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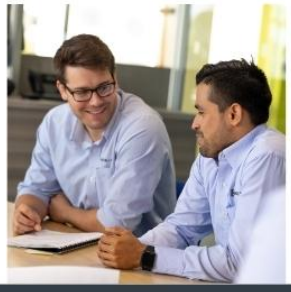

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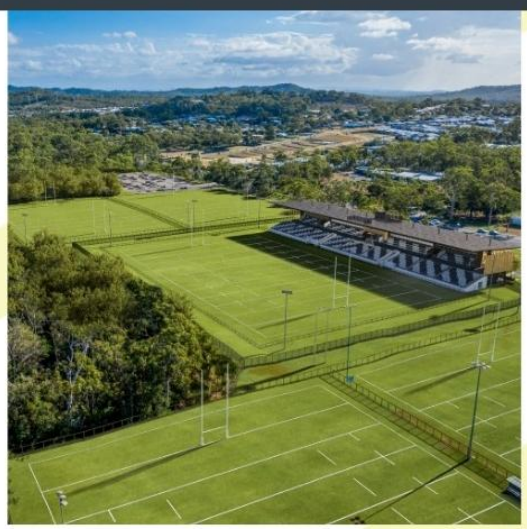

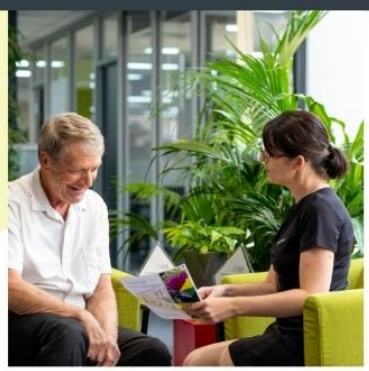

1-15 & 20 Calume Court and 43 Noffke Court, Logan Reserve
Civil Engineering Report

Client:	CFR Project Pty Ltd
Project Number:	BE250124
Document Number:	BE250124-RP-CER-00
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1. Introduction

GDM Property 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 108-lot subdivision. The proposed development is located across 1-15 & 20 Calume Court and 43 Noffke Court, 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; and
- 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 Lots 800 and 801 on SP337868 and Lot 15 RP182451. The corresponding street address is 1-15 & 20 Calume Court and 43 Noffke Court, Logan Reserve. The combined site occupies an area of approximately 6.017 ha.

The site to be developed is shown on the Master Plan (Drawing No. 12685-P-10 Rev E – PRO 01) prepared by Saunders Havill Group which is included in Appendix A of this report. A DBYD search has been undertaken, and is included within Appendix C of this report alongside the site survey. 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 contains multiple dwellings and ancillary structures, with the remaining area primarily comprising grassed land sparse vegetation. Tree cover is generally lighter in the north and becomes progressively denser toward the southern portion of the site.

The site is bounded by the following existing land uses:

North: New Collector Road reserve (to be constructed as part of this development);

South: Rural undeveloped property;

East: Adjoining rural property and rural undeveloped land; and

West: Noffke Court.

3. Proposed Development

The subject site is proposed to be reconfigured and developed from three (3) into 108 lots, along with a Bioretention Basin. The proposed development layout is shown below in Figure 3.1, and on the Master Plan (Drawing No. 12685-P-10 Rev E – PRO 01) prepared by Saunders Havill which is included in Appendix A of this report. It should be noted that this proposed development also includes the upgrade of Calume Court and the construction of the new collector road to the north of the development. Refer to the Conceptual Engineering Drawings within Appendix B for further information.

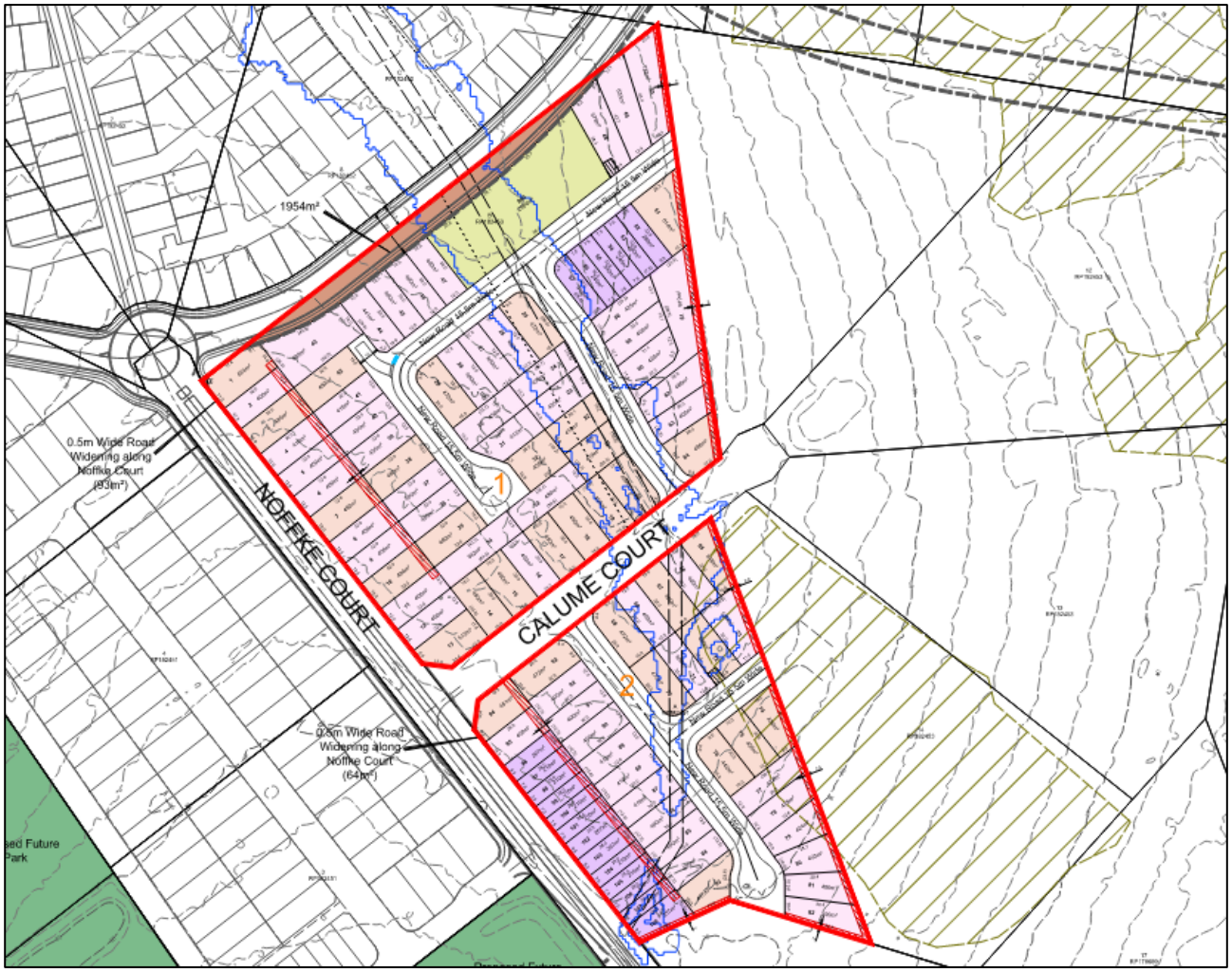


Figure 3.1 Proposed Masterplan (Saunders Havill, 2025)

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	108	2.79	301.32
Total	**-**	**108**	**-**	**301.32**

4. Site Earthworks

It is anticipated that earthworks associated with the proposed development will include significant cut and fill across the site associated with level building pads, road construction (internal and external) and bio-retention basin works.

The Preliminary Earthworks Layout Plan, Drawing No. BE250124-C200-B demonstrates the development's grading, finished surface levels and retaining walls and is included within Appendix B.

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; and
- 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; and
- 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; and
- Attend to landscaped areas to maintain ground cover.

5. Roadworks, Access and Traffic

Access to the subject site for the proposed 108-lot residential development will be provided via Noffke Court and Calume Court. It should be noted that a solid median is proposed along Noffke Court, restricting access to Calume Court to left-in, left-out only. Refer to the Traffic Impact Assessment (ref. BE250124-RP-TIA-02) prepared by Burchills Engineering Solutions which is intended to accompany this Development Application.

As part of this development, the collector road will be extended eastward along the northern boundary of the site from the roundabout (currently under construction by AVID Property ref. MCUI/12/2023) to the eastern site boundary which will ultimately be dedicated to council. Refer to drawing BE250124-C800-B prepared by Burchills Engineering Solutions and attached in Appendix B which depicts this proposed New Collector Road.

The existing Calume Court will also be upgraded as part of this development to an Access Street standard but with a wider road reserve (20m) to match the existing road reserve. The pavement width will be in line with the proposed internal road network detailed below.

The internal road network of Road 1-4 will have a 15.5m road reserve, and a 7.5m pavement width (K-K). While the Calumn Court is designed to have a 20.0m 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.

The Road Structure Plan with current and future layouts, Drawing No. 12319-P-07 Rev B, prepared by Saunders Havill, has been prepared to demonstrate road connectivity from the subject site (bounded in violet) onto adjoining properties via Noffke Court and to the proposed Collector Road that will be constructed in the land dedicated by AVID Property from the subject site frontage to the Noffke Court intersection. Refer to Figure 5.1 below which is an extract from this plan.

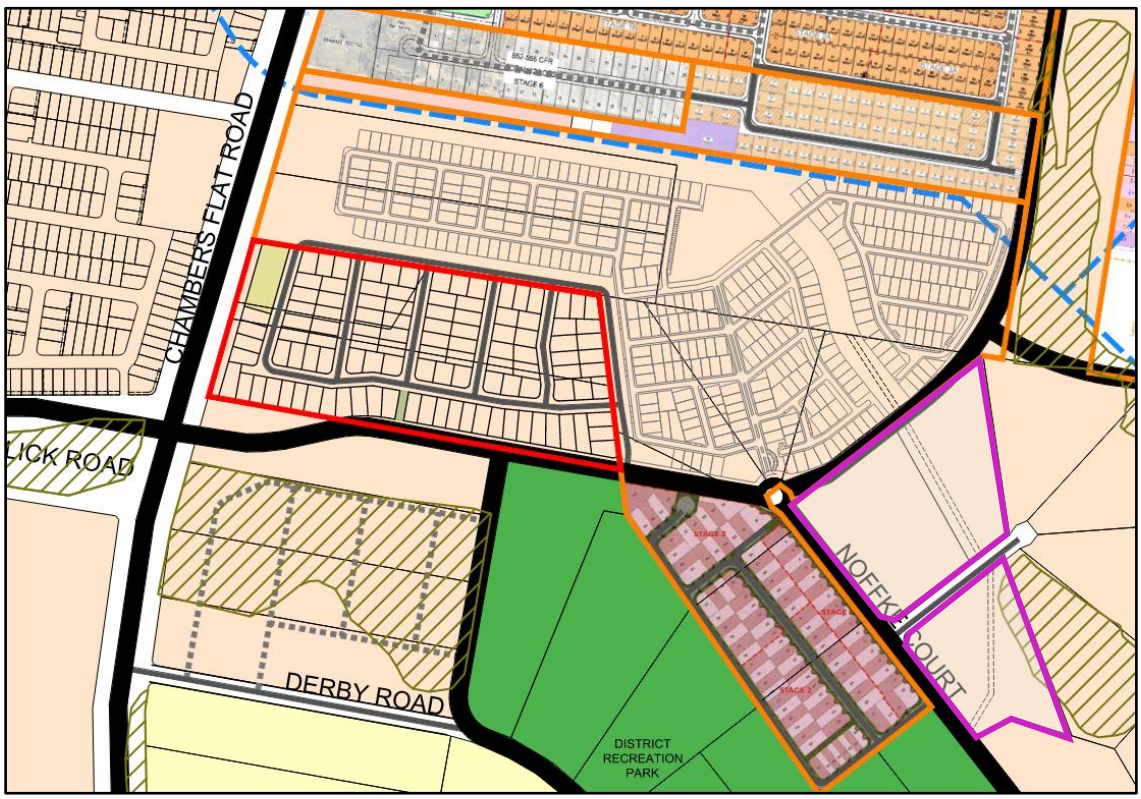


Figure 5.1 Road Structure Plan

6. Stormwater Drainage

As part of the development, this natural flow path will be integrated and replaced by a combination of internal drainage infrastructure and an open swale system designed to safely accommodate both on-site runoff and external inflows. This arrangement ensures that stormwater is conveyed efficiently through the site while maintaining non-worsening conditions for adjoining and downstream properties.

The internal road network will collect stormwater runoff and convey it to inlet pits located along the roadway. These pits will be connected via a network of stormwater drainage lines discharging into a bioretention basin, where flows will be released in a controlled manner to achieve no increase in peak discharge under post-development conditions. Refer to Figure 6.1 below, extracted from Drawing No. BE250124-C300-B, which illustrates the proposed stormwater network layout.

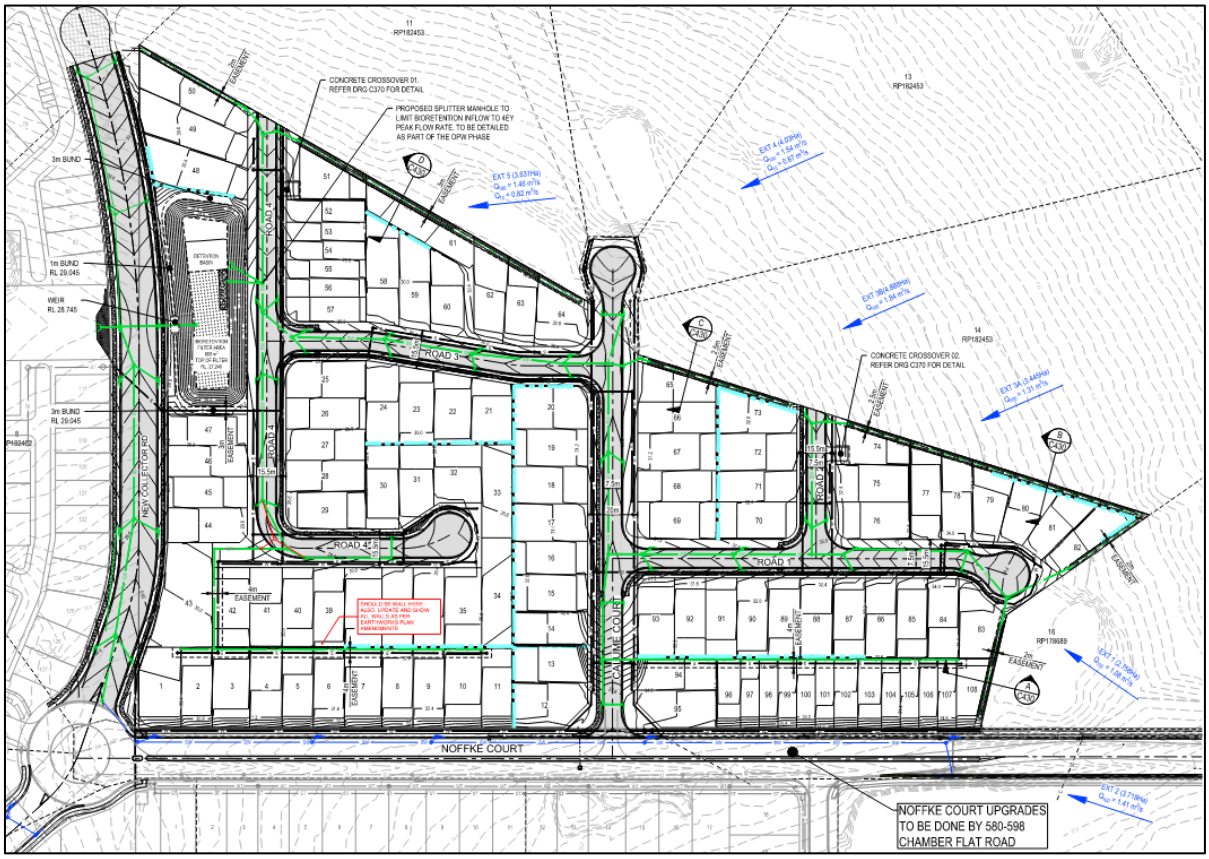


Figure 6.1 Roadworks and Drainage Layout

For further details, reference can be made to the Conceptual Stormwater Management Plan that has been prepared by Burchills Engineering Solutions and is intended to accompany this Development Application (BE250124-RP-CSMP-01). See the summary below of the key findings extracted from the above-mentioned report.

- The proposed development will increase the site imperviousness, resulting in increased peak flow rates. The hydraulic modelling completed as part of the accompanying *Localised Flood Risk Assessment,* demonstrates that the proposed on-site detention system mitigates peak flow rates to non-worsening magnitudes at the LPD.
- To achieve the Logan City Council's Water Quality Objectives, a bioretention system is proposed with a filter area of 600m^2.

- 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 Type 1 sediment controls are required, given a total yield of 470 m^3/year for the disturbed internal catchment. More detailed ESC controls and measures are to be designed and prepared in the detailed design phase of the project.

Further to the CSMP, a Localised Flood Risk Assessment (ref. BE250124-RP-LFRA-01) has also been prepared by Burchills Engineering Solutions and is intended to accompany this Development Application. This LFRA can be summarised as follows.

- The modelling results indicate that the development will cause an increase of peak water level immediately downstream at the property's northern boundary, and along the western boundary within the Noffke Road corridor;
- The water level impacts modelled in the northern adjacent property are located within the future drainage channel and do not impact future developability/viability of this parcel;
- The modelling results also indicate that there an increase in peak water level within Noffke Road along the western site boundary. This is due to the proposed upgrade of Noffke Road and is not considered actionable with all flood conditions being within the requirements of QUDM;
- The modelling results indicate decrease in water level (flood improvement) to the development area northwest from the subject site;
- The modelling results indicate that there is negative afflux in peak water velocity (improvement) located at the downstream property boundary as a result of the proposed development;
- All flood impacts are dissipated by the time that flows reach the regional Schmidts Creek highlighting the effective performance of the joint detention system in mitigating flows on a regional scale.
- The modelling results have indicated that the development does not cause any impact to occur on any external residential dwellings;
- the flood impacts associated with the proposed development is not expected to give rise to any actionable nuisance to adjacent properties; and
- The flood storage post-development is maintained with allowance storage within the underground stormwater pipes.

7. Water Supply

An existing DN300 trunk water main has been constructed by AVID Property as part of the adjoining developments, under the direction of Logan Water, along the eastern side of Chambers Flat Road, extending through to School Road. This trunk main will be extended to the new roundabout, where the collector road intersects with Noffke Court, and will terminate on the opposite side of Noffke Court at the north-west corner of the subject site. This extension forms part of the AVID Property development (COM/66/2017) and is currently under assessment by Council. The trunk main works are expected to be completed prior to the commencement of this development, providing the primary connection point for the proposed water reticulation network.

As part of this development, the water main will be extended eastward within the new collector road along the northern boundary of the site and south within the Noffke Court road reserve, terminating at the southern end of the development. From this alignment, two connecting mains will branch off through Calume Court and terminate at the eastern boundary of the development site. These extensions will provide connection points for future developments to the east. Within the internal subdivision, water reticulation will be constructed along Roads 1–4, connecting into the proposed Calume Court water main extensions. It should be noted that the dual reticulation within Calume Court has been proposed by Council as per the Prelodgement Meeting Minutes which notes that 'the applicant shall provide dual water supply main to support Council's planned High-Level Zone and Low-Level Zone…'.

A valve assembly will be installed at the intersection of Noffke Court and Calume Court to enable system separation between the Low-Level Zone (LLZ) and High-Level Zone (HLZ). Initially, the entire development will operate under the LLZ configuration, suitable for residential demand and connection to the existing network. However, the system has been designed to accommodate future conversion of the southern portion of the site and adjoining eastern areas to a high-pressure (HLZ) supply when additional trunk infrastructure becomes available. The alignment of this future high-pressure main is indicated in violet in Figure 7.1 below.

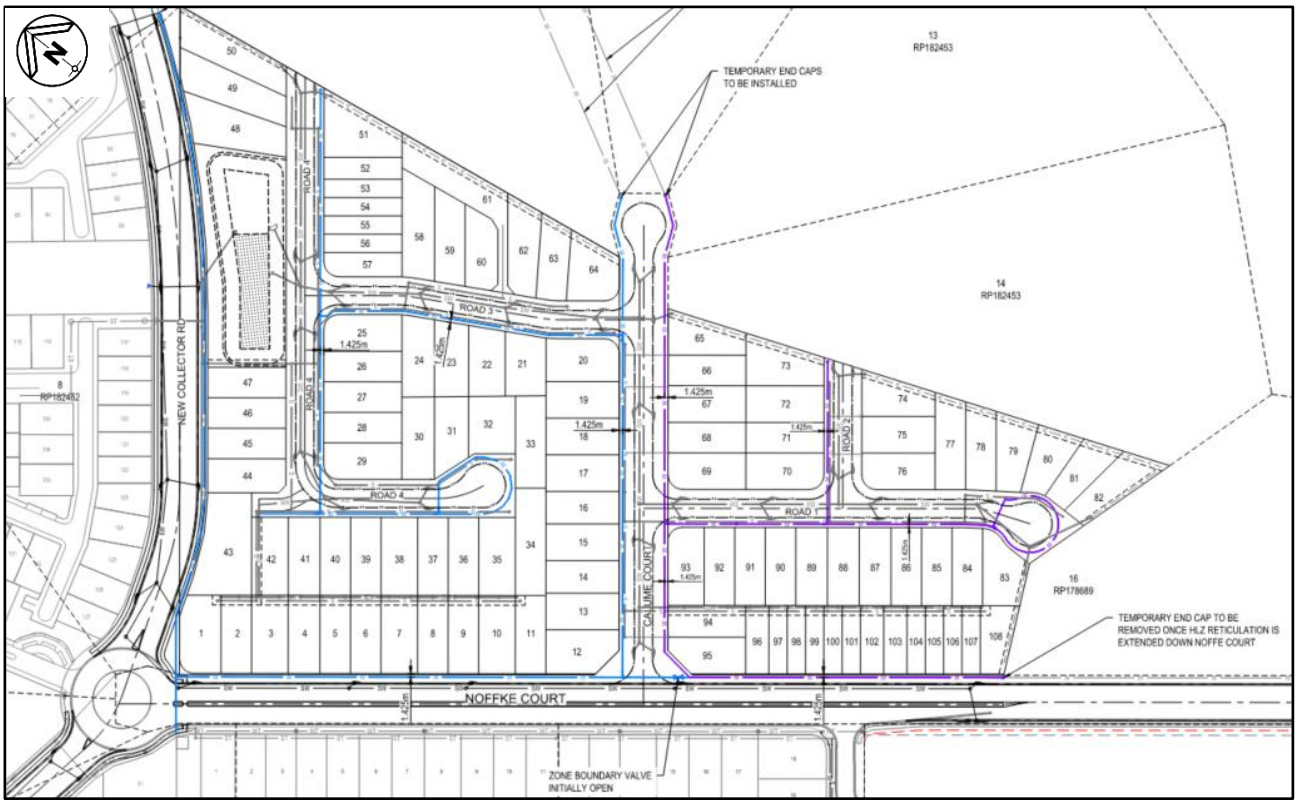


Figure 7.1 Water Reticulation Layout Plan

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, Table 7.2 and Table 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	301.32	230	30	69.30	3.313

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:

Maximum Peak Demand = PHF x Demand Rate x EP's + NR

= 4.0 x 230 x 301.32 + (30 x 301.32)

= 286,254 L/day

= 3.313 L/s

Demand Multiplier = Maximum Demand / EP's

= 0.011 L/sec/EP

8. Sewer Reticulation

An existing DN450 trunk sewer main is proposed to be extended and constructed by AVID Property as part of the adjoining development to the north of the subject site (COM/66/2017). The main will extend from Chambers Flat Road towards the new collector road proposed within this development, located north of the subject site. The trunk sewer main, which is currently under assessment by Council, will be delivered by AVID Property prior to the commencement of works on this site. Sewer from the entire development will discharge into the connection point via a gravity sewer reticulation system, with the network designed to convey flows from the 108 Lots towards the connection point at the collector road while also allowing for a future connection to the east of Calume Court to service potential future developments. See Figure 8.1 below which shows the single connection point for the site within the northern development.

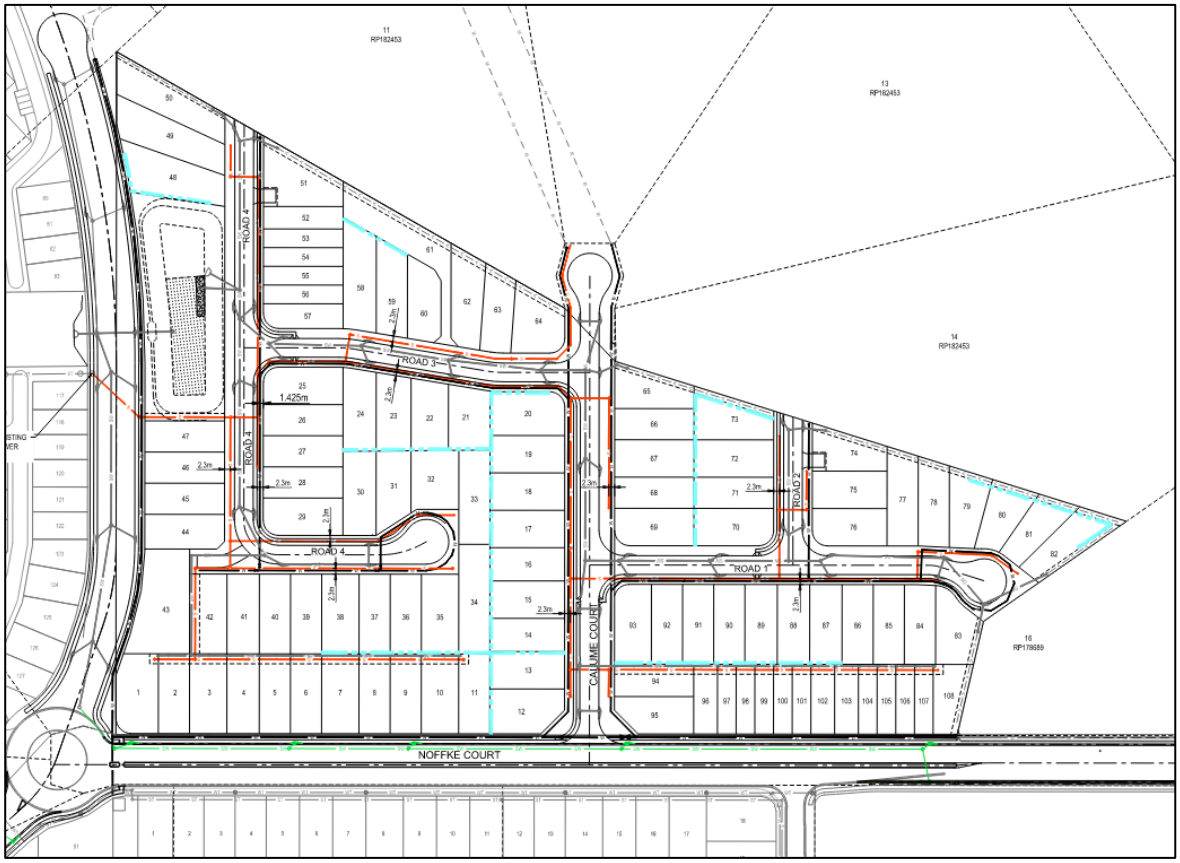


Figure 8.1 Sewer Reticulation Layout Plan

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, Table 8.2 and Table 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 x (EP)^(-0.105) = 2.58
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 ¾ pipe full (75% d/D).

Table 8.3 Minimum Pipe Capacity – New Sewers Flowing ¾ 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	301.32	200	60,264	301.320	3.49

The calculations indicate that the total post development demand at PWWF will be approximately 3.49 L/s.

9. Electrical and Telecommunications

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

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.

The internal road network will collect stormwater runoff and convey it to inlet pits within the roadway. 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.

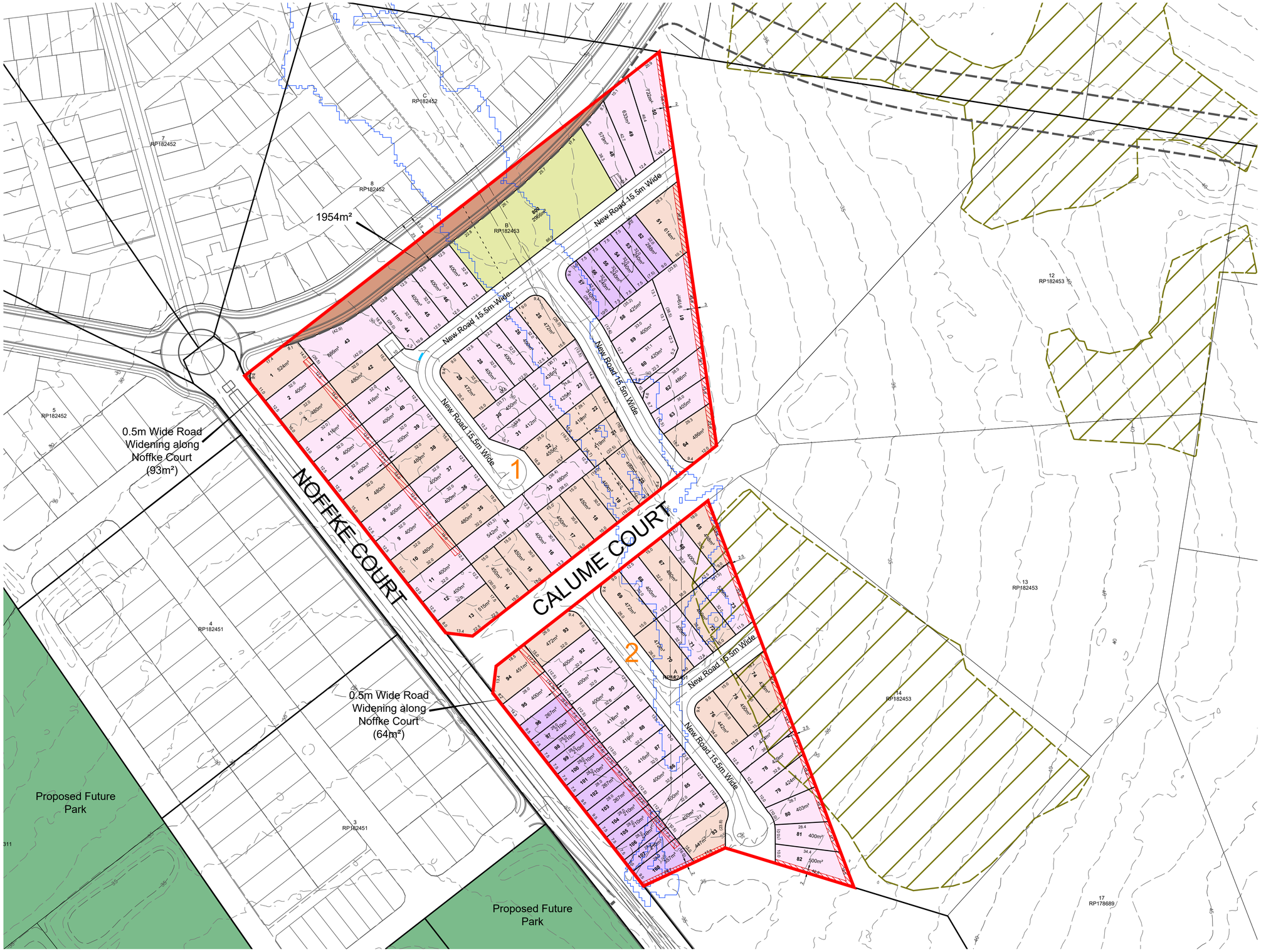
An existing DN300 trunk water main has been constructed by AVID Property as part of the adjoining developments, under the direction of Logan Water, along the eastern side of Chambers Flat Road, extending through to School Road. This trunk main will be extended to the new roundabout, where the collector road intersects with Noffke Court, and will terminate on the opposite side of Noffke Court at the north-west corner of the subject site. This extension forms part of the AVID Property development (COM/66/2017) and is currently under assessment by Council. The trunk main works are expected to be completed prior to the commencement of this development, providing the primary connection point for the proposed water reticulation network.

An existing DN450 trunk sewer main is proposed to be extended and constructed by AVID Property as part of the adjoining development to the north of the subject site (COM/66/2017). The main will extend from Chambers Flat Road towards the new collector road proposed within this development, located north of the subject site. All required essential services can be suitably provided to the development, including:

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

Appendix A – Plan of Development

PROPOSAL PLAN



LEGEND

- Site Boundary
- Major Contour (5.0m interval)
- Minor Contour (1.0m interval)
- Koala Habitat Area
- Flood Investigation Area
- Collector Road Corridor
- Stormwater Easement
- Temporary Turnaround Easement
- Future Proposed Park
- 1 Stage No.

DEVELOPMENT STATISTICS - Overall			
RESIDENTIAL ALLOTMENTS	**No. Lots**	**%**	**Net Area**
Terrace	19	17.6%	0.461 ha
10.0m - 14.99m Frontage	57	52.8%	2.550 ha
15m+ Frontage	32	29.6%	1.505 ha
Total Residential Allotments	**108**	**100.0%**	**4.516 ha**
Land Budget	**Area (Ha)**	**%**	
Area of Subject Site / Stage	6.017 ha	—	
Net Residential Area (no roads)	4.516 ha	75.1%	
Detention / Drainage	0.297 ha	4.9%	
Road Widening	0.211 ha	3.5%	
Road Areas	0.993 ha	16.5%	
Total	**6.017 ha**	**100.0%**	

SCALE @A1 1:1000 @A3 1:2000 - LENGTHS ARE IN METRES

10 0 10 20 30 40 50 60 70 80 90 100 110 120

Saunders Havill
BOWEN HILLS | SPRINGFIELD
1300 123 744 | saundershavill.com

SOURCE
PROJECTION: GDA2020 MGA56
SUBJECT BOUNDARIES: COMPILED FROM RECORDS
CONTOURS: ELVIS - LIDAR (2017)
STATE OVERLAYS: QUEENSLAND GOVERNMENT
LOCAL OVERLAYS: LOGAN CITY COUNCIL

N

CLIENT
GDM PROPERTY

SITE ADDRESS
NOFFKE COURT, LOGAN RESERVE

DRAWN
JC

DATE
26/11/2025

RP DESCRIPTION
Lot 800 on SP337868, Lot 801 on SP337868, Lot 15 on RP182451

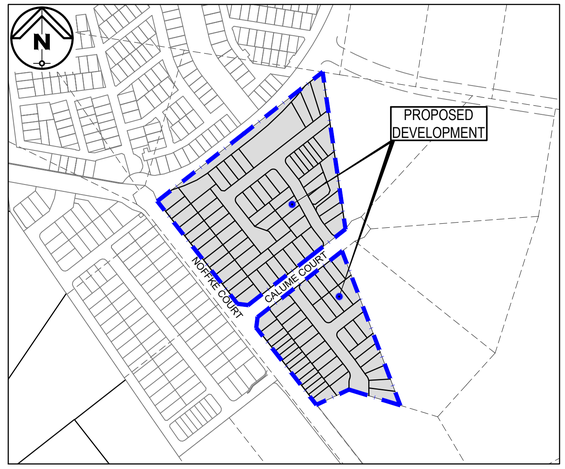
DRAWING NO.
12685 P 10 Rev E - PRO 01

Appendix B – Conceptual Engineering Drawings

PROPOSED LAND SUBDIVISION
AT 1-15 & 20 CALUME COURT AND 43-61 NOFFKE COURT
LOGAN RESERVE, QUEENSLAND

CONCEPT ENGINEERING DRAWINGS
PRELIMINARY DRAWING PACKAGE NO. BE250124

DRAWING INDEX	
SHEET NUMBER	DESCRIPTION
INTERNAL	
C000	COVER SHEET, LOCALITY PLAN, DRAWING INDEX
C200	BULK EARTHWORKS LAYOUT PLAN
C210	BULK EARTHWORKS SECTIONS
C220	EARTHWORKS NOTES AND DETAILS
C300	ROADWORKS AND DRAINAGE LAYOUT PLAN
C301	TYPICAL ROAD CROSS SECTIONS
C370	SWEPT PATH LAYOUT PLAN
C430	STORMWATER NOTES AND DETAIL
C450	BIO BASIN PLAN AND SECTIONS
C451	BIO BASIN TYPICAL DETAILS
C500	WATER RETICULATION LAYOUT PLAN
C600	SEWER RETICULATION LAYOUT PLAN
EXTERNAL ROADWORKS	
C800	PRELIMINARY COLLECTOR ROAD PLAN AND DETAIL
C810	PRELIMINARY COLLECTOR ROAD LONGITUDINAL SECTION
C820	PRELIMINARY COLLECTOR ROAD CROSS SECTION SHEET 1
C822	PRELIMINARY COLLECTOR ROAD CROSS SECTION SHEET 2



LOCALITY PLAN

N.T.S.

NOTE:
CONCEPTUAL ENGINEERING DESIGNS HAVE BEEN PREPARED USING LIDAR DATA IN LIEU OF SURVEY.

PREPARED FOR

GDM PROPERTY

PREPARED BY

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 No.:	DRAWING No. :	VERSION:	DATE :
BE250124	C000	B	28-10-25

LEGEND

- EXISTING LOT BOUNDARY
- EXISTING SURFACE CONTOURS
- EXISTING FENCE
- EXISTING TELTRA
- EXISTING STORMWATER
- EXISTING ELECTRICITY
- EXISTING COMMS
- PROPOSED EASEMENT
- PROPOSED ROAD CONTROL LINE
- PROPOSED INVERT OF KERB
- PROPOSED RETAINING WALL (0.6m - 2.0m)
- PROPOSED SWALE
- AVID DESIGN

EARTHWORKS LEGEND

-2.5 TO -2.0 m		0.0 TO 0.5 m	
-2.0 TO -1.5 m		0.5 TO 1.0 m	
-1.5 TO -1.0 m		1.0 TO 1.5 m	
-1.0 TO -0.5 m		1.5 TO 2.0 m	
-0.5 TO 0.0 m		2.0 TO 2.5 m	

CONCEPT BULK EARTHWORKS SUMMARY

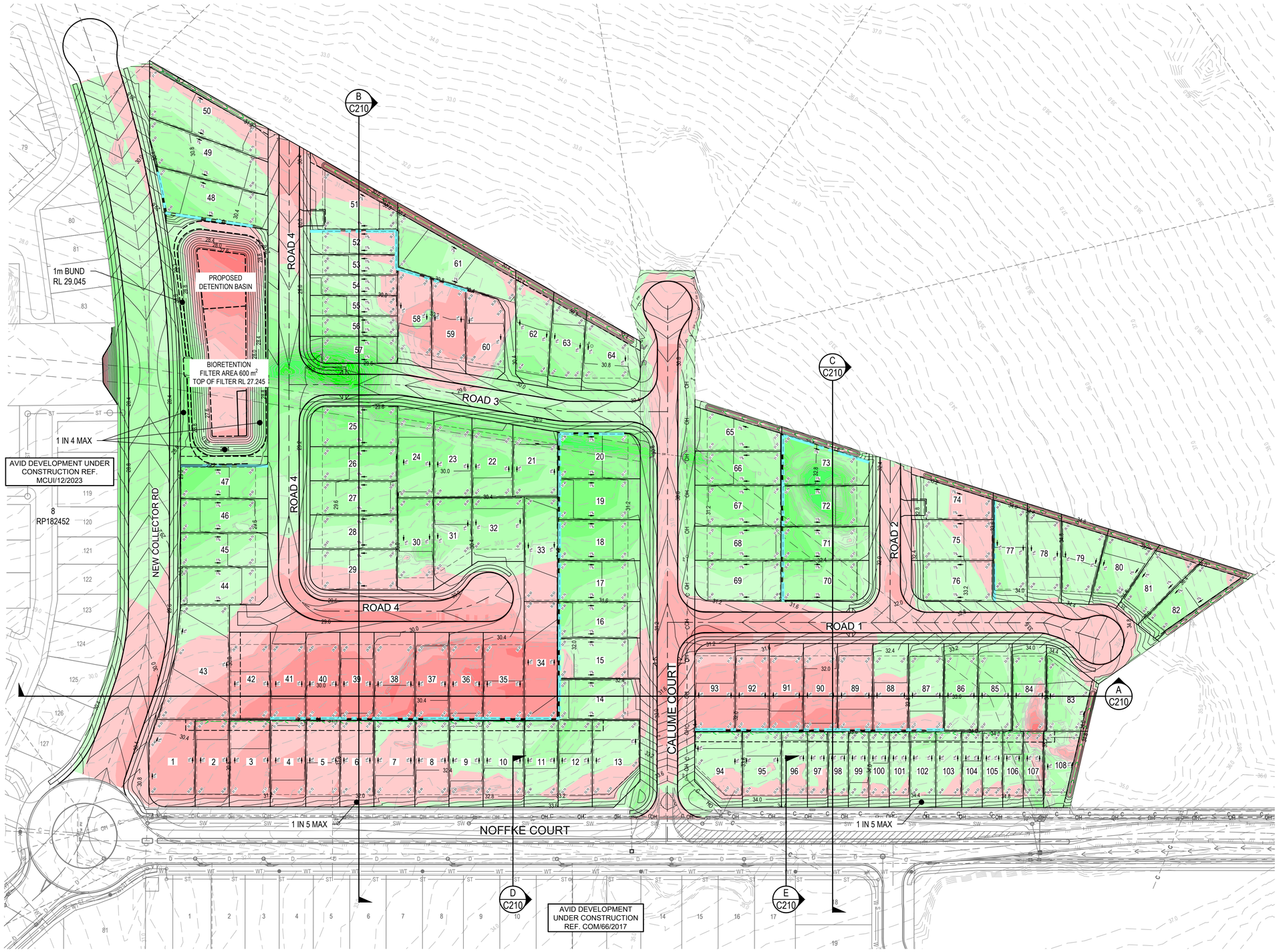
STRUCTURAL FILLING

AREA	NETT SOLID FILL
OVERALL FILLING	27.336 cu.m.

EXCAVATION

AREA	NETT CUT
OVERALL EXCAVATION	14,260 cu.m.

SUMMARY:
27,336 cu.m - 14,260 cu.m = 13,076cu.m IMPORT REQUIRED FOR COMPLETION OF EARTHWORKS.
INCLUDING 300mm ROAD BOXING DEPTH
INCLUDING 125mm TOPSOIL STRIP



BULK EARTHWORKS LAYOUT PLAN

VER.	DESCRIPTION	DATE
B	ISSUE FOR INFORMATION	28-10-25
A	ISSUE FOR INFORMATION	22-09-25

BURCHILLS ENGINEERING SOLUTIONS
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COOTE BURCHILLS ENGINEERING PTY LTD
ABN 76 166 942 365

CLIENT : GDM PROPERTY

DRAWING TITLE : BULK EARTHWORKS LAYOUT PLAN

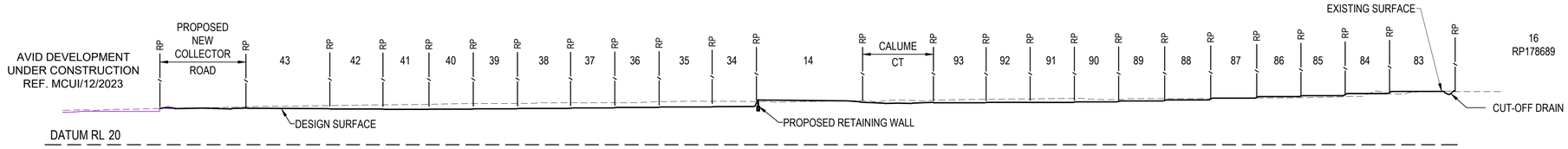
PROJECT : 1-15 & 20 CALUME COURT AND 43-61 NOFFKE COURT, LOGAN RESERVE

PRELIMINARY
NOT FOR CONSTRUCTION OR TENDER

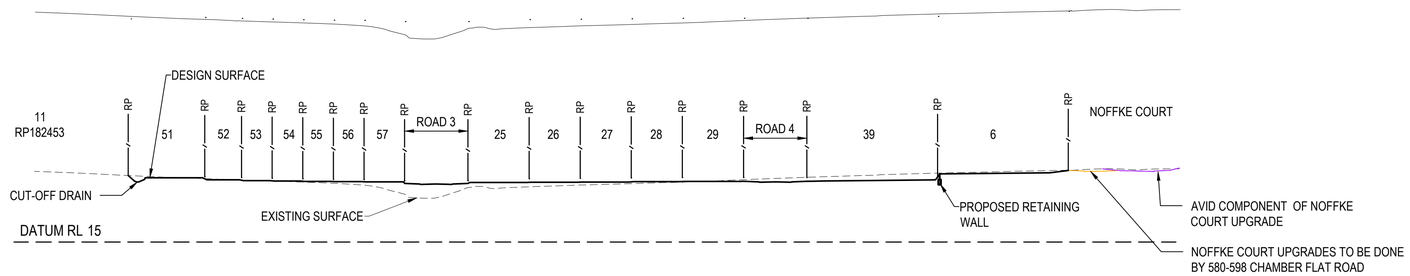
SCALE AT FULL SIZE (A1) :
10 0 5 10 15 20 25 30 35m
1 : 750 (FULL SIZE)

DEVEL. APPLIC. No. :
DATE : 28-10-25
PROJECT LEADER : FRASER LUCAS
DESIGNER : TG
DRAFTSPERSON : MT
CHECKED : HARRISON LISTER
APPROVED FOR AND ON BEHALF OF BURCHILLS ENGINEERING SOLUTIONS ABN 76 166 942 365

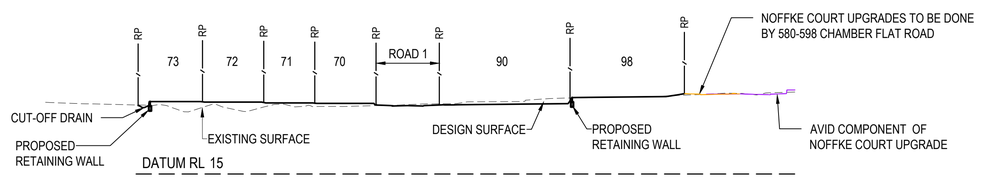
PROJECT No.: BE250124
DRAWING No. : C200
VERSION: B



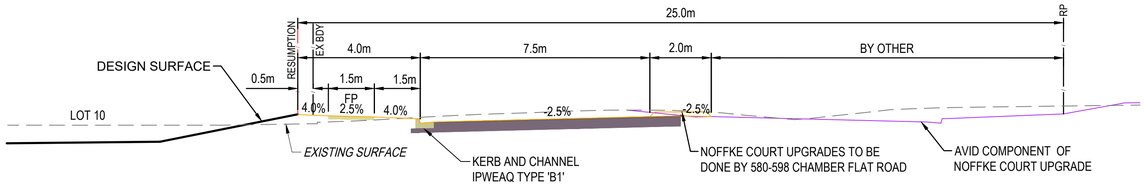
A C200 SECTION
SCALE 1:750



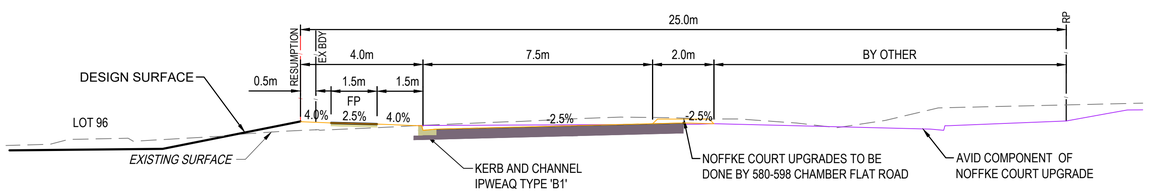
B C200 SECTION
SCALE 1:750



C C200 SECTION
SCALE 1:750



D C200 SECTION
SCALE 1:100



E C200 SECTION
SCALE 1:100

VER.	DESCRIPTION	DATE
B	ISSUE FOR INFORMATION	28-10-25
A	ISSUE FOR INFORMATION	22-09-25

BURCHILLS ENGINEERING SOLUTIONS
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COOTE BURCHILLS ENGINEERING PTY LTD
ABN 76 166 942 365

CLIENT :
GDM PROPERTY

DRAWING TITLE :
BULK EARTHWORKS SECTIONS

PROJECT :
1-15 & 20 CALUME COURT AND 43-61 NOFFKE COURT, LOGAN RESERVE

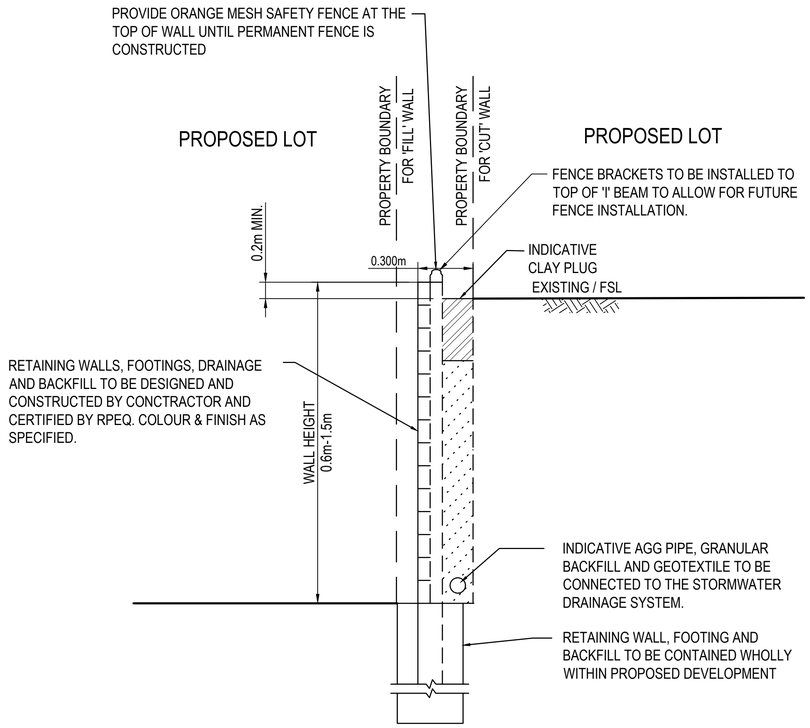
PRELIMINARY
NOT FOR CONSTRUCTION OR TENDER

SCALE AT FULL SIZE (A1) :
1 0 1 2 3 4 5m
1 : 100 (FULL SIZE)
10 0 5 10 15 20 25 30 35m
1 : 750 (FULL SIZE)

DEVEL. APPLIC. No. :
DATE : 28-10-25
PROJECT LEADER : FRASER LUCAS
DESIGNER : TG
DRAFTSPERSON : MT
CHECKED : HARRISON LISTER

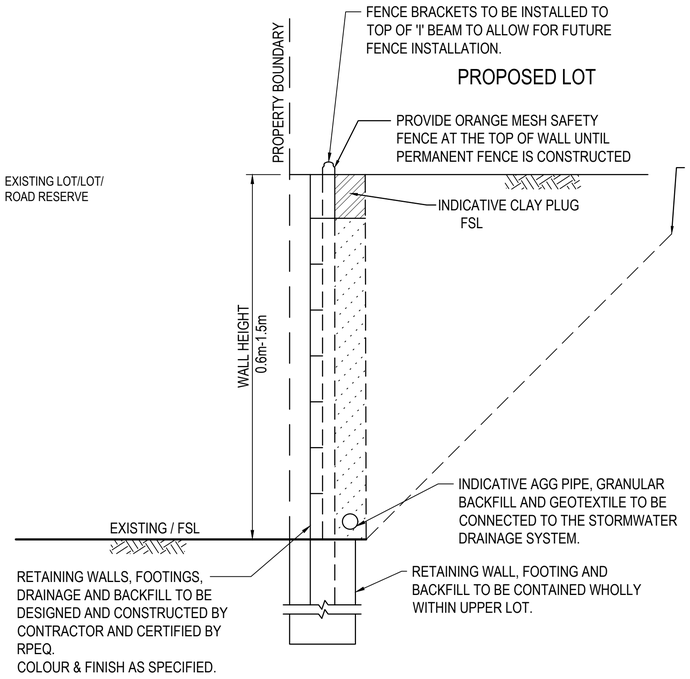
APPROVED FOR AND ON BEHALF OF
BURCHILLS ENGINEERING SOLUTIONS ABN 76 166 942 365

PROJECT No.: BE250124
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.

VER.	DESCRIPTION	DATE
B	ISSUE FOR INFORMATION	28-10-25
A	ISSUE FOR INFORMATION	22-09-25

BURCHILLS ENGINEERING SOLUTIONS
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COOTE BURCHILLS ENGINEERING PTY LTD
ABN 76 166 942 365

CLIENT :
GDM PROPERTY

DRAWING TITLE :
EARTHWORKS NOTES AND DETAILS

PROJECT :
1-15 & 20 CALUME COURT AND 43-61 NOFFKE COURT, LOGAN RESERVE

PRELIMINARY
NOT FOR CONSTRUCTION OR TENDER

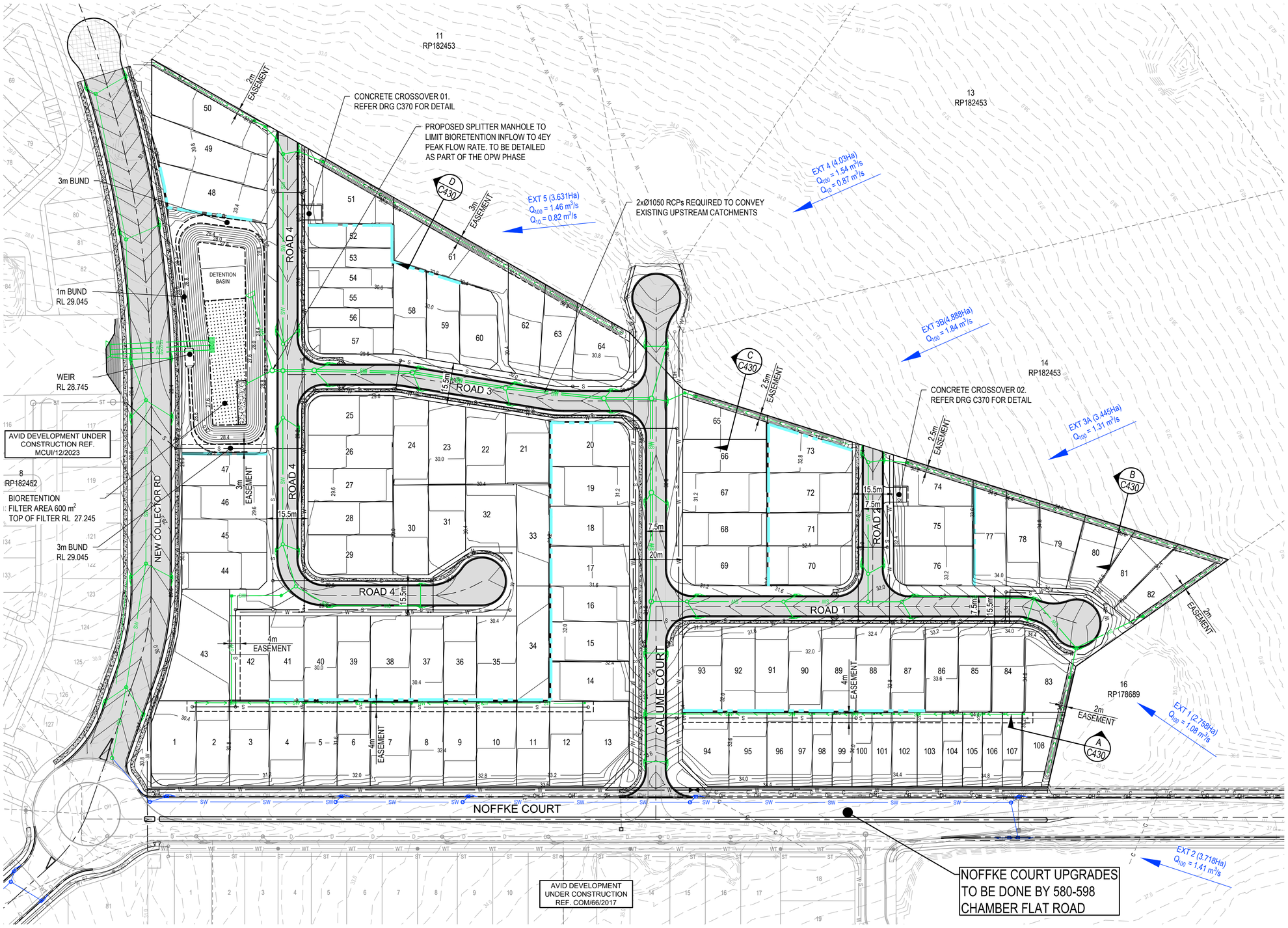
SCALE AT FULL SIZE (A1) :

DEVEL. APPLIC. No. :
DATE : 28-10-25
PROJECT LEADER : FRASER LUCAS
DESIGNER : TG
DRAFTSPERSON : MT
CHECKED : HARRISON LISTER
APPROVED FOR AND ON BEHALF OF BURCHILLS ENGINEERING SOLUTIONS ABN 76 166 942 365

PROJECT No.: BE250124
DRAWING No. : C220
VERSION: B

LEGEND

- EXISTING LOT BOUNDARY
- EXISTING SURFACE CONTOURS
- EXISTING FENCE
- EXISTING TELTRA
- EXISTING STORMWATER
- EXISTING ELECTRICITY
- EXISTING COMMS
- PROPOSED EASEMENT
- PROPOSED ROAD CONTROL LINE
- PROPOSED INVERT OF KERB
- PROPOSED RETAINING WALL
- PROPOSED SWALE
- PROPOSED STORMWATER
- PROPOSED LLZ DN150 WATER
- PROPOSED HLZ DN150 WATER
- PROPOSED SEWER
- PROPOSED EXTERNAL STORMWATER (TO BE DONE BY 580-598 CHAMBER FLAT ROAD)
- AVID DESIGN
- PROPOSED TRUNK WATER (BY OTHER)
- PROPOSED TRUNK SEWER (BY OTHER)
- PROPOSED ASPHAL PAVEMENT
- PROPOSED FOOTPATH



ROADWORKS AND DRAINAGE LAYOUT PLAN

VER.	DESCRIPTION	DATE
B	ISSUE FOR INFORMATION	28-10-25
A	ISSUE FOR INFORMATION	22-09-25

BURCHILLS ENGINEERING SOLUTIONS
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EMAIL: ADMIN@BURCHILLS.COM.AU
COOTE BURCHILLS ENGINEERING PTY LTD
ABN 76 166 942 365

CLIENT : GDM PROPERTY

DRAWING TITLE : ROADWORKS AND DRAINAGE LAYOUT PLAN

PROJECT : 1-15 & 20 CALUME COURT AND 43-61 NOFFKE COURT, LOGAN RESERVE

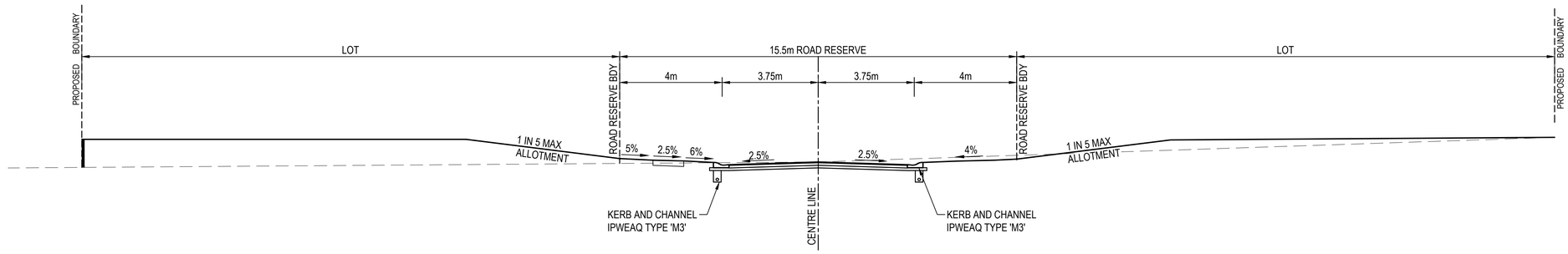
PRELIMINARY
NOT FOR CONSTRUCTION OR TENDER

SCALE AT FULL SIZE (A1) : 1 : 750 (FULL SIZE)

DEVEL. APPLIC. No. :	DATE : 28-10-25
PROJECT LEADER : FRASER LUCAS	DESIGNER : TG
DRAFTSPERSON : MT	CHECKED : HARRISON LISTER

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

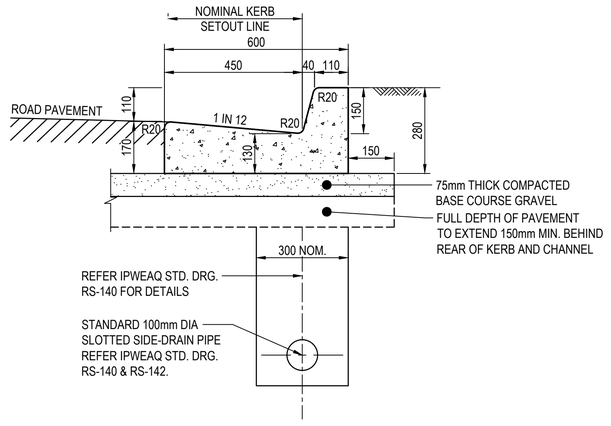
PROJECT No.:	DRAWING No. :	VERSION:
BE250124	C300	B



TYPICAL CROSS SECTION
15.5m K-K ACCESS STREET

1 0 1 2 3 4 5m

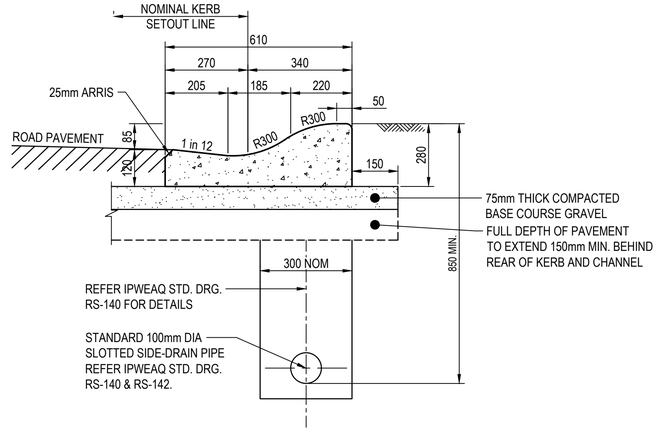
1 : 100 (FULL SIZE)



TYPICAL SECTION 'TYPE B1'
BARRIER KERB AND CHANNEL

0.1 0 0.1 0.2 0.3 0.4 0.5m

1 : 10 (FULL SIZE)



TYPICAL SECTION 'TYPE M3'
KERB AND CHANNEL (ROLL TOP)

0.1 0 0.1 0.2 0.3 0.4 0.5m

1 : 10 (FULL SIZE)

VER.	DESCRIPTION	DATE
B	ISSUE FOR INFORMATION	28-10-25
A	ISSUE FOR INFORMATION	22-09-25

BURCHILLS ENGINEERING SOLUTIONS
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EMAIL: ADMIN@BURCHILLS.COM.AU
COOTE BURCHILLS ENGINEERING PTY LTD
ABN 76 166 942 365

CLIENT :
GDM PROPERTY

DRAWING TITLE :
TYPICAL ROAD CROSS SECTIONS

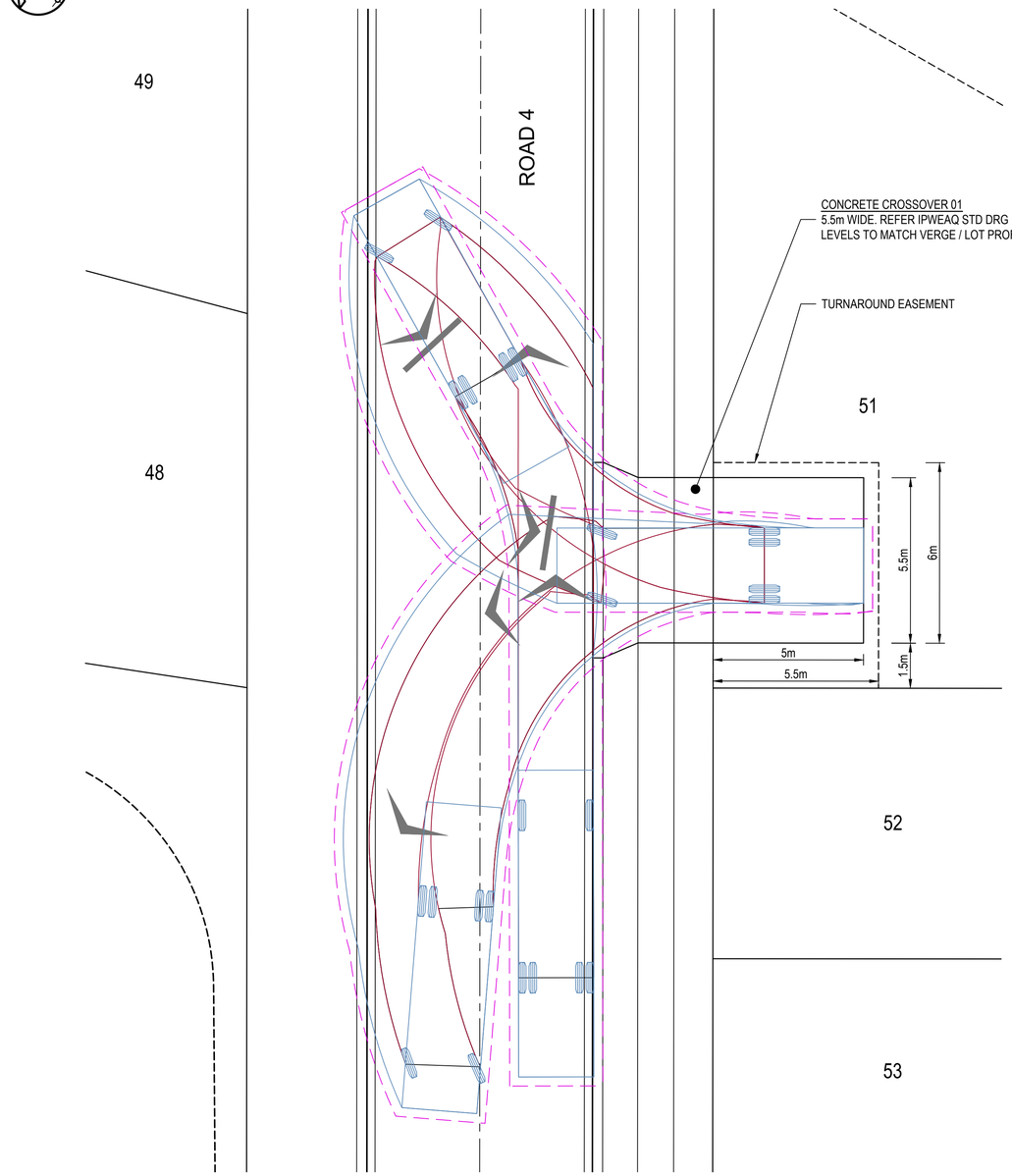
PROJECT :
1-15 & 20 CALUME COURT AND 43-61 NOFFKE COURT, LOGAN RESERVE

PRELIMINARY
NOT FOR CONSTRUCTION OR TENDER

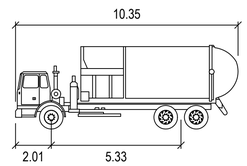
SCALE AT FULL SIZE (A1) :
10 0 5 10 15 20 25 30 35m
1 : 750 (FULL SIZE)

DEVEL. APPLIC. No. :
DATE : 28-10-25
PROJECT LEADER : FRASER LUCAS
DESIGNER : TG
DRAFTSPERSON : MT
CHECKED : HARRISON LISTER
APPROVED FOR AND ON BEHALF OF
BURCHILLS ENGINEERING SOLUTIONS ABN 76 166 942 365

PROJECT No.: BE250124
DRAWING No. : C301
VERSION: B

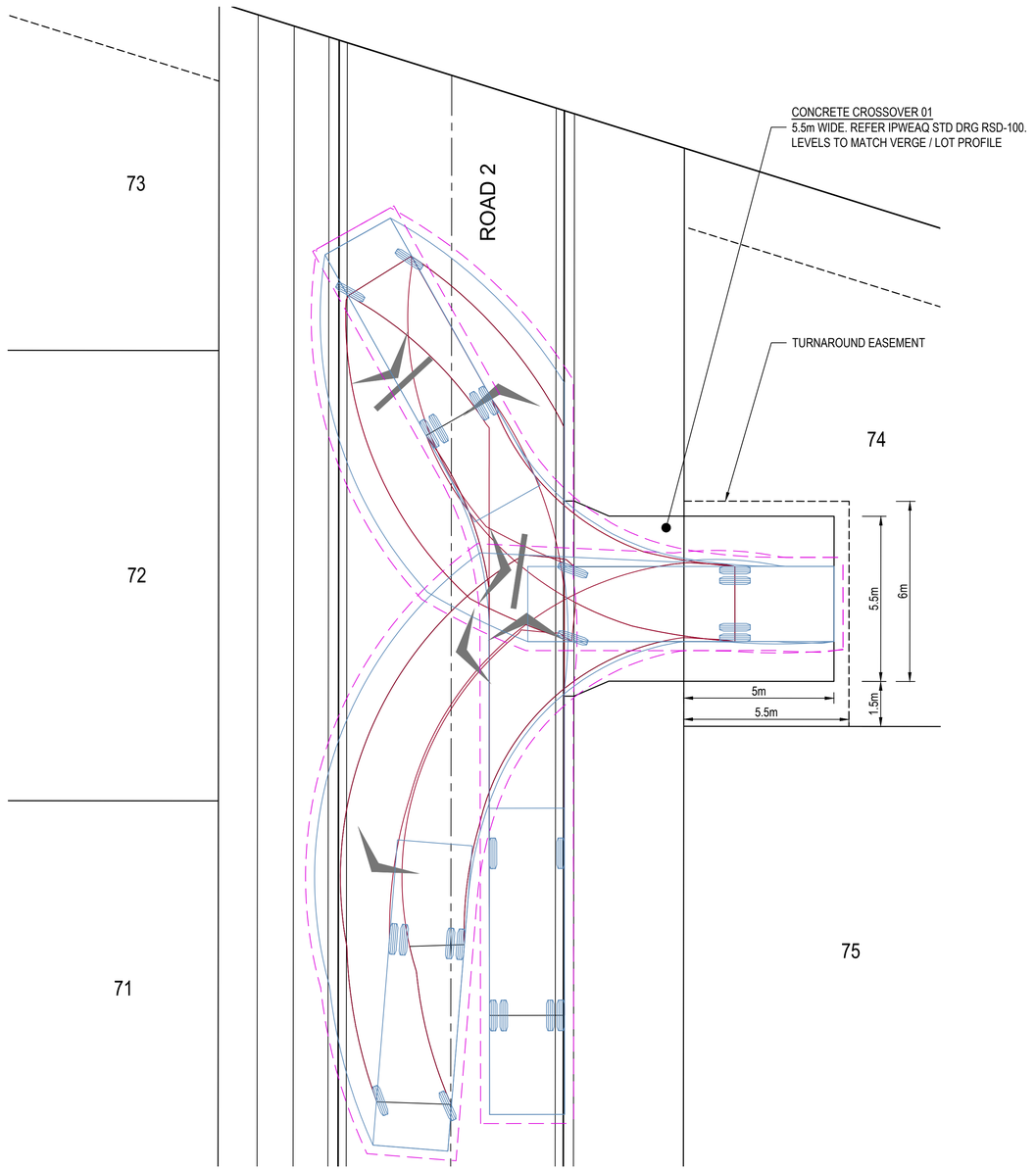


CONCRETE CROSSOVER 01



LCC Table 2 Refuge Vehicle

		meters
Width	:	2.45
Track	:	2.45
Lock to Lock Time	:	6.0
Steering Angle	:	34.0



CONCRETE CROSSOVER 02

LEGEND

- WHEEL PATH
- VEHICLE BODY ENVELOPE
- 0.3m OVERHANG

VER.	DESCRIPTION	DATE
B	ISSUE FOR INFORMATION	28-10-25
A	ISSUE FOR INFORMATION	22-09-25

BURCHILLS ENGINEERING SOLUTIONS
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FAX: +61 7 5509 6411
EMAIL: ADMIN@BURCHILLS.COM.AU
COOTE BURCHILLS ENGINEERING PTY LTD
ABN 76 166 942 365

CLIENT : GDM PROPERTY

DRAWING TITLE : SWEPT PATH LAYOUT PLAN

PROJECT : 1-15 & 20 CALUME COURT AND 43-61 NOFFKE COURT, LOGAN RESERVE

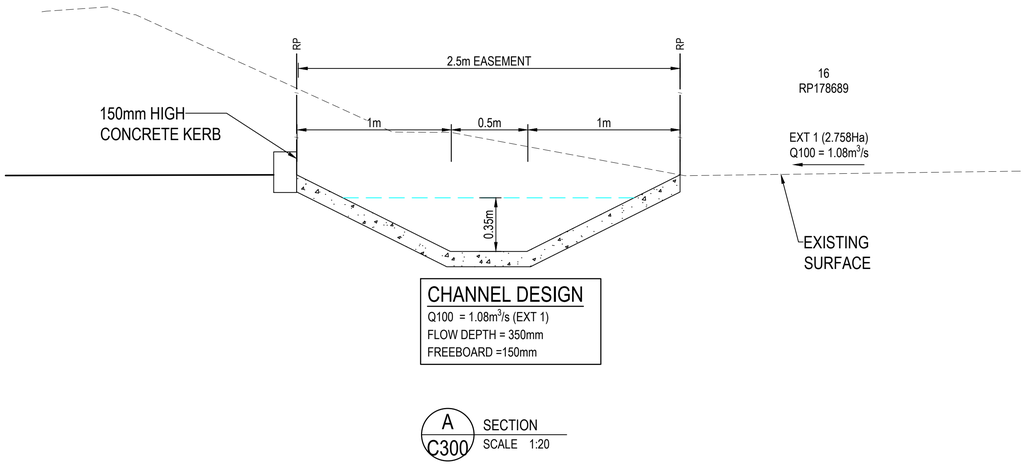
PRELIMINARY
NOT FOR CONSTRUCTION OR TENDER

SCALE AT FULL SIZE (A1) :
1 0 1 2 3 4 5m
1 : 100 (FULL SIZE)

DEVEL. APPLIC. No. : | DATE : 28-10-25
PROJECT LEADER : FRASER LUCAS | DESIGNER : TG
DRAFTSPERSON : MT | CHECKED : HARRISON LISTER

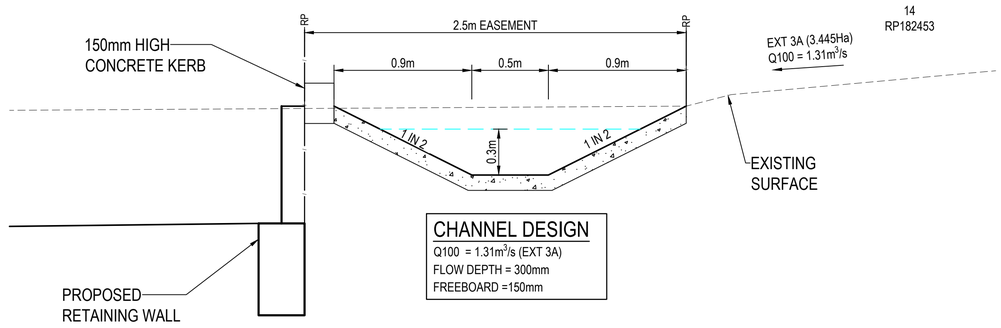
APPROVED FOR AND ON BEHALF OF
BURCHILLS ENGINEERING SOLUTIONS ABN 76 166 942 365

PROJECT No.:	DRAWING No. :	VERSION:
BE250124	C370	A



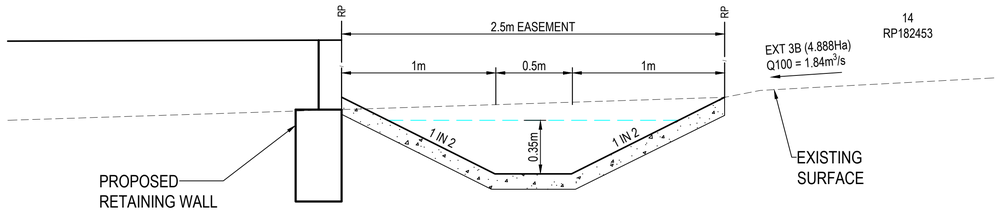
CHANNEL DESIGN
Q100 = 1.08m³/s (EXT 1)
FLOW DEPTH = 350mm
FREEBOARD =150mm

A / C300 SECTION
SCALE 1:20



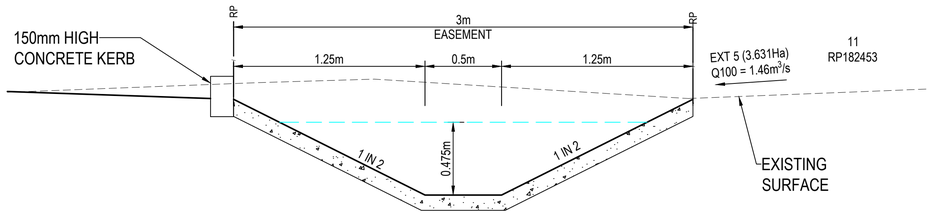
CHANNEL DESIGN
Q100 = 1.31m³/s (EXT 3A)
FLOW DEPTH = 300mm
FREEBOARD =150mm

B / C300 SECTION
SCALE 1:20



CHANNEL DESIGN
Q100 = 1.84m³/s (EXT 3B)
FLOW DEPTH = 350mm
FREEBOARD =150mm

C / C300 SECTION
SCALE 1:20



CHANNEL DESIGN
Q100 = 1.46m³/s (EXT 5)
FLOW DEPTH = 475mm
FREEBOARD =150mm

D / C300 SECTION
SCALE 1:20

VER.	DESCRIPTION	DATE
B	ISSUE FOR INFORMATION	28-10-25
A	ISSUE FOR INFORMATION	22-09-25

BURCHILLS ENGINEERING SOLUTIONS
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COOTE BURCHILLS ENGINEERING PTY LTD
ABN 76 166 942 365

CLIENT :
GDM PROPERTY

DRAWING TITLE :
STORMWATER NOTES AND DETAIL

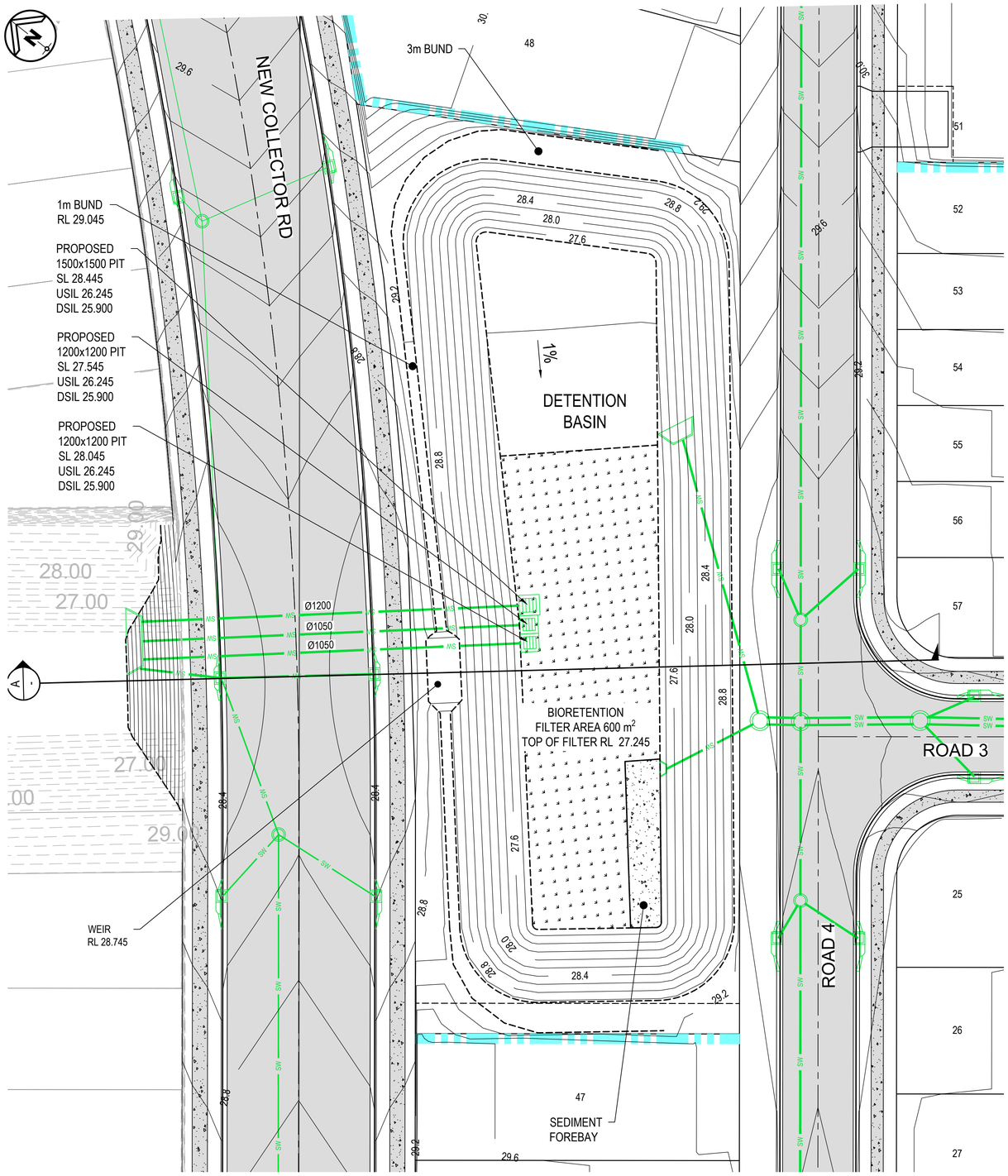
PROJECT :
1-15 & 20 CALUME COURT AND 43-61 NOFFKE COURT, LOGAN RESERVE

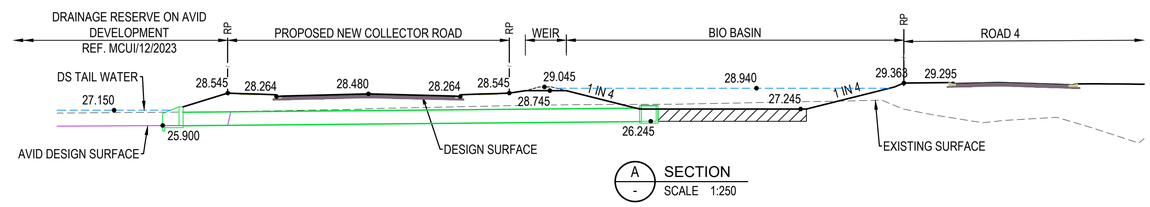
PRELIMINARY
NOT FOR CONSTRUCTION OR TENDER

SCALE AT FULL SIZE (A1) :
10 0 5 10 15 20 25 30 35m
1 : 750 (FULL SIZE)

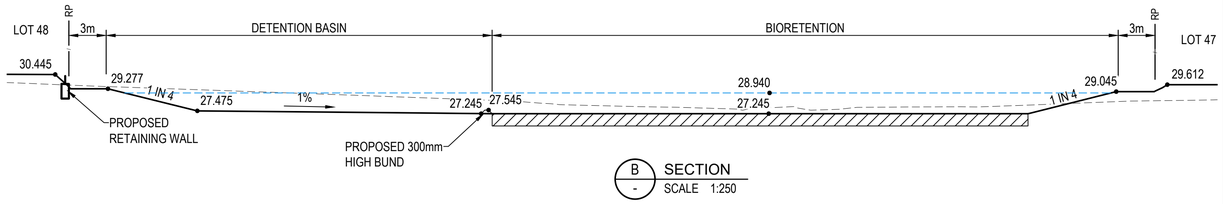
DEVEL. APPLIC. No. :
DATE : 28-10-25
PROJECT LEADER : FRASER LUCAS
DESIGNER : TG
DRAFTSPERSON : MT
CHECKED : HARRISON LISTER
APPROVED FOR AND ON BEHALF OF
BURCHILLS ENGINEERING SOLUTIONS ABN 76 166 942 365

PROJECT No.: BE250124
DRAWING No. : C430
VERSION: B





A SECTION
SCALE 1:250



B SECTION
SCALE 1:250

BIO BASIN PLAN AND SECTIONS

VER.	DESCRIPTION	DATE
B	ISSUE FOR INFORMATION	28-10-25
A	ISSUE FOR INFORMATION	22-09-25

BURCHILLS ENGINEERING SOLUTIONS
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FAX: +61 7 5509 6411
EMAIL: ADMIN@BURCHILLS.COM.AU
COOTE BURCHILLS ENGINEERING PTY LTD
ABN 76 166 942 365

CLIENT :
GDM PROPERTY

DRAWING TITLE :
BIO BASIN PLAN AND SECTIONS

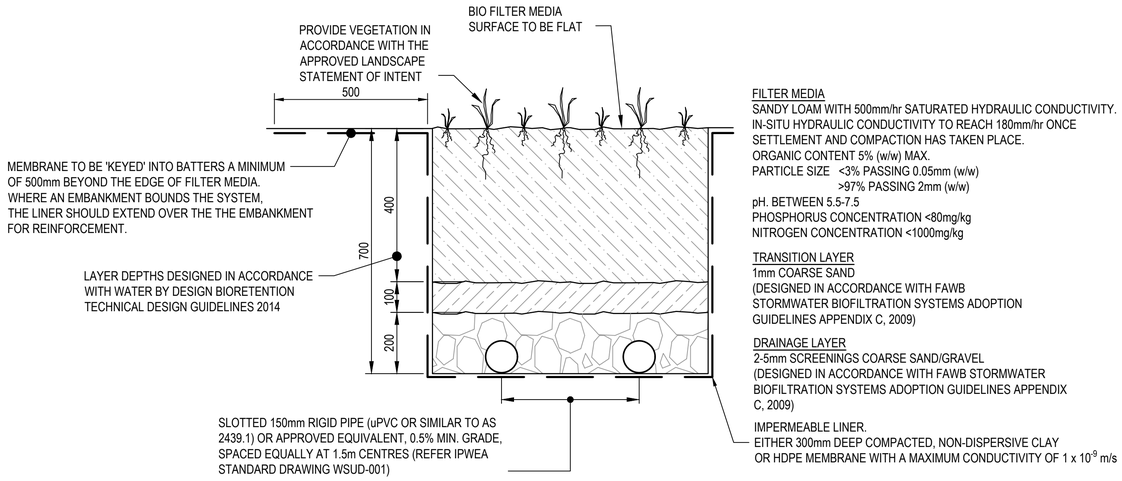
PROJECT :
1-15 & 20 CALUME COURT AND 43-61 NOFFKE COURT, LOGAN RESERVE

PRELIMINARY
NOT FOR CONSTRUCTION OR TENDER

SCALE AT FULL SIZE (A1) :
5 0 5 10m
1 : 250 (FULL SIZE)

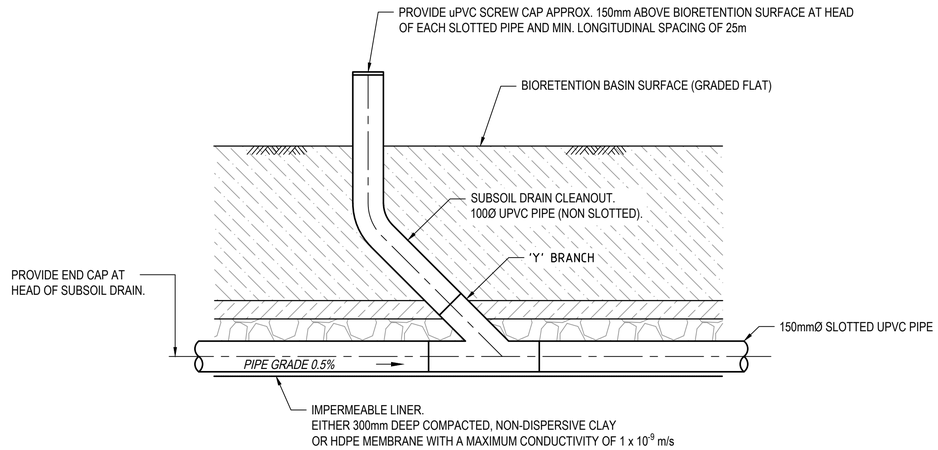
DEVEL. APPLIC. No. :
DATE : 28-10-25
PROJECT LEADER : FRASER LUCAS
DESIGNER : TG
DRAFTSPERSON : MT
CHECKED : HARRISON LISTER
APPROVED FOR AND ON BEHALF OF BURCHILLS ENGINEERING SOLUTIONS ABN 76 166 942 365

PROJECT No.:	DRAWING No. :	VERSION:
BE250124	C450	B



TYPICAL BIO-RETENTION MEDIA CROSS SECTION

SCALE 0.1 0 0.1 0.2 0.3 0.4 0.5 (metres)
1 : 10 (FULL SIZE)



TYPICAL BIO-RETENTION BASIN SUBSOIL DRAIN CLEANOUT

NTS

VER.	DESCRIPTION	DATE
B	ISSUE FOR INFORMATION	28-10-25
A	ISSUE FOR INFORMATION	22-09-25

BURCHILLS ENGINEERING SOLUTIONS
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COOTE BURCHILLS ENGINEERING PTY LTD
ABN 76 166 942 365

CLIENT :
GDM PROPERTY

DRAWING TITLE :
BIO BASIN TYPICAL DETAILS

PROJECT :
1-15 & 20 CALUME COURT AND 43-61 NOFFKE COURT, LOGAN RESERVE

PRELIMINARY
NOT FOR CONSTRUCTION OR TENDER

SCALE AT FULL SIZE (A1) :
0.1 0 0.1 0.2 0.3 0.4 0.5m
1 : 10 (FULL SIZE)

DEVEL. APPLIC. No. :
DATE : 28-10-25
PROJECT LEADER : FRASER LUCAS
DESIGNER : TG
DRAFTSPERSON : MT
CHECKED : HARRISON LISTER

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

PROJECT No.: BE250124
DRAWING No. : C451
VERSION: B

LEGEND

- EXISTING LOT BOUNDARY
- EXISTING SURFACE CONTOURS
- EXISTING FENCE
- EXISTING TELTRA
- EXISTING STORMWATER
- EXISTING ELECTRICITY
- EXISTING COMMS
- PROPOSED EASEMENT
- PROPOSED ROAD CONTROL LINE
- PROPOSED INVERT OF KERB
- PROPOSED STORMWATER
- PROPOSED LLZ DN150 WATER
- PROPOSED HLZ DN150 WATER
- PROPOSED SEWER
- AVID DESIGN
- PROPOSED TRUNK WATER (BY AVID)
- PROPOSED TRUNK SEWER (BY AVID)
- PROPOSED WATER (BY OTHER)

21 RP97736

FUTURE ZONE BOUNDARY VALVE

PROPOSED WATER MAIN (BY OTHER)

12 RP182453

TEMPORARY END CAP TO BE INSTALLED

11 RP182453

PROPOSED WATER MAIN (BY OTHER)

13 RP182453

TEMPORARY END CAPS TO BE INSTALLED

14 RP182453

AVID DEVELOPMENT UNDER CONSTRUCTION REF. MCUI/12/2023

8 RP182452

7 RP182452

6 RP182452

NEW COLLECTOR RD

ROAD 4

ROAD 3

ROAD 2

ROAD 1

CALUME COURT

NOFFKE COURT

16 RP178689

TEMPORARY END CAP TO BE REMOVED ONCE HLZ RETICULATION IS EXTENDED DOWN NOFFE COURT

2 RP178689

CONNECTION TO EXISTING WATER

AVID DEVELOPMENT UNDER CONSTRUCTION REF. COM/66/2017

ZONE BOUNDARY VALVE INITIALLY OPEN

WATER RETICULATION LAYOUT PLAN

VER.	DESCRIPTION	DATE
B	ISSUE FOR INFORMATION	28-10-25
A	ISSUE FOR INFORMATION	22-09-25

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

CLIENT : GDM PROPERTY

DRAWING TITLE : WATER RETICULATION LAYOUT PLAN

PROJECT : 1-15 & 20 CALUME COURT AND 43-61 NOFFKE COURT, LOGAN RESERVE

PRELIMINARY
NOT FOR CONSTRUCTION OR TENDER

SCALE AT FULL SIZE (A1) : 10 0 10 20 30 40 50m
1 : 1000 (FULL SIZE)

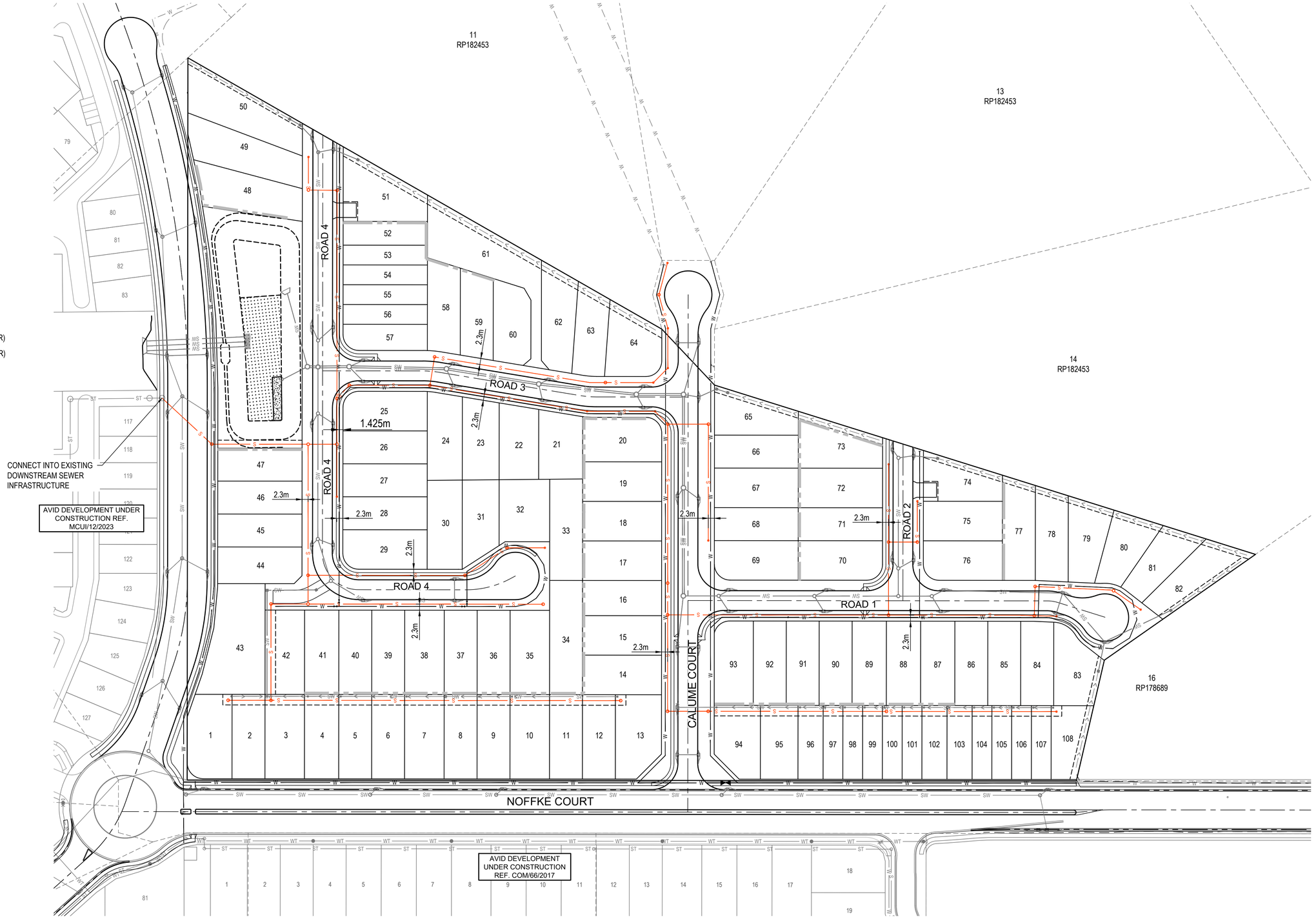
DEVEL. APPLIC. No. : | DATE : 28-10-25
PROJECT LEADER : FRASER LUCAS | DESIGNER : TG
DRAFTSPERSON : MT | CHECKED : HARRISON LISTER

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

PROJECT No.:	DRAWING No. :	VERSION:
BE250124	C500	B

LEGEND

- EXISTING LOT BOUNDARY
- EXISTING SURFACE CONTOURS
- EXISTING FENCE
- EXISTING TELTRA
- EXISTING STORMWATER
- EXISTING ELECTRICITY
- EXISTING COMMS
- PROPOSED EASEMENT
- PROPOSED ROAD CONTROL LINE
- PROPOSED INVERT OF KERB
- PROPOSED STORMWATER
- PROPOSED LLZ DN150 WATER
- PROPOSED HLZ DN150 WATER
- PROPOSED SEWER
- AVID DESIGN
- PROPOSED TRUNK WATER (BY OTHER)
- PROPOSED TRUNK SEWER (BY OTHER)



SEWER RETICULATION LAYOUT PLAN

VER.	DESCRIPTION	DATE
B	ISSUE FOR INFORMATION	28-10-25
A	ISSUE FOR INFORMATION	22-09-25

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

CLIENT : GDM PROPERTY

DRAWING TITLE : SEWER RETICULATION LAYOUT PLAN

PROJECT : 1-15 & 20 CALUME COURT AND 43-61 NOFFKE COURT, LOGAN RESERVE

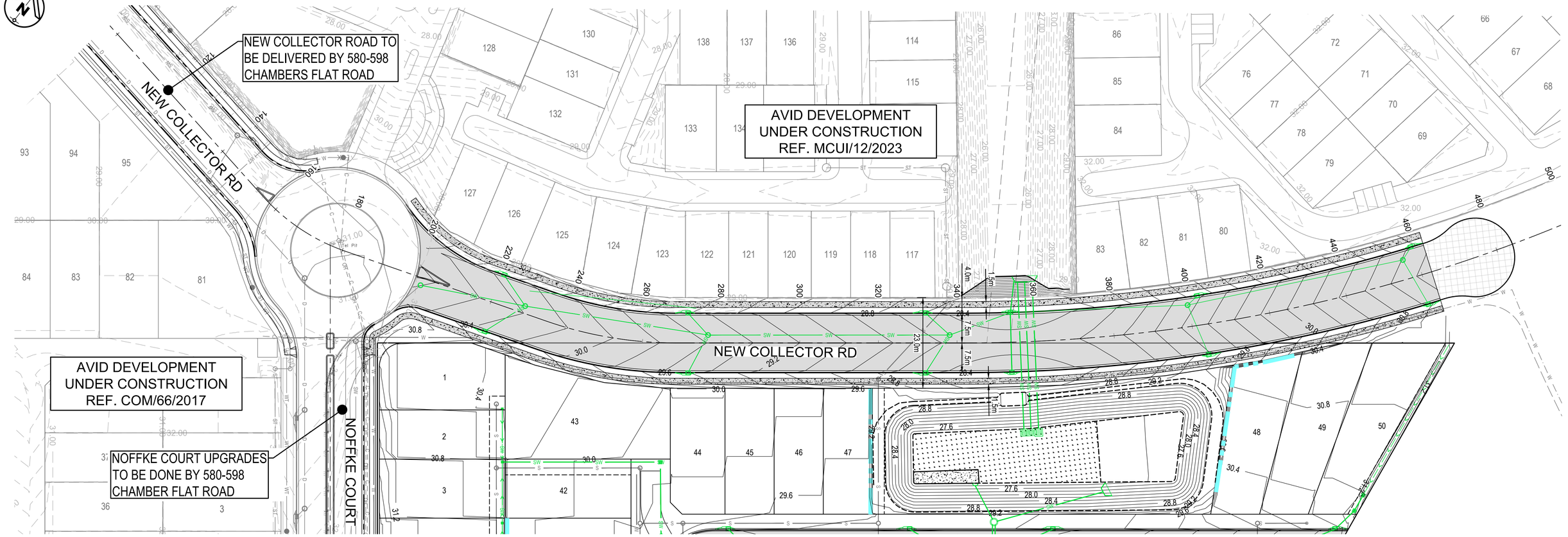
PRELIMINARY
NOT FOR CONSTRUCTION OR TENDER

SCALE AT FULL SIZE (A1) : 10 0 5 10 15 20 25 30 35m
1 : 750 (FULL SIZE)

DEVEL. APPLIC. No. : | DATE : 28-10-25
PROJECT LEADER : FRASER LUCAS | DESIGNER : TG
DRAFTSPERSON : MT | CHECKED : HARRISON LISTER

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

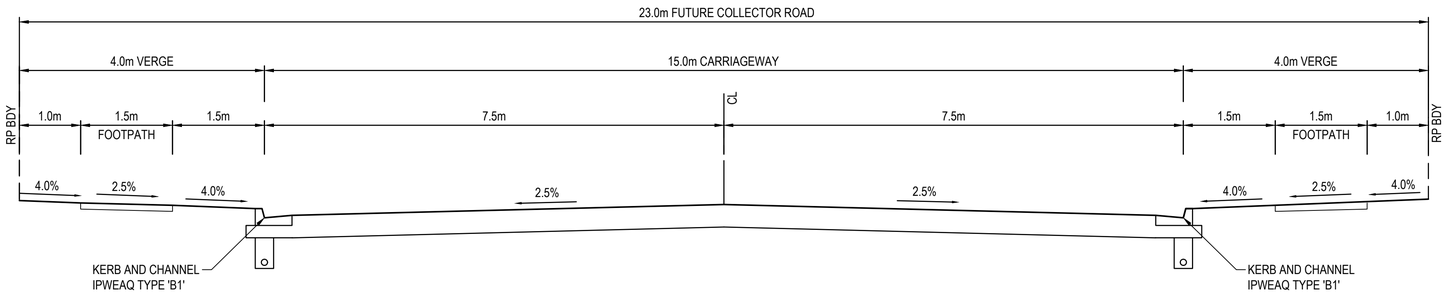
PROJECT No.:	DRAWING No. :	VERSION:
BE250124	C600	B



PRELIMINARY COLLECTOR ROAD PLAN AND DETAIL

5 0 5 10 15 20 25m

1 : 500 (FULL SIZE)



TYPICAL ROAD SECTION - COLLECTOR ROAD

1 0 1 2m

1 : 50 (FULL SIZE)

LEGEND

- EXISTING CONTOUR (13.0)
- STORMWATER (BY OTHER) (D)
- TRUNK WATER (BY OTHER) (WT)
- TRUNK SEWER (BY OTHER) (ST)
- PROPOSED LOT BOUNDARY
- DESIGN SURFACE CONTOURS (25.8)
- PROPOSED STORMWATER (SW)
- PROPOSED GULLY PIT
- PROPOSED ASPHALT PAVEMENT
- PROPOSED CONCRETE PAVEMENT

VER.	DESCRIPTION	DATE
B	ISSUE FOR INFORMATION	28-10-25
A	ISSUE FOR INFORMATION	22-09-25

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

CLEINT :
GDM PROPERTY

DRAWING TITLE :
PRELIMINARY COLLECTOR ROAD PLAN AND DETAIL

PROJECT :
1-15 & 20 CALUME AND 43 NOFFKE COURT EXTERNAL ROADWORKS UPGRADES

PRELIMINARY
NOT FOR CONSTRUCTION OR TENDER

SCALE AT FULL SIZE (A1) :

DEVEL. APPLIC. No. :
DATE : 28-10-25
PROJECT LEADER : FRASER LUCAS
DESIGNER : TG
DRAFTSPERSON : MT
CHECKED : HARRISON LISTER

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

PROJECT No.:	DRAWING No. :	VERSION:
BE250124	C800	B

PRELIMINARY COLLECTOR ROAD LONGITUDINAL SECTION

1 : 50 VERTICAL (FULL SIZE)
5 0 5 10 15 20 25m
0.5 0 0.5 1.0 1.5 2.0 2.5m
1 : 500 HORIZONTAL (FULL SIZE)

VER.	DESCRIPTION	DATE
B	ISSUE FOR INFORMATION	28-10-25
A	ISSUE FOR INFORMATION	22-09-25

BURCHILLS ENGINEERING SOLUTIONS
GOLD COAST | BRISBANE | TOOWOOMBA
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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

CLEINT :
GDM PROPERTY

DRAWING TITLE :
PRELIMINARY COLLECTOR ROAD LONGITUDINAL SECTION

PROJECT :
1-15 & 20 CALUME AND 43 NOFFKE COURT EXTERNAL ROADWORKS UPGRADES

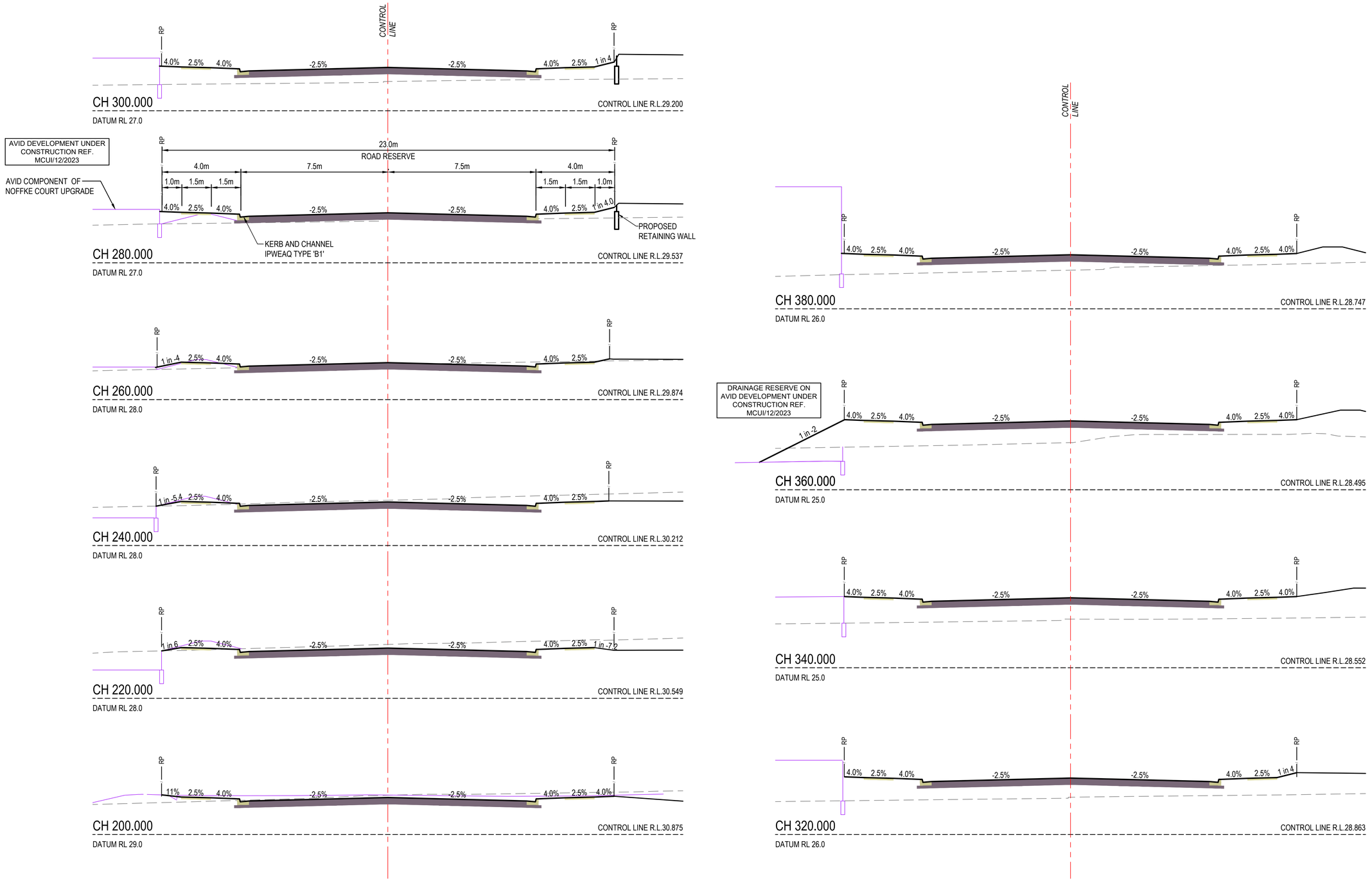
PRELIMINARY
NOT FOR CONSTRUCTION OR TENDER

SCALE AT FULL SIZE (A1) :

DEVEL. APPLIC. No. :
DATE : 28-10-25
PROJECT LEADER : FRASER LUCAS
DESIGNER : TG
DRAFTSPERSON : MT
CHECKED : HARRISON LISTER

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

PROJECT No.: BE250124
DRAWING No. : C810
VERSION: B



VER.	DESCRIPTION	DATE
B	ISSUE FOR INFORMATION	28-10-25
A	ISSUE FOR INFORMATION	22-09-25

BURCHILLS ENGINEERING SOLUTIONS
GOLD COAST | BRISBANE | TOOWOOMBA
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EMAIL: ADMIN@BURCHILLS.COM.AU
COOTE BURCHILLS ENGINEERING PTY LTD
ABN 76 166 942 365

CLEINT :

GDM PROPERTY

DRAWING TITLE :

PRELIMINARY COLLECTOR ROAD CROSS SECTION SHEET 1

PROJECT :

1-15 & 20 CALUME AND 43 NOFFKE COURT EXTERNAL ROADWORKS UPGRADES

PRELIMINARY
NOT FOR CONSTRUCTION OR TENDER

SCALE AT FULL SIZE (A1) :

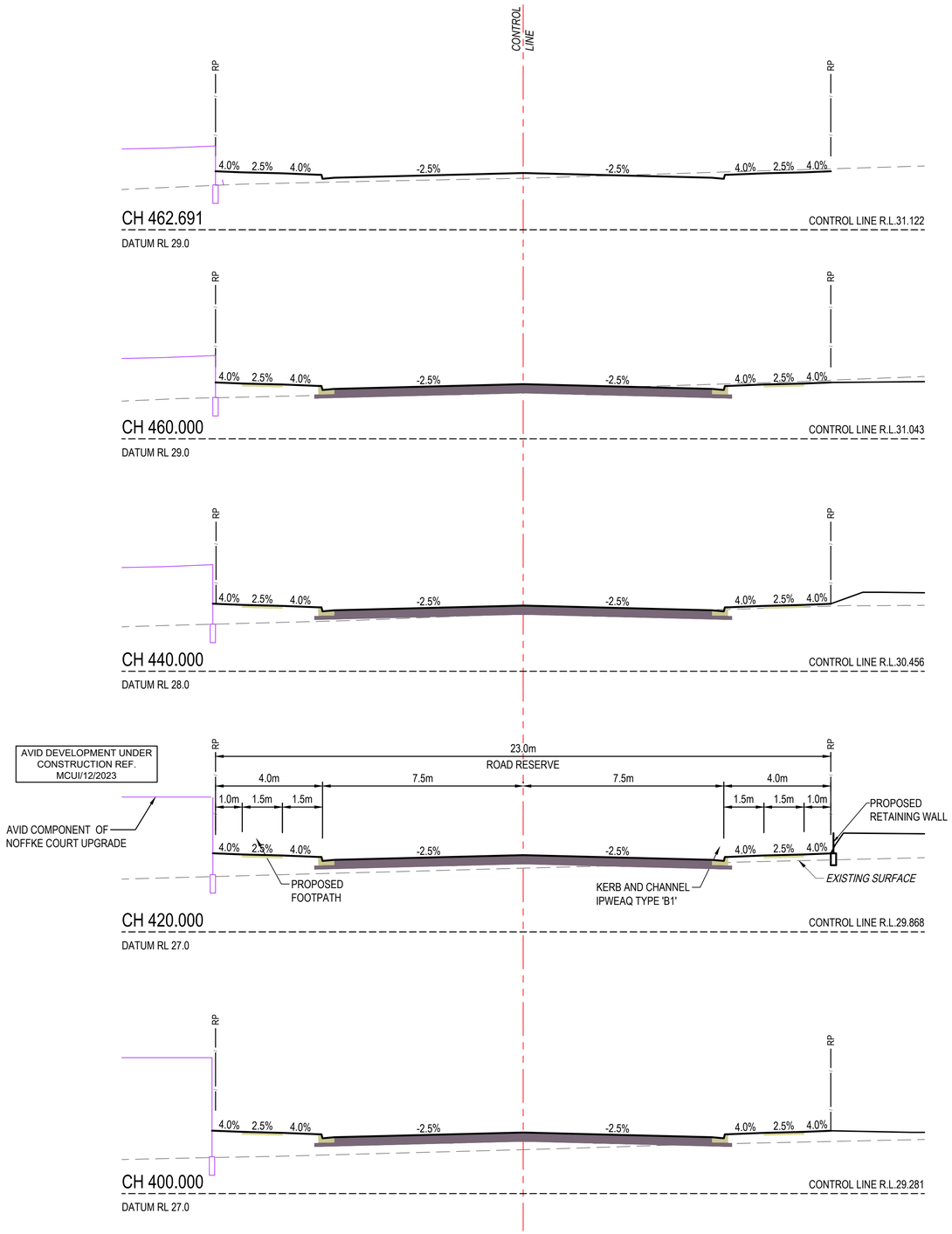
DEVEL. APPLIC. No. : | DATE : 28-10-25

PROJECT LEADER : FRASER LUCAS | DESIGNER : TG

DRAFTSPERSON : MT | CHECKED : HARRISON LISTER

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

PROJECT No.:	DRAWING No. :	VERSION:
BE250124	C820	B



1 0 1 2 3 4 5m
1 : 100 (FULL SIZE)

VER.	DESCRIPTION	DATE
B	ISSUE FOR INFORMATION	28-10-25
A	ISSUE FOR INFORMATION	22-09-25

BURCHILLS ENGINEERING SOLUTIONS
GOLD COAST | BRISBANE | TOOWOOMBA
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EMAIL: ADMIN@BURCHILLS.COM.AU
COOTE BURCHILLS ENGINEERING PTY LTD
ABN 76 166 942 365

CLEINT :
GDM PROPERTY

DRAWING TITLE :
PRELIMINARY COLLECTOR ROAD CROSS SECTION SHEET 2

PROJECT :
1-15 & 20 CALUME AND 43 NOFFKE COURT EXTERNAL ROADWORKS UPGRADES

PRELIMINARY
NOT FOR CONSTRUCTION OR TENDER

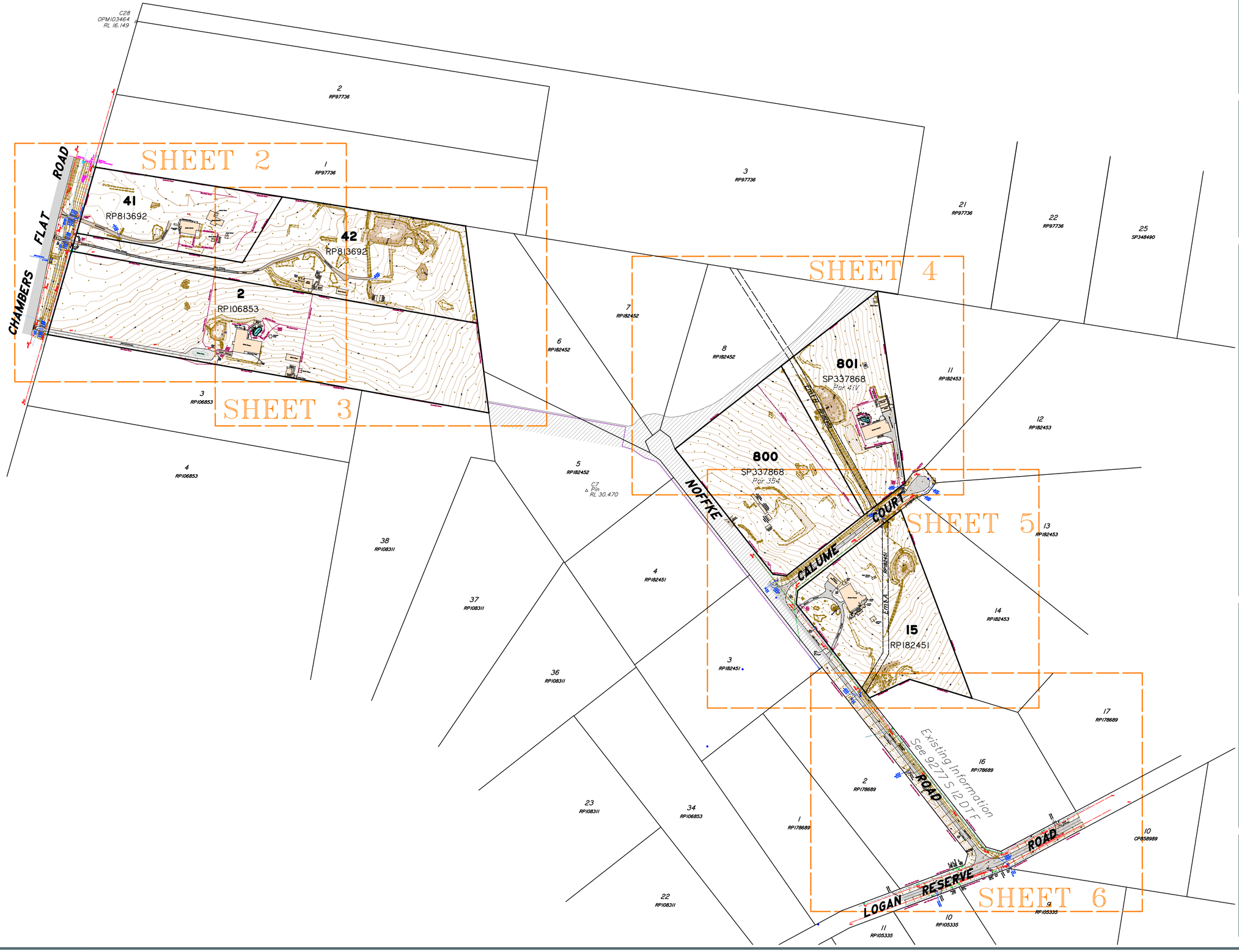
SCALE AT FULL SIZE (A1) :

DEVEL. APPLIC. No. :
DATE : 28-10-25
PROJECT LEADER : FRASER LUCAS
DESIGNER : TG
DRAFTSPERSON : MT
CHECKED : HARRISON LISTER

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

PROJECT No.:	DRAWING No. :	VERSION:
BE250124	C822	B

Appendix C – Site Survey



LEGEND

Quality levels are shown on linetypes along with service type eg. E(A) — First Letter is the Service (Elec) and the second is Quality Level (A)

	by Survey	by Records
U/G ELECTRICITY	E(A) E(B)	E(C) E(D)
O/H ELECTRICITY	E E	E E
O/H TELECOMMUNICATIONS	T T	T T
U/G TELECOMMUNICATIONS	T(A) T(B)	T(C) T(D)
U/G DRAINAGE	D(A) D(B)	D(C) D(D)
SEWERAGE	S(A) S(B)	S(C) S(D)
WATER	W(A) W(B)	W(C) W(D)
GAS	G(A) G(B)	G(C) G(D)
FENCE	// //	

SYMBOLS

Sewer Manhole	SMH
Gully Trap	GT
Stormwater Manhole	SWMH
Fire Hydrant	FH
Valve	V
Water Meter	WM
Electricity Box / Pillar	EBox
Electric Light Pole	ELP
Power Pole	PP
Electricity Manhole	EMH
Electricity Pit	EPit
Traffic Signal Pit	TrPit
Traffic Light	TL
Telecommunications Manhole	TMH
Telecommunications Pit	TPit
Tree / Shrub	

ABBREVIATIONS

MH	Manhole
SL	Surface Level
IL	Invert Level
BM	Bench Mark
Ø	Diameter
RCP	Reinforced Concrete Pipe
GI	Galvanised Iron
Ø, H, S	Trunk diameter, Height, Spread (canopy diameter)

NOTES

This Plan has been prepared from a combination of field survey and existing records for the purpose of showing the physical features of the land to assist in designing future development, and should not be used for any other purpose.

The title boundaries shown hereon were not verified or marked at the time of survey, but were determined by existing title dimensions and occupation (where available), not by field measurement. As such, these dimensions could be out of date and incorrect by modern standards. This plan should not be used for building to boundary, or to prescribed set-backs, without further boundary survey.

Services shown hereon were located where possible by field survey. If not able to be so located, known services have been shown from the records of the relevant authorities or service providers where available and have been noted accordingly on this plan. All services shown from records only will need verification prior to, or during work on site.

Prior to any demolition, excavation or construction on site, the relevant authority should be contacted for:

* Verification of all services plotted from records only, and
* Possible location of any services altered since this survey was completed or any new services installed either on or adjacent to the site.

Before starting any demolition, excavation or construction on the site, the relevant person should make an independent and updated enquiry of "dial before you dig" and any relevant service providers to ascertain the existence of further services (if any) and the accurate location of those not able to have been surveyed at the time of preparing this plan.

* No responsibility can be accepted by Saunders Havill Group Pty Ltd, for any damage caused to any underground service or any loss or injury so suffered if enquiry and verification have not been completed in accordance with this note.

** This note is an integral part of this plan/data. Reproduction of this plan or any part of it without this note being included in full will render the information shown on such reproduction invalid and not suitable for use.

QUALITY LEVELS

This plan shows Quality classifications of sub surface utility data as per AS5488-2013. The following classifications apply.

Quality Level D - (least accurate level and if used on its own has a high risk of damage) QL-D information is generally obtained from existing records provided by utilities as a result of a Dial Before You Dig enquiry being lodged. In many cases the asset depicted on the plan is in a schematic format only and intended only to indicate its presence.

Quality Level C - (low accuracy and a high risk of damage) Is described as a surface feature correlation or an interpretation of the approximate location and attributes of a subsurface utility asset using a combination of existing records and site survey of visible evidence – for example you can see the pit lids shown on the plan but the actual position of underground connection between pits is still assumed.

Quality Level B - (significant risk reduction) Provides relative subsurface feature locations in three dimensions. The minimum requirement for QL-B is relative spatial position, this can be achieved via an electromagnetic frequency locating device. An electronic location provided by a DBYD Certified Locator to QL-B standard would have a maximum horizontal tolerance of plus or minus 300mm and a maximum vertical tolerance of plus or minus 500mm.

Quality Level A - (meets location accuracy standards for minimum risk when excavating) Is the highest Quality Level accuracy and consists of positive identification of the attribute and location of a subsurface utility at a point to an absolute spatial position in three dimensions. It is the only quality level that defines a subsurface utility as 'Validated'.

PROJECT COORDINATE SYSTEM NOTES

Horizontal Meridian is MGA2020 (Zone 56)
Project coordinates are based on plane or ground distances.
The coordinate origin is based on truncated values for PSM103464.

Base Point for MGA transformations: PM103464 (Stn C28)
Project Coordinate: 9077.092 E, 34045.750 N
MGA2020 Coordinate: 509 077.092 E, 6 934 045.750 N
Rotation Project to MGA: none
Scale Factor: Project x 0.999571 = MGA
Reverse Scale Factor: MGA x 1.000429 = Project

Saunders Havill
BOWEN HILLS | SPRINGFIELD
1300 123 744 | mail@saundershavill.com

N

ISSUES				
NO.	DRAWN	DATE	DESCRIPTION	CHECKED
A	CM	12.09.2025	ORIGINAL ISSUE	JE

LOT DESCRIPTION
LOT 2 ON RP106853, LOT 15 ON RP182451, LOTS 41 & 42 ON RP813692 & LOTS 800 & 801 ON SP337868

LOCALITY:
LOGAN RESERVE

LOCAL GOVERNMENT:
LOGAN CITY

SURVEYED	DATE
FS	SEPT 2025

LEVEL DATUM: AHD Der.
ORIGIN OF LEVELS: PM103464
RL OF ORIGIN: 16.149
CONTOUR INTERVAL: 0.2m

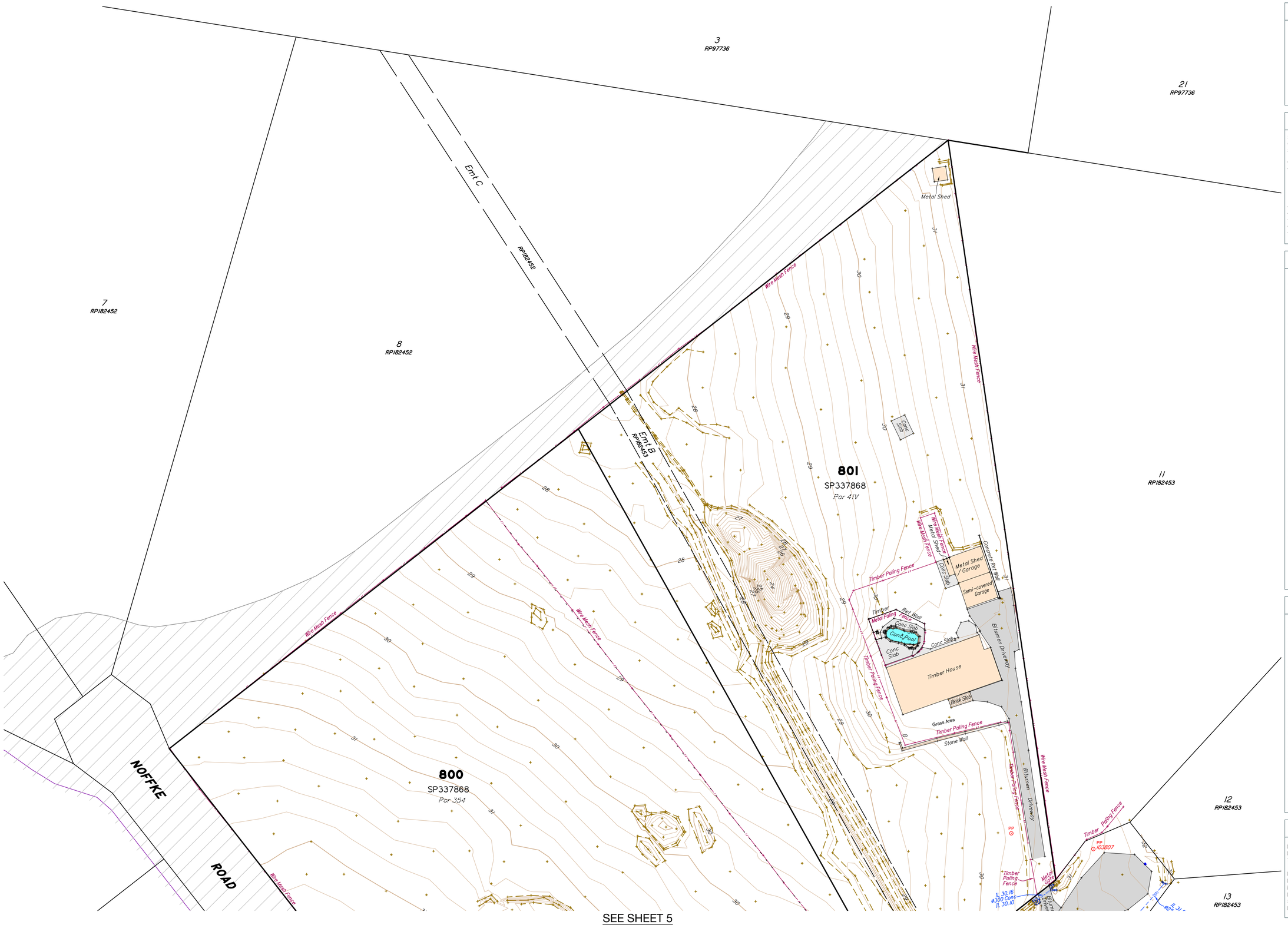
CLIENT
GDM CORPORATION PTY LTD

SCALE
1:2000@A1
1:4000@A3
0 20 100m

PROJECT
43-61 NOFFKE COURT,
LOGAN RESERVE

DRAWING TITLE
DETAIL PLAN
SHEET 1 OF 6
(KEY MAP)

DRAWING NO.
12685 S 01 DT A



SEE SHEET 5

LEGEND

Quality levels are shown on linetypes along with service type eg. E(A) — First Letter is the Service (Elec) and the second is Quality Level (A)

	by Survey	by Records
U/G ELECTRICITY	E(A) E(B)	E(C) E(D)
O/H ELECTRICITY	E E	E E
O/H TELECOMMUNICATIONS	T T	T T
U/G TELECOMMUNICATIONS	T(A) T(B)	T(C) T(D)
U/G DRAINAGE	D(A) D(B)	D(C) D(D)
SEWERAGE	S(A) S(B)	S(C) S(D)
WATER	W(A) W(B)	W(C) W(D)
GAS	G(A) G(B)	G(C) G(D)
FENCE	// //	

SYMBOLS

Sewer Manhole	SMH
Gully Trap	GT
Stormwater Manhole	SWMH
Fire Hydrant	FH
Valve	V
Water Meter	WM
Electricity Box / Pillar	EBox
Electric Light Pole	ELP
Power Pole	PP
Electricity Manhole	EMH
Electricity Pit	EPit
Traffic Signal Pit	TrPit
Traffic Light	TL
Telecommunications Manhole	TMH
Telecommunications Pit	TPit
Tree / Shrub	

ABBREVIATIONS

MH	Manhole
SL	Surface Level
IL	Invert Level
BM	Bench Mark
Ø	Diameter
RCP	Reinforced Concrete Pipe
GI	Galvanised Iron
Ø, H, S	Trunk diameter, Height, Spread (canopy diameter)

NOTES

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* Possible location of any services altered since this survey was completed or any new services installed either on or adjacent to the site.

Before starting any demolition, excavation or construction on the site, the relevant person should make an independent and updated enquiry of "dial before you dig" and any relevant service providers to ascertain the existence of further services (if any) and the accurate location of those not able to have been surveyed at the time of preparing this plan.

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** This note is an integral part of this plan/data. Reproduction of this plan or any part of it without this note being included in full will render the information shown on such reproduction invalid and not suitable for use.

QUALITY LEVELS

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Quality Level D - (least accurate level and if used on its own has a high risk of damage) QL-D information is generally obtained from existing records provided by utilities as a result of a Dial Before You Dig enquiry being lodged. In many cases the asset depicted on the plan is in a schematic format only and intended only to indicate its presence.

Quality Level C - (low accuracy and a high risk of damage) Is described as a surface feature correlation or an interpretation of the approximate location and attributes of a subsurface utility asset using a combination of existing records and site survey of visible evidence – for example you can see the pit lids shown on the plan but the actual position of underground connection between pits is still assumed.

Quality Level B - (significant risk reduction) Provides relative subsurface feature locations in three dimensions. The minimum requirement for QL-B is relative spatial position, this can be achieved via an electromagnetic frequency locating device. An electronic location provided by a DBYD Certified Locator to QL-B standard would have a maximum horizontal tolerance of plus or minus 300mm and a maximum vertical tolerance of plus or minus 500mm.

Quality Level A - (meets location accuracy standards for minimum risk when excavating) Is the highest Quality Level accuracy and consists of positive identification of the attribute and location of a subsurface utility at a point to an absolute spatial position in three dimensions. It is the only quality level that defines a subsurface utility as 'Validated'.

PROJECT COORDINATE SYSTEM NOTES

Horizontal Meridian is MGA2020 (Zone 56)
Project coordinates are based on plane or ground distances.
The coordinate origin is based on truncated values for PSM103464.

Base Point for MGA transformations: PM103464 (Stn C28)
Project Coordinate: 9077.092 E, 34045.750 N
MGA2020 Coordinate: 509 077.092 E, 6 934 045.750 N
Rotation Project to MGA: none
Scale Factor: Project x 0.999571 = MGA
Reverse Scale Factor: MGA x 1.000429 = Project

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1300 123 744 | mail@saundershavill.com

N

ISSUES				
NO.	DRAWN	DATE	DESCRIPTION	CHECKED
A	CM	12.09.2025	ORIGINAL ISSUE	JE

LOT DESCRIPTION
LOT 2 ON RP106853, LOT 15 ON RP182451, LOTS 41 & 42 ON RP813692 & LOTS 800 & 801 ON SP337868

LOCALITY:
LOGAN RESERVE

LOCAL GOVERNMENT:
LOGAN CITY

SURVEYED	DATE
FS	SEPT 2025

LEVEL DATUM: AHD Der.
ORIGIN OF LEVELS: PM103464
RL OF ORIGIN: 16.149
CONTOUR INTERVAL: 0.2m

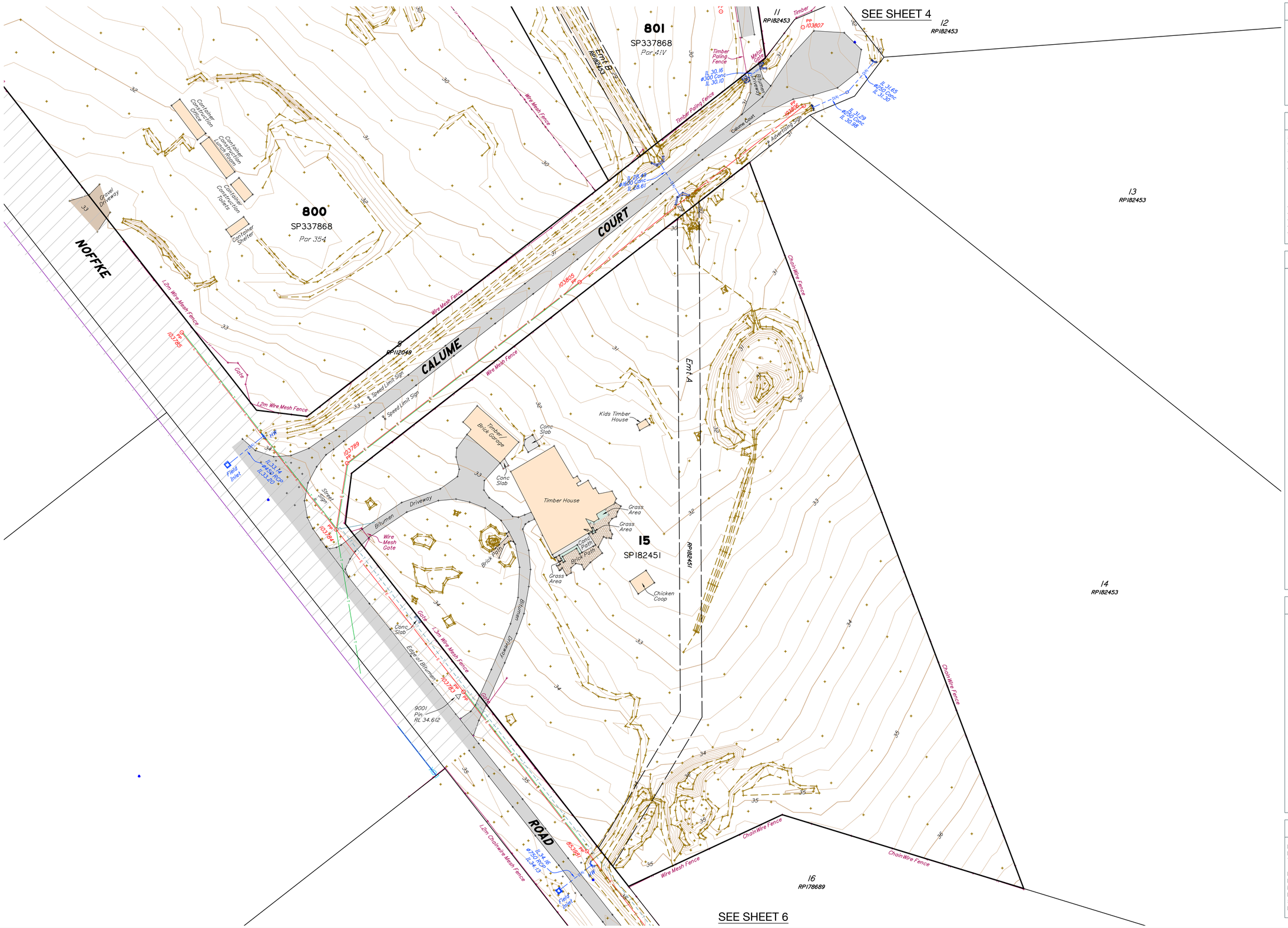
CLIENT
GDM CORPORATION PTY LTD

SCALE
1:500@A1
1:1000@A3
0 5 10 25m

PROJECT
43-61 NOFFKE COURT, LOGAN RESERVE

DRAWING TITLE
DETAIL PLAN
SHEET 4 OF 6

DRAWING NO.
12685 S 01 DT A



LEGEND

Quality levels are shown on linetypes along with service type eg.
E(A) — First Letter is the Service (Elec) and the second is Quality Level (A)

	by Survey	by Records
U/G ELECTRICITY	E(A) E(B)	E(C) E(D)
O/H ELECTRICITY	E E	E E
O/H TELECOMMUNICATIONS	T T	T T
U/G TELECOMMUNICATIONS	T(A) T(B)	T(C) T(D)
U/G DRAINAGE	D(A) D(B)	D(C) D(D)
SEWERAGE	S(A) S(B)	S(C) S(D)
WATER	W(A) W(B)	W(C) W(D)
GAS	G(A) G(B)	G(C) G(D)
FENCE	// //	

SYMBOLS

Sewer Manhole	SMH
Gully Trap	GT
Stormwater Manhole	SWMH
Fire Hydrant	FH
Valve	V
Water Meter	WM
Electricity Box / Pillar	EBox
Electric Light Pole	ELP
Power Pole	PP
Electricity Manhole	EMH
Electricity Pit	EPit
Traffic Signal Pit	TrPit
Traffic Light	TL
Telecommunications Manhole	TMH
Telecommunications Pit	TPit
Tree / Shrub	

ABBREVIATIONS

MH	Manhole
SL	Surface Level
IL	Invert Level
BM	Bench Mark
Ø	Diameter
RCP	Reinforced Concrete Pipe
GI	Galvanised Iron
Ø, H, S	Trunk diameter, Height, Spread (canopy diameter)

NOTES

This Plan has been prepared from a combination of field survey and existing records for the purpose of showing the physical features of the land to assist in designing future development, and should not be used for any other purpose.

The title boundaries shown hereon were not verified or marked at the time of survey, but were determined by existing title dimensions and occupation (where available), not by field measurement. As such, these dimensions could be out of date and incorrect by modern standards. This plan should not be used for building to boundary, or to prescribed set-backs, without further boundary survey.

Services shown hereon were located where possible by field survey. If not able to be so located, known services have been shown from the records of the relevant authorities or service providers where available and have been noted accordingly on this plan. All services shown from records only will need verification prior to, or during work on site.

Prior to any demolition, excavation or construction on site, the relevant authority should be contacted for:

* Verification of all services plotted from records only, and
* Possible location of any services altered since this survey was completed or any new services installed either on or adjacent to the site.

Before starting any demolition, excavation or construction on the site, the relevant person should make an independent and updated enquiry of "dial before you dig" and any relevant service providers to ascertain the existence of further services (if any) and the accurate location of those not able to have been surveyed at the time of preparing this plan.

* No responsibility can be accepted by Saunders Havill Group Pty Ltd, for any damage caused to any underground service or any loss or injury so suffered if enquiry and verification have not been completed in accordance with this note.

** This note is an integral part of this plan/data. Reproduction of this plan or any part of it without this note being included in full will render the information shown on such reproduction invalid and not suitable for use.

QUALITY LEVELS

This plan shows Quality classifications of sub surface utility data as per AS5488-2013. The following classifications apply.

Quality Level D - (least accurate level and if used on its own has a high risk of damage) QL-D information is generally obtained from existing records provided by utilities as a result of a Dial Before You Dig enquiry being lodged. In many cases the asset depicted on the plan is in a schematic format only and intended only to indicate its presence.

Quality Level C - (low accuracy and a high risk of damage) Is described as a surface feature correlation or an interpretation of the approximate location and attributes of a subsurface utility asset using a combination of existing records and site survey of visible evidence – for example you can see the pit lids shown on the plan but the actual position of underground connection between pits is still assumed.

Quality Level B - (significant risk reduction) Provides relative subsurface feature locations in three dimensions. The minimum requirement for QL-B is relative spatial position, this can be achieved via an electromagnetic frequency locating device. An electronic location provided by a DBYD Certified Locator to QL-B standard would have a maximum horizontal tolerance of plus or minus 300mm and a maximum vertical tolerance of plus or minus 500mm.

Quality Level A - (meets location accuracy standards for minimum risk when excavating) Is the highest Quality Level accuracy and consists of positive identification of the attribute and location of a subsurface utility at a point to an absolute spatial position in three dimensions. It is the only quality level that defines a subsurface utility as 'Validated'.

PROJECT COORDINATE SYSTEM NOTES

Horizontal Meridian is MGA2020 (Zone 56)
Project coordinates are based on plane or ground distances.
The coordinate origin is based on truncated values for PSM103464.

Base Point for MGA transformations: PM103464 (Stn C28)
Project Coordinate: 9077.092 E, 34045.750 N
MGA2020 Coordinate: 509 077.092 E, 6 934 045.750 N
Rotation Project to MGA: none
Scale Factor: Project x 0.999571 = MGA
Reverse Scale Factor: MGA x 1.000429 = Project

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N

ISSUES				
NO.	DRAWN	DATE	DESCRIPTION	CHECKED
A	CM	12.09.2025	ORIGINAL ISSUE	JE

LOT DESCRIPTION
LOT 2 ON RP106853, LOT 15 ON RP182451, LOTS 41 & 42 ON RP813692 & LOTS 800 & 801 ON SP337868

LOCALITY:
LOGAN RESERVE

LOCAL GOVERNMENT:
LOGAN CITY

SURVEYED	DATE
FS	SEPT 2025

LEVEL DATUM: AHD Der.
ORIGIN OF LEVELS: PM103464
RL OF ORIGIN: 16.149
CONTOUR INTERVAL: 0.2m

CLIENT
GDM CORPORATION PTY LTD

SCALE
1:500@A1
1:1000@A3
0 5 10 25m

PROJECT
43-61 NOFFKE COURT, LOGAN RESERVE

DRAWING TITLE
DETAIL PLAN
SHEET 5 OF 6

DRAWING NO.
12685 S 01 DT A

Appendix D – Code Compliance

9.4.3 Infrastructure code

9.4.3.1 Application

1. This code applies to:
    a. material change of use:
        i. that is accepted development (subject to requirements) or code assessable and for which the Infrastructure code is identified in the 'assessment benchmarks for assessable development and requirements for accepted development' column in a table of assessment in section 5.5 - Categories of development and assessment - Material change of use in Part 5 - Tables of assessment;
        ii. that is made impact assessment in a table of assessment in section 5.5 - Categories of development and assessment - Material change of use or section 5.9 - Categories of development and assessment - Local plans in Part 5 - Tables of assessment;
    b. reconfiguring a lot:
        i. that is code assessable and for which the Infrastructure code is identified in the 'assessment benchmarks for assessable development and requirements for accepted development' column in Table 5.6.1 - Reconfiguring a lot in Part 5 - Tables of assessment;
        ii. made impact assessment in Table 5.6.1 - Reconfiguring a lot in Part 5 - Tables of assessment;
    c. operational work that is infrastructure work:
        i. that is accepted development (subject to requirements) or code assessable and for which the Infrastructure code is identified in the 'assessment benchmarks for assessable development and requirements for accepted development' column Table 5.8.1 - Operational work in Part 5 - Tables of assessment.
2. When using this code, reference should be made to section 5.3.2 - Determining the category of development and category of assessment and, where applicable, section 5.3.3 - Determining the 'assessment benchmarks for assessable development and requirements for accepted development' located in Part 5 - Tables of assessment.

9.4.3.2 Purpose

1. The purpose of the code is to ensure that infrastructure is provided to service development.
2. The purpose of the code will be achieved through the following overall outcomes:
    a. development protects the existing infrastructure and planned infrastructure networks being the:
        i. movement network;
        ii. park network;

iii. water network;
iv. sewerage network;
v. stormwater network;
vi. other networks including electricity, gas and telecommunications;
vii. land for community facilities network;

b. development other than operational work provides infrastructure that is necessary to service the development, including elements of:
i. a safe, efficient and legible road network;
ii. a safe, efficient and legible public transport network;
iii. a safe, efficient and legible cycle network;
iv. a safe, efficient and legible pedestrian network;
v. a safe, efficient and legible parks network;
vi. a safe and efficient water network;
vii. a safe and efficient sewerage network;
viii. a safe and efficient stormwater network;
ix. safe and efficient other networks including electricity, gas and telecommunications;
x. a safe and efficient road lighting network;
xi. land for a community facilities network;

c. development integrates with existing and planned infrastructure networks;
d. infrastructure is designed and constructed to deliver a standard of service that is efficient and equitable;
e. the cost to the community for the life of the infrastructure is minimised by providing for a suitable design life, ease of maintenance and ease of replacement;
f. development appropriately manages refuse and recycling storage and collection;
g. infrastructure protects personal health and safety and premises;
h. infrastructure protects environmental values.

9.4.3.3 Assessment benchmarks for assessable development and requirements for accepted development

Part A - Requirements for accepted development (subject to requirements) and assessment benchmarks for assessable development

Table 9.4.3.3.1 - Infrastructure code: accepted development (subject to requirements) and assessable development

Performance outcomes	Acceptable outcomes	Comments

For accepted development (subject to requirements) and assessable development		
Provision, design, construction and location of infrastructure		
PO1 Development is demonstrated to be capable of being serviced by necessary infrastructure.	**AO1** Reports, plans and drawings are provided in accordance with part 2 of Planning scheme policy 5 - Infrastructure.	**Complies**
PO2 Development: a. provides necessary infrastructure to service the development; b. provides that the design, construction and location of necessary infrastructure: i. protects existing and planned infrastructure networks; ii. services proposed development; iii. integrates with existing and planned infrastructure networks; iv. delivers a standard of service that is efficient and equitable; v. minimises the cost to the community for the life of the infrastructure by providing a suitable design life, ease of maintenance and ease of replacement; vi. protects personal health, safety and premises; vii. protects environmental values.	**AO2** Development: a. in a water supply service area connects to the water network in accordance with the SEQ Water Supply and Sewerage Design and Construction Code; b. not in a water supply service area provides a tank with a minimum storage capacity of 45,000 litres; c. in a sewerage supply service area connects to the waste water network in accordance with the SEQ Water Supply and Sewerage Design and Construction Code; d. not in a sewerage supply service area complies with part 1 of the Queensland Plumbing and Wastewater Code; e. provides stormwater infrastructure in accordance with part 3.6 of Planning scheme policy 5 - Infrastructure; f. provides a movement network infrastructure in accordance with part 3.4 of Planning scheme policy 5 - Infrastructure; g. provides parks in accordance with part 3.12 of Planning scheme policy 5 -	**Complies**

	Infrastructure; h. provides road lighting in accordance with part 3.5 of Planning scheme policy 5 - Infrastructure; i. provides electricity reticulation in accordance with part 3.8 of Planning scheme policy 5 - Infrastructure; j. provides gas and telecommunications reticulation in accordance with part 3.9 of Planning scheme policy 5 - Infrastructure. k. is consistent with the general planning layouts in part 7.2 of Planning scheme policy 5 - Infrastructure. Editor's note - The delivery of any part of a network identified in the plans for trunk infrastructure is governed by Part 4 - Local government infrastructure plan.	
Location of development		
PO3 Development is located to protect trunk infrastructure networks.	**AO3** Development is located outside a network identified in Local government infrastructure plan map LGIP-03.00 to 08.00 Plans for trunk infrastructure in Schedule 3 - Local government infrastructure plan mapping and tables.	**Complies**
Fire fighting		
PO4 Development in a water service area accessed by common private title provides: a. fire hydrant infrastructure; b. unimpeded access for emergency services vehicles. Editor's note - The term common private title refers to areas such as access roads in community title developments or	**AO4** Development in a water service area involving a material change of use or reconfiguring a lot where, or to be, accessed by common private title ensures that fire hydrant placement and technical requirements for streets and access ways are in accordance with:	**Complies**

strata title unit access, which are private and under group or body corporate control.	a. Australian Standard (AS) 2419.1 - 2005 *Fire hydrant installations*; b. QFES: *Fire Hydrant and vehicle access guidelines for residential, commercial and industrial lots*.	
PO5 Development not in a water service area provides sufficient water storage with adequate pressure, volume and flow to service development for fire fighting purposes.	**AO5** Development: a. is connected to a reticulated water supply scheme that has sufficient flow and pressure characteristics for fire fighting purposes at all times with a minimum pressure and flow of 10 litres per second at 200kPa; or b. has on-site water storage in accordance with Table 9.4.3.3.2 - Water storage for fire fighting, dedicated or retained for fire fighting purposes that is made of fire resistant materials and is: i. a separate tank; or ii. a reserve section in the bottom part of the main water supply tankwater tank. Editor's note - The requirement in AO5 is: - in addition to the requirement for potable water supply/storage in AO2 in Table 9.4.3.3.1 - Infrastructure code: accepted development (subject to requirements) and assessable development; - reflected in AO5 in Table 8.2.3.3.1 - Bushfire hazard overlay code: accepted development (subject to requirements) and assessable development.	**Complies**
Waste management		
PO6 Development provides refuse and recycling	**AO6.1** Development provides refuse and recycling	**Complies**

collection and storage facilities that are located and managed so that adverse impacts on building occupants, neighbouring properties and the public realm are minimised.	collection and storage facilities in accordance with Planning scheme policy 9 - Waste management. **AO6.2** Development ensures that the location and design of refuse and recycling collection and storage facilities does not have any adverse impact including odour, noise or visual impacts on the amenity of land uses within or adjoining the development. Note - Planning scheme policy 9 - Waste management provides guidance on how to achieve this outcome.	
Disposal of trade waste		
PO7 The disposal of trade waste in a sewerage supply service area does not adversely affect the sewerage network.	**AO7** The disposal of trade waste in a sewerage supply service area complies with the sewer admission standards in section 3.2.6 - Sewer admission standards in Planning scheme policy 3 - Environmental management.	**Not Applicable**
Roof water drainage and surface water drainage		
PO8 Development provides stormwater infrastructure for the drainage of the premises so as not to cause any of the following: a. ponding of stormwater on the premises; b. a hazard to personal health and safety; c. damage to premises; d. an increased risk of flooding to premises within the catchment.	**AO8** Development complies with the standards for stormwater infrastructure specified in part 3.6 of Planning scheme policy 5 - Infrastructure.	**Complies**
Natural flow of surface water		

PO9 Development provides that the natural flow of surface water is: a. not altered so as to cause a risk to personal health and safety or damage to property; b. not increased in intensity, velocity or frequency; c. not concentrated onto adjoining premises.	**AO9** Development complies with the standards for stormwater infrastructure specified in part 3.6 of Planning scheme policy 5 - Infrastructure.	**Complies**
Water sensitive urban design		
PO10 Development which provides stormwater infrastructure incorporates water sensitive urban design principles having regard to: a. protecting existing natural features and ecological processes; b. protecting the natural hydrologic behaviour of catchments; c. protecting the existing natural flow and water quality regimes of waterways; d. protecting water quality of surface and ground waters; e. minimising demand on the water network; f. minimising sewage discharges to the natural environment; g. integrating water into the landscape to enhance visual and ecological values.	**AO10** Development complies with the standards for stormwater infrastructure specified in part 3.6 of Planning scheme policy 5 - Infrastructure.	**Complies**
Movement network		
PO11 The projected traffic levels for a use do not adversely affect the planned standards of service	**AO11** Development does not cause or contribute to projected traffic levels:	**Complies**

for a road or intersection.	a. exceeding the maximum vehicle trips per day in Table 3.4.1.4.2 in Planning scheme policy 5 - Infrastructure; or b. exceeding the maximum control delays through intersections in peak periods in Table 3.4.1.4.3 in Planning scheme policy 5 - Infrastructure.	
Integrated movement concept report		
PO12 Development which generates more than 3,000 vehicle trips per average weekday is designed to integrate the movement network to minimise the transportation costs required to service the use.	**AO12** Development which generates more than 3,000 vehicle trips per average weekday provides an integrated movement concept report which integrates the planning of the movement network in accordance with part 2 and 3 of Planning scheme policy 5 - Infrastructure.	**Not Applicable**
For assessable development only		
Land use and transport integration		
PO13 Development within 400 metres of existing or future public passenger transport facilities where the total site area is 5,000m^2 or more: a. supports a road hierarchy which facilitates efficient, safe and accessible bus services connecting to existing and future public passenger transport facilities; b. enhances connectivity between existing and future public passenger transport facilities and other transport modes; c. optimises the walkable catchment to existing and future public passenger	**AO13** No acceptable outcome provided.	**Not Applicable**

transport facilities; d. provides for direct and safe access to and use of existing or future public passenger transport facilities. Note - SPP code: Land use and transport integration in Appendix 4 of the state planning policy provides guidance to achieve this outcome.		

Table 9.4.3.3.2 - Water storage for fire fighting

Column 1 Lot size / use type	Column 2 Water requirement
For each residential lot:	
a. less than 1,000m^2	5,000 litres
b. between 1,000m^2 and less than 1 hectare	10,000 litres
c. greater than 1 hectare	20,000 litres
Multiple dwelling	5,000 litres per dwelling up to a maximum of 20,000 litres
A use other than Multiple dwelling	5,000 litres or the prevailing rural fire brigade standard

9.4.2 Filling and excavation code

9.4.2.1 Application

1. This code applies to:
    a. material change of use:
        i. that is accepted development (subject to requirements) or code assessable and for which the Filling and excavation code is identified in the 'assessment benchmarks for assessable development and requirements for accepted development' column in a table of assessment in section 5.5 - Categories of development and assessment - Material change of use in Part 5 - Tables of assessment;
        ii. that is made impact assessment in a table of assessment in section 5.5 - Categories of development and assessment - Material change of use or section 5.9 - Categories of development and assessment - local plans in Part 5 - Tables of assessment;
    b. reconfiguring a lot:
        i. that is code assessable and for which the Filling and excavation code is identified in the 'assessment benchmarks for assessable development and requirements for accepted development' column in Table 5.6.1 - Reconfiguring a lot in Part 5 - Tables of assessment;
        ii. that is impact assessable in Table 5.6.1 - Reconfiguring a lot in Part 5 - Tables of assessment;
    c. operational work that is accepted development (subject to requirements) and code assessable operational work - filling or excavation for which the Filling and excavation code is identified in the 'assessment benchmarks for assessable development and requirements for accepted development' column in Table 5.8.1 - Operational work.
2. When using this code, reference should be made to section 5.3.2 - Determining the category of development and category of assessment and, where applicable, section 5.3.3 - Determining the 'assessment benchmarks for assessable development and requirements for accepted development' located in Part 5 - Tables of assessment.

9.4.2.2 Purpose

1. The purpose of the code is to protect premises, people and natural processes from adverse impacts associated with filling or excavation.
2. The purpose of the code will be achieved through the following overall outcomes:
    a. development protects:
        i. natural physical processes and ecosystems;
        ii. existing and planned infrastructure;
        iii. personal health and safety and premises;

iv. visual amenity.

9.4.2.3 Assessment benchmarks for assessable development and requirements for accepted development

Part A - Requirements for accepted development (subject to requirements) and assessment benchmarks for assessable development

Table 9.4.2.3.1 - Filling and excavation code: accepted development (subject to requirements) and assessable development

Performance outcomes	Acceptable outcomes	Comments
For accepted development (subject to requirements) and assessable development		
Protection of natural processes and ecosystems		
PO1 The discharge of sediments and pollutants from filling or excavation does not adversely affect a waterway or the stormwater network.	**AO1** The discharge of sediments and pollutants to a waterway or stormwater network complies with part 3.3 - Filling and excavation standards in Planning scheme policy 5 - Infrastructure.	**Complies** Sediments and pollutants will be treated via temporary sediment ponds during construction.
PO2 Topsoil and spoil stockpiled on the premises do not adversely affect natural processes and ecosystems.	**AO2** Topsoil and spoil is stockpiled to comply with part 3.3 - Filling and excavation standards in Planning scheme policy 5 - Infrastructure.	**Complies**
PO3 Filling is carried out using stable, solid and clean earth, free of organic and putrescible waste, rubbish and refuse material.	**AO3** Filling complies with part 3.3 - Filling and excavation standards in Planning scheme policy 5 - Infrastructure.	**Complies**
Protection of existing and planned infrastructure		
PO4 Filling or excavation works do not adversely affect	**AO4** Filling or excavation works comply with part 3.3 -	**Complies**

infrastructure, including any services.	Filling and excavation standards in Planning scheme policy 5 - Infrastructure.	
Protection and enhancement of personal health and safety and premises		
PO5 Filling or excavation works do not adversely affect personal health and safety.	**AO5** Filling or excavation works comply with part 3.3 - Filling and excavation standards in Planning scheme policy 5 - Infrastructure.	**Complies**
Surface water flow		
PO6 Surface water drainage does not cause any of the following: a. ponding on any premises; or b. a hazard or adversely affect personal health and safety and premises; or c. diversion or concentration of flow from or onto adjoining premises or infrastructure.	**AO6** Surface water drainage complies with part 3.3 - Filling or excavation standards in Planning scheme policy 5 - Infrastructure.	**Complies**
Batters		
PO7 A batter: a. does not adversely affect the natural physical processes and ecosystems; b. protects existing and planned infrastructure; c. is safe, stable and easily maintained; d. is landscaped to enhance visual amenity.	**AO7** A batter is designed and constructed to comply with the standards specified in 3.3.6 - Batters and retaining walls in Planning scheme policy 5 - Infrastructure.	**Complies**
Retaining walls		
PO8 A retaining wall:	**AO8** A retaining wall is designed and constructed to	**Complies**

a. is not constructed of timber and is not located on existing or proposed lot boundaries, or movement networks; b. does not adversely affect the natural physical processes and ecosystems; c. is located to avoid conflict with adjoining premises; d. is located such that existing and planned infrastructure is not adversely affected; e. protects the visual amenity of adjoining premises or a public open space; f. is located within the premises that is being filled; g. is located within the premises that is cut and is designed to take any surcharge loading allowable on the uphill lot; h. is safe and stable; i. enables easy access for maintenance.	comply with the standards specified in section 3.3.6.2 - Retaining walls in Planning scheme policy 5 - Infrastructure.	
Filling of a dam		
PO9 The filling of a dam: a. does not adversely affect the natural physical processes and ecosystems; b. creates a safe and stable surface; c. is integrated into the landscape.	**AO9** The filling of a dam complies with part 3.3 - Filling and excavation standards in Planning scheme policy 5 - Infrastructure.	**Complies**