

APPENDIX G

Civil Engineering Services Report

Prepared by:

Burchills Engineering



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332-334 Water St, Fortitude Valley

Civil Engineering Report

Client: Pellicano Living Pty Ltd

Project No: BE220298

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Appendices

Appendix A – DBYD

Appendix B – Plan of Development

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1. Introduction

Burchills Engineering Solutions have been engaged by Pellicano Living Pty Ltd to prepare a Civil Engineering Report to accompany the PDA Development Permit for a Material Change of Use, involving Multiple Dwelling, Short-Term Accommodation and Centre Activities (Food and Drink Outlet, Office and Shop) located at 332-334 Water Street, Fortitude Valley.

The subject site is situated within the Brisbane City Council (BCC) and the Bowen Hills Priority Development Area, and is therefore subject to assessment against the Bowen Hills Priority Development Area Development Scheme ("Development Scheme"). Under the Development Scheme, the site is located within the following designations:

- Urban Area - as designated in the PDA Structure Plan;
- Mixed Use Zone - as designated in the PDA Zoning Plan; and
- Precinct 2 - as designated in the PDA Precincts Boundaries.

This report determined that the site is suitable for the proposed development, in relation to matters concerning civil engineering design parameters and site constraints. The development can be undertaken in accordance with the current Brisbane City Council guidelines, SEQ Water Supply and Sewerage, Design and Construction Code and best management practices.

1.1 Scope of Report

This report describes the existing physical conditions of the site, and suitability for the proposed development with particular respect to:

- Project Identification;
- Proposed Development;
- Site Earthworks;
- Access and Traffic;
- Stormwater Drainage;
- Water Supply;
- Sewer Reticulation;
- Electricity and Telecommunications Supply.

This report represents an assessment of the facts and circumstances pertaining to these matters, as they are known to the writer at the time of preparation.



2. Project Identification

2.1 Real Property Description

The subject site is located at 332 - 334 Water Street, Fortitude Valley QLD 4006, more formally described as Lot 1 on RP10553, Lots 11 and 12 on RP10552, Lots 5, 6 and 94 on SP266307, Lot 13 on RP81335, Lot 955 on SP206840 and Easement A on SP143465. The proposed development involves 475 residential dwellings across two (2) towers ranging between 1, 2 and 3 bedroom dwellings. The towers have a building height of 31 storeys, which includes a communal rooftop terrace. Commercial and retail uses are also proposed, along with expansive public plaza spaces on the ground plane. The commercial Ground Floor Area (GFA) summates to 2,667m², with the majority of that being designated office space. A 46m² portion of the commercial space will be designated to food and drink services.

The site which is to be developed is shown on the Design Concept Plan prepared by Woods Bagot which is included in Appendix B of this report. A DBYD is included within Appendix A of this report. The location of the subject site is shown on Figure 2.1 below.



Figure 2.1 Site Locality Plan



2.2 Physical Description

The site currently has road frontage with Water Street on the southern boundary, Brunswick Street on the western boundary and neighbouring residential tower on the eastern boundary. The site is generally flat throughout due to the demolition of previous structures. The site is approximately 4.6m AHD with a slight grading from the north-western corner down to the south-eastern corner of Water Street. Currently, the subject site consists of hard stand podium and ground level slab, which ties into existing council verge/footpath.

The site is bounded by the following existing land uses:

North:	Multi-storey commercial development (Emerging Community Zone);
South:	Water Street;
East:	Multi-storey residential unit complex (Emerging Community Zone); and
West:	Brunswick Street.



2.3 Proposed Development

The subject site is proposed to be developed into a residential development consisting of two residential apartment towers as well as approximately 479 carparks. The proposed development layout is shown below in Figure 2.2, and on the Design Concept Plan prepared by Woods Bagot shown within Appendix B.

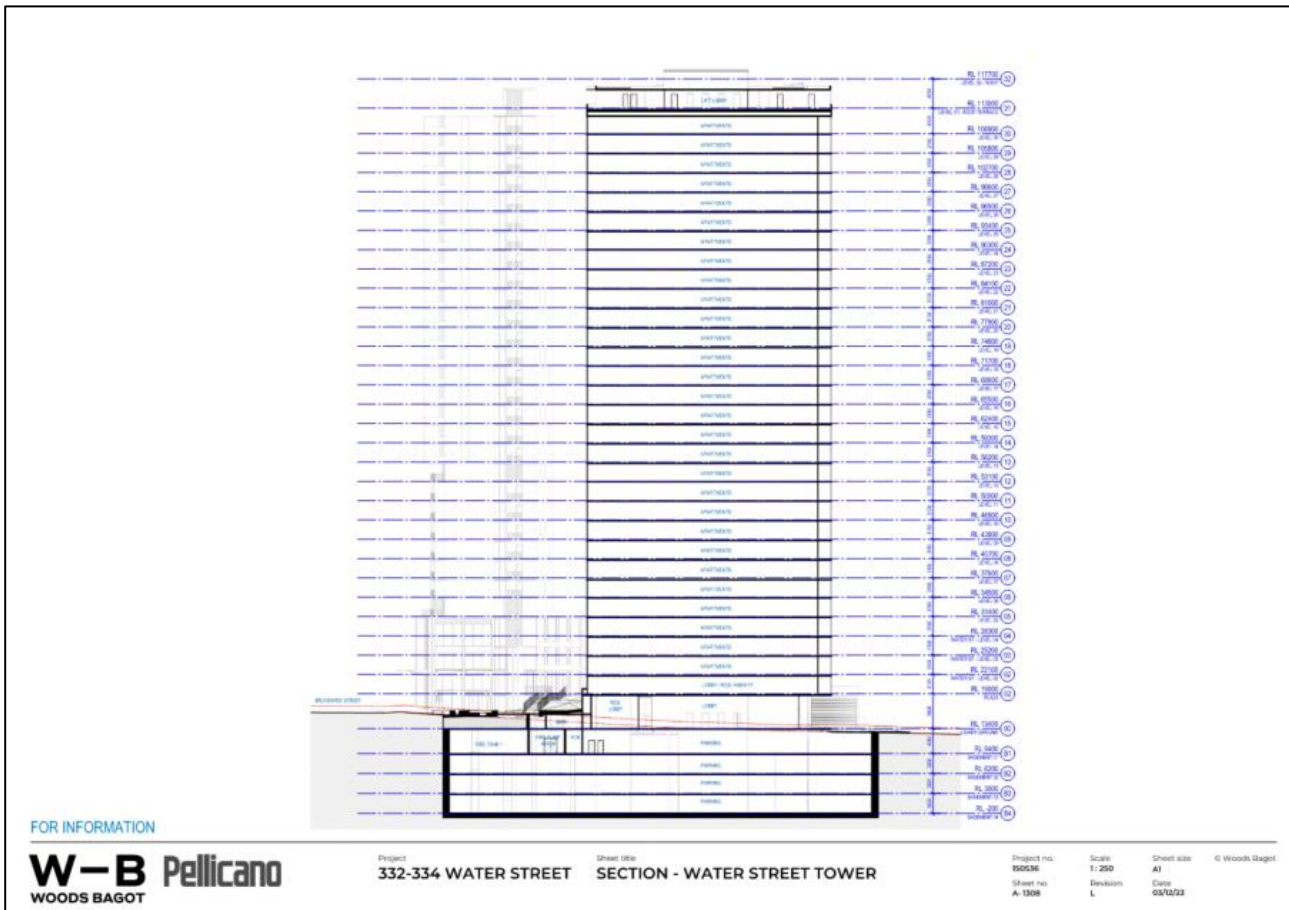


Figure 2.2 Design Concept Plan Water Street



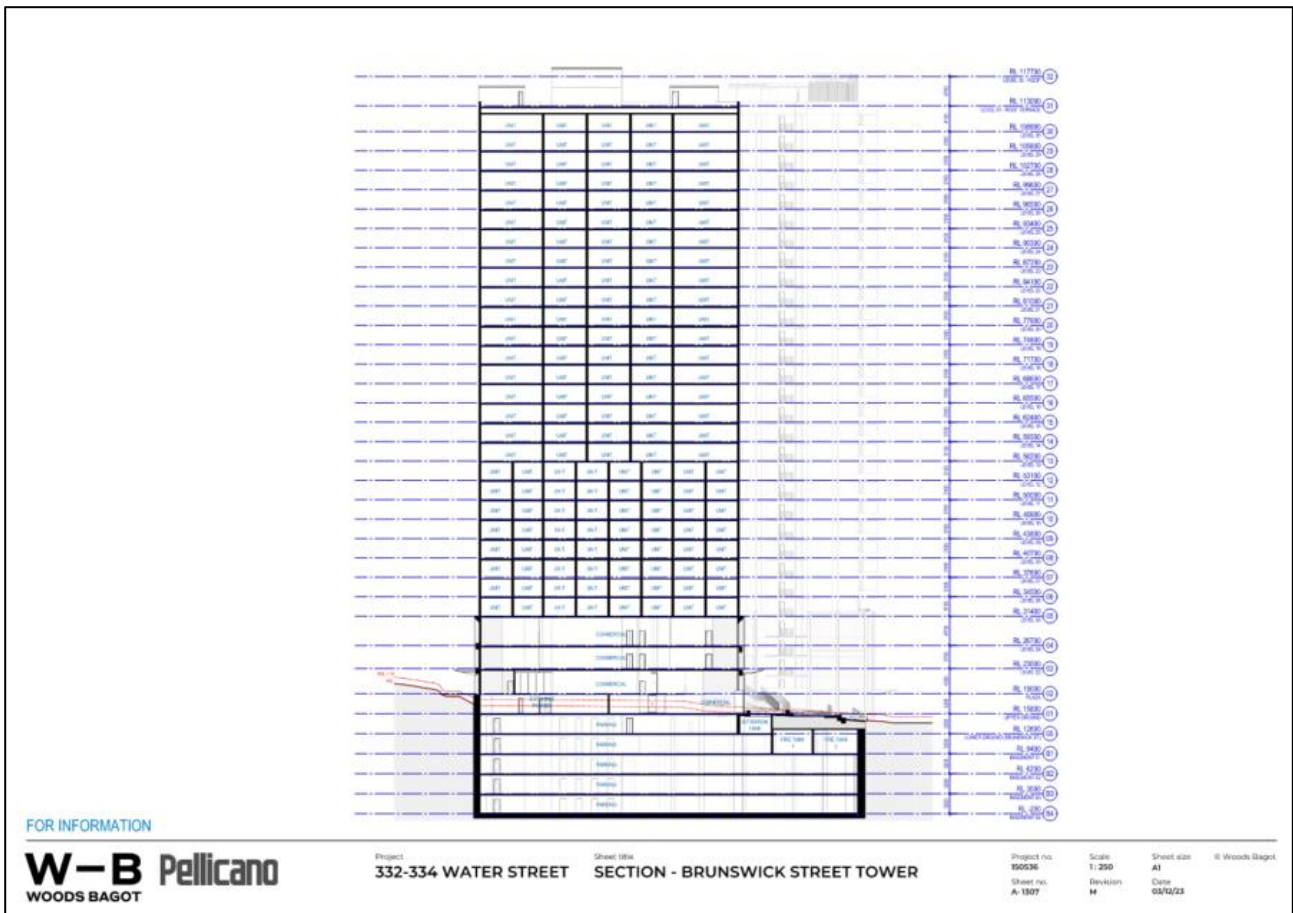


Figure 2.3 Design Concept Plan Brunswick Street

Based on the SEQ Water Supply and Sewerage Design & Construction Code, the Equivalent Tenements (ET) and Equivalent Population (EP) for the proposed development is shown in Table 2.1.



Table 2.1 Development Summary

Use	Unit	Total Units/ GFA	EP's/Ha	Total EP
Mixed use zone — Inner city zone precinct – Water	295.5	2,736 m ²	295.50EP/ Ha	80.85
Attached Dwelling (Apartment)	1	475 units	1.75EP/Unit	831.25
			TOTAL	912.10
Mixed use zone — Inner city zone precinct – Sewer	310.5	2,736 m ²	310.50EP/Ha	84.95
Attached Dwelling (Apartment)	1	475 units	1.75EP/Unit	831.25
			TOTAL	916.20



3. Site Earthworks

It is anticipated that earthworks associated with the proposed development will include cutting and filling associated with trenching of services, basement excavation, and alterations to existing levels to allow for a level building pad and a basement carpark.

3.1 Sediment and Erosion Control

The best management practices will be implemented according to the IECA Best Practice Erosion and Sediment Control (2008) guidelines.

The following is a procedure of water quality controls to be implemented for the construction stage of the development.

3.1.1 Phase 1 – Basement Dewatering

- A dewatering management plan is to be prepared by a suitably qualified consultant.

3.1.2 Phase 2 – Infrastructure, Building & Roadworks

- The site stormwater pipes and pits shall be installed with drop inlets provided to all pits.
- Provide sediment fences, sandbags or fine mesh cover to all gully pits.
- Monitoring of new stormwater pipes and infrastructure (including the storm water quality improvement devices) to ensure they are free of sediment and debris.
- Maintain shake down and wash down area at entry/exit.
- All disturbed areas are to be surfaced or landscaped/grassed (maintained to minimum 70% ground cover) as soon as practicable after completion of localised works.

3.1.3 Phase 3 – Finishing Works & Defects Liability Period

All erosion and sediment control measures, including sediment fences and inlet traps shall be maintained until completion of surface finishes including landscaping and turfing:

- Maintain sediment fences.
- Attend to landscaped areas to maintain ground cover.

It is to be noted that this report does not address structural or geotechnical aspects of the development. These services are being completed by others and should be read prior to earthworks activities being commenced on site.



4. Access and Traffic

Access into the development is proposed via an entry ramp from Water Street. This ramp will be divided into two lanes; one entry and one exit. The internal basement network will have a width that varies between 5.8m and 6.8m. There will be a combined total of 408 car spaces in the combined basement that both buildings share. SLR have completed a Traffic Impact Statement (Project No.: 620.V31023.00000) dated 11 October 2023. It is imperative that this report be reviewed for further traffic advice.



5. Stormwater Drainage

The stormwater drainage and flooding assessment associated with the proposed development has been prepared in accordance with the Brisbane City Council City Plan 2014 (BCC, 2022) and has referenced relevant guidelines relating to stormwater management to form the conceptual basis of the design strategy. The following outcomes have been made as a result of this report.

Stormwater Quantity

- The Lawful Points of Discharge (LPD) for the site have been defined as the sites southern boundary.
- Runoff produced over catchments A1 and A2 will be conveyed by the internal stormwater network and road infrastructure to the proposed stormwater management devices. From these devices, stormwater will be discharged to Water Street in a controlled manner via kerb adapters.
- Proposed on-site detention required to meet kerb and channel flow limits are as follows:
 - Tank A1: 185m³
- To satisfy the flood overlay code, the minimum crest level to the basement carparking entrance must be above the 2% AEP overland flow flood level, 12.95 m AHD.
- The building hydraulic consultant should consider a suitable location for the detention tank to surcharge in the event of a blockage or rainfall event in excess of the 1% AEP.

Stormwater Quality

- To achieve Brisbane City Council's Water Quality Objectives, it is proposed to use ATLAN's proprietary treatment devices.
- The required devices are as follows:
 - Catchment A1
 - Six (6) 600x600 ATLAN Stormsacks; and,
 - Three (3) ATLAN Filter Cartridges within one (1) ATLAN Vault Precast Concrete Tank



6. Water Supply

There is an existing DN150 water main which traverses Water Street. It is proposed that the development will gain its potable water supply from this main. The development will also gain its fire slow supply from the same main therefore, dual services will likely be required. It is anticipated that the existing infrastructure has the capacity to service the proposed development. We note that further consultation with Urban Utilities to determine adequacy of main, pipe size and flows will be undertaken at a later date. Hydraulic engineers will conduct their own investigation into the internal mains, which will be coordinated appropriately during subsequent application phases.

A DBYD has been prepared and is included within Appendix A of this report. Details of the proposed water connection are shown on the Water Schematic, Drawing No. BE220298-C500-A, prepared by Burchills Engineering Solutions and included within Appendix C.

6.1 Water Demand Calculation

To determine suitable pipe sizing for the proposed development, water demands are calculated according to the intended new development. The water criteria and design parameters are based on the following references:

- SEQ Water Supply and Sewerage Design & Construction Code (SEQ WS&S D&C Code); and
- Water Services Association of Australia – WSA 03-2013 Water Supply Code of Australia, Part 1: Planning and Design.

The water flow parameters shown in Table 6.1, 6.2 and 6.3 required to meet Council's Standards of Service and have been based on Single Supply (Drinking Water Only) Network parameters shown in SEQ Design Criteria Table 6.1.

Table 6.1 Potable Water Supply Demand and Peaking Factor

Property Type	Average Day Demand L/EP/day	Non-Revenue L/EP/day	Peaking Factors		
			MDMM	PD	PH
Attached Dwelling	230	30	1.5	2	3.5
Mixed Use Commercial	230	30	1.5	2	2.8

Notes:

MDMM	Mean Day Maximum Month Demand
PD	Peak Day Demand
AD	Average Day Demand
PH	Peak Hour Demand



Table 6.2 Potable Water Pressure Parameters

Item	Pressure Parameter
Minimum Service Pressure	22 metres (at the property boundary)
Maximum Service Pressure	Target 55 metres (at the property boundary)

Table 6.3 Fire Fighting Parameters

Item	Pressure Parameter
Minimum Residential Mains Pressure (Emergency Fire operating conditions)	12 metres at the main at the property boundary 6 metres elsewhere
Fire Flow High Density Residential	60 L/s for a duration of 4 hrs by up to 5 hydrants
Fire Flow Commercial	30 L/s for a duration of 4 hrs by up to 3 hydrants
Background Demand	2/3 x Peak Hour demand plus 1 x non-residential peak hour demands

The calculated water supply demand for the proposed development is shown in Table 6.4.

Table 6.4 Water Supply Demand Calculations

Use	EP	AD Flow	Non-Revenue	AD (L/s)	PH (L/s)
Attached Dwelling	912.20	230	30	2.74	8.82
Mixed Use Commercial	80.85	230	30	0.23	0.61
			Total	2.73	8.64

Calculations of maximum peak demand and demand multiplier for the residential aspect of the development are based on an allowance of 230 L/EP/day and a peak hour factor of 3.5 for Attached Dwellings and a peak hour factor of 2.8 for Mixed Use Commercial, with the Non-Revenue flows of 30 L/EP/day, as follows:

$$\begin{aligned}
 \text{Maximum Residential Peak Demand} &= \text{PHF} \times \text{Demand Rate} \times \text{EP's} + \text{NR} \\
 &= 3.5 \times 230 \times 912.20 + (30 \times 912.20) \\
 &= 716,687.00 \text{ L/day} \\
 &= 8.82 \text{ L/s}
 \end{aligned}$$

$$\begin{aligned}
 \text{Demand Multiplier} &= \text{Maximum Demand} / \text{EP's} \\
 &= 0.0096 \text{ L/sec/EP}
 \end{aligned}$$



Maximum Commercial Peak Demand	= PHF x Demand Rate x EP's + NR
	= 2.8 x 230 x 80.85 + (30 x 80.85)
	= 54,492.90 L/day
	= 0.63 L/s
Demand Multiplier	= Maximum Demand / EP's
	= 0.0078 L/sec/EP



7. Sewer Reticulation

There is an existing 150mm gravity sewer house connection on Water Street that runs along the southern boundary of the site. It is anticipated that wastewater generated from the development will be conveyed to this main via the existing 150mm connection.

Details of the proposed sewer connection are shown on the Services Connection Layout Plan, Drawing No. BE220298-C600-A, prepared by Burchills Engineering Solutions and is included in Appendix C. Detailed design and sizing of the development's external sewerage reticulation and connection will be undertaken at the detailed design phase of the development.

It should be noted that the intention of the design is for council access to be maintained to all council owned sewer infrastructure traversing beneath the proposed development. A build over sewer application process will be undertaken ensuring that the purpose of the sewer main is protected.

7.1 Sewer Demand Calculation

The sewer criteria and design parameters are based on the following references:

- SEQ Water Supply and Sewerage Design & Construction Code (SEQ WS&S D&C Code); and
- Water Services Association of Australia – WSA 02-2014 Sewerage Code of Australia, Part 1: Planning and Design.

The sewer flow generation, pipe design parameters, minimum sewer pipe grades and maximum capacity are shown below in Table 7.1, 9.2 and 9.3. The following parameters are based on Urban Utilities NuSewer smart sewer option:

Table 7.1 Sewer Flow Generation Parameters

Flow	Parameter
Average Dry Weather Flow (ADWF)	180 L/EP/d
Peak Dry Weather Flow (PDWF)	$PDWF = d \times SF + GWI$; Where: SF = Sanitary Flow of 150 L/EP/d GWI = Groundwater Infiltration of 30 L/EP/d
Peak Wet Weather Flow (PWWF)	$PWWF = PDWF + \text{Rainfall Dependent Inflow (RDF)}$ RDF = 360 L/EP/d



Table 7.2 Pipe Design Parameters

Flow	Parameter
Mannings 'n'	0.0128
Minimum velocity @ PDWF	0.75 m/s
Depth of Flow @ PWWF – Existing system	Up to 1.0 m below MH cover level and no spillage through overflow structures
Depth of Flow @ PWWF – Proposed sewers	Max flow depth shall not exceed $\frac{3}{4}$ pipe full (75% d/D).

Table 7.3 Minimum Pipe Capacity – New Sewers Flowing $\frac{3}{4}$ Full

Pipe Size (mm)	Min Pipe Grade (1 in x)	Capacity (L/s)
150	180	10.4
225	300	23.6
300	400	44.1
525	750	143.0
1200	2400	796.1

The total development yield has been taken into account, not just the increase in equivalent persons on the subject site. The calculated sewer demand generation for the proposed development is shown in Table 7.4.

Table 7.4 Sewer Demand Calculation

Use	EP	ADWF Rate	ADWF (kL/d)	PDWF (kL/d)	PWWF (kL/d)	PWWF (L/s)
Mixed Use Zone & Attached Dwelling	916.20	180	164.92	500.24	830.07	9.60

The calculations indicate that the total post development demand at PWWF will be approximately 9.60 L/s. Initial assessment indicates that the existing sewer main which traverses Water Street is a DN225 gravity main. It is anticipated that a sewer network capacity be undertaken through Urban Utilities to develop further understanding into the condition of the existing infrastructure.



8. Electrical and Telecommunications

A Dial Before You Dig search has been completed and is included in Appendix A of this report. It is envisaged that adequate power supply can be provided to the site from the existing infrastructure. However, a specialist electrical consultant will need to be engaged to provide advice in relation to internal electrical reticulation requirements, to prepare detailed designs and to liaise with the relevant authorities.



9. Conclusion

The findings of this Civil Engineering Report support the site use proposed in this development application to Brisbane City Council.

It is anticipated that earthworks associated with the proposed development will include cutting and filling associated with trenching of services, basement excavation, and alterations to existing levels to allow for a level building pad and a basement carpark.

The Lawful Points of Discharge (LPD) for the site have been defined as the southern boundary of the site. Stormwater runoff will be detained and mitigated to allowable kerb and channel flow limits through the use of an on-site detention device.

Water Quality Design Objectives prescribed by the State Planning Policy will be achieved through the use of Atlans proprietary quality devices.

There is an existing DN150 water main which traverses Water Street. It is proposed that the development will gain its potable water supply from this main. The development will also gain its fire slow supply from the same main therefore, dual services will likely be required. It is anticipated that the existing infrastructure has the capacity to service the proposed development. We note that further consultation with Urban Utilities to determine adequacy of main, pipe size and flows will be undertaken at a later date.

There is an existing DN225 gravity sewer house connection on Water Street that traverses the southern boundary of the site. It is anticipated that wastewater generated from the development will be conveyed to this main via the existing DN225 connection. It is anticipated that a sewer network capacity be undertaken through Urban Utilities to develop further understanding into the condition of the existing infrastructure.

All required essential services can be suitably provided to the development, including:

- Stormwater Drainage;
- Reticulated Water Services;
- Reticulated Sewerage Services;
- Electricity and Telecommunications Supply.



Appendix A – DBYD



Caller Details

Contact: Chris Hunter
Company: Burchills Engineering Solutions
Address: 2/26 Marine Parade
Southport QLD 4215

Caller Id: 3069616
Phone: 0432 588 853
Email: chris.hunter@burchills.com.au

Dig Site and Enquiry Details

WARNING: The map below only displays the location of the proposed dig 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.



User Reference: 68 Brunswick Street
Working on Behalf of: Private
Enquiry Date: 03/08/2022
Start Date: 05/08/2022
End Date: 31/08/2022

Address:
68 Brunswick Street
Fortitude Valley QLD 4006

Job Purpose:

Design

Onsite Activities:

Planning & Design

Location of Workplace:

Both

Location in Road:

Road, Nature Strip, Footpath

- Check that the location of the dig site is correct. If not you must submit a new enquiry.
- Should 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 do not understand the plans or how to proceed safely, please contact the relevant asset owners.

Notes/Description of Works:

Not supplied

Your Responsibilities and Duty of Care

- The lodgement of an enquiry does not authorise the project to commence. You must obtain all necessary information from any and all likely impacted asset owners prior to excavation.
- If plans are not received within 2 working days, contact the asset owners directly & quote their Sequence No.
- ALWAYS perform an onsite inspection for the presence of assets. Should you require an onsite location, contact the asset owners directly. Please remember, plans do not detail the exact location of assets.
- Pothole to establish the exact location of all underground assets using a hand shovel, before using heavy machinery.
- Ensure you adhere to any State legislative requirements regarding Duty of Care and safe digging requirements.
- If you damage an underground asset you MUST advise the asset owner immediately.
- By using this service, you agree to Privacy Policy and the terms and disclaimers set out at www.1100.com.au
- For more information on safe excavation practices, visit www.1100.com.au

Asset Owner Details

The assets owners listed below have been requested to contact you with information about their asset locations within 2 working days. Additional time should be allowed for information issued by post. It is **your responsibility** to identify the presence of any underground assets in and around your proposed dig site. Please be aware, that not all asset owners are registered with the Before You Dig service, so it is **your responsibility** to identify and contact any asset owners not listed here directly.

** Asset owners highlighted by asterisks ** require that you visit their offices to collect plans.

Asset owners highlighted with a hash # require that you call them to discuss your enquiry or to obtain plans.

Seq. No.	Authority Name	Phone	Status
214416702	AARNet Pty Ltd Qld	1300 275 662	NOTIFIED
214416711	APT Holdings - Origin (AGN North)	1800 085 628	NOTIFIED
214416701	Brisbane City Council	(07) 3403 8888	NOTIFIED
214416705	Energex QLD	13 12 53	NOTIFIED
214416707	NBN Co Qld	1800 687 626	NOTIFIED
214416704	Nextgen NCC - QLD	1800 262 663	NOTIFIED
214416703	Optus and or Uecomm Qld	1800 505 777	NOTIFIED
214416709	Queensland Urban Utilities	13 23 64	NOTIFIED
214416708	Telstra QLD South East	1800 653 935	NOTIFIED
214416710	TPG Telecom (QLD)	1800 786 306	NOTIFIED
214416706	Vocus Communications 2	1800 262 663	NOTIFIED

All underground cables shall be treated as being energised. Where a cable is located that is not represented on the ENERGEX DBYD map, then ENERGEX shall be contacted immediately.

For Emergency Situations
please call 13 19 62



DBYD

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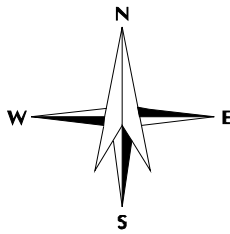
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OVERVIEW

For a full list of Map
Symbols, please
refer to the supplied
DBYD Symbology
Legend page

AS5488 Category "D" Plan



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This output provides details of the ENERGEX electrical network. As variations map exist no responsibility is incurred by ENERGEX for the accuracy or completeness of the information provided. Exact positions of cables and electrical connectivity should be confirmed on site.

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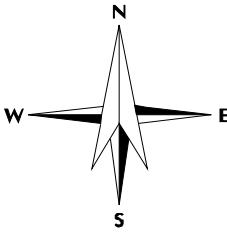


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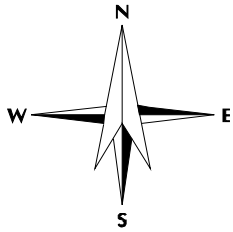


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Symbols, please
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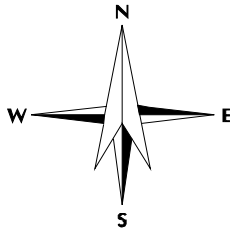


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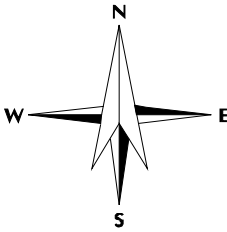


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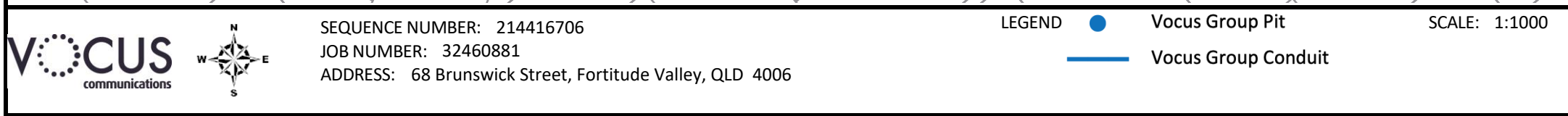
For a full list of Map
Symbols, please
refer to the supplied
DBYD Symbology
Legend page

AS5488 Category "D" Plan

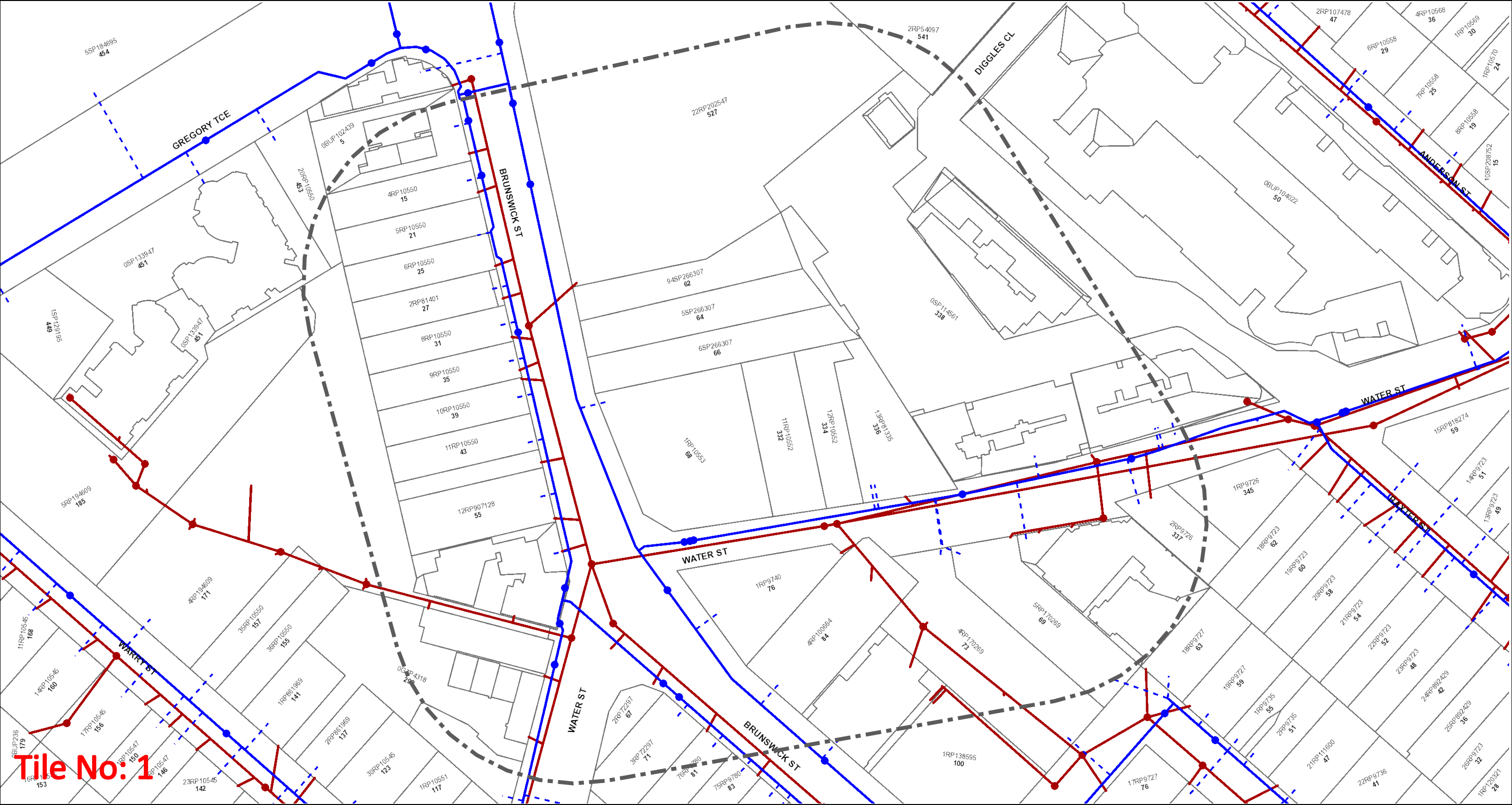


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This output provides details of the ENERGEX electrical network. As variations map exist no responsibility is incurred by ENERGEX for the accuracy or completeness of the information provided. Exact positions of cables and electrical connectivity should be confirmed on site.



Urban Utilities - Water, Recycled Water and Sewer Infrastructure





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

DBYD Reference No: 214416709

Date DBYD Ref Received: 04/08/2022

Date DBYD Job to Commence: 05/08/2022

Date DBYD Map Produced: 04/08/2022

This Map is valid for 30 days

Produced By: Urban Utilities

Sewer

- Infrastructure
- ◆ Major Infrastructure
- Network Pipelines
- ▨ Network Structures

Water

- Infrastructure
- ◆ Major Infrastructure
- Network Pipelines
- ▨ Network Structures
- - - Water Service (Indicative only)



Map Scale

1:1000

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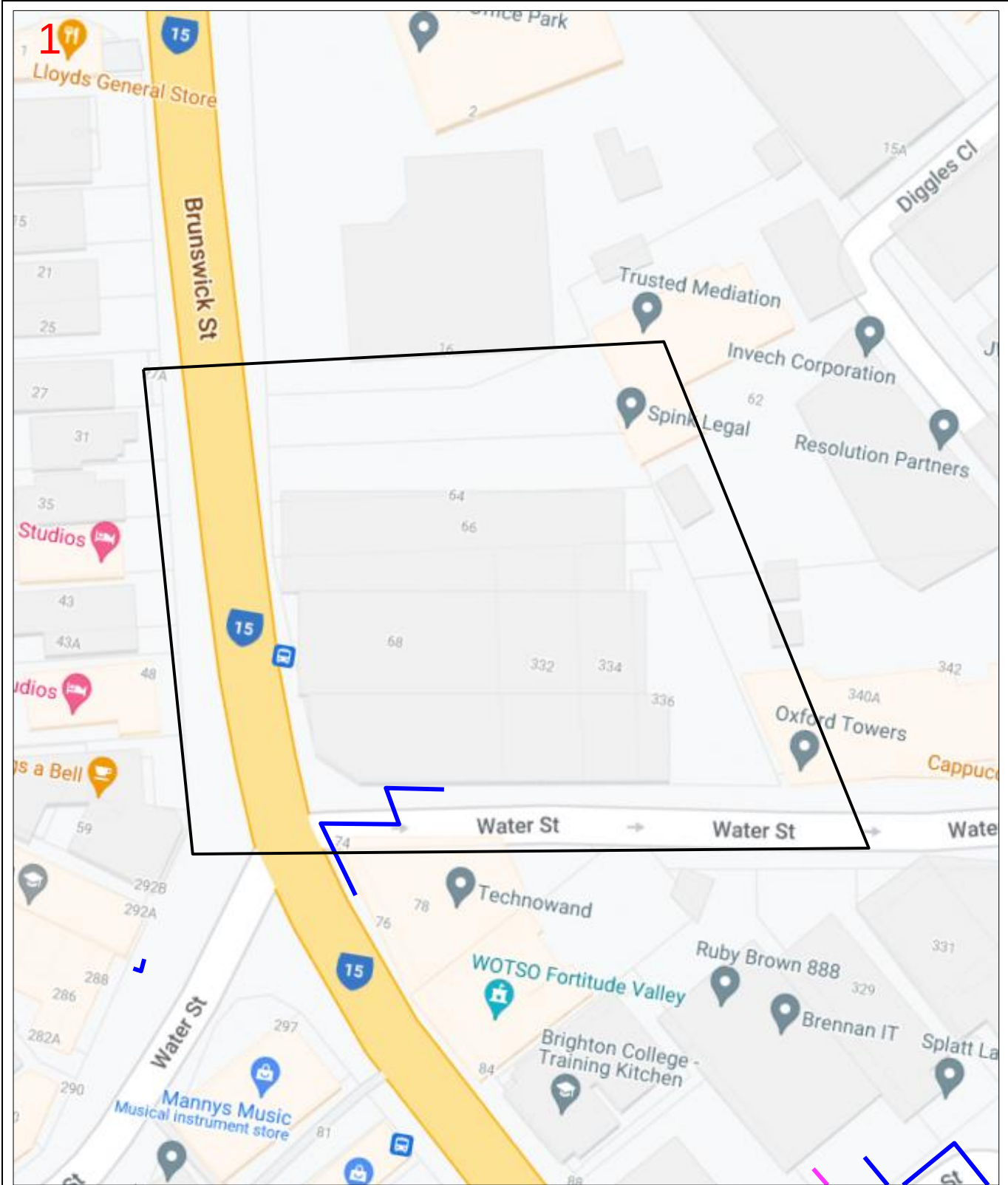
For further information, please call Urban Utilities on 13 26 57 (8am-6pm weekdays). Faults and emergencies 13 23 64 (24/7).

www.urbanutilities.com.au

ABN 86 673 835 011

Plans generated [04 Aug 2022] by PelicanCorp TicketAccess Software | www.pelicancorp.com

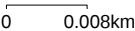
AU.Urban Utilities (QLD) - Response Plan.docx (2020)



Enquiry Number: 214416710

Map Sheet: 1

Scale: 1: 750



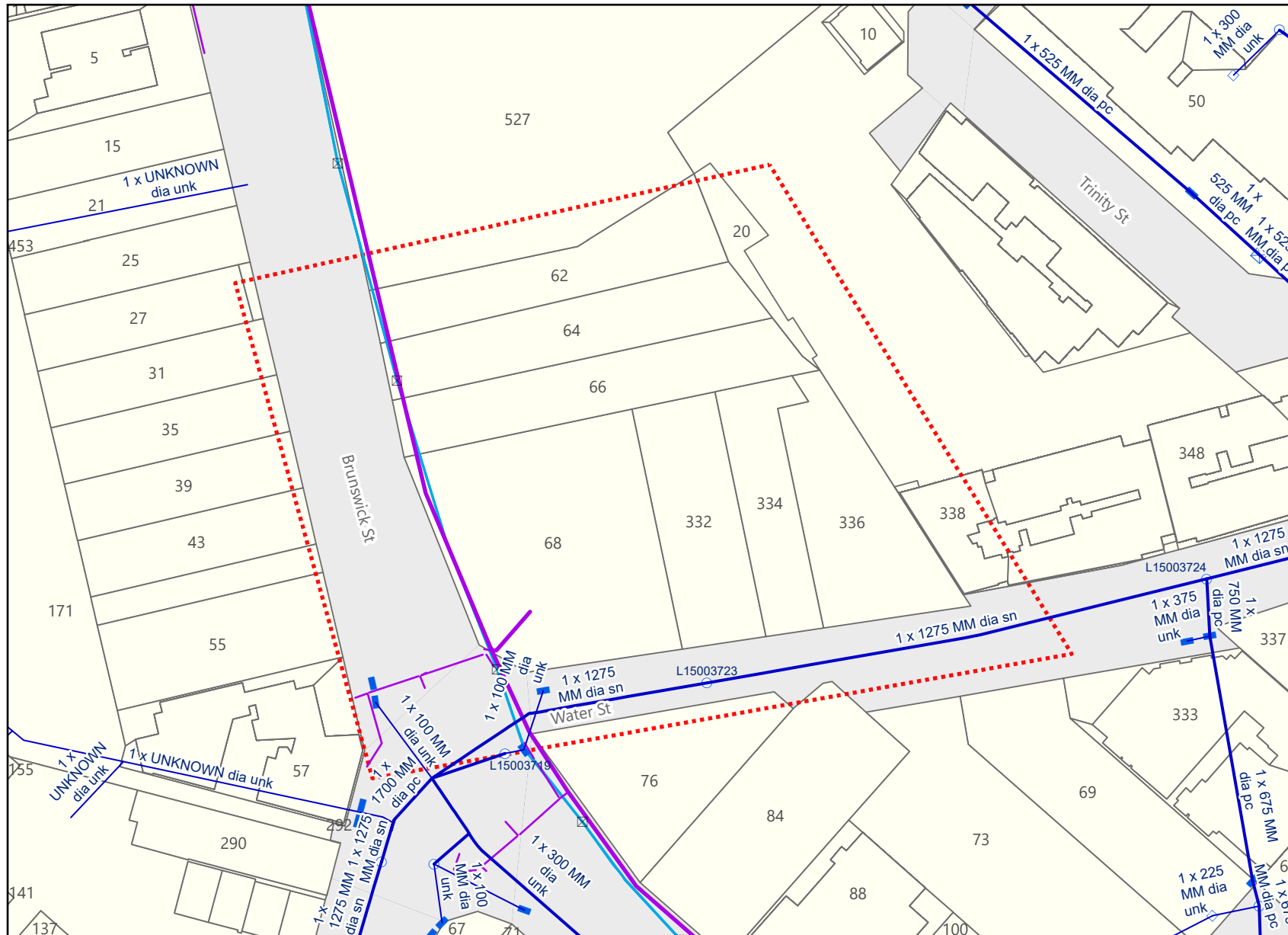
LEGEND

DBYD Work Area			
AAPT/PowerTel Pit		TransACT Pit	
AAPT/PowerTel Duct		TransACT Duct	
DDA Pit		SOUL Pattinson Telecoms Pit	
DDA Duct		SOUL Pattinson Telecoms Duct	
Agile/Adam Pit		PIPE Networks Pit	
Agile/Adam Duct		PIPE Networks Duct	

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Job # 32460881
Seq # 214416701
Provider: Brisbane City Council
Telephone: 07 3403 8888



Legend

BYDA Enquiry

Stormwater Network

- Stormwater Drain
- Stormwater Gully / Roofwater Connection
- Stormwater Maintenance Hole
- Stormwater Roofwater Pit
- Stormwater Gully Pit
- Stormwater Field Inlet

BCC Cable Network

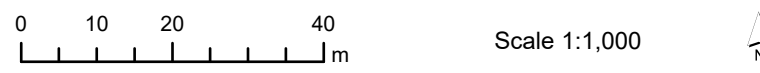
- Fibre Optic Pit Location
- Traffic System Cable
- Traffic Signal Ducting
- Fibre Optic Cable Location

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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.

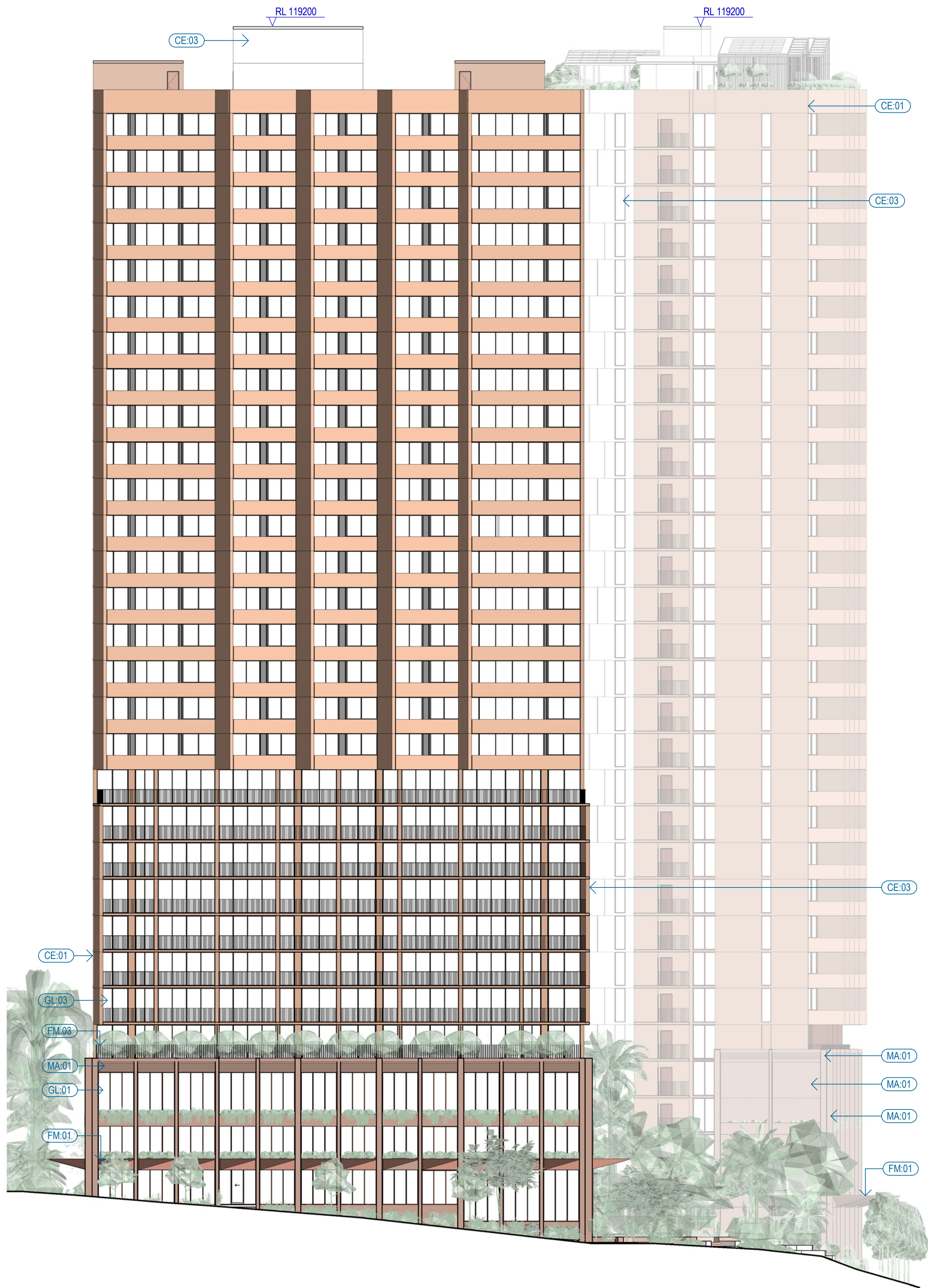
In an emergency contact Brisbane City Council on 07 3403 8888
04/08/22 (valid for 30 days)



Plans generated by
SmarterWX™ Automate

Appendix B – Plan of Development

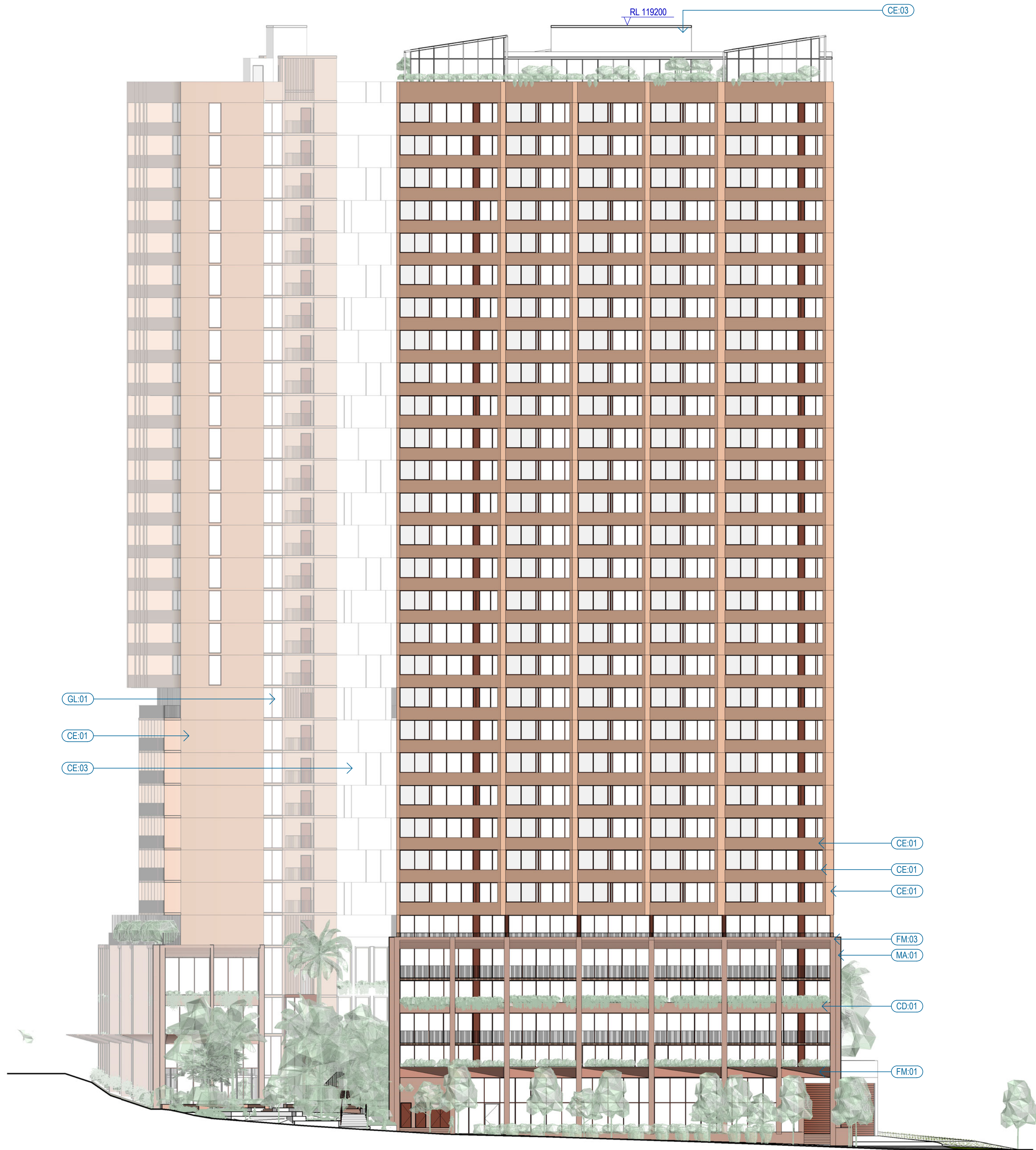




- RL 117700 32
LEVEL 32 - ROOF
- RL 113000 31
LEVEL 31 - ROOF TERRACE
- RL 108900 30
LEVEL 30
- RL 105800 29
LEVEL 29
- RL 102700 28
LEVEL 28
- RL 99600 27
LEVEL 27
- RL 96500 26
LEVEL 26
- RL 93400 25
LEVEL 25
- RL 90300 24
LEVEL 24
- RL 87200 23
LEVEL 23
- RL 84100 22
LEVEL 22
- RL 81000 21
LEVEL 21
- RL 77900 20
LEVEL 20
- RL 74800 19
LEVEL 19
- RL 71700 18
LEVEL 18
- RL 68600 17
LEVEL 17
- RL 65500 16
LEVEL 16
- RL 62400 15
LEVEL 15
- RL 59300 14
LEVEL 14
- RL 56200 13
LEVEL 13
- RL 53100 12
LEVEL 12
- RL 50000 11
LEVEL 11
- RL 46900 10
LEVEL 10
- RL 43800 09
LEVEL 09
- RL 40700 08
LEVEL 08
- RL 37600 07
LEVEL 07
- RL 34500 06
LEVEL 06
- RL 31400 05
LEVEL 05
- RL 26700 04
LEVEL 04
- RL 23000 03
LEVEL 03
- RL 19000 02
PLAZA
- RL 15800 01
UPPER GROUND
- RL 13400 00
LOWER GROUND

CODE	DETAILS
CD:01	PLANTER BOXES WITH BRICK CLADDING
CE:01	CONCRETE - TERRACOTTA HUE
CE:03	CONCRETE - WHITE, WITH STAGGERED VERTICAL PROFILE
FM:01	ALUMINIUM AWNING WITH STEEL FRAME, POWDERCOAT FINISH
FM:02	ALUMINIUM BATTENS, POWDERCOAT FINISH
FM:03	METAL RAILING, POWDERCOAT FINISH
FM:04	PERGOLA STRUCTURE WITH STEEL FRAME, POWDERCOAT FINISH
GL:01	FULL HEIGHT GLAZING SYSTEM, POWDERCOAT FINISH TO MULLIONS
GL:02	FRAMELESS GLASS BALUSTRADE
GL:03	FULL HEIGHT GLAZING SYSTEM, OPERABLE WINDOWS
MA:01	STANDARD FACE BRICK LAID IN STRETCHER BOND, TERRACOTTA COLOUR
MA:02	STANDARD FACE BRICK LAID IN STRETCHER BOND, WHITE COLOUR

FOR INFORMATION



RL 117700	32
LEVEL 32 - ROOF	
RL 113000	31
LEVEL 31 - ROOF TERRACE	
RL 108900	30
LEVEL 30	
RL 105800	29
LEVEL 29	
RL 102700	28
LEVEL 28	
RL 99600	27
LEVEL 27	
RL 96500	26
LEVEL 26	
RL 93400	25
LEVEL 25	
RL 90300	24
LEVEL 24	
RL 87200	23
LEVEL 23	
RL 84100	22
LEVEL 22	
RL 81000	21
LEVEL 21	
RL 77900	20
LEVEL 20	
RL 74800	19
LEVEL 19	
RL 71700	18
LEVEL 18	
RL 68600	17
LEVEL 17	
RL 65500	16
LEVEL 16	
RL 62400	15
LEVEL 15	
RL 59300	14
LEVEL 14	
RL 56200	13
LEVEL 13	
RL 53100	12
LEVEL 12	
RL 50000	11
LEVEL 11	
RL 46900	10
LEVEL 10	
RL 43800	09
LEVEL 09	
RL 40700	08
LEVEL 08	
RL 37600	07
LEVEL 07	
RL 34500	06
LEVEL 06	
RL 31400	05
LEVEL 05	
RL 28300	04
WATER ST - LEVEL 04	
RL 25200	03
WATER ST - LEVEL 03	
RL 22100	02
WATER ST - LEVEL 02	
RL 19000	02
PLAZA	
RL 15800	01
UPPER GROUND	
RL 13400	00
LOWER GROUND	

CODE	DETAILS
CD:01	PLANTER BOXES WITH BRICK CLADDING
CE:01	CONCRETE - TERRACOTTA HUE
CE:03	CONCRETE - WHITE, WITH STAGGERED VERTICAL PROFILE
FM:01	ALUMINIUM AWNING WITH STEEL FRAME, POWDERCOAT FINISH
FM:02	ALUMINIUM BATTENS, POWDERCOAT FINISH
FM:03	METAL RAILING, POWDERCOAT FINISH
FM:04	PERGOLA STRUCTURE WITH STEEL FRAME, POWDERCOAT FINISH
GL:01	FULL HEIGHT GLAZING SYSTEM, POWDERCOAT FINISH TO MULLIONS
GL:02	FRAMELESS GLASS BALUSTRADE
GL:03	FULL HEIGHT GLAZING SYSTEM, OPERABLE WINDOWS
MA:01	STANDARD FACE BRICK LAID IN STRETCHER BOND, TERRACOTTA COLOUR
MA:02	STANDARD FACE BRICK LAID IN STRETCHER BOND, WHITE COLOUR

FOR INFORMATION

Appendix C – Conceptual Engineering Drawings



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PLOTTED: 05 Dec 2023



LEGEND

SITE BOUNDARY

38.35 - FINISHED SURFACE CONTOURS

EXISTING SEWER

EXISTING WATER POTABLE

EXISTING STORMWATER

EXISTING BOUNDARY

EXISTING KERB

PROPOSED DRIVEWAY AREA

ROADWORK LAYOUT PLAN

SCALE 1 : 200 (FULL SIZE)

332 - 334 WATER STREET
FORTITUDE VALLEY
FOR
PELLICANO LIVING PTY LTD

A	ORIGINAL ISSUED	05-12-23
VER.	DESCRIPTION	DATE

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Email: admin@burchills.com.au
Coote Burchills Engineering Pty Ltd
ABN 76 166 942 365

PROJECT:

332 - 334 WATER STREET, FORTITUDE VALLEY

DRAWING TITLE:

ROADWORKS LAYOUT PLAN

DEVEL. APPLIC. No. :		DATE : 05-12-2023
PROJECT LEADER : CHRIS HUNTER	DESIGNER : THUY VU	
DRAFTSPERSON : THUY VU	CHECKED : CHRIS HUNTER	
APPROVED FOR AND ON BEHALF OF BURCHILLS ENGINEERING SOLUTIONS ABN 76 166 942 365		
DATUM : AHD		A1 ORIGINAL SIZE BEFORE REDUCTION
PROJECT No. : BE220298	DRAWING No. : C300	VERSION : A



FILENAME: D:\OneDrive - Dong Vu Design Consulting Company\PROJECTS\2022\010_BE220298 - 332-334 Water St, Fortitude Valley - DA Design\Ascd\BE220298_C400.dwg
PLOTTER: GS Dec 2023

332 - 334 WATER STREET
FORTITUDE VALLEY
FOR
PELLICANO LIVING PTY LTD

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Coote Burchills Engineering Pty Ltd
ABN 76 166 942 365

PROJECT:
332 - 334 WATER STREET, FORTITUDE VALLEY

DRAWING TITLE:
STORMWATER DRAINAGE LAYOUT PLAN

DEVEL. APPLIC. No.:		DATE : 05-12-2023
PROJECT LEADER : CHRIS HUNTER		DESIGNER : THUY VU
DRAFTSPERSON : THUY VU		CHECKED : CHRIS HUNTER
APPROVED FOR AND ON BEHALF OF BURCHILLS ENGINEERING SOLUTIONS ABN 76 166 942 365		
DATUM : AHD		A1 ORIGINAL SIZE BEFORE REDUCTION
PROJECT No.:	DRAWING No.:	VERSION:
BE220298	C400	A

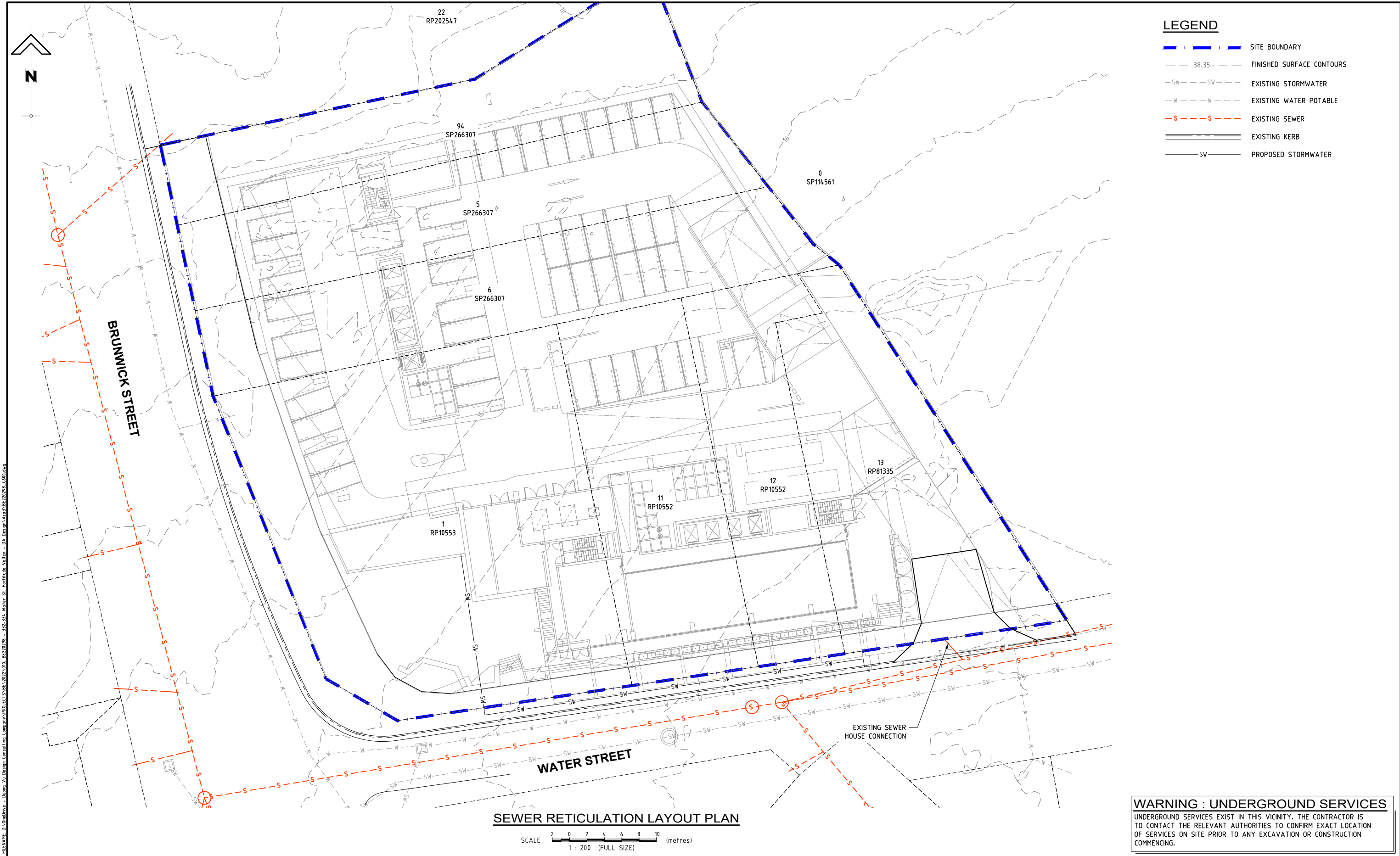
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PLOTTED: 05 Dec 2023



LEGEND	
	SITE BOUNDARY
	FINISHED SURFACE CONTOURS
	EXISTING SEWER
	EXISTING STORMWATER
	EXISTING WATER POTABLE
	EXISTING WATER TO BE REMOVED
	EXISTING KERB
	PROPOSED WATER CONNECTION
	PROPOSED STORMWATER

WARNING : UNDERGROUND SERVICES
UNDERGROUND SERVICES EXIST IN THIS VICINITY. THE CONTRACTOR IS TO CONTACT THE RELEVANT AUTHORITIES TO CONFIRM EXACT LOCATION OF SERVICES ON SITE PRIOR TO ANY EXCAVATION OR CONSTRUCTION COMMENCING.

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VER.	DESCRIPTION	DATE					DATUM : AHD	A1 ORIGINAL SIZE BEFORE REDUCTION	PROJECT No.: BE220298		DRAWING No. : C500	VERSION: A



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332 - 334 WATER STREET
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Coote Burchills Engineering Pty Ltd
ABN 76 166 942 365

PROJECT:

332 - 334 WATER STREET, FORTITUDE VALLEY

DRAWING TITLE:

SEWER RETICULATION LAYOUT PLAN

DEVEL. APPLIC. No. :		DATE: 05-12-2023
PROJECT LEADER : CHRIS HUNTER	DESIGNER : THUY VU	
DRAFTSPERSON : THUY VU	CHECKED : CHRIS HUNTER	
APPROVED FOR AND ON BEHALF OF BURCHILLS ENGINEERING SOLUTIONS ABN 76 166 942 365		
DATUM : AHD	A1 ORIGINAL SIZE BEFORE REDUCTION	
PROJECT No. : BE220298	DRAWING No. : C600	VERSION: A