PINNACLE
ENGINEERING GROUP

ENGINEERING SERVICES REPORT

RESIDENTIAL DEVELOPMENT
1 Philip Street, Goonellabah NSW

SOCIAL FUTURES

JANUARY 2024
REVISION 02

Pinnacle Engineering Group
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P.O. Box 517 Paradise Point QLD 4216

In accordance with the requirements of the *Queensland Professional Engineers Act 2002*, this document was prepared under the supervision of, reviewed and approved by the following experienced Registered Professional Engineer of Queensland (RPEQ).

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1 Introduction

Pinnacle Engineering Group (Pinnacle) was engaged by Social Futures to undertake the preliminary engineering investigations, to provide supporting documentation, for the proposed development application for a residential development located at 1 Philip Street, Goonellabah NSW, within the local authority of the Lismore City Council (LCC).

1.1 Scope of Investigation

This report covers the following civil engineering elements associated with the proposed development including:

- Stormwater Drainage;
- Water Supply;
- Sewerage Reticulation;
- Bulk Earthworks; and
- Electrical and Telecommunications.

1.2 Site Description

1.2.1 Site Location

Street Address	-	1 Philip Street, Goonellabah NSW 2489
RP Description	-	Lot 69 to 71 on DP230448
Site Area	-	0.1833 Hectares
Current Zoning	-	R1 General Residential
Proposed Use	-	Multi-unit Residential
Local Authority	-	LCC

Refer to Figure 1.1 for the site location.

1.2.1 Existing Site Topography

A review of the topographic survey and aerial photography has revealed that the subject site is currently occupied by two unit blocks with direct driveway access from McDermott Avenue to the north. No existing easements are observed to burden the subject site, and all existing vegetation is to be cleared as part of the proposed works.

The highest elevation of the site of RL159.44m AHD is reached along the southern boundary of the site with the lowest elevation of RL154.57m AHD reached at the northwest corner of the of the subject site.

Refer to Figure 1.2 for the aerial view of the subject site.

1.2.2 Proposed Development

The proposed development will deliver eighteen housing units of varying mix (1 and 2 bed) over the existing allotment. Vehicular access will be provided via a new heavy duty VXO from McDermott Avenue to the north of the subject site.

Plans detailing the proposed development are included in Appendix A.

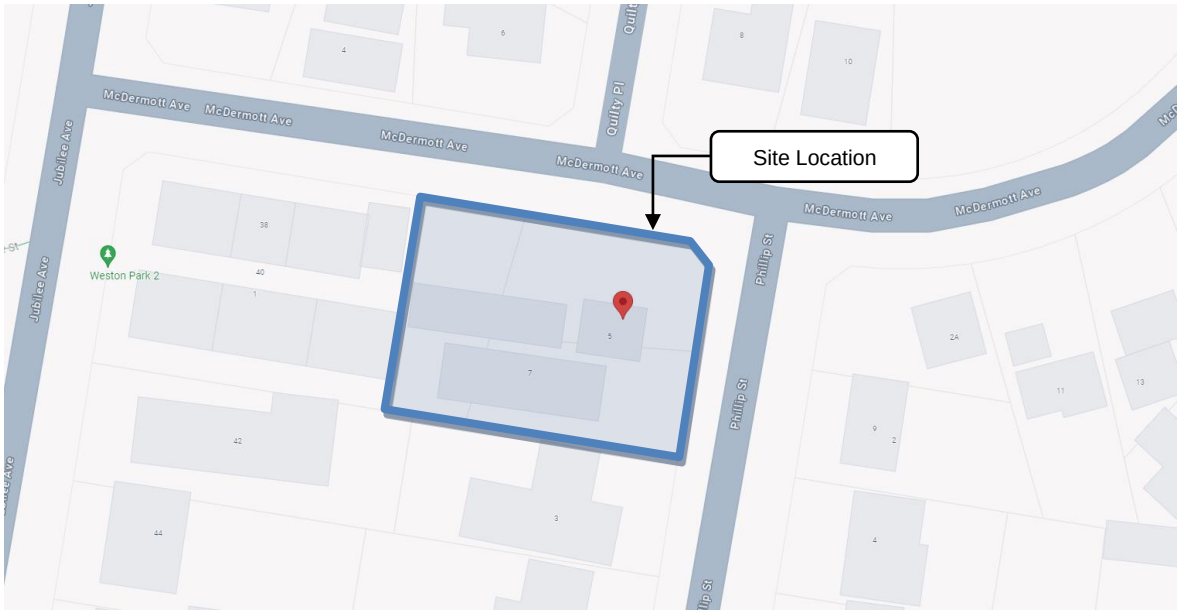


Figure 1.1: Map View (Source: Google Maps)

Figure 1.2: Aerial View (Source: Google Maps)

2 Stormwater Drainage

The strategy and constraints associated with stormwater drainage have been assessed in detail as part of the Site Based Stormwater Management Plan (SBSMP) by Pinnacle and are not covered in depth within this report.

A brief summary of the stormwater drainage elements is provided in the following sections of this report.

2.1 Existing Drainage System

Currently, the stormwater runoff from the subject site generally discharges via piped and overland sheet flow towards the McDermott Avenue kerb and channel.

The nearest LCC stormwater pit and pipe network is located directly adjacent to the subject site, within the McDermott Avenue road reserve. The aforementioned stormwater network consists of Reinforced Concrete Pipes (RCP) and grades to the north. The pipe reach immediately downstream of the subject site appears to be a 375mm RCP.

2.2 Lawful Point of Discharge

The Lawful Point of Discharge for the subject site is taken as the McDermott Avenue road reserve, and the existing LCC stormwater drainage infrastructure located within the adjacent road reserve.

2.3 Proposed Drainage Works

It is proposed to provide detention and quality treatment infrastructure, as required, to attenuate and treat the site's stormwater discharge during the post-development scenario prior to discharge to the Lawful point of Discharge.

Best practice water quality measures in the form of quality treatment devices, soft landscaping and erosion and sediment control measures will be implemented to ensure that water quality is maintained during the construction and operational phases of the project.

For further details on the prevailing stormwater conditions refer to the SBSMP for the site prepared by Pinnacle.

An engineering services layout detailing the proposed services for the site is included in Appendix C.

2.4 Flood Assessment

A review of Council's interactive mapping has revealed that the site is located outside of the mapped flood affected zone.

3 Water Reticulation

3.1 Existing Infrastructure

A review of the Dial Before You Dig (DBYD) data, Council records and potholing survey has confirmed the location of an existing 150mm diameter Fibro water reticulation main located within the northern verge of McDermott Avenue road reserve to the north, with a second 100mm diameter Fibro water reticulation main located within the Philip Street road reserve to the east. A fire hydrant is located directly in front of the site within the northern verge of McDermott Avenue.

The DBYD extracts are included within Appendix D with an engineering layout depicting the location of all existing and proposed services included within Appendix C.

3.2 Development Water Reticulation Demand

The proposed development's water reticulation demands on the existing potable water infrastructure were established using the methods described in the LCC Development Design Specification D11: Water Supply. These demands were used to determine the consumption rates for the proposed development.

The design parameters and results are presented in Table 3.1.

Table 3.1: Water Demand Factors and Consumption Rates

Design Parameter	Potable Water Values and Consumption Rates
Area of Land	0.1833 Ha
Development Type	Multi-unit Residential
Number of Units	18
EP/ET Conversion Factor	0.75 x 3.2
Equivalent Persons (EP)	43.2 EP
Peak Day Flow (PD)	850 L/EP/day
PD	36720.0 L/day
Peak Hour (PH) (Maximum)	1530.0 L/hour (0.425 L/sec)
Fire Flow	11 L/sec
Maximum Demand	11.425 L/sec

The maximum hour demand of 0.425L/sec plus the fire flow demand of 11 L/sec equals a total flow demand of 11.425 L/sec. Preliminary investigations conclude that a minimum 77mm diameter potable water connection will adequately service the proposed development. As such, it is envisaged that the existing 150mm diameter Fibro water main and fire hydrants located within McDermott Avenue will adequately service the proposed development.

3.3 Proposed Water Reticulation Works

The proposed multi-unit development will be serviced by the existing 150mm diameter water main located within the adjacent McDermott Avenue. It is envisaged that fire flow for the proposed development will be provided by the existing fire hydrants located within the McDermott Avenue road reserve.

It is envisaged that the internal water reticulation and connection sizing will be undertaken by a Hydraulic Consultant during the detailed design phase of the project.

An engineering services layout detailing the proposed services for the site is included in Appendix C.

4 Sewerage Reticulation

4.1 Existing Infrastructure

A review of the DBYD data and Council records has confirmed the location of an existing 150mm diameter Vitrified Clay (VC) sewer reticulation main located adjacent to the sites northwest boundary within the McDermott Avenue road reserve. A second sewer reticulation main also appears to bisect the site within its southwest corner with an existing sewerage maintenance structure also located within the southwest corner of the site.

The existing development is services from the McDermott Avenue sewerage reticulation main via an existing sewerage property connection.

The DBYD extracts are included within Appendix D with an engineering layout depicting the location of all existing and proposed services included within Appendix C. Potholing data available in Appendix F.

4.2 Proposed Demand

The demands on the existing sewer infrastructure were established using the methods described in the LCC Development Design Specification D12: Sewerage System. These demands were used to determine the consumption rates for the proposed development.

The design parameters and results are presented in Table 4.1 below.

Table 4.1: Sewerage Demand Factors and Consumption Rates

Design Parameter	Sewer Values and Consumption Rates
Area of Land	0.1833 ha
Development Type	Multi-unit Residential
Number of Units	18
EP/ET Conversion Factor	3.2
Equivalent Persons (EP)	57.60 EP
Average Dry Weather Flow (ADWF)	240L/EP/Day
ADWF	13,824L/day or 0.160L/sec
d $(0.01(\log A)^4 - 0.19(\log A)^3 + 1.4(\log A)^2 - 4.66\log A + 7.57)$	11.84
PDWF (d x ADWF)	1.895 L/sec
Groundwater Infiltration (GWI) (0.01425L/sec/Ha)	0.00229L/sec
Soil Aspect (S_{aspect})	0.5
Network Defects and Inflow Aspect (N_{aspect})	0.5
Rainfall Intensity ($I_{1,2}$)	39.8
IIF (0.028 x A_{Eff} x C x I)	0.393L/sec
Design Flow (PDWF + GWI + IIF)	2.290L/sec

Based on the above assessment it is envisaged that the proposed development will place a peak design flow demand of 2.290L/sec on the downstream sewerage network.

4.3 Proposed Works

It is proposed to reuse the existing sewerage property connection to service the proposed development. The existing sewerage reticulation main and maintenance structure located within the southwest corner of the subject site will remain in place as they service upstream properties.

It is envisaged that the detailed design of the proposed extension and connections to the existing sewerage reticulation network will be undertaken by a Pinnacle Engineering during the detailed design phase of the project.

An engineering services plan detailing the proposed sewerage infrastructure is included in Appendix C.

5 Bulk Earthworks

5.1 Design Requirements

Earthworks for the site will be designed generally in accordance with the requirements of the LCC standard and specifications and as appropriate to the regulatory control and the Australian Standard for Earthworks for Commercial and Residential Development (AS3798-2007).

5.2 General Site Earthworks

A soil assessment report will need to be prepared by a geotechnical engineer to provide a guide to the treatment of the site prior to and during the earthworks construction and basement excavation works and suitability for building foundation construction.

The key variables associated with the site's earthworks are the depth and distribution of the existing materials and the strength and depth profile of the substrata material. It is advised that the soil report for the site investigates these key items in depth to ensure that suitable soil treatments, accurate cost estimation and building design can be facilitated.

5.3 Retaining Structures

Where retaining structures are required, they will be designed such that the maximum height of this will be in accordance with the LCC standard and specifications and AS4678-2007. Retaining structures will not encroach onto any adjoining property or road reserve.

5.4 Acid Sulphate Soils

A review of the LCC interactive online mapping has revealed that the site is located outside of the mapped Acid Sulphate Soil area.

5.5 Erosion and Sediment Management

Due to the expected erosive soil onsite, erosion protection measures will be incorporated during the construction phase with these measures being designed and documented as a part of the detailed civil works for the site.

Ultimately, during the operational phase of the project, the sediment management will be by the use of soft landscaping to ensure erosion is kept to a minimum.

Refer to the SBSMP for the site prepared by Pinnacle for an in-depth breakdown of the proposed erosion and sediment management measures recommended for the site.

6 Electrical and Telecommunications

A Dial Before You Dig (DBYD) investigation was undertaken to confirm the location of existing electrical and telecommunications services in the vicinity of the site.

The DBYD investigation confirmed the location of underground telecommunications infrastructure, owned and operated by Telstra and NBN, within the McDermott Avenue road reserve along the site frontage.

Similarly, overhead powerlines, owned and operated by Essential Energy, are located within the McDermott Avenue road reserve along the site frontage.

It is envisaged that the proposed development will connect to the above existing services as outlined above. The connections to the telecommunications and electrical networks will be confirmed by and undertaken by specialist consultants during the detailed design phase of the project.

The DBYD data is included in Appendix D with the location of the existing telecommunications and electrical infrastructure shown on the engineering services layout included in Appendix C.

7 Impacts on Local Infrastructure and Likely Upgrades

The proposed residential development will result in minor additional loads on the surrounding local infrastructure. Discussions with relevant authorities may be needed to ensure that there is sufficient capacity in all systems to accept the additional demands from the proposed development. Initial investigations indicate that there is sufficient residual capacity within the existing services to accommodate the proposed development.

The potential impacts on the local infrastructure and likely upgrades are summarised in Table 7.1 below.

Table 7.1: Local Infrastructure Impacts and Required Upgrades

Infrastructure Type	Local Authority	Impacts	Connection and/or Upgrade Requirements
Water Reticulation	LCC	Additional water demands due to development	Connect to the existing 150mm diameter Fibro water main located within the McDermott Avenue road reserve.
Sewerage Reticulation	LCC	Additional sewer demands due to development	Construct to the existing 150mm diameter VC sewerage main located within McDermott Avenue road reserve via the existing sewerage property connection. Retain and protect the existing sewerage main and maintenance structure located within the subject site.
Stormwater Drainage	LCC	Additional quantity and quality loadings due to development	Attenuate and treat stormwater runoff, as required, prior to discharge to the Lawful Point of Discharge being the McDermott Avenue road reserve.
Electrical	Essential Energy	New connections required	Connect the proposed development site to the existing Essential Energy electrical services available along the site frontage of McDermott Avenue.
Telecommunications	Telstra / NBN	New connections required	Connect the proposed development site to the existing Telstra and NBN telecommunications services available along the site frontage of McDermott Avenue.

8 Reference Documentation

Lismore City Council Engineering Specifications (LCC)

TSC Development Design Specification D11: Water Supply (LCC)

TSC Development Design Specification D12: Sewerage System (LCC)

Water Services Association of Australia, 2014. “Gravity Sewerage Code of Australia. WSA 02-2014”, Third Edition, Version 3.1

Water Services Association of Australia, 2011. “Water Supply Code of Australia. WSA 03-2011”, Third Edition, Version 3.1

Appendix A

Proposed Development Plans

RPD

5-7 McDermott Ave & 1 Phillip Street
Goonellabah NSW 2480

Proposal

TOTAL UNITS	18		
COMMUNAL SPACE	163.1m²	|	8.95%
DEEP SOIL ZONES / COS	276.1m²	|	15.15%
LANDSCAPE / COS	81.2m²	|	4.45%
PRIVATE YARDS LANDSCAPE	245.4m²	|	13.45%
TOTAL LANDSCAPED AREA	765.8m²	|	42.00%

Development Summary

Site Area m²	1,821
Site Cover (Roof)	1,095.6 | 60.1%
Floor Space Ratio	0.62:1

RESIDENTIAL YIELD

LEVEL	1 BED	2 BED		TOTAL
Level 1 Ground	*CAR PARK*			
level 2	3	6		9
Level 3	3	6		9
Totals	**6**	**12**		**18**

Cars Parking Required	*15*
Visitors Parking Required	*3.6*
Bicycle Parking Required	*10*

[RES. 0.5 per 1Bed and 1 per 2Bed | VIS. 1 per 5 Units as per Lismore DCP]

PARKING - Ground Level

TYPE	REQUIRED	PROVIDED
CAR	18.6	19
BIKE	10	10

AREAS	GFAm²	POSm²	GBAm²
LEVEL 1 Ground			
LOBBY, CARPARK, STORAGE	0	0	**771.5**
LEVEL 2			
UNIT 1 (2 BEDROOM)	70	10.2	80.2
UNIT 2 (2 BEDROOM)	70	79.6	149.6
UNIT 3 (1 BEDROOM)	50.7	33.4	84.1
UNIT 4 (1 BEDROOM)	50.7	33	83.7
UNIT 5 (1 BEDROOM)	50.7	33.4	84.1
UNIT 6 (2 BEDROOM)	70	66.1	136.1
UNIT 7 (2 BEDROOM)	70	30.4	100.4
UNIT 8 (2 BEDROOM)	70	20.6	90.6
UNIT 9 (2 BEDROOM)	70	10.2	80.2
OTHER			481.6
LEVEL 2 TOTAL	**572.1**	**316.9**	**1370.6**
LEVEL 3			
UNIT 10 (2 BEDROOM)	70	10.2	80.2
UNIT 11 (2 BEDROOM)	70	10.2	80.2
UNIT 12 (1 BEDROOM)	50.7	8	58.7
UNIT 13 (1 BEDROOM)	50.7	8	58.7
UNIT 14 (1 BEDROOM)	50.7	8	58.7
UNIT 15 (2 BEDROOM)	70	10.2	80.2
UNIT 16 (2 BEDROOM)	70	10.2	80.2
UNIT 17 (2 BEDROOM)	70	10.2	80.2
UNIT 18 (2 BEDROOM)	70	10.2	80.2
OTHER			238.5
LEVEL 3 TOTAL	**572.1**	**85.2**	**895.8**
TOTAL	**1144.2**	**402.1**	**3037.9**

GFA (Gross Floor Area)
Means the sum of the floor area of each floor of a building measured from the **internal face of external walls**, or from the internal face of walls separating the building from any other building, measured at a height of 1.4 metres above the floor, and includes—
(a) the area of a mezzanine, and
(b) habitable rooms in a basement or an attic, and
(c) any shop, auditorium, cinema, and the like, in a basement or attic,
but excludes—
(d) any area for common vertical circulation, such as lifts and stairs, and
(e) any basement—
(i) storage, and
(ii) vehicular access, loading areas, garbage and services, and
(f) plant rooms, lift towers and other areas used exclusively for mechanical services or ducting, and
(g) car parking to meet any requirements of the consent authority (including access to that car parking), and
(h) any space used for the loading or unloading of goods (including access to it), and
(i) terraces and balconies with outer walls less than 1.4 metres high, and
(j) voids above a floor at the level of a storey or storey above.

POS (private open space)
Means an area external to a building (including an area of land, terrace, balcony or deck) that is used for private outdoor purposes ancillary to the use of the building.

GBA (Gross Building Area)
The total enclosed and unenclosed area of the building at all building floor levels measured between the normal **outside face** of any enclosing walls, balustrades and supports
GBA measurement also includes external verandahs, balconies, porches & structural columns.
Upper portions of rooms/voids/shafts etc are also included in GBA measurement.

RAUNIK design group ARCHITECTS

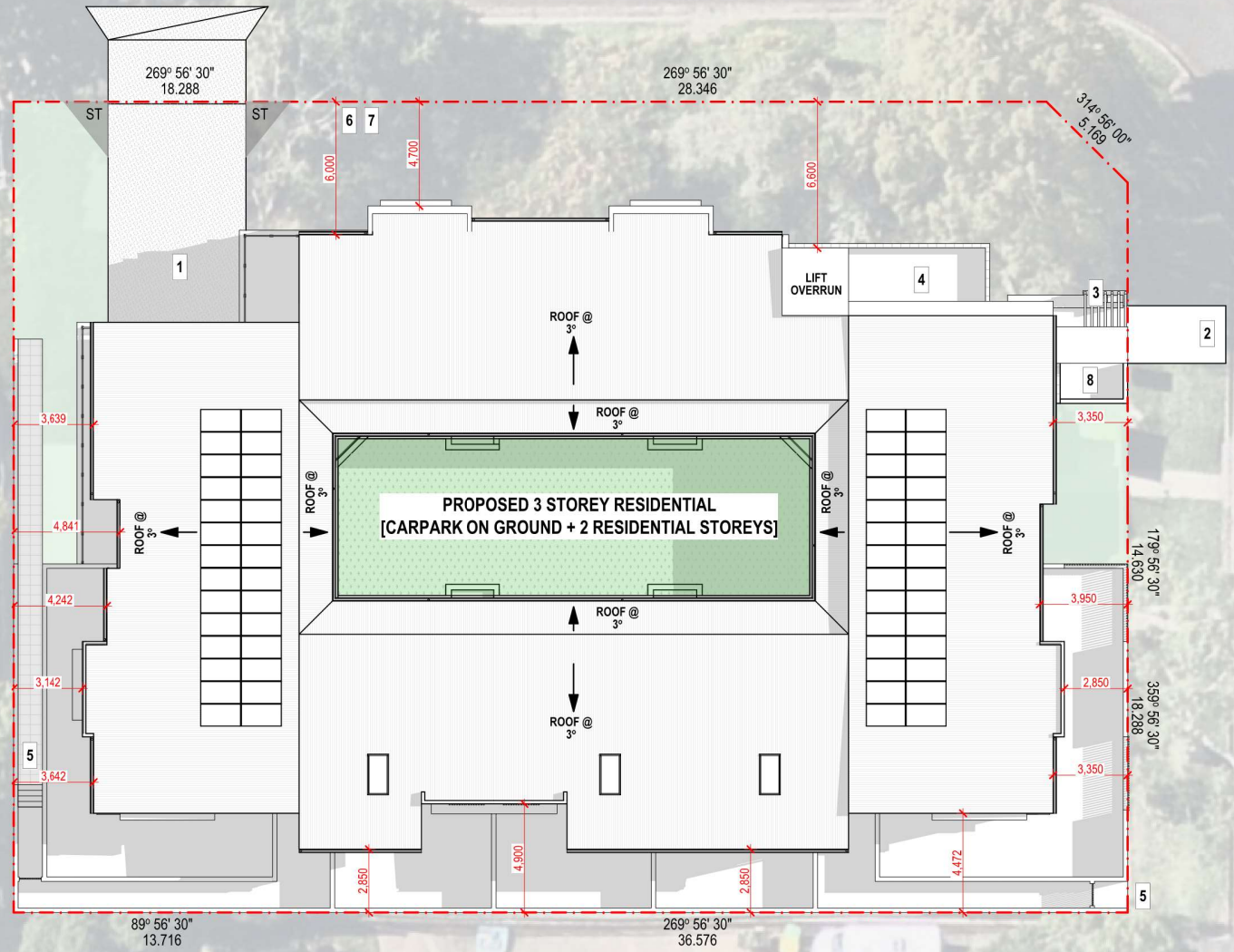
@A3
DEVELOPMENT SUMMARY

5-7 McDERMOTT AVE +
1 PHILLIP STREET,
GOONELLABAH NSW 2480

SITE AREA. 1,821m²
FSR. 0.62:1

SITE PLAN LEGEND

1 VEHICULAR ENTRY
2 PEDESTRIAN ENTRY
3 MAILBOXES
4 BIKE PARKING
5 FIRE EGRESS
6 WATER METER
7 BOOSTER
8 TEMP. BIN STORE

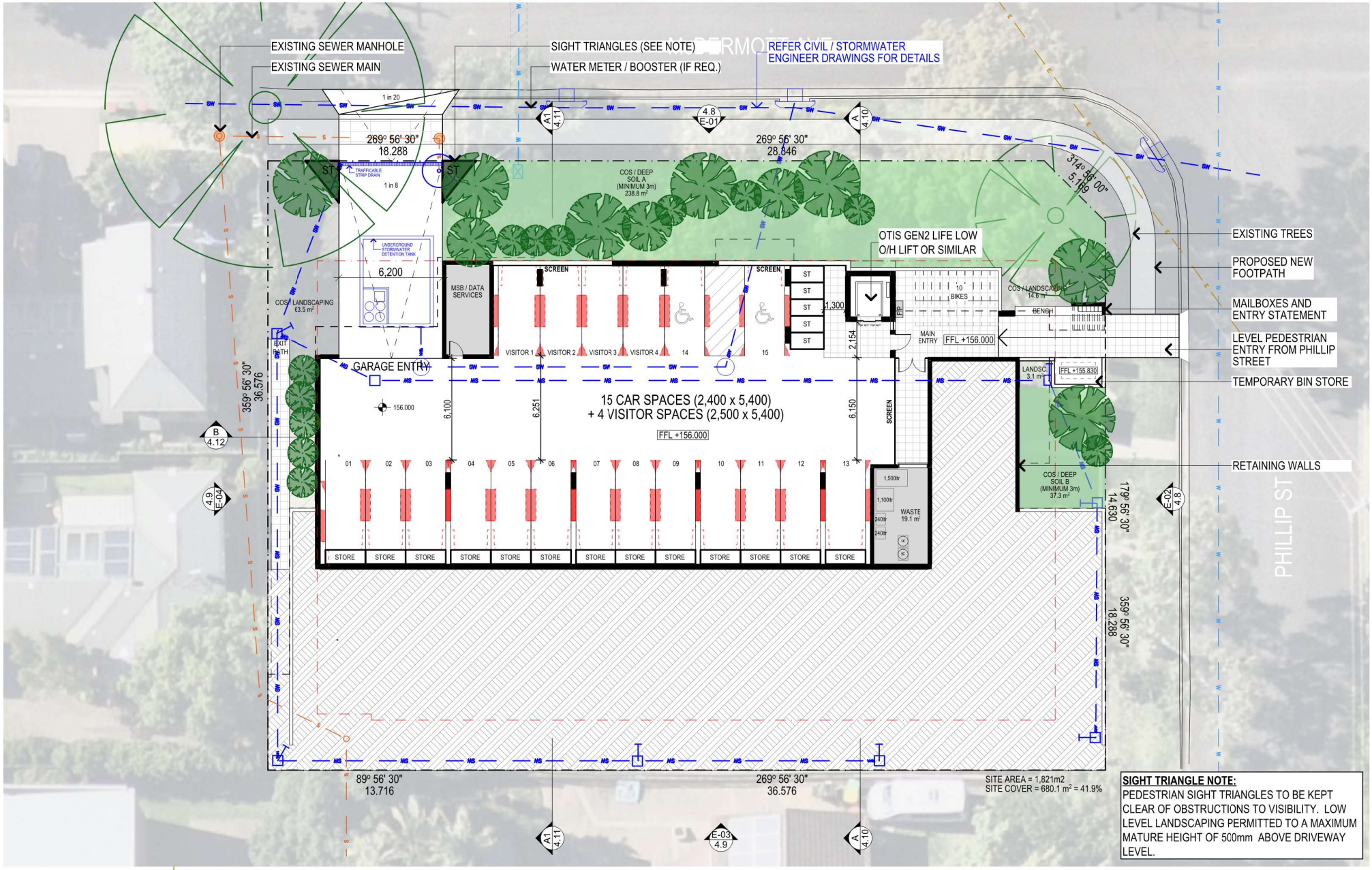


RAUNIK design group ARCHITECTS

1:200@A3

SITE PLAN

23891 | PHILLIP ST. GOONELLABAH | DEVELOPMENT APPLICATION | 19/01/2024 | 4.1 | REV E



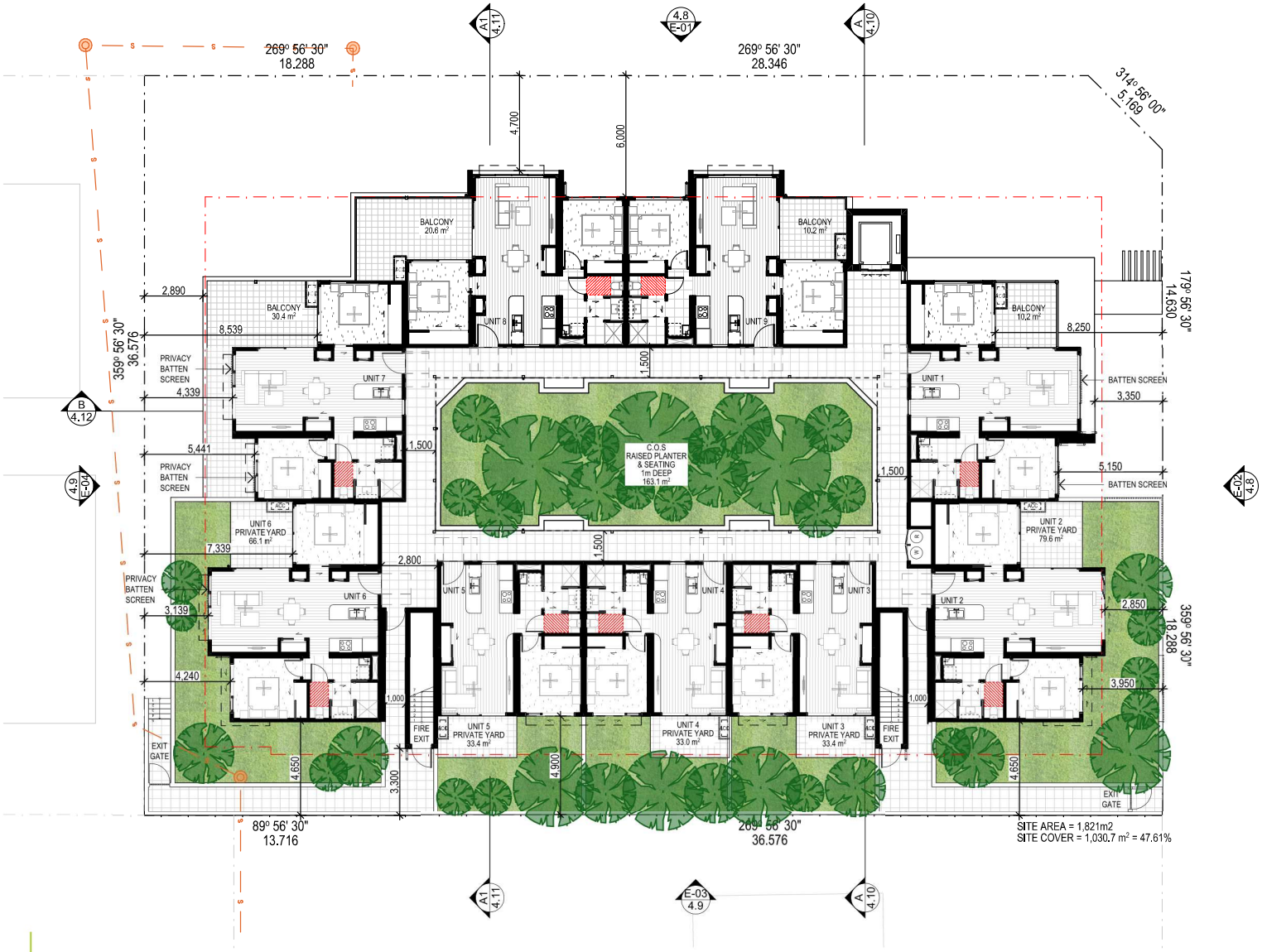
SIGHT TRIANGLE NOTE:
PEDESTRIAN SIGHT TRIANGLES TO BE KEPT CLEAR OF OBSTRUCTIONS TO VISIBILITY. LOW LEVEL LANDSCAPING PERMITTED TO A MAXIMUM MATURE HEIGHT OF 500mm ABOVE DRIVEWAY LEVEL.

RAUNIK design group ARCHITECTS

1:200@A3

LEVEL 1 GROUND

23891 | PHILLIP ST. GOONELLABAH | DEVELOPMENT APPLICATION | 19/01/2024 | 4.2 | REV E

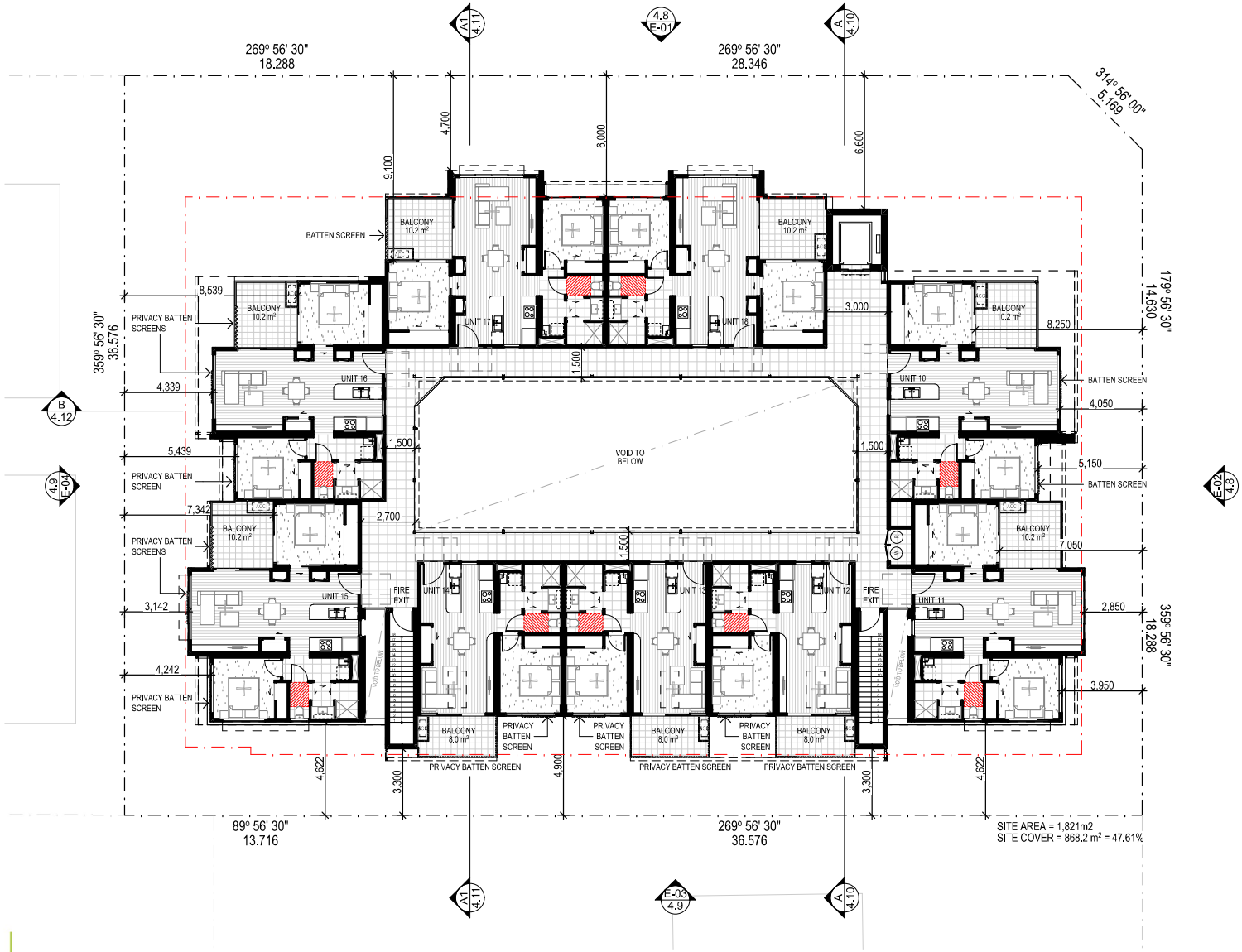


RAUNIK
design group
ARCHITECTS

1:200@A3

LEVEL 2

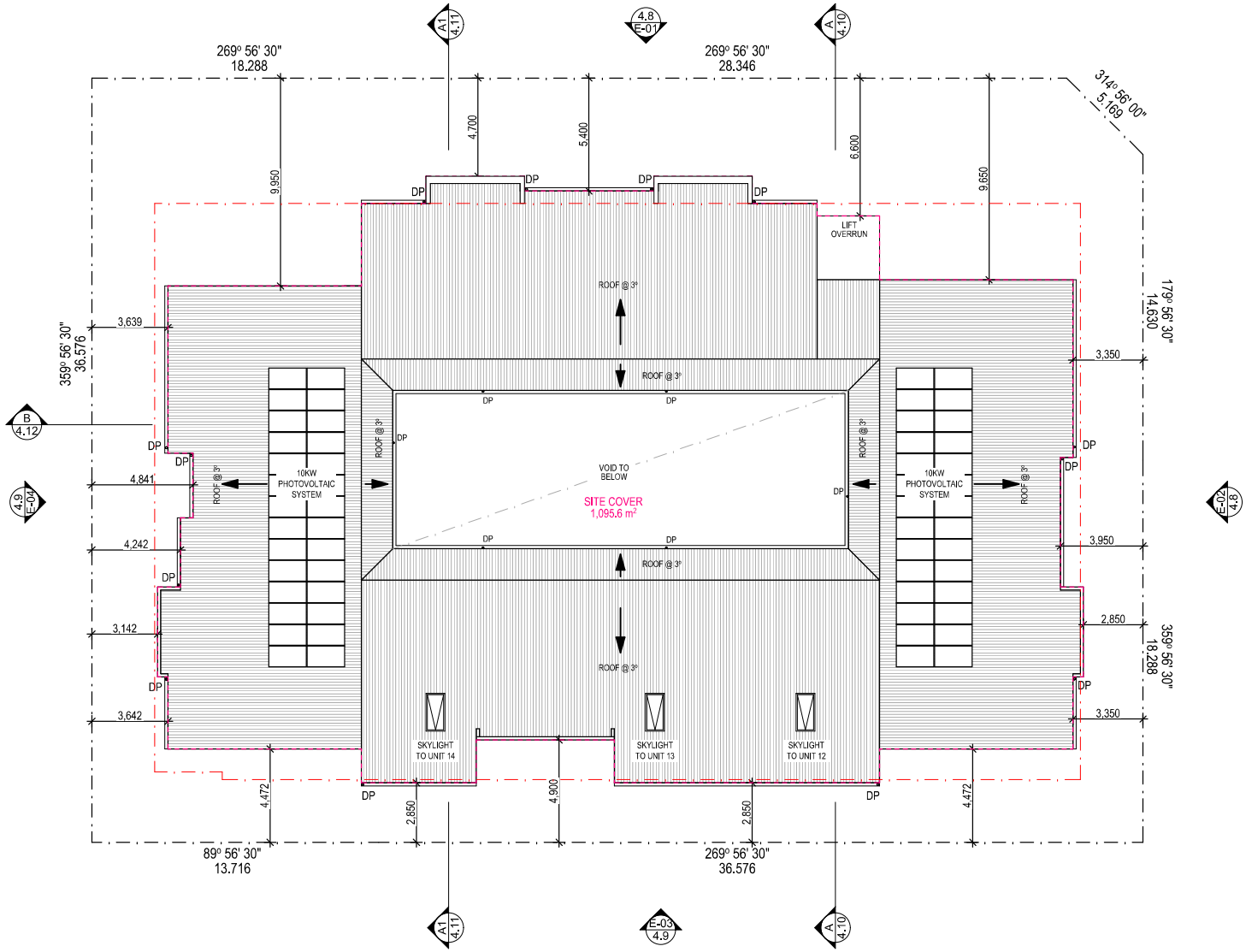
23891 | PHILLIP ST. GOONELLABAH | DEVELOPMENT APPLICATION | 19/01/2024 | 4.3 | REV E



RAUNIK design group ARCHITECTS

1:200@A3

LEVEL 3



RAUNIK design group ARCHITECTS

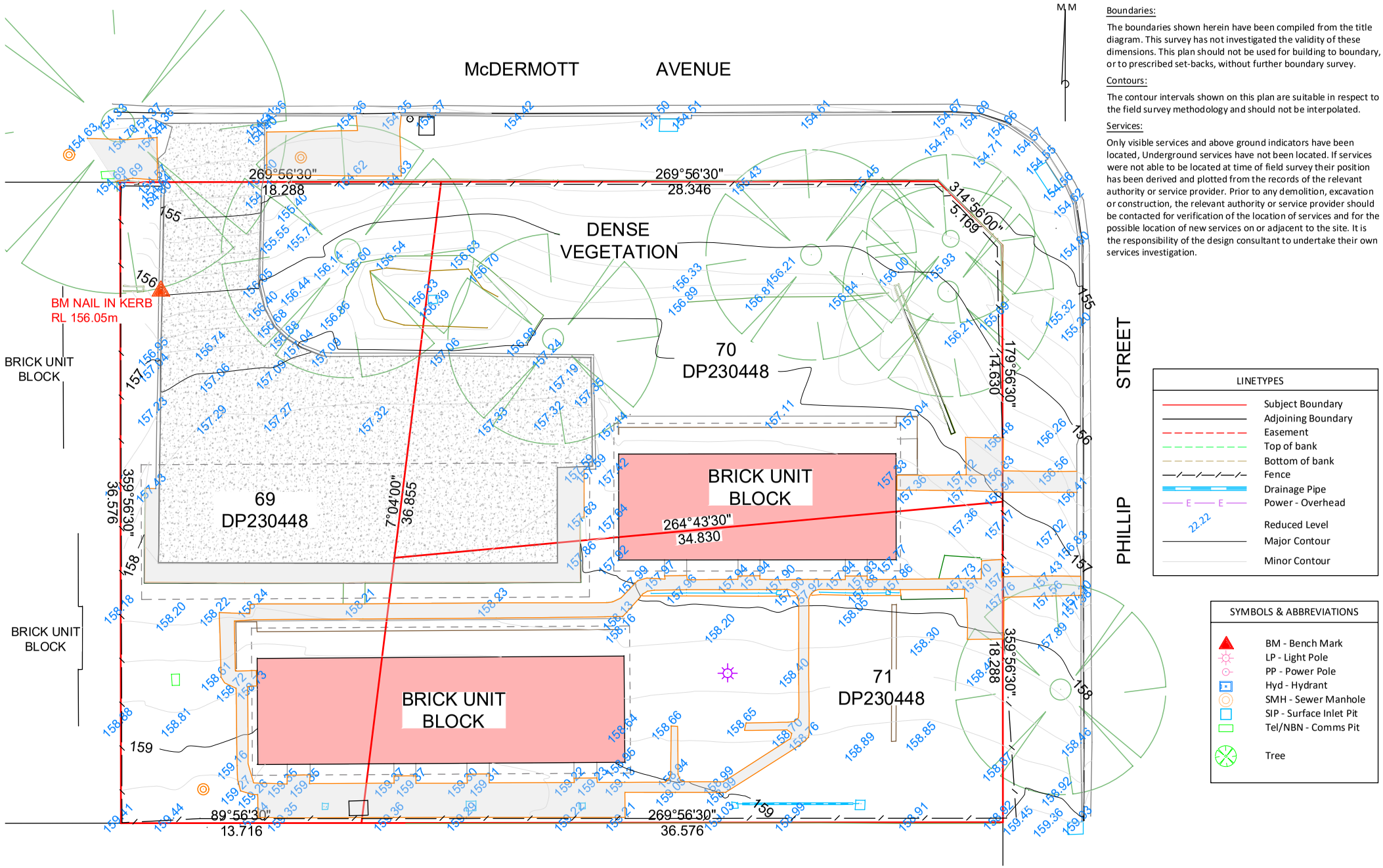
1:200@A3

ROOF

23891 | PHILLIP ST. GOONELLABAH | DEVELOPMENT APPLICATION | 19/01/2024 | 4.5 | REV E

Appendix B

Topographic Survey



Boundaries:

The boundaries shown herein have been compiled from the title diagram. This survey has not investigated the validity of these dimensions. This plan should not be used for building to boundary, or to prescribed set-backs, without further boundary survey.

Contours:

The contour intervals shown on this plan are suitable in respect to the field survey methodology and should not be interpolated.

Services:

Only visible services and above ground indicators have been located, Underground services have not been located. If services were not able to be located at time of field survey their position has been derived and plotted from the records of the relevant authority or service provider. Prior to any demolition, excavation or construction, the relevant authority or service provider should be contacted for verification of the location of services and for the possible location of new services on or adjacent to the site. It is the responsibility of the design consultant to undertake their own services investigation.

LINETYPES

- Subject Boundary
- Adjoining Boundary
- Easement
- Top of bank
- Bottom of bank
- Fence
- Drainage Pipe
- Power - Overhead
- Reduced Level
- Major Contour
- Minor Contour

SYMBOLS & ABBREVIATIONS

- BM - Bench Mark
- LP - Light Pole
- PP - Power Pole
- Hyd - Hydrant
- SMH - Sewer Manhole
- SIP - Surface Inlet Pit
- Tel/NBN - Comms Pit
- Tree

REV	DESCRIPTION	BY	APP.	DATE
A	FIRST ISSUE			

REVISIONS

A3 SIZE ORIGINAL DRAWING
0 2 4 6
1:200
SCALE (m) A3

SCALES

HORIZ. DATUM	GROUND	DRAWN	MC
PROJECTION	GDA2020	CHECKED	NDC
MERIDIAN	MGA	DESIGN	
VERT. DATUM	AHD	CHECKED	
VERT. ORIGIN	SCIMS	APPROVED CERTIFICATION DATE	
SURVEYED BY	MC		
SURVEYED DATE	14/06/2023		

SURVEY DATA APPROVALS

Newton Denny Chapelle
Surveyors Planners Engineers
Lismore and Kingscliff
Phone | 02 6622 1011
Email | office@ndc.com.au

Client: SOCIAL FUTURES

Site: LOTS 69, 70, 71 DP230448
1 PHILLIP STREET
GOONELLABAH

DETAIL SURVEY
1 PHILLIP STREET
GOONELLABAH

Reference No.	DRAWING No.	REVISION
230180	230180-01-SU-DS-01	A

Appendix C

Engineering Services Layout

LEGEND

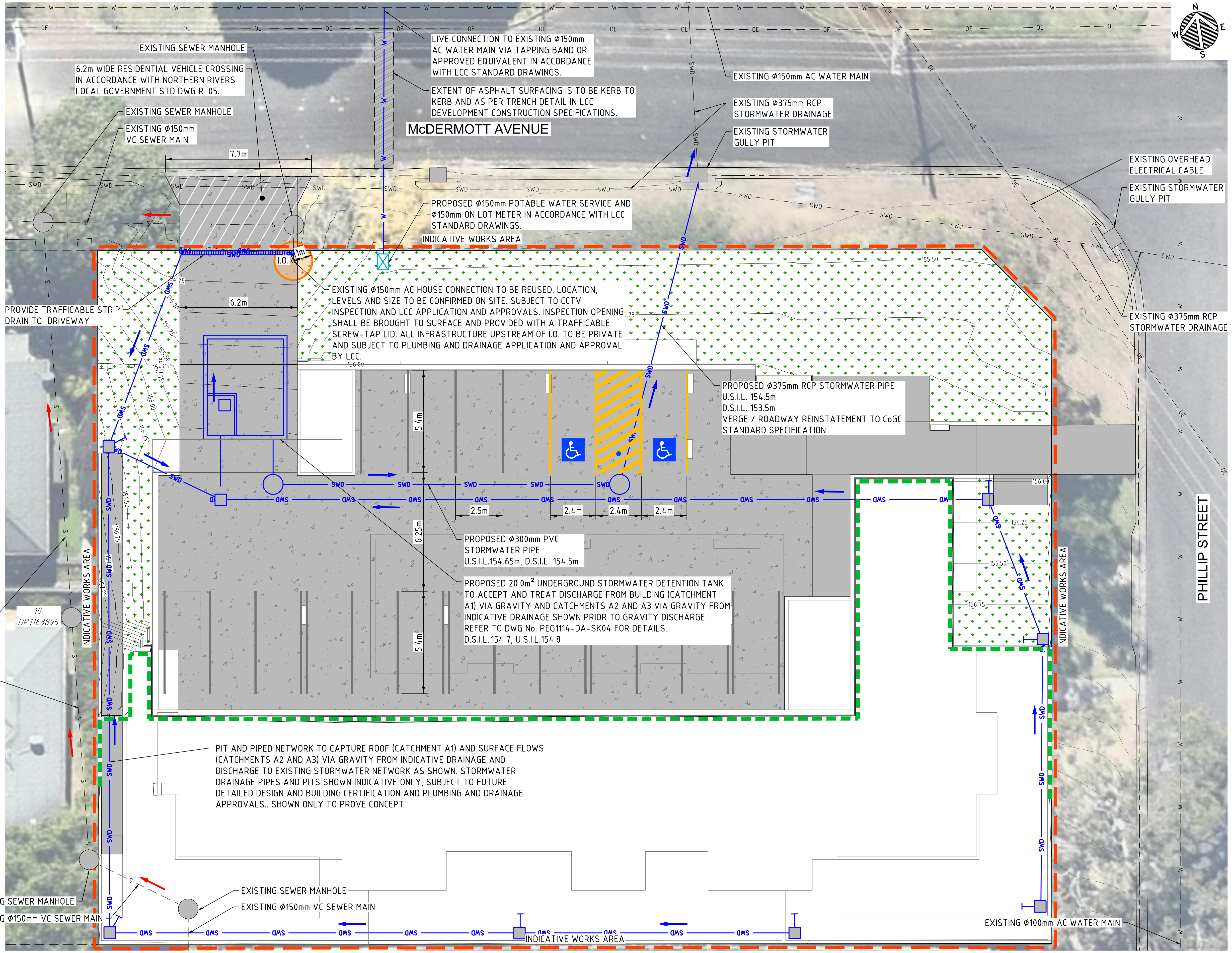
— T —	EXISTING TELSTRA CABLE
— S —	EXISTING SEWERAGE RETICULATION
— W —	EXISTING WATER RETICULATION
— SWD —	EXISTING STORMWATER PIPE
— OE —	EXISTING OVERHEAD ELECTRICAL
— UE —	EXISTING UNDER GROUND ELECTRICAL
— 6.50 —	EXISTING CONTOURS
— S —	PROPOSED SEWERAGE RETICULATION
— W —	PROPOSED WATER RETICULATION
— SWD —	PROPOSED STORMWATER PIPE
	ROOF / BUILDING HARDSTAND AREA
	CONCRETE DRIVEWAY / PAVED AREA
	PERVIOUS AREA
	EXISTING LOT BOUNDARY
	INDICATIVE WORKS AREA
	SEWER RETICULATION FLOW DIRECTION

NOTES

1. THE LOCATION OF THE EXISTING SERVICES HAS BEEN PLOTTED FROM SURVEY AND RECORDS AND IS TO BE CONFIRMED PRIOR TO CONSTRUCTION.
2. THE FINAL ALIGNMENT AND SIZING OF THE SERVICES INTERNAL TO THE PROPOSED DEVELOPMENT IS PRELIMINARY ONLY AND SUBJECT TO DETAILED DESIGN AND FUTURE OPERATIONAL WORKS APPLICATIONS TO COUNCIL.

BEFORE YOU DIG
www.byda.com.au

UNDERGROUND PUBLIC UTILITY PLANT EXISTS IN THIS VICINITY. THE CONTRACTOR IS ADVISED TO CONTACT THE RELEVANT AUTHORITIES TO CONFIRM THE EXACT LOCATION OF PUBLIC UTILITY PLANT ON SITE PRIOR TO THE COMMENCEMENT OF ANY EXCAVATION OR CONSTRUCTION WORKS.



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LEVEL 1 19 SHORT STREET, SOUTHPORT QLD 4215
(PO BOX 517, PARADISE POINT QLD 4216)
WWW.PINNACLEENG.COM.AU

REV	DESCRIPTION	DRAWN	DATE
A	ORIGINAL ISSUE FOR COMMENT	M.G.	30.11.2023
B	REVISED LAYOUT	J.H.	18.01.2024

TASK	BY	INITIAL	DATE
REVIEW	B. POPA		30.11.2023
DESIGN	A. CRESSWELL		30.11.2023
DRAWN	M. GLASSON		30.11.2023

SCALE 1:100
(SCALE ABOVE DENOTES ORIGINAL SHEET SIZE - A1)

CLIENT: SOCIAL FUTURES

PROJECT: PROPOSED RESIDENTIAL DEVELOPMENT
1 PHILLIP STREET, GOONELLABAH NSW 2480
(LOT 69, 70 & 71 ON DP230448)

DRAWING TITLE: ENGINEERING SERVICES LAYOUT

STATUS: PRELIMINARY
(NOT TO BE USED FOR CONSTRUCTION)

APPROVED | RPEQ No

DRAWING NUMBER: PEG1114-DA-SK05

REVISION: B

LEGEND

(green dashed line)	PROPOSED RETAINING WALL
10.800	DESIGN SURFACE SPOT LEVEL
6.50	EXISTING CONTOURS
6.50	EXISTING CONTOURS
(red dashed line)	INDICATIVE WORKS AREA
(light grey)	AREA IN FILL
(dark grey)	AREA IN CUT
	BOTTOM OF BATTER
	TOP OF BATTER
(arrow)	OVERLAND FLOW DIRECTION
	EXISTING LOT BOUNDARY
T	EXISTING TELSTRA CABLE
S	EXISTING SEWERAGE RETICULATION
W	EXISTING WATER RETICULATION
SWD	EXISTING STORMWATER PIPE
OE	EXISTING OVERHEAD ELECTRICAL
UE	EXISTING UNDER GROUND ELECTRICAL

CUT & FILL VOLUMES

CUT TO FILL ON LEADS	= 307 m³
CUT TO EXPORT OFF SITE	= 700 m³

NOTES

1. VOLUMES ARE TO PRELIMINARY DESIGN SURFACE LEVEL AND DO NOT ACCOUNT FOR BOXING DEPTHS, BUILDING PADS OR EXISTING SURFACE STRIPPING.

BEFORE YOU DIG
www.byda.com.au

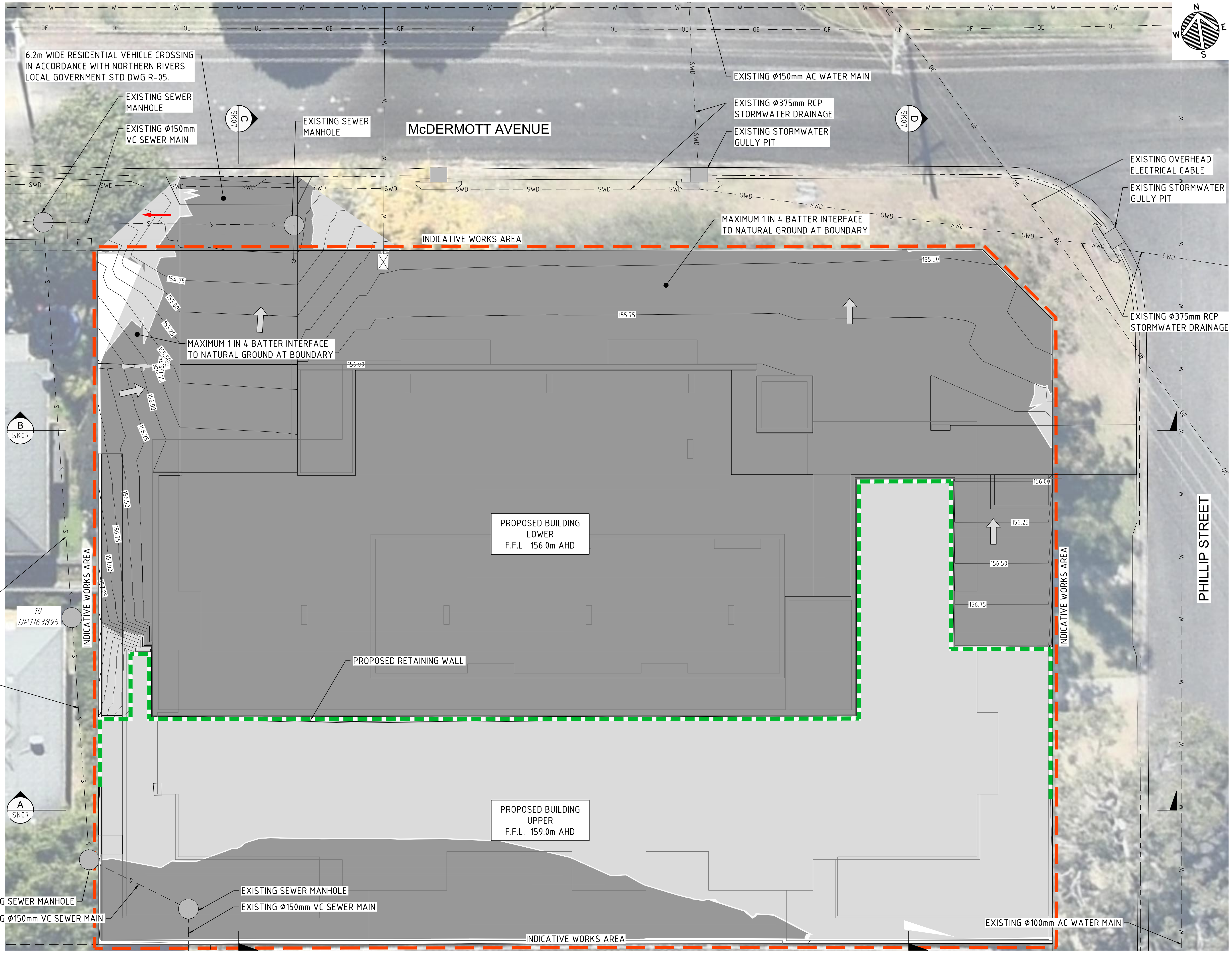
UNDERGROUND PUBLIC UTILITY PLANT EXISTS IN THIS VICINITY. THE CONTRACTOR IS ADVISED TO CONTACT THE RELEVANT AUTHORITIES TO CONFIRM THE EXACT LOCATION OF PUBLIC UTILITY PLANT ON SITE PRIOR TO THE COMMENCEMENT OF ANY EXCAVATION OR CONSTRUCTION WORKS.

EXISTING ⌀150mm ENC SEWER MAIN
US.I.L. 154.87m DS.I.L. 153.55m

EXISTING ⌀150mm ENC SEWER MAIN
US.I.L. 157.91m DS.I.L. 156.25m

EXISTING SEWER MANHOLE

EXISTING ⌀150mm VC SEWER MAIN



PINNACLE ENGINEERING GROUP
LEVEL 1 19 SHORT STREET, SOUTHPORT QLD 4215
(PO BOX 517, PARADISE POINT QLD 4216)
WWW.PINNACLEENG.COM.AU

REV	DESCRIPTION	DRAWN	DATE
A	ORIGINAL ISSUE FOR COMMENT	J.H.	16.01.2024

TASK	BY	INITIAL	DATE
REVIEW	B. POPA		16.01.2024
DESIGN	A. CRESSWELL		16.01.2024
DRAWN	M. GLASSON		16.01.2024

SCALE 1:100
(SCALE ABOVE DENOTES ORIGINAL SHEET SIZE - A1)

CLIENT: SOCIAL FUTURES

PROJECT: PROPOSED RESIDENTIAL DEVELOPMENT 1 PHILLIP STREET, GOONELLABAH NSW 2480 (LOT 69, 70 & 71 ON DP230448)

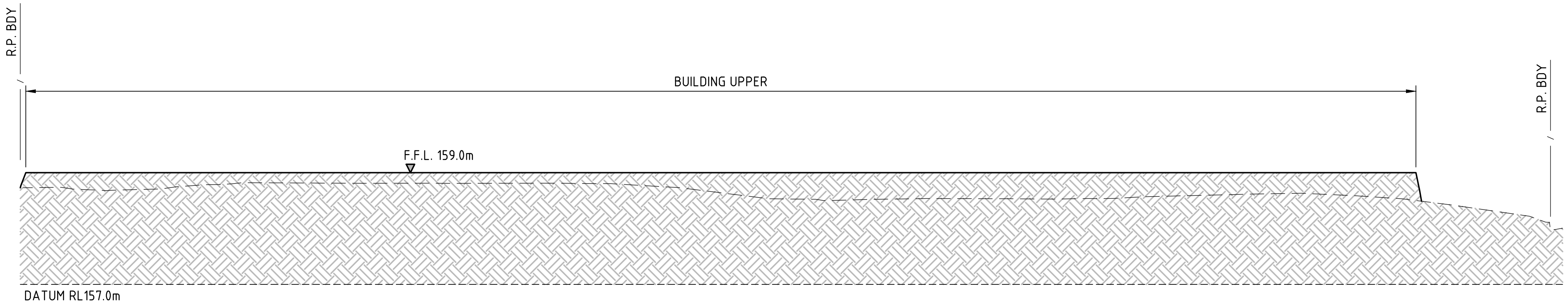
DRAWING TITLE: PRELIMINARY BULK EARTHWORKS LAYOUT

STATUS: PRELIMINARY (NOT TO BE USED FOR CONSTRUCTION)

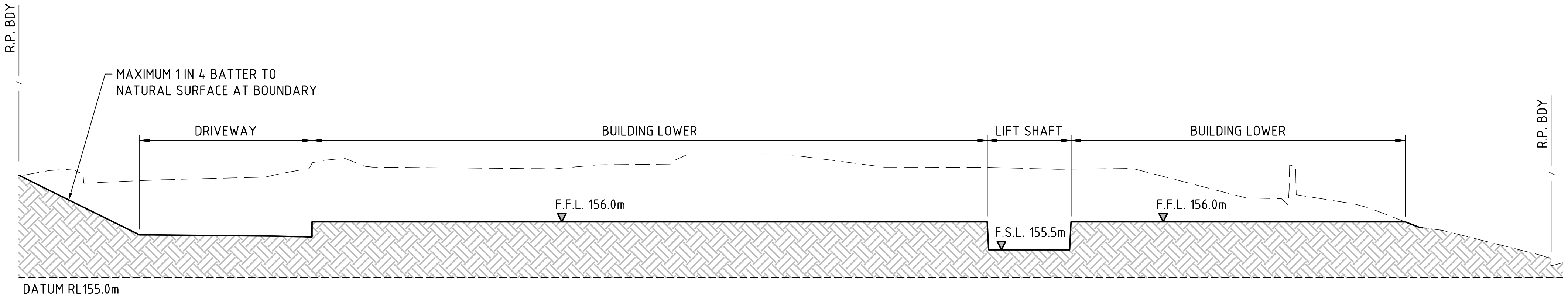
APPROVED | RPEQ No

DRAWING NUMBER: PEG1114-DA-SK06

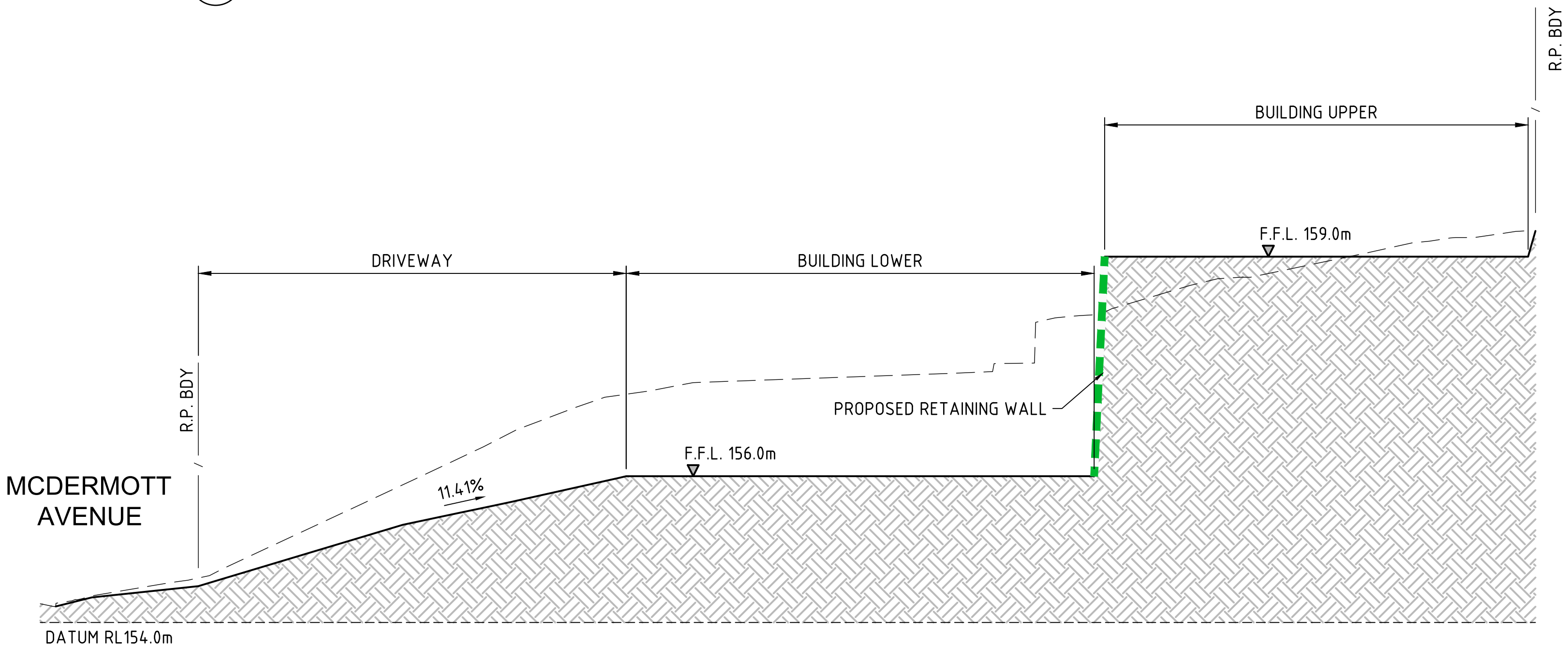
REVISION: A



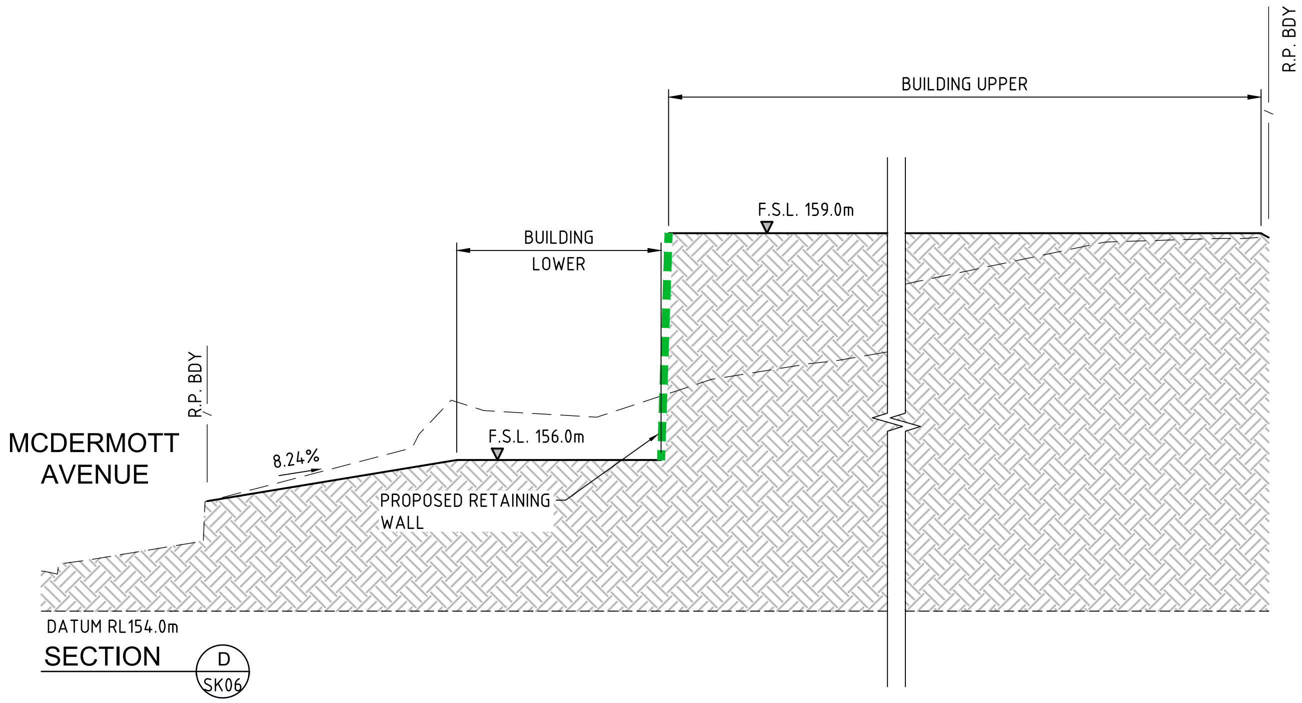
SECTION A / SK06



SECTION B / SK06



SECTION C / SK06



SECTION D / SK06

PINNACLE ENGINEERING GROUP
LEVEL 1 19 SHORT STREET, SOUTHPORT QLD 4215
(PO BOX 517, PARADISE POINT QLD 4216)
WWW.PINNACLEENG.COM.AU

REV	DESCRIPTION	DRAWN	DATE
A	ORIGINAL ISSUE FOR COMMENT	J.H.	16.01.2024

TASK	BY	INITIAL	DATE
REVIEW	B. POPA		16.01.2024
DESIGN	A. CRESSWELL		16.01.2024
DRAWN	M. GLASSON		16.01.2024

SCALE
HORZ 1 0 1 2 3 4 5 1:100
VERT 1 0 1 2 1:50
(SCALE ABOVE DENOTES ORIGINAL SHEET SIZE - A1)

CLIENT
SOCIAL FUTURES

PROJECT
PROPOSED RESIDENTIAL DEVELOPMENT
1 PHILLIP STREET, GOONELLABAH NSW 2480
(LOT 69, 70 & 71 ON DP230448)

DRAWING TITLE
PRELIMINARY BULK EARTHWORKS SECTIONS

STATUS
PRELIMINARY
(NOT TO BE USED FOR CONSTRUCTION)

APPROVED

RPEQ No

DRAWING NUMBER
PEG1114-DA-SK07

REVISION
A

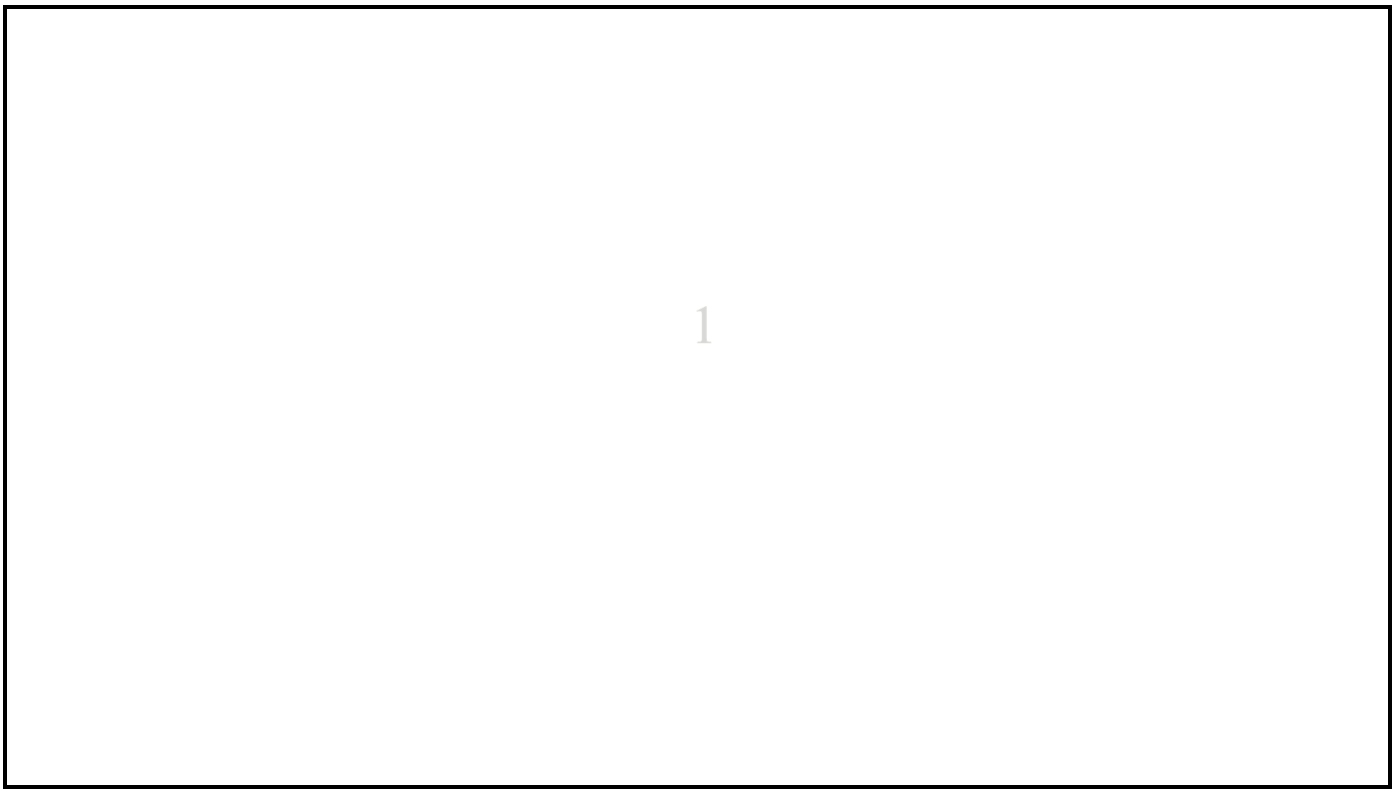
Appendix D

DBYD Data

To:	Bogdan Popa
Phone:	Not Supplied
Fax:	Not Supplied
Email:	bogdan@pinnacleeng.com.au

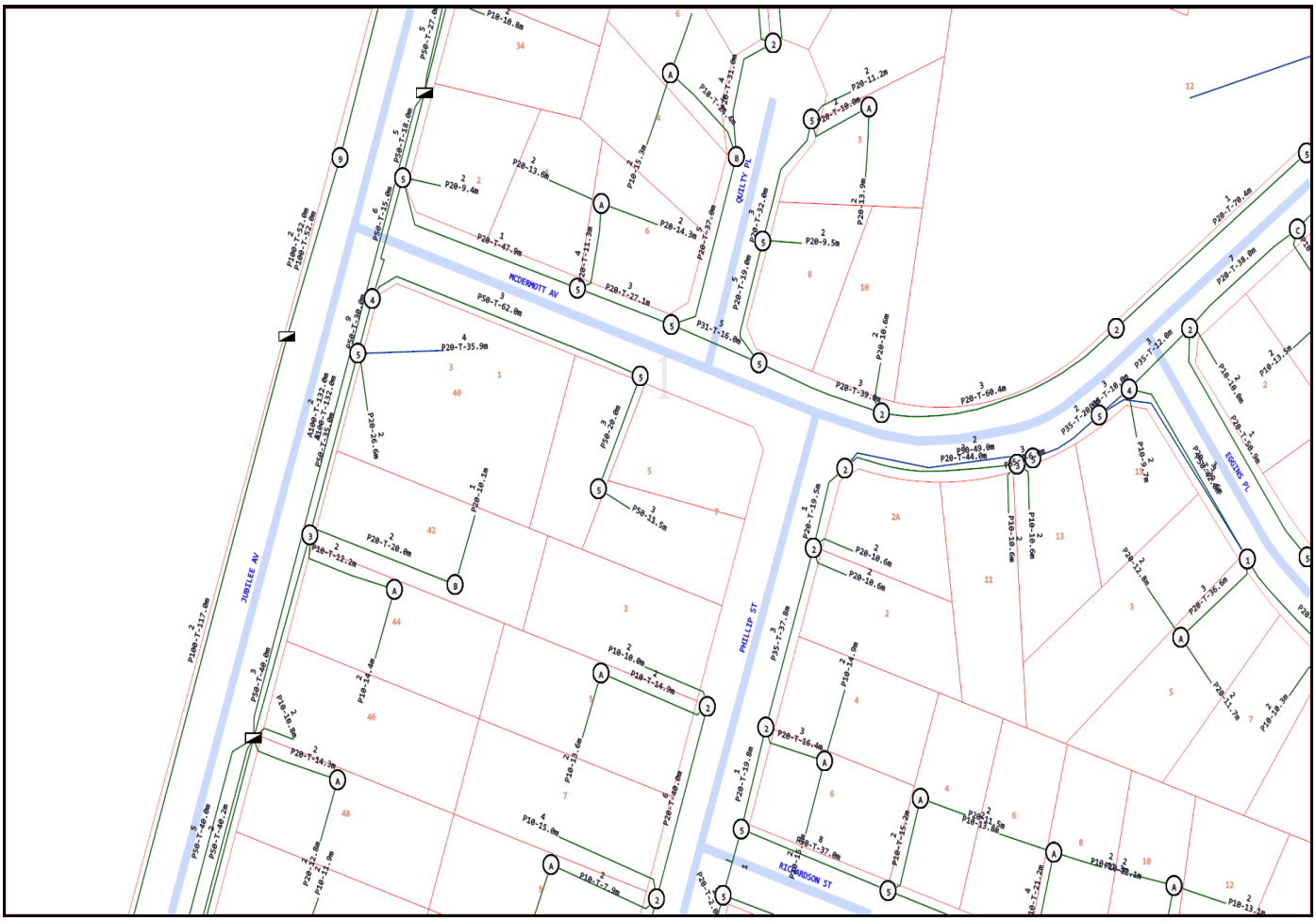
Dial before you dig Job #:	35524412
Sequence #	232452974
Issue Date:	22/11/2023
Location:	9 McDermott Avenue , Goonellabah , NSW , 2480

Indicative Plans



LEGEND

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

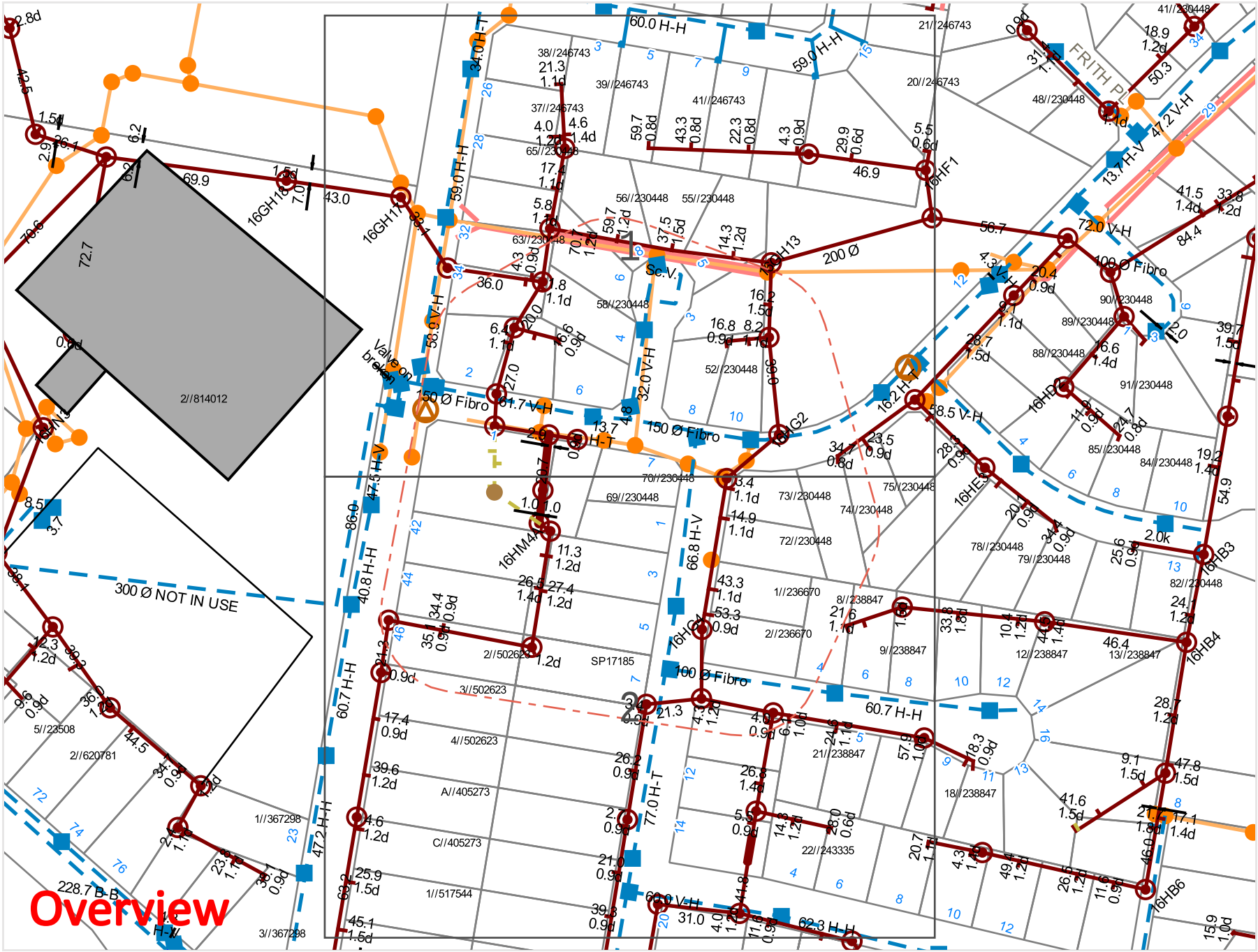


Emergency Contacts

You must immediately report any damage to the **nbn™** network that you are/become aware of. Notification may be by telephone - 1800 626 329.

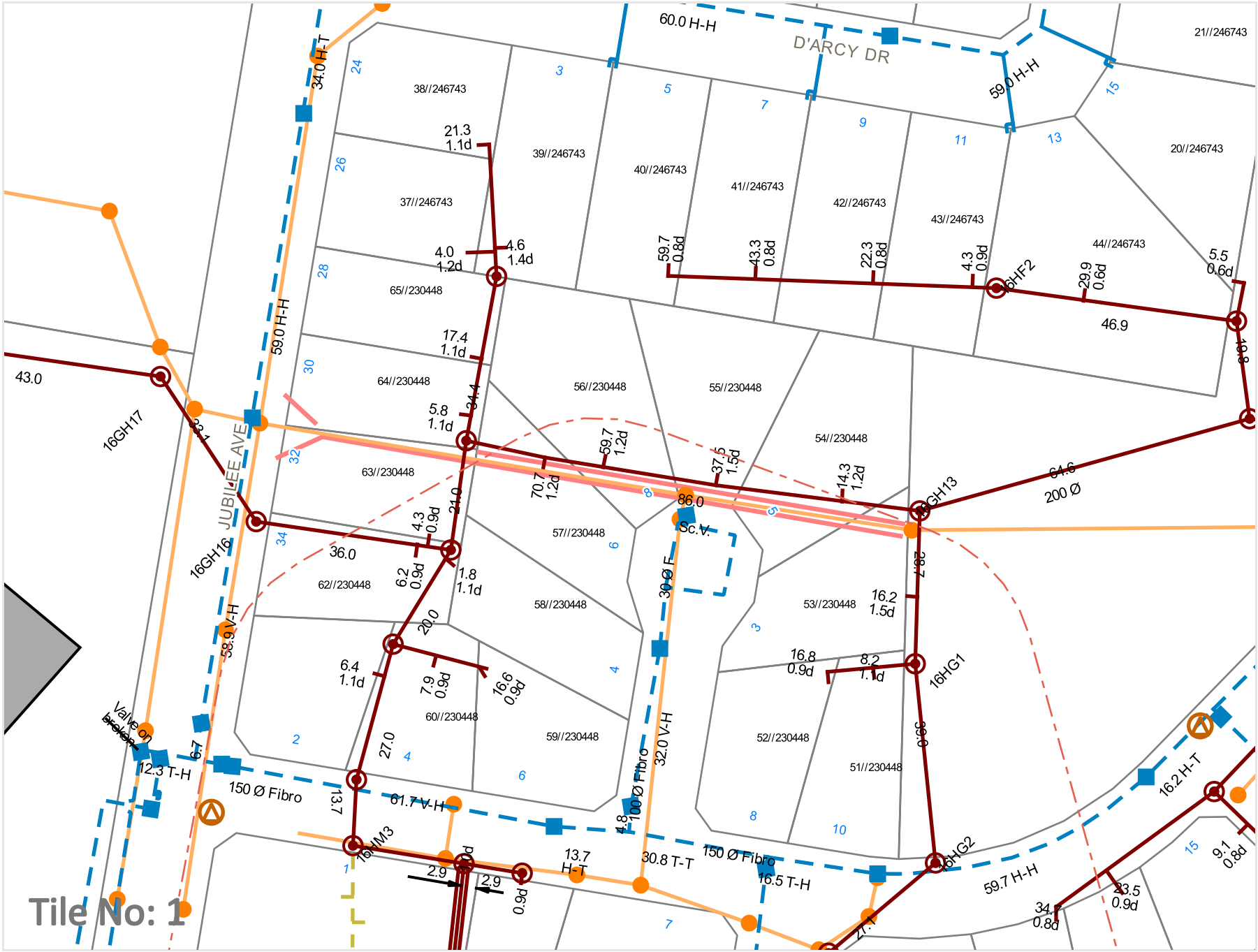
Sequence No: 232452975
Job No: 35524412
Location: 9 McDermott Avenue, Goonellabah, NSW 2480

DIAL BEFORE YOU DIG www.1100.com.au
The Essential First Step.



DISCLAIMER: While reasonable measures have been taken to ensure the accuracy of the information contained in this plan response, neither Lismore City Council or 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.

Sequence No: 232452975
Job No: 35524412
Location: 9 McDermott Avenue, Goonellabah, NSW 2480



Legend

- Gas Pipeline
- Optical Fibre Pits
- Optical Fibre Pipes
- Survey Marks
- Abandoned Sewer Points
- Abandoned Sewer Lines
- Manholes
- Sewerage Valves
- Sewerage Pipes
- Abandoned Water Pipes
- Water Valves and Hydrants
- Water Storage Tanks
- Water Pipes
- Water Connections
- Rous Pipelines
- Stormwater End Structures
- Stormwater Pits
- Stormwater IAD
- Stormwater Conduits
- Stormwater Easement
- Property Boundaries

N

Scale: 1:1000
Expires: 20 Dec 2023

Sequence No: 232452975
Job No: 35524412
Location: 9 McDermott Avenue, Goonellabah, NSW 2480

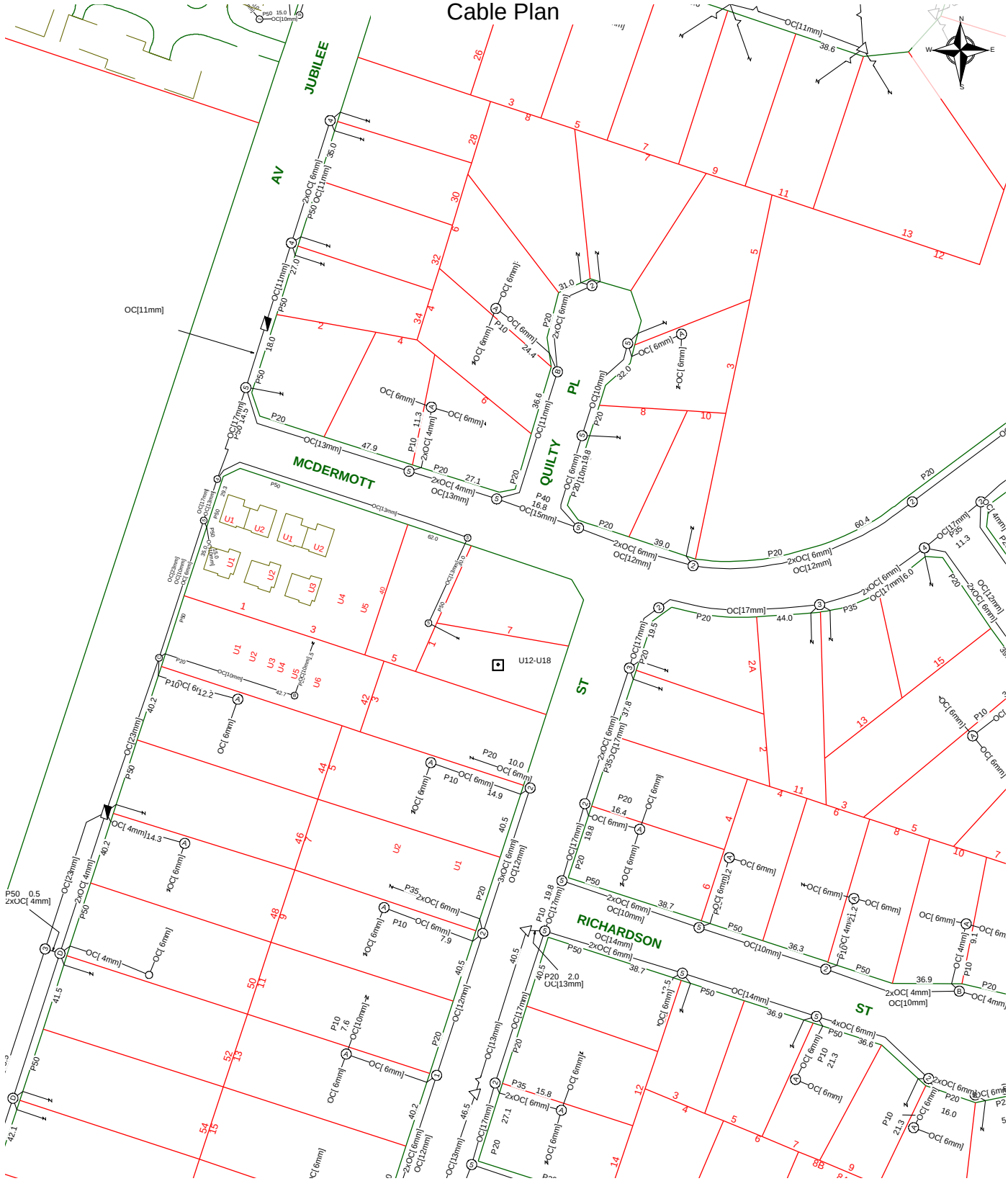
Legend

- Gas Pipeline
- Optical Fibre Pits
- Optical Fibre Pipes
- Survey Marks
- Abandoned Sewer Points
- Abandoned Sewer Lines
- Manholes
- Sewerage Valves
- Sewerage Pipes
- Abandoned Water Pipes
- Water Valves and Hydrants
- Water Storage Tanks
- Water Pipes
- Water Connections
- Rous Pipelines
- Stormwater End Structures
- Stormwater Pits
- Stormwater IAD
- Stormwater Conduits
- Stormwater Easement
- Property Boundaries

N

Scale: 1:1000
Expires: 20 Dec 2023

Cable Plan



Report Damage: https://service.telstra.com.au/customer/general/forms/report-damage-to-telstra-equipment
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 22/11/2023 10:18:36

Sequence Number: 232452977

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

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

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

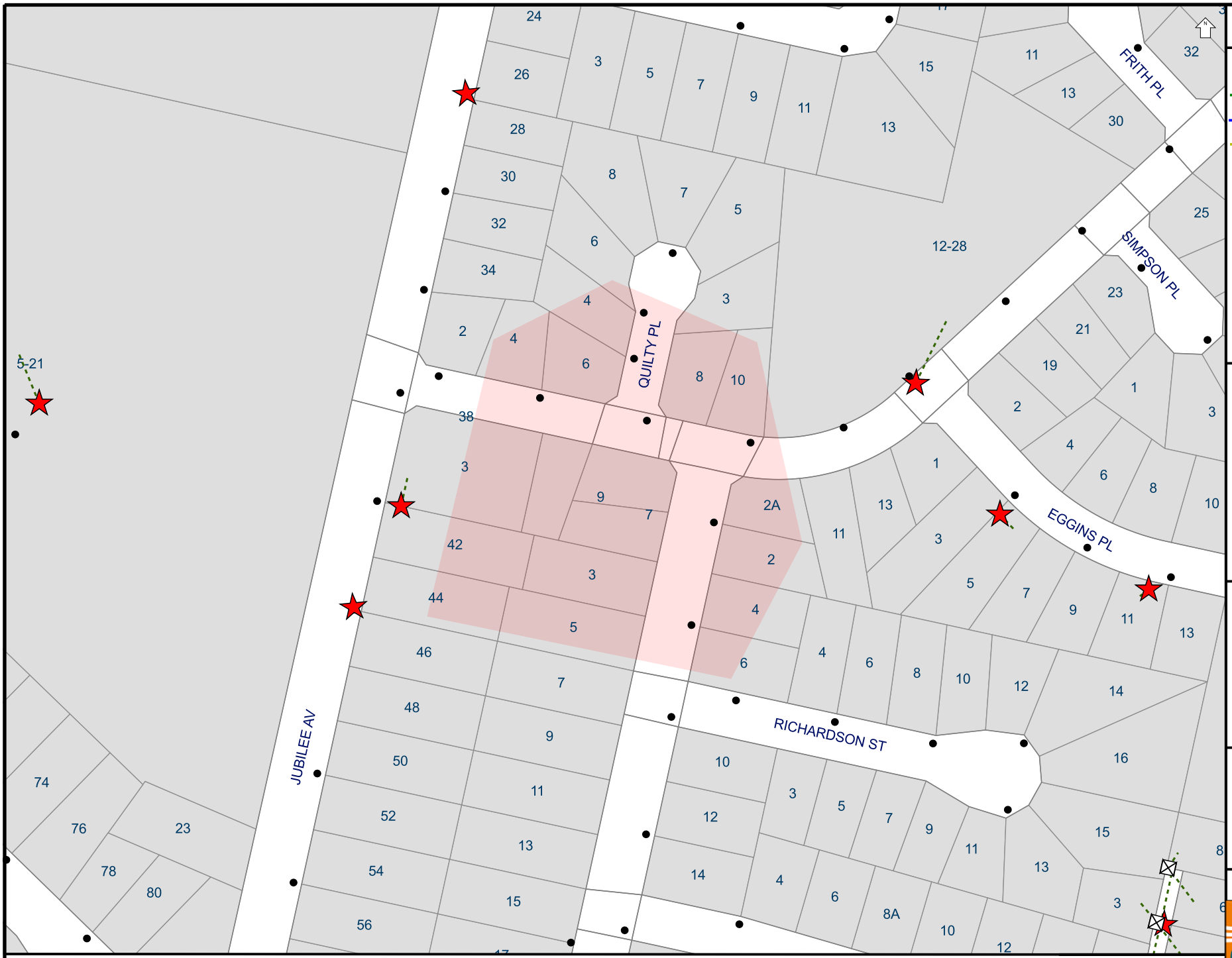
Report Damage: https://service.telstra.com.au/customer/general/forms/report-damage-to-telstra-equipment
Ph - 13 22 03
Email - Telstra.Plans@team.telstra.com
Planned Services - ph 1800 653 935 (AEST bus hrs only) General Enquiries

TELSTRA LIMITED A.C.N. 086 174 781

Generated On 22/11/2023 10:18:37

Sequence Number: 232452977

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



Overhead wires not shown
LOOK UP & LIVE!

LEGEND

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

Critical Assets

Contact Essential Energy on 13 23 91

- Zone Substation
- Underground Cable
- Underground Fibre

Proposed Works

- Area of proposed works

Proposed assets are shown as orange symbols

THE INFORMATION ON THIS MAP MAY NOT BE ACCURATE. If details are incorrect, please notify Essential Energy on 13 23 91 (or fax 1800 354 636)

ISSUE DATE: 22/11/2023

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

A4 | SCALE: 1:1815

Job Number: 35524412 Sequence number: 232452976 Job location: 9 McDermott Avenue, Goonellabah Map Centre: 153° 19' 25.2", -28° 49' 18.3"

essential energy

Appendix E

Council Mapping Extracts

Lismore City Council
43 Oliver Avenue
Goonellabah NSW 2480
Post: PO Box 23A, Lismore NSW 2480
Phone: 1300 87 83 87
Fax: 02 66 250 400
Email: council@lismore.nsw.gov.au
Web: www.lismore.nsw.gov.au

Created By: anonymous

Projection: GDA2020 / MGA zone 56

Date: 22/11/2023 10:38 AM

Flood Map


PINNACLE
ENGINEERING GROUP
PINNACLE ENGINEERING GROUP
ABN: 80 608 431 625
Level 1, 19 Short Street, Southport QLD 4215
(PO Box 517, Paradise Point QLD 4216)
www.pinnacleeng.com.au