precedence in the following order;

- APA Authority to Work Permit (**ATWP**)
- APA accepted Third Party Construction Drawings
- APA accepted Third Party Construction Methodology
- APA Networks Guidelines for Works Near Existing Gas Assets (this document)
- APA accepted Third Party Safe Work Method Statement (**SWMS**) (if applicable)

3.4 Commercial Agreement and Service Delivery

APA will undertake a review of Third Party Works, as required. At APA's discretion cost recovery for these works may be required. Where APA Networks requires cost recovery a commercial service agreement in the form of a Works Agreement will be required.

Note: Any third party works requiring blasting, seismic and/or tunnelling work near APA Networks operated assets will not be considered "low risk" and cost recovery for detailed review maybe required.

3.5 Decommissioned Gas Assets

Decommissioned gas assets that remain in the ground are not always shown on BYDA plans.

Where unknown assets are identified or suspected on site but are not on APA plans, they must be treated as being live. In this instance, the third party must contact all utility owners and operators in the area of the BYDA and notify them of the findings.

Following review, if APA accepts that it is a decommissioned gas asset, the asset must be treated as per the requirements of this document. APA will take no further action where it is not considered to be a decommissioned gas asset.

In some cases, decommissioned gas assets are required for future use by APA (sometimes noted as “Idle” on APA plans). These assets must be treated as live using the same criteria outlined in this document, and must not be removed or altered without APA’s express written approval.

Where APA confirms there is no future use of a decommissioned gas asset (sometimes noted as “Abandoned” on APA plans), removal of the asset can be undertaken by the third party under the following conditions:

- For assets considered by APA to be decommissioned gas assets, APA must be engaged to verify that the asset is gas free;
- End caps must be permanently sealed, using an APA approved methodology, on any decommissioned sections that are to be left in place to prevent future water ingress into the remaining sections of the decommissioned gas asset;
- An as-built drawing must be submitted by the third party for any section(s) of a decommissioned gas asset removed by the third party or its sub-contractors to ensure BYDA can be updated accordingly; and
- Payment for costs associated with any verification or alteration activities must be provided prior to APA undertaking works.

4 PART 2 - DESIGN AND ASSET PROTECTION REQUIREMENTS

4.1 Standard Clearances

Minimum clearance dimensions outlined in this section must be met to allow for safe future maintainability and protection of existing gas assets. If separation clearances cannot be achieved, APA will review the proposed infrastructure on a case-by-case basis to determine whether a resolution can be achieved before alteration of any existing gas assets is considered. Authorisation of works by APA is still required, regardless of being able to achieve the required separation distances.

Clearances specified in **Table 2** are measured from the closest edges of the existing gas asset to the proposed infrastructure. Depending on the exact nature of proposed infrastructure, additional clearance may be required.

Note: Clearances specified herein are from gas assets, third party utilities may have their own standard separations that exceed APA's minimums specified in **Table 2**.

The future access zone required around a gas asset depends upon a number of factors such as size, operating pressure, depth and soil conditions, but typically this access zone is at least 1000 mm either side and 700 mm below the gas asset. As an aid for design and / or installation, the minimum clearances presented in **Table 2** are provided to allow for safe future access to gas assets. These minimum clearances assume that the asset have been proven and the location verified. There may be circumstances where additional clearances are required.

Table 2 Minimum Clearances

Clearance Type (Note 2, 9)	Minimum Transmission Pressure Asset Clearance	Minimum Distribution Pressure Asset Clearance
Any installation up to 0.6 metres wide which is crossing the gas asset	500 mm Vertical (Note 2)	300 mm Vertical (Note 2)
Any installation over 0.6 metres wide which is crossing the gas asset	500 mm Vertical	300 mm Vertical (Note 2)
Any installation laid by trenchless excavation e.g. HDD, boring, etc.	3000 mm Vertical	600 mm Vertical
	Refer to Section 5.6 for minimum horizontal separation distances	
Any installation laid parallel to a steel gas asset	600 mm Horizontal (Note 2, 3)	
Any installation laid parallel to any gas asset other than steel	N/A	300 mm Horizontal (Note 2, 3)
Trenching separation from edge of gas asset to edge of trench (Note 4)	500 mm Horizontal	300 mm Horizontal
Underground electrical cables laid parallel to any gas asset other than steel	N/A	300 mm Horizontal
Electrical conduits and cables (<11 kV) laid parallel to a steel gas asset	Engineering assessment required (Note 2, 3)	
Electrical conduits and cables (≥ 11 kV) laid parallel to a steel gas asset	(Note 2, 3) Engineering assessment required (Note 7)	

Electrical earthing systems near a steel gas asset	High Voltage: Engineering Assessment Required Low Voltage: 300 mm Horizontal (Note 7)	
Electrical earthing system near any gas asset other than steel	N/A	300 mm Horizontal
Clearance Type (Note 2, 9)	Minimum Transmission Pressure Asset Clearance	Minimum Distribution Pressure Asset Clearance
Undisturbed cover from the top of the gas asset to the underside of trenching or road pavement boxing	500 mm Vertical	300 mm Vertical (Note 1)
Distance from predominant building line	3000 mm Horizontal Where applicable outside pipeline easement	Refer to Section 4.2
Distance from Sensitive Use Locations (Refer Section 7 for Glossary of Terms and Abbreviations)	APA Engineering Assessment Required (Note 8)	N/A
Canopies longer than 15 m parallel to the edge of the gas asset	3000 mm Horizontal (Note 10)	Refer to Table 4 (Note 10)
Any installation that could add excessive loads to the gas asset or restrict access to the gas asset	3000 mm Horizontal (Note 2)	
Any installations that may need require underpinning were APA to expose the gas asset	3000 mm Horizontal	
Any temporary stake, e.g. star picket	300 mm Horizontal	
Electrical poles including street lighting and traffic signals	3000 mm Horizontal Where applicable outside pipeline easement	1000 mm (Note 3, 5, 6, 7)
Fence post, including road safety barriers	3000 mm Horizontal when installed per APA requirements	500 mm Horizontal when installed per APA requirements
Pile or pier	3000 mm Horizontal when installed per APA requirements	500 mm Horizontal when installed per APA requirements
Permanent Heavy Vehicle Loads (Greater than 4.5T)	Refer to Section 4.7 Temporary and Permanent Vehicle Loads	
Tree Root Barrier	3000 mm Horizontal	1000 mm Horizontal Refer to Section 4.3 Landscaping Plans
Separation distances for vegetation	Refer to Section 4.3 Landscaping Plans	

Note 1: For distribution main crossings, where the vertical separation distance is less than 300 mm physical protective slabbing, e.g. HDPE or concrete, shall be installed where the other utility is crossing beneath the APA pipeline/distribution main.

HDPE or concrete, shall be installed where the other utility is crossing above the APA pipeline/distribution main.

No protective slabbing is required for utility crossings greater than 500 mm separation.

Note 2: Structures and large utilities crossing APA Networks operated assets need to be self-supporting so that future repairs or maintenance of the asset can occur as per **Section 4.2 Third Party Assets and Structures**.

Note 3: Horizontal separation includes utility surface access pits, thrust blocks and/ or footings.

Note 4: Additional horizontal separation may be required depending on the extent of the planned works, local soil conditions and trench stability of the existing gas asset. This is particularly relevant where works occur within the angle of repose of the existing gas asset (e.g. parallel trenching that is deeper than the existing gas asset) and may result in undermining.

Note 5: In accordance with 'AS/NZS 4853 – Electrical hazards on metallic pipelines' without further information and APA engineering assessment, no electrical power poles for 66kV or above are permitted within the following separation distances of steel gas assets;

- If the power line has an Overhead Earth Wire (**OHEW**) – 15 m;
- If power line does not have an OHEW – 100 m;

Note 6: Where electrical poles (including street lighting and traffic signals) are proposed which place the gas asset within the no dig zone specified by the electrical authority either of the following shall occur;

- a) The poles shall be designed with deeper foundations to be self-supporting if the gas asset needs to be excavated. Or;
- b) For non-metallic assets relocated into a conduit that extends past the no dig zone.

Note 7: Clearance for electrical cables and earthing systems from steel gas assets must be reviewed in accordance with **Section 4.6 Earthing and Electrical Effects**. Electrical cables, substations and/or earthing systems installed in the vicinity of steel gas assets require an Earth Potential Risk (**EPR**) and Low Frequency Induction (**LFI**) assessment to AS/NZS 4853.

Note 8: Requires a setback distance to stay away from the Measurement Length (refer to **Table 14 Glossary of Terms and Abbreviations**). Alternatively, the setback distance may be reduced if protection slabbing is installed along the Sensitive Use Location where interaction with the Measurement Length occurs. This may also be limited to the development area subject to APA engineering assessment.

Note 9: Pipeline protection needs to be assessed and shown on the design plans with design clearances. This includes recoating, bridge slab or asset strike protection slab.

Note 10: Clearance may be dependent on demonstrating that there is sufficient continuous ventilation.

For construction and land use activities around gas assets the minimum horizontal clearances referenced in **Table 3** must be followed.

Table 3 Minimum Clearances for Construction Works and Land Use Activities

Construction and Land Use Activities	Minimum Horizontal Clearance	
	Transmission Pressure & Critical Distribution Mains	Non-Critical Distribution Pressure Mains
Excavation without APA representative present (Note 1)	3000 mm	N/A
Trenchless Excavation (Note 1)	3000 mm Refer to Section 5.6	1000 mm Refer to Section 5.6
Temporary Heavy Vehicle Traffic (greater than 4.5T)	If the load has not been assessed, maintain a Horizontal separation of 3000 mm. APA engineering assessment must be completed if crossing asset. Refer to Section 4.7 Temporary and Permanent Vehicle Crossings	Refer to Section 4.7 Temporary and Permanent Vehicle Crossings
Installation of Piles, Piers or Poles	Refer to Table 2 and Section 5.7	
Hot Works from Construction Activities	Any hot works within 5000 mm of an open trench containing gas asset or where cover is less than 300 mm. Refer to Section 5.8. (Note 2)	
Compaction	Section 5.10 for Compaction Limits Maximum Compaction Limits	
Vibration Limits	No vibration within 3000 mm of the pipeline and greater distance to comply with Section 5.9	
Blasting, Seismic Survey or the use of Explosives	Approval required for works within 100m. Refer to Section 5.11.	
Lifting over exposed gas asset	Not permitted over the gas asset. Refer to Section 5.12 for Suspended Materials above Gas Assets and No Go Zones for Cranes.	
Clearance of crane outriggers to gas assets	Not permitted within 3000 mm of gas asset. Refer to Section 5.12 for Suspended Materials above Gas Assets and No Go Zones for Cranes.	
Clearance of temporary material from pipeline	Not permitted within 3000 mm of gas assets. Refer to Section 5.13 for Temporary Materials.	

Note 1: Excavation covers NDD, mechanical excavation and trenchless excavation (boring, HDD, pipeline bursting and tunnelling).

Note 2: Horizontal separation distance also applies to any pits or valve covers.

4.2 Third Party Assets and Structures

Structures, including but not limited to buildings, walls, canopies, footings, pile caps or retaining walls, must not transfer any load to or be installed over any gas asset.

The design of any third party asset or structure must take into account future safe access of any gas assets in the vicinity. The proposed third party asset or structure must be installed in a way that prevents the angle of repose from encroaching into the future access zone as specified in **Section 4.1** around the existing gas asset.

Any third party asset or structure installed within proximity to a transmission pipeline or critical distribution pressure main must be designed to be self-supporting and allow for a minimum excavation window 1m on either side of the asset and 700 mm below the edge of the asset, for maintenance of the asset. This self-supporting design information is required to be shown on the construction drawings supported by geotechnical data and calculations. Construction of structures on pipeline easements are not permitted without explicit consent from APA.

Distribution pressure gas mains must be offset from the expected predominant building line at a distance in accordance with **Table 4**. Transmission pressure gas assets shall be per **Table 2**.

Table 4 Minimum Building Offset Distances for Distribution Pressure Gas Mains

Diameter (DN)	MAOP (kPag)			
	≤210	>210 ≤ 420	>420 ≤ 600	>600
≤110	0.5 m	0.5 m	1.0m	3 m
>110 ≤ 160	0.5 m	0.5 m	3 m	5 m
>160	0.5 m	3 m	3 m	8 m

Gas assets may be located underneath curbing or strip footings for road safety barriers for short sections up to 10 m to allow for tapers. The integrity of the gas asset to be located underneath the curbing or strip footing may require inspection, repair, recoating and / or slabbing depending on the existing condition and extent of proposed works.

Posts or poles which are located in road reserve, or otherwise exposed to vehicle impact, must be designed such that there will be no damage to the gas asset in the event of a vehicle impact.

For works in Victoria, consent from the relevant State Minister is required under Section 120 of the *Pipelines Act 2005* (VIC) for the erection of structures or buildings within 3,000 mm of a transmission pressure asset. Ministerial consent must be arranged through Energy Safe Victoria (**ESV**) following review and acceptance of the proposed designs by APA Networks.

4.3 Landscaping Plans

Vegetation may limit line of site, access and passage along an existing gas asset alignment, while the associated roots may damage existing buried pipe, coating or other ancillary equipment (e.g. cables). Above ground gas infrastructure may also be exposed to hazards from falling vegetation and increased fire risk. Additionally, trees and tree roots may limit access to the gas asset in an emergency, during normal operations and when make new connections or modifications.

Landscaping plans which include vegetation should select tree species which do not have vigorous root activity and do not exceed above 5m in height when fully mature when planted within 3m of gas assets. The pre-selection of trees considered suitable for planting within road reserves and near gas assets should also consider interference with, or damage to, other underground and overhead services.

For all landscaping works within 3 m of transmission pressure or critical distribution pressure gas assets the following details must submitted to APA for review and approval prior to planting.

- Tree species – botanical and common name
- Mature tree buttress and canopy diameter
- Mature tree height

- Maximum root ball diameter
- Offset from gas asset
- Method of protection to gas asset

Trees to be planted within 3 m of transmission pressure or critical distribution pressure gas assets, should also adhere to **Table 5** below.

Note: Horizontal separation is measured from pipe edge to edge of mature trunk or mature drip line, whichever is the greater.

Strata cells are not considered an appropriate protection from tree roots. If strata cells are to be installed in the vicinity of existing buried gas assets, the controls identified in **Table 5** must be used for protection.

Table 5 Protection of Distribution Gas Assets from Vegetation

Vegetation Types	Requirements	Horizontal Separation from Pipe Edge to Vegetation			
		Greater than 3 m	1.5 to 3m	1.5 to 0.5 m	<0.5 m
Trees or Large Shrubs	Min. separation of 3 m is required between trees and pipe if no protection methods are utilised.				
Medium and Small Shrubs	Within 1.5 m – 0.5 m protection methods must be utilised.				
Ground cover and grasses	No protection methods required.				
Gas Protection Methods					
	No protection methods required, provided separation limits are followed.				
	Within 3 m, tree species which have mature buttress diameters less than 0.15 m and do not have invasive or deep roots may be accommodated without protection methods after consultation with APA Networks (Note 1). For trees with mature buttress diameters greater than 0.15 m one of the following gas protection methods must be implemented; 1. Lowering or relocation of the gas asset to a minimum of 1.2 m cover. 2. Installation of new gas conduit beyond the structural root zone (SRZ) of the mature tree species for future use. (Note 2) 3. Installation of a root barrier system. System to be 1 m deep or extend 250mm below the gas asset, whichever is the greater.				
	Within 1.5 m installation of a root barriers system is mandatory and gas protection methods are as follows; 1. Installation of a robust root barrier system. System to be 1 m deep or extend 250 mm below the gas asset, whichever is the greater. AND 2. Lowering or relocation of the gas asset to a minimum of 1.2 m cover. OR 3. Installation of new gas conduit beyond the SRZ of the mature tree species for future use. (Note 2)				
	Planting directly over gas assets is not permitted in any location, as it prevents emergency and maintenance access. Tree roots can damage gas asset resulting in gas leaks.				

Note 1: Refers to the minimum 1.5 m structural root zone for a mature buttress diameter less than 0.15 m mandated under AS 4970 – Protection of trees on development sites.

Note 2: Suitable protection method for PE mains only. Conduits to be recorded in Geographic Information System (GIS) for future referencing.

Note 3: On transmission pressure assets vegetation must not limit line of site along the buried gas assets alignment, all signage must remain each in sight of the other.

4.4 Surface Levels and Conditions

Decreases or increases to surface levels must consider depth of cover requirements for gas assets specified in **Table 6**. This is in addition to maintaining a minimum working cover from the top of the gas asset to the underside of trenching or road box out works during construction as specified in **Table 2**. Vehicles must not cross gas assets at covers less than those specified in **Table 6** unless in accordance with **Section 5.10** for Compaction Limits or **Section 4.7** for Temporary and Permanent Vehicle Crossings.

Where existing surfaces are to be modified, finished cover levels are not to be reduced to less than existing levels, unless meeting the minimum requirements of **Table 6**. The requirement for, and the extent of, protective slabbing over any APA Networks operated asset will be determined by APA at its sole discretion with adherence to minimum depth of cover without physical protection as the preference. Depending on the location, local councils and relevant road/ rail authorities may have minimum depth of cover requirements that APA are required to meet which are more stringent than those listed in **Table 6**. Depth of cover requirements for individual consumer offtakes (service connections) are also provided in **Table 7**.

Details of any additional fill proposed to be placed on or within 3 metres of a gas asset, or within any applicable easement, must be clearly shown on plans and must be approved by APA Networks in writing. A maximum depth of cover of 2,500 mm for transmission pressure assets and 2000 mm for distribution assets apply in all locations; however, it is preferred not to exceed 1500 mm for both types of assets.

Table 6 Minimum Depth of Cover Requirements for Pipelines and Mains

Asset Location	Minimum Depth of Cover (Note 3)	
	Transmission Pressure Asset	Distribution Pressure Asset
Under Minor Road Pavement (Note 1)	1,200 mm 1,200 mm to 1,000 mm with physical protection slabbing and APA engineering load assessment	750 mm 750 mm to 600 mm with physical protection slabbing and APA engineering load assessment
Under Major Road Pavement (Note 2)	1,200 mm 1200 mm to 1,000 mm with bridging slabs (Note 4)	1,200 mm 1200 mm to 750 mm with bridging slabs (Note 4)
In Road Reserve but not Under Road Pavement	900 mm 900 mm to 750 mm with protective slabbing contingent upon pipeline location class	750 mm 750 mm to 600 mm with protective slabbing
Not in Road Reserve	900 mm 750 mm with protective slabbing contingent upon pipeline location class	750 mm for > 210 kPa 600 mm for ≤ 210 kPa
Railway Reserve	2000 mm (Note 5)	
Large Open Drain or Major Water Crossing	2000 mm (Note 6)	

Note 1: Minor road pavements typically are owned by local councils.

Note 2: All roads owned by state and federal authorities are major roads. Roads owned by council may be major or minor roads. Covers less than 1200 mm may require dispensation from the relevant road authority.

Note 3: Protective slabbing must be installed where minimum depth of cover requirements cannot be met or are required to meet specific safety requirements. Bridging slabbing for transmission pressure assets may be replaced with protection slabbing following APA engineering assessment.

Note 4: The requirement for bridging slabs can be downgrade to physical protection slabbing where APA engineering assessment is completed and approved.

Note 5: Installation within railway reserve shall be in accordance with both AS 4799 and the respective operating standard for the gas assets i.e. AS 2885 and AS 4645.

Note 6: The minimum depth of cover of 2,000 mm shall consider future scour of the drain or waterway crossing. For man-made drains the depth of cover can be reduced to 1200 mm if sealed (i.e. concreted) and appropriately designed. For transmission pressure assets, waterway crossings shall be designed in accordance with AS 2885.1 – 2018 Clause 5.8.6.2. For all assets, as a minimum the following shall be considered;

- a) A hydrological investigation to determine the stream power under peak stream, watercourse or waterway flows. The investigation shall determine the 1 in 100 year flood and the probable maximum flood and intermediate (optional) flood conditions.
- b) A geotechnical investigation to determine the physical parameters of the crossings, and using the information from the hydrological investigation, the erosion potential. This assessment should also consider the meander potential of the watercourse so that the limits of special construction can be defined.

Table 7 Minimum Depth of Cover Requirements for Customer Offtakes (Services)

Asset Location	Customer Offtake size	
	≤ DN50	> DN50 and ≤ DN110 (Note 1)
Roadway	450 mm	600 mm
Private Property	300 mm	450 mm

Note 1: Customer offtakes (services) with diameters greater than DN110 shall have depth of cover in accordance with **Table 6**.

Changes to surface conditions (e.g. changing from nature strip to road pavement) or which place the gas asset in an inaccessible position (e.g. with excessive cover) may require slabbing, recoating and / or relocation. Changes to surrounding surface levels or conditions must also consider drainage and the potential to result in erosion of cover for gas assets. Additionally, gas fittings such as valves, stopple fittings or flanges must not be located underneath road pavement. An APA Engineering assessment will be required if this is not feasible, refer to **Section 6**.

Where a new hardstand surface is installed on non-metallic distribution pressure mains (e.g. a painted concrete driveway), consideration should be given to including a casing or enveloper pipe to APA requirements for insertion of future gas assets. This will ensure that the new hardstand surface is not modified as part of the future gas installation. Where a casing or enveloper pipe is installed for future insertion works surveyed as-constructed records are to be provided to APA Networks for incorporation into the GIS records.

For transmission pressure gas assets, any landscaping material should be level within the easement or a minimum of 3 m (but preferably 6 m) to each side of the pipeline, to permit excavating equipment to operate without having to destroy the adjacent landscaping.

4.5 Casings Vent Stacks

Casings provide mechanical protection and protection to gas assets from external loadings. Some cased crossings are sealed and fitted with a casing vent stack, which gas leaks are identified via.

The following APA requirements are to be applied for works near casing vent stacks:

- Casing vent stacks cannot be removed unless an alternative arrangement has been approved by APA Networks or they have been assessed as being redundant;
- Unfettered access is to be maintained to casing vent stacks; and
- Minimum distance from casing vent stack discharge point to any electrical installation or overhead structure must be 1000 mm.

4.6 Earthing and Electrical Effects

Steel gas assets are susceptible to adverse effects from electrical sources such as above and below ground cables, substations, transformers, earth rods, cathodic protection systems or electrified tram / train lines.

Without any further information or engineering assessment, earthing systems for distribution ($\geq 11\text{kV}$) and transmission ($\geq 66\text{kV}$) power lines must satisfy the Earth Potential Rise (EPR) Level 1 (Conservative) compliance of AS/NZS 4853 – 2012 Table 4.3 & 4.5 which specifies separation distances from pipe appurtenances (e.g. valves, regulators, isolation joints), access points or earth points (including cathodic protection test points). For the potential hazards to be accepted as low risk on the basis of a Level 1 assessment the separation between a conductive structure or substation and pipeline subject to EPR shall be greater than the values given in **Table 8** below.

Table 8 Separation Distances for Pipeline Subject to EPR from Power Lines (Level 1 Assessment)

Fault Current or Actual Current (A) (Note 2, 3)	Separation Required (m) - Note 1			
	Distribution ($\geq 11\text{kV}$)	Power Line	Transmission ($\geq 66\text{kV}$)	Power Line
	100 $\Omega\cdot\text{m}$	500 $\Omega\cdot\text{m}$	100 $\Omega\cdot\text{m}$	500 $\Omega\cdot\text{m}$
150	40	190	N/A	N/A
300	80	390	N/A	N/A
500	130	660	N/A	N/A
750	200	1,000	N/A	N/A
1,000	270	1,300	60	310
3,000	N/A	N/A	190	940
6,000	N/A	N/A	380	1,900
10,000	N/A	N/A	635	>3,500

Note 1: Earth resistivity of 500 $\Omega\cdot\text{m}$ shall be used for dry sand or rock and 100 $\Omega\cdot\text{m}$ for all other cases.

Note 2: If the fault current is unknown for a distribution power line ($\geq 11\text{kV}$), a fault current of 1000 A shall be used for the first pass assessment.

Note 3: If the transmission power line ($\geq 66\text{kV}$) uses an OHEW, uses values up to 3,000 A (this assumes a current split of 30% of 10 kA). For lines without an OHEW, use values up to 10,000 A for current going down the structure.

Without any further information or engineering assessment, distribution (≥ 11 kV) and transmission (≥ 66 kV) power lines parallel to steel gas assets must satisfy the Low Frequency Induction (LFI) Level 1 (Conservative) compliance of AS/NZS 4853 – 2012 Table 4.2 & 4.4 which specifies maximum acceptable power line to pipeline exposure length.

Per AS/NZS 4853 – 2012 the pipeline exposure length (average separation for the parallel section) under LFI conditions shall be less than the values given in **Table 9** below.

Table 9 Exposure Length for Pipeline Subject to LFI from Power Lines (Level 1 Assessment)

Power line to pipeline separation (m)	Exposure Length (m) – Note 1		
	Distribution Power Line (≥ 11 kV) – 100 Ω .m	Transmission Power Line (≥ 66 kV) – 100 Ω .m	
5	180	95	
10	210	110	
20	240	127	
50	310	165	
100	400	210	
200	550	290	
500	950	500	

Note 1: Without soil resistivity data, assessments are to be completed assuming 100 Ω .m. If soil resistivity data is available refer to AS/NZS 4853 – 2012.

Where AS/NZS 4853 Level 1 EPR or LFI requirements cannot be achieved a Level 2 and/or 3 assessment will be required.

The third party must provide to APA detailed plans of any source(s) of earthing and/ or electrical effects proposed to be located in the vicinity of steel gas assets, with an assessment report compliant with AS/NZS 4853 Electrical Hazards on Metallic Pipelines. This assessment report is to determine any effects to existing cathodic protection or induced voltage mitigation systems from these types of installations. The third party must address any relevant requirements and any recommendations and/or actions must be implemented to the satisfaction of APA Networks. All cost association with the study, and implementing its recommendations and/ or actions are to be borne by the third party. The third party must also complete validation testing upon completion of construction and provide all findings/ reports to APA Networks.

Hazards which may arise due to electrical systems located in the vicinity of steel gas assets include the following:

- Accidental contact between gas assets and electrical systems;
- Capacitive coupling;
- Conductive coupling;
- Electromagnetic induction;
- Low Frequency Induction (LFI);
- Earth Potential Rise (EPR), including due to fault current or lightning discharge; and,
- Adverse cathodic protection interference in excess of those allowed under AS 2832.1 or relevant state regulations

4.7 Temporary and Permanent Vehicle Crossings

Vehicle crossings over existing gas assets are limited to light vehicles (Gross Vehicle Mass not greater than 4.5 tonnes unless advised otherwise by APA Networks in writing) on unsealed surfaces or Heavy Vehicles (compliant General Access Vehicles) on established road pavements.

Any proposed new crossings must be assessed and authorised in writing by APA Networks.

A maximum surface pressure of 400 kPa is allowable directly above buried gas assets. However, any surface pressure exceeding this limit or where cover over the gas asset has been reduced from **Table 6** will require an APA Engineering Assessment and approval.

Where soil conditions exhibit poor compaction and load bearing characteristics, such as wet soil conditions, equipment is not permitted to cross the gas asset irrespective of weight without establishing a stable sealed surface or road plates.

Crane footings or bog mats must not be placed where the angle of repose can influence an existing gas asset without express written approval by APA. Where the existing gas asset is within the angle of response, the maximum surface pressure due to the crane must be provided.

5 PART 3 - CONSTRUCTION AND LAND USE REQUIREMENTS

Extreme care should be exercised at all times when working around existing gas assets, as repair works will be fully chargeable and may result in delays to any works. Refer to the duty of care outlined in **Section 1.4** and the requirements of this section when selecting construction methods.

5.1 Land Use Change

Where works proposed by a third party may result in a change in land use within the Measurement Length (as defined in AS/NZS 2885.6 for Pipelines – Gas and Liquid Petroleum) of transmission assets, such works may also be subject to formal approval requirements through APA Networks and applicable local and state government planning processes.

This may also require a Safety Management Study (SMS) report be completed and approved by APA Networks. This SMS report is generated from an SMS workshop involving an independent SMS facilitator, third party and APA Networks. APA Networks is the owner of the SMS report and any resulting recommendation/ actions must be implemented to the satisfaction of APA Networks prior to the commencement of any physical works.

Certain categories of development, such as Sensitive Use Locations (refer to **Table 14 Glossary of Terms and Abbreviations**), are not appropriate to be located with the Measurement Length. In certain circumstances, the otherwise unacceptable risks associated with such developments may be alleviated with the aid of installing protective slabbing over the transmission pipeline or undertaking other protection and mitigation measures.

Sensitive Use Locations near transmission pipelines are designated under AS/NZS 2885.6 and identify land where the consequences of a Failure Event may be increased because it is developed for use by sectors of the community who may be unable to protect themselves from the consequences of a pipeline Failure Event.

Sensitive uses are defined as follows;

- Schools, which includes colleges
- Hospitals and aged care facilities such as nursing homes, elderly people's homes
- Prisons and jails
- Sheltered housing
- Buildings with five or more stories
- Large community and leisure facilities, large open air gatherings
- Day care facilities
- Other potentially difficult to evacuate facilities
- Other structures as defined by relevant local councils.

For further information regarding the SMS process, refer to APA Networks Encroachment and Land Use Change SMS Trigger Procedure, **400-PR-L-0003**.

5.2 Permits and Site Watch

Transmission pressure assets and critical distribution pressure assets, must have a permit issued prior to proposed works in the vicinity of the existing assets, including any proving activities. Following the issue of a permit, a site watch inspector may be required to verify that the activities are carried out appropriately.

Other distribution pressure assets not considered critical will only require site watch as determined by APA Networks.

Where a permit is required, the response provided to the BYDA enquiry will include the relevant forms and process to be followed for submitting a permit request.

While BYDA recommends completing the request two business days prior to undertaking works, this is to ensure that the location information is obtained. This may not allow sufficient time for APA Networks to supply site watch. Further delays may be experienced if the proposed works are significantly complicated, do not meet the requirements of this document or if insufficient information is provided.

It is an offence in all jurisdictions to undertake activities in the vicinity of transmission pipelines without prior authorisation by the operator.

5.3 Coating Surveys and Leakage Surveys

Where proposed works have potential to indirectly damage pipe coating (i.e. due to compaction) or result in a leak of the gas asset (e.g. vibration of cast iron pipes), additional monitoring activities such as Direct Current Voltage Gradient (DCVG) or leakage surveys may be required.

If required, chargeable DCVG surveys will be conducted prior to works to establish any existing coating faults which exist on the gas asset. A subsequent DCVG survey will be conducted at the conclusion of works, and where new faults have developed on the gas asset, repairs shall be made with costs charged to the works owner. Surveys can be conducted prior to finalising road surfaces to avoid costly repairs.

A similar chargeable survey program can be applied where leakage surveys are required. However, additional surveys may be necessary throughout works to ensure work crews do not operate in a gaseous environment once leaks are caused.

5.4 Pipeline Repairs, Recoating and Slabbing

Buried steel assets operated by APA Networks are coated to provide protection from corrosion.

Where the surface conditions above a buried steel pipe are changed which may limit future access to the existing gas asset an assessment of the coating condition will likely be triggered.

The requirement for pipeline recoating is assessed by APA Networks on a case by case basis, based on the proposed works, but will generally be dependent on the following:

- The asset class;
- The existing coating type, age and condition;
- Increase in loading that can bring forward any pipeline anomalies; and,
- Changes limiting access to the existing asset(s), such as the installation of slabbing, road pavement, culverts, embankment ramps or any other feature.

A chargeable coating survey carried out in accordance with **Section 5.3** may be required to assess the condition of the existing gas asset coating.

Recoating and/ or associated slabbing works over any gas asset will be determined by APA Networks Engineering Assessments and any applicable risk assessments (Safety Management Study or Formal Safety Assessment).

Pipeline repairs, recoating and slabbing that form part of any third party commercial agreement will be charged to the third party.

The requirement for, and the extent of, slabbing over any APA Networks operated asset will be determined by APA at its sole discretion and may depend on factors other than only changes in depth of cover discussed in **Section 4.4**. Slabbing may be required for the following reasons:

- Removable protective slab to provide protection from third party mechanical excavation;
- Bridging slab to provide protection from external loadings e.g. insufficient depth of cover combined with vehicle traffic.

Slabbing must be installed with adequate separation from the pipe, which may impact the undisturbed cover requirement, and cannot be installed directly underneath road pavement or at surface level.

Any bridging slab designs prepared by a third party must be accompanied by certification from the registered practising structural engineer (Registered Professional Engineer Queensland (**RPEQ**) required for works in Queensland, and so on as required for other States and Territories) confirming that the design is adequate to prevent pipeline loading.

5.5 Exposure of Buried Gas Assets

5.5.1 General

Excavation works covers Non-Destructive Digging (**NDD**) and mechanical excavation. All such excavations must be completed in accordance with APA's direction.

The Third Party or its Contractor can perform exposure works on APA Networks operated assets via NDD using vacuum excavation and subsequent mechanical excavation works under the following conditions:

- **A current BYDA request is available for the works.**
- An approved Authority to Work Permit (**ATWP**) is issued for works near transmission pipelines or critical mains.
- APA Site Watch Officer is present for works near transmission pipelines or critical mains as outlined on the ATWP.
- The Third Party (or its Contractor) shall ensure they have their own SWMS, Risk Assessment, Environmental Management Plan, Tool Box Talk, Traffic Management and Pre-Start in line with their own corporate policy in place prior to works commencing.
- All underground assets have been identified by surface marking where within or close to the excavation area prior to proceeding with planned proving works (i.e. hand or NDD (e.g. Hydro-Vacuum Excavation). Any non-recorded assets should be identified prior to breaking ground (e.g. excavation or cutting).
- A check for gas leaks has been conducted prior to the commencement of work.
- If the mechanical excavation operator cannot see the spotter (where applicable, APA Site Watch Officer), he or she must stop moving immediately and not resume movement until contact has been established. Spotters must be aware of their surroundings and should never walk into the path of a vehicle, moving equipment or a swinging load. They need to scan the ground to become aware of any trip or fall hazards.
- If excavations are greater than 1.5 m or ground conditions are considered unstable benching/ battering/ shoring must be utilised. Additionally, appropriate ladders/ ramps or steps must be utilised to ensure safe access and egress.
- **Under no circumstances is mechanical equipment to be used within 300 mm of any gas asset.**

5.5.2 Physically Proving Gas Assets

Prior to mechanical excavation of the gas assets, the asset shall be physically proven by NDD or through the use of hand excavation. The method used will vary based on the criticality of the asset. The requirements in **Section 5.5.1** shall be implemented prior to physically proving the gas asset.

Technique 1 – Vacuum Excavation (Critical and Non-Critical Gas Assets)

A vacuum truck can be used to prove and expose the gas asset. Please ensure the requirements detailed in **Section 5.5.3** are adhered to.

Technique 2 – Hand Excavation (Critical and Non-Critical Gas Assets)

If the anticipated depth of cover of the gas asset is less than 1m (measured from the top of pipe) then hand excavation shall be used to expose the gas asset. The use of round edge shovels should be used to avoid damage to the pipe or coating. In the event that the anticipated depth of cover of the gas asset is greater than 1m then mechanical excavation can be undertaken in accordance with the requirements of **Section 5.5.4** but must stop when within 1m of the gas asset (i.e. 1.3m anticipated depth means that 300 mm of cover can be removed by mechanical excavation and the

remainder by hand excavation as described above. The anticipated depth shall be based on the shallowest result from BYDA or pipe locator.

Technique 3 – Hand + Excavation (Non-Critical Gas Assets ONLY)

If the gas asset is deemed non-critical then a combination of hand digging and excavation can be used. This technique requires the third party to hand excavate 300 mm then mechanically excavate the first 150 mm. In this technique the hand excavation shall always lead the mechanical excavation by 150 mm. Once within 300 mm of the gas asset then only hand excavation is allowed.

5.5.3 Hydro-Vacuum Excavation

Where hydro-vacuum excavation is used in the vicinity or to expose existing gas assets, the following conditions must be applied:

- Ensure the general requirements in **Section 5.5.1** are adhered to prior to the works commencing.
- Root cutting heads shall not be used at any time.
- When locating pipelines and mains, a maximum water pressure of 2500 PSI (17200 kPa) may be used to a depth no greater than 450 mm. Below this depth, the maximum water pressure shall be set in accordance with **Table 10** for the asset type in the vicinity.
- When locating customer offtakes (services), a maximum water pressure of 2500 PSI (17200 kPa) may be used to a depth no greater than 300 mm. Below this depth, the maximum water pressure shall be set in accordance with **Table 10** for the asset type in the vicinity.
- Where air is used in place of water the air pressure shall not exceed 175 PSI (1200 kPa).
- A minimum distance of 200 mm shall be maintained between the nozzle tip and subsoil and vertical movements avoided (i.e. nozzle shall not touch or be inserted into soil).
- The wand shall never remain motionless during excavation. Aiming directly at the gas asset shall be avoided at all times.
- NDD vacuum equipment must not come into contact (impact) with the pipe or coating.
- Once a gas asset has been exposed via hydro-vacuum methods, a visual check must be undertaken to ensure no damage has occurred to the pipe or its coating. Damage caused to the pipe coating by the third party will be chargeable.
- A dead man trigger or similar, shall be installed and used on the wand.
- If conduits are to be installed for identification of the gas assets location the conduit shall be offset to one side and recorded or a flexible conduit installed over the gas asset. The placement of PVC pipes directly on the gas asset may cause damage to the pipe coating and require repair at the contractor's expense.
- Vacuum excavated holes shall be cleaned of any rocks and debris and backfilled with a minimum 300 mm of sand.

Personnel operating NDD equipment shall monitor ground conditions to determine and adjust for the lowest water pressure setting and vacuum used to adequately expose the gas asset. The objective shall be to use the lowest possible pressure and vacuum required to adequately excavate in order to minimise risk of coating and/or pipe damage. **Table 10** provides the maximum water pressure to be used for various pipe and coating types.

Table 10 Maximum Water Pressure for Hydro-Vacuum Excavation

Pipe / Coating Type		Max. Water Pressure (PSI)	Pipe / Coating Type	Max. Water Pressure (PSI)
Steel	Coal Tar Enamel Coated	1,000	Steel – Mummified fittings (e.g. valves, flanges)	Not Permitted
	Polyethylene Tape Coated	1,000	Cast Iron	1,000
	Polyethylene Coated	2,000	Polyethylene	2,000
	Trilaminate Coated	2,000	Nylon or PVC	1,500
	FBE or HBE Coated	2,000	Unknown Material or Steel Pipe Coating	1,000
	Uncoated	2,500		

5.5.4 Mechanical Excavation

Prior to commencing any excavation works the general requirements in **Section 5.5.1** must be adhered to.

Where works are to be carried out within 3 m of the gas alignment and to 1 m of the known gas main depth, the contractor is required to pothole and expose the gas asset as outlined in **Section 5.5.5**.

Prior to the mechanical excavation commencing ensure the excavator is in working order and all pre-start equipment checks are completed.

Excavators with general purpose buckets (e.g. mud bucket, general purpose teeth) up to 30 tonnes are permitted to conduct mechanical excavations in the vicinity of existing APA gas assets in accordance with APA requirements. Any variation of excavator size or bucket type will require assessment and approval by APA Networks. Buckets with any type of tiger or penetration teeth are not permitted unless explicitly approved by APA Networks.

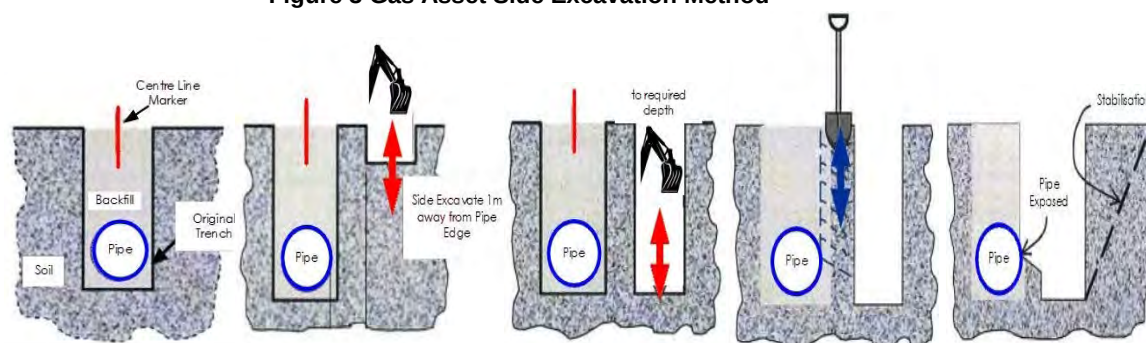
Critical Gas Assets

No mechanical equipment shall be used within 1 m of the potholed depth of the critical gas asset, except under explicit on site direction from an APA representative (i.e. APA Site Watch).

Under no circumstances is mechanical equipment to be used within 300 mm of any gas asset.

Once the gas asset has been positively proven, as outlined in **Section 5.5.2**, mechanical excavations can commence at a minimum of 300 mm offset from the outer edge of the pipe. The third party shall not mechanical excavate directly over a critical gas asset, with hand excavation only directly over the alignment or to expose the asset.

Figure 3 Gas Asset Side Excavation Method



Non-Critical Gas Assets

Mechanical excavation is permitted directly over the top of non-critical gas assets however **under no circumstances is mechanical excavation equipment to be used within 300 mm of any gas asset**. If the third party is in doubt with regards to the criticality of the gas asset, then the excavation method outlined for critical gas assets shall be used.

Prior to the mechanical excavation commencing, the asset shall be physically proved as outlined in **Section 5.5.2**. Once the depth has been physically proven the third party can proceed with excavating around the gas asset until within 300 mm. From this point hand excavation or NDD is required.

5.5.6 Protection During Exposure

Additional protection measures are required where an exposed gas asset may be subject to impact from construction activities, sagging of exposed pipe and trench instability. Any works requiring exposure and protection of the gas asset should have an accompanying methodology and approval by APA Networks.

Physical protection (e.g. structural steel protection, sandbags, wrapped with split PVC pipe) should be installed around the exposed gas asset when exposed, particularly when new infrastructure is planned to be installed crossing below the gas asset. If the gas asset is to be exposed for longer than one day or otherwise left unattended, suitable barricades, security fencing and/ or steel plates will be required to provide protection from vehicles, dropped objects (such as construction materials) or vandalism.

Unsupported exposed pipe lengths require protection from sagging by using suitable supports such as sandbags or slings. Where slings or other support types come into contact with the gas asset, protection methods must be employed (e.g. wrapped with split PVC pipe) to prevent damage to the existing pipe or coating. Exposed unsupported joints must also be identified and supported during works. The maximum allowable length of exposed pipe without support is provided in **Table 11**.

Table 11 Maximum Unsupported Lengths of Exposed Pipe

Table 22 Maximum Unsupported Lengths of Pipe by Type			
Gas Asset Diameter (mm)	Steel Maximum Unsupported Length (mm)	Polyethylene Maximum Unsupported Length (mm)	Other Material Maximum Unsupported Length (mm)
≤20	2,000	1,500	1,500 (Note 1)
>20 & ≤63	2,800	2,000	
>63 & ≤100	3,600	3,000	
>100 & ≤150	4,200		
>150 & ≤250	5,000		
>250	5,700		

Note 1: Particular care should be taken for other materials include cast iron, PVC or nylon due to the unpredictable nature of the joints.

Additional protection and support during trench or bell-hole excavation works to minimise ground instability may also be necessary to protect the integrity of existing gas assets during exposure works. Trenches are to be inspected prior to commencing works each day and monitored by the onsite party responsible for the excavation. APA shall be notified of any condition likely to affect the stability of trench.

Any deep excavations, within 3 m of a gas asset, shall be designed and constructed such that the effects of subsidence, collapse or extreme weather will not affect the gas asset. Any such excavations prepared by a third party must be accompanied by certification from a registered practising engineer (RPEQ required for works in Queensland, and so on as required for other States and Territories) confirming that the design is adequate to protect the gas asset.

5.5.7 Backfill and Reinstatement

Prior to backfilling, a minimum of 150 mm of bedding sand must be placed around all gas assets. Bedding sand shall be in accordance with APA specification **400-SP-L-0002**, which can be provided to third parties upon request. The bedding must be compacted in accordance with **Section 5.10**, including suitable compaction and backfill of the underside of the gas asset to prevent any further vertical movement during subsequent layers above the asset. APA may require geo-fabric installation between different trench reinstatement products to prevent sand migration in which nonwoven fabric is required and needs to extend 1000 mm past either side of the utility crossing.

The bedding material shall be clean, free from all sharp objects, sandbags, clay material, vegetable matter, building debris and disused road paving material to the specification provided by APA. Recycled bedding material and stabilised sand must not be used unless explicitly approved by APA.

The remainder of the excavation shall be backfilled and compacted in accordance with **Section 5.10**, at maximum increments of 300 mm to a density which is similar to the surrounding sub-grade material. Only clean fill material shall be used, preferably the same as the natural soil in the area, and free from ash, weeds and pest plants, salt or any chemicals which could harm the gas assets. Where required, concrete slabbing shall be installed in accordance with **Section 5.4**.

In all circumstances gas warning tape / marker board shall be installed in accordance with the following requirements:

- Gas warning tape installed at 300 mm below finished surface level.
- Gas marker board installed 300 mm above the top of the pipe.

Note, where gas warning tape cannot be installed 300 mm below the finished surface level due to road pavement box out, marker board is to be installed 50 mm below the box out work zone.

In situations where a physical protection slab or bridging slab has been utilised an additional layer of gas marker board must be installed 50 mm above the slabbing.

The excavated area is to be reinstated to the original condition or as approved by APA and the relevant local council, road authority or landowner as applicable. Any marker signs removed during excavation works must also be reinstated in original positions. Additional marker signs may be required at new infrastructure crossings as directed by APA.

5.6 Trenchless Excavation

Trenchless excavation covers horizontal directional drilling (**HDD**), boring, pipe bursting and tunnelling. These activities are considered high risk that require additional controls to prevent damage to existing gas assets. This includes proving the existing gas asset location and depth for all horizontal bores, as well as providing a witness trench to verify that the bore will pass the asset with sufficient separation.

A witness trench must be used in addition to live electronic tracking of the bore head. The witness trench must be prepared to the specification provided in **Table 12**. The progressive measurement of the length of the bore must also be made and plotted along its proposed direction to ensure the bore head has not missed the witness trench. The bore head must be exposed in the witness trench, when the crossing is above the existing gas asset.

For all assets installed via trenchless excavation a vertical separation aligning with the maximum borehole diameter (e.g. reamed diameter) shall be demonstrated. For transmission pressure and distribution pressure assets this vertical separation distance is 1000 mm and 600 mm, respectively.

If the works run parallel to a transmission pressure or critical gas assets a minimum separation distance of 3 m must be maintained. For non-critical gas assets, the minimum separation distance of 1 m must be maintained. For works running parallel to gas assets, proving of the actual location of the gas asset must occur every 4 m.

Note: It is expected that HDD operators working near gas assets hold the national competency RIICCM202 – Identify, location and protect underground service.

Table 12 Minimum Witness Trench Dimensions

Crossing Type	Witness Trench Depth	Witness Trench Dimensions
Crossing Above Existing Gas Asset	To bottom (invert) of gas asset	Witness trench shall be 1000 mm to 2000 mm in front of the gas asset on the approach side.
Crossing Below Existing Gas Asset	To bottom (invert) of gas asset plus 500 mm	Witness trench shall be min. 1500 mm long and 300 mm wide centred on bore centre line.

Dispensation may be considered where detailed long sections are provided for assessment by APA and where depths of existing gas assets or separation to the bore are greater than 2500 mm.

Pipe bursting is not permitted within 1000 mm of an existing gas asset.

5.7 Piles, Piers or Poles

No piling such as pile-driving, sheet-piling or hammer-piling is permitted within 15 m of an existing gas asset unless explicit consent has been provided by APA. In all instances, vertical bored (augured) piles, piers or poles are preferred.

Where installation of piles, piers or poles are proposed between 500 mm and 1000 mm clearance from a gas asset (distribution and transmission pressures, respectively), the area directly below the proposed pile, pier or post location must be excavated to a level equivalent to the bottom (invert) of the existing gas asset, and works started from that depth.

Note: Proving of the gas asset must be completed in accordance with the requirements set out in **Section 5.5.2** prior to the commencement of any works.

Temporary steel plates may also be installed between the gas asset and the proposed pile, pier or post used for vertical bore methods within this clearance to provide extra protection.

Note: Direct vibration monitoring on the gas main may be required depending upon the installation method utilised. Refer to **Section 5.9** for APA Networks vibration limits.

5.8 Hot Works for Construction Activities

Typical hot works include grinding, welding, thermal or oxygen cutting or heating, and other related heat producing or spark-producing operations. Heat sources or hot works must not impact gas assets, taking into consideration that the ground or adjacent structures may also be capable of transmitting heat.

In order to safely undertake hot works, response procedures in the event of fire or flammable gas detection must be prepared and monitoring for flammable gases must be undertaken during works.

APA must approve any hot works where there is less than 300 mm ground cover to buried gas assets, or within 5,000 mm of any exposed gas assets (including any pits or valve covers). A heat shield or barrier may be required to provide protection if it cannot be demonstrated that works can be undertaken without impacting the gas asset.

5.9 Vibration Limits

Significant vibration may arise from activities such as blasting, piling, tunnelling and HDD/boring.

To avoid damage to existing APA Networks operated pipes and coatings, the following vibration limits must not be exceeded at any point on the pipe:

- For cast iron mains: 5 mm/s maximum Peak Particle Velocity (**PPV**) measured on the pipe.
- For steel pipe with a coal tar enamel (**CTE**) coating or with poor coating health: 10 mm/s maximum PPV measured on the pipe.
- For non-coal tar enamel pipe coatings and other pipe materials (i.e. steel, PE, PVC or Nylon): 20 mm/s maximum PPV measured on the pipe.

- d) For blasting, the above vibration limits can be increased if supported by calculations in accordance with Design Guidelines for Buried Steel Pipeline – American Lifelines Alliance American Society of Civil Engineers (**ASCE**) and approved in writing by an APA Networks Integrity Engineer.

Note: Cast iron mains are particularly susceptible to damage by vibration. The PPV limit may not prevent leaks from cast iron and may require additional gas leakage survey activities during works in accordance with **Section 5.3**.

For vibration monitoring adopt an alarm at 80% of the acceptable PPV value and when the alarm is activated, the work must stop and be re-assessed. Short incursions up to 100% are acceptable, for sustained periods of vibration longer than 5 minutes, works must be stopped.

The zone of influence for vibration assessment undertaken by the third party is shown below;

- For compaction, refer to **Table 13**.
- For trenchless excavation (HDD/ boring), refer to **Section 5.6**.
- For piling refer to **Section 5.7**.
- For blasting refer to **Section 5.11**.

5.10 Compaction Limits

Compaction activities such as establishing a base course for a road pavement may result in damage to the pipes and coatings of existing gas assets. Compaction limits in the vicinity of existing gas assets are summarised in **Table 13**.

Table 13 Maximum Compaction Limits

Horizontal Separation (m)	Minimum Cover to Top of Gas Asset (mm)	Compaction Limits
≤3 (Note 1)	300	Small handheld compactor only
	500	Large handheld compactor Maximum 4 tonne tandem drum static roller
	750	Maximum 8 tonne tandem drum static roller
	1200	Maximum 10 tonne tandem drum static roller subject to APA approval
>3 & ≤10	All	Maximum 8 tonne tandem drum vibrating roller
>10 & ≤15	All	Maximum 10 tonne tandem drum vibrating roller
>15	All	Any compaction method

Note 1: Compaction within 3 m of gas assets is limited to static rollers. If vibration compaction is necessary a robust vibration assessment and construction methodology signed off by an RPEQ for works in Queensland, and so on as required for other States and Territories, will need to be produced by the third party for review and approval by an APA Networks Integrity Engineer.

5.11 Blasting / Seismic Survey / Explosives

Blasting, seismic survey or the use of explosives is not permitted within 100 m of a gas asset unless explicit approval is provided by APA Networks. The size and quantity of the explosives to be used will determine how close to the pipeline blasting will be permitted. In all cases, blasting methods must be arranged to limit ground vibrations so that the peak particle velocity does not exceed acceptable limits. At no stages will blasting be permitted within 3 m of the pipeline.

5.12 Suspended Materials above Gas Assets and No Go Zones for Cranes

Where gas assets are exposed, no cranes, excavators or backhoes are permitted to carry or suspend materials directly over or across a gas asset without an APA Networks approved lifting plan and SWMS.

Outriggers must be set up outside a 3 m radius from gas assets unless otherwise approved by APA Networks in writing.

5.13 Temporary Materials

In all instances it is preferred that temporary materials (e.g. soil, shipping containers) are not stored on top of transmission pressure and critical gas assets. Temporary material must not restrict access and should be placed at least 1,500 mm from the alignment of these assets unless otherwise approved by APA Networks.

6 PART 4 - ALTERATION OF EXISTING GAS ASSETS

Where the proposed third party works do not comply with the requirements of this document, and adequate additional controls or a specialised engineering solutions cannot be developed, alteration of the existing gas assets will be required.

Gas asset alterations will only be undertaken under a Recoverable Works Agreement (**RWA**) appropriate to the scope and extent of the works required.

An Early Works Agreement (**EWA**) may also be required where works are proposed which require proving, engineering design activities or purchase of long lead items. This will allow for completion of these items prior to execution of a RWA and avoid delaying works.

If either or both these agreements are required, then APA Networks will enter negotiations with the relevant third party and any costs will be payable by that third party.

7 GLOSSARY OF TERMS AND ABBREVIATIONS

Table 14 Glossary of Terms and Abbreviations

Term/ Abbreviation	Meaning
AGN	Australian Gas Networks
APA	Each entity that forms part of the APA Group
APA Engineering Assessment	Covers technical assessments which may involve field integrity assessments that may or may not include the use of specialist Consultants managed by APA.
APA Networks Operated Assets	APA Networks acts as the asset operator on behalf of entities Australian Gas Networks (AGN), Allgas, APA, Origin and Queensland Nitrates (QNP) and operates in New South Wales, Northern Territory, Queensland, South Australia and Victoria.
APA Permit Issuing Officer	The APA Permit Issuing Officer is responsible for opening the Permit To Work, validating APA Networks assets have been located and being the Site Watch for works within the gas Easement or Protected Zone.
AS	Australian Standard
ASCE	American Society of Civil Engineers
ATWP	Authority to Work Permit
CTE	Coal Tar Enamel
Damage	Physical damage to and interference with APA's assets. Damage includes reducing design life, coating damage, dents, scratches, rupture, cutting of cathodic protection cables. Damage can also include potential impacts that APA pipelines can have on third party assets.
BYDA	Before You Dig Australia (previously known as Dial Before You Dig (DBYD))
DCVG	Direct Current Voltage Gradient
Depth of Cover	Vertical distance from the existing natural ground surface to the top of the buried gas asset
EPR	Earth Potential Rise
ESV	Energy Safe Victoria
EWA	Early Works Agreement

Excavation	Excavation refers to manual digging or mechanised digging operation with plant or equipment which involves trenching and trenchless excavation. Trenchless excavation covers boring, Horizontal Directional Drilling (HDD), pipe bursting and tunnelling.
FBE	Fusion Bonded Epoxy
GIS	Geographic Information System
HBE	High Build Epoxy
HDD	Horizontal Directional Drilling
Hot Works	Hot works are defined as grinding, welding, thermal or oxygen cutting or heating, and other related heat-producing or spark-producing operations. Heat sources or hot works must not impact pipelines, taking into consideration that the ground or adjacent structures may also be capable of transmitting heat.
LFI	Low Frequency Induction
LPG	Liquefied Petroleum Gas
MAOP	Maximum Allowable Operating Pressure
Measurement Length	The maximum length of pipeline route which presents an extended source of hazard on the basis that an event of failure could affect any part of the development or specific location relevant to the development. The maximum length corresponds to the heat radiation hazard associated with a 4.7 kW/m² heat radiation contour for an ignited full bore rupture calculated in accordance with AS/NZS 2885.6. If the pipeline is designed as a no rupture pipe, then the measurement length corresponds to a credible leak size.
NDD	Non-Destructive Digging (NDD) refers to either hand digging or Non-Destructive Pot Holing using a vacuum pipe connected to a vacuum truck with either a water lance or air lance. Hydro-Vacuum Excavation consists of a water lance and vacuum truck and is used to physically prove existing assets.
OHEW	Overhead Earth Wire
PE	Polyethylene
Pipe Bursting	Pipe bursting refers to a pipe being inserted to a larger pipe that results in the larger pipe being damaged. For an example of pipe bursting, refer to the following You-Tube video: https://www.youtube.com/watch?v=HX5beh0ubGY
Pipeline Easement	The pipeline area shown on a survey plan and referenced on the property title.
Predominate Building Line	The expected predominate building line relates to the façade of the building, not necessarily the property boundary.
Protected Zone	A Protected Zone is an area extending both horizontally and longitudinally along a gas asset. It is the area where loads and/or any hot works may potentially cause damage to the gas asset.

	The Protected Zone refers to works near APA Networks gas assets or works within the vicinity of the gas assets that may cause an unacceptable risk to the asset in accordance with Table 2 Minimum Clearances or Table 3 Minimum Clearances for Construction Works and Land Use Activities
PTW	Permit to Work
PPV	Peak Particle Velocity
PVC	Polyvinyl Chloride
QNP	Queensland Nitrates Plant
RPEQ	Registered Profession Engineer Queensland
RWA	Recoverable Works Agreement
Sensitive Use Locations	This is designated as Class “S” as per AS/NZS 2885.6 Pipelines - Gas and liquid petroleum - Pipeline safety management and refers to the sub location class. Sensitive Use Location Class (S) identifies land where the consequences of a FAILURE EVENT may be increased because it is developed for use by sectors of the community who may be unable to protect themselves from the consequences of a pipeline FAILURE EVENT. Sensitive uses are defined as follows: • Schools which includes colleges • Hospitals • Aged care facilities such as nursing homes, elderly people’s homes • Prisons and jails • Convalescent homes • Sheltered housing • Buildings with five or more stories • Large community and leisure facilities, large open air gatherings • Day care facilities • Other potentially difficult to evacuate facilities • Other structures as defined by relevant local councils. The Sensitive Use Location Class “S” must be assigned to any section of a gas transmission pipeline where there is a sensitive development within the applicable Measurement Length.

Site Watch	An APA Site Watch representative can be the Permit Issuing Officer for excavation work within a gas Easement or Protected Zone and is referred to as the primary spotter for excavation works. The secondary spotter is provided by the Contractor. The primary spotter has the ultimate decision regarding works within the gas Easement or Protected Zone which includes the method of excavation, starting and stopping excavation work. The APA Site Watch representative is the nominated competent person responsible for the following; • Making themselves highly visible and everyone on the job site should be aware of the Site Watch's role; • Communication to personnel operating mobile plant and equipment ensuring minimum clearance to above and below ground assets is maintained and the construction methodology is adhered to and complies with APA Networks requirements. Ensuring personnel do not encroach within the swing radius of the operating machinery.
SMS	Safety Management Study
SMWS	Safe Work Method Statement used by APA or Contractors to execute field work. The risks and associated control measures risk assessments should be transferred to SWMS.
SRZ	Structural Root Zone
Structures	Structures refer to third party structures which includes, but is not limited to; temporary or permanent buildings, walls, canopies, footings, pile caps or retaining walls
Third Party	The person or entity and their agents or Contractors that propose to undertake work near APA assets.
Third Party Assets	Third Party Assets include roads, utilities and structures.
Third Party Excavation	Third Party Excavation which is not associated with APA (e.g. road works, utility installation, private development, fencing).
Third Party Works Classification	The Third Party Work Classification as shown in Section 3.3 covers the following three work classifications: 1. No Impact to gas assets 2. No Objection Under Conditions 3. Enquiry Escalated for Alteration
Transmission Pipeline	Gas transmission pipeline which includes all associated equipment such as cathodic protection, earthing grid, instrumentation and electrical cables.
Utilities	Includes water, wastewater, drainage, telecommunications cables, power poles and cables owned by individuals or organisations other than APA Networks.
Voltage	Difference of potential normally between conductors or between conductors and earth as follows: a) Extra-low voltage – Not exceeding 50V a.c. or 120 V ripple-free d.c. b) Low voltage – Exceeding extra-low voltage, but not exceeding 1000 V a.c. or 1500 V d.c.

	c) High voltage – Exceeding low voltage.
Works	The development of any type of buildings, structures and other obstructions (including residential buildings, pools, sheds, carports, major developments, transport infrastructure, services, stockpiles, trees), and any work that causes changes to the ground (including movement of heavy vehicles, blasting, tunnelling, pile driving, ground compaction, earthworks, open and trenchless excavations)

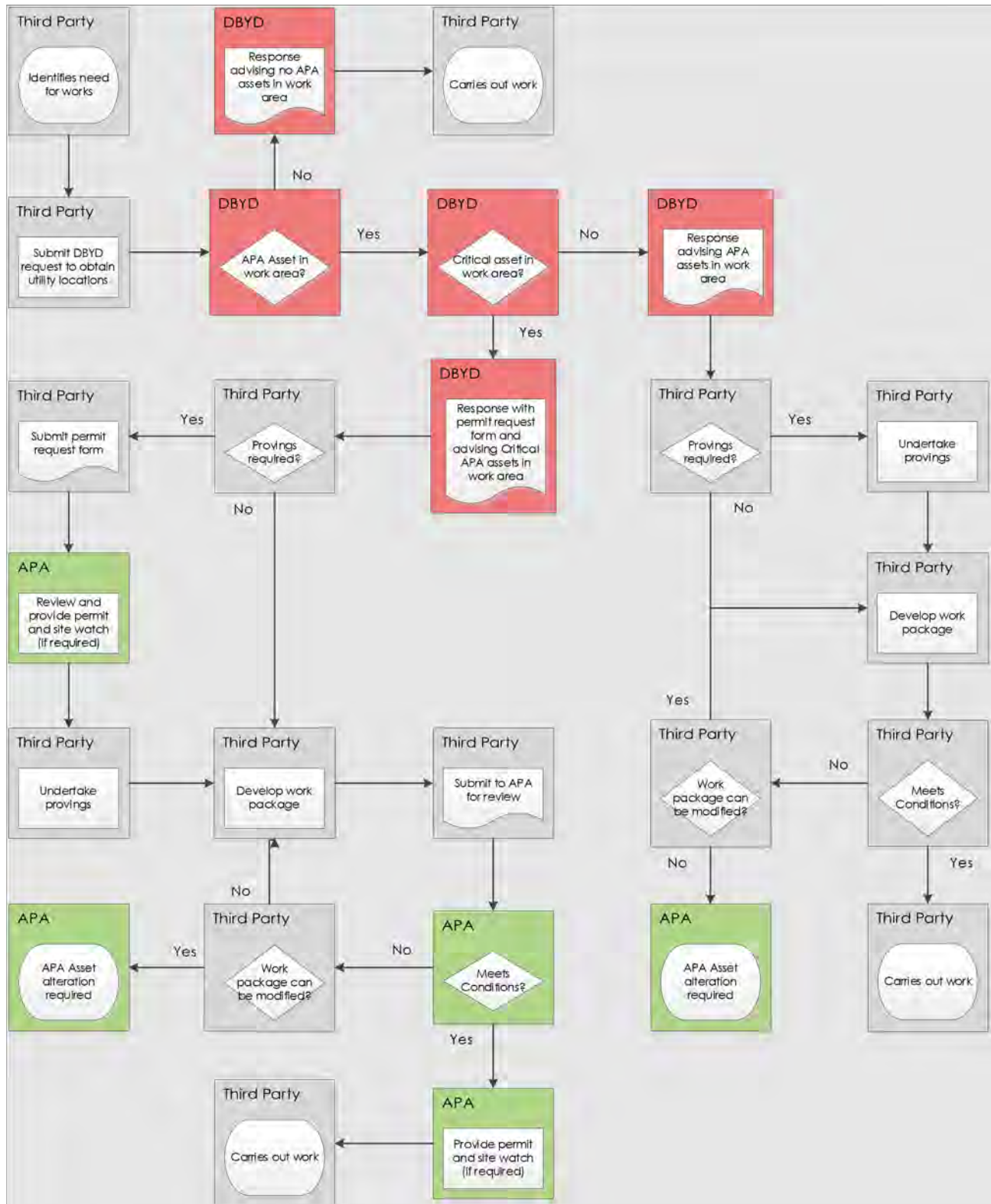
8 DOCUMENT REFERENCES

Table 15 Document References

External Standards	
API RP 1102	Steel Pipeline Crossing Railroads and Highways
AS 2832.1	Cathodic protection of metals: Pipes and cables
AS 2885.0	Pipelines – Gas and liquid petroleum: General requirements
AS/NZS 2885.1	Pipelines – Gas and liquid petroleum: Design and Construction
AS/NZS 2885.2	Pipelines – Gas and liquid petroleum: Welding
AS 2885.3	Pipelines – Gas and liquid petroleum: Operations and Maintenance
AS 2885.5	Pipelines – Gas and liquid petroleum: Field Pressure Testing
AS/NZS 2885.6	Pipelines – Gas and liquid petroleum: Pipeline safety management
AS/NZS 4645.1	Gas Distribution Networks - Network Management
AS/NZS 4645.2	Gas Distribution Networks - Steel Pipe Systems
AS/NZS 4645.3	Gas Distribution Networks - Plastics Pipe Systems
AS 4799	Installation of Underground Utility Services and Pipelines Within Railway Boundaries
AS 4827.1	Coating defect surveys for buried pipelines Part 1: Direct current voltage gradient (DCVG)
AS/NZS 4853	Electrical Hazards on Metallic Pipelines
AS 4970	Protection of trees on development sites
Standard Policies, Procedures, Specifications, Guidelines, Forms and Templates	
400-SP-L-0002	Networks Bedding Material Specification
400-PR-L-0003	Encroachment and Land Use Change SMS Trigger Procedure

APPENDIX A

GENERAL DBYD RESPONSE PROCESS



Referral
271290677

Member Phone
(07) 3403 8888

Responses from this member

Response received Wed 15 Apr 2026 8.32am

File name	Page
Response Body	57
ASSET 271290677.pdf	58

Attention: Mr CivilWorks Construction

Thank you for your enquiry with Brisbane City Council's Before You Dig service.

Job Number: 52884729
Sequence Number: 271290677

The attached .PDF file contains the location of Council's relevant services for your requested location. If you are having trouble viewing these files, it is recommended you upgrade your version of Adobe Reader. You can download the latest version of Adobe Reader for free at <http://get.adobe.com/reader/>

If you require more information, Council offers a convenient online mapping subscription service containing additional services data. The online service offers a wide variety of spatial information suitable for searches over large areas, including information previously available only by visiting Council's Customer Service Centres.

For more information on Council's online mapping services, visit <http://www.brisbane.qld.gov.au/planning-building/planning-guidelines-and-tools/online-tools/ebimap/index.htm>

Kind regards,

Brisbane City Council
Before You Dig



Job # 52884729
Seq # 271290677
Provider: Brisbane City Council
Telephone: (07) 3403 8888



- Legend**
- BYDA Enquiry
 - Detailed map page
 - No dig site assets

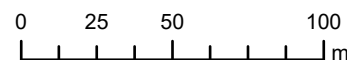
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Caution: This map may contain the locations of abandoned underground asbestos pipes. Council gives no warranty to the completeness or accuracy of these records. Appropriate care needs to be taken in all cases.

In an emergency contact Brisbane City Council on 07 3403 8888

Index Sheet



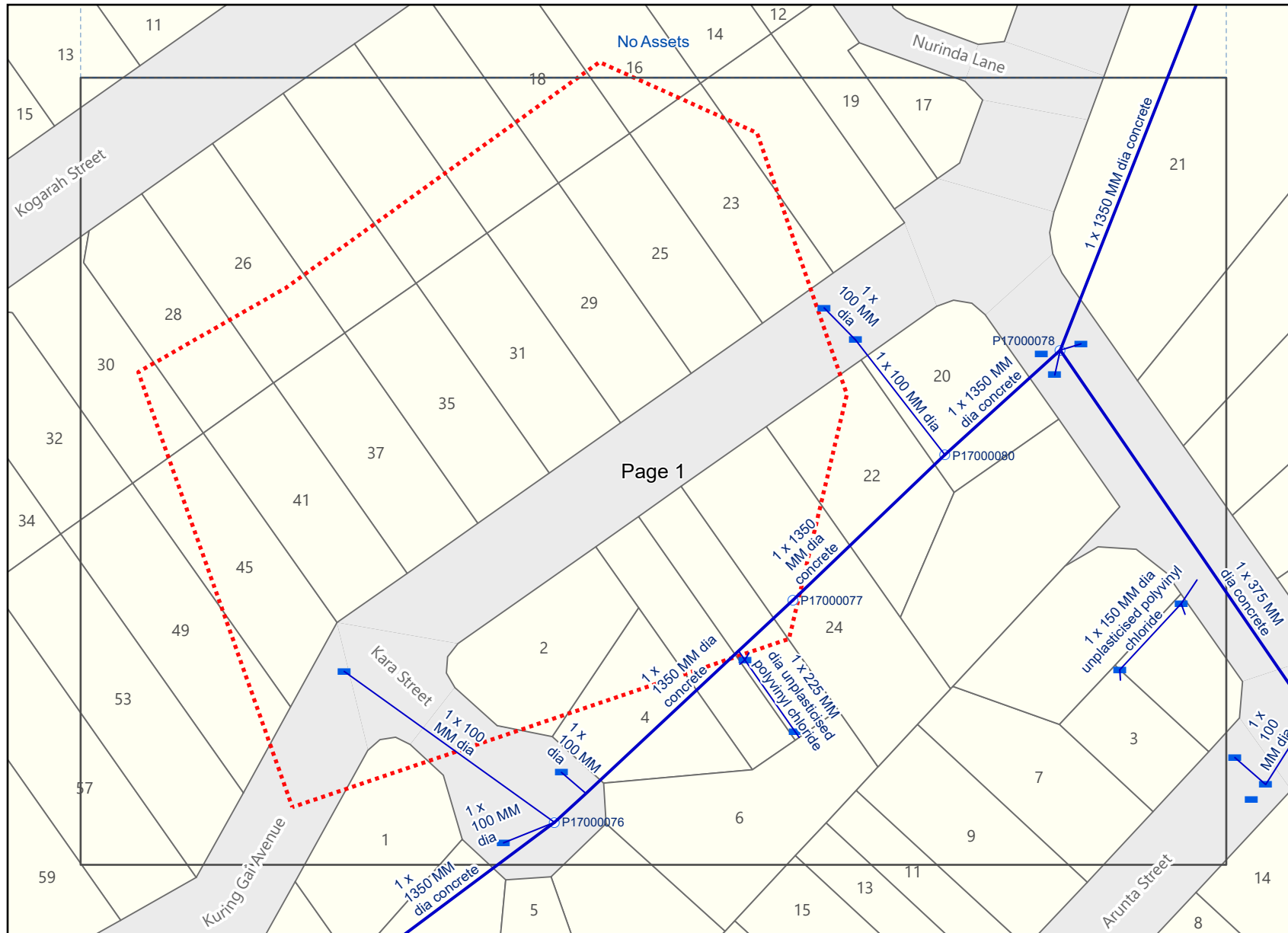
Scale 1:2,500



Plans generated by
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Seq # 271290677
Provider: Brisbane City Council
Telephone: (07) 3403 8888



- Legend**
- BYDA Enquiry
 - Stormwater Network**
 - Stormwater Drain
 - Stormwater Gully / Roofwater Connection
 - Stormwater Maintenance Hole
 - Stormwater Gully Pit

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Referral

271290676

Member Phone

1800 687 626

Responses from this member

Response received Wed 15 Apr 2026 8.37am

File name	Page
Response Body	61
271290676_20260414_223645788611_1.pdf	62
4678_NBN_Dial_Before_You_Dig_Poster_20170517.pdf	65
Disclaimer_271290676_20260414_223645788611.pdf	67

Hi Mr CivilWorks Construction,

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

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Please Do Not Reply To This Mail

To: Mr CivilWorks Construction
Phone: Not Supplied
Fax: Not Supplied
Email: civilworksconstructions@gmail.com

Dial before you dig Job #:	52884729	
Sequence #	271290676	
Issue Date:	14/04/2026	
Location:	35 Kuring Gai Avenue , Tarragindi , QLD , 4121	

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

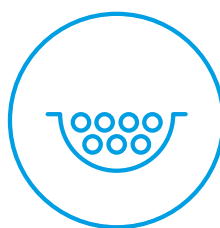
Once the DBYD plans are reviewed, the Five P's of Excavation should be adopted in conjunction with your safe work practices (which must be compliant with the relevant state Electrical Safety Act and Safe Work Australia "Excavation Work Code of Practice", as a minimum) to ensure the risk of any contact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



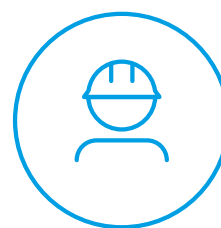
Plan: Plan your job by ensuring the plans received are current and apply to the work to be performed. Also check for any visual cues that may indicate the presence of services not covered in the DBYD plans.



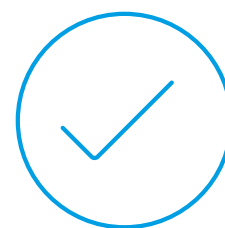
Prepare: Prepare for your job by engaging a DBYD Certified Plant Locator to help interpret plans and identify on-site assets. Contact **nbn** should you require further assistance.



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.

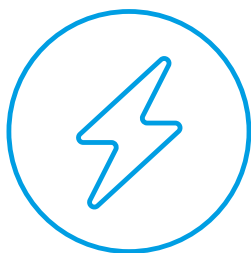


Protect: Protecting and supporting the exposed **nbn** underground asset is the responsibility of the worker. Exclusion zones for **nbn** assets are clearly stated in the plan and appropriate controls must be implemented to ensure that encroachment into the exclusion zone by machinery or activities with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

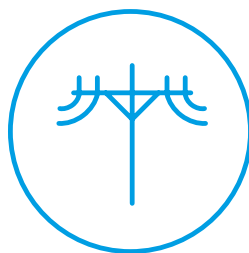


Proceed: Proceed only when the appropriate planning, preparation, potholing and protective measures are in place.

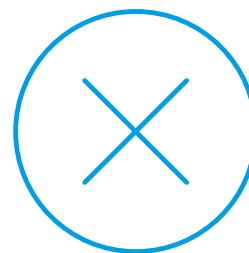
Working near **nbn**[™] cables



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**[™] 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.

This document is provided for information purposes only. This document is subject to the information classification set out on this page. If no information classification has been included, this document must be treated as UNCLASSIFIED, SENSITIVE and must not be disclosed other than with the consent of nbn co. The recipient (including third parties) must make and rely on their own inquiries as to the currency, accuracy and completeness of the information contained herein and must not use this document other than with the consent of nbn co. Copyright © 2021 nbn co limited. All rights reserved.



To: Mr CivilWorks Construction
Phone: Not Supplied
Fax: Not Supplied
Email: civilworksconstructions@gmail.com

Before You Dig Australia Job #:	52884729	 BEFORE YOU DIG www.byda.com.au Zero Damage - Zero Harm
Sequence #	271290676	
Issue Date:	14/04/2026	
Location:	35 Kuring Gai Avenue , Tarragindi , QLD , 4121	

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: 14/04/2026

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Referral
271290679

Member Phone
13 26 57

Responses from this member

Response received Wed 15 Apr 2026 8.32am

File name	Page
Response Body	72
271290679 - Urban Utilities Plan.pdf	74
Urban Utilities Important Information.pdf	77



GPO Box 2765
Brisbane QLD 4001

Date: 15 Apr 2026

Before You Dig Australia Response

Please DO NOT SEND A REPLY to this email as it has been automatically generated and replies are not monitored.

Dear Mr CivilWorks Construction

We appreciate your diligence in contacting the Before You Dig Australia service (**BYDA**) prior to engaging in work or activities which may affect the water and sewerage infrastructure of Urban Utilities.

Job Number:	52884729
Sequence Number:	271290679
Enquiry Date:	15/4/2026 8:31:00 am
Enquiry Location:	35 Kuring Gai Avenue Tarragindi QLD 4121

WARNING: When working in the vicinity of Urban Utilities' assets you have a legal *Duty of Care* that must be observed.

Our records indicate the presence of infrastructure owned by Urban Utilities within your nominated search area, as shown on the attached plan.

Please note that you may be liable for any loss or damage to our infrastructure which is caused by any works or activities which you undertake over or near such infrastructure. Additionally, your works or activities may conflict with other works scheduled in your nominated search area. To avoid any unnecessary impacts, before any undertaking you must obtain the following approvals:

- And/or a Urban Utilities Network Access Permit for self assessable works or activities that are within two metres of our infrastructure (refer to [Urban Utilities Network Access Permit Webpage](#))
- Either a Build Over Asset (BOA) Approval for assessable building works undertaken within specified distances of our infrastructure (refer to [DHPW BOA Factsheet](#))

We have provided additional information about your responsibilities in relation to our infrastructure in the Important Information sheet attached to this letter. By accessing BYDA to obtain our records about our infrastructure, you warrant that you have read the sheet and agree to the terms and conditions set out therein.

For further enquiries or assistance with interpretation of plans and search content please contact our BYDA Support Team by email networkaccess@urbanutilities.com.au. Alternatively, you can write to us at Urban Utilities, PO Box 2765, Brisbane QLD 4001.

Thank you for taking the time to consult the BYDA service.

Yours sincerely

Before You Dig Australia Support Team
Urban Utilities
networkaccess@urbanutilities.com.au

To best manage the risk of damage and liability, we recommend that you engage the services of a [BYDA Certified Locator](#)

Important Notice

This enquiry response, including any associated documentation, has been assessed and compiled from the information detailed within the BYDA enquiry outlined above. **Please ensure that the BYDA enquiry details and this response accurately reflect your proposed works.**

This response is intended for use only by the addressee. If you have received the enquiry response in error, please let us know by telephone and delete all copies; you are advised that copying, distributing, disclosing or otherwise acting in reliance on the response is expressly prohibited.

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

If you are unable to launch any of the files for viewing and printing, you may need to download and install free viewing and printing software such as [Adobe Acrobat Reader \(for PDF files\)](#)

Urban Utilities - Water, Recycled Water and Sewer Infrastructure





N



Map Scale
1:2050

Before You Dig Australia- Urban Utilities Water, Recycled Water and Sewer Infrastructure

BYDA Reference No: 271290679

Date BYDA Ref Received: 15/04/2026

Date BYDA Job to Commence: 16/04/2026

Date BYDA Map Produced: 15/04/2026

This Map is valid for 30 days

Produced By: Urban Utilities

Sewer	Water	Recycled Water
● Infrastructure	● Infrastructure	● Infrastructure
◆ Major Infrastructure	◆ Major Infrastructure	◆ Major Infrastructure
— Network Pipelines	— Network Pipelines	— Network Pipelines
▨ Network Structures	▨ Network Structures	▨ Network Structures
	--- Water Service (Indicative only)	

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

The plans are indicative and approximate only and provided without warranties of any kind, express or implied including in relation to accuracy, completeness, correctness, currency or fitness for purpose.

Urban Utilities takes no responsibility and accepts no liability for any loss, damage, costs or liability that may be incurred by any person acting in reliance on the information provided on the plans.

This plan should be used as guide only. Any dimensions should be confirmed on site by the relevant authority.

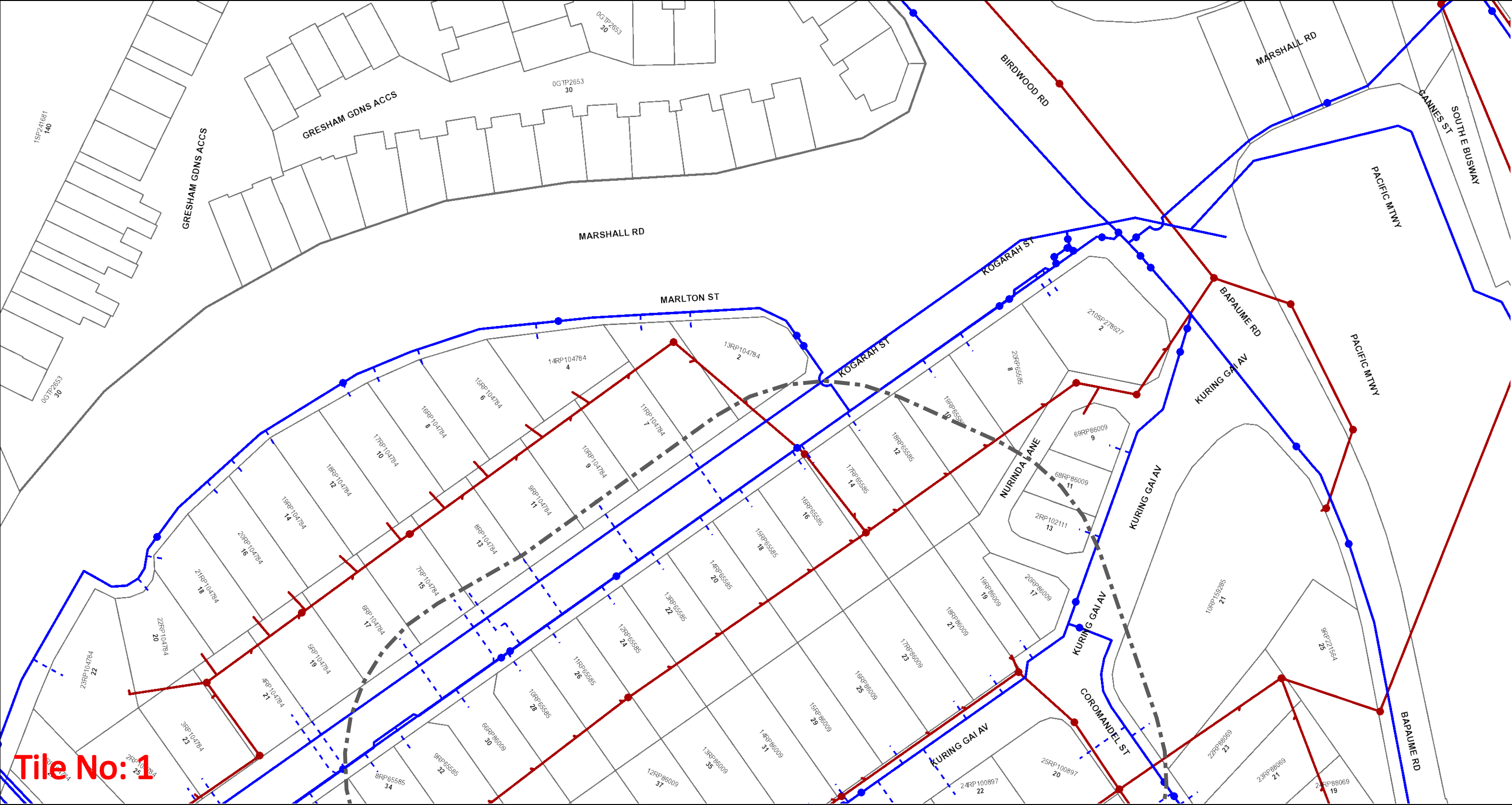
Based on or contains data provided by the State of Queensland (Department of Natural Resources and Mines) [2020]. In consideration of the State permitting the use of this data you acknowledge and agree that the State gives no warranty in relation to the data (including accuracy, liability in negligence) for any loss, damage or costs (including consequential damage) relating to any use of the data. Data must not be used for direct marketing or be used in breach of the privacy laws. © State of Queensland Department of Natural Resources and Mines [2020]

For further information, please call Urban Utilities on 13 26 57 (8am-6pm weekdays). Faults and emergencies 13 23 64 (24/7).

www.urbanutilities.com.au

ABN 86 673 835 011

Urban Utilities - Water, Recycled Water and Sewer Infrastructure



Tile No: 1



N



Map Scale
1:1000

Before You Dig Australia- Urban Utilities Water, Recycled Water and Sewer Infrastructure

BYDA Reference No: 271290679

Date BYDA Ref Received: 15/04/2026

Date BYDA Job to Commence: 16/04/2026

Date BYDA Map Produced: 15/04/2026

This Map is valid for 30 days Produced By: Urban Utilities

Sewer	Water	Recycled Water
● Infrastructure	● Infrastructure	● Infrastructure
◆ Major Infrastructure	◆ Major Infrastructure	◆ Major Infrastructure
— Network Pipelines	— Network Pipelines	— Network Pipelines
▨ Network Structures	▨ Network Structures	▨ Network Structures
	--- Water Service (Indicative only)	

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

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This plan should be used as guide only. Any dimensions should be confirmed on site by the relevant authority.

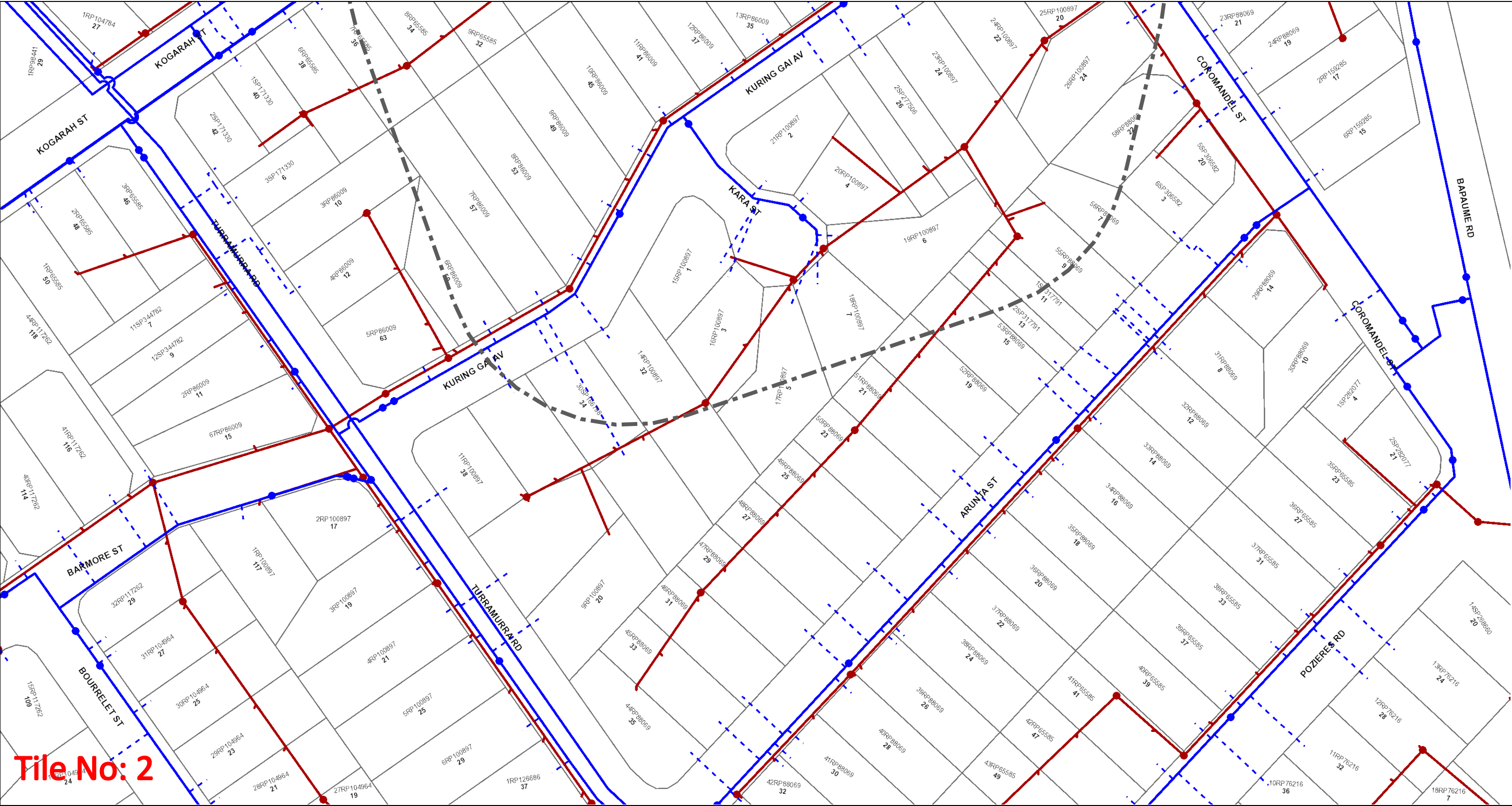
Based on or contains data provided by the State of Queensland (Department of Natural Resources and Mines) [2020]. In consideration of the State permitting the use of this data you acknowledge and agree that the State gives no warranty in relation to the data (including accuracy, liability in negligence) for any loss, damage or costs (including consequential damage) relating to any use of the data. Data must not be used for direct marketing or be used in breach of the privacy laws. © State of Queensland Department of Natural Resources and Mines [2020]

For further information, please call Urban Utilities on 13 26 57 (8am-6pm weekdays). Faults and emergencies 13 23 64 (24/7).

www.urbanutilities.com.au

ABN 86 673 835 011

Urban Utilities - Water, Recycled Water and Sewer Infrastructure



Tile No: 2



Before You Dig Australia- Urban Utilities Water, Recycled Water and Sewer Infrastructure

BYDA Reference No: 271290679

Date BYDA Ref Received: 15/04/2026
Date BYDA Job to Commence: 16/04/2026
Date BYDA Map Produced: 15/04/2026

Map Scale
1:1000

This Map is valid for 30 days Produced By: Urban Utilities

Sewer	Water	Recycled Water
● Infrastructure	● Infrastructure	● Infrastructure
◆ Major Infrastructure	◆ Major Infrastructure	◆ Major Infrastructure
— Network Pipelines	— Network Pipelines	— Network Pipelines
▨ Network Structures	▨ Network Structures	▨ Network Structures
	--- Water Service (Indicative only)	

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

The plans are indicative and approximate only and provided without warranties of any kind, express or implied including in relation to accuracy, completeness, correctness, currency or fitness for purpose.

Urban Utilities takes no responsibility and accepts no liability for any loss, damage, costs or liability that may be incurred by any person acting in reliance on the information provided on the plans.

This plan should be used as guide only. Any dimensions should be confirmed on site by the relevant authority.

Based on or contains data provided by the State of Queensland (Department of Natural Resources and Mines) [2020]. In consideration of the State permitting the use of this data you acknowledge and agree that the State gives no warranty in relation to the data (including accuracy, liability in negligence) for any loss, damage or costs (including consequential damage) relating to any use of the data. Data must not be used for direct marketing or be used in breach of the privacy laws. © State of Queensland Department of Natural Resources and Mines [2020]

For further information, please call Urban Utilities on 13 26 57 (8am-6pm weekdays). Faults and emergencies 13 23 64 (24/7).

www.urbanutilities.com.au

ABN 86 673 835 011

Important Information

Disclaimer

All Urban Utilities' records, data and information supplied via BYDA ("**Data**") is **indicative** only. You agree that any Data supplied to you has been or will be provided only for your convenience and has not been and will not be relied upon by you for any purpose.

You also agree that Urban Utilities does not assume any responsibility or duty of care in respect of, or warrant, guarantee or make any representation as to the Data (including its accuracy, reliability, currency or suitability).

Because the location of Urban Utilities' infrastructure shown on the Data is approximate only, you must first physically locate the infrastructure by utilising relevant site detection methodologies prior to performing any works or undertaking any activities near or adjacent to infrastructure. Possible site detection methodologies include hand digging, potholing, trenching and/or probing. You are solely responsible for the selection of appropriate site detection methodologies at all times.

To the fullest extent permitted by law, Urban Utilities will not be liable to you in contract, tort, equity, under statute or otherwise arising from or in connection with the provision of any Data to you via BYDA.

Compliance with laws

There may be both indicated and unmarked hazards, dangers or encumbrances, including underground asbestos pipes and abandoned mains within your nominated search area. You are solely responsible for ensuring that appropriate care is taken at all times and that you comply with all mandatory requirements relating to such matters, including in relation to workplace health and safety.

Damaged Infrastructure

Please note that it is an offence under Section 192 of the *Water Supply (Safety and Reliability) Act 2008* to interfere with our infrastructure without Urban Utilities' written consent.

You may be liable to Urban Utilities for any loss of or damage to our infrastructure, together with any consequential or indirect loss or damage (including without limitation, loss of use, loss of profits or loss of revenue) arising from or in connection with any interference with Urban Utilities' infrastructure by you or any other person for which you are legally responsible.

Any damage to Urban Utilities' Infrastructure must be reported immediately to the (24 Hours) Faults and Emergencies Team on 13 23 64.

Links

Technical Standards: <https://urbanutilities.com.au/development/help-and-advice/standards-and-guidelines>

Copyright

All Data is copyright.

Referral

271290680

Member Phone

1800 653 935

Responses from this member

Response received Wed 15 Apr 2026 8.38am

File name	Page
Response Body	79
271290680.pdf	81
AccreditedPlantLocators 2025-01-08a.pdf	83
Telstra Duty of Care v32.0c.pdf	84
Telstra Map Legend 4.0b.pdf	86

Attention: CivilWorks Construction

Site Location: 35 Kuring Gai Avenue, Tarragindi, QLD 4121

Your Job Reference: cw25193

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 BYDA request.

Please refer to all enclosed attachments for more information.

Information for opening Telstra Asset Plans as well as some other useful contact information is noted in the attached documents.

Report Damage to Telstra Equipment: [Report damages to Telstra equipment - Telstra](#)

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.

Please also refer to 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/>, The essential steps that must be undertaken prior to commencing construction activities.

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).

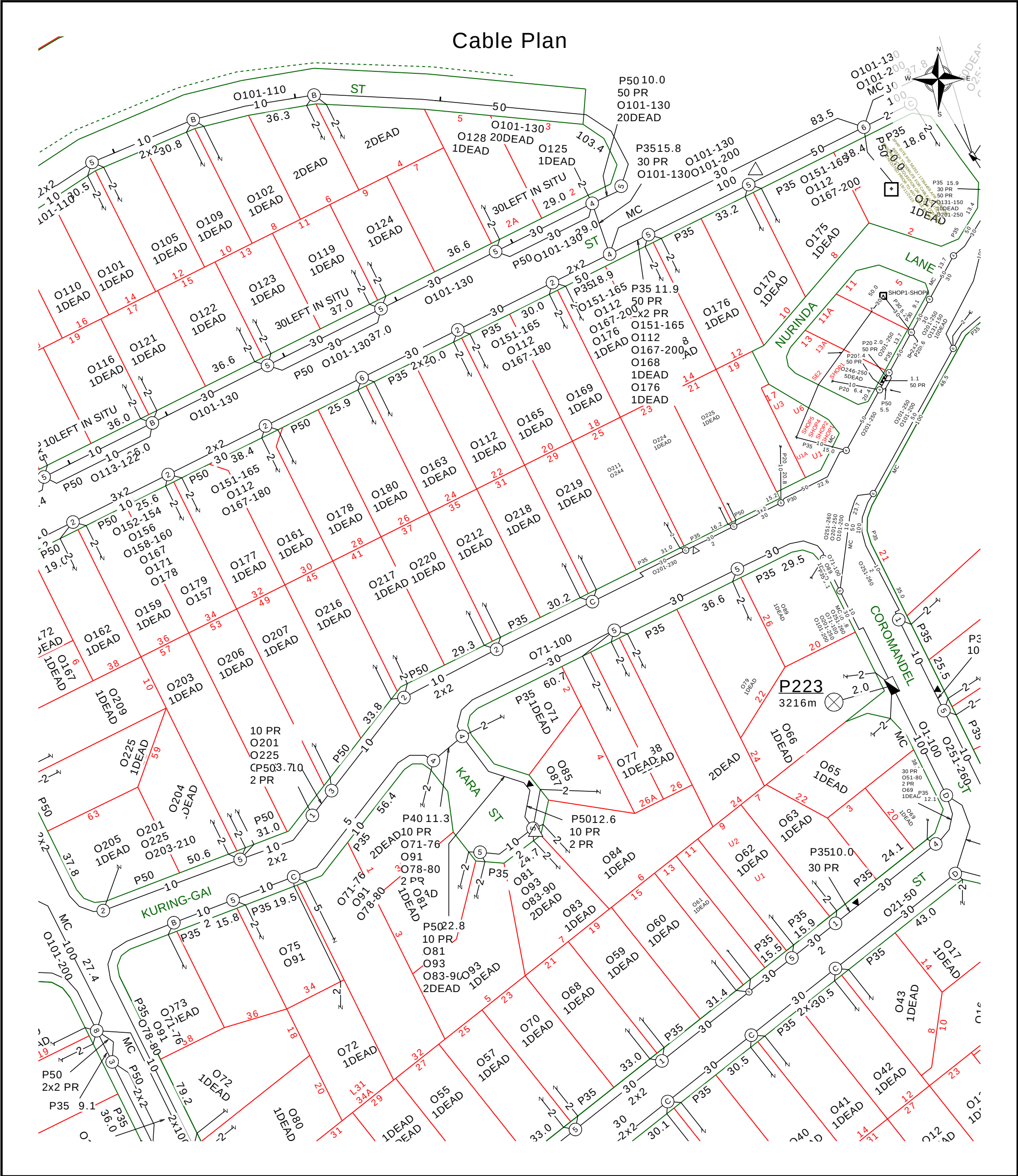
(See attached file: *Telstra Duty of Care v32.0c.pdf*)

(See attached file: *Telstra Map Legend 4.0b.pdf*)

(See attached file: AccreditedPlantLocators 2025-01-08a.pdf)

(See attached file: 271290680.pdf)

Cable Plan



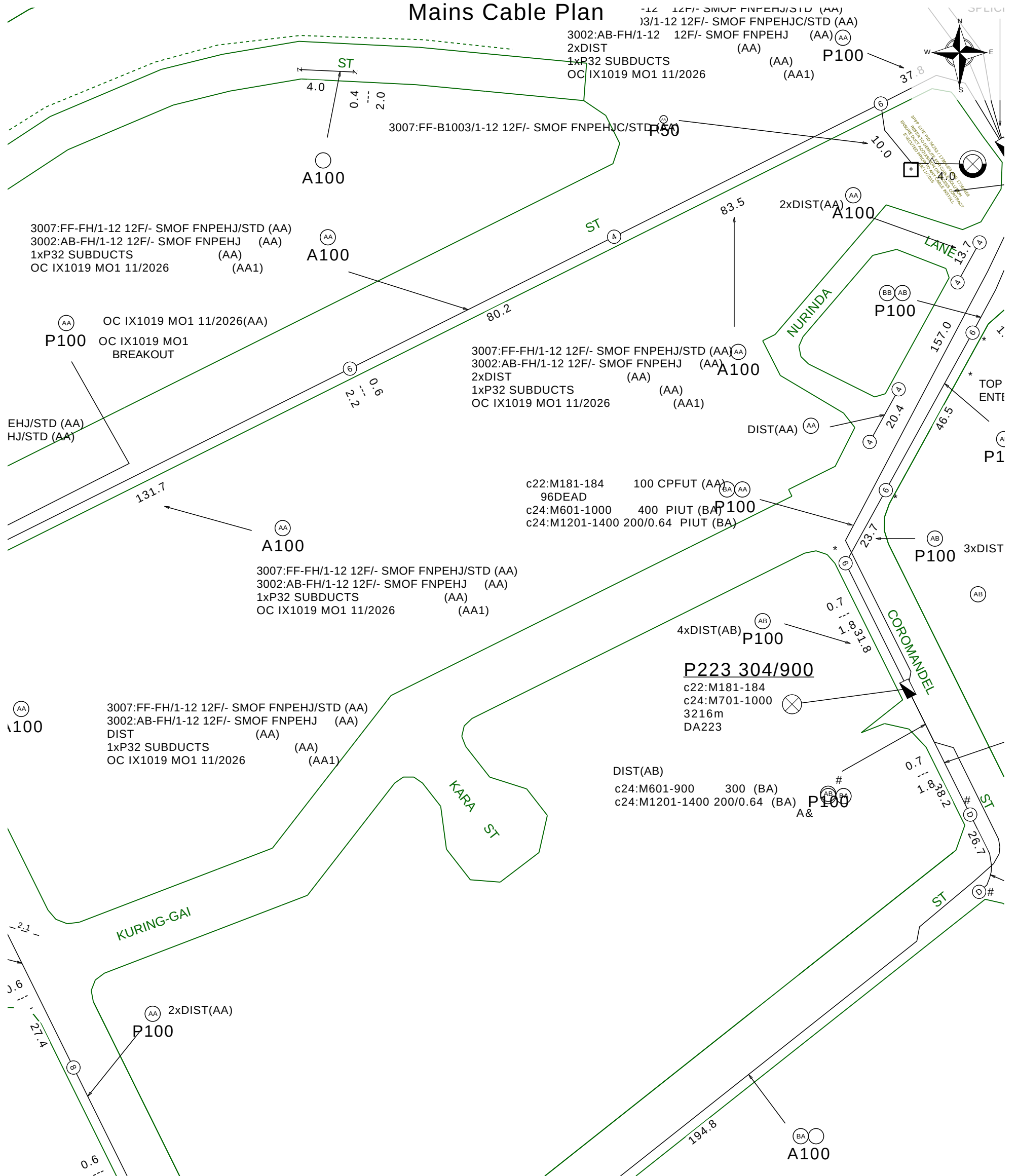
	Report Damage: https://service.telstra.com.au/customer/general/forms/report-damage-to-telstra Ph - 13 22 03 Email - Telstra.Plans@team.telstra.com Planned Services - ph 1800 653 935 (AEST bus hrs only) General Enquiries	Sequence Number: 271290680
TELSTRA LIMITED A.C.N. 086 174 781 Generated On 15/04/2026 08:36:03		CAUTION: Fibre optic and/ or major network present in plot area. Please read the Duty of Care and contact InfraCo Plan Services should you require any assistance.

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.

Mains Cable Plan



Report Damage: <https://service.telstra.com.au/customer/general/forms/report-damage-to-telstra-r>
Ph - 13 22 03
Email - Telstra.Plans@team.telstra.com
Planned Services - ph 1800 653 935 (AEST bus hrs only) General Enquiries

TELSTRA LIMITED A.C.N. 086 174 781

Generated On 15/04/2026 08:36:19

Sequence Number: 271290680

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

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.

Before you Dig Australia – BEST PRACTISE GUIDES

The five Ps of safe excavation

<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 BYDA map related enquiries email Telstra.Plans@team.telstra.com
1800 653 935 (AEST Business Hours only)



REPORT ANY DAMAGE TO THE TELSTRA NETWORK IMMEDIATELY

Report online - <https://www.telstra.com.au/forms/report-damage-to-telstra-equipment>

Ph: 13 22 03

If you receive a message asking for a phone or account number say:
“I don’t have one” then say “Report Damage” then press 1 to speak to an operator.



Telstra New Connections / Disconnections
13 22 00



Telstra asset relocation enquiries: 1800 810 443 (AEST business hours only).
NetworkIntegrity@team.telstra.com
<https://www.telstra.com.au/consumer-advice/digging-construction>



Telstra Aerial Assets Group (overhead network)
1800 047 909



CERTLOC Certified Locating Organisation (CLO)
certloc.com.au/locators/

Only Telstra authorised personnel and CERTLOC Locators can access Telstra’s Pit and Pipe Network.

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 undertaking the works to protect Telstra's 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.

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.

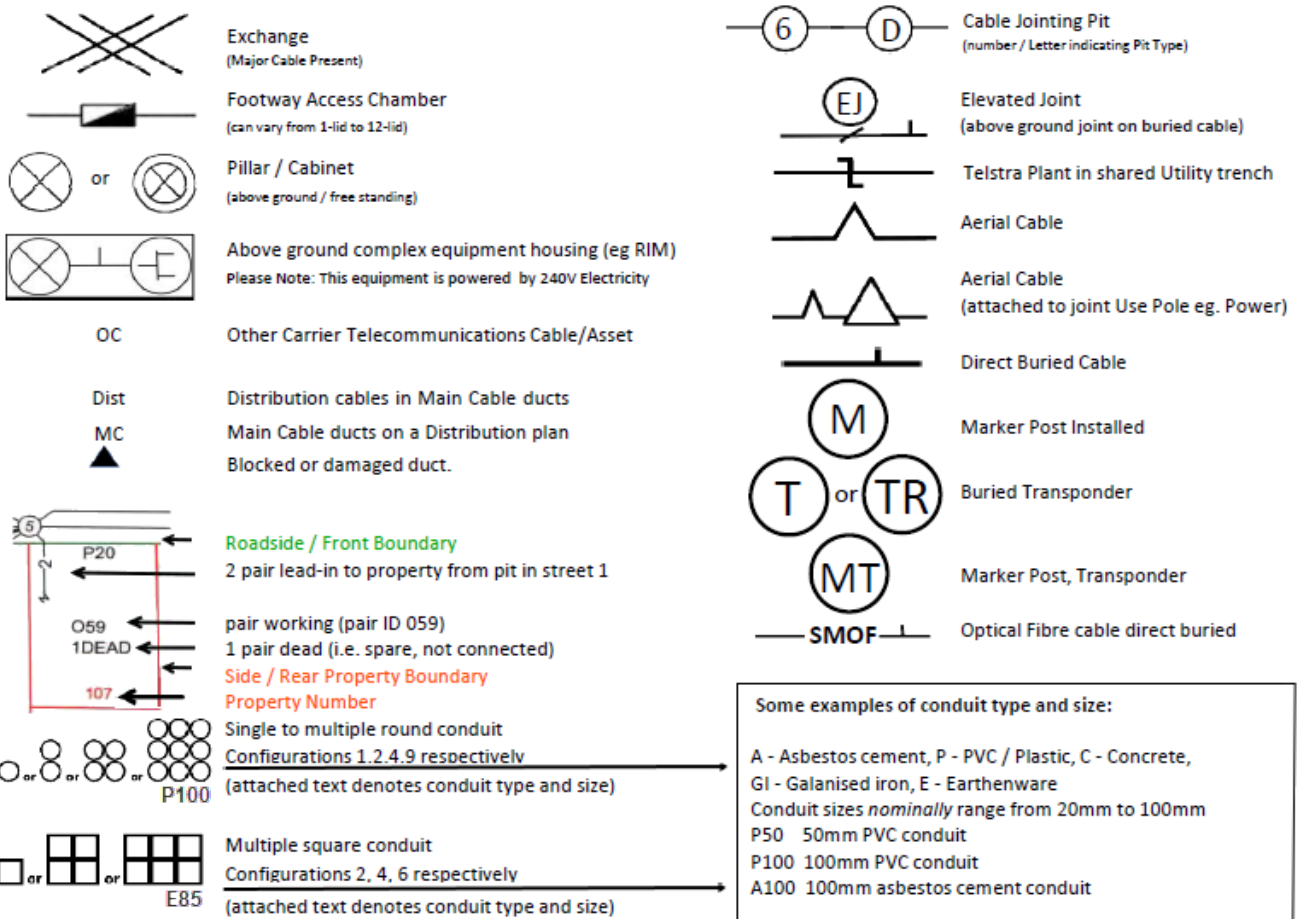
Workers and equipment must maintain safety exclusion zones around power lines

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.

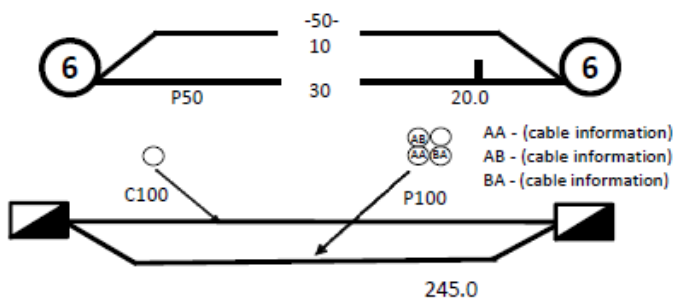
Privacy Note

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



Some Examples of how to read Telstra Plans



One 50mm PVC conduit (P50) containing a 50-pair and a 10-pair cable between two 6-pits, approximately 20.0m apart, with a direct buried 30-pair cable along the same route

Two separate conduit runs between two footway access chambers (manholes) approximately 245m apart. A nest of four 100mm PVC conduits (P100) containing assorted cables in three ducts (one being empty) and one empty 100mm concrete duct (C100) along

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



End of document

i This document may exclude some files (eg. DWF or ZIP files)

This document was automatically generated at a point-in-time. Be aware that the source information from which this document was created may have changed since it was produced. This document may contain incomplete or out-of-date information. Always check your enquiry details in the BYDA Referral Service for the most recent information. For copyright information refer to individual responses.

APPENDIX H – FloodWise Property Report

FloodWise Property Report

35 KURING-GAI AVE, TARRAGINDI 4121
Lot 13 on RP86009



Dedicated to a better Brisbane

THE PURPOSE OF THIS REPORT IS FOR BUILDING AND DEVELOPMENT

Brisbane City Council's FloodWise Property Report provides technical flood planning information including estimated flood levels, habitable floor level requirements and more. This report uses the adopted flood planning information in Brisbane City Plan 2014, that guides how land in Brisbane is used and developed for the future. Find out more about [planning and building](#). To understand how to be resilient and prepare for floods, visit Council's [Be Prepared](#) webpage. Find more information about [how to read a FloodWise Property Report](#).

This property has no flood levels

Brisbane City Council has not assigned flood level information for this property however it may be affected by one or more flood or property development flags. Please refer to the Flood Planning and Development Information below for details. The property may have 0.2% AEP flood level which will appear on the Flood Planning Information table if applicable. For professional advice or detailed assessment of a property contact a Registered Professional Engineer of Queensland.

Visit the [Be Prepared](#) page to find more information on how to prepare your home or business for potential flooding.

 **Combined** 1% AEP for river, creek and storm tide flood extent (if applicable) from the adopted Brisbane City Plan 2014. Read more about [Brisbane City Plan 2014](#).



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Are you resilient and ready for flood?

- Sign up to the Brisbane Severe Weather Alert at brisbane.qld.gov.au/beprepared
- Visit bom.gov.au for the latest weather updates.
- Have an evacuation plan, emergency kit and important phone numbers ready.
- Observe where water flows from and to during heavy rain.
- Consider how flood-resilient building techniques will have you home faster and with less damage.

Life threatening emergencies
000 Police/fire/ambulance
(mobiles **000** and **112**)

State Emergency Service (SES) **132 500**
Energex **13 19 62**
Brisbane City Council **3403 8888**

Technical Summary

This section of the FloodWise Property Report contains more detailed flood information for this property so **surveyors, builders, certifiers, architects, and engineers can plan and build** in accordance with Council's planning scheme.

Find more information about [planning and building](#) in Brisbane or talk to a Development Services Planning Information Officer via Council's Contact Centre on (07) 3403 8888.

Flood Planning and Development Information

This section of the FloodWise Property Report contains information about Council's planning scheme overlays. Overlays identify areas within the planning scheme that reflect distinct themes that may include constrained land and/or areas sensitive to the effects of development.

Flood overlay code

The Flood overlay code of Council's planning scheme uses the following information to provide guidelines when developing properties. The table below summarises the flood planning areas (FPAs) that apply to this property. Development guidelines for the FPAs are explained in [Council's planning scheme](#).

Flood planning areas (FPA)		
River	Creek / waterway	Overland flow
		Not Applicable

To find more information about Council's flood planning areas (FPAs) for Brisbane River and Creek/waterway flooding to guide future building and development in flood prone areas, please review [Council's Flood Planning Provisions](#).

Coastal hazard overlay code

The Coastal hazard overlay code of Council's planning scheme uses the following information to provide guidelines when conducting new developments. The table below summarises the coastal hazard categories that apply to this property. Development guidelines for the following Coastal hazard overlay sub-categories are explained in Council's [planning scheme](#).

Coastal hazard overlay sub-categories
There are currently no Coastal hazard overlay sub-categories that apply to this property.

Note: Where land is identified within one for more flood planning areas on the Flood overlay or is identified within one of the Storm tide inundation area sub-categories on the Coastal hazard overlay, the assessment criteria that provides the highest level of protection from any source of flooding applies.

Useful Flood Information Definitions

Australian Height Datum (AHD) - The reference level for defining ground levels in Australia. The level of 0.0m AHD is approximately mean sea level.

Annual Exceedance Probability (AEP) - The probability of a flood event of a given size occurring in any one year, usually expressed as a percentage annual chance.

- **0.2% AEP** - A flood event of this size is considered rare but may still occur. A flood of size or larger has a 1 in 500 chance or a 0.2% probability of occurring in any year.
- **1% AEP** - A flood of this size or larger has a 1 in 100 chance or a 1% probability of occurring in any year.
- **2% AEP** - A flood of this size or larger has a 1 in 50 chance or a 2% probability of occurring in any year.
- **5% AEP** - A flood of this size or larger has a 1 in 20 chance or a 5% probability of occurring in any year.
- **20% AEP** - A flood of this size or larger has a 1 in 5 chance or a 20% probability of occurring in any year.

Data quality

- **Data Quality Code A** - Level data based on recent surveyor report or approved as-constructed drawings.
- **Data Quality Code B** - Level data based on ground-based mobile survey or similar.
- **Data Quality Code C** - Level data derived from Airborne Laser Scanning or LiDAR information.

Defined Flood Level (DFL) - The DFL is used for commercial and industrial development. The Defined flood level (DFL) for Brisbane River flooding is a level of 3.7m AHD at the Brisbane City Gauge based on a flow of 6,800 m/s. DFL is only applicable for non-residential uses affected by Brisbane River flooding.

Flood planning area (FPA) - Council has developed five Flood planning areas (FPAs) as part of Brisbane City Plan 2014 Flood overlay mapping for Brisbane River, Creek/waterway flooding and Overland flow to guide future building and development in flood prone areas. Storm tide flooding is mapped separately. The FPAs are designed to recognise the flood hazard for different flooding types. Flood hazard is a combination of frequency of flooding, the flood depth, and the speed at which the water is travelling. [Find more information here.](#)

Maximum and minimum ground level - Highest and lowest ground levels on the property based on available ground level information. A Registered Surveyor can confirm exact ground levels.

Minimum habitable floor level (dwelling house) - The minimum level in metres AHD at which habitable areas of development (generally including bedrooms, living rooms, kitchen, study, family, and rumpus rooms) must be constructed as required by the Brisbane City Plan 2014.

Indicative existing floor level - The approximate level in metres AHD of the lowest habitable floor in the existing building (excluding apartments). The data is sourced from a range of sources with varying accuracy levels.

Property - A property will contain 1 or more lots. The multiple lot warning is shown if you have selected a property that contains multiple lots.

Residential flood level (RFL) - This flood level for the Brisbane River equates to the 1% annual exceedance probability (AEP) flood level.

To learn more, visit [Brisbane City Council's Flood Information Hub](#)

Brisbane City Council's Online Flood Tools

Council provides several online flood tools:

- to guide planning and development
- to help residents and businesses understand their flood risk and prepare for flooding.

Council's online flood tools for planning and development purposes include:

- **FloodWise Property Report**
- **Flood Overlay Code**

For more information on Council's planning scheme and online flood tools for planning and development:

- phone (07) 3403 8888 and ask to talk to a Development Services Planning Information Officer

- visit brisbane.qld.gov.au/planning-building

Council's Planning Scheme - The Brisbane City Plan 2014 (planning scheme) has been prepared in accordance with the Sustainable Planning Act as a framework for managing development in a way that advances the purpose of the Act. In seeking to achieve this purpose, the planning scheme sets out the Council's intention for future development in the planning scheme area, over the next 20 years.

Disclaimer

1. Defined flood levels and residential flood levels, minimum habitable floor levels and indicative existing floor levels are determined from the best available information to Council at the date of issue. These levels, for a particular property, may change if more detailed information becomes available or changes are made in the method of calculating levels.
2. Council makes no warranty or representation regarding the accuracy or completeness of a FloodWise Property Report. Council disdains any responsibility or liability in relation to the use or reliance by any person on a FloodWise Property Report.



Planning to build or renovate?

For information, guidelines, tools and resources to help you track, plan or apply for your development visit brisbane.qld.gov.au/planning-building

You can also find the Brisbane City Plan 2014 and Neighbourhood Plans as well as other information and training videos to help, with your building and development plans.