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530 Chambers Flat Road, Logan Reserve

Civil Engineering Report

Client: GC Dev 6 Pty Ltd

Project No: BE220612

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1. Introduction

GC Dev 6 Pty Ltd have engaged Burchills Engineering Solutions to prepare a Civil Engineering Report to be considered part of a Development Application to Logan City Council for the establishment of a 31-lot subdivision. The proposed development is located at 530 Chambers Flat Road, Logan Reserve.

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 Logan 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;
- Roadworks, 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 site is legally described as Lot 10 on RP97736. The corresponding street addresses are 524-530 Chambers Flat Road, Logan Reserve. The combined site is generally rectangular and occupies an area of approximately 3.336 ha.

The site to be developed is shown on the Master Plan prepared by Burchills Engineering Solutions (Drawing No. BE220612-SK01-B) which is included in Appendix B of this report. A detailed site survey has been undertaken by Land Partners and 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 grades uniformly from the east to west, with a vertical crossfall of 9.0m. The highest point within the site is at the south-eastern corner at approximately RL 24.0 m AHD, and the lowest point is at the western boundary of the site at approximately RL 15.0 m AHD. There is an existing watercourse that runs from the southern boundary to the northern boundary towards the western portion of the site as well as a roadside swale along Chambers Flat Road. The western frontage of the site is bounded by Chambers Flat Road. Currently the subject sites contain a single dwelling, driveway, and ancillary structures. Both structures are surrounded with tree cover; the remaining ground coverage is predominantly grassed areas, with some minor tree coverage in the eastern portion of the site.

The site is bounded by the following existing land uses:

North:	Neighbouring Rural Property;
South:	Neighbouring Rural Property;
East:	Neighbouring Rural Property; and
West:	Chambers Flat Road.



3. Proposed Development

The subject site is proposed to be reconfigured and developed from 1 into 31 lots, along with a bioretention basin and drainage reserve. The proposed development layout is shown below in Figure 3.1, and on the Master Plan prepared by Burchills Engineering Solutions (Drawing No. BE220612-SK01-B) which is included in Appendix B of this report.



Figure 3.1 Subdivision Proposal Plan

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 3.1.

Table 3.1 Development Summary

Use	Unit	Total Units	EP's/Unit	Total EP
Detached Dwelling	Per Dwelling	31	2.79	86.5
Total	-	31	-	86.5



4. Site Earthworks

It is anticipated that earthworks associated with the proposed development will be kept to a minimum with general cutting and filling associated with road construction, trenching of services, stormwater management devices, and alterations to levels to allow for level building pads.

The Preliminary Earthworks Layout Plan, Drawing No. BE220612-C200-A demonstrates the development grading, finished surface levels and retaining walls and is included within Appendix C. It should be noted that the existing biodiversity corridor will generally be undisturbed in accordance with the above-mentioned plan.

4.1 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.

4.1.1 Phase 1 – Stripping & Bulk Earthworks

- Identify and mark all trees to be retained and erect exclusions zones, if required.
- Prior to any demolition, stripping or bulk earthworks on site, sediment fences, inlet traps, gully protection and entry/exit pad shall be put in place.
- A wash-down area and entry/exit pad will be provided at the construction site entrance to minimise the amount of sediment being tracked off the site.
- The wash down area will be drained to a suitable sediment capture device installed downstream of the construction entry.
- Sediment fences are to be installed along the downstream property boundaries prior to stripping and earthworks commencing.
- Construct an appropriately sized sediment basin for the development.
- If refuelling of machinery is to occur on site, appropriate absorbent products for cleaning oil spills will be provided.
- Provide bins on site for the disposal of waste and building debris.
- All fresh water upstream of disturbed areas and stockpiles is to be diverted around the disturbed area to minimise the amount of sediment mobilization.
- If it is anticipated that stockpiled material will not be used for a period of two weeks or more, a polythene cover (or equivalent) shall be used to prevent sediment transport by rain during wet periods. Conversely during dry periods a cover shall be used to prevent fine sediments becoming airborne.
- The contractor shall provide on-going maintenance of sediment and erosion control devices around the site.
- The contractor is to stage all works so that disturbed areas remain exposed for a short a period as practicable.

Measures to minimise airborne pollutants during construction in the form of dust during dry and/or windy weather shall include the following:



- Exposed soils shall be kept damp to prevent particulates becoming airborne; and
- Stockpiles exposed for more than two weeks shall be covered to prevent wind erosion.

4.1.2 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 localized works.

4.1.3 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.



5. Roadworks, Access and Traffic

Access into the development is proposed via road extension from the proposed development to the south of the site on 532-550 Chambers Flat Road, Logan Reserve (Council DA Ref: COM/60/2022). The ultimate access is proposed via connection to future trunk road network to the east of the subject site. In accordance with Logan City Council's Local Area Plan, there is a future 23.0m Collector Function road located at the eastern property boundary of the neighbouring site. Given no development has occurred on the adjacent land parcels, temporary road access to the proposed development is to be gained via an access roadway to Chambers Flat Road from the neighbouring development at 532-550 Chambers Flat Road. Upon delivery of this Collector road, the temporary access on the neighbouring property to the south will be decommissioned, and ultimate access will be gained via this proposed trunk infrastructure.

The proposed internal road network will have a 15.5m road reserve, and a 7.5m pavement width (K-K). The road pavement will be constructed with a crown and two-way crossfall. Design and grading of the new roads will be in accordance with the Logan City Council Development Guidelines.



6. Stormwater Drainage

The internal road network will collect stormwater runoff and convey it to inlet pits on the edges of the road. These pits will be connected through a series of stormwater drain lines, discharging into a bioretention basin where flows will be released in a controlled manner to ensure that there is non-worsening peak flow in the post-developed scenario.

Refer to the Conceptual Stormwater Management Plan that has been prepared by Burchills Engineering Solutions and is intended to accompany this Development Application (BE220612-RP-CSMP-00).

Stormwater Quantity

- The Lawful Point of Discharge (LPD) for the site has been defined as the mapped waterway on the western side of Chambers Flat Road.
- Stormwater runoff will be conveyed to the detention basin where it will be released at LPD A in a controlled manner to ensure that there is non-worsening peak flow in the post-developed scenario. This detention device will have a 1% AEP volume of 188 m³.

Stormwater Quality

- To achieve Logan City Council's Water Quality Objectives, it is proposed to use a bioretention system to treat stormwater runoff.
- The bioretention device will have a total filter media footprint of 200m².

Erosion and Sediment Control

- An Erosion Hazard Assessment has identified that the site is high-risk with regard to erosion potential.
- Sediment loss estimates have been used to determine that a sediment basin with approximately 43 m³ of sediment storage is required.
- Additional sediment and erosion control measures will be required, specific details of these measures will be determined at the detailed design phase.



7. Water Supply

The development will gain its potable water supplier via connection to the proposed water main associated with the proposed development of 532-550 Chambers Flat Road (Council DA Ref: COM/60/2022). The extents of the proposed water reticulation network are depicted in the Water Reticulation Layout Plan, Drawing No. BE220612-C500-A included within Appendix C.

We note that this internal schematic is intended for preliminary purposes only and is subject to a more detailed assessment, including a detailed sizing of mains during the detailed design phase.

7.1 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 service mains internal of each building will be designed and constructed in accordance with AS/NZS 3500.1:2003 Plumbing and Drainage – Water services (Standards Australia, 2003).

The water flow parameters shown in Table 7.1, 7.2 and 7.3 required to meet Unity Water Standards of Service and have been based on Single Supply (Drinking Water Only) Network parameters shown in SEQ Design Criteria Table 7.1.

Table 7.1 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
Residential	230	30	1.5	2.0	4.0

Notes:

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

Table 7.2 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 7.3 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 Urban Residential	7.5 L/s for a duration of 2 hrs
Fire Flow Commercial	30 L/s for a duration of 4 hrs
Background Demand	2/3 x Peak Hour demand (not less than Average Day demand)

The calculated water supply demand for the proposed development is shown in Table 7.4.

Table 7.4 Water Supply Demand Calculations

Use	EP	AD Flow	Non-Revenue	AD (kL/day)	PH (L/s)
Residential	86.5	230	30	22,490	0.95

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 4.0 while applying the Non-Revenue flows of 30 L/EP/day, as follows:

$$\begin{aligned}
 \text{Maximum Peak Demand} &= \text{PHF} \times \text{Demand Rate} \times \text{EP's} + \text{NR} \\
 &= 4.0 \times 230 \times 86.5 + (30 \times 86.5) \\
 &= 82,175 \text{ L/day} \\
 &= 0.95 \text{ L/s}
 \end{aligned}$$

$$\begin{aligned}
 \text{Demand Multiplier} &= \text{Maximum Demand} / \text{EP's} \\
 &= 0.95/86.5 \\
 &= 0.011 \text{ L/sec/EP}
 \end{aligned}$$



8. Sewer Reticulation

The wastewater generated by the development is to be conveyed to the proposed sewer mains associated with the proposed development of 532-550 Chambers Flat Road (Council DA Ref: COM/60/2022). The Sewer Reticulation Layout Plans, Drawing No. BE220612-C500-A, depicts the development's sewer reticulation and is included within Appendix C.

8.1 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 8.1, 8.2 and 8.3. The following parameters are based on a RIGGS system:

Table 8.1 Sewer Flow Generation Parameters

Flow	Parameter
Average Dry Weather Flow (ADWF)	200 L/EP/d
Peak Dry Weather Flow (PDWF)	PDWF = C2 x ADWF Where: $C2 = 4.7 \times (EP)^{-0.105} = 2.942$
Peak Wet Weather Flow (PWWF)	PWWF = 5 x ADWF

Table 8.2 Pipe Design Parameters

Flow	Parameter
Mannings 'n'	0.013
Minimum velocity @ PDWF	0.7 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 8.3 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 8.4.

Table 8.4 Sewer Demand Calculation

Use	EP	ADWF Rate	ADWF (L/d)	PWWF (L/d)	PWWF (L/s)
Residential	86.5	200	17,300	86,500	1.005

The calculations indicate that the total post development demand at PWWF will be approximately 1.005 L/s.



9. Electrical and Telecommunications

A detailed site survey has been completed by Landpartners 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, prepare detailed designs and liaise with the relevant authorities.



10. Conclusion

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

Earthworks associated with the proposed development will be kept to a minimum with general cutting and filling associated with road construction, trenching of services, stormwater management devices, and minor alterations to levels to allow for level building pads.

Access into the development is proposed via road extension from the proposed development to the south of the site on 532-550 Chambers Flat Road, Logan Reserve (Council DA Ref: COM/60/2022).

The internal road network will collect stormwater runoff and convey it to inlet pits on the edges of the road. These pits will be connected through a series of stormwater drain lines, discharging into a bioretention basin where flows will be released in a controlled manner to ensure that there is non-worsening peak flow in the post-developed scenario.

The development will gain its potable water supplier via connection to the proposed water main associated with the proposed development of 532-550 Chambers Flat Road (Council DA Ref: COM/60/2022).

The wastewater generated by the development is to be conveyed to the proposed sewer mains associated with the proposed development of 532-550 Chambers Flat Road (Council DA Ref: COM/60/2022).

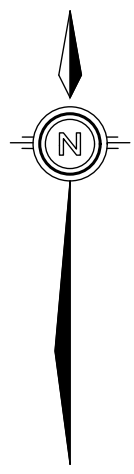
All required essential services can be suitably provided to the development, including:

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



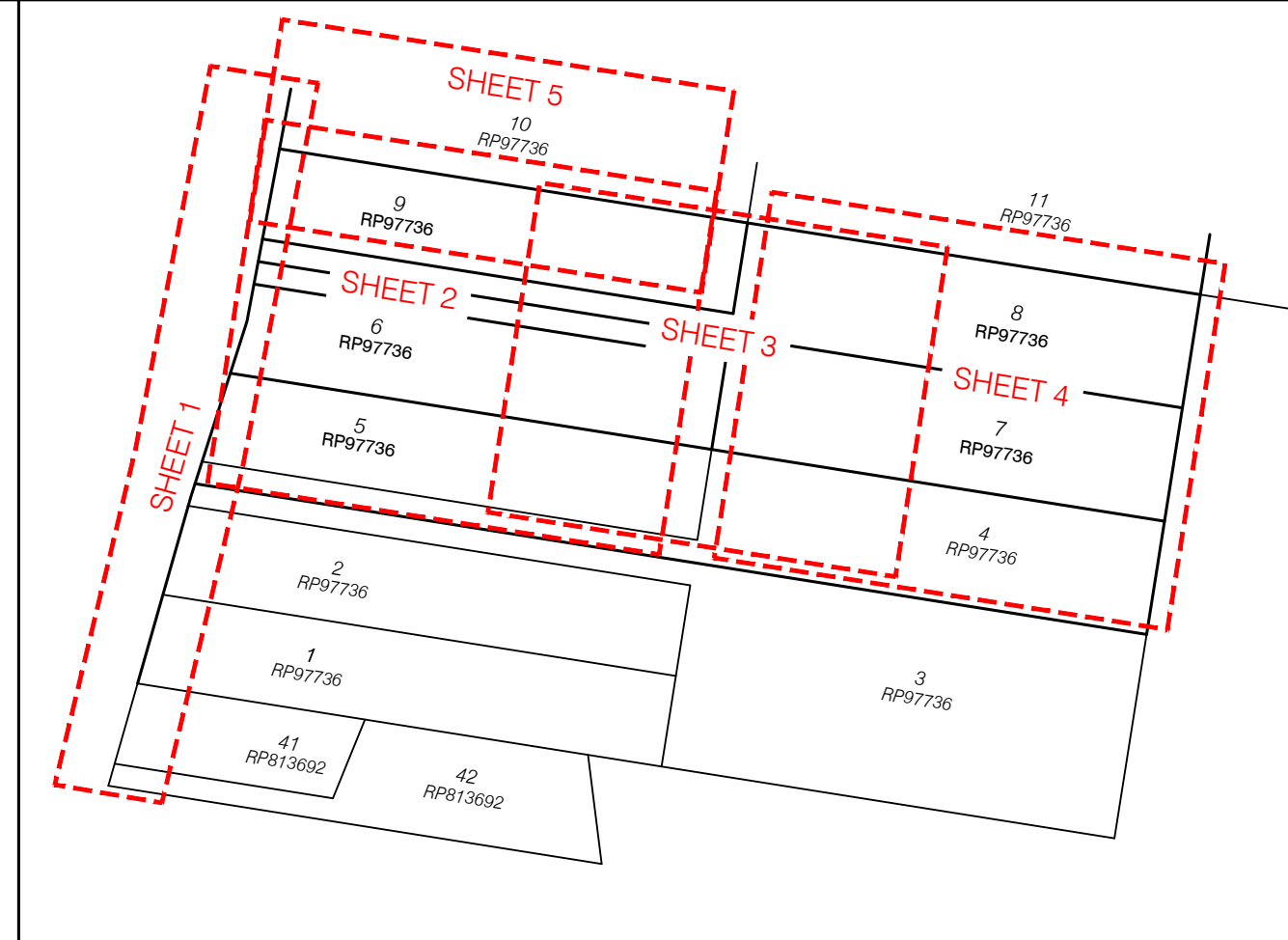
Appendix A – Site Survey





CHAMBERS FLAT ROAD

CHAMBERS FLAT ROAD



LINE TYPE LEGEND	
BOTTOM OF BANK	---
TOP OF BANK	---
CHANGE OF GRADE	---
CROWN OF ROAD	---
BITUMEN EDGE	---
CONCRETE EDGE	---
SCRUB EDGE	---
FENCE	---
OVERHEAD POWER	---
KERB AND CHANNEL INVERT	---
KERB TOP BACK	---
WATER EDGE	---
DRAIN	---

SUBSURFACE UTILITIES LEGEND

The Subsurface Utilities shown on this plan have been coloured, denoted and classified as per AS 5488.1.2019:

Communications:

- Drainage: — (B) — (B)
- Electrical: — (B) — (B)
- Fire Service: — (B) — (B)
- Gas: — (B) — (B)
- Petroleum: — (B) — (B)
- Recycled Water: — (B) — (B)
- Sewer: — (B) — (B)
- Unidentified: — (B) — (B)
- Potable Water: — (B) — (B)

Linetype examples above are Quality B classification.

Refer to the *Subsurface Utilities Quality Classifications and Accuracies* notes below to understand accuracies and methods of location.

Refer to the colour, lettering and quality classification of the linework on this plan to understand the type of utility that was located and its accuracy limitations.

DISCLAIMER

LandPartners makes all reasonable efforts to locate sub-surface utilities, however some utilities can remain undetected for various reasons beyond our control. We note:

- LandPartners relies on Dial Before You Dig (DBYD) and site services records to indicate the presence of sub-surface utilities. DBYD plans do not necessarily document all the Underground Services within an area. DBYD plans are limited to public areas, not private land holdings. DBYD and site service records may not reflect recent installation activity by an asset owner.
- Electromagnetic Locators (EML) and/or Ground Penetrating Radar (GPR) instruments are used to locate the presence of underground services. The effectiveness of using EML and GPR instruments depends on site conditions including soil density, depth of the targeted underground service, moisture content of the soil, electrical interference from adjoining services and wire fences and the material / installation methodology of the targeted underground service. EML and GPR both have operating limitations and do not locate to infinite depths.

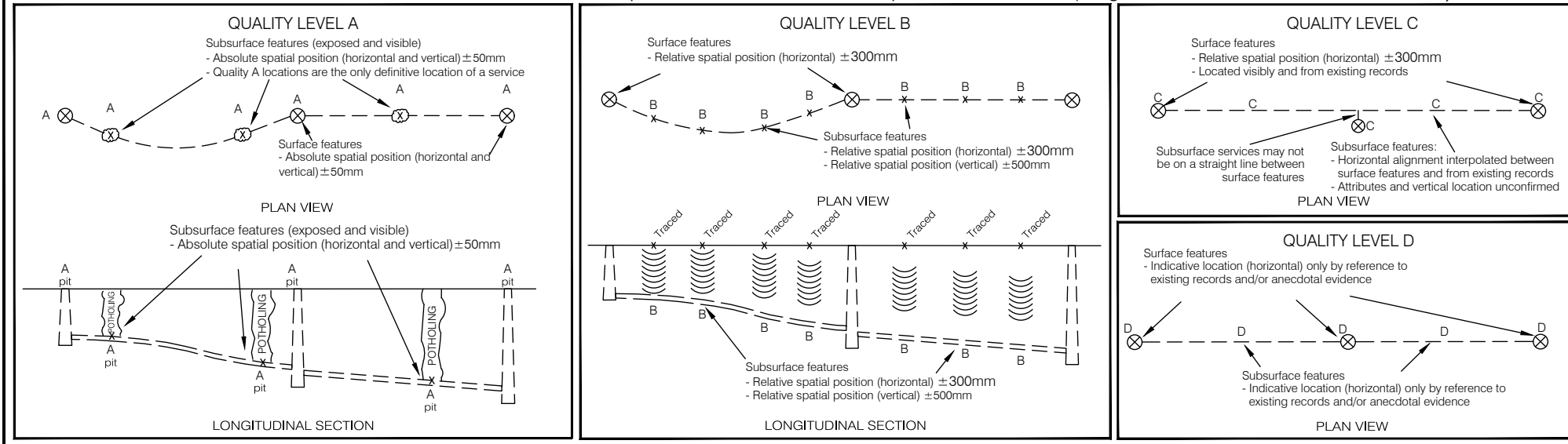
LandPartners advises our clients that:

- The DBYD search used to complete this work contains Duty Of Care conditions and advice from asset owners. The client is ultimately responsible for reviewing and ensuring compliance with asset owner's Duty of Care obligations.
- The position and depth of the sub-surface utilities shown hereon is not absolute. The Quality Classification for this data indicates the relative accuracy.
- For any digital CAD data that forms part of this plan: the Quality Classification of the data prevails over absolute co-ordinate values.
- The purpose of this plan / file is to assist in detailed design only. LandPartners recommends the underground services need to be re-located, confirmed and clearly marked out prior to mechanical excavation / construction.
- LandPartners are not liable for the accuracy and correctness of 3rd party datasets that may be shown on this plan, e.g. DBYD, Council GIS etc. LandPartners will note the source of 3rd party datasets.

LandPartners has endeavoured to identify, locate and survey sub-surface utilities within the scope of works area. We have indicated the relative accuracies of the results, however the client is ultimately responsible for their own assessment of these results and decisions around latent condition risk.

SUBSURFACE UTILITIES QUALITY CLASSIFICATIONS AND ACCURACIES

The relative accuracies of Located Subsurface Utilities shown on this plan have been Classified as per AS 5488.1.2019 (Diagrams extracted from AS 5488.1.2019)



CLIENT

GCDEV3 PTY LTD

PROJECT

DETAIL SURVEY
OF
LOTS 5 - 10 on RP97736
Chambers Flat Road
LOGAN RESERVE

NOTES

- (i) This plan has been prepared for the exclusive use of GCDEV3 PTY LTD and their consultants for design purposes and is not to be used for any other purpose or by any other entity without the express permission of LandPartners Pty Ltd.
- (ii) The title boundaries for Lots 5 - 9 on RP97736 as shown hereon were reinstated by survey and will be reflected on an Identification Survey Plan that will be lodged with the Department of Resources. The title boundaries of Lot 10 on RP97736 have been plotted from existing records and have not been surveyed. They will need to be reinstated for accurate design requirements.
- (iii) Services shown hereon have been located where visible by field survey. If not able to be so located, services have been plotted from the records of relevant authorities where available and have been noted or symbolised accordingly. Where such records do not exist or are inadequate a notation has been made hereon.
- (iv) Underground connections between services have been joined based on relevant authority records and have been symbolised accordingly.
- (v) Prior to any demolition, excavation or construction on the site, the relevant authority should be contacted for possible location of further underground services and detailed locations of all services.
- (vi) This data should not be reproduced in any way without the permission of LandPartners Pty Ltd. Any reproduction of this data must contain these notes.
- (vii) LIDAR contours shown external to surveyed extents/contours have been derived from Queensland LIDAR Data - Logan LGA 2013 Project.

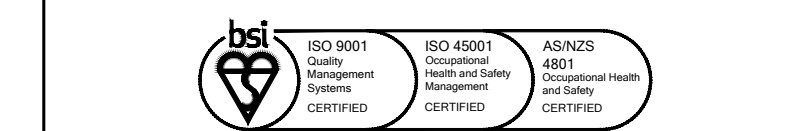
7	MEA	27/01/2023	Added detail for Lot 10 RP97736
6	AJD	30/11/2022	Added detail for Lot 5 RP97736
3	RGA	8/08/2022	Reinstated boundaries for Lots 6-9 on RP97736
2	RGA	9/05/2022	DETAIL LOTS 6 - 9 ON RP97736
1	MIS	31/01/2021	INITIAL ISSUE

SYM	CODE	DESCRIPTION	SYM	CODE	DESCRIPTION
BOL	BOL	BENCHMARK	SGN	SGN	SIGNS
CP	CP	COLUMN / PILLAR	SIO	SIO	INSPECTION OPENING
EBX	EBX	ELECTRICAL BOX	SM	SM	SEWERAGE MANHOLE
ECM	ECM	ELEC CABLE MARKER	SN	SN	STREET NAME SIGN
ELP	ELP	ELECTRICITY POLE	SPR	SPR	SPRINKLER
EM	EM	ELECTRICITY PIT	SPR	SPR	SPRINKLER
EP	EP	ELECTRICITY POLE	SSV	SSV	STOP/SUICE VALVE
ESP	ESP	ELECTRICITY STAY POLE	STN	STN	SURVEY STATION
PH	PH	FIRE HYDRANT	SW	SW	STORMWTR. MANHOLE
FHP	FHP	FIRE HYDRANT PILLAR	TAP	TAP	TAP
FP	FP	FLAG POLE	TE	TE	TELECOM PIT
GMH	GMH	GAS MANHOLE	TM	TM	TELECOM MANHOLE
GMM	GMM	GAS MARKER	TOH	TOH	TRANSFORMER OHEAD
GP	GP	GUIDE POST	TP	TP	TELEPHONE POLE
GS	GS	GUIDE SIGN	TRL	TRL	TRAFFIC LIGHTS
GT	GT	GULLY TRAP	TRP	TRP	TRAFFIC PIT
GV	GV	GAS VALVE	WAV	WAV	WATER AIR VALVE
HB	HB	HOSE BOX/REEL	WCU	WCU	WATER END CAP
HM	HM	HYDRANT MARKER	WM	WM	WATER METER
MHU	MHU	MANHOLE UNKNOWN	WMH	WMH	WATER MANHOLE
PLM	PLM	PALM TREE	WPR	WPR	WATER REDUCER
PIL	PIL	TELECOM PILLAR	WRV	WRV	WATER REFLEX VALVE
PKM	PKM	PARKING METER	WSP	WSP	WATER SAMPLE POINT
PSM	PSM	PERM. SURVEY MARK	WSV	WSV	WATER SCOUR VALVE
SEV	SEV	SEWERAGE VENT	WTE	WTE	WATER TEE JUNCTION
SHB	SHB	SHRUB	WW	WW	WATER VALVE
			WWM	WWM	WATER VALVE MARKER

Symbols shown are indicative only. The symbol size and orientation does not necessarily represent the real size or orientation of the feature.



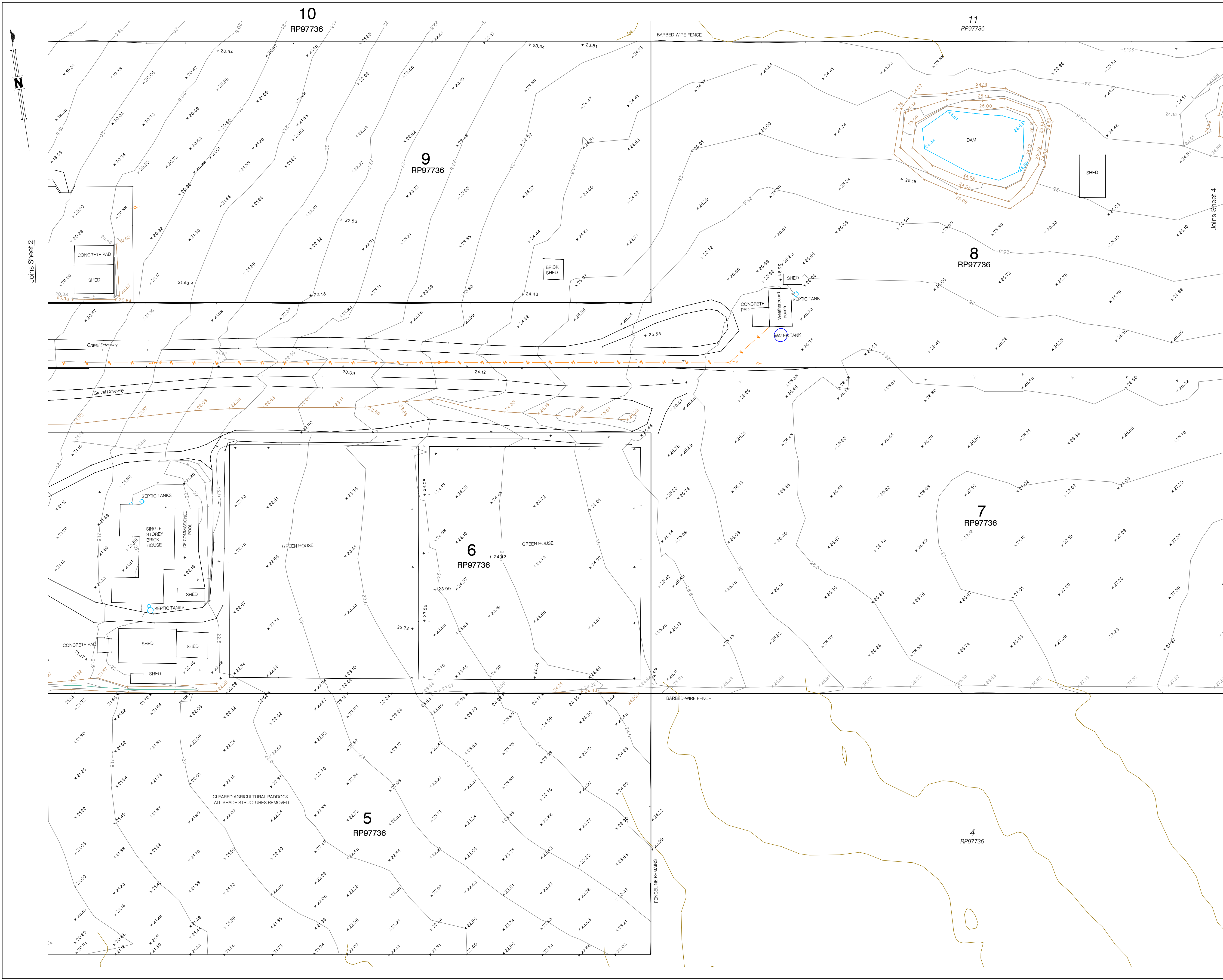
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e: info@landpartners.com.au
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0m 5 10 20 30m
SCALE 1:600 (A1)

LEVEL DATUM AHD	LOCAL AUTHORITY LOGAN C.C.
LEVEL ORIGIN PSM130210 RL 23.629	SCALE 1:600 (A1)
MERIDIAN IS257348	CONTOUR INTERVAL 0.5 Metre
CO-ORD SYSTEM Arbitrary Plane	DRAWN MT
SURVEYOR MT	DATE OF SURVEY 09/12/2022
FIELD FILE -64, -12-1	CHECKED MEA
UDN	DATE 27/01/2023
	APPROVED RGA
	DATE 27/01/2023
	SHEET 1 OF 5

BRSS8106-000-6-7



CLIENT

GCDEV3 PTY LTD

PROJECT

DETAIL SURVEY
OF
LOTS 5 - 10 on RP97736
Chambers Flat Road
LOGAN RESERVE

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(ii) The title boundaries for Lots 5 - 9 on RP97736 as shown hereon were reinstated by survey and will be reflected on an Identification Survey Plan that will be lodged with the Department of Resources.

The title boundaries of Lot 10 on RP97736 have been plotted from existing records and have not been surveyed. They will need to be reinstated for accurate design requirements.

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7	MEA	27/01/2023	Added detail for Lot 10 RP97736
6	AJD	30/11/2022	Added detail for Lot 5 RP97736
3	RG	8/08/2022	Reinstated boundaries for Lots 6-9 on RP97736
2	RG	9/05/2022	DETAIL LOTS 6 - 9 ON RP97736
1	MIS	31/01/2021	INITIAL ISSUE

SYM	CODE	DESCRIPTION	SYM	CODE	DESCRIPTION
●	BOL	BENCHMARK	▲	SGN	SIGNS
●	CP	COLUMN / PILLAR	○	SIO	INSPECTION OPENING
□	EBX	ELECTRICAL BOX	○	SM	SEWERAGE MANHOLE
○	ECM	ELEC CABLE MARKER	▲	SN	STREET NAME SIGN
○	ELP	ELECTRICITY POLE	▲	SPR	SPRINKLER
□	EM	ELECTRICAL PIT	▲	SPR	SPR TREE
○	EP	ELECTRICITY POLE	▲	SSV	STOP/SUICE VALVE
○	ESP	ELECTRICITY STAY POLE	▲	STN	SURVEY STATION
○	FP	FIRE HYDRANT	○	SW	STORMWTR. MANHOLE
○	FHP	FIRE HYDRANT PILLAR	▲	TAP	TAP
○	FP	FLAG POLE	○	TE	TELECOM PIT
○	GMH	GAS MANHOLE	○	TM	TELECOM MANHOLE
○	GMK	GAS MARKER	○	TOH	TRANSFORMER OVERHEAD
○	GP	GUIDE POST	○	TP	TELEPHONE POLE
○	GS	GUIDE SIGN	○	TRL	TRAFFIC LIGHTS
○	GT	GULLY TRAP	○	TRP	TRAFFIC PIT
○	GV	GAS VALVE	○	WAV	WATER AIR VALVE
○	HB	HOSE BOX/REEL	○	WCU	WATER END CAP
○	HM	HYDRANT MARKER	○	WM	WATER METER
○	MHU	MANHOLE UNKNOWN	○	WMH	WATER MANHOLE
○	PLM	PALM TREE	○	WPR	WATER REDUCER
○	PIL	TELECOM PILLAR	○	WRV	WATER REFLEX VALVE
○	PKM	PARKING METER	○	WSP	WATER SAMPLE POINT
○	PSM	PERM. SURVEY MARK	○	WSV	WATER SCOUR VALVE
○	SEV	SEWERAGE VENT	○	WTE	WATER TEE JUNCTION
○	SHB	SHRUB	○	WW	WATER VALVE
			○	WWM	WATER VALVE MARKER

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bsi

ISO 9001

Quality Management System

CERTIFIED

ISO 45001

Occupational Health and Safety Management System

CERTIFIED

AS/NZS 4801

Environmental Management System

CERTIFIED

0m

5

10

20

30m

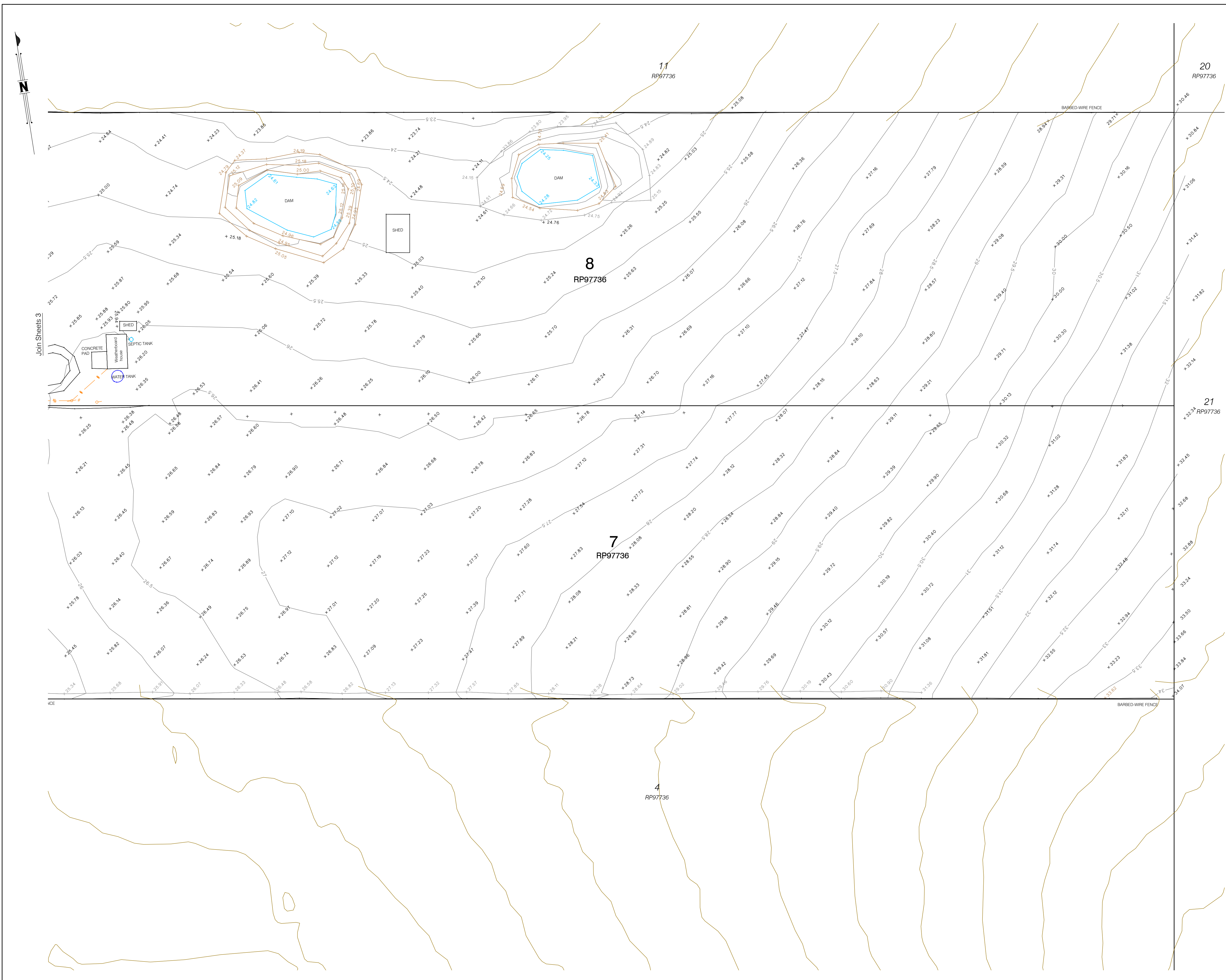
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MERIDIAN	IS257348	CONTOUR INTERVAL	0.5 Metre
CO-ORD SYSTEM	Arbitrary Plane	DRAWN	MT
SURVEYOR	DATE OF SURVEY	CHECKED	DATE
MT	09/12/2022	MEA	27/01/2023
FIELD FILE	-6-4, -12-1	APPROVED	DATE
UDN		RG	27/01/2023

BRSS8106-000-6-7

SHEET 3 OF 5

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GCDEV3 PTY LTD

PROJECT	
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DETAIL SURVEY
OF
LOTS 5 - 10 on RP97736
Chambers Flat Road
LOGAN RESERVE

NOTES

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3	RGa	8/08/2022	Reinstated boundaries for Lots 6-9 on RP97736
2	RGa	9/05/2022	DETAIL LOTS 6 - 9 ON RP97736
1	MIS	31/01/2021	INITIAL ISSUE

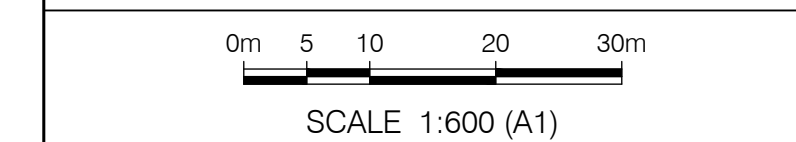
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●	BOL	BOLLARD	○	ISO	INSPECTION OPENING
●	CP	COLUMN / PILLAR	Ⓜ	SN	SEWERAGE MAN-HOLE
□	EBX	ELECTRICAL BOX	△	SN	STREET NAME SIGN
⚡	ECM	ELEC CABLE MARKER	Ⓜ	SPR	SPRINKLER
—●—	ELP	ELECUIGHT POLE	Ⓜ	SPR	TREE
Ⓜ	EM	ELECTRICAL PIT	Ⓜ	SSV	STOP/SLOUCE VALVE
—●—	EP	ELECTRICITY POLE	Ⓜ	STN	STATION SURVEY
—●—	ESP	ELECTRICITY STAY POLE	Ⓜ	STW	STORMWTR. MANHOLE
Ⓜ	FH	FIRE HYDRANT	△	TAP	TAP
Ⓜ	FHP	FIRE HYDRANT PILLAR	Ⓜ	TE	TELECOM PIT
Ⓜ	FP	FLAG POLE	Ⓜ	TM	TELECOM MAN-HOLE
Ⓜ	GMH	GAS MANHOLE	Ⓜ	TOH	TRANSFORMER O/H/HEAD
Ⓜ	GMM	GAS MARKER	Ⓜ	TP	TELEPHONE POLE
Ⓜ	GP	GUIDE POST	Ⓜ	TRL	TRAFFIC LIGHTS
Ⓜ	GS	GUIDE SIGN	Ⓜ	TRP	TRAFFIC PIT
Ⓜ	GT	GULLY TRAP	Ⓜ	WAV	WATER AIR VALVE
Ⓜ	GV	GAS VALVE	Ⓜ	WCU	WATER END CAP
Ⓜ	HB	HOE BOX/REEEL	Ⓜ	WM	WATER METER
Ⓜ	HM	HYDRANT MARKER	Ⓜ	WMH	WATER MANHOLE
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Ⓜ	PLM	PALM TREE	Ⓜ	WRV	WATER REFLEX VALVE
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Ⓜ	PKM	PARKING METER	Ⓜ	WSV	WATER SCOUR VALVE
Ⓜ	PSM	PSRM. SURVEY MARK	Ⓜ	WTE	WATER TEE JUNCTION
Ⓜ	SEV	SEWERAGE VENT	Ⓜ	WV	WATER VALVE
Ⓜ	SHB	SHRUB	Ⓜ	WWM	WATER VALVE MARKER

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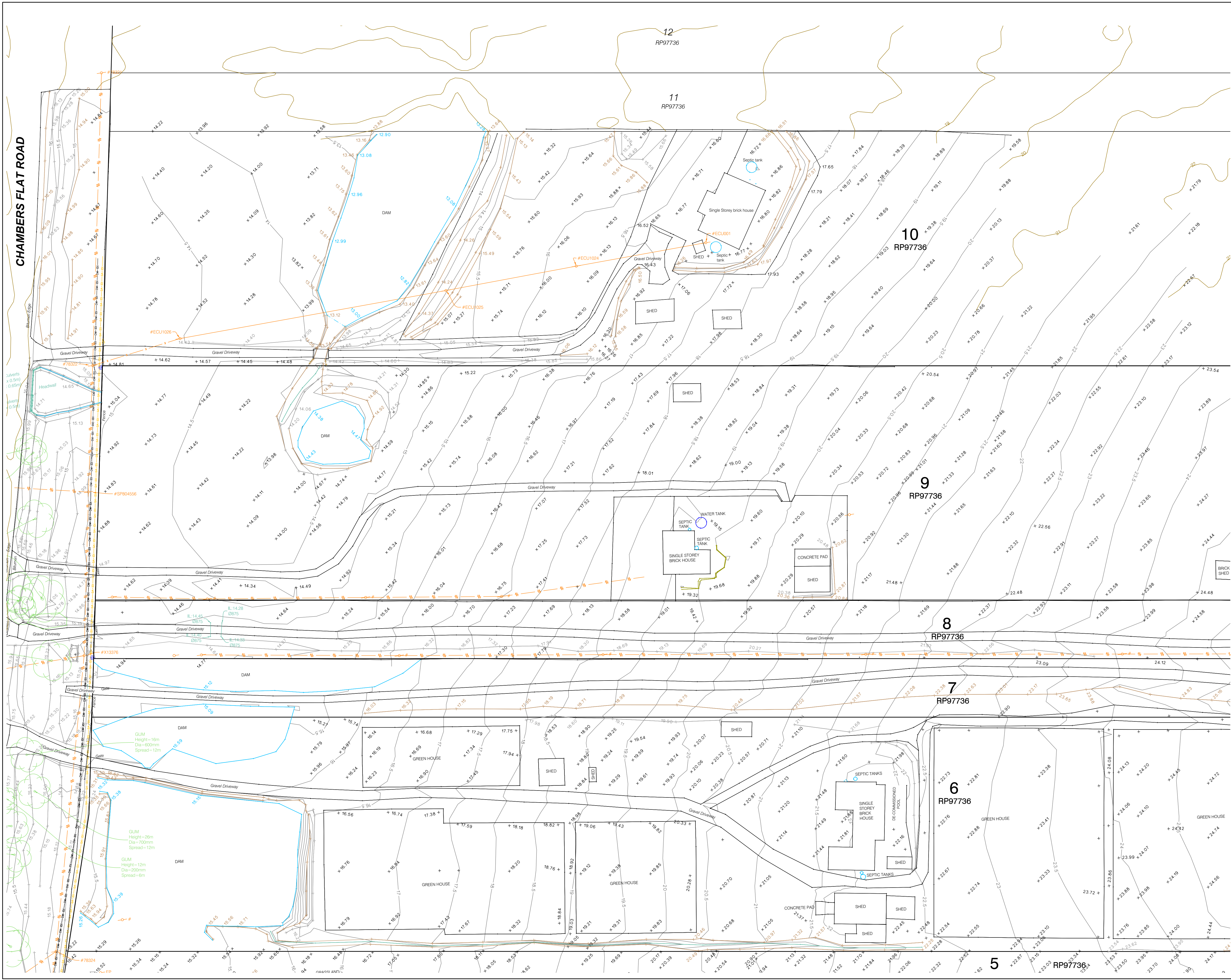
Brisbane Office
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Milton Qld 4064
PO Box 1399
Milton Qld 4064

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e: info@landpartners.com.au
w: www.landpartners.com.au



LEVEL DATUM AHD		LOCAL AUTHORITY LOCAL C.C.	
LEVEL ORIGIN PSM130210 RL 23.629		SCALE 1:600 (A1)	
MERIDIAN IS257348		CONTOUR INTERVAL 0.5 Metre	
CO-ORD SYSTEM Arbitrary Plane		DRAWN MT	DATE 22/12/2022
SURVEYOR MT	DATE OF SURVEY 09/12/2022	CHECKED MEA	DATE 27/01/2023
FIELD FILE -6.4, -12.1		APPROVED RGA	DATE 27/01/2023
UDN		SHEET 4 OF 5	

BRSS8106-000-6-7



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GCDEV3 PTY LTD

PROJECT

DETAIL SURVEY
OF
LOTS 5 - 10 on RP97736
Chambers Flat Road
LOGAN RESERVE

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□	EM	ELECTRICAL PIT
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○	GMM	GAS MARKER
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○	GS	GUIDE SIGN
○	GT	GULLY TRAP
○	GV	GAS VALVE
○	HB	HOSE BOX/REEL
○	HM	HYDRANT MARKER
○	MHU	MANHOLE UNKNOWN
○	PLM	PALM TREE
○	PIL	TELECOM PILLAR
○	PKM	PARKING METER
○	PSM	PERM. SURVEY MARK
○	SEV	SEWERAGE VENT
○	SHB	SHRUB

SYM	CODE	DESCRIPTION
▲	SGN	SIGNS
○	SIO	INSPECTION OPENING
○	SM	SEWERAGE MANHOLE
○	SN	STREET NAME SIGN
○	SPR	SPRINKLER
○	SPR	TREE
○	SSV	STOP/SUICE VALVE
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○	WW	WATER VALVE
○	WWM	WATER VALVE MARKER

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Environmental
Management
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AS/NZS
5333
Safety
Management
System
CERTIFIED

0m 5 10 20 30m

SCALE 1:600 (A1)

LEVEL DATUM AHD	LOCAL AUTHORITY LOGAN C.C.
LEVEL ORIGIN PSM130210 RL 23.629	SCALE 1:600 (A1)
MERIDIAN IS257348	CONTOUR INTERVAL 0.5 Metre
CO-ORD SYSTEM Arbitrary Plane	DRAWN MT
SURVEYOR MT	DATE 22/12/2022
DATE OF SURVEY 09/12/2022	CHECKED MEA
DATE 27/01/2023	DATE 27/01/2023
FIELD FILE -6-4, -12-1	APPROVED RGA
DATE 27/01/2023	DATE 27/01/2023

UDN
BRSS8106-000-6-7
SHEET 5 OF 5

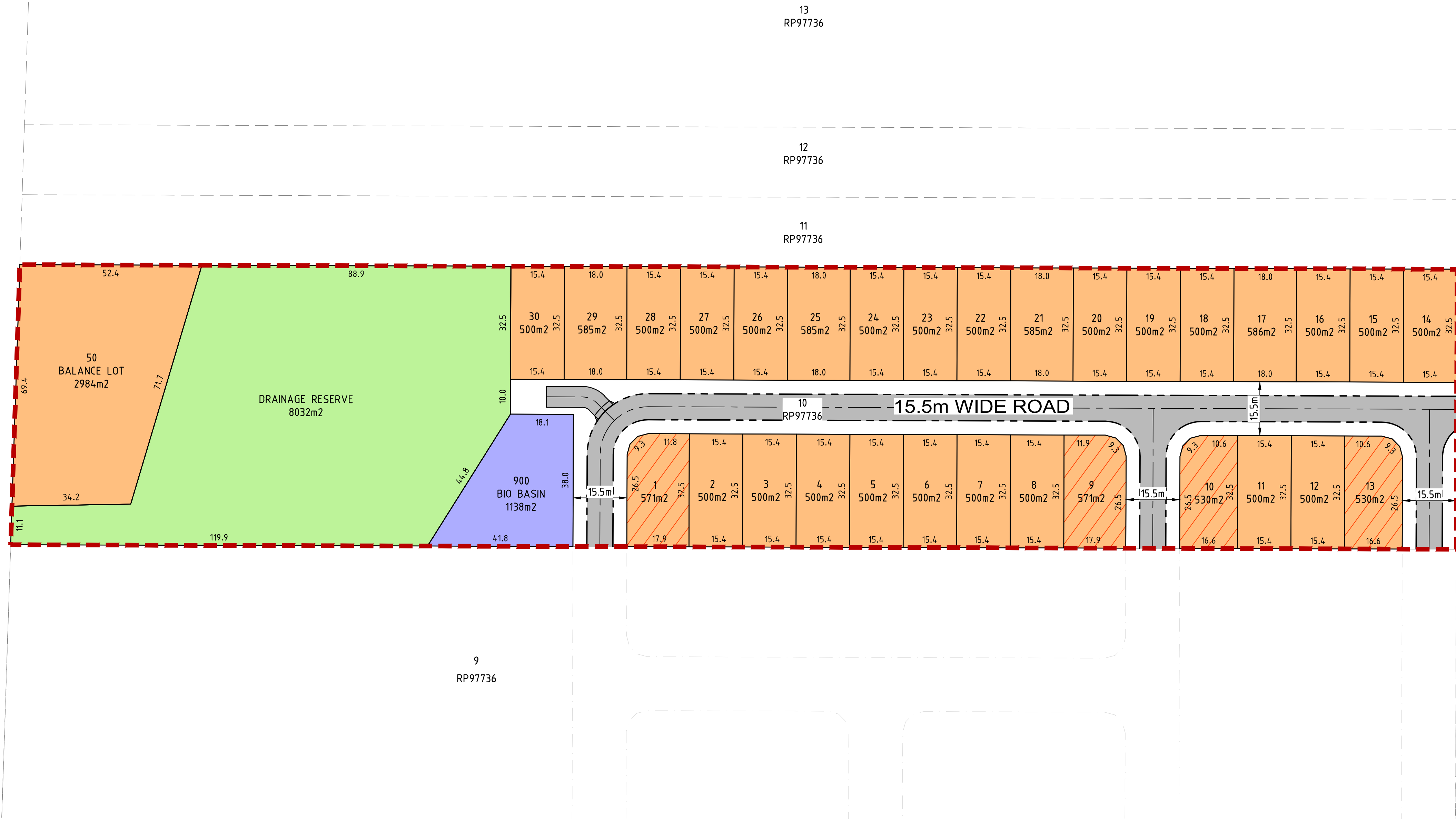
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Appendix B – Plan of Development

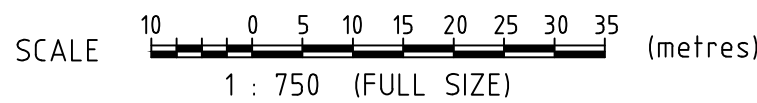




CHAMBERS FLAT ROAD



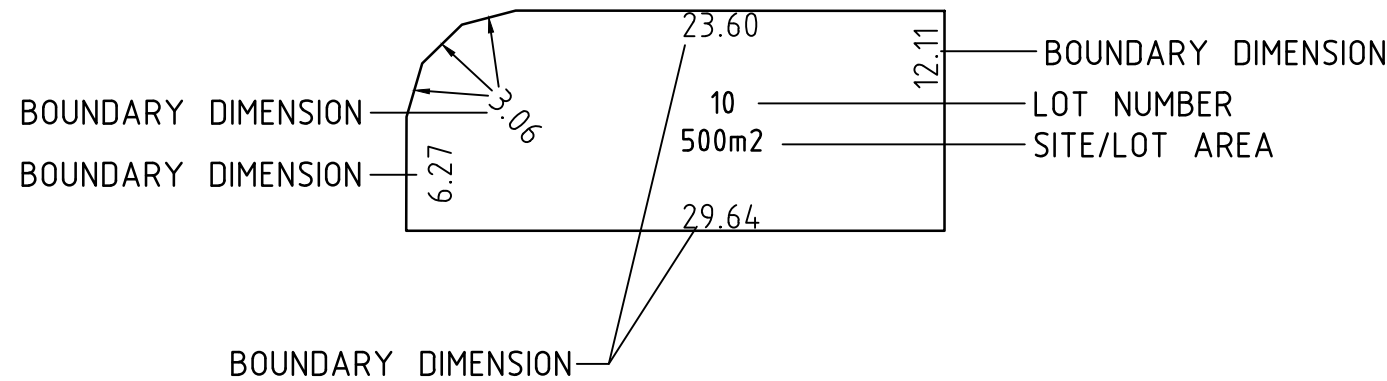
MASTER PLAN
VILLAGE PRECINCT



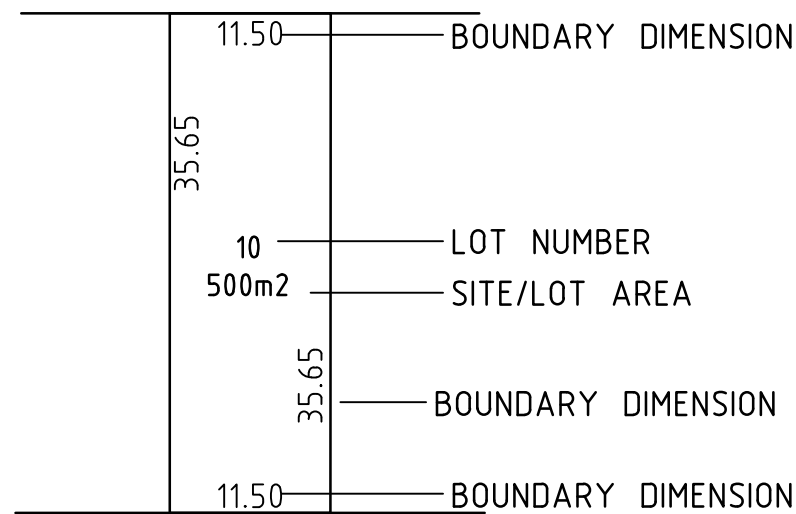
DEVELOPMENT SUMMARY

TOTAL SITE AREA:	3.337 ha
TOTAL AREA OF NEW ROAD:	0.567 ha
LENGTH OF NEW ROAD:	383.18 meters
TOTAL AREA ROAD PAVEMENT:	0.267 ha
TOTAL AREA DRAINAGE RESERVE :	0.803 ha
TOTAL AREA BALANCE LOT :	0.298 ha
TOTAL AREA OF BASIN :	0.114 ha
NET DEVELOPMENT AREA :	1.853 ha
NET SITE AREA DENSITY:	16.73 DWELLINGS/ha
GROSS SITE DENSITY:	9.29 DWELLINGS/ha

CORNER ALLOTMENT



STANDARD ALLOTMENT



LEGEND:

- TYPICAL ALLOTMENTS
- CORNER ALLOTMENTS
- STAGE BOUNDARY

LOT FRONTAGE
WIDTH BREAKDOWN

FRONTAGE WIDTH	No. ON LOTS
15.0-15.99m	22
16.0-16.99m	2
17.0-17.99m	2
≥18m	5
TOTAL	31

YIELD BREAKDOWN

LOT SIZE	No. ON LOTS
500-549m2	24
549-600m2	6
>600m2	1
TOTAL	31

PRELIMINARY

CHAMBERS FLAT ROAD LOGAN RESERVE

LOT 10 RP97736; 524-530 CHAMBERS FLAT ROAD

FOR

GC DEV 6 PTY LTD

A1 ORIGINAL SIZE BEFORE REDUCTION

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Ipswich | Moreton Bay
Phone: +61 7 5509 6400
Fax: +61 7 5509 6411
Email: admin@burchills.com.au
Coote Burchills Engineering Pty Ltd
ABN 76 166 942 365

PROJECT:

524-530
CHAMBERS FLAT ROAD
PRELIMINARY CIVIL
ENGINEERING DESIGN

DRAWING TITLE :

MASTER PLAN
VILLAGE PRECINCT

DEVEL. APPLIC. No. :

DATE : 15.07.2024

PROJECT LEADER : FRASER LUCAS

DESIGNER : TG

DRAFTSPERSON : TN

CHECKED : FRASER LUCAS

APPROVED FOR AND ON BEHALF OF
BURCHILLS ENGINEERING SOLUTIONS ABN 76 166 942 365

RPEQ:

SCALE :

DATUM : AHD

FULL SIZE : A1

PROJECT No.:

BE220612

DRAWING No.:

SK01

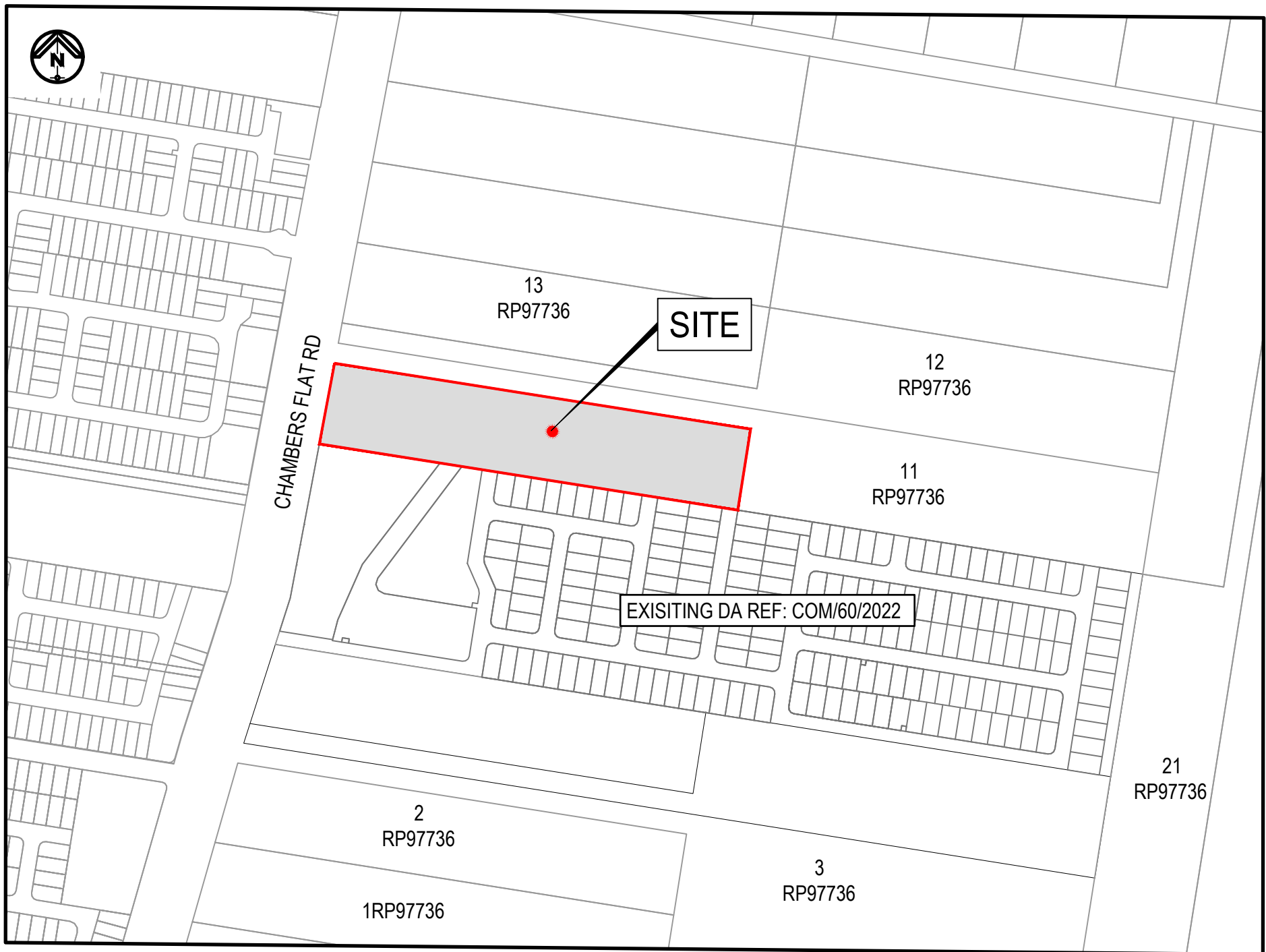
VERSION:

D

Appendix C – Conceptual Engineering Drawings



PROPOSED SUBDIVISION DEVELOPMENT
AT 524-530 CHAMBERS FLAT ROAD
LOGAN RESERVE, QUEENSLAND
PRELIMINARY CIVIL ENGINEERING DESIGN
LOT 10 RP97736



LOCALITY PLAN
N.T.S.

DRAWING INDEX	
DRG. NO.	DESCRIPTION
C000	COVER SHEET AND DRAWING SCHEDULE
C100	SITE LAYOUT AND ROAD STRUCTURE PLAN
C101	TYPICAL CROSS SECTION NOTES AND DETAILS
C200	PRELIMINARY EARTHWORKS LAYOUT PLAN
C210	PRELIMINARY EARTHWORKS SECTIONS
C220	EARTHWORKS NOTES AND DETAILS
C300	PRELIMINARY ROADWORKS LAYOUT PLAN
C301	ROAD 1 LONGITUDINAL SECTION
C302	ROAD 2 & 3 LONGITUDINAL SECTIONS
C400	PRELIMINARY STORMWATER LAYOUT PLAN
C450	PRELIMINARY BIO-DETENTION BASIN LAYOUT PLAN
C451	PRELIMINARY BIO BASIN SECTIONS
C452	TYPICAL BIO-RETENTION BASIN DETAILS
C500	PRELIMINARY SEWER & WATER LAYOUT PLAN

PREPARED FOR
GC DEV 6
PTY LTD

PREPARED BY



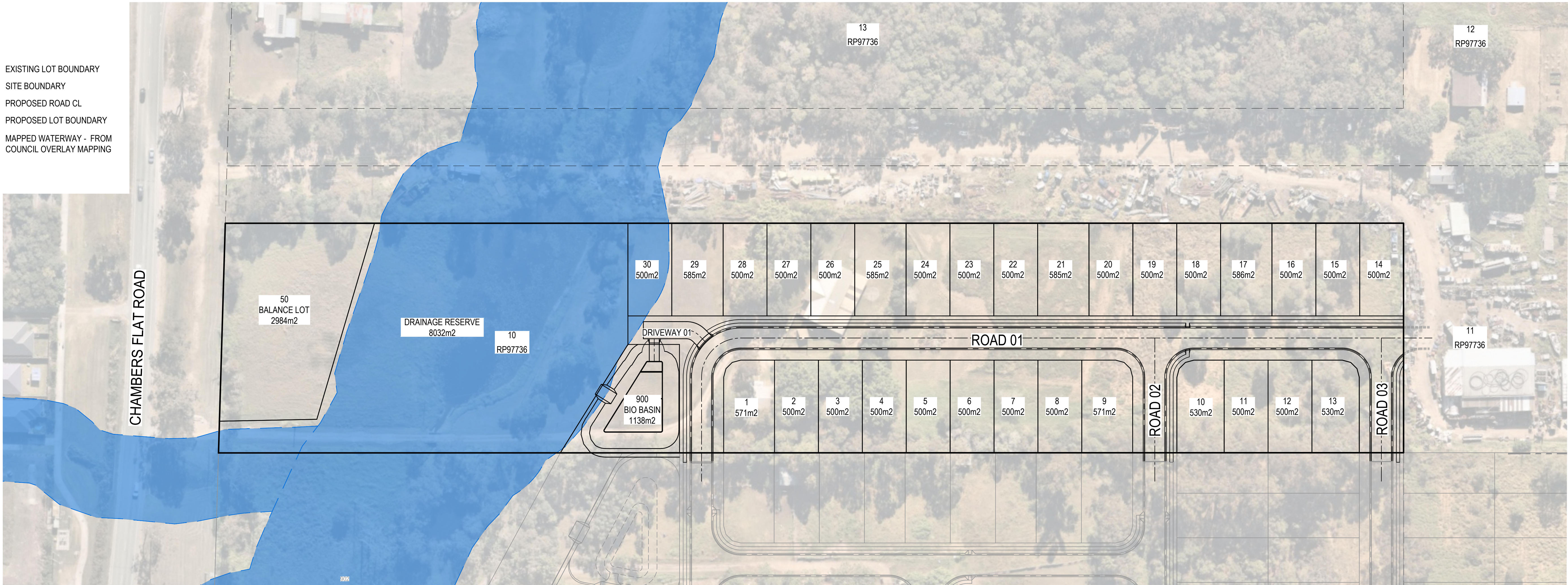
GOLD COAST | BRISBANE | TOOWOOMBA
IPSWICH | MORETON BAY
PHONE: +61 7 5509 6400
FAX: +61 7 5509 6411
EMAIL: ADMIN@BURCHILLS.COM.AU
COOTE Burchills ENGINEERING PTY LTD
ABN 76 166 942 365

PROJECT No.:	DRAWING No.:	VERSION:
BE220612	C000	B

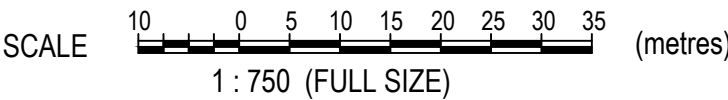


LEGEND

- EXISTING LOT BOUNDARY
- SITE BOUNDARY
- PROPOSED ROAD CL
- PROPOSED LOT BOUNDARY
- MAPPED WATERWAY - FROM COUNCIL OVERLAY MAPPING

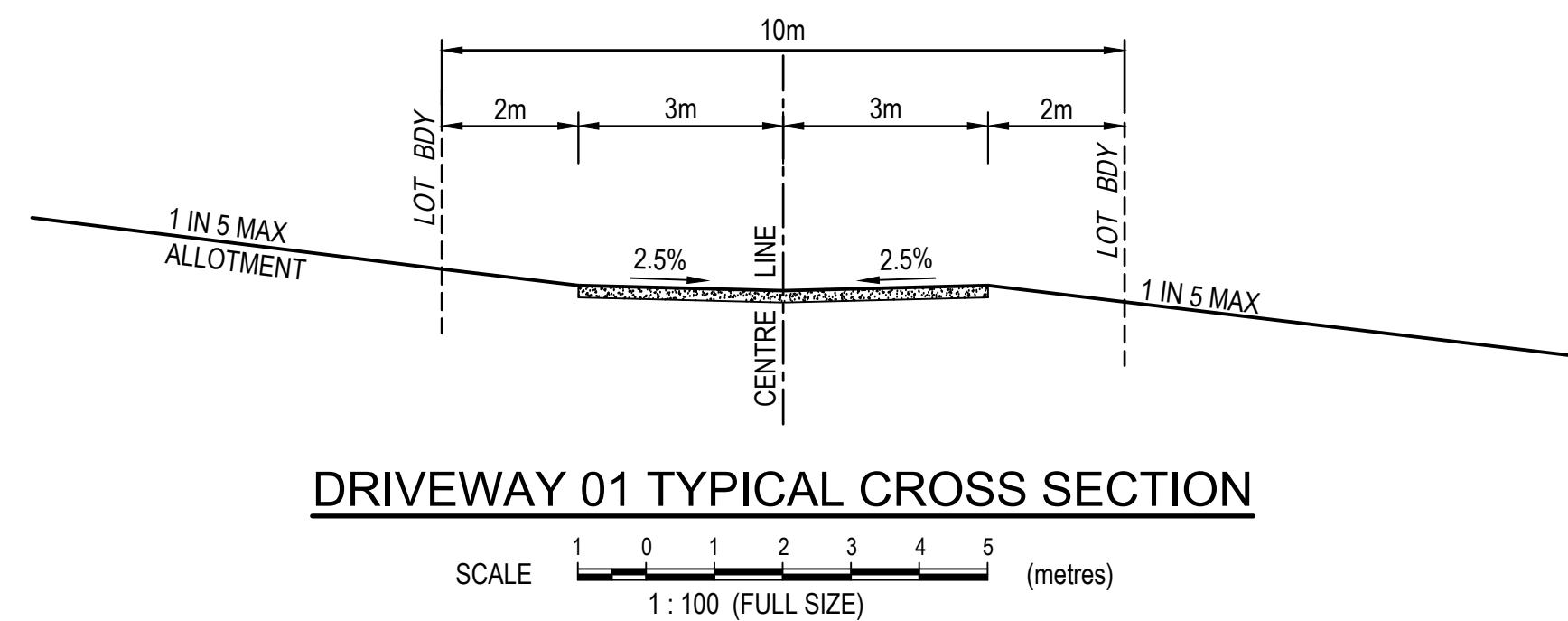
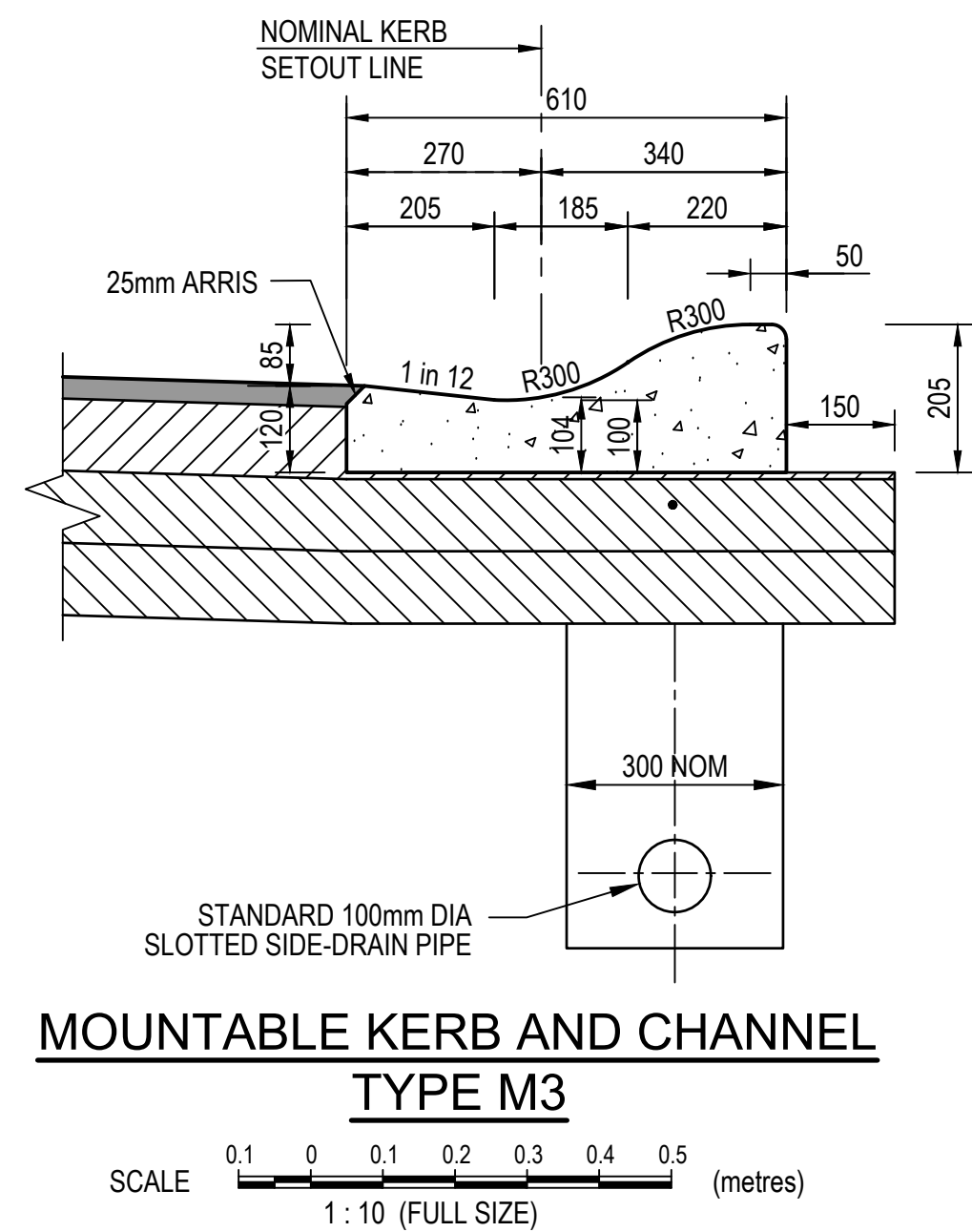
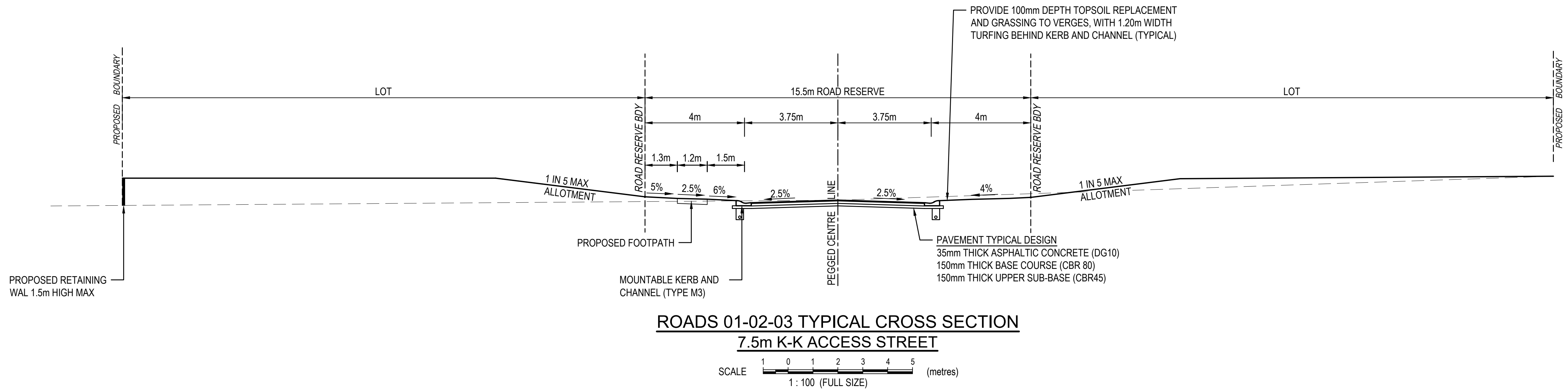


SITE LAYOUT AND ROAD STRUCTURE PLAN



PRELIMINARY

524-530 CHAMBERS FLAT ROAD, LOGAN RESERVE RPD: LOT 10 ON RP 97736 FOR GC DEV 6 PTY LTD				COPYRIGHT © This drawing is copyright and the property of Burchills Engineering Solutions. It must not be retained, copied or used without the authority of Burchills Engineering Solutions. DISCLAIMER This drawing and its contents are electronically generated, are confidential and may only be used for the purpose for which they were intended. Burchills Engineering Solutions will not accept responsibility for any consequences arising from the use of the drawing for other than its intended purpose or where the drawing has been altered, amended or changed either manually or electronically by any third party. NOTE This is an uncontrolled document issued for information purposes only, unless the checked sections are signed or completed. Figured dimensions take precedence over scale. Do not scale reduced size drawings. Verify dimensions prior to commencing any on-site or off-site works or fabrication.	 BURCHILLS ENGINEERING SOLUTIONS Gold Coast Brisbane Toowoomba Ipswich Moreton Bay Phone: +61 7 5509 6400 Fax: +61 7 5509 6411 Email: admin@burchills.com.au Coote Burchills Engineering Pty Ltd ABN 76 166 942 365	PROJECT: 524-530 CHAMBERS FLAT ROAD, LOGAN RESERVE	DRAWING TITLE : SITE LAYOUT AND ROAD STRUCTURE PLAN	DEVEL. APPLIC. No. :		DATE : 17-07-24	
	PROJECT LEADER : FRASER LUCAS		DESIGNER : TG								
	DRAFTSPERSON : MT		CHECKED : FRASER LUCAS								
	APPROVED FOR AND ON BEHALF OF BURCHILLS ENGINEERING SOLUTIONS ABN 76 166 942 365										
	REQ:										
	SCALE :		DATUM : AHD					FULL SIZE : A1			
	PROJECT No. : BE220612		DRAWING No. : C100					VERSION: B			



PRELIMINARY

524-530 CHAMBERS FLAT ROAD, LOGAN RESERVE
RPD: LOT 10 ON RP 97736
FOR
GC DEV 6 PTY LTD

A1 ORIGINAL SIZE BEFORE REDUCTION

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Phone: +61 7 5509 6400
Fax: +61 7 5509 6411
Email: admin@burchills.com.au
Coote Burchills Engineering Pty Ltd
ABN 76 166 942 365

PROJECT:
524-530 CHAMBERS FLAT
ROAD, LOGAN RESERVE

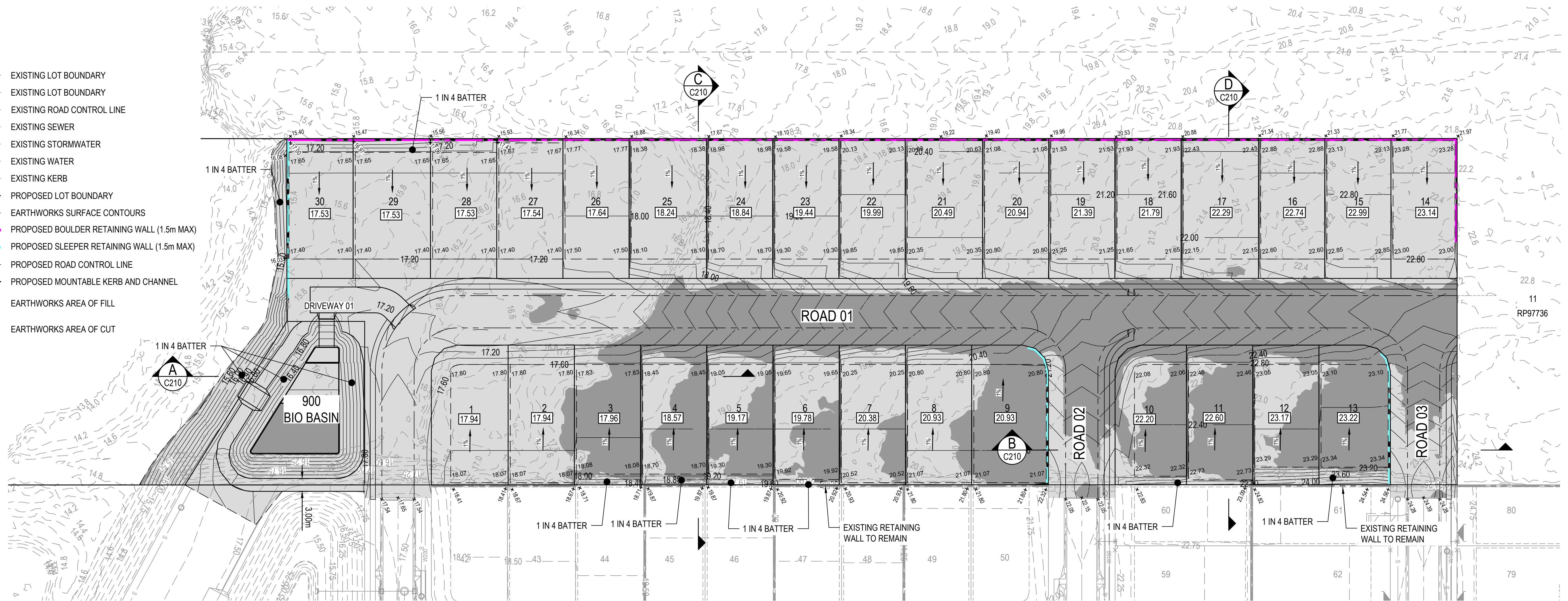
DRAWING TITLE :
TYPICAL CROSS SECTION
NOTES AND DETAILS

DEVEL. APPLIC. No. :		DATE : 17-07-24
PROJECT LEADER : FRASER LUCAS		DESIGNER : TG
DRAFTSPERSON : MT		CHECKED : FRASER LUCAS
APPROVED FOR AND ON BEHALF OF BURCHILLS ENGINEERING SOLUTIONS ABN 76 166 942 365		
RPEQ:		
SCALE :	DATUM : AHD	FULL SIZE : A1
PROJECT No.: BE220612	DRAWING No.: C101	VERSION: B



LEGEND

- 15.0--- EXISTING LOT BOUNDARY
- EXISTING LOT BOUNDARY
- EXISTING ROAD CONTROL LINE
- S EXISTING SEWER
- SW EXISTING STORMWATER
- W EXISTING WATER
- EXISTING KERB
- PROPOSED LOT BOUNDARY
- 22.50 EARTHWORKS SURFACE CONTOURS
- PROPOSED BOULDER RETAINING WALL (1.5m MAX)
- PROPOSED SLEEPER RETAINING WALL (1.5m MAX)
- PROPOSED ROAD CONTROL LINE
- PROPOSED MOUNTABLE KERB AND CHANNEL
- EARTHWORKS AREA OF FILL
- EARTHWORKS AREA OF CUT



PRELIMINARY EARTHWORKS LAYOUT PLAN

SCALE 5 0 5 10 15 20 25 (metres)
1 : 500 (FULL SIZE)

BULK EARTHWORKS SUMMARY	
STRUCTURAL FILLING	
AREA	NETT SOLID FILL
OVERALL FILLING (ALLOTMENTS, BATTERS)	
	13,349 cu.m.
TOTAL FILL REQUIRED	13,349 cu.m.
EXCAVATION	
AREA	NETT CUT
OVERALL EXCAVATION	1,980 cu.m.
TOTAL CUT	1,980 cu.m.
SUMMARY: TOTAL MATERIAL ON LEADS (NETT FILL) = 11,369cu.m. i.e.13,349cu.m. - 1,980u.m. = 11,369 cu.m. EXCESS MATERIAL TO BE IMPORTED. ALLOWANCE FOR 200mm TOPSOIL STRIP ALLOWANCE FOR 325mm ROAD BOX DEPTH ALLOWANCE FOR 800mm BIO SPOIL ALLOWANCE FOR 200mm TOPSOIL RESPREAD TO LOTS, VERGES AND DRAINAGE RESERVE	

PRELIMINARY

524-530 CHAMBERS FLAT ROAD, LOGAN RESERVE
RPD: LOT 10 ON RP 97736
FOR
GC DEV 6 PTY LTD

A1 ORIGINAL SIZE BEFORE REDUCTION

VER.	DESCRIPTION	DATE
B	LOT LAYOUT AMENDED	17-07-24
A	ISSUE FOR INFORMATION	25-04-24
VER.	DESCRIPTION	DATE

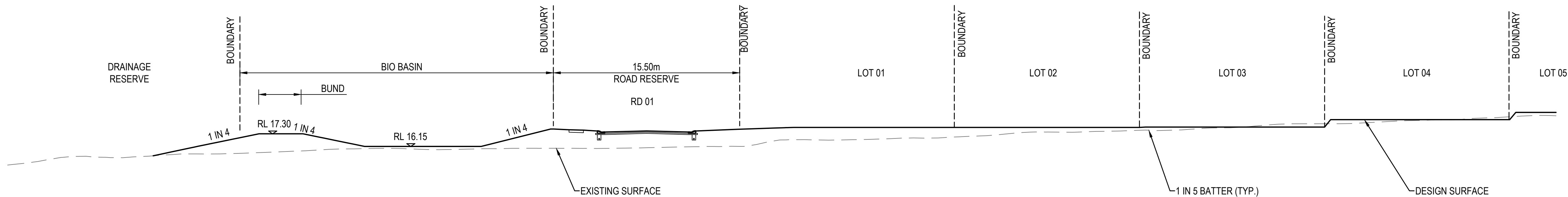
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ABN 76 166 942 365

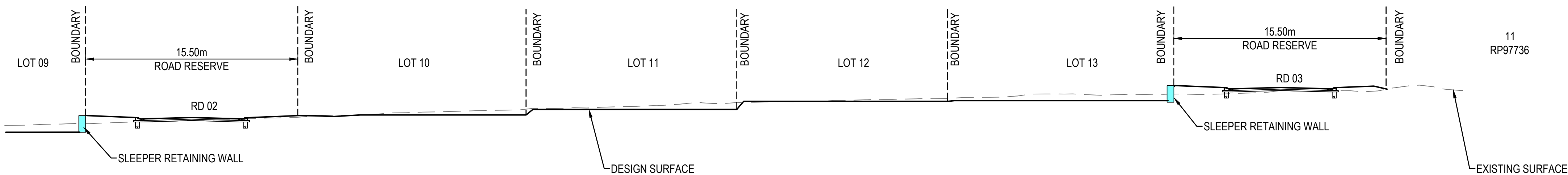
PROJECT:
524-530 CHAMBERS FLAT
ROAD, LOGAN RESERVE

DRAWING TITLE :
PRELIMINARY
EARTHWORKS LAYOUT
PLAN

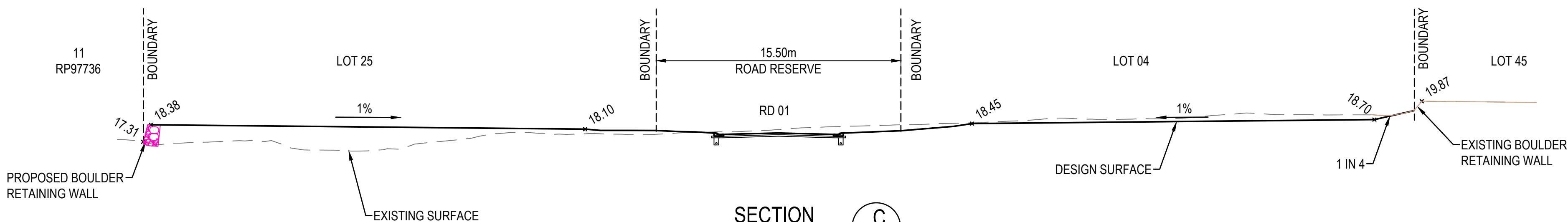
DEVEL. APPLIC. No. :		DATE : 17-07-24
PROJECT LEADER : FRASER LUCAS		DESIGNER : TG
DRAFTSPERSON : MT		CHECKED : FRASER LUCAS
APPROVED FOR AND ON BEHALF OF BURCHILLS ENGINEERING SOLUTIONS ABN 76 166 942 365		
RPEQ:		
SCALE :	DATUM : AHD	FULL SIZE : A1
PROJECT No. : BE220612	DRAWING No. : C200	VERSION: B



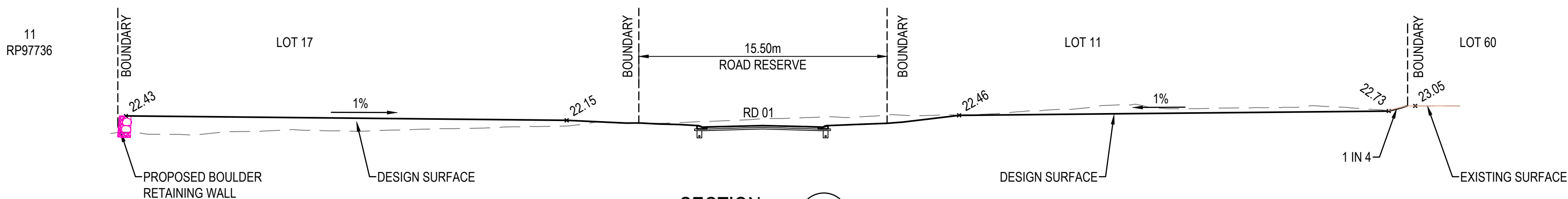
SECTION A
SCALE 1:200



SECTION B
SCALE 1:200



SECTION C
SCALE 1:200



SECTION D
SCALE 1:200

PRELIMINARY

524-530 CHAMBERS FLAT ROAD, LOGAN RESERVE
RPD: LOT 10 ON RP 97736
FOR
GC DEV 6 PTY LTD

A1 ORIGINAL SIZE BEFORE REDUCTION

B	LOT LAYOUT AMENDED	17-07-24
A	ISSUE FOR INFORMATION	25-04-24
VER.	DESCRIPTION	DATE

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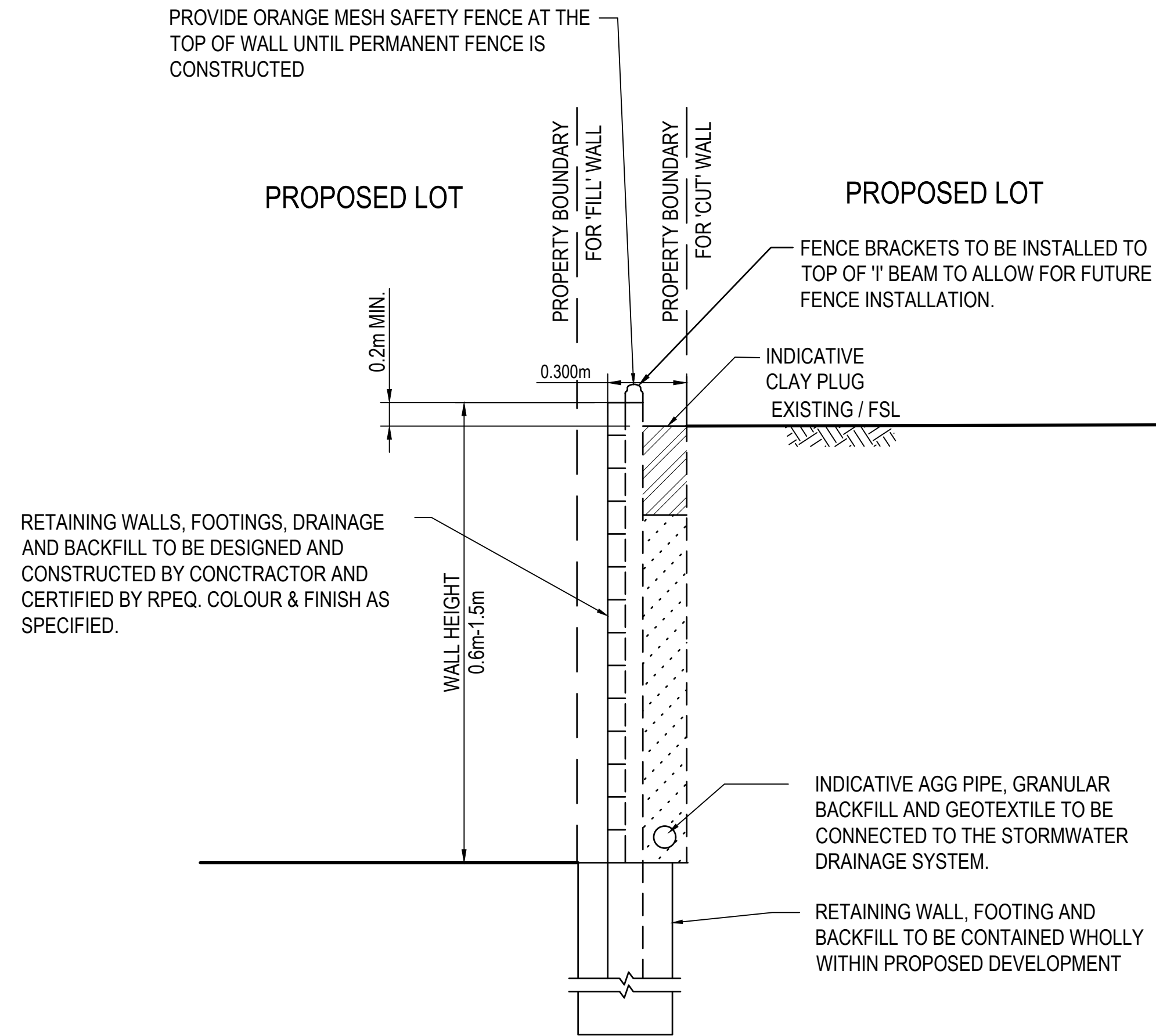
PROJECT:

524-530 CHAMBERS FLAT
ROAD, LOGAN RESERVE

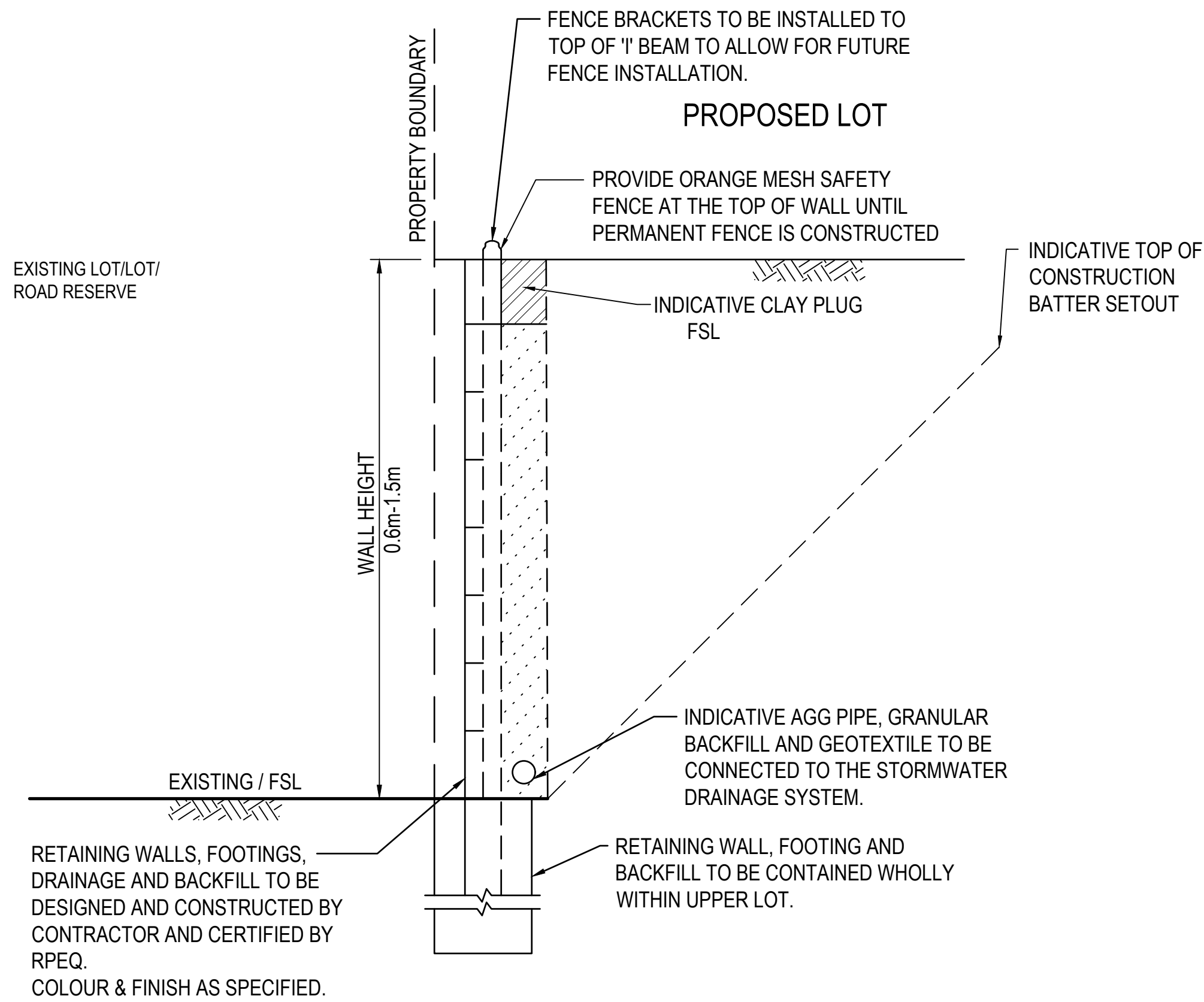
DRAWING TITLE :

PRELIMINARY
EARTHWORKS SECTIONS

DEVEL. APPLIC. No. :		DATE : 17-07-24
PROJECT LEADER : FRASER LUCAS		DESIGNER : TG
DRAFTSPERSON : MT		CHECKED : FRASER LUCAS
APPROVED FOR AND ON BEHALF OF BURCHILLS ENGINEERING SOLUTIONS ABN 76 166 942 365		
RPEQ:		
SCALE :	DATUM: AHD	FULL SIZE : A1
PROJECT No.: BE220612	DRAWING No. : C210	VERSION: B

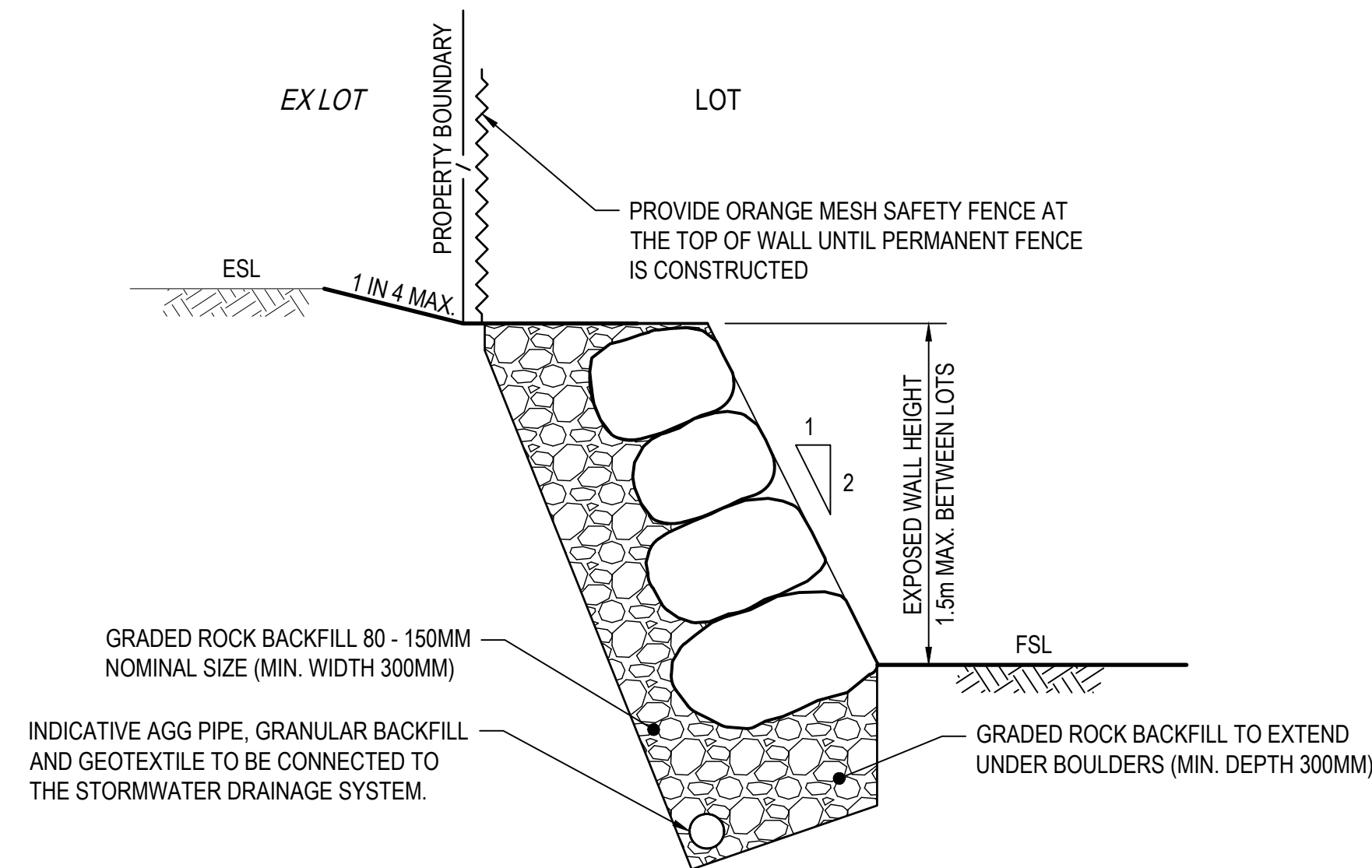


RETAINING WALL CONFIGURATION
- BETWEEN PROPOSED LOT AND
ADJACENT PRIVATE PROPERTY
NTS



RETAINING WALL CONFIGURATION
- BETWEEN PROPOSED LOTS
NTS

NOTE:
RETAINING WALL DESIGN, CONSTRUCTION,
SUPERVISION AND CERTIFICATION TO BE
PROVIDED BY SPECIALIST SUB-CONTRACTOR.



BOULDER RETAINING WALL
CONFIGURATION BETWEEN LOTS &
EXISTING LOTS (1.5m MAX.)

GENERAL EARTHWORKS NOTES:

- ALL EARTHWORKS CONSTRUCTION UNDER THIS CONTRACT IS TO BE PERFORMED STRICTLY IN ACCORDANCE WITH THE RECOMMENDATIONS OF THE GEOTECHNICAL REPORT PREPARED BY THE PRINCIPAL'S GEOTECHNICAL CONSULTANT.
- ALL COMPACTION TESTING UNDER THIS CONTRACT IS TO BE CARRIED OUT TO AS3798 LEVEL 1 STANDARD BY A NATA-ACCREDITED TESTING AUTHORITY. CERTIFICATION FOR ALL EARTHWORKS CONSTRUCTION AND TESTING IS TO BE PROVIDED BY A REGISTERED PROFESSIONAL ENGINEER QUEENSLAND (RPEQ) ENGAGED BY THE CONTRACTOR.
- ALL DESIGN LEVELS SHOWN ON THE CONTRACT DRAWINGS ARE FINISHED SURFACE LEVELS FOLLOWING TOPSOIL REPLACEMENT.
- ALL STRUCTURAL FILL MATERIAL PLACED SHALL BE COMPACTED TO THE FOLLOWING MINIMUM DENSITY IN ACCORDANCE WITH THE SPECIFICATION AND THE GEOTECHNICAL REPORT:
 - 95% DENSITY RATIO FOR GENERAL STRUCTURAL FILL (COHESIVE MATERIAL)
 - 98% DENSITY RATIO FOR THE TOP 300mm DEPTH BELOW PAVEMENT SUBGRADE LEVEL (COHESIVE MATERIAL)
- FILL MATERIAL USED IN WETLAND BATTERS IS TO BE STIFF TO HARD CLAYS OR OTHER SUITABLE MATERIAL AS DIRECTED BY GEOTECHNICAL ENGINEER.
- ALL EARTHWORKS BATTERS STEEPER THAN 1 IN 4 ARE TO BE LANDSCAPED IN ACCORDANCE WITH LANDSCAPE ARCHITECTS PLANS.
- EXISTING DAMS ARE TO BE DE-WATERED AND CLEANED-OUT. ALL UNSUITABLE OR SATURATED MATERIAL IS TO BE REMOVED AND REPLACED WITH SELECTED ON-SITE STRUCTURAL FILL MATERIAL AND COMPACTED AS SPECIFIED.
- PROVIDE CONDITION SURVEY OF ADJACENT RESIDENTIAL BUILDINGS FOR ALL PROPERTIES LOCATED WITHIN NOMINAL 100m OF EARTHWORKS OPERATIONS. CONDITION SURVEY TO BE UNDERTAKEN BY QUALIFIED PERSONNEL WITH BUILDING EXPERIENCE.

RETAINING WALL NOTES:

- RETAINING WALLS, FOOTINGS, DRAINAGE, BACKFILL AND CONNECTION OF AGGREGATE DRAINS TO STORMWATER DRAINAGE SYSTEM TO BE DESIGNED AND CONSTRUCTED BY THE CONTRACTOR AND CERTIFIED BY AN SUITABLY QUALIFIED RPEQ
- THESE DRAWINGS IDENTIFY SURFACE PROFILES, RETAINING WALL LOCATIONS, AND SETOUT INFORMATION ONLY. REFER TO CONTRACTOR SUPPLIED DRAWINGS FOR RPEQ STRUCTURAL DETAILS, WALL MATERIALS AND COMPACTION SPECIFICATIONS AND CONSTRUCTIBILITY INFORMATION.
- RETAINING WALL DESIGN ENGINEER TO PROVIDE RPEQ FORM 15 STRUCTURAL CERTIFICATE INCLUDING GEOTECHNICAL GLOBAL STABILITY CERTIFICATION BY GEOTECHNICAL ENGINEER. WALL DESIGN TO ASSUME SURCHARGE LOADING BEHIND WALL. DESIGN TO BE IN ACCORDANCE WITH AS4678 INCLUDING ALL REQUIRED DESIGN LOAD CASES AND COMBINATIONS.
- RETAINING WALLS TO BE DESIGNED TO CONSIDER ALL LOADS INCLUDING CONSTRUCTION LOADS AND OPERATIONAL LOADS.
- ANY GEOTECHNICAL INFORMATION PROVIDED BY THE PRINCIPAL OR THE SUPERINTENDENT SHALL BE FOR INFORMATION PURPOSES ONLY. THE CONTRACTOR AND THE RETAINING WALL DESIGN ENGINEER SHOULD SATISFY THEMSELVES OF THE DESIGN SOIL PARAMETERS AND UNDERTAKE AND ADDITIONAL GEOTECHNICAL INVESTIGATION DEEMED NECESSARY BY THE DESIGN ENGINEER.
- THE CONTRACTOR SHALL ENSURE THAT ANY CONFLICT BETWEEN THESE PROJECT DRAWINGS AND THE RETAINING WALL DRAWINGS PREPARED BY THE RETAINING WALL DESIGN ENGINEER IS RESOLVED WITH THE SUPERINTENDENT PRIOR TO CONSTRUCTION COMMENCING.
- A COPY OF THE RETAINING WALL DESIGN DRAWINGS, INCLUDING CONNECTION OF AGGREGATE DRAINS TO THE STORMWATER DRAINAGE SYSTEM, DESIGN PARAMETERS AND CERTIFICATION BE PROVIDED TO THE SUPERINTENDENT AT THE PRE-START MEETING PRIOR TO CONSTRUCTION COMMENCING.
- ANY RETAINING WALL AND BATTER EXCEEDING THE HEIGHT OF 1.5m, THE CONTRACTOR SHALL UNDERTAKE A THIRD PARTY RPEQ REVIEW OF THE PROPOSED DESIGN.

PRELIMINARY

524-530 CHAMBERS FLAT ROAD, LOGAN RESERVE
RPD: LOT 10 ON RP 97736
FOR
GC DEV 6 PTY LTD

A1 ORIGINAL SIZE BEFORE REDUCTION

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Coote Burchills Engineering Pty Ltd
ABN 76 166 942 365

PROJECT:

524-530 CHAMBERS FLAT
ROAD, LOGAN RESERVE

DRAWING TITLE :

EARTHWORKS NOTES AND
DETAILS

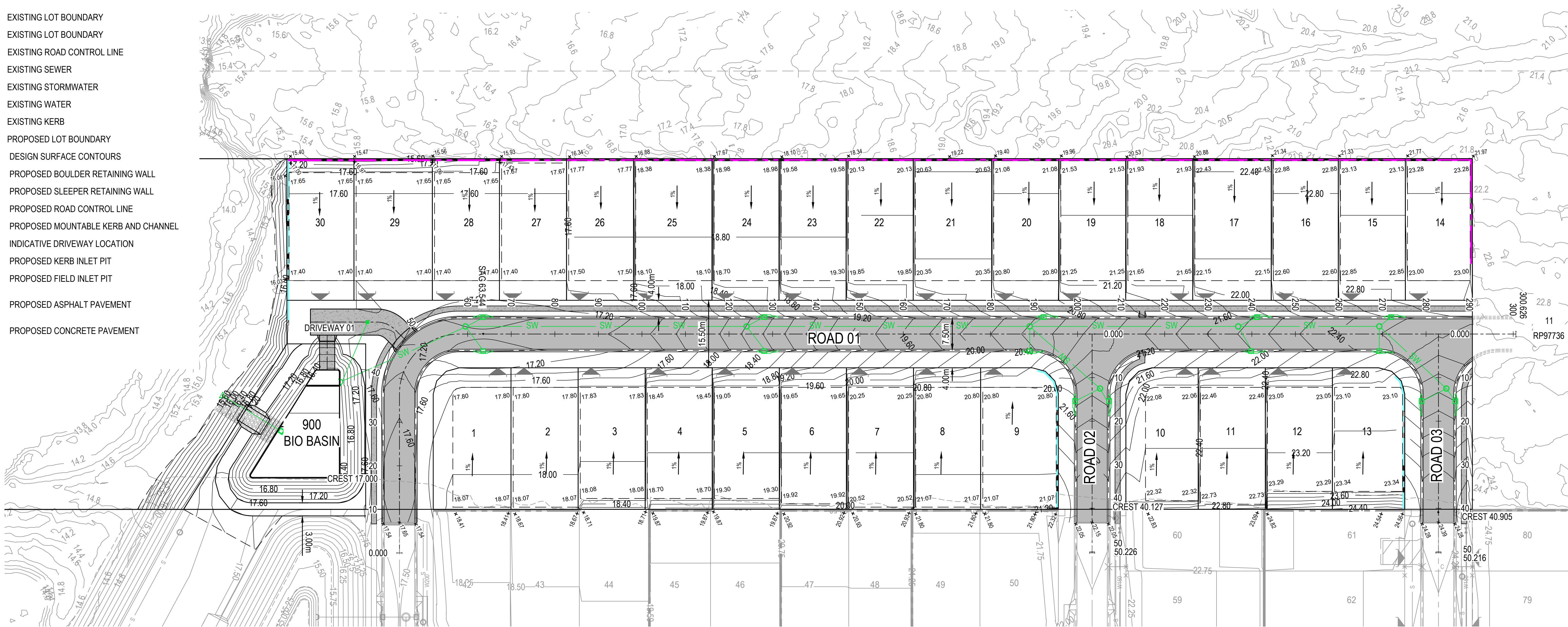
DEVEL. APPLIC. No. :		DATE : 17-07-24
PROJECT LEADER : FRASER LUCAS	DESIGNER : TG	
DRAFTSPERSON : MT	CHECKED : FRASER LUCAS	
APPROVED FOR AND ON BEHALF OF BURCHILLS ENGINEERING SOLUTIONS ABN 76 166 942 365		
RPEQ:		
SCALE :	DATUM : AHD	FULL SIZE : A1
PROJECT No.: BE220612	DRAWING No. : C220	VERSION: A



13
RP97736

LEGEND

- 15.0--- EXISTING LOT BOUNDARY
- EXISTING LOT BOUNDARY
- EXISTING ROAD CONTROL LINE
- S EXISTING SEWER
- SW EXISTING STORMWATER
- W EXISTING WATER
- EXISTING KERB
- PROPOSED LOT BOUNDARY
- 22.50 DESIGN SURFACE CONTOURS
- PROPOSED BOULDER RETAINING WALL
- PROPOSED SLEEPER RETAINING WALL
- PROPOSED ROAD CONTROL LINE
- PROPOSED MOUNTABLE KERB AND CHANNEL
- INDICATIVE DRIVEWAY LOCATION
- PROPOSED KERB INLET PIT
- PROPOSED FIELD INLET PIT
- PROPOSED ASPHALT PAVEMENT
- PROPOSED CONCRETE PAVEMENT



PRELIMINARY ROADWORKS LAYOUT PLAN

SCALE 5 0 5 10 15 20 25 (metres)
1 : 500 (FULL SIZE)

PRELIMINARY

524-530 CHAMBERS FLAT ROAD, LOGAN RESERVE
RPD: LOT 10 ON RP 97736
FOR
GC DEV 6 PTY LTD

A1 ORIGINAL SIZE BEFORE REDUCTION

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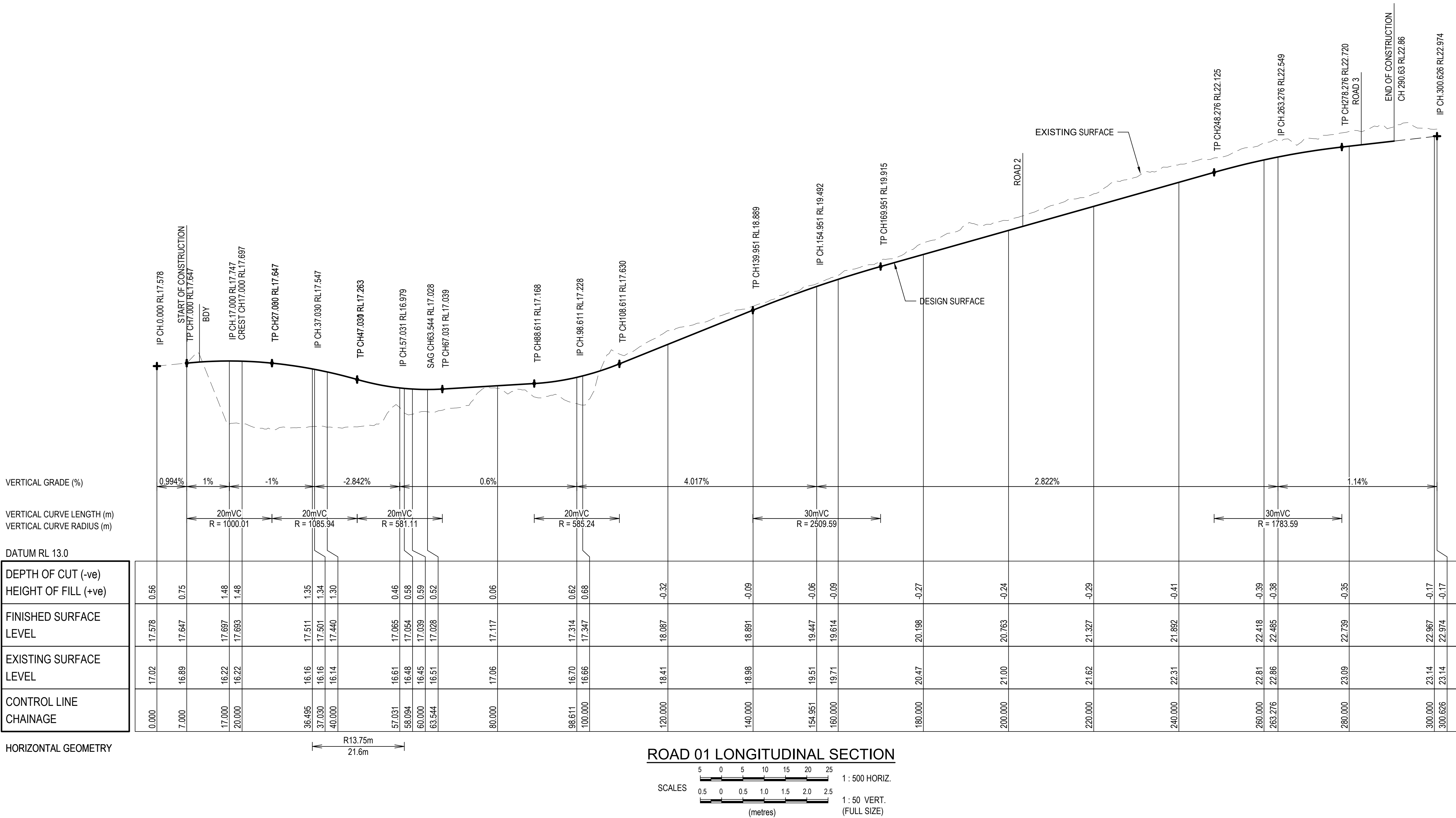
PROJECT:

524-530 CHAMBERS FLAT
ROAD, LOGAN RESERVE

DRAWING TITLE :

PRELIMINARY ROADWORKS
LAYOUT PLAN

DEVEL. APPLIC. No. :		DATE : 17-07-24
PROJECT LEADER : FRASER LUCAS	DESIGNER : TG	
DRAFTSPERSON : MT	CHECKED : FRASER LUCAS	
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RPEQ:		
SCALE :	DATUM : AHD	FULL SIZE : A1
PROJECT No. : BE220612	DRAWING No. : C300	VERSION: B



PRELIMINARY

524-530 CHAMBERS FLAT ROAD, LOGAN RESERVE
RPD: LOT 10 ON RP 97736
FOR
GC DEV 6 PTY LTD

A1 ORIGINAL SIZE BEFORE REDUCTION

B	LOT LAYOUT AMENDED	17-07-24
A	ISSUE FOR INFORMATION	25-04-24
VER.	DESCRIPTION	DATE

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Coote Burchills Engineering Pty Ltd
ABN 76 166 942 365

PROJECT:

524-530 CHAMBERS FLAT
ROAD, LOGAN RESERVE

DRAWING TITLE :

ROAD 1 LONGITUDINAL
SECTION

DEVEL. APPLIC. No. :		DATE : 17-07-24
PROJECT LEADER : FRASER LUCAS	DESIGNER : TG	
DRAFTSPERSON : MT	CHECKED : FRASER LUCAS	
APPROVED FOR AND ON BEHALF OF BURCHILLS ENGINEERING SOLUTIONS ABN 76 166 942 365		
RPEQ:		
SCALE :	DATUM : AHD	FULL SIZE : A1
PROJECT No. : BE220612	DRAWING No. : C301	VERSION: A



5 0 5 10 15 20 25 1 : 500 HORIZ.
 0.5 0 0.5 1.0 1.5 2.0 2.5 1 : 50 VERT.
 (metres) (FULL SIZE)



5 0 5 10 15 20 25 1 : 500 HORIZ
 0.5 0 0.5 1.0 1.5 2.0 2.5 1 : 50 VERT.
 (metres) (FULL SIZE)



5 0 5 10 15 20 25 1 : 500 HORIZ.
 0.5 0 0.5 1.0 1.5 2.0 2.5 1 : 50 VERT.
 (metres) (FULL SIZE)

524-530 CHAMBERS FLAT ROAD, LOGAN RESERVE
RPD: LOT 10 ON RP 97736
FOR
GC DEV 6 PTY LTD

B	LOT LAYOUT AMENDED	17-07-24
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DRAWING TITLE :

ROAD 2 & 3 LONGITUDINAL
SECTIONS

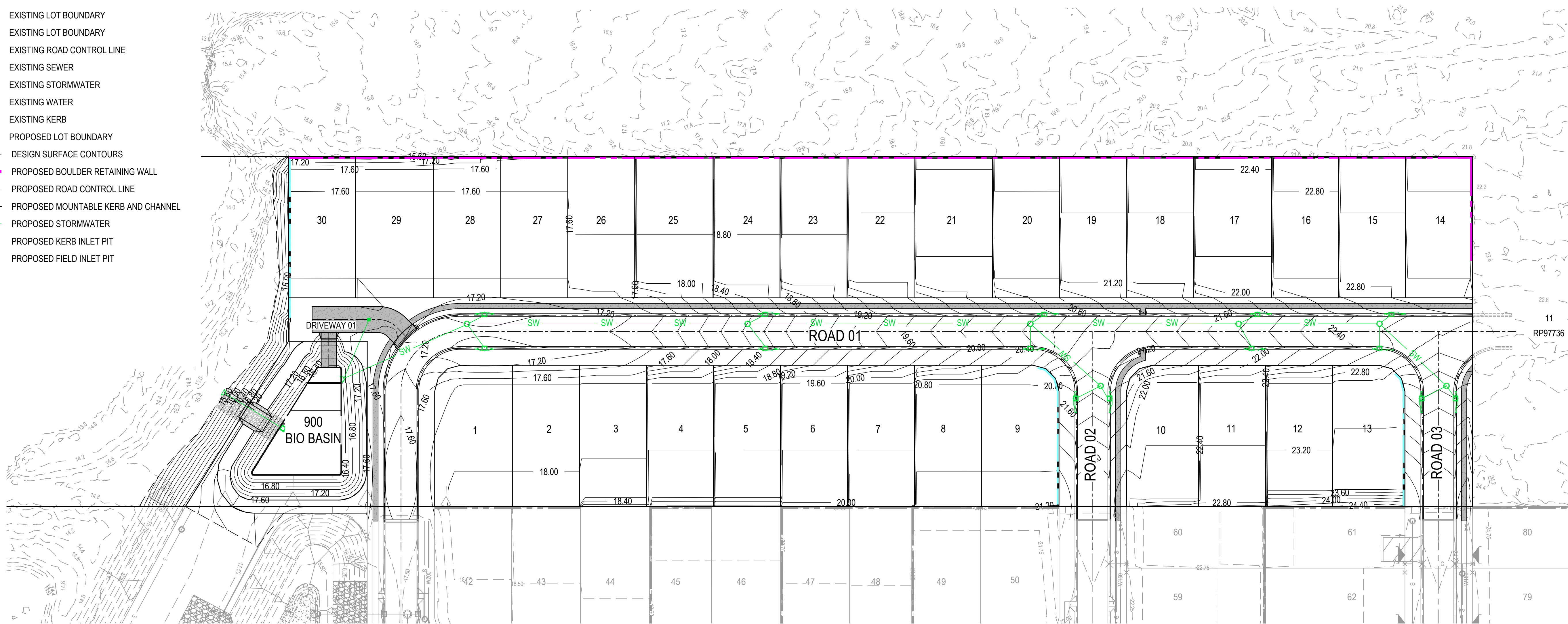
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PROJECT LEADER : FRASER LUCAS		DESIGNER : TG	
DRAFTSPERSON : MT		CHECKED : FRASER LUCAS	
APPROVED FOR AND ON BEHALF OF BURCHILLS ENGINEERING SOLUTIONS ABN 76 166 942 365 RPEQ:			
SCALE :	DATUM : AHD	FULL SIZE : A1	
PROJECT No. : BE220612	DRAWING No. : C302	VERSION: A	



13
RP97736

LEGEND

- 15.0— EXISTING LOT BOUNDARY
- - - - - EXISTING LOT BOUNDARY
- - - - - EXISTING ROAD CONTROL LINE
- S EXISTING SEWER
- SW EXISTING STORMWATER
- W EXISTING WATER
- - - - - EXISTING KERB
- 22.50— PROPOSED LOT BOUNDARY
- 22.50— DESIGN SURFACE CONTOURS
- 22.50— PROPOSED BOULDER RETAINING WALL
- - - - - PROPOSED ROAD CONTROL LINE
- - - - - PROPOSED MOUNTABLE KERB AND CHANNEL
- SW— PROPOSED STORMWATER
- KIP— PROPOSED KERB INLET PIT
- FIP— PROPOSED FIELD INLET PIT



PRELIMINARY STORMWATER LAYOUT PLAN

SCALE 5 0 5 10 15 20 25 (metres)
1 : 500 (FULL SIZE)

PRELIMINARY

524-530 CHAMBERS FLAT ROAD, LOGAN RESERVE
RPD: LOT 10 ON RP 97736
FOR
GC DEV 6 PTY LTD

A1 ORIGINAL SIZE BEFORE REDUCTION

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ABN 76 166 942 365

PROJECT:

524-530 CHAMBERS FLAT
ROAD, LOGAN RESERVE

DRAWING TITLE :

PRELIMINARY
STORMWATER LAYOUT
PLAN

DEVEL. APPLIC. No. :		DATE : 17-07-24
PROJECT LEADER : FRASER LUCAS	DESIGNER : TG	
DRAFTSPERSON : MT	CHECKED : FRASER LUCAS	
APPROVED FOR AND ON BEHALF OF BURCHILLS ENGINEERING SOLUTIONS ABN 76 166 942 365		
RPEQ:		
SCALE :	DATUM : AHD	FULL SIZE : A1
PROJECT No. : BE220612	DRAWING No. : C400	VERSION: B



- DRAINAGE
-
- RESERVE



A1 ORIGINAL SIZE BEFORE REDUCTION

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VER.	DESCRIPTION	DATE

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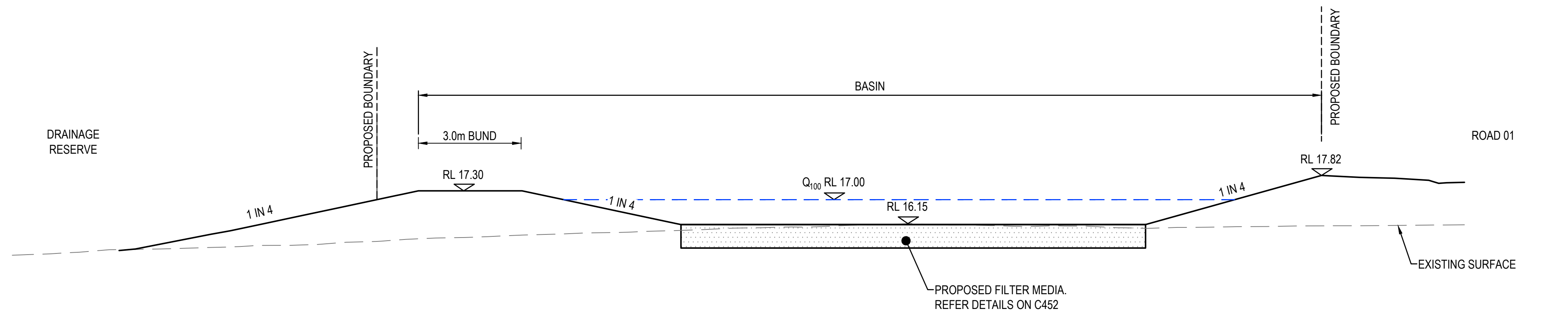
PROJECT:

524-530 CHAMBERS FLAT
ROAD, LOGAN RESERVE

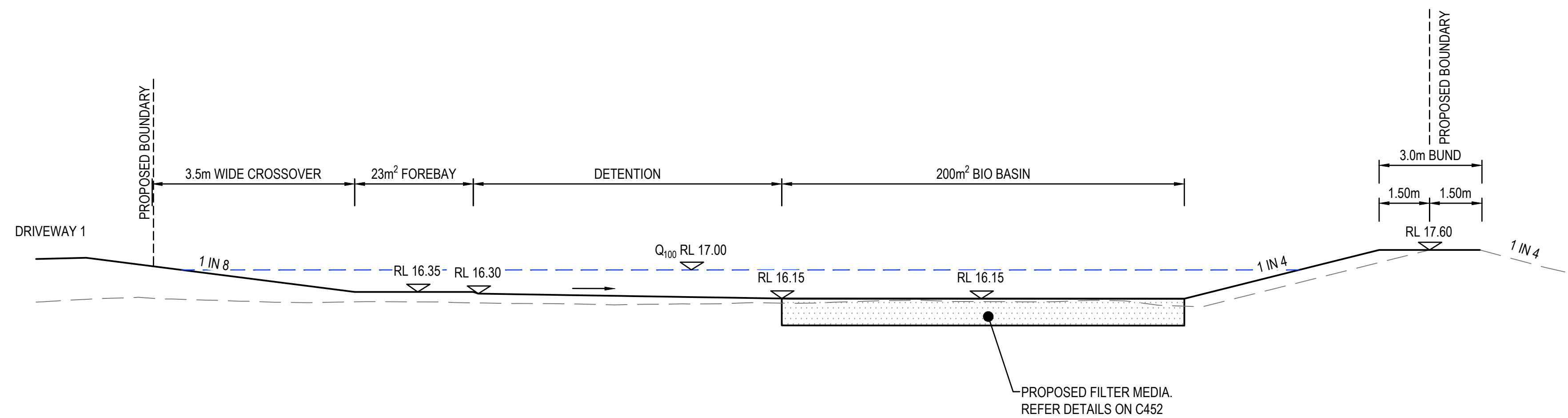
DRAWING TITLE :

PRELIMINARY
BIO-DETENTION BASIN
LAYOUT PLAN

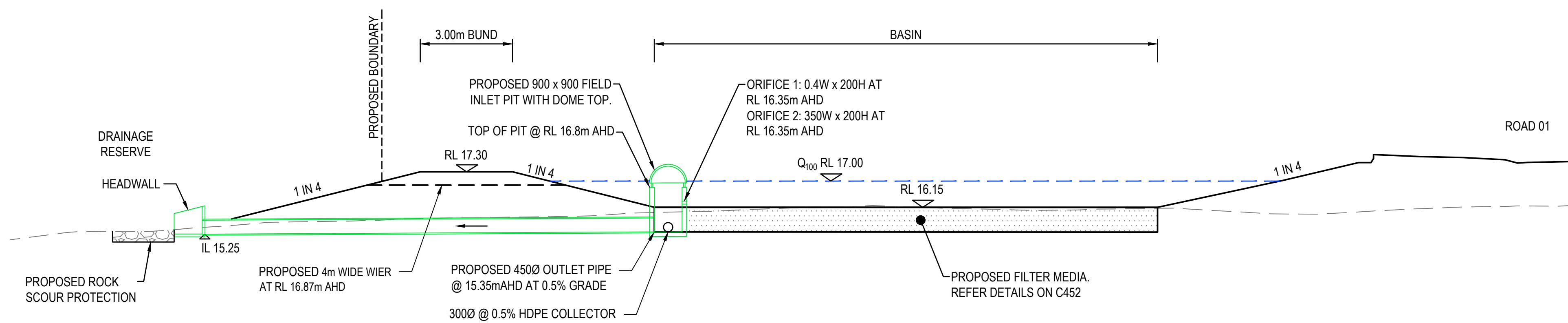
DEVEL. APPLIC. No.:		DATE: 17-07-24	
PROJECT LEADER: FRASER LUCAS		DESIGNER: TG	
DRAFTSPERSON: MT		CHECKED: FRASER LUCAS	
APPROVED FOR AND ON BEHALF OF BURCHILLS ENGINEERING SOLUTIONS ABN 76 166 942 365			
RPEQ:			
SCALE:	DATUM: AHD	FULL SIZE: A1	
PROJECT No.: BE220612	DRAWING No.: C450	VERSION: A	



SECTION A
SCALE 1:100



SECTION B
SCALE 1:100



SECTION C
SCALE 1:100

PRELIMINARY

524-530 CHAMBERS FLAT ROAD, LOGAN RESERVE
RPD: LOT 10 ON RP 97736
FOR
GC DEV 6 PTY LTD

A1 ORIGINAL SIZE BEFORE REDUCTION

VER.	DESCRIPTION	DATE
B	LOT LAYOUT AMENDED	17-07-24
A	ISSUE FOR INFORMATION	25-04-24

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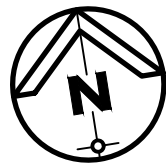
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Coote Burchills Engineering Pty Ltd
ABN 76 166 942 365

PROJECT:
524-530 CHAMBERS FLAT
ROAD, LOGAN RESERVE

DRAWING TITLE :
PRELIMINARY BIO BASIN
SECTIONS

DEVEL. APPLIC. No. :	DATE : 17-07-24
PROJECT LEADER : FRASER LUCAS	DESIGNER : TG
DRAFTSPERSON : MT	CHECKED : FRASER LUCAS
APPROVED FOR AND ON BEHALF OF BURCHILLS ENGINEERING SOLUTIONS ABN 76 166 942 365	
RPEQ:	
SCALE :	DATUM : AHD
PROJECT No.:	DRAWING No.:
BE220612	C451
FULL SIZE : A1	
VERSION:	
A	

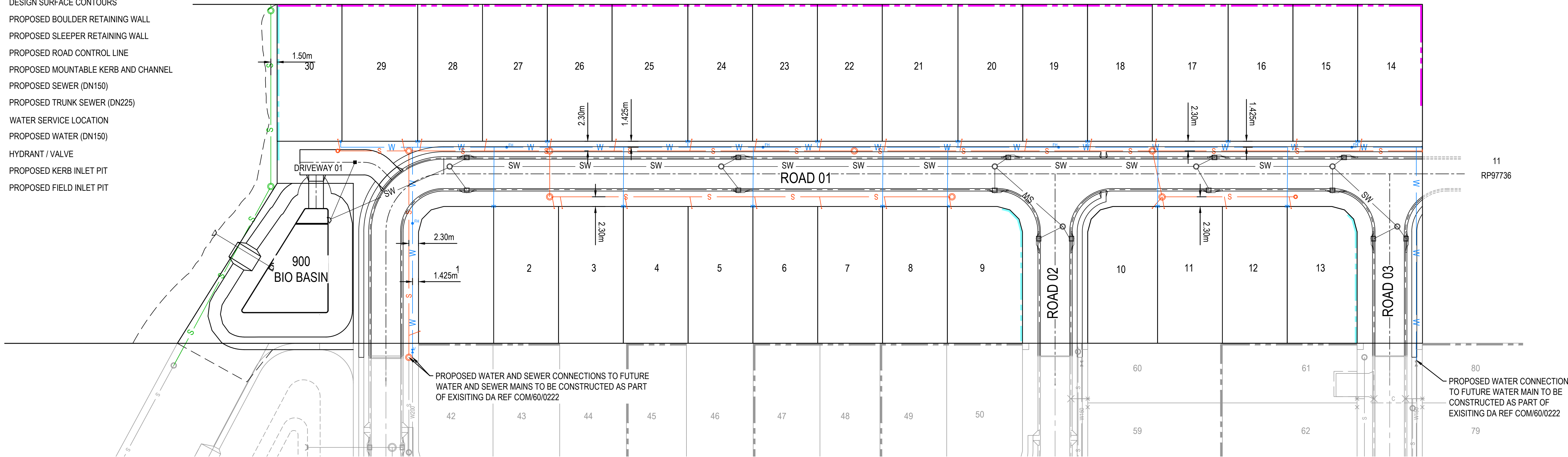
Id. :	VERSION:
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13
RP97736

LEGEND

- 15.0--- EXISTING LOT BOUNDARY
- EXISTING LOT BOUNDARY
- EXISTING ROAD CONTROL LINE
- S EXISTING SEWER
- SW EXISTING STORMWATER
- W EXISTING WATER
- - - EXISTING KERB
- PROPOSED LOT BOUNDARY
- 22.50 DESIGN SURFACE CONTOURS
- PROPOSED BOULDER RETAINING WALL
- PROPOSED SLEEPER RETAINING WALL
- PROPOSED ROAD CONTROL LINE
- PROPOSED MOUNTABLE KERB AND CHANNEL
- S PROPOSED SEWER (DN150)
- S PROPOSED TRUNK SEWER (DN225)
- LOT X LOT WATER SERVICE LOCATION
- W PROPOSED WATER (DN150)
- FH W V HYDRANT / VALVE
- PROPOSED KERB INLET PIT
- PROPOSED FIELD INLET PIT



PRELIMINARY SEWER & WATER LAYOUT PLAN

SCALE 5 0 5 10 15 20 25 (metres)
1 : 500 (FULL SIZE)

PRELIMINARY

524-530 CHAMBERS FLAT ROAD, LOGAN RESERVE
RPD: LOT 10 ON RP 97736
FOR
GC DEV 6 PTY LTD

A1 ORIGINAL SIZE BEFORE REDUCTION

B	LOT LAYOUT AMENDED	17-07-24
A	ISSUE FOR INFORMATION	25-04-24
VER.	DESCRIPTION	DATE

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Coote Burchills Engineering Pty Ltd
ABN 76 166 942 365

PROJECT:

524-530 CHAMBERS FLAT
ROAD, LOGAN RESERVE

DRAWING TITLE :

PRELIMINARY SEWER &
WATER LAYOUT PLAN

DEVEL. APPLIC. No. :		DATE : 17-07-24
PROJECT LEADER :	FRASER LUCAS	DESIGNER : TG
DRAFTSPERSON :	MT	CHECKED : FRASER LUCAS
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RPEQ:		
SCALE :	DATUM : AHD	FULL SIZE : A1
PROJECT No.:	DRAWING No.:	VERSION:
BE220612	C500	A