

Water Cycle Management Plan – Proposed 20 Lot Subdivision

3 Memory Avenue, Crookwell, NSW 2583

Final Report

P2410601JR01V03

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Prepared for Blue Sox Developments

environmental science & engineering

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1 Introduction

1.1 Overview and Scope

Martens & Associates Pty Ltd (**MA**) have prepared this Integrated Cycle Management Plan (**ICMP**) to support a Development Application (**DA**) for the proposed 20 lot subdivision at 3 Memory Avenue, Crookwell, NSW 2583 (the **Site**) located within the Upper Lachlan Shire Council (**ULSC**) Local Government Area (**LGA**).

MA was engaged to provide an assessment of the effects of the proposed development in relation to stormwater and to prepare a stormwater management plan to mitigate potential adverse impacts.

This report should be read in conjunction with the civil engineering plans in Appendix A.

1.2 Site Description

A brief description of the site is provided in Table 1 below.

Table 1: Site description summary.

Item	Description
Address	3 Memory Avenue, Crookwell, NSW 2583
Lot / DP	Lot 2/DP 1283619
Site Area	Approximately 1.89 ha
Local Government Area	Upper Lachlan Shire Council
Current Zoning	R2 - Low Density Residential (NSW ePlanning Spatial Viewer)
Current Land Use	The site is currently used for residential purposes. A single dwelling and a detached garage are situated on the eastern portion of the site. Vehicle access to the garage is via an unsealed driveway connected to Memory Avenue.
Surrounding Land Use	General residential sites to the north, south and west. Crookwell Cemetery to the east.
Topography	The site generally drains towards residential properties in the east. Grades vary between 0 – 15% Site elevation ranges between approximately 922 mAHD (eastern boundary) to approximately 911 mAHD (western boundary).

1.3 Development Overview

The site will be subdivided into 20 lots across two stages. Details of each stage are outlined below:

- Stage 1:
 - Civil works for lots 1 – 4.
 - Interallotment drainage line across Lot 1 for future Stage 2.

- Stage 2:
 - Civil works for lots 5 – 20.
 - Provision of stormwater conveyance system for interallotment drainage.
 - Civil and drainage work upgrades to adjacent roads (Memory Avenue, Pine Avenue and McIntosh Road).

1.4 Relevant Guidelines

This report has been prepared in accordance with the following guidelines:

1. Upper Lachlan Shire Council (2010) Development Control Plan 2010.
2. Upper Lachlan Shire Council (2010) Local Environmental Plan 2010.

2 Stormwater Quantity Assessment

2.1 Stormwater Quantity Requirements

The stormwater quantity requirements for the site have been outlined in the pre-lodgement meeting with Council on 27 September 2024 (Appendix B). The proposed subdivision must ensure post development flows do not exceed pre development levels.

2.2 Stormwater Quantity Design Approach

The proposed site subdivision works do not create additional impervious areas, as such, at the subdivision stage the rate of runoff remains unchanged. Onsite detention (**OSD**) will only be required when it is proposed to develop each individual lot.

Preliminary OSD modelling has been conducted in the following sections to assess the sizing requirements of the OSD for a hypothetical future lot.

2.3 Stormwater Quantity Modelling Methodology

2.3.1 Overview

A water quantity model was developed for the site to assess the proposed OSD system. The DRAINS hydrological and hydrological modelling package was used with the ILSAX engine to determine the requirements to satisfy the requirements.

2.3.2 Approach

Sizing of the OSD was completed through iterative modelling to achieve compliance with site requirements. Modelling was undertaken for the following storms to ensure the critical discharge for each storm did not exceed the pre development site discharge, for durations ranging from 5 minutes to 2 hours:

- 0.2 EY
- 10% AEP
- 5% AEP
- 2% AEP
- 1% AEP

2.3.3 Rainfall data

Intensity Frequency Duration (**IFD**) data that was used for the model was sourced from the Bureau of Meteorology (**BoM**), for the storm events mentioned above.

2.3.4 Input Parameters

ILSAX parameters for all catchments as shown in Table 2.

Table 2: DRAINS hydrologic parameters.

Parameter	Element	Value
ILSAX parameters	Impervious area depression storage (mm)	1.0
	Supplementary area depression storage (mm)	1.0
	Grassed area depression storage (mm)	5.0
	Soil Type	3
	Antecedent Moisture Condition (AMC)	3

2.3.5 Catchments Area

2.3.5.1 Pre development catchment

The existing catchment for each future lot was assumed to be 0% impervious.

2.3.5.2 Post development catchment

The post development catchments are based on the hypothetical layout of a future lot. As there are currently no plans, recent neighbouring subdivisions were used to provide an estimate of catchments, with each lot assumed to have:

1. Roof area of 350 m².
2. Additional ancillary impervious area of 100 m² (which would include any driveways, patios and sheds).
3. The residual area considered as pervious landscaped (minimum 350 m²).

Refer to Civil Engineering Plans in Appendix A for further details.

2.4 Proposed OSD tank

A 5 kL above ground OSD tank which is able to capture dwelling roof water is proposed as OSD for each future lot, all other catchments are assumed to bypass the tank.

2.5 Water Quantity Results

Table 3: DRAINS modelling results

Storm Event	Pre Development Flow Rate (m ³ /sec)	Post Development Flow Rate (m ³ /sec)	Difference (Post – Pre)	Complies (Y/N)
0.2 EY	0.003	0.003	0.000	Y
10% AEP	0.005	0.005	0.000	Y
5% AEP	0.007	0.006	- 0.001	Y
2% AEP	0.010	0.009	- 0.001	Y
1% AEP	0.013	0.013	0.000	Y

The DRAINS modelling results (Table 3) demonstrate that the proposed 5 kL OSD is sufficient to detain peak post development flows, such that they are less than peak pre development flows.

Further refinement of the model at the design stage for each future dwelling may alter the size and configuration of the proposed OSD system. However, the performance outcomes outlined in this report will need to be achieved.

3 Stormwater Quality Assessment

3.1 Stormwater Quality Requirements

Section 4.5.2 of the Upper Lachlan Development Control Plan 2010 requires that stormwater discharging from the development not adversely impact on environmental values of the receiving waters or water quality values downstream of the development.

The proposed development must incorporate treatment methods and an approach to water management that:

1. Reduces demand for potable water,
2. Requires stormwater discharge for all proposed development be equivalent with levels and volumes of discharge for the pre developed condition of the site,
3. Maximises pervious surfaces where possible, and
4. Encourages the reuse of stormwater and greywater

3.2 Stormwater Quality Management

To meet council requirements, the following information regarding the development is noted:

1. During the subdivision stage, no additional impervious areas are proposed. As such there will be no increase to rates and volume of stormwater discharge.
2. During development of future lots, OSD (preliminary sized as 5 kL) is required for each lot to control discharge to pre development flow conditions. Refer to Section 2 for further details.
3. During development of future lots, they will be subject to BASIX requirements for water conservation. The BASIX assessment will determine rainwater tank requirements which reduce potable water demand and promote stormwater reuse.

As the site is not located within any regulated catchments (i.e., any drinking water catchments) under the SEPP (Biodiversity and Conservation) 2021, additional water quality initiatives are not required.

4 Soil and Water Management

4.1 Soil and Water Management Requirements

In regards to sediment and erosion control, Section 3.10 of Upper Lachlan Development Control Plan 2010 requires:

Developments other than a single detached dwelling that has a disturbed area, an erosion and sedimental control plan is required to be prepared in accordance with The Blue Book – Managing Urban Stormwater: Soils and Construction (Landcom, 2004).

The guidelines require a Soil and Water Management Plan (**SWMP**) for developments disturbing over 2,500 m².

4.2 Modelling Methodology

4.2.1 Overview

Revised Universal Soil Loss Equation (**RUSLE**) calculations were completed for the soil and water management assessment to determine whether temporary sediment basins are required during construction phase and their subsequent sizing.

4.2.2 Catchments

The catchment areas for each of 2 stages of development are provided in Table 4.

Table 4: Site catchments.

Catchment	Stage 1	Stage 2
Total area (Ha)	0.54	2.40
Disturbed area (Ha)	0.54	2.40

4.2.3 Input Parameters

The input parameters in Table 5,

Table 6 and Table 7 were used for the RUSLE calculations for the catchment.

Inputs were obtained from the Bureau of Meteorology, Blue Book – Managing Urban Stormwater: Soils and Construction (Landcom, 2004) and eSpade.

Table 5: Soil analysis.

Parameter	Stage 1	Stage 2
Sand percentage (%)	55	55
Silt percentage (%)	30	30
Clay percentage (%)	25	25
Dispersion percentage (%)	10	10

Parameter	Stage 1	Stage 2
Percentage of whole soil dispersible (%)	4	4
Soil texture group	C	C

Table 6: Rainfall data.

Parameter	Stage 1	Stage 2
Design rainfall depth (days)	5	5
Design rainfall depth (percentile)	75	75
x-day, y-percentile rainfall event (mm)	14.2	14.2
Rainfall intensity: 2 year, 6 hour storm	6.07	6.07

Table 7: RUSLE factors.

Parameter	Stage 1	Stage 2
Rainfall erosivity (R factor)	1040	1040
Soil erodibility (K factor)	0.05	0.05
Slope length (m)	100	100
Slope gradient (%)	9	9
Length/gradient (LS factor)	2.82	2.605
Erosion control practice (P factor)	1.3	1.3
Ground cover (C factor)	1	1

4.3 Results

The RUSLE calculation results for the proposed development during construction are presented in Table 8 and Table 9. The following observation was made:

1. A sediment basin is required for the works when total soil loss exceeds 150 m³/year. Accordingly, a basin has been proposed only for Stage 2 works.

Table 8: RUSLE calculations.

Parameter	Stage 1	Stage 2
Soil loss (t/ha/yr)	191	176
Soil loss class	2	2
Soil loss (m ³ /ha/yr)	147	135
Soil loss (m ³ / yr)	79	324
Sediment basin storage volume (m ³)	13	55
Basin required? (Y/N)	N	Y
Basin provided (Y/N)	N	Y

Table 9: Basin volumes.

Catchment	Basin surface area (m ²)	Depth of settling zone (m)	Settling zone volume (m ³)	Sediment storage volume (m ³)	Total basin volume (m ³)
Stage 2	333	0.60	200	200	400

Soil and water management calculations have been undertaken in accordance with the Blue Book – Managing Urban Stormwater: Soils and Construction (Landcom, 2004).

The results indicate sediment generation during construction activities for Stage 1 are sufficiently low that no sediment basin is required. However, during Stage 2 higher sediment generation requires a temporary sediment basin. Refer to Civil Engineering Plans in Appendix A for further details.

Appendix A - Civil Engineering Plans

PROJECT: 3 MEMORY AVE, CROOKWELL - PROPOSED 20 LOT SUBDIVISION

PLANSET: CONCEPT CIVIL ENGINEERING PLANS

CLIENT: BLUE SOX DEVELOPMENTS

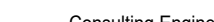


LOCALITY PLAN
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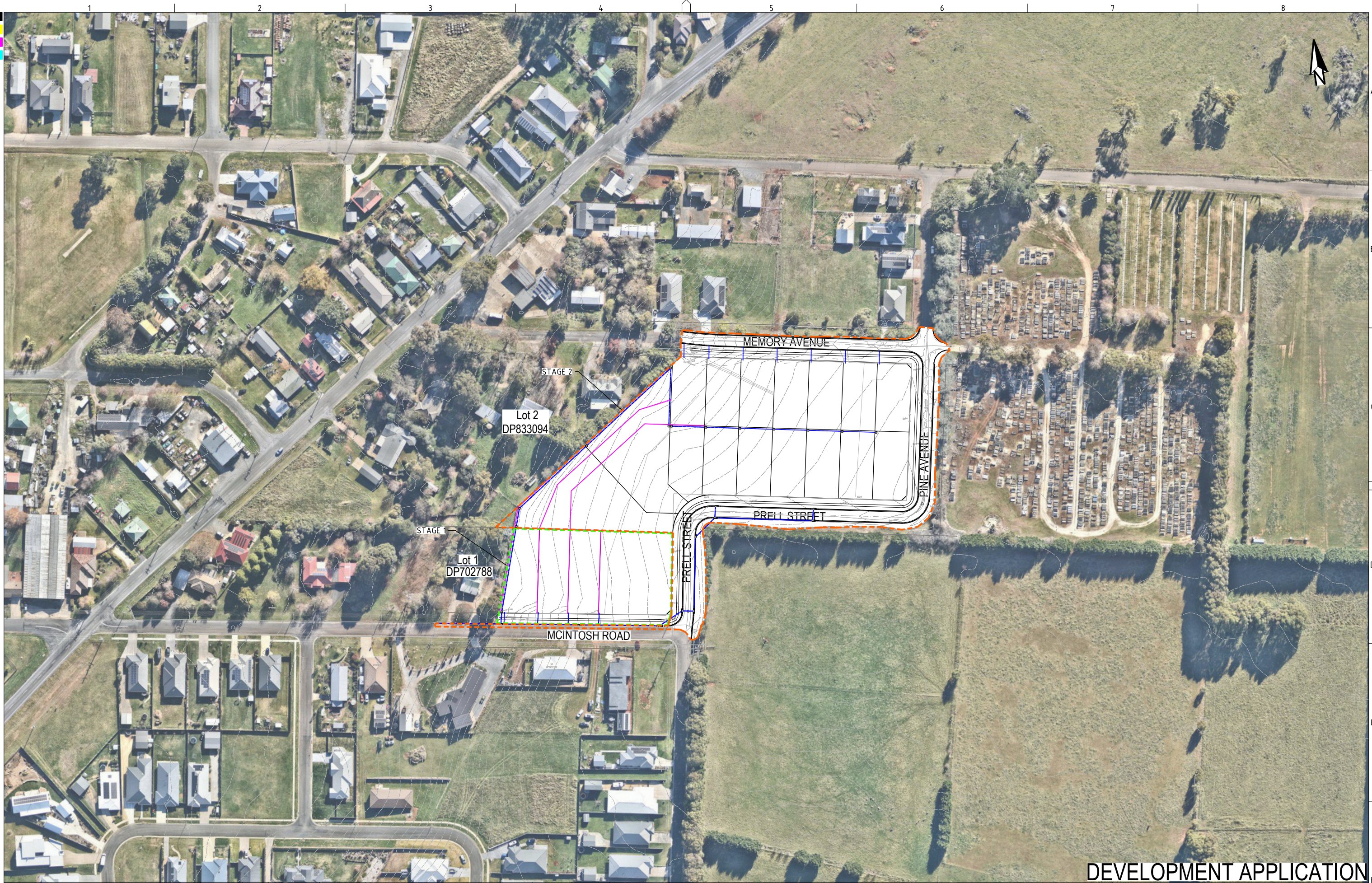
LGA: UPPER LACHLAN SHIRE COUNCIL

3 MEMORY AVE CROOKWELL NSW 2583
LOT 2/DP702788

DRAWING LIST		
DWG NO.	REV	DWG TITLE
GENERAL		
PS01-A000	E	COVER SHEET
PS01-A050	C	DEVELOPMENT OVERVIEW PLAN
PS01-A300	C	SUBDIVISION LAYOUT PLAN
CONSTRUCTION MANAGEMENT WORKS		
PS01-B100	C	STAGING PLAN
PS01-B310	E	SOIL AND WATER MANAGEMENT AND DEMOLITION PLAN (STAGE 1)
PS01-B320	D	SOIL AND WATER MANAGEMENT AND DEMOLITION PLAN (STAGE 2)
PS01-B330	C	SOIL AND WATER MANAGEMENT DETAILS
PS01-B340	C	SOIL AND WATER MANAGEMENT DETAILS - RUSLE CALCULATIONS
EARTHWORKS		
PS01-C100	C	EARTHWORKS GRADING PLAN (ULTIMATE DESIGN)
PS01-C110	C	EARTHWORKS GRADING PLAN (STAGE 1)
PS01-C120	C	EARTHWORKS GRADING PLAN (STAGE 2)
PS01-C500	C	EARTHWORKS CUT-FILL PLAN (ULTIMATE DESIGN)
PS01-C510	D	EARTHWORKS CUT-FILL PLAN (STAGE 1)
PS01-C520	C	EARTHWORKS CUT-FILL PLAN (STAGE 2)
PS01-C600	B	EARTHWORKS SITE SECTIONS (SHEET 1)
PS01-C610	B	EARTHWORKS SITE SECTIONS (SHEET 2)
PS01-C620	B	EARTHWORKS SITE SECTIONS (SHEET 3)
PS01-C630	B	EARTHWORKS SITE SECTIONS (SHEET 4)
PS01-C640	B	EARTHWORKS SITE SECTIONS (SHEET 5)
ROADWORKS		
PS01-D100	C	ROADWORKS PLAN (ULTIMATE DESIGN)
PS01-D110	D	ROADWORKS PLAN (STAGE 1)
PS01-D120	D	ROADWORKS PLAN (STAGE 2)
PS01-D200	C	ROAD 1 (21-MRC01) LONGITUDINAL SECTION AND TYPICAL SECTIONS (SHEET 1)
PS01-D210	C	ROAD 1 (21-MRC01) LONGITUDINAL SECTION AND TYPICAL SECTIONS (SHEET 2)
PS01-D200	C	COMBINED SERVICES TRENCH AND DRIVEWAY GUIDELINES DETAILS
DRAINAGE		
PS01-E100	C	DRAINAGE PLAN (ULTIMATE DESIGN)
PS01-E110	C	DRAINAGE PLAN (STAGE 1)
PS01-E120	C	DRAINAGE PLAN (STAGE 2)
PS01-E200	C	DRAINAGE DETAILS
PS01-E300	C	DRAINAGE LONGITUDINAL SECTIONS AND PIT SCHEDULES (SHEET 1)
PS01-E310	C	DRAINAGE LONGITUDINAL SECTIONS AND PIT SCHEDULES (SHEET 2)
PS01-E320	C	DRAINAGE LONGITUDINAL SECTION AND PIT SCHEDULES (SHEET 3)
PS01-E600	C	OSD CATCHMENT PLAN, MODEL AND RESULTS
STRUCTURE AND PAVEMENTS		
PS01-G400	C	SIGNAGE, LINEMARKING & STREETSCAPE PLAN

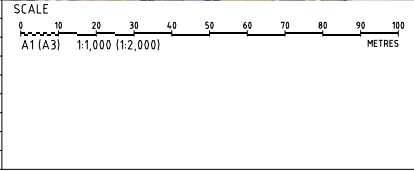
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C	MINOR AMENDMENTS	20/03/2025	SSH	RL/PC	AVG	GT										
B	MINOR AMENDMENTS	11/03/2025	SSH	RL/PC	AVG	GT										
A	INITIAL RELEASE	25/02/2025	SSH	RL/PC	AVG	GT										
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DEVELOPMENT APPLICATION



DEVELOPMENT APPLICATION

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C	MINOR AMENDMENTS	20/03/2025	SSH	RL/PC	AVG	GT
B	MINOR AMENDMENTS	11/03/2025	SSH	RL/PC	AVG	GT
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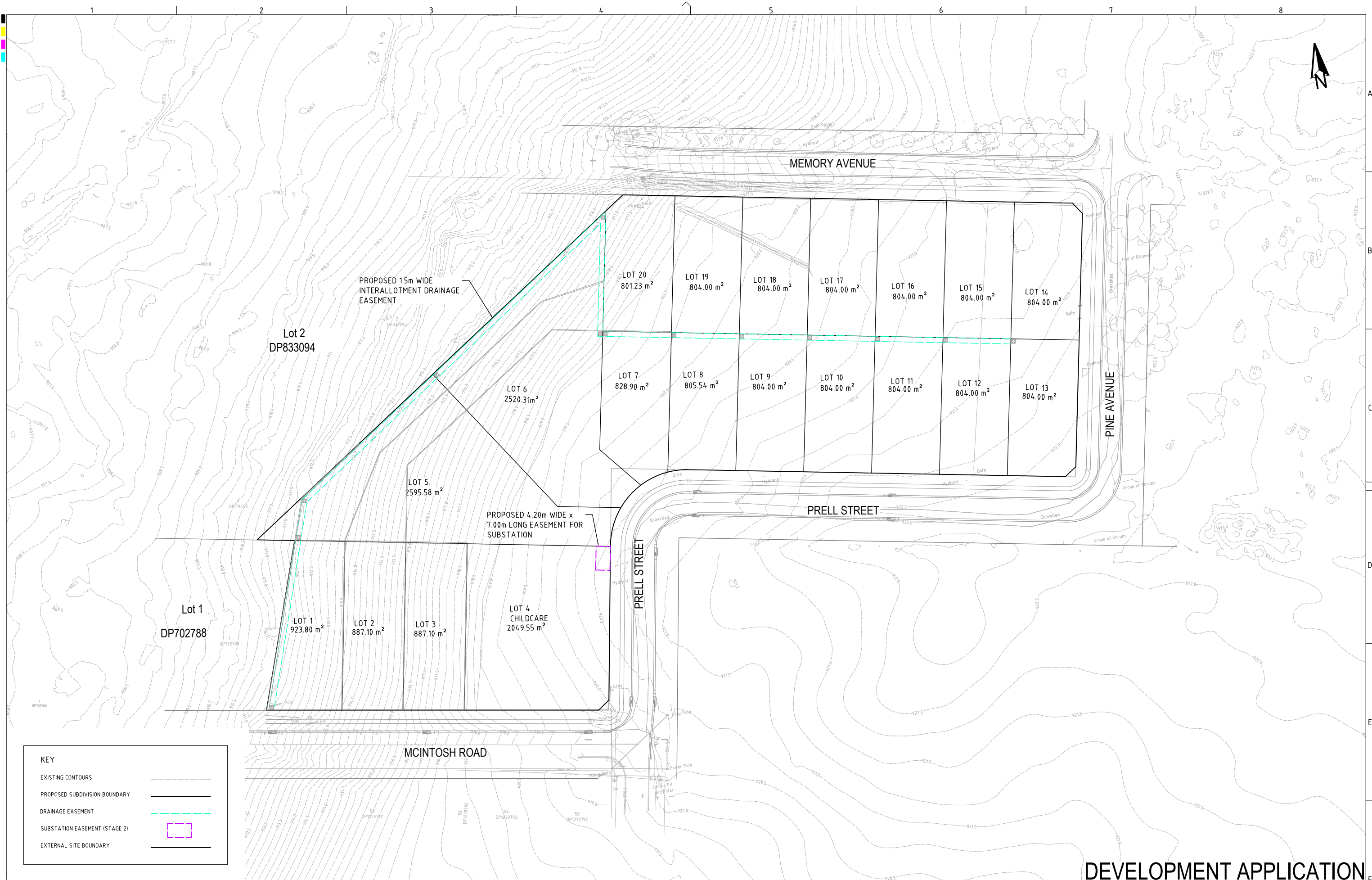
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PROPOSED 20 LOT SUBDIVISION
CONCEPT CIVIL ENGINEERING PLANS
3 MEMORY AVE CROOKWELL NSW 2583



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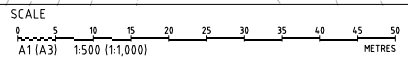
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P2410601	PS01	R05	PS01-A050	C



KEY	
EXISTING CONTOURS	
PROPOSED SUBDIVISION BOUNDARY	
DRAINAGE EASEMENT	
SUBSTATION EASEMENT (STAGE 2)	
EXTERNAL SITE BOUNDARY	

REV	DESCRIPTION	DATE	DRAWN	DESIGNED	CHECKED	APPROVED
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B	MINOR AMENDMENTS	11/03/2025	SSH	RL/PC	AVG	GT
A	INITIAL RELEASE	25/02/2025	SSH	RL	AVG	GT



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DATUM
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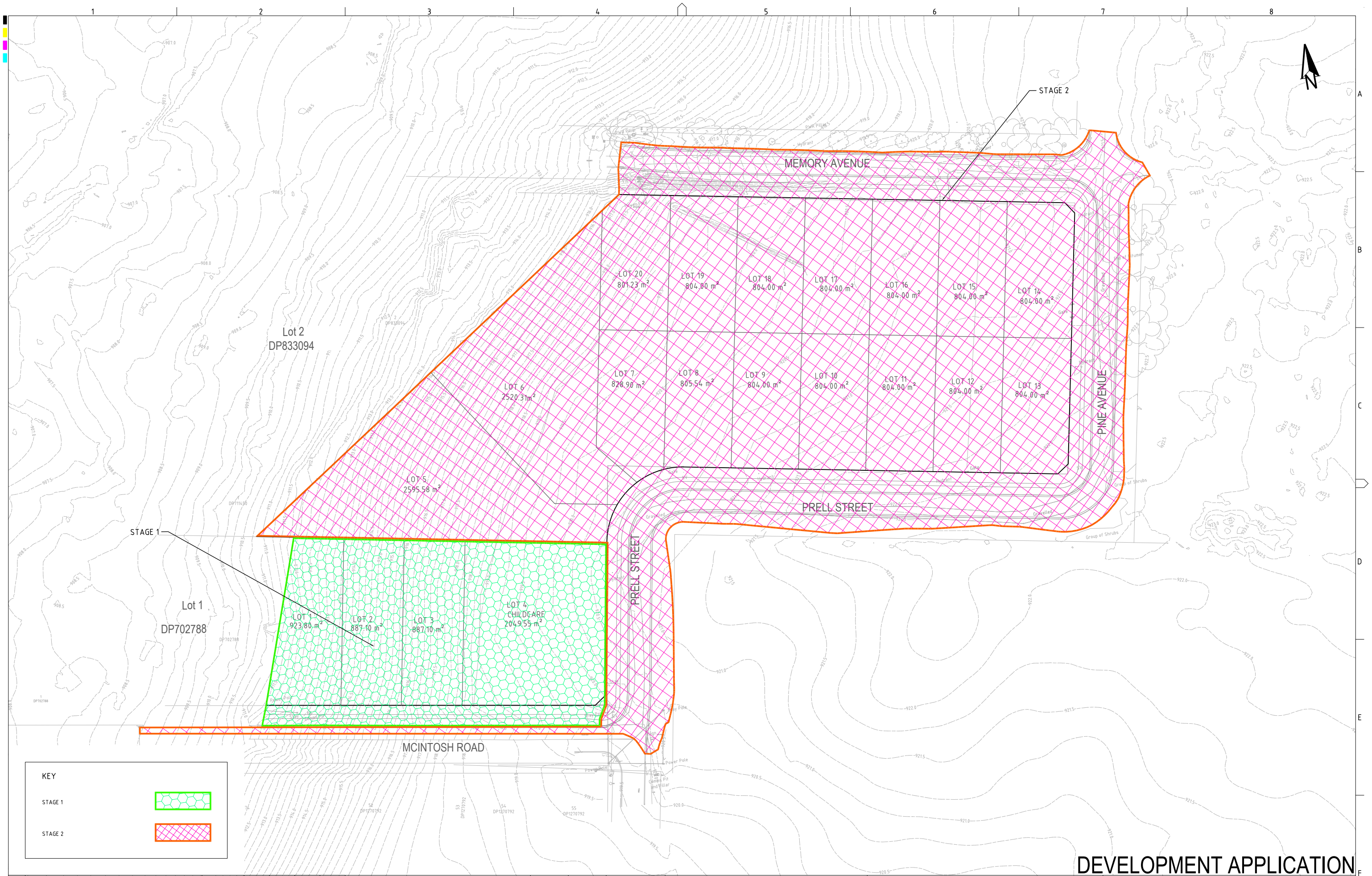
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SUBDIVISION LAYOUT PLAN				
PROJECT NO.	PLANSET NO.	RELEASE NO.	DRAWING NO.	REVISION
P2410601	PS01	R05	PS01-A300	C

DEVELOPMENT APPLICATION



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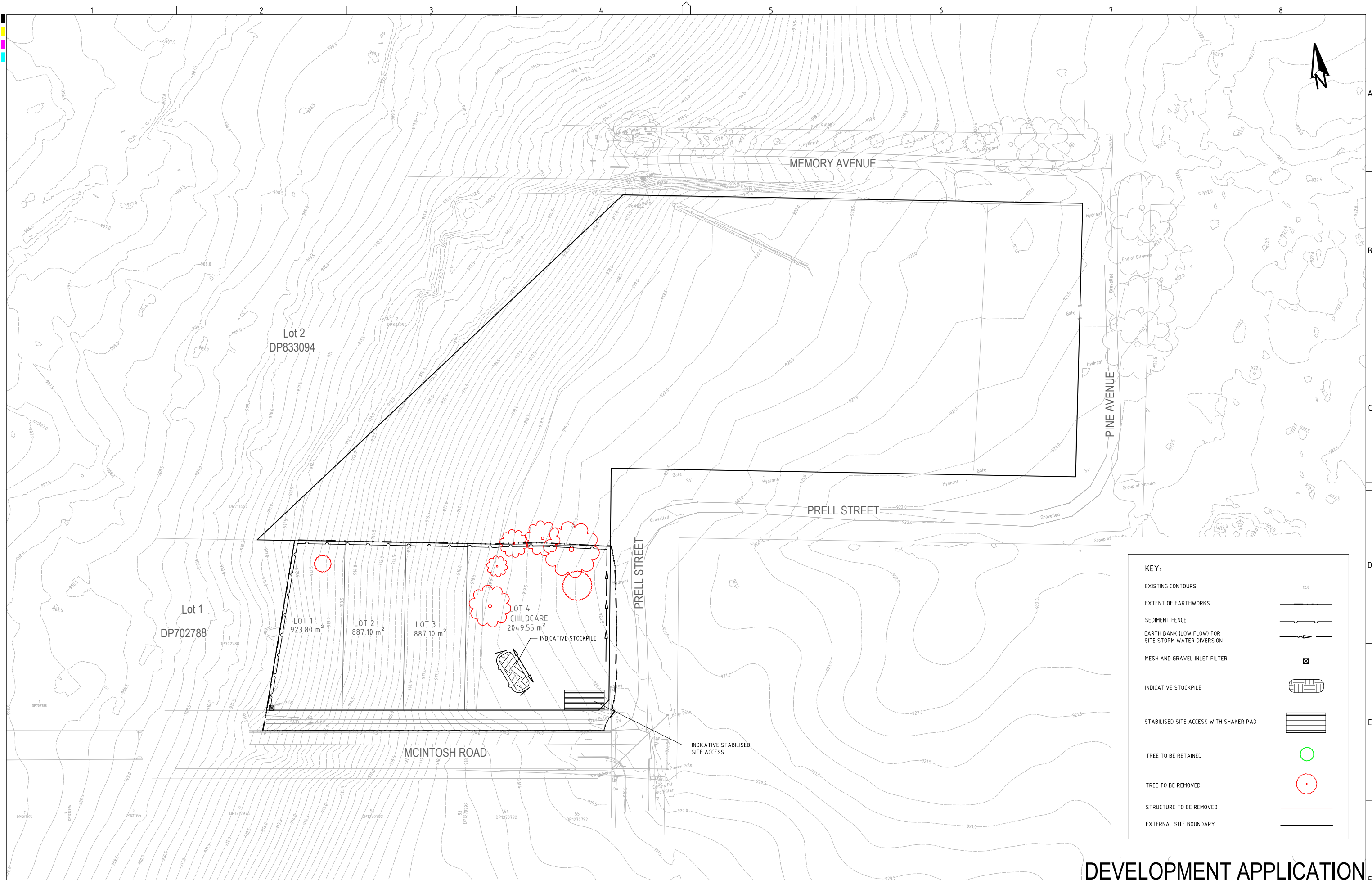
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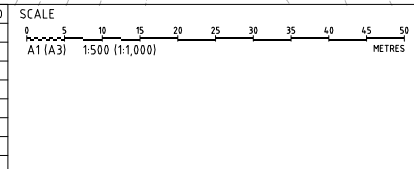
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STAGING PLAN				
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P2410601	PS01	R05	PS01-B100	C



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B	MINOR AMENDMENTS	11/03/2025	SSH	RK	AVG	GT
A	INITIAL RELEASE	25/02/2025	SSH	RK	AVG	GT



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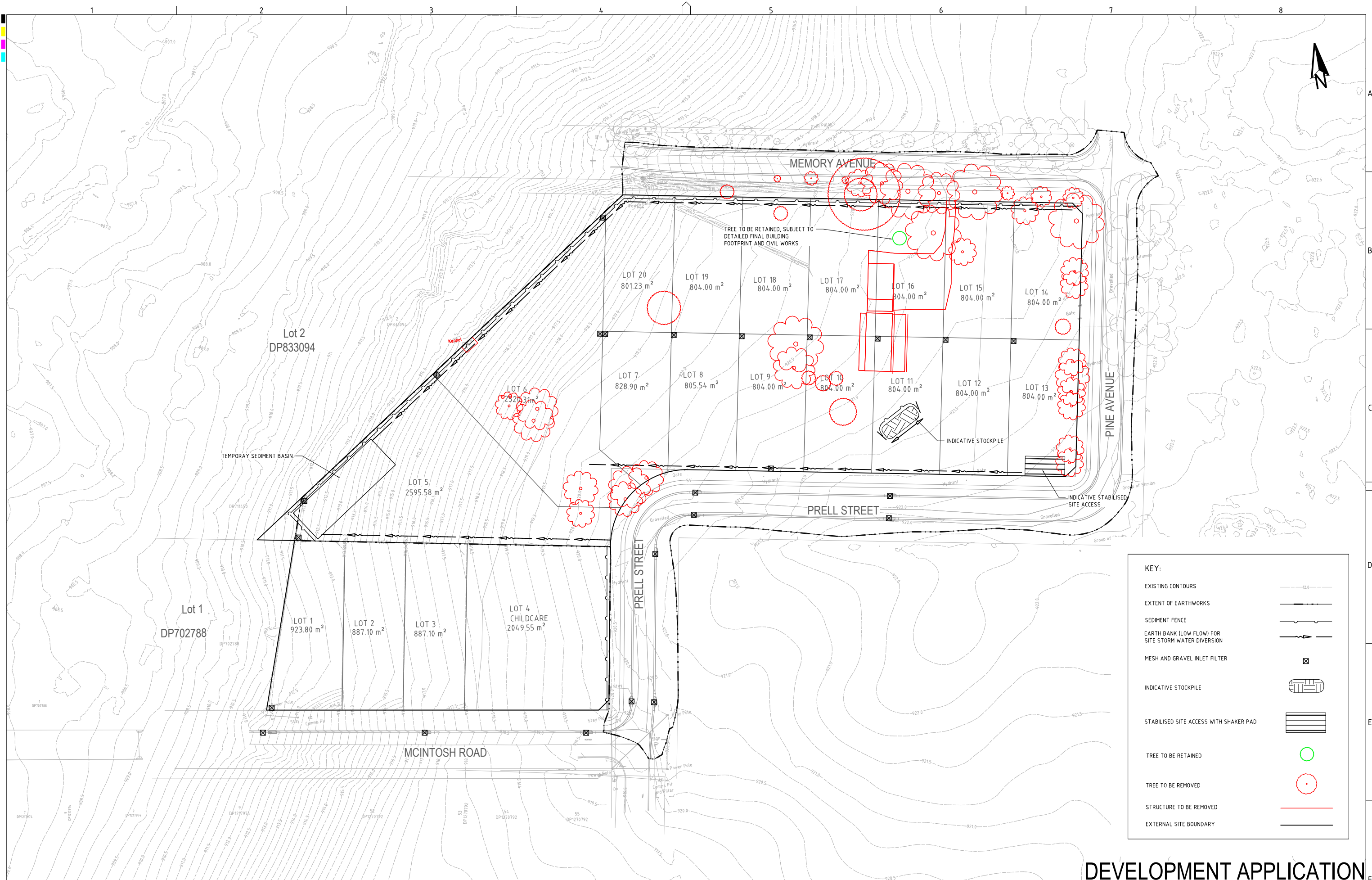
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SOIL AND WATER MANAGEMENT AND DEMOLITION PLAN (STAGE 1)				
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P2410601	PS01	R05	PS01-B310	E

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A1 / A3 LANDSCAPE (A1/C_02.0.0)

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KEY:

EXISTING CONTOURS

EXTENT OF EARTHWORKS

SEDIMENT FENCE

EARTH BANK (LOW FLOW) FOR SITE STORM WATER DIVERSION

MESH AND GRAVEL INLET FILTER

INDICATIVE STOCKPILE

STABILISED SITE ACCESS WITH SHAKER PAD

TREE TO BE RETAINED

TREE TO BE REMOVED

STRUCTURE TO BE REMOVED

EXTERNAL SITE BOUNDARY

12.0

REV	DESCRIPTION	DATE	DRAWN	DESIGNED	CHECKED	APPRVD	SCALE	GRID	DATUM	PROJECT MANAGER	CLIENT	martens & Associates Pty Ltd		Consulting Engineers		DRAWING TITLE		
D	MINOR AMENDMENTS	24/04/2025	SSH	RK	AVG	GT		MGA	mAHD	GT	BLUE SOX DEVELOPMENTS	PROJECT NAME/PLANSET TITLE PROPOSED 20 LOT SUBDIVISION CONCEPT CIVIL ENGINEERING PLANS 3 MEMORY AVE CROOKWELL NSW 2583			Environment Water Geotechnical Civil		SOIL AND WATER MANAGEMENT AND DEMOLITION PLAN (STAGE 2)	
C	MINOR AMENDMENTS	20/03/2025	SSH	RK	AVG	GT												
B	MINOR AMENDMENTS	11/03/2025	SSH	RK	AVG	GT												
A	INITIAL RELEASE	25/02/2025	SSH	RK	AVG	GT												
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A1 / A3 LANDSCAPE (A1/C_v02.0.0)																		

TYPE II SAP

STABILISED ACCESS POINT - TYPE 2



- IT SHOULD BE NOTED THAT THESE TYPES OF SAPS ARE CONSIDERED TO BE APPLICABLE FOR THE MAJORITY OF ACTIVITIES HOWEVER SOME SITES MAY REQUIRE SPECIAL CONSIDERATION.

A CORRECTLY DESIGNED AND INSTALLED SHAKER PAD WILL ASSIST IN PREVENTING SEDIMENT TRANSFER FROM A SITE. ANY STABILISED ACCESS POINT (SAP) CAN BE DESIGNED WITH A SHAKER PAD (COMPULSOPRY IN TYPE II SAP'S)

SHAKER PADS CAN BE DESIGNED AND CONSTRUCTED TO ENABLE RE-USE ON FUTURE PROJECTS

THE SHAKER PAD:

- THE SHAKER PAD MUST BE PROVIDED WITH SUITABLE BARRIERS AT THE SIDES TO ENSURE THAT ALL TYERS OF VEHICLES LEAVING THE SITE TRAVERSE THE DEVICE.



- SEDIMENT FENCE



SD 6-8



1. Fabricate a sediment barrier made from geotextile or straw bales.
2. Follow Standard Drawing 6-7 and Standard Drawing 6-8 for installation procedures for the straw bales or geobarc. Reduce the picket spacing to 1 metre centres.
3. In waterways, artificial sag points can be created with sandbags or earth banks as shown in the drawing.
4. Do not cover the inlet with geotextile unless the design is adequate to allow for all waters to bypass it.

GEOTEXTILE INLET FILTER

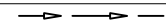


SD 6-12



1. Build with gradients between 1 percent and 5 percent.
2. Avoid removing trees and shrubs if possible - work around them.
3. Ensure the structures are free of projections or other irregularities that could impede water flow.
4. Build the drains with circular, parabolic or trapezoidal cross sections, not V shaped.
5. Ensure the banks are properly compacted to prevent failure.
6. Complete permanent or temporary stabilisation within 10 days of construction.

EARTH BANK (LOW FLOW)



SD 5-5



1. Place stockpiles more than 2 (preferably 5) metres from existing vegetation, concentrated water flow, roads and hazard areas.
2. Construct on the contour as low, flat, elongated mounds.
3. Where there is sufficient area, topsoil stockpiles shall be less than 2 metres in height.
4. Where they are to be in place for more than 10 days, stabilise following the approved ESCP or SWMP to reduce the C-factor to less than 0.10.
5. Construct earth banks (Standard Drawing 5-5) on the upslope side to divert water around stockpiles and sediment fences (Standard Drawing 6-8) 1 to 2 metres downslope.

STOCKPILES



SD 4-1

DRAWING TITLE	
SOIL AND WATER MANAGEMENT DETAILS	

PROJECT NO.	PLANSET NO.	RELEASE NO.	DRAWING NO.	REVISION
P2410601	PS01	R05	PS01-B330	C

[illegible]

GRID	DATUM	PROJECT MANAGER	CLIENT
		GT	BLUE SOX DEVELOPMENTS
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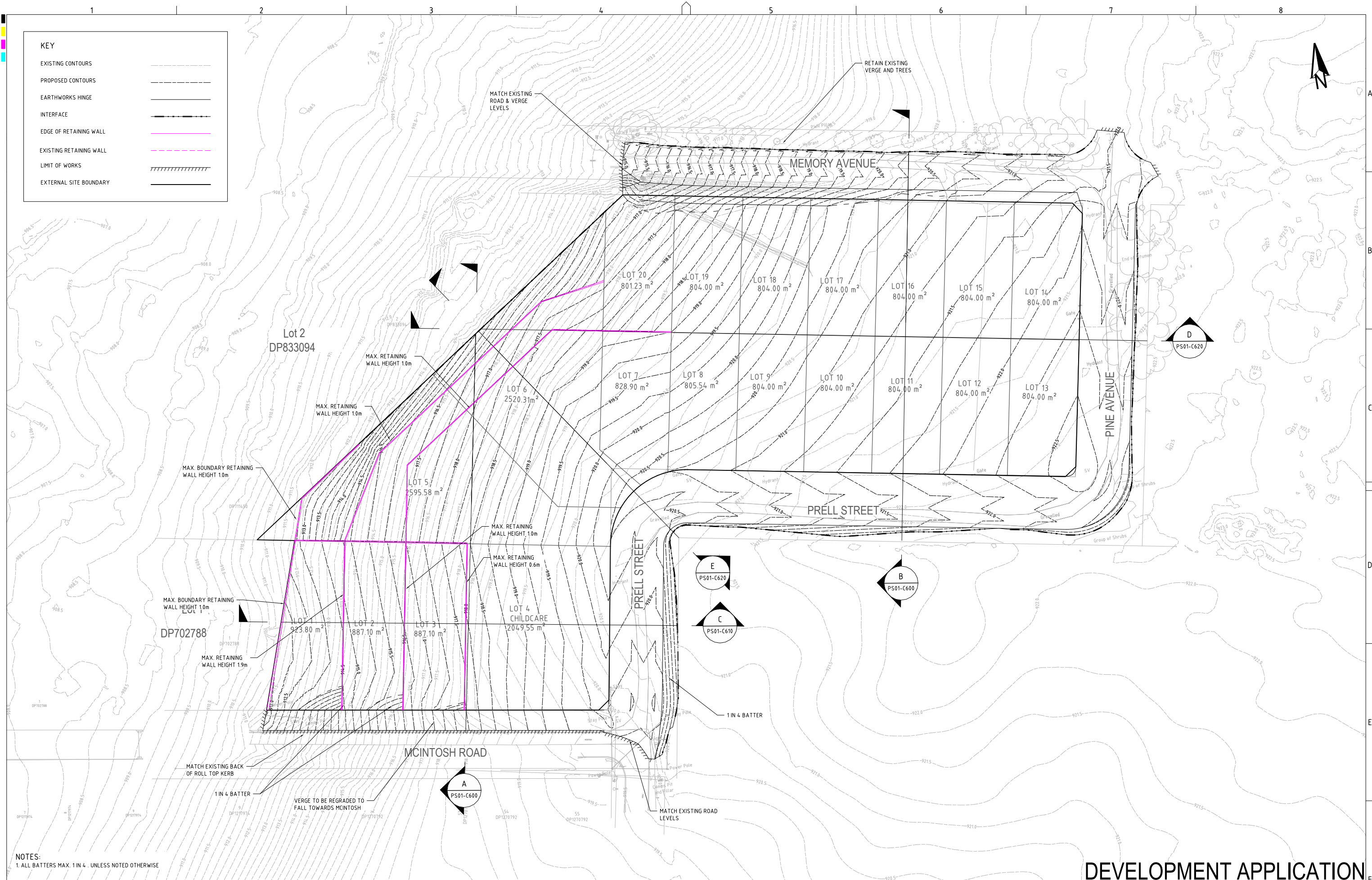
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DRAWING ID: P2410601-PS01-R05-B330

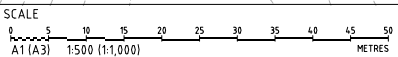
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KEY	
EXISTING CONTOURS	---
PROPOSED CONTOURS	- - - - -
EARTHWORKS HINGE	=====
INTERFACE	-----
EDGE OF RETAINING WALL	=====
EXISTING RETAINING WALL	-----
LIMIT OF WORKS	=====
EXTERNAL SITE BOUNDARY	=====

NOTES:
1. ALL BATTERS MAX. 1 IN 4 . UNLESS NOTED OTHERWISE

REV	DESCRIPTION	DATE	DRAWN	DESIGNED	CHECKED	APPROVD
D	MINOR AMENDMENT	25/03/2025	SSH	RL	AVG	GT
C	MINOR AMENDMENTS	20/03/2025	SSH	RL	AVG	GT
B	MINOR AMENDMENTS	11/03/2025	SSH	RL	AVG	GT
A	INITIAL RELEASE	25/02/2025	SSH	RL	AVG	GT



GRID
MGA
DATUM
mAHD
PROJECT MANAGER
GT
CLIENT
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PROJECT NAME/PLANSET TITLE
PROPOSED 20 LOT SUBDIVISION
CONCEPT CIVIL ENGINEERING PLANS
3 MEMORY AVE CROOKWELL NSW 2583

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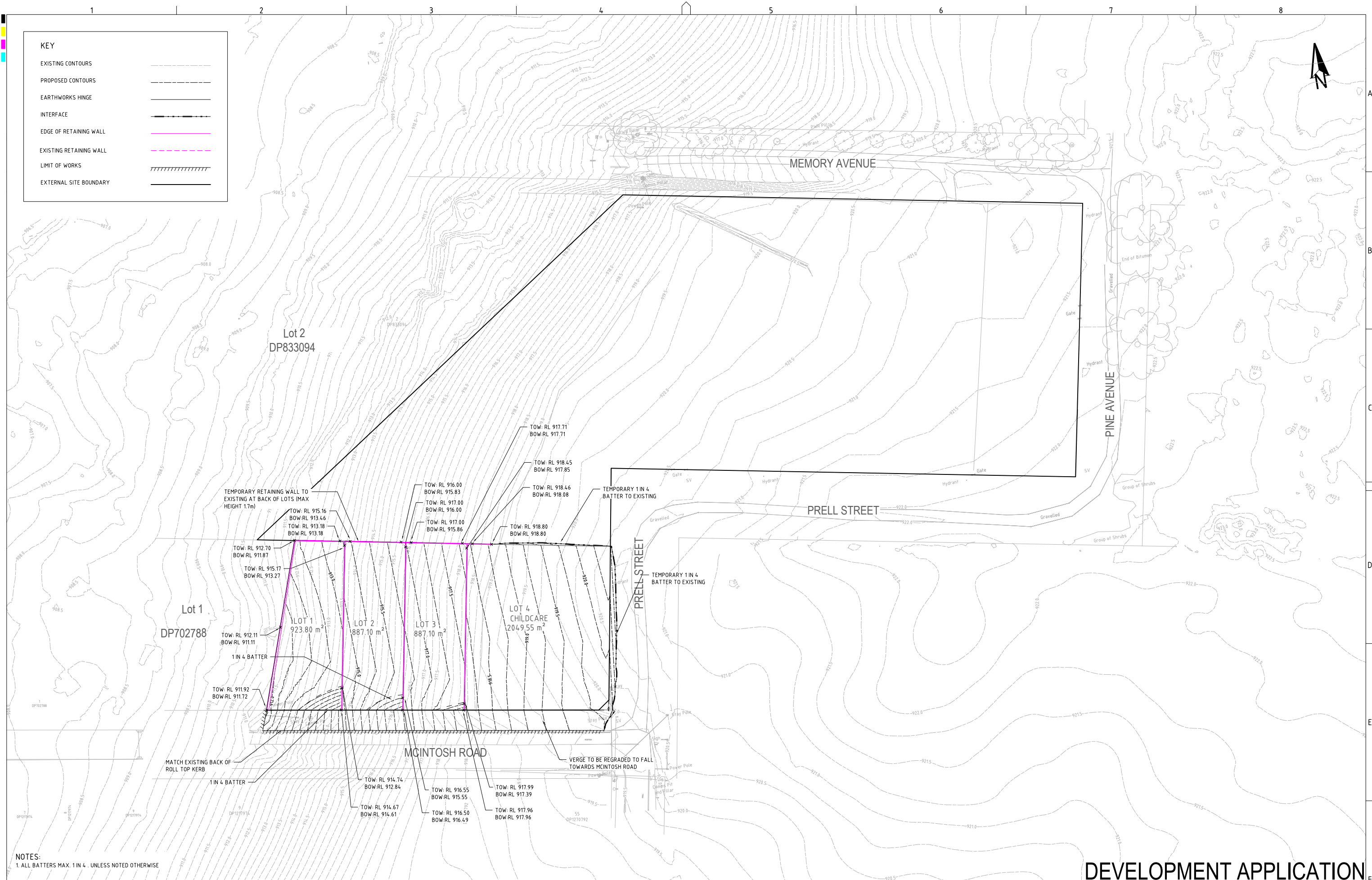


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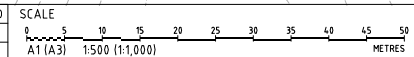
DRAWING TITLE				
EARTHWORKS GRADING PLAN (ULTIMATE DESIGN)				
PROJECT NO.	PLANSET NO.	RELEASE NO.	DRAWING NO.	REVISION
P2410601	PS01	R05	PS01-C100	D

DEVELOPMENT APPLICATION



NOTES:
1. ALL BATTERS MAX. 1 IN 4 . UNLESS NOTED OTHERWISE

REV	DESCRIPTION	DATE	DRAWN	DESIGNED	CHECKED	APPRVD
C	MINOR AMENDMENTS	20/03/2025	SSH	RL	AVG	GT
B	MINOR AMENDMENTS	11/03/2025	SSH	RL	AVG	GT
A	INITIAL RELEASE	25/02/2025	SSH	RL	AVG	GT



GRID
MGA

DATUM
mAHD

PROJECT MANAGER
GT

CLIENT
BLUE SOX DEVELOPMENTS

PROJECT NAME/PLANSET TITLE
PROPOSED 20 LOT SUBDIVISION
CONCEPT CIVIL ENGINEERING PLANS
3 MEMORY AVE CROOKWELL NSW 2583

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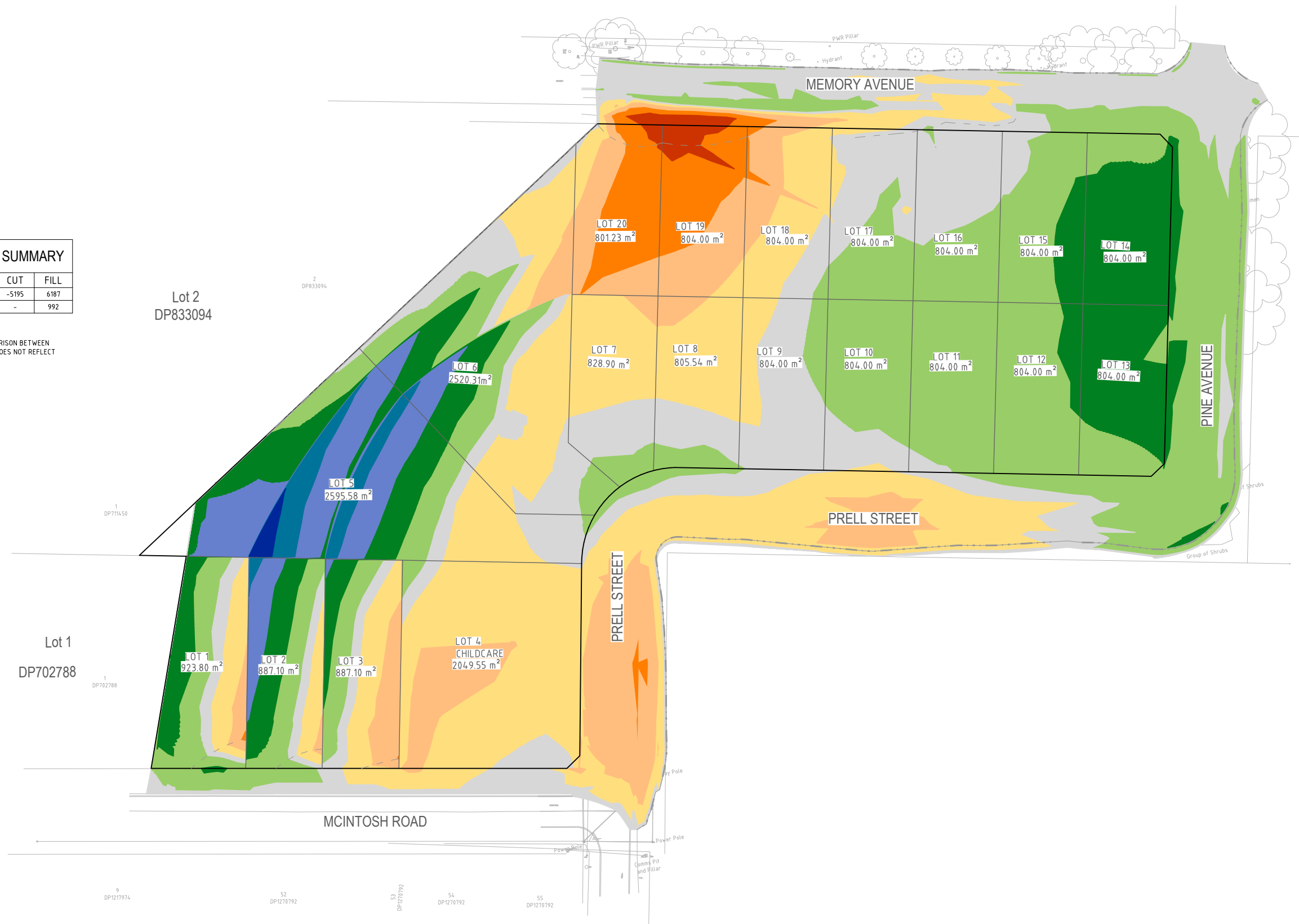
DRAWING TITLE				
EARTHWORKS GRADING PLAN (STAGE 1)				
PROJECT NO.	PLANSET NO.	RELEASE NO.	DRAWING NO.	REVISION
P2410601	PS01	R05	PS01-C110	C

DEVELOPMENT APPLICATION



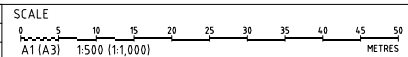
EARTHWORKS CUT-FILL SUMMARY		
	CUT	FILL
CUT FILL VOLUME (m³)	-5195	6187
BALANCE (m³)	-	992

- CUT FILL SUMMARY ARE BASED ON COMPARISON BETWEEN EXISTING AND PROPOSED SURFACES. IT DOES NOT REFLECT EARTHWORK VOLUME AND BALANCE.



DEVELOPMENT APPLICATION

REV	DESCRIPTION	DATE	DRAWN	DESIGNED	CHECKED	APPRVD
C	MINOR AMENDMENTS	20/03/2025	SSH	RL	AVG	GT
B	MINOR AMENDMENTS	11/03/2025	SSH	RL	AVG	GT
A	INITIAL RELEASE	25/02/2025	SSH	RL	AVG	GT



GRID MGA DATUM mAHD PROJECT MANAGER GT CLIENT BLUE SOX DEVELOPMENTS PROJECT NAME/PLANSET TITLE PROPOSED 20 LOT SUBDIVISION CONCEPT CIVIL ENGINEERING PLANS 3 MEMORY AVE CROOKWELL NSW 2583

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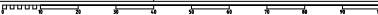


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DRAWING TITLE				
EARTHWORKS CUT-FILL PLAN (ULTIMATE DESIGN)				
PROJECT NO.	PLANSET NO.	RELEASE NO.	DRAWING NO.	REVISION
P2410601	PS01	R05	PS01-C500	C

DRAWING ID: P2410601-PS01-R05-C500

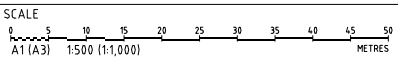




EARTHWORKS CUT-FILL SUMMARY		
	CUT	FILL
CUT FILL VOLUME (m³)	-1118	880
BALANCE (m³)	-	238

- CUT FILL SUMMARY ARE BASED ON COMPARISON BETWEEN EXISTING AND PROPOSED SURFACES. IT DOES NOT REFLECT EARTHWORK VOLUME AND BALANCE.

REV	DESCRIPTION	DATE	DRAWN	DESIGNED	CHECKED	APPRVD
D	MINOR AMENDMENT	25/03/2025	SSH	RL	AVG	GT
C	MINOR AMENDMENTS	20/03/2025	SSH	RL	AVG	GT
B	MINOR AMENDMENTS	11/03/2025	SSH	RL	AVG	GT
A	INITIAL RELEASE	25/02/2025	SSH	RL	AVG	GT



GRID
MGA

DATUM
mAHD

PROJECT MANAGER
GT

CLIENT
BLUE SOX DEVELOPMENTS

PROJECT NAME/PLANSET TITLE
PROPOSED 20 LOT SUBDIVISION
CONCEPT CIVIL ENGINEERING PLANS
3 MEMORY AVE CROOKWELL NSW 2583

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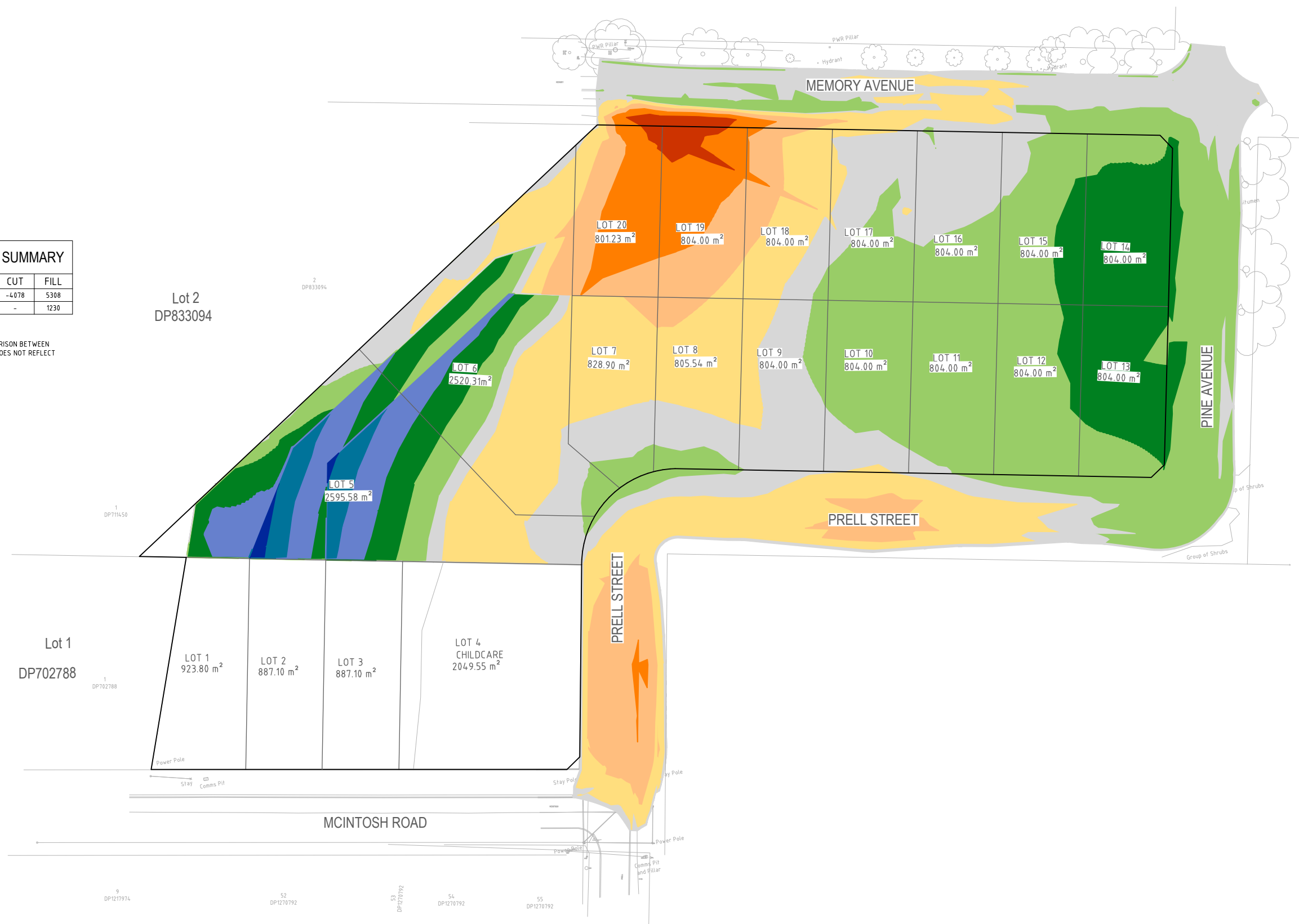
DRAWING TITLE				
EARTHWORKS CUT-FILL PLAN (STAGE 1)				
PROJECT NO.	PLANSET NO.	RELEASE NO.	DRAWING NO.	REVISION
P2410601	PS01	R05	PS01-C510	D

DEVELOPMENT APPLICATION



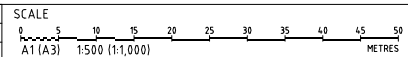
EARTHWORKS CUT-FILL SUMMARY		
	CUT	FILL
CUT FILL VOLUME (m³)	-4078	5308
BALANCE (m³)	-	1230

- CUT FILL SUMMARY ARE BASED ON COMPARISON BETWEEN EXISTING AND PROPOSED SURFACES. IT DOES NOT REFLECT EARTHWORK VOLUME AND BALANCE.



DEVELOPMENT APPLICATION

REV	DESCRIPTION	DATE	DRAWN	DESIGNED	CHECKED	APPRVD
C	MINOR AMENDMENTS	20/03/2025	SSH	RL	AVG	GT
B	MINOR AMENDMENTS	11/03/2025	SSH	RL	AVG	GT
A	INITIAL RELEASE	25/02/2025	SSH	RL/PC	AVG	GT



GRID
MGA

DATUM
mAHD

PROJECT MANAGER
GT

CLIENT
BLUE SOX DEVELOPMENTS

PROJECT NAME/PLANSET TITLE
PROPOSED 20 LOT SUBDIVISION
CONCEPT CIVIL ENGINEERING PLANS
3 MEMORY AVE CROOKWELL NSW 2583

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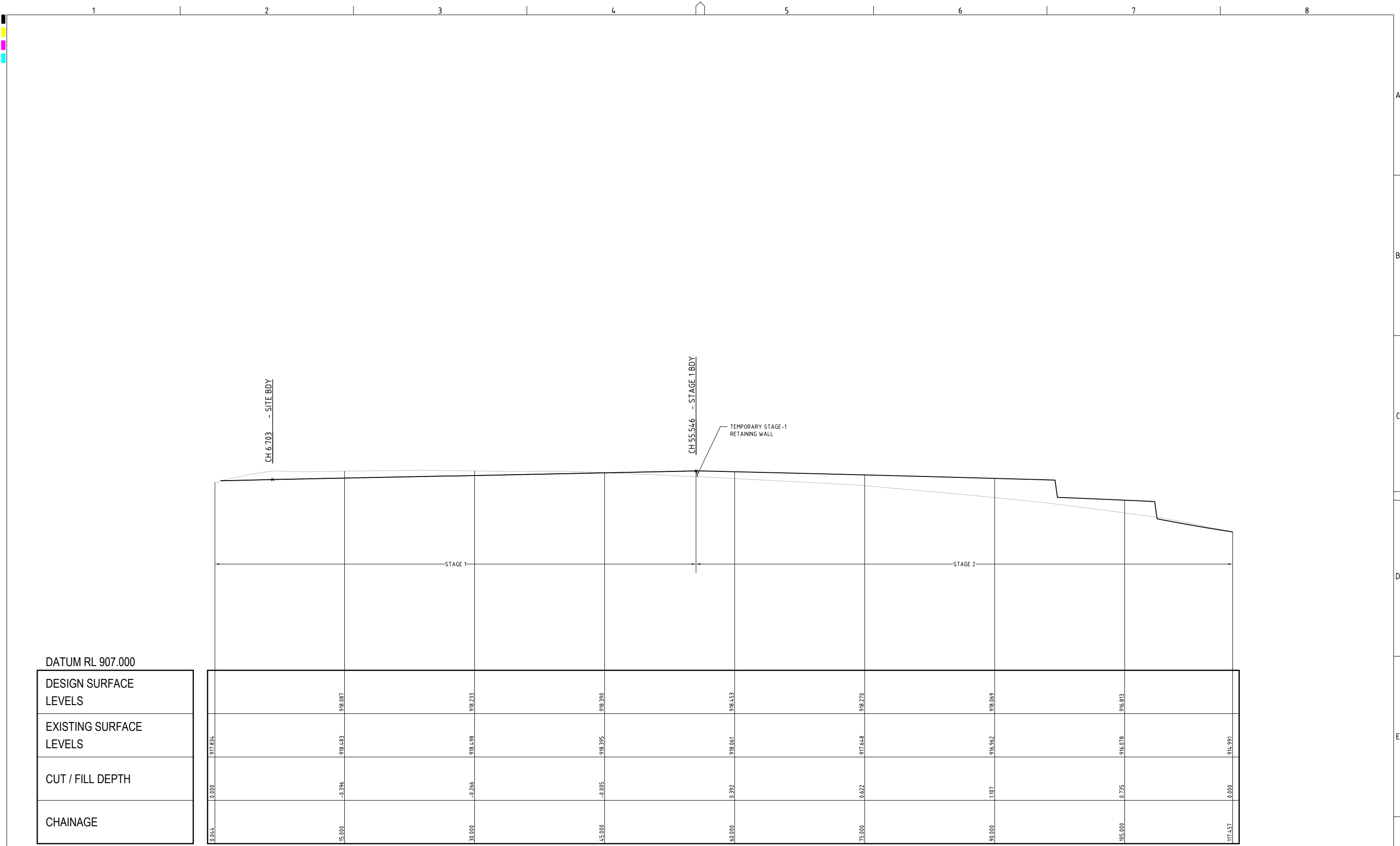


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DRAWING TITLE				
EARTHWORKS CUT-FILL PLAN (STAGE 2)				
PROJECT NO.	PLANSET NO.	RELEASE NO.	DRAWING NO.	REVISION
P2410601	PS01	R05	PS01-C520	C

DRAWING ID: P2410601-PS01-R05-C520



DATUM RL 907.000

DESIGN SURFACE
LEVELS

EXISTING SURFACE
LEVELS

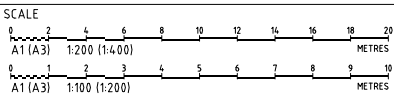
CUT / FILL DEPTH

CHAINAGE

SECTION A

SCALE: HORIZONTAL - 1:200
VERTICAL - 1:100

REV	DESCRIPTION	DATE	DRAWN	DESIGNED	CHECKED	APPRVD
C	MINOR AMENDMENTS	20/03/2025	SSH	RL	AVG	GT
B	MINOR AMENDMENTS	11/03/2025	SSH	RL	AVG	GT
A	INITIAL RELEASE	25/02/2025	SSH	RL	AVG	GT



GRID	DATUM	PROJECT MANAGER
	mAHD	GT
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BLUE SOX DEVELOPMENTS
PROJECT NAME/PLANSET TITLE
PROPOSED 20 LOT SUBDIVISION CONCEPT CIVIL ENGINEERING PLANS
3 MEMORY AVE CROOKWELL NSW 2583



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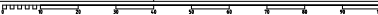
DEVELOPMENT APPLICATION

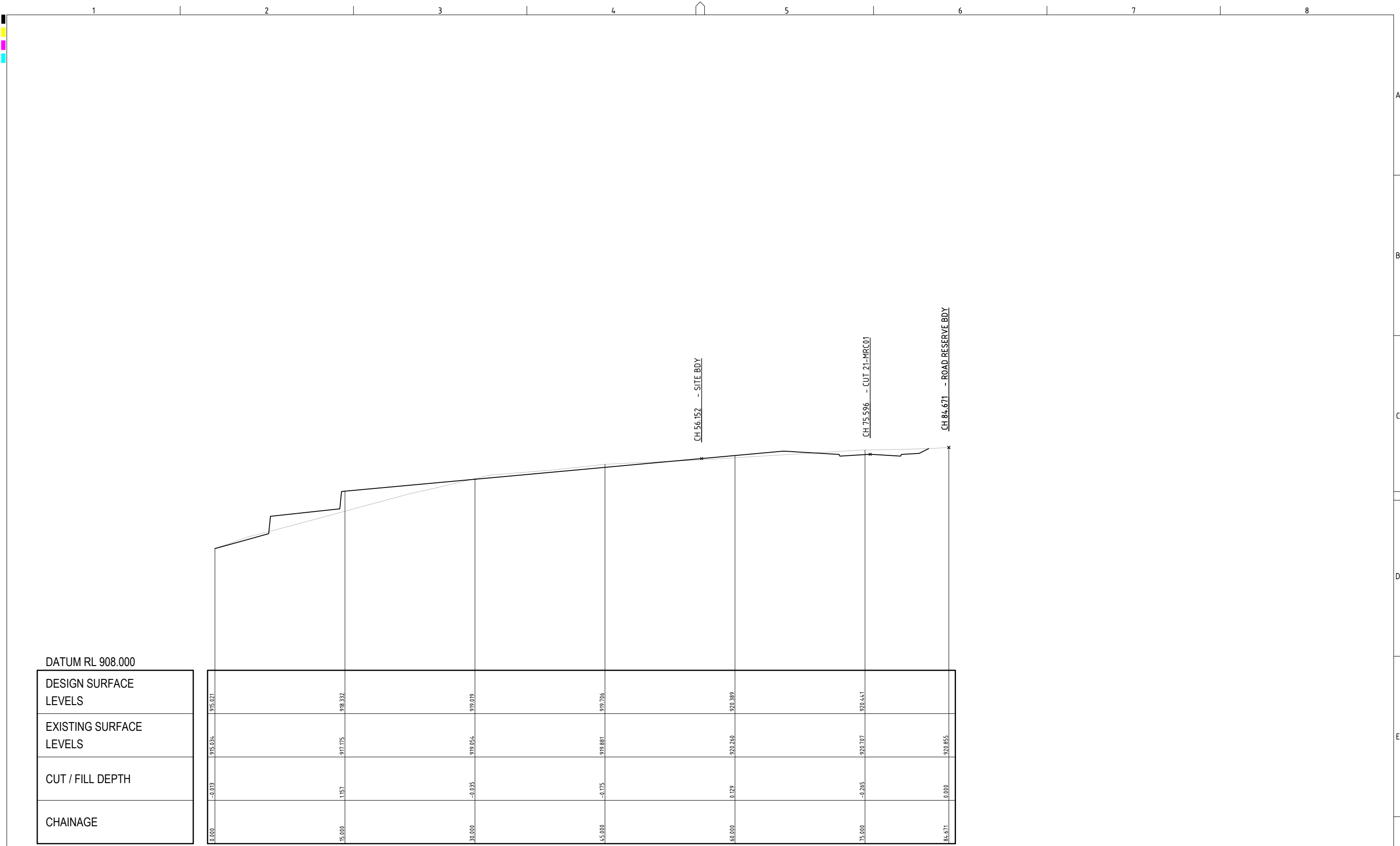
DRAWING TITLE				
EARTHWORKS SITE SECTIONS (SHEET 1)				
PROJECT NO.	PLANSET NO.	RELEASE NO.	DRAWING NO.	REVISION
P2410601	PS01	R05	PS01-C600	C

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A1 / A3 LANDSCAPE (A1LC_02.0.0)

DRAWING ID: P2410601-PS01-R05-C600





DATUM RL 908.000

DESIGN SURFACE LEVELS
EXISTING SURFACE LEVELS
CUT / FILL DEPTH
CHAINAGE

915.021	918.332	919.019	919.706	920.389	920.441	
915.034	917.075	919.054	919.881	920.260	920.707	920.855
-0.013	1.157	-0.035	-0.175	0.129	-0.265	0.000
0.000	15.000	30.000	45.000	60.000	75.000	84.671

SECTION E

SCALE: HORIZONTAL - 1:200
VERTICAL - 1:100

REV	DESCRIPTION	DATE	DRAWN	DESIGNED	CHECKED	APPRVD
B	INITIAL RELEASE	20/03/2025	SSH	RL	AVG	GT
A	INITIAL RELEASE	11/03/2025	SSH	RL	AVG	GT

SCALE
A1 (A3) 1:200 (1:400)
A1 (A3) 1:100 (1:200)

GRID	DATUM	PROJECT MANAGER	CLIENT
	mAHD	GT	BLUE SOX DEVELOPMENTS
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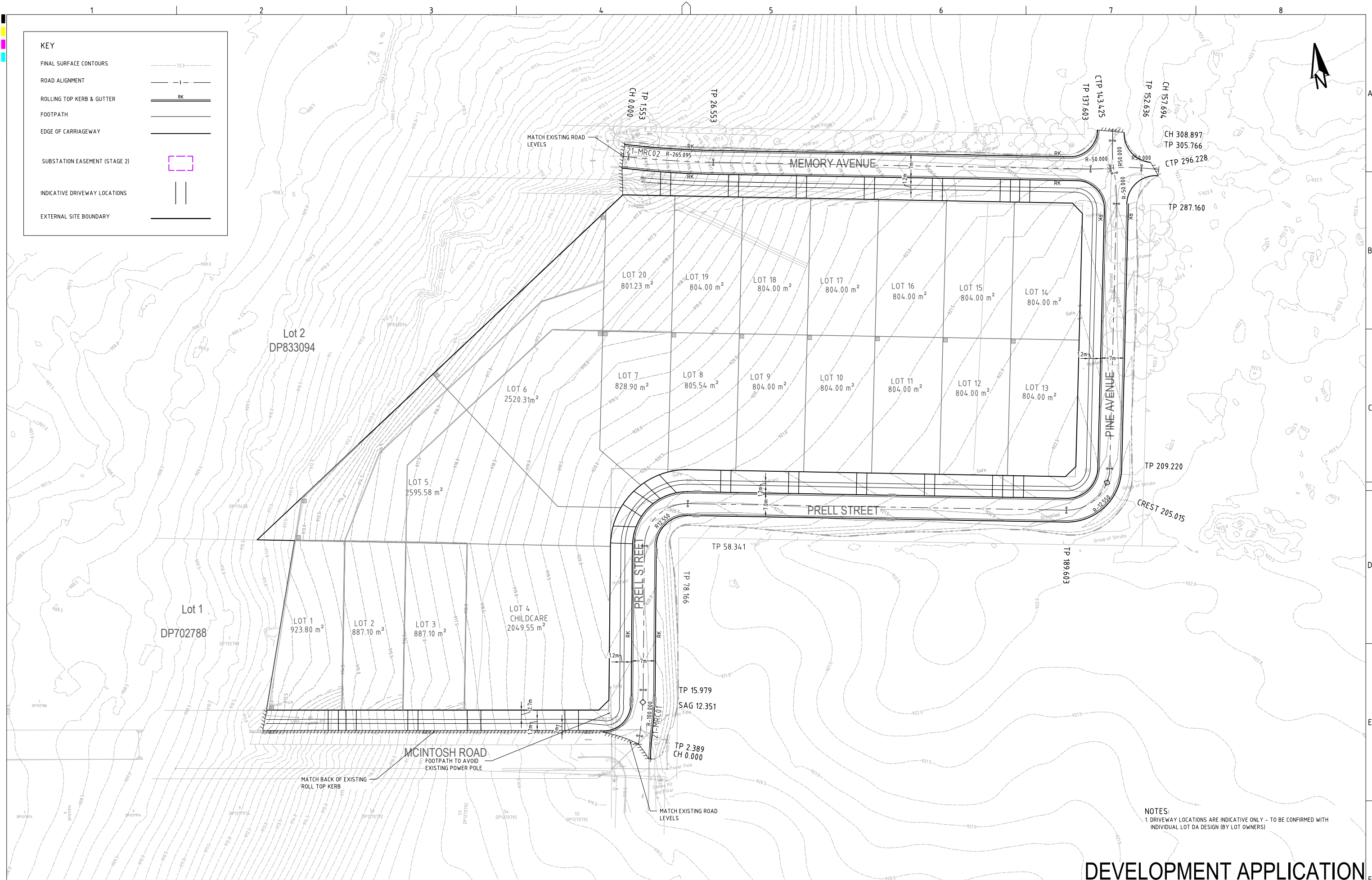
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DRAWING TITLE				
EARTHWORKS SITE SECTIONS (SHEET 5)				
PROJECT NO.	PLANSET NO.	RELEASE NO.	DRAWING NO.	REVISION
P2410601	PS01	R05	PS01-C640	B

DRAWING ID: P2410601-PS01-R05-C640

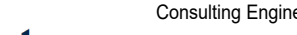

DEVELOPMENT APPLICATION

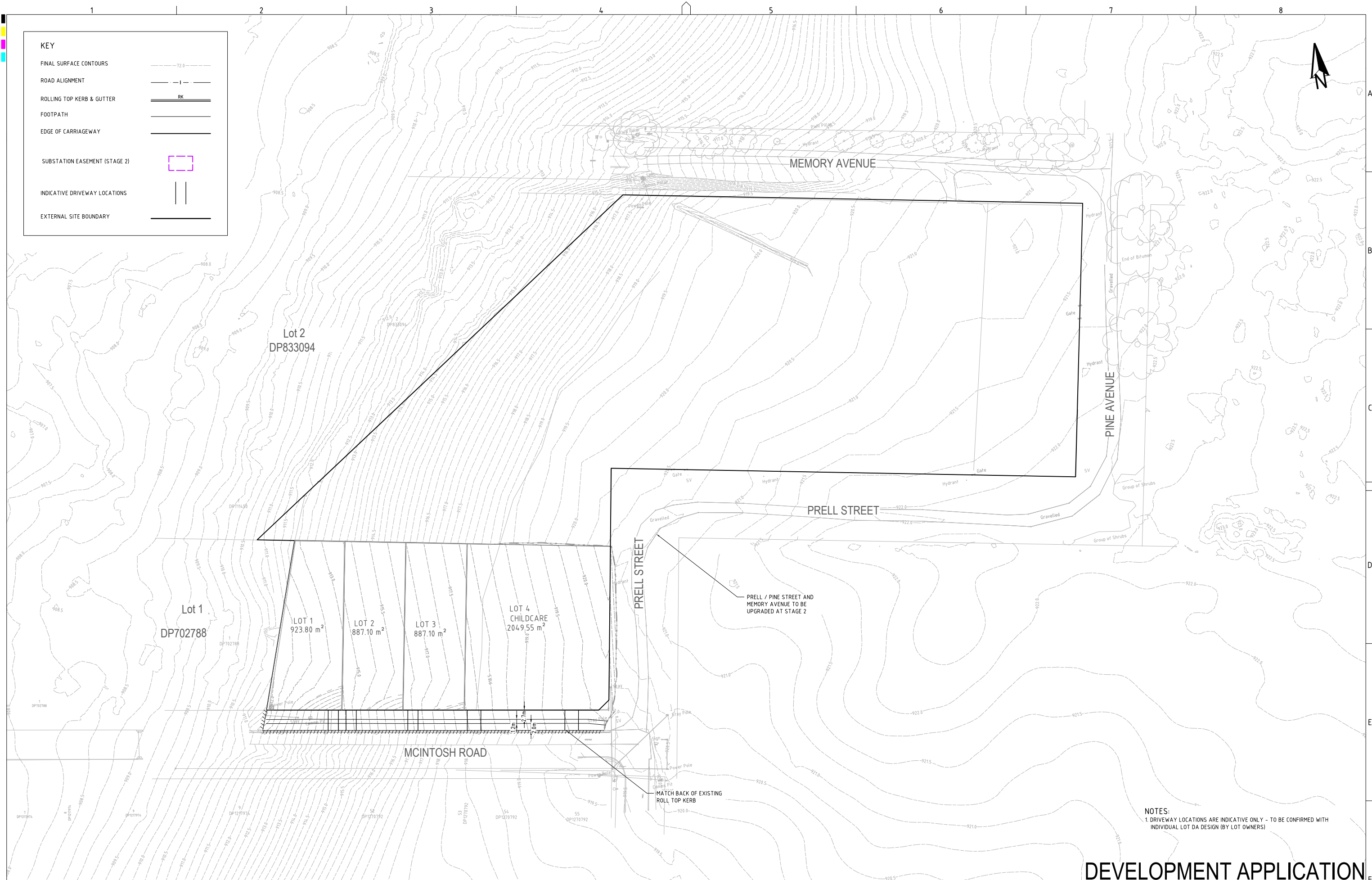



- KEY
- FINAL SURFACE CONTOURS
 - ROAD ALIGNMENT
 - ROLLING TOP KERB & GUTTER
 - FOOTPATH
 - EDGE OF CARRIAGEWAY
 - SUBSTATION EASEMENT (STAGE 2)
 - INDICATIVE DRIVEWAY LOCATIONS
 - EXTERNAL SITE BOUNDARY

NOTES:
1. DRIVEWAY LOCATIONS ARE INDICATIVE ONLY - TO BE CONFIRMED WITH INDIVIDUAL LOT DA DESIGN (BY LOT OWNERS)

DEVELOPMENT APPLICATION

REV	DESCRIPTION	DATE	DRAWN	DESIGNED	CHECKED	APPRVD	SCALE	GRID	DATUM	PROJECT MANAGER	CLIENT	<div><div></div><div>Consulting Engineers</div><div>Environment Water Geotechnical Civil</div></div> <div>Suite 201, 20 George St, Hornsby, NSW 2077 Australia Phone: (02) 9476 9999 Fax: (02) 9476 8767 Email: mail@martens.com.au Internet: www.martens.com.au</div>				DRAWING TITLE ROADWORKS PLAN (ULTIMATE DESIGN)			
C	MINOR AMENDMENTS	20/03/2025	SSH	RL	AVG	GT		MGA	mAHD	GT	BLUE SOX DEVELOPMENTS								
B	MINOR AMENDMENTS	11/03/2025	SSH	RL	AVG	GT		DISCLAIMER & COPYRIGHT This plan must not be used for construction unless signed as approved by principal certifying authority. All measurements in millimetres unless otherwise specified. This drawing must not be reproduced in whole or part without prior written consent of Martens & Associates Pty Ltd. (C) Copyright Martens & Associates Pty Ltd	PROJECT NAME/PLANSET TITLE PROPOSED 20 LOT SUBDIVISION CONCEPT CIVIL ENGINEERING PLANS 3 MEMORY AVE CROOKWELL NSW 2583										
A	INITIAL RELEASE	25/02/2025	SSH	RL	AVG	GT													



REV		DESCRIPTION	DATE	DRAWN	DESIGNED	CHECKED	APPRVD	SCALE 0 5 10 15 20 25 30 35 40 45 50 A1 (A3) 1:500 (1:1,000) METRES	GRID MGA	DATUM mAHD	PROJECT MANAGER GT	CLIENT BLUE SOX DEVELOPMENTS	PROJECT NAME/PLANSET TITLE PROPOSED 20 LOT SUBDIVISION CONCEPT CIVIL ENGINEERING PLANS 3 MEMORY AVE CROOKWELL NSW 2583	 Consulting Engineers Environment Water Geotechnical Civil	DRAWING TITLE ROADWORKS PLAN (STAGE 1)				
D	MINOR AMENDMENT		25/03/2025	SSH	RL	AVG	GT								PROJECT NO. P2410601	PLANSET NO. PS01	RELEASE NO. R05	DRAWING NO. PS01-D110	REVISION D
C	MINOR AMENDMENTS		20/03/2025	SSH	RL	AVG	GT												
B	MINOR AMENDMENTS		11/03/2025	SSH	RL	AVG	GT												
A	INITIAL RELEASE		25/02/2025	SSH	RL	AVG	GT												

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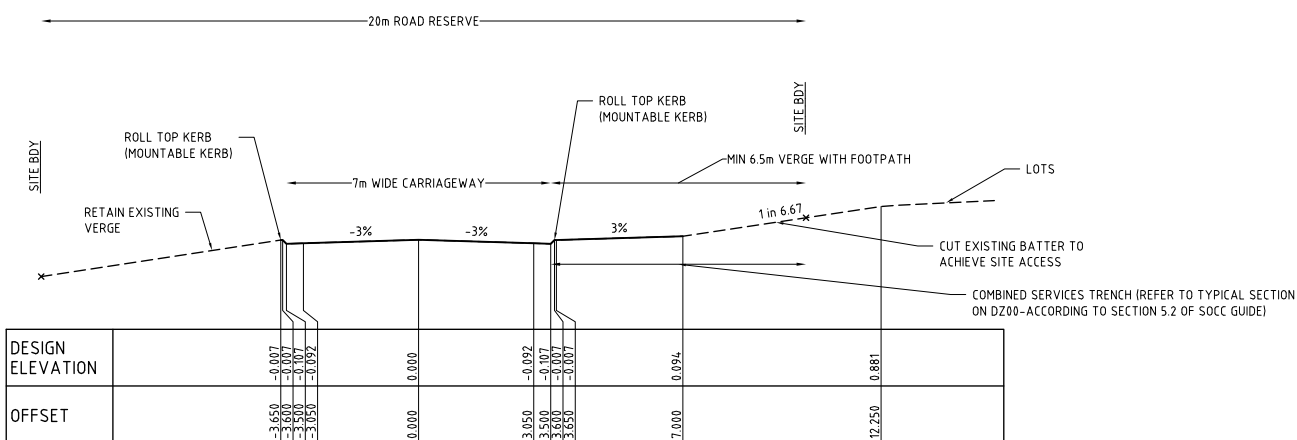
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A1 / A3 LANDSCAPE (A1C_02.0.0)

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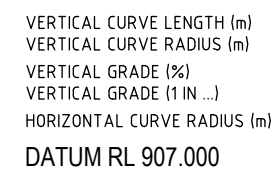
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MEMORY AVENUE (21-MRC02) TYPICAL SECTION

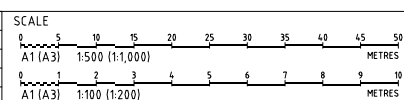
SCALE 1:100



CHAINAGE	CUT / FILL DEPTH	EXISTING SURFACE LEVELS	DESIGN SURFACE LEVELS
0.000	0.000	914.988	914.988
155.53	0.016	915.096	915.112
15.000	0.069	916.119	916.188
26.553	0.105	917.007	917.112
28.000	0.114	917.272	917.386
45.000	0.079	918.382	918.461
60.000	0.028	919.316	919.344
62.808	0.016	919.472	919.488
75.000	-0.038	920.071	920.033
90.000	-0.068	920.599	920.530
97.808	-0.071	920.784	920.713
105.000	-0.052	920.909	920.856
120.000	-0.086	921.163	921.156
135.000	0.068	921.389	921.456
137.603	0.067	921.441	921.508
143.425	0.074	921.550	921.625
150.000	0.091	921.666	921.756
152.636	0.080	921.729	921.809
157.694	0.034	921.877	921.910

MEMORY AVENUE (21-MRC02) LONG. SECTION

SCALE: HORIZONTAL - 1:500
VERTICAL - 1:100

[illegible]

GRID	DATUM	PROJECT MANAGER
	mAHD	GT

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CLIENT	BLUE SOX DEVELOPMENTS
PROJECT NAME/PLANSET TITLE	PROPOSED 20 LOT SUBDIVISION CONCEPT CIVIL ENGINEERING PLANS 3 MEMORY AVE CROOKWELL NSW 2583



Consulting Engineers
Environment
Water
Geotechnical
Civil

DRAWING TITLE				
ROAD 1 (21-MRC01) LONGITUDINAL SECTION AND TYPICAL SECTIONS (SHEET 2)				
PROJECT NO.	PLANSET NO.	RELEASE NO.	DRAWING NO.	REVISION
P2410601	PS01	R05	PS01-D210	C

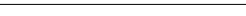
DEVELOPMENT APPLICATION

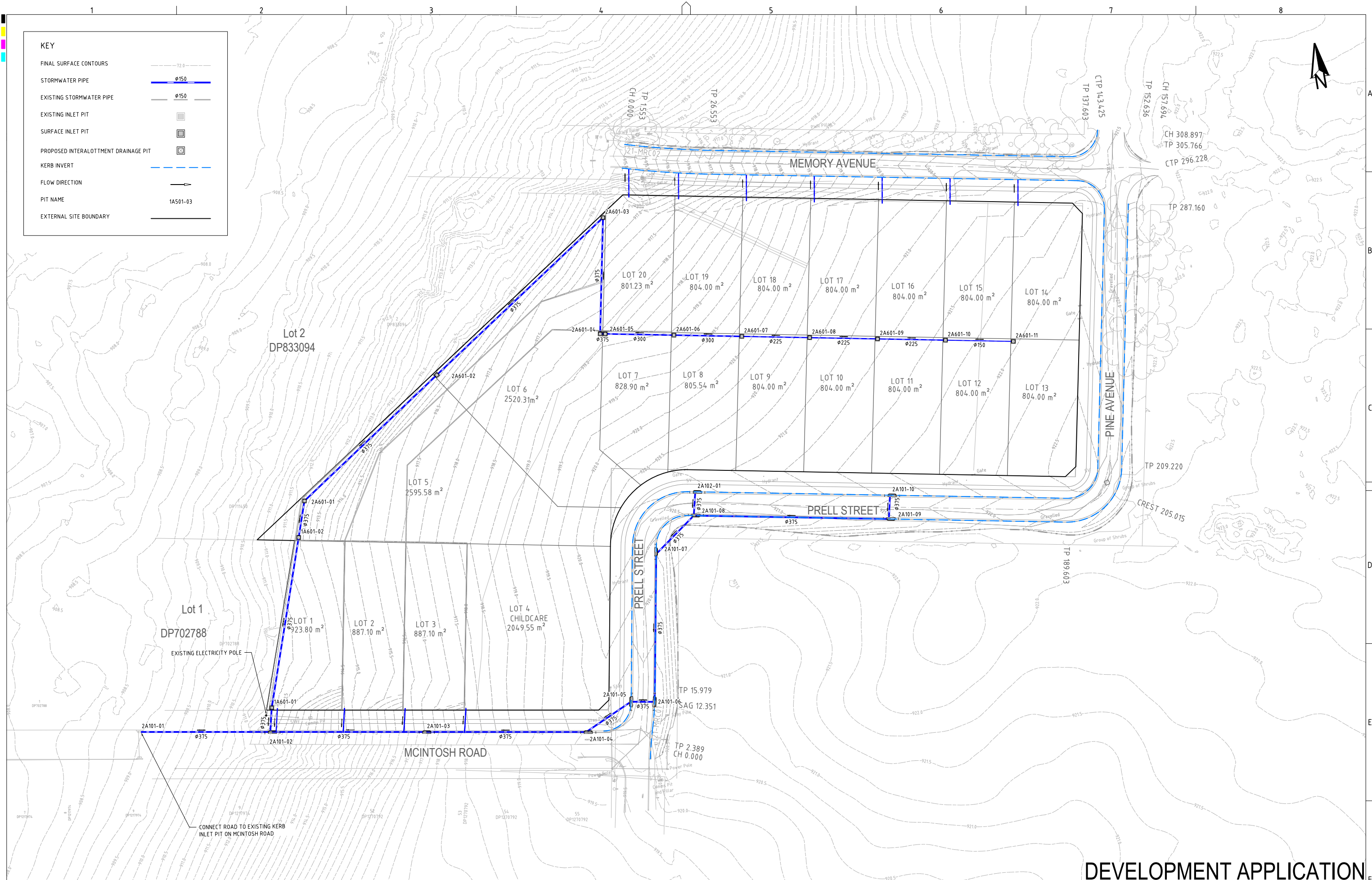


1. IF INSTALLING ASSETS IN REGIONAL AREAS CONTACT THE LOCAL COUNCIL FOR COUNCIL SPECIFIC REQUIREMENTS.
2. WHERE A UTILITY/SERVICE PROVIDER PROVIDING UNDERGROUND SERVICES WISHES TO ENCRoACH ON SPACE ALLOCATED TO ANOTHER UTILITY/SERVICE PROVIDER, IT SHOULD CONSULT AND SEEK AGREEMENT WITH THE OTHER. BOTH UTILITY/SERVICE PROVIDERS SHOULD RECORD SUCH ENCRoACHMENTS ON THEIR RESPECTIVE MAPPING SYSTEMS.
3. THE NARROWER WATER ALLOCATION SHOWN MAY NOT BE SUFFICIENT TO INCLUDE RECYCLED WATER MAINS.
4. THE PREFERRED POSITION FOR POLES OR STREET LIGHTING COLUMNS IS WITHIN 300MM OF THE PROPERTY ALIGNMENT. SOME ALTERNATIVE POSITIONS ARE SHOWN BUT LOCATION SHOULD BE CONSISTENT WITH THE OVERALL COST TO THE PUBLIC WHILE CONSIDERING SAFETY REQUIREMENTS.
5. WHERE THE ERECTION OF POWER POLES IN THE 0-1200MM ALLOCATION IS IMPRACTICABLE, THESE MAY BE LOCATED IN THE WATER ALLOCATION BY AGREEMENT WITH THE APPROPRIATE PUBLIC AUTHORITY.
6. NO SPECIFIC ALLOCATION FOR TREES CAN BE IDENTIFIED FOR FOOTWAYS UP TO 3600MM WIDE. CONSULTATION WITH UTILITY/SERVICE PROVIDERS IS REQUIRED AND DUE REGARD MUST BE GIVEN TO TREE SPECIES AS OUTLINED IN 6.5 STREET TREES.
7. PILLARS/PEDESTALS/SERVICE PITS ETC. SHOULD BE LOCATED IN A POSITION THAT IS SET BACK FROM STREET INTERSECTIONS.
8. SEE SECTION 6.6 FOR GUIDANCE ON NEW POLES AND POLE REPLACEMENTS.
9. SEWER PRESSURE MAINS TO BE LAID IN WATER ALLOCATION DEEPER THAN WATER MAINS.
10. VACUUM SEWERS TYPICALLY LAID IN PROPERTY BUT COULD ALSO BE IN WATER ALLOCATION.
11. FOR STRUCTURES TO BE ERECTED OVER THE ELECTRICAL DISTRIBUTORS' FOOTPATH ALLOCATION FOR UNDERGROUND MAINS, THE ELECTRICAL DISTRIBUTOR MUST BE CONSULTED IN ACCORDANCE WITH CLAUSE 5.3 CUSTOMER'S STRUCTURE - SERVICE AND INSTALLATION RULES OF NEW SOUTH WALES.
12. IF BOTH FOOTPATHS ARE ABLE TO BE USED, THE ASSETS SHOULD BE ABLE TO BE BETTER DISTRIBUTED ACROSS BOTH SIDES OF THE ROADWAY SO THAT THERE IS SPACE TO INSTALL INFRASTRUCTURE AT THE MOST APPROPRIATE LOCATION WITH RESPECT TO MINIMIZING OVERALL COST TO THE CUSTOMERS.



- NOTES:**
1. ALL EXPOSED CONCRETE EDGES SHALL BE ROUNDED TO 10mm RADIUS
 2. PROVIDE 30mm TOP COVER TO REINFORCING FABRIC.
 3. CONCRETE SHALL BE A MINIMUM OF 25MPa
 4. MINIMUM CONCRETE SLAB THICKNESS SHALL BE: RESIDENTIAL 125mm, INDUSTRIAL AND COMMERCIAL 150mm
 5. EXPANSION JOINTS "E.J." SHALL BE FILLED WITH 10mm THICK BITUMEN IMPREGNATED PREFORMED JOINTING MATERIAL AT FOOTPATH EDGE.
 6. FINISHED SURFACE TEXTURE SHALL BE A STEEL FLOAM FINISH FOR VEHICULAR GUTTER CROSSINGS, BROOMED FINISH FOR VEHICULAR FOOTPATH CROSSINGS AND THE CONCRETE IS TO BE COATED WITH A SUITABLE CURING COMPOUND.
 7. DRIVEWAYS TO BE CONSTRUCTED AT RIGHT ANGLE TO KERB LINE.
 8. ALL DRIVEWAYS TO COMPLY WITH UPPER LACHLAN SHIRE COUNCIL SPECIFICATIONS.

REV	DESCRIPTION	DATE	DRAWN	DESIGNED	CHECKED	APPRVD	SCALE	GRID	DATUM	PROJECT MANAGER GT	CLIENT BLUE SOX DEVELOPMENTS PROJECT NAME/PLANSET TITLE PROPOSED 20 LOT SUBDIVISION CONCEPT CIVIL ENGINEERING PLANS 3 MEMORY AVE CROOKWELL NSW 2583	 Suite 201, 20 George St, Hornsby, NSW 2077 Australia Phone: (02) 9476 9999 Fax: (02) 9476 8767 Email: mail@martens.com.au Internet: www.martens.com.au	Consulting Engineers Environment Water Geotechnical Civil	DRAWING TITLE COMBINED SERVICES TRENCH AND DRIVEWAY GUIDELINES DETAILS					
C	MINOR AMENDMENTS	20/03/2025	SSH	RL	AVG	GT								DISCLAIMER & COPYRIGHT This plan must not be used for construction unless signed as approved by principal certifying authority. All measurements in millimetres unless otherwise specified. This drawing must not be reproduced in whole or part without prior written consent of Martens & Associates Pty Ltd. (C) Copyright Martens & Associates Pty Ltd	PROJECT NO. P2410601	PLANSET NO. PS01	RELEASE NO. R05	DRAWING NO. PS01-DZ00	REVISION C
B	MINOR AMENDMENTS	11/03/2025	SSH	RL	AVG	GT													
A	INITIAL RELEASE	25/02/2025	SSH	RL	AVG	GT													
A1 / A3 LANDSCAPE (A1&C_v02.0.01)								DRAWING ID: P2410601-PS01-R05-DZ00											



KEY	
FINAL SURFACE CONTOURS	
STORMWATER PIPE	
EXISTING STORMWATER PIPE	
EXISTING INLET PIT	
SURFACE INLET PIT	
PROPOSED INTERLOT DRAINAGE PIT	
KERB INVERT	
FLOW DIRECTION	
PIT NAME	1A501-03
EXTERNAL SITE BOUNDARY	

REV	DESCRIPTION	DATE	DRAWN	DESIGNED	CHECKED	APPRVD
C	MINOR AMENDMENTS	20/03/2025	SSH	PC	AVG	GT
B	MINOR AMENDMENTS	11/03/2025	SSH	PC	AVG	GT
A	INITIAL RELEASE	25/02/2025	SSH	PC	AVG	GT

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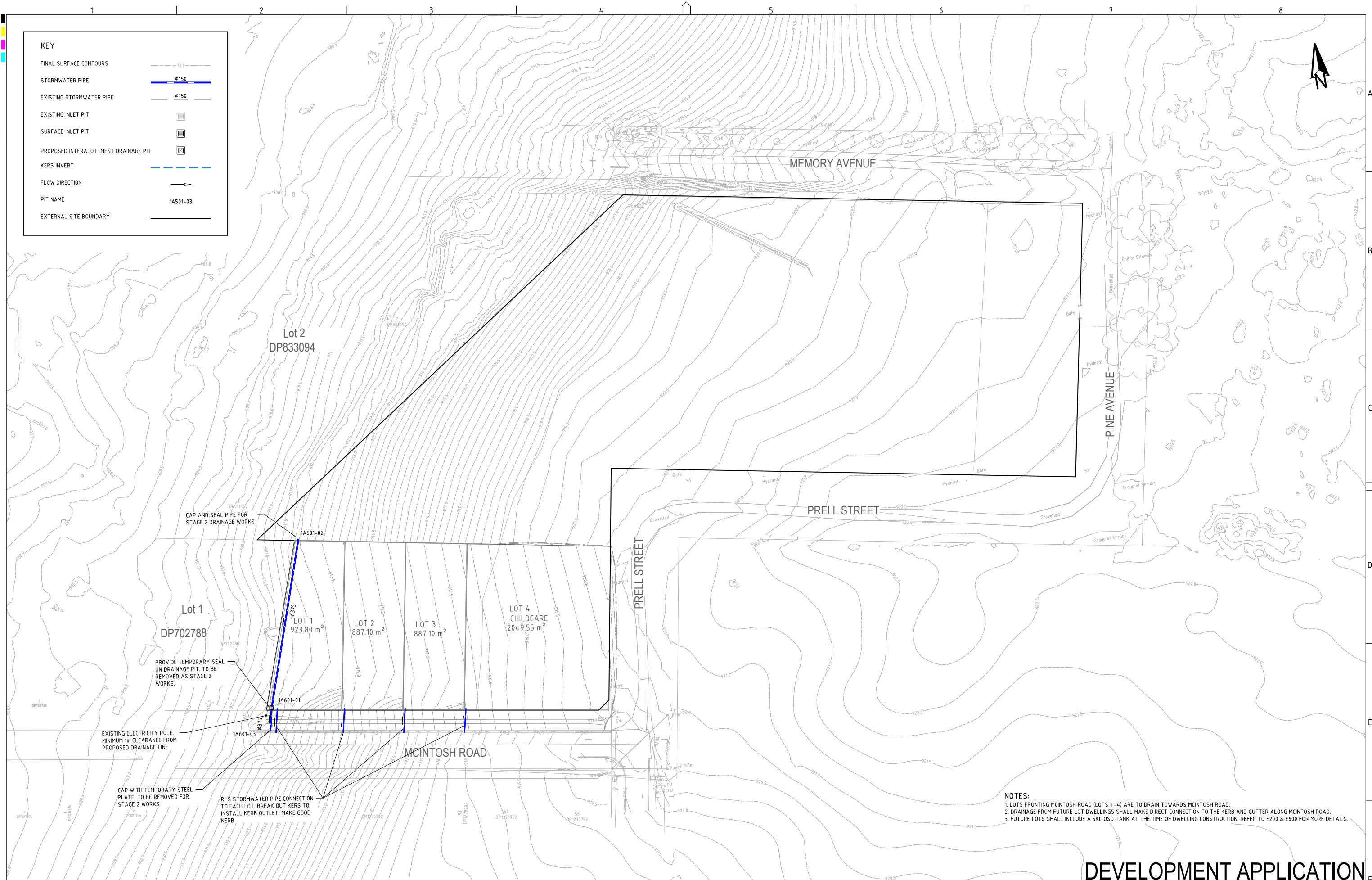
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MGA	mAUD	GT	BLUE SOX DEVELOPMENTS
DISCLAIMER & COPYRIGHT		PROJECT NAME/PLANSET TITLE	
This plan must not be used for construction unless signed as approved by principal certifying authority.		PROPOSED 20 LOT SUBDIVISION	
All measurements in millimetres unless otherwise specified.		CONCEPT CIVIL ENGINEERING PLANS	
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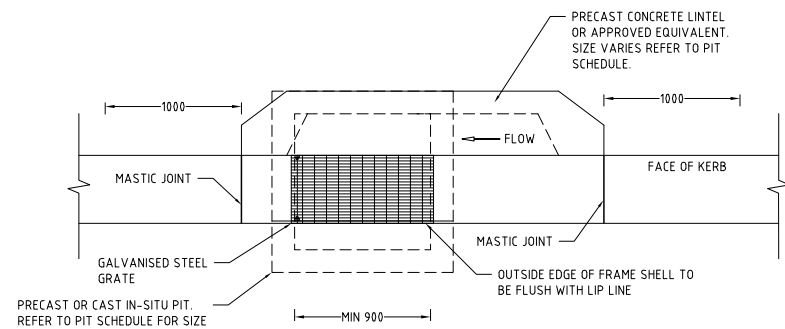
DRAWING TITLE				
DRAINAGE PLAN (ULTIMATE DESIGN)				
PROJECT NO.	PLANSET NO.	RELEASE NO.	DRAWING NO.	REVISION
P2410601	PS01	R05	PS01-E100	C

DRAWING ID: P2410601-PS01-R05-E100

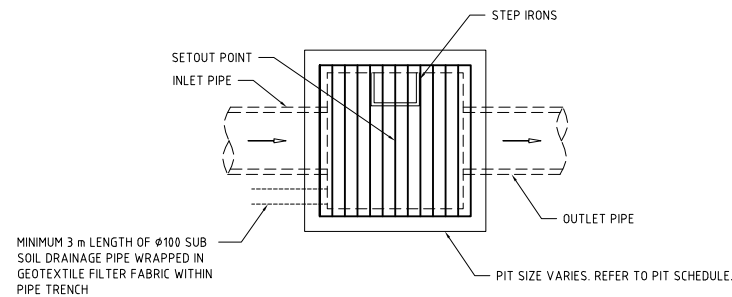


DEVELOPMENT APPLICATION

REV	DESCRIPTION	DATE	DRAWN	DESIGNED	CHECKED	APPRVD	SCALE	GRID	DATUM	PROJECT MANAGER	CLIENT	DRAWING TITLE											
D	MINOR AMENDMENT	25/03/2025	SSH	PC	AVG	GT		MGA	mAHD	GT	BLUE SOX DEVELOPMENTS	 Consulting Engineers Environment Water Geotechnical Civil Suite 201, 20 George St, Hornsby, NSW 2077 Australia Phone: (02) 9476 9999 Fax: (02) 9476 8767 Email: mail@martens.com.au Internet: www.martens.com.au	DRAINAGE PLAN (STAGE 1)										
C	MINOR AMENDMENTS	20/03/2025	SSH	PC	AVG	GT		PROJECT NAME/PLANSET TITLE					PROJECT NO.	PLANSET NO.	RELEASE NO.	DRAWING NO.	REVISION						
B	MINOR AMENDMENTS	11/03/2025	SSH	PC	AVG	GT		DISCLAIMER & COPYRIGHT This plan must not be used for construction unless signed as approved by principal certifying authority. All measurements in millimetres unless otherwise specified. This drawing must not be reproduced in whole or part without prior written consent of Martens & Associates Pty Ltd. (C) Copyright Martens & Associates Pty Ltd					PROPOSED 20 LOT SUBDIVISION CONCEPT CIVIL ENGINEERING PLANS					P2410601	PS01	R05	PS01-E110	D	
A	INITIAL RELEASE	25/02/2025	SSH	PC	AVG	GT		3 MEMORY AVE CROOKWELL NSW 2583															
A1 / A3 LANDSCAPE (A/LC_v02.0.0)							DRAWING ID: P2410601-PS01-R05-E110																

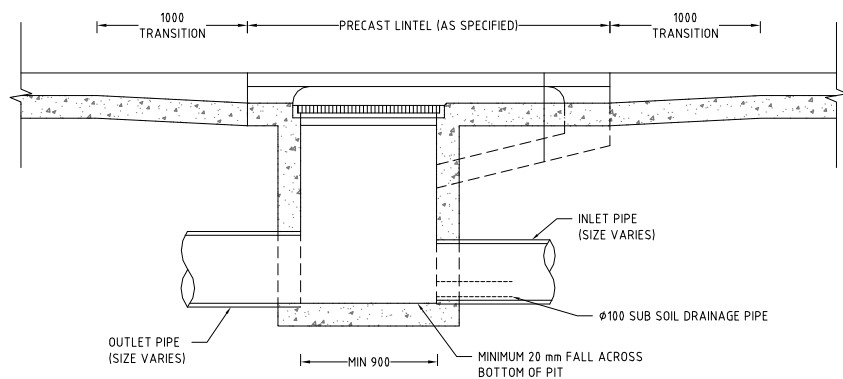


TYPICAL KERB INLET PIT
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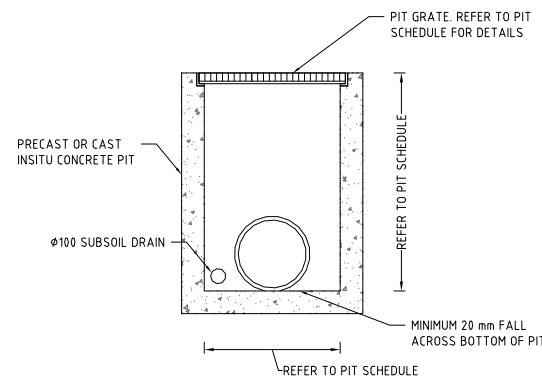


TYPICAL PIT
SCALE: 1:25

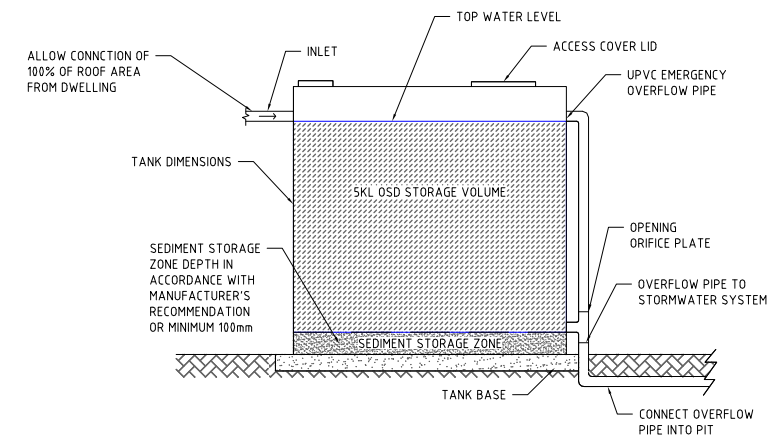
- PIT DETAILS:**
1. PROVIDE STEP IRONS WHERE PIT IS DEEPER THAN 1.0m. STEP IRONS SHALL BE LOCATED ON A WALL OF THE PIT THAT IS ACCESSIBLE AND SAFE TO CLIMB FOR THE FULL HEIGHT OF THE PIT.
 2. 100mm DIA CORRUGATED SUBSOIL PIPE, 3m LONG AND WRAPPED IN FILTER FABRIC, SHALL BE PROVIDED TO THE UPSTREAM PIT WALL.
 3. LOCATE LINTELS CENTRALLY IN SAG POINTS.
 4. APPROVED PRECAST CONCRETE PITS (PART OR TOTAL) MAY BE USED IN ACCORDANCE WITH THE MANUFACTURERS INSTRUCTIONS.
 5. GRATE SHALL BE WELDDLOCK HINGED HOT DIPPED GALVANISED. SET PARALLEL TO GUTTER AND WITH LOCKING CLIP.



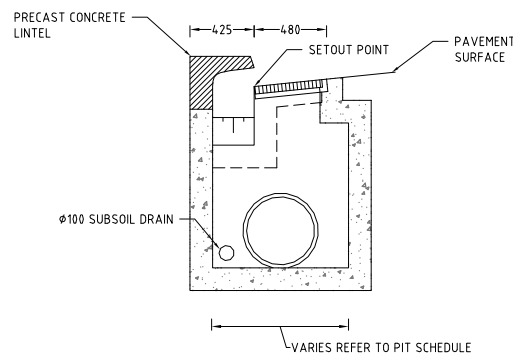
TYPICAL KERB INLET PIT LONGITUDINAL SECTION
SCALE: 1:25



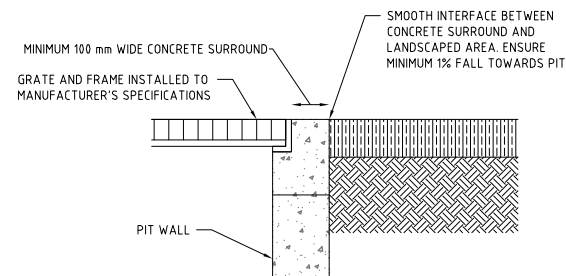
TYPICAL PIT CROSS SECTION
SCALE 1:25



TYPICAL ABOVE GROUND OSD TANK
NOT TO SCALE



TYPICAL KERB INLET PIT CROSS SECTION
SCALE 1:25



TYPICAL INTERFACE - PIT IN SOFT LANDSCAPING
NOT TO SCALE

DEVELOPMENT APPLICATION

PRINTED: 11/03/2025 10:00:00 AM
USER: SCHWABOT

REV	DESCRIPTION	DATE	DRAWN	DESIGNED	CHECKED	APPRVD
C	MINOR AMENDMENTS	20/03/2025	SSH	PC	AVG	GT
B	MINOR AMENDMENTS	11/03/2025	SSH	PC	AVG	GT
A	INITIAL RELEASE	25/02/2025	SSH	PC	AVG	GT

SCALE
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A1 (A3) 1:25 (1:50) METRES

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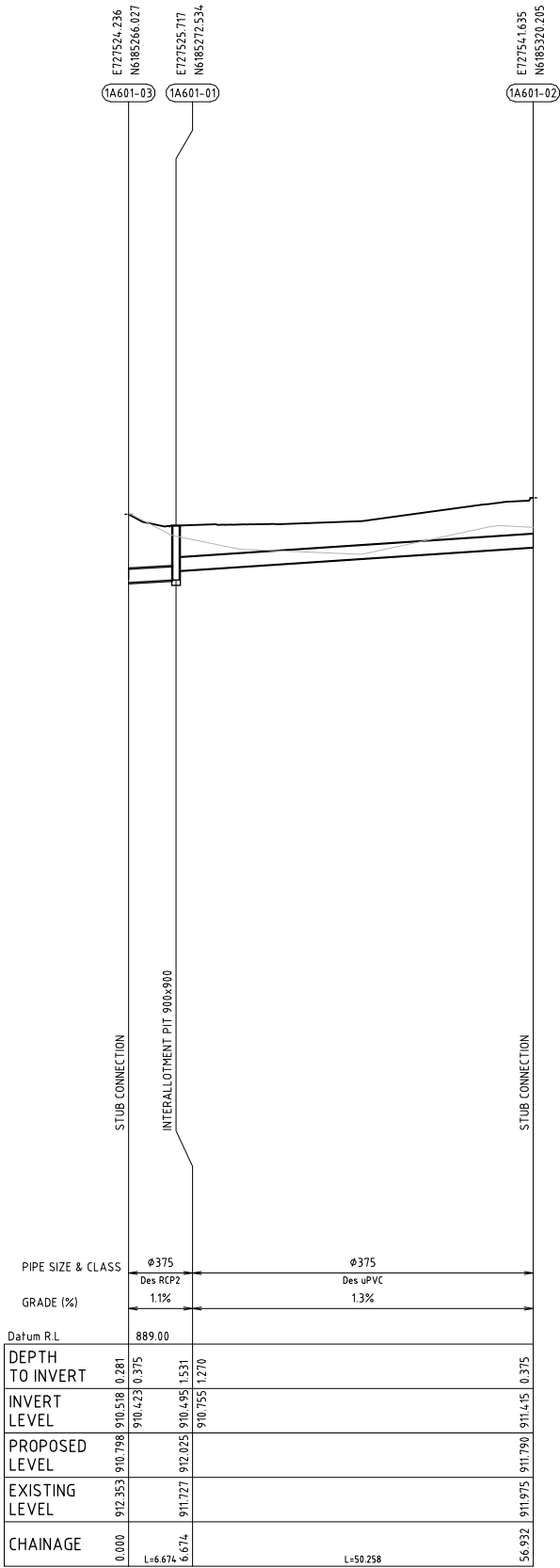
PROJECT NAME/PLANSET TITLE
PROJECT NAME/PLANSET TITLE
PROPOSED 20 LOT SUBDIVISION
CONCEPT CIVIL ENGINEERING PLANS
3 MEMORY AVE CROOKWELL NSW 2583

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DRAWING TITLE				
DRAINAGE DETAILS				
PROJECT NO.	PLANSET NO.	RELEASE NO.	DRAWING NO.	REVISION
P2410601	PS01	R05	PS01-E200	C

DRAWING ID: P2410601-PS01-R05-E200

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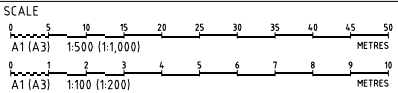


LINE 1A601 (STAGE 1)

PIT SCHEDULE (STAGE 1)											
PIT				INTERNAL		INLET		OUTLET		PIT	
NAME	TYPE	EASTING	NORTHING	WD	LEN	DIA	INV LEV	DIA	INV LEV	SETOUT RL	DEPTH
1A601-02	STUB CONNECTION	727541.635	6185320.205	0	0			375	911.415	911.79	0.375
1A601-01	INTERALLOTMENT PIT 900x900	727525.717	6185272.534	0.9	0.9	375	910.755	375	910.495	912.025	1.531
1A601-03	STUB CONNECTION	727524.236	6185266.027	0	0	375	910.423			910.798	0.281
NOTE:											
1. XY SETOUT TO PIT CENTRE											
2. SETOUT LEVEL TO PIT COVER LEVEL											
3. SOME SETOUT XY OR Z LEVELS HAVE SPECIAL SETOUT DATA. SEE INDIVIDUAL MANHOLE REMARKS											

PIT SCHEDULE (STAGE 2)											
PIT				INTERNAL		INLET		OUTLET		PIT	
NAME	TYPE	EASTING	NORTHING	WD	LEN	DIA	INV LEV	DIA	INV LEV	SETOUT RL	DEPTH
2A101-10	KERB INLET PIT - GRATE & 1.8m LINTEL - ON GRADE	727715.492	6185304.258	0.9	0.9			375	920.067	921.462	1.395
2A101-09	KERB INLET PIT - GRATE & 1.8m LINTEL - ON GRADE	727713.997	6185297.416	0.9	0.9	375	919.997	375	919.977	921.459	1.482
2A101-08	KERB INLET PIT - GRATE & 1.8m LINTEL - ON GRADE	727657.547	6185307.847	0.9	0.9	375	919.137	375	919.06	920.54	1.481
2A101-07	KERB INLET PIT - GRATE & 1.8m LINTEL - ON GRADE	727644.781	6185298.541	0.9	0.9	375	918.858	375	918.732	920.156	1.424
2A101-06	KERB INLET PIT - GRATE & 2.4m LINTEL - SAG	727637.197	6185255.695	0.9	0.9	375	918.06	375	918.04	919.476	1.436
2A101-05	KERB INLET PIT - GRATE & 2.4m LINTEL - SAG	727630.296	6185256.897	0.9	0.9	375	917.97	375	917.95	919.474	1.525
2A101-04	KERB INLET PIT - GRATE & 1.8m LINTEL - ON GRADE	727615.823	6185250.271	0.9	0.9	375	917.79	375	917.77	919.503	1.733
2A101-03	KERB INLET PIT - GRATE & 1.8m LINTEL - ON GRADE	727568.95	6185258.102	0.9	0.9	375	915.522	375	915.437	916.895	1.458
1A601-03	KERB INLET PIT - GRATE & 1.8m LINTEL - ON GRADE	727524.136	6185265.588	0.9	0.9	375	910.855	375	909.815	912.232	2.416
2A101-01	EXISTING GRATED SURFACE INLET PIT	727486.156	6185271.913	0.9	0.9	375	907.89			908.962	1.072
2A102-01	KERB INLET PIT - GRATE & 1.8m LINTEL - ON GRADE	727659.116	6185314.676	0.9	0.9			375	919.15	920.545	1.395
2A101-08	KERB INLET PIT - GRATE & 1.8m LINTEL - ON GRADE	727657.547	6185307.847	0.9	0.9	375	919.08			920.54	1.481
2A601-11	INTERALLOTMENT PIT 900x900	727758.74	6185342.906	0.9	0.9			150	921.199	921.967	0.768
2A601-10	INTERALLOTMENT PIT 900x900	727739.093	6185346.558	0.9	0.9	150	920.825	225	920.729	921.575	0.846
2A601-09	INTERALLOTMENT PIT 900x900	727719.446	6185350.209	0.9	0.9	225	920.355	225	920.335	921.183	0.848
2A601-08	INTERALLOTMENT PIT 900x900	727699.799	6185353.861	0.9	0.9	225	919.845	225	919.82	920.67	0.85
2A601-07	INTERALLOTMENT PIT 900x900	727680.153	6185357.512	0.9	0.9	225	919.052	300	918.934	919.871	0.937
2A601-06	INTERALLOTMENT PIT 900x900	727660.506	6185361.164	0.9	0.9	300	918.168	300	918.126	919.069	0.943
2A601-05	INTERALLOTMENT PIT 900x900	727640.641	6185364.856	0.9	0.9	300	917.924	375	917.848	918.847	0.999
2A601-04	INTERALLOTMENT PIT 900x900	727639.166	6185365.13	0.9	0.9	375	917.833	375	917.03	918.832	1.802
2A601-03	INTERALLOTMENT PIT 900x900	727645.601	6185398.688	0.9	0.9	375	914.765	375	914.745	916.529	1.784
2A601-02	INTERALLOTMENT PIT 900x900	727589.735	6185361.081	0.9	0.9	375	913.351	375	913.299	914.603	1.304
2A601-01	INTERALLOTMENT PIT 900x900	727545.227	6185330.96	0.9	0.9	375	911.564	375	911.544	912.83	1.286
1A601-02	INTERALLOTMENT PIT 900x900	727541.778	6185320.632	0.9	0.9	375	911.435	375	911.415	912.813	1.398
1A601-01	EXISTING INTERALLOTMENT PIT	727525.717	6185272.534	0.9	0.9	375	910.755	375	910.495	912.025	1.531
1A601-03	KERB INLET PIT - GRATE & 1.8m LINTEL - ON GRADE	727524.136	6185265.588	0.9	0.9	375	910.423			912.232	2.416
NOTE:											
1. XY SETOUT TO PIT CENTRE											
2. SETOUT LEVEL TO PIT COVER LEVEL											
3. SOME SETOUT XY OR Z LEVELS HAVE SPECIAL SETOUT DATA. SEE INDIVIDUAL MANHOLE REMARKS											

REV	DESCRIPTION	DATE	DRAWN	DESIGNED	CHECKED	APPRVD
C	MINOR AMENDMENTS	20/03/2025	SSH	PC	AVG	GT
B	MINOR AMENDMENTS	11/03/2025	SSH	PC	AVG	GT
A	INITIAL RELEASE	25/02/2025	SSH	PC	AVG	GT



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mAHD GT
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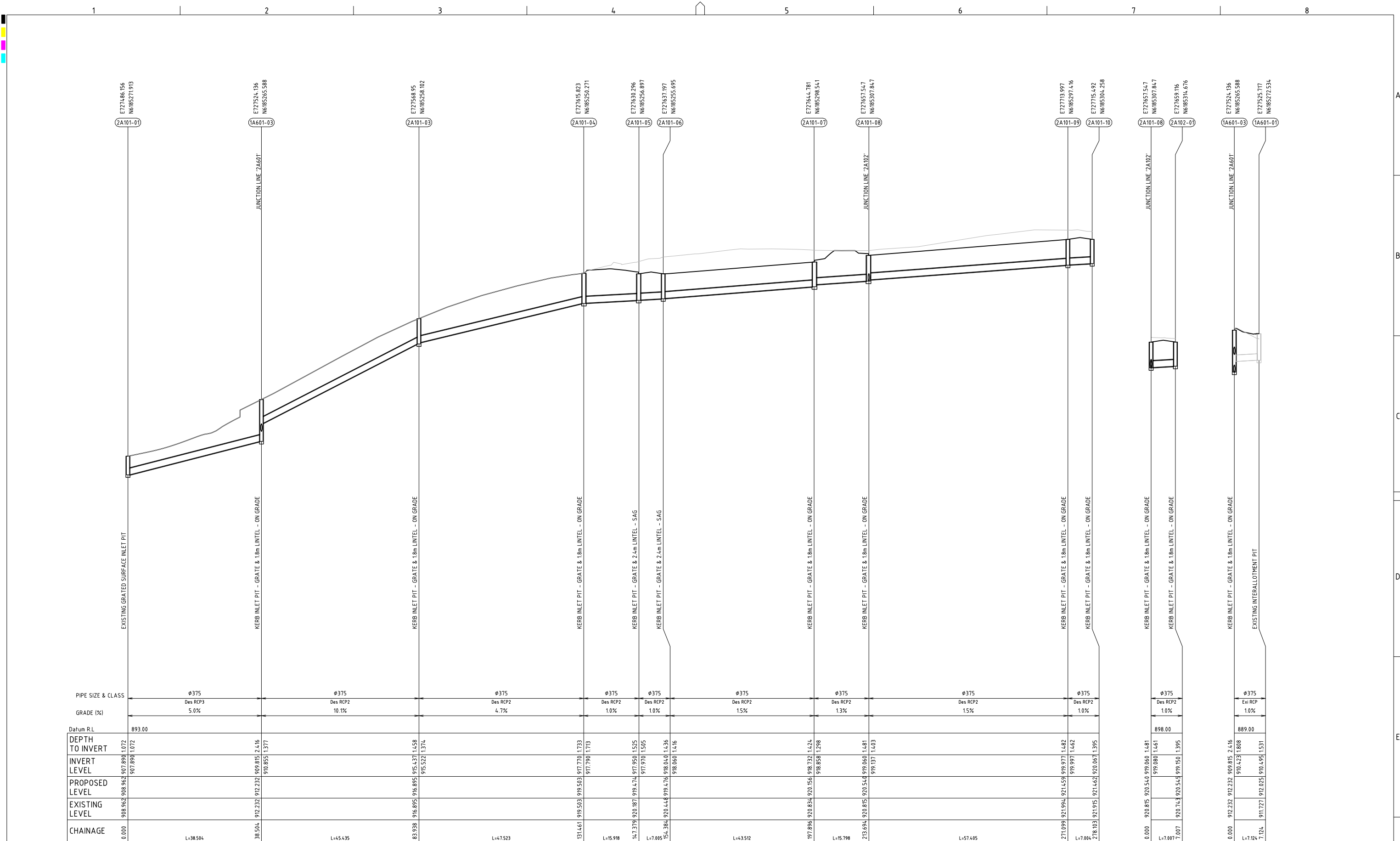
PROJECT NAME/PLANSET TITLE
BLUE SOX DEVELOPMENTS
PROPOSED 20 LOT SUBDIVISION
CONCEPT CIVIL ENGINEERING PLANS
3 MEMORY AVE CROOKWELL NSW 2583

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DRAWING TITLE				
DRAINAGE LONGITUDINAL SECTIONS AND PIT SCHEDULES (SHEET 1)				
PROJECT NO.	PLANSET NO.	RELEASE NO.	DRAWING NO.	REVISION
P2410601	PS01	R05	PS01-E300	C

DEVELOPMENT APPLICATION



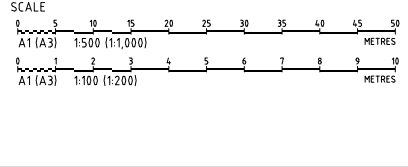
LINE 2A101 (STAGE 2)

LINE 2A102 (STAGE 2)

LINE 2A601 (STAGE 2)

DEVELOPMENT APPLICATION

REV	DESCRIPTION	DATE	DRAWN	DESIGNED	CHECKED	APPRVD
C	MINOR AMENDMENTS	20/03/2025	SSH	PC	AVG	GT
B	MINOR AMENDMENTS	11/03/2025	SSH	PC	AVG	GT
A	INITIAL RELEASE	25/02/2025	SSH	RL/PC	AVG	GT



GRID DATUM PROJECT MANAGER CLIENT

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PROJECT NAME/PLANSET TITLE

BLUE SOX DEVELOPMENTS

PROPOSED 20 LOT SUBDIVISION

CONCEPT CIVIL ENGINEERING PLANS

3 MEMORY AVE CROOKWELL NSW 2583

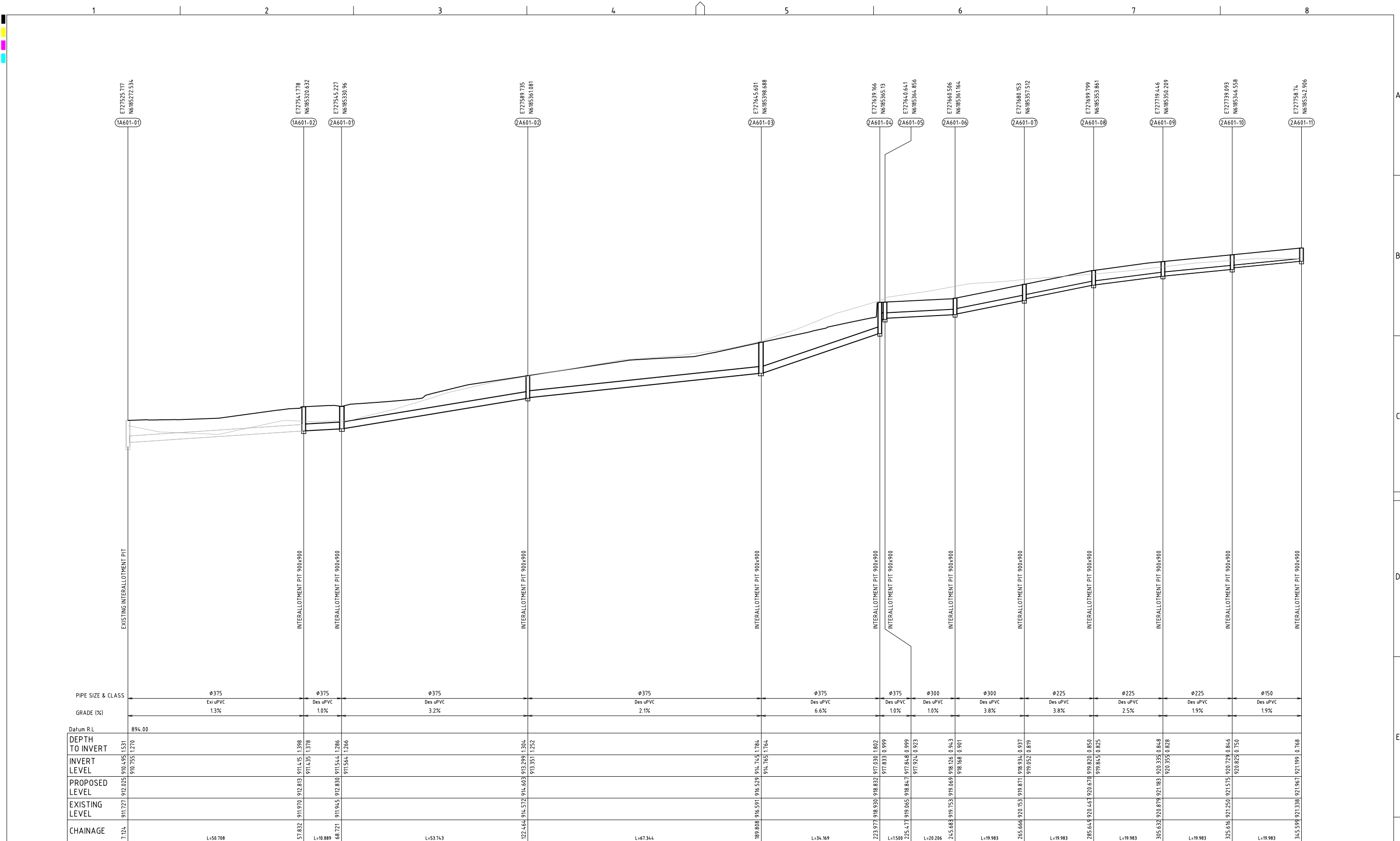
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Consulting Engineers

Environment Water Geotechnical Civil

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DRAWING TITLE				
DRAINAGE LONGITUDINAL SECTIONS AND PIT SCHEDULES (SHEET 2)				
PROJECT NO.	PLANSET NO.	RELEASE NO.	DRAWING NO.	REVISION
P2410601	PS01	R05	PS01-E310	C



LINE 2A601 (STAGE 2)

REV	DESCRIPTION	DATE	DRAWN	DESIGNED	CHECKED	APPRVD
C	MINOR AMENDMENTS	20/03/2025	SSH	PC	AVG	GT
B	MINOR AMENDMENTS	11/03/2025	SSH	PC	AVG	GT
A	INITIAL RELEASE	25/02/2025	SSH	RL/PC	AVG	GT

SCALE

GRID	DATUM	PROJECT MANAGER	CLIENT
	mAHD	GT	
DISCLAIMER & COPYRIGHT			
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PROJECT NAME/PLANSET TITLE	
BLUE SOX DEVELOPMENTS	
PROPOSED 20 LOT SUBDIVISION	
CONCEPT CIVIL ENGINEERING PLANS	
3 MEMORY AVE CROOKWELL NSW 2583	



Consulting Engineers
Environment
Water
Geotechnical
Civil

Suite 201, 20 George St, Hornsby, NSW 2077 Australia Phone: (02) 9476 9999 Fax: (02) 9476 8767
Email: mail@martens.com.au Internet: www.martens.com.au

DEVELOPMENT APPLICATION

DRAWING TITLE				
DRAINAGE LONGITUDINAL SECTION AND PIT SCHEDULES (SHEET 3)				
PROJECT NO.	PLANSET NO.	RELEASE NO.	DRAWING NO.	REVISION
P2410601	PS01	R05	PS01-E320	C

PRINTED - - - - - USER: SCHWARTZ

LINE TYPE	USE	DIMENSIONS (m) (FOR DIMENSIONS SHOWN × SEE MARKER SPACING COLUMN.)	COLOUR	RAISED MARKER TYPE	MARKER SPACING () (m)	
					NORMAL SPACING (A)	ALTERNATIVE SPACING (B)
TB1	GIVE WAY LINE (USED OF RIGHT SIDE OF ROAD)		WHITE	NOT REQUIRED	-	-
TB	GIVE WAY LINE (USED WITH SIGNS)		WHITE	NOT REQUIRED	-	-
DL1	DIVIDING LINE ON A TWO-LANE ROAD		WHITE	NOT REQUIRED	-	-
BB	1. REPLACES DIVIDING (SEPARATION) LINE IF RESTRICTED SIGHT DISTANCE FOR BOTH DIRECTIONS OR 2. APPROACH TO MEDIAN ISLAND OR 3. APPROACHES TO A PEDESTRIAN CROSSING		WHITE		12	12

NOTES:
1. PAVEMENT ARROW MARKINGS TO BE IN ACCORDANCE WITH RELEVANT AUSTRALIAN STANDARDS AND COUNCIL / TfNSW SPECIFICATIONS.

LINE MARKING DETAIL

NOTES:
1. ALL SIGNAGE AND LINEMARKING TO BE INSTALLED DURING STAGE 2
2. PROPOSED STREET TREE SPECIES (ONE PER PROPOSED LOT FRONTAGE) TO BE CONFIRMED BY COUNCIL

KEY

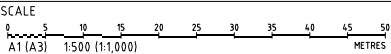
STAGE 1

STAGE 2

INDICATIVE DRIVEWAY LOCATIONS

PROPOSED STREETSCAPE TREES

REV	DESCRIPTION	DATE	DRAWN	DESIGNED	CHECKED	APPRVD
C	MINOR AMENDMENTS	20/03/2025	SSH	RL	AVG	GT
B	MINOR AMENDMENTS	11/03/2025	SSH	RL	AVG	GT
A	INITIAL RELEASE	25/02/2025	SSH	RL	AVG	GT



GRID
MGA

DATUM
mAHD

PROJECT MANAGER
GT

CLIENT
BLUE SOX DEVELOPMENTS

PROJECT NAME/PLANSET TITLE
PROPOSED 20 LOT SUBDIVISION
CONCEPT CIVIL ENGINEERING PLANS
3 MEMORY AVE CROOKWELL NSW 2583

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Email: mail@martens.com.au Internet: www.martens.com.au

DEVELOPMENT APPLICATION

DRAWING TITLE				
SIGNAGE, LINEMARKING & STREETSCAPE PLAN				
PROJECT NO.	PLANSET NO.	RELEASE NO.	DRAWING NO.	REVISION
P2410601	PS01	R05	PS01-G400	C

Appendix B – Pre-lodgement Advice



Upper Lachlan Shire Council

All correspondence addressed to the Chief Executive Officer, PO Box 42, Gunning NSW 2581
p: 02 4830 1000 | e: council@upperlachlan.nsw.gov.au | www.upperlachlan.nsw.gov.au

Crookwell Office: 44 Spring Street, Crookwell NSW 2583
Gunning Office: 123 Yass Street, Gunning NSW 2581

ABN 81 011 241 552

Our Ref: Pre-lodgement Meeting 3 Memory Ave, CROOKWELL
Your Ref: 3 Memory Ave, CROOKWELL

27 September 2024

Joshua Wehbe
Bluesox
PO Box 495
PARRAMATTA NSW 2124
joshua@bluesox.com.au

Dear Joshua,

Re: Response to Pre-lodgement Request to Proposed 22 Lot Subdivision

Property: 3 Memory Ave, CROOKWELL

Thank you for forwarding plans to Council for staff consideration seeking advice for your proposed development and thank you for your patience allowing Council staff to investigate and discuss matters with you. It is understood that you proposed to carry out a subdivision of Lot 2 DP702788 being an irregular shaped lot located with frontage to Memory Avenue, Pine Avenue, Prell Street and McIntosh Road, Crookwell. The following information is provided to assist you in the lodgement of a Development Application (DA) and is in response to the plans and details provided to Council.

1. Upper Lachlan Shire Council Local Environmental Plan 2010 (LEP)

The land is currently zoned as R2 Low Density Residential under the LEP with a Minimum Lot Size of 800 m².

The land is also subject to assessment under clause 6.2 Natural Resource Sensitivity Biodiversity and clause 6.4 Natural Resources Sensitivity – Water

2. Upper Lachlan Shire Council Development Control Plan 2010 (DCP)

Any development application proposing a subdivision on the subject land should have regard to the relevant provisions of the DCP, including:

- Section 2.1—Village/Residential Development Objectives
- Section 3—Development Application Matters
- Section 4.1—Matters for consideration
- Section 4.2—Environment
- Section 4.3—Design
- Section 4.4—Heritage
- Section 4.5—Flooding and Stormwater
- Section 5.1—Subdivision (Residential)
- Section 10.1—Utility Services

- Section 10.2—Roads
- Section 10.3—Easements
- Section 10.5—Staging of Development in Expanding Village Areas and the provision of Essential Services

Please outline in the application how the subdivision will address a desired local character and how the development “fits” with the previous stages. Please ensure that the application addresses the current and proposed character of the area in the Statement of Environmental Effects.

3. Upper Lachlan Bushfire Prone Land

The land is not currently mapped as being bush fire prone land.

4. The Crookwell Floodplain Risk Management Study and Plan 2017.

The Land is not mapped Council’s the Flood Planning Area or Outer Floodplain Area. However any subdivision would need to ensure post development flows do not exceed pre-development with details submitted to ensure there is no adverse impact downstream a result of the development.

5. Demolition

Any building demolition is required to address potential for asbestos as well as minimizing waste with a proposed and quantified Waste Management Plan.

6. Engineering Advice

- a. Council’s Water and Sewer Services has provided a plan which is attached to this response. Water service will need to be extended and looped to McIntosh Road.
- b. It is noted that part of the land drains to private land. In this case you would need to drain to the street or obtain landowners consent for any inter-allotment drainage. As such the development will need to be designed to ensure that there is no adverse impact as a result of the increase in impervious area. Post development shall not have any increase in storm water runoff than pre-development and therefore preliminary details will be required to be lodged with the application including calculations.
- c. Council is aware of owners concerns with regards to stormwater flooding the garage of a property on the north western boundary of the subject land and the northern side of Memory Avenue. Care needs to be taken with regards to potential impacts to this property (Lot 5 DP2058).
- d. Road design including sealing, pavement widening, footpaths along the exterior and connecting to existing, kerb and gutter to comply with Council’s DCP (Section for road design requirements) and fix/address intersection sightlines, signage and line marking. Kerb and gutter is required to be extended on the development side with the pavement extended. There was discussion raised with regards to the incline/batter of the perimeter of the land along Memory Avenue and details as to how access will be obtained.
- e. The land is located opposite Council’s cemetery which does have services with attendees parking along the roads during the services. While Council does not have details of traffic numbers/volumes, vehicles are parked along Memory, Pine and may include Prell.

- f. Council is generally not supportive of the battle-axe allotments, and in particular the three (3) central lots. Battle –axe lots located at the end of a cul-de-sac bulb or 90 degree bend may also impact on streetscape, parking and access issues. Battle-axe lots can also be difficult for access arrangements providing sufficient area for dwellings to enter and exit in a forward direction.
- g. General comment: Lots should be so configured to allow good solar access, therefore narrow north south aligned allotments make it more difficult to achieve good solar access.
- h. Connection to essential services including electricity and telecommunication, street lighting, hydrants, street trees and the like will be required through conditions of consent.

7. State Planning Policies

SEPP (Transport and Infrastructure) 2021: Division 5 Electricity transmission or distribution: Subdivision 2 requires referral to the electricity supply authority (Essential Energy) for specified works in the vicinity of electrical services.

SEPP (Biodiversity and Conservation) 2021 requires approval for tree clearing in non-rural areas. Please also refer to requirements under Biodiversity Conservation Act (below).

SEPP Resilience and Hazards 2021: Chapter 4 (section 4.6) with regards to the potential for contamination. Please confirm that the land is suitable for the proposed residential use.

Biodiversity Conservation Act 2016

The application will need to provide evidence relating to the triggers for the Biodiversity Offsets Scheme Threshold and the test of significance and include a statement as to whether the proposal is likely to significantly affect threatened species, populations of their habitats (test of significance detailed in section 7.3 of the Biodiversity Conservation Act 2016) and whether the Biodiversity Offsets Scheme has been triggered.

If the area of clearing native vegetation for the proposal exceeds the thresholds set out in the Biodiversity Conservation Regulation 2007 then the application will require an accredited ecologist to prepare a Biodiversity Development Assessment Report under the Biodiversity Conservation Act reforms.

The area of clearing to be included for the whole development includes but not limited to:

- Buildings and ancillary buildings (future dwellings and outbuildings)
- Clearing for landscaping
- Access roads and driveways
- Any infrastructure associated with the development and includes:
 - water
 - electricity
 - sewer
 - fences

There are a number of key websites with useful information, including:

- **Biodiversity Assessment & Approvals Decision Support Tool** – this takes you through some questions to determine which pathway to go down if there is clearing involved with a DA or for someone who wants to clear vegetation on their land
www.olg.nsw.gov.au/biodiversity-assessment-and-approvals-navigator

- **Biodiversity Offsets Scheme Entry Requirements** – this provides an overview of the scheme and links to further information and provides a link to the User Guide for the Biodiversity Values map below which tells you how to search properties etc.
www.environment.nsw.gov.au/biodiversity/entryrequirements.htm
- **Biodiversity Values Map** – this map that identifies areas where the Biodiversity Offset Scheme applies (and therefore when additional information is required for DAs) <https://www.lmbc.nsw.gov.au/Maps/index.html?viewer=BVMap>
- **Biodiversity Offset Scheme Entry Threshold Tool** – this tool can be used as a guide to decide whether or not you as the proponent would be required to enter the Biodiversity Offsets Scheme
<https://www.lmbc.nsw.gov.au/Maps/index.html?viewer=BOSETMap>

8. Developer Contributions

The development will be subject to developer contributions and an estimate of the current contributions per lot (as at June 2024 Quarter) is provided below, based on the information available at the pre-lodgement and price per lot under the current contribution plans:

Section 7.11 Contributions - previously known as section 94 contributions - indexed quarterly to Sydney CPI

Road	\$13,434.20
Waste Management	\$738.20
Open Space & Recreation	\$1,165.20
Community Facilities	\$2,019.20
Emergency Services	\$930.00
Plan Administration	\$253.30
TOTAL	\$18,540.10

Section 64 Contributions - 2024/2025 financial year rate

Water	\$5,000.00
Sewer	\$5250.00
TOTAL	\$10,250.00

Please note that the contributions are subject to review each financial year and with periodic plan review.

9. Matters to be addressed in development application

The following matters of consideration are required to be addressed with any documentation for subdivision of the land:

- Fully dimensions plan of subdivision with contour overlay and aerial photograph overlay.
- Statement of Environmental Effects (SEE) detailing the characteristics of the site and providing an assessment of the proposed development in accordance with the matters for consideration under Section 4.15 of the *Environmental Planning and Assessment Act 1979* including demonstrating compliance with any relevant Act, State Environmental Planning Policies, the LEP and DCP and Council Policy.
- An initial site analysis plan including all existing structures, features, vegetation, contours, site strengths, constraints, weaknesses, opportunities and threats.
- If the proposal involves the removal of vegetation, a site plan is to be provided that clearly identifies the areas, the type (native/exotic) and species of vegetation to be removed, the plans shall address the biodiversity thresholds outlined in this letter.

- e. Concept stormwater developed in accordance with water sensitive urban design principles, stormwater plan(s), long section(s) for any proposed stormwater infrastructure both onsite (including interallotment drainage) and offsite required to service the proposal in collaboration and where applicable with Councils infrastructure.
- f. Concept sewer plan(s) and long section(s) for any proposed sewer infrastructure both onsite and offsite required to service the proposal in collaboration and where applicable with Councils infrastructure.
- g. Concept water plan(s) and long section(s) for any proposed water infrastructure both onsite and offsite required to service the proposal in collaboration and where applicable with Councils infrastructure.
- h. Concept road and intersection details in collaboration with the existing road network, configuration plan(s) shall clearly articulate all proposed upgrades to the local road network.
- i. Concept servicing plans such as electricity, telecommunication showing existing services and proposed service connections.
- j. Estimated cost of development with breakdown
- k. Erosion & Sediment Control details (including any change in levels with cut and fill).
- l. Due diligence/Aboriginal Cultural Heritage assessment in accordance with DCP s4.4.2
- m. There is an opportunity to provide a subdivision which helps add positively to the character of Crookwell and add to the beauty of the area.
- n. The general matters raised in this letter.

10. Other

- The application is identified as requiring notification to neighbours or properties in the locality and must be notified for at least– 14 days under the Upper Lachlan Shire Council Community Participation Plan. It is advised that the proponent have discussions with surrounding property owners before DA lodgement. Any unresolved submissions may require the application to be reported to Council for council determination.
- The aim of this pre-lodgement advice is to provide assistance with the development application process, by strengthening the application and where possible identifying matters of concern before lodgement, as this will assist with processing the application and any matters raised through receipt of a submission. Other issues may arise following the lodgement and merit assessment of the development application.
- The above information is preliminary and based on information supplied to Upper Lachlan Shire Council by the owner, occupier or its agent and easily obtainable Council records. Upper Lachlan Shire Council does not accept any responsibility for the correctness of that information provided for review.
- A pre-development application meeting advice is often provided prior to an inspection of the site taking place and a further meeting is recommended following conceptual design of services and a flood impact assessment.
- The advice is provided to address technical issues that will assist in the preparation of the development application. Should you wish to discuss this matter further please contact me on 4830 1000 or council@upperlachlan.nsw.gov.au

Yours faithfully



Dianne James
Senior Town Planner



Property Report

3 MEMORY AVENUE CROOKWELL 2583



Property Details

Address: 3 MEMORY AVENUE CROOKWELL 2583
Lot/Section /Plan No: 21-/DP702788
Council: UPPER LACHLAN SHIRE COUNCIL

Summary of planning controls

Planning controls held within the Planning Database are summarised below. The property may be affected by additional planning controls not outlined in this report. Please contact your council for more information.

Local Environmental Plans	Upper Lachlan Local Environmental Plan 2010 (pub. 9-7-2010)
Land Zoning	R2 - Low Density Residential: (pub. 14-4-2023)
Height Of Building	NA
Floor Space Ratio	NA
Minimum Lot Size	800 m ²
Heritage	NA
Land Reservation Acquisition	NA
Foreshore Building Line	NA
Riparian Lands and Watercourses	Water Map
Terrestrial Biodiversity	Sensitive Land

Detailed planning information

State Environmental Planning Policies which apply to this property

State Environmental Planning Policies can specify planning controls for certain areas and/or types of development. They can also identify the development assessment system that applies and the type of environmental assessment that is required.

This report provides general information only and does not replace a Section 10.7 Certificate (formerly Section 149)



Property Report

3 MEMORY AVENUE CROOKWELL 2583

- State Environmental Planning Policy (Biodiversity and Conservation) 2021: Allowable Clearing Area (pub. 21-10-2022)
- State Environmental Planning Policy (Biodiversity and Conservation) 2021: Land Application (pub. 2-12-2021)
- State Environmental Planning Policy (Biodiversity and Conservation) 2021: Subject Land (pub. 2-12-2021)
- State Environmental Planning Policy (Exempt and Complying Development Codes) 2008: Land Application (pub. 12-12-2008)
- State Environmental Planning Policy (Housing) 2021: Land Application (pub. 26-11-2021)
- State Environmental Planning Policy (Industry and Employment) 2021: Land Application (pub. 2-12-2021)
- State Environmental Planning Policy (Planning Systems) 2021: Land Application (pub. 2-12-2021)
- State Environmental Planning Policy (Primary Production) 2021: Land Application (pub. 2-12-2021)
- State Environmental Planning Policy (Resilience and Hazards) 2021: Land Application (pub. 2-12-2021)
- State Environmental Planning Policy (Resources and Energy) 2021: Land Application (pub. 2-12-2021)
- State Environmental Planning Policy (Sustainable Buildings) 2022: Land Application (pub. 29-8-2022)
- State Environmental Planning Policy (Transport and Infrastructure) 2021: Land Application (pub. 2-12-2021)

Other matters affecting the property

Information held in the Planning Database about other matters affecting the property appears below. The property may also be affected by additional planning controls not outlined in this report. Please speak to your council for more information

Land near Electrical Infrastructure	This property may be located near electrical infrastructure and could be subject to requirements listed under ISEPP Clause 45. Please contact Essential Energy for more information.
Local Aboriginal Land Council	PEJAR
Regional Plan Boundary	South East and Tablelands

This report provides general information only and does not replace a Section 10.7 Certificate (formerly Section 149)

Laggan Road Stormwater – Approximate locations subject to confirmation



Please see attached for rough sketch of the stormwater near Memory Avenue.

Blue = Piped Lines

Red = Kerb and Gutter

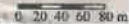
Light Blue = Open Drains

Blue Boxes = Pits

Blue Circles = Kerb Entry's

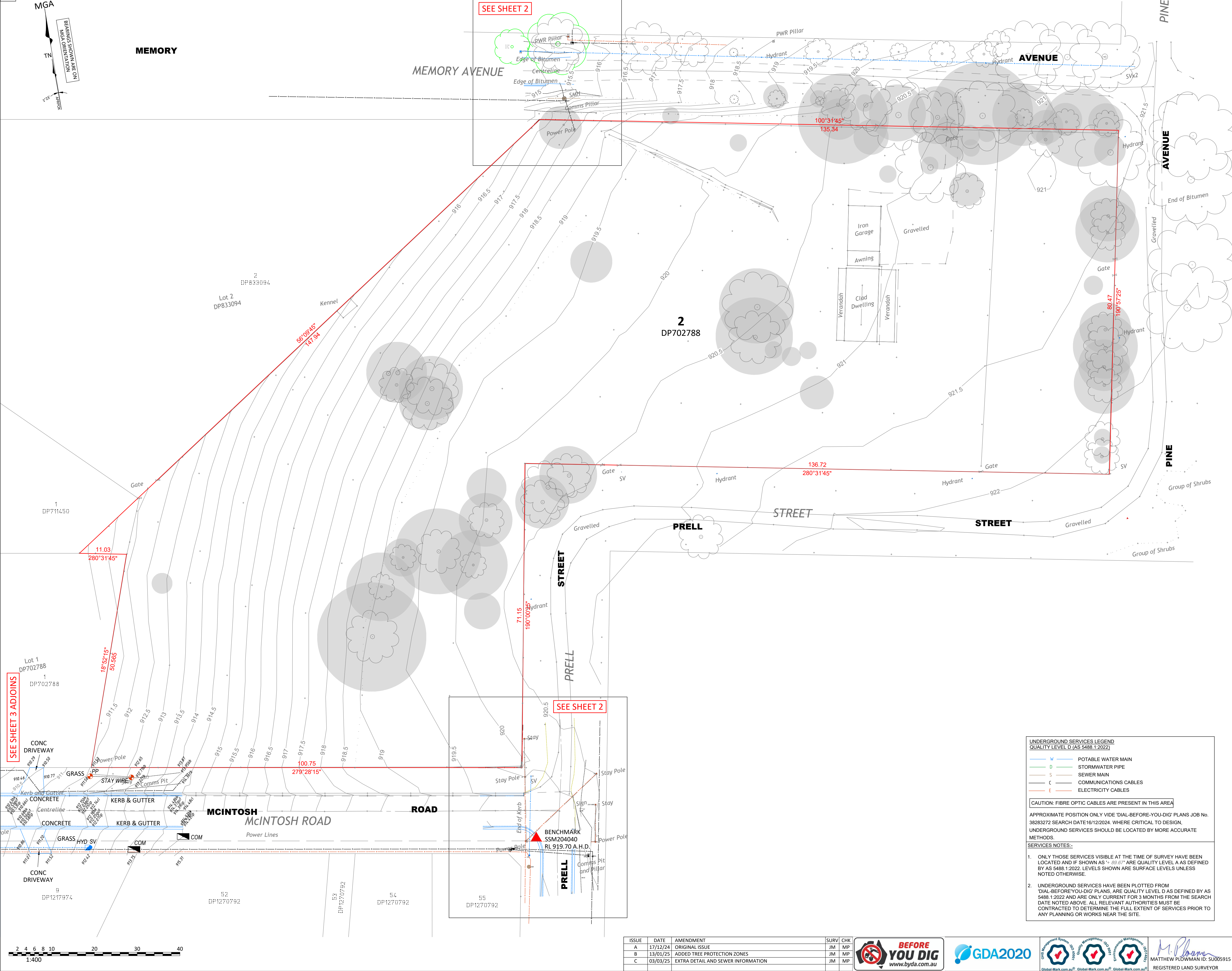
Refer to DCP Section for road requirements and Section 5 Residential Development – Particularly Table 3.

Submitted on 2009/02/24, 11:28 AM



Appendix C – Site Survey

A1



GENERAL NOTES

THE OVERALL SURVEY OF LOT 2 DP702788 SHOWN IS FROM A SURVEY BY SOUTHERN CROSS CONSULTING SURVEYORS DATED 25/11/2022 REF 24884C.

SDG HAS SURVEYED THE AREAS WITHIN DIAGRAMS A AND B AND THE DRAINAGE INFORMATION SHOWN ALONG MCINTOSH ROAD ONLY.

THE ORIGINAL 3D DTM MESH BY SOUTHERN CROSS CONSULTING SURVEYORS WITHIN THE AREAS OF DIAGRAMS A AND B HAS BEEN DELETED AND THE SDG 3D MESH HAS BEEN SPLICED IN.

SDG HAS NOT CHECKED THE OVERALL SURVEY BY SOUTHERN CROSS CONSULTING SURVEYORS.

ONLY TREES GREATER THAN 3.5 METRES IN HEIGHT ARE SHOWN ON THIS PLAN AND THEIR POSITIONS ARE DIAGRAMMATIC ONLY AND MAY REQUIRE ADDITIONAL SURVEY WHERE CRITICAL TO DESIGN.

CONTOURS ARE INDICATIVE AT GROUND FORM ONLY. SPOT LEVELS ONLY SHOULD BE USED FOR CALCULATIONS OF QUANTITIES WITH CAUTION.

LEVELS ARE ON AUSTRALIAN HEIGHT DATUM (AHD).

ALL SETOUT LEVELS MUST BE REFERRED TO THE BENCH MARK SHOWN ON THIS PLAN.

BOUNDARY NOTES

A BASIC BOUNDARY SURVEY HAS BEEN DONE SUITABLE FOR DA LODGEMENT PURPOSES.

BOUNDARIES HAVE NOT BEEN MARKED.

SURVEY INFORMATION NOTES

THE ORIGIN OF COORDINATES COMES FROM PM35953 E727183.306 N6185234.235 CLASS B POSITIONAL UNCERTAINTY (PU) 0.02 (MGA2020) ADOPTED FROM SCIMS DATED 19/12/2024.

THE ORIGIN OF LEVELS COMES FROM PM35953 RL904.891 CLASS LB POSITIONAL UNCERTAINTY (PU) 0.41 ADOPTED FROM SCIMS DATED 19/12/2024.

THE ORIENTATION OF THIS PLAN IS MGA NORTH WHICH HAS BEEN DETERMINED BY A COORDINATE JOIN BETWEEN PM35953 AND PM61189.

CERTIFICATE OF TITLE NOTES

THE FOLLOWING INFORMATION RELATES TO THE RESPECTIVE CERTIFICATE OF TITLE OF EACH LOTS:

- LOT 2 IN DP702788 (CT EDITION 14 DATED 17/04/2024 SEARCH DATE 06/01/2025)
- AFFECTED BY:
 - EASEMENT FOR WATER SUPPLY APPURTANANT TO THE LAND DESCRIBED (DP614271)
 - COVENANT (V236534)

COVENANTS AND RESTRICTIONS NOTED ON THE TITLE HAVE NOT BEEN INVESTIGATED. THESE SHOULD BE INVESTIGATED PRIOR TO DESIGN TO ENSURE ANY FUTURE DEVELOPMENT COMPLIES.

SERVICES NOTES

ONLY THOSE SERVICES VISIBLE AT THE TIME OF SURVEY HAVE BEEN LOCATED AND ARE QUALITY LEVEL A AS DEFINED BY AS 5488.1:2022.

UNDERGROUND SERVICES HAVE BEEN PLOTTED WITHIN THE AREAS OF DIAGRAMS A AND B ONLY FROM 'DIAL-BEFORE-YOU-DIG' PLANS, ARE QUALITY LEVEL D AS DEFINED BY AS 5488.1:2022 AND ARE ONLY CURRENT AT THE DATE OF SEARCH.

ALL RELEVANT AUTHORITIES MUST BE CONTACTED TO DETERMINE THE FULL EXTENT OF SERVICES PRIOR TO ANY PLANNING OR WORKS NEAR THE SITE.

WATER AND SEWER UNDERGROUND SERVICES FOR THIS AREA ARE NOT AVAILABLE ON DBYD AND HAVE NOT BEEN SHOWN ON THE PLAN.

ENQUIRIES TO THE LOCAL COUNCIL AUTHORITY WOULD NEED TO BE UNDERTAKEN TO OBTAIN UNDERGROUND SERVICE DIAGRAMS FOR WATER AND SEWER SERVICES.

LEGEND

TAG	DESCRIPTION
BB	BOTTOM OF BANK
BK	BACK OF KERB
CL	CENTERLINE OF ROAD
COM	COMMUNICATIONS PIT
CPIL	COMMUNICATIONS PILLAR
D.S.H	DIAMETER, SPREAD, HEIGHT
EB	EDGE OF BITUMENT
ELP	ELECTRICITY PILLAR
EOG	EDGE OF GRAVEL
GUT	GUTTER OF KERB
HYD	HYDRANT
LIP	LIP OF KERB
PP	POWER POLE
SMH	SEWER MANHOLE
SS	STREET SIGN
SV	STOP VALVE
TB	TOP OF BANK

TPZ (FILE PROVIDED BY ABEL ECOLOGY)

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PROJECT:

DETAIL AND LEVEL SURVEY OF LOT 2 IN DP702788

3 MEMORY AVENUE CROOKWELL

CLIENT: OLIVER WEHBE

FILE: 9293-Detail-Issue C-3 Memory Avenue Crookwell.dwg

LGA: UPPER LACHLAN SHIRE

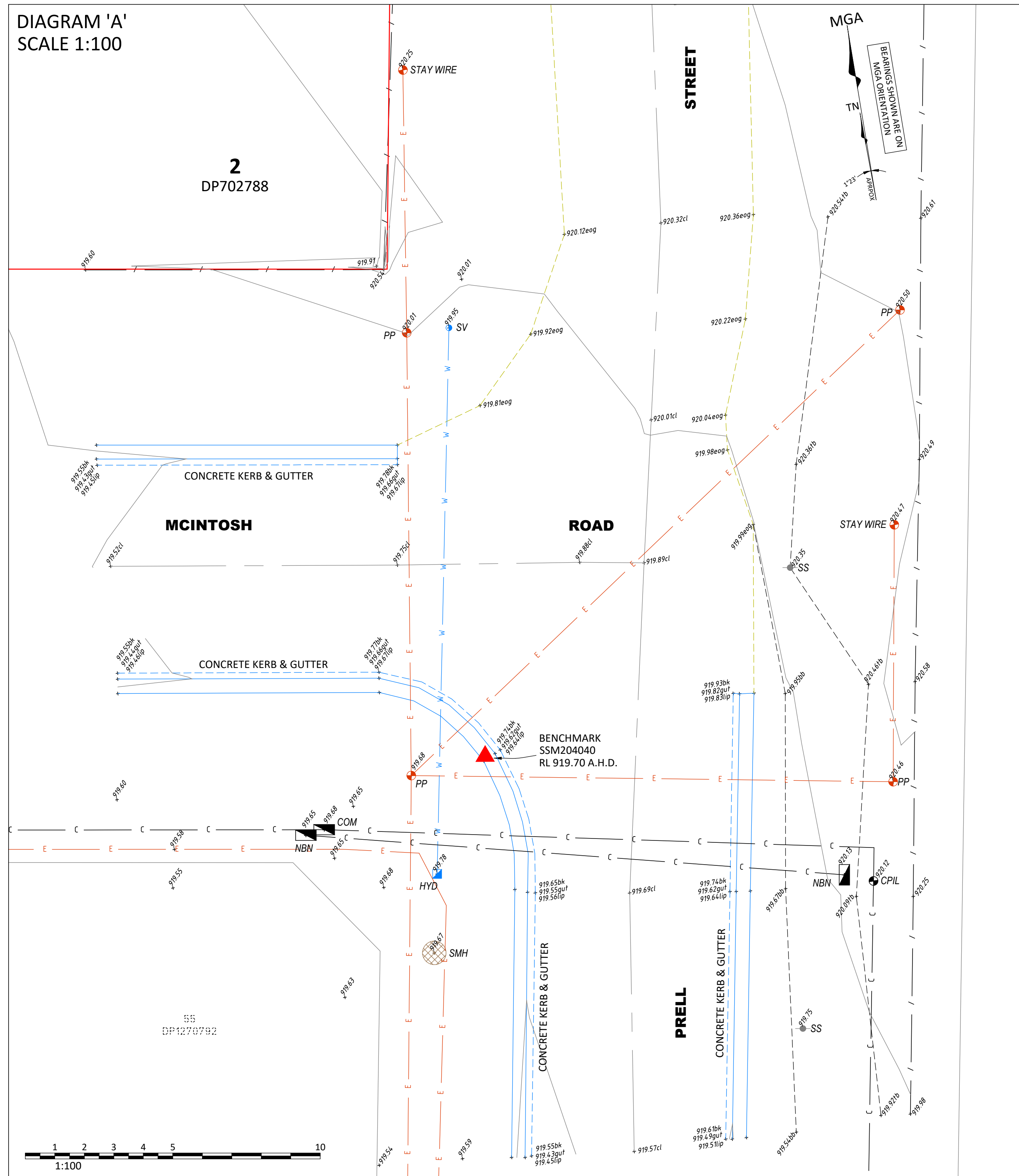
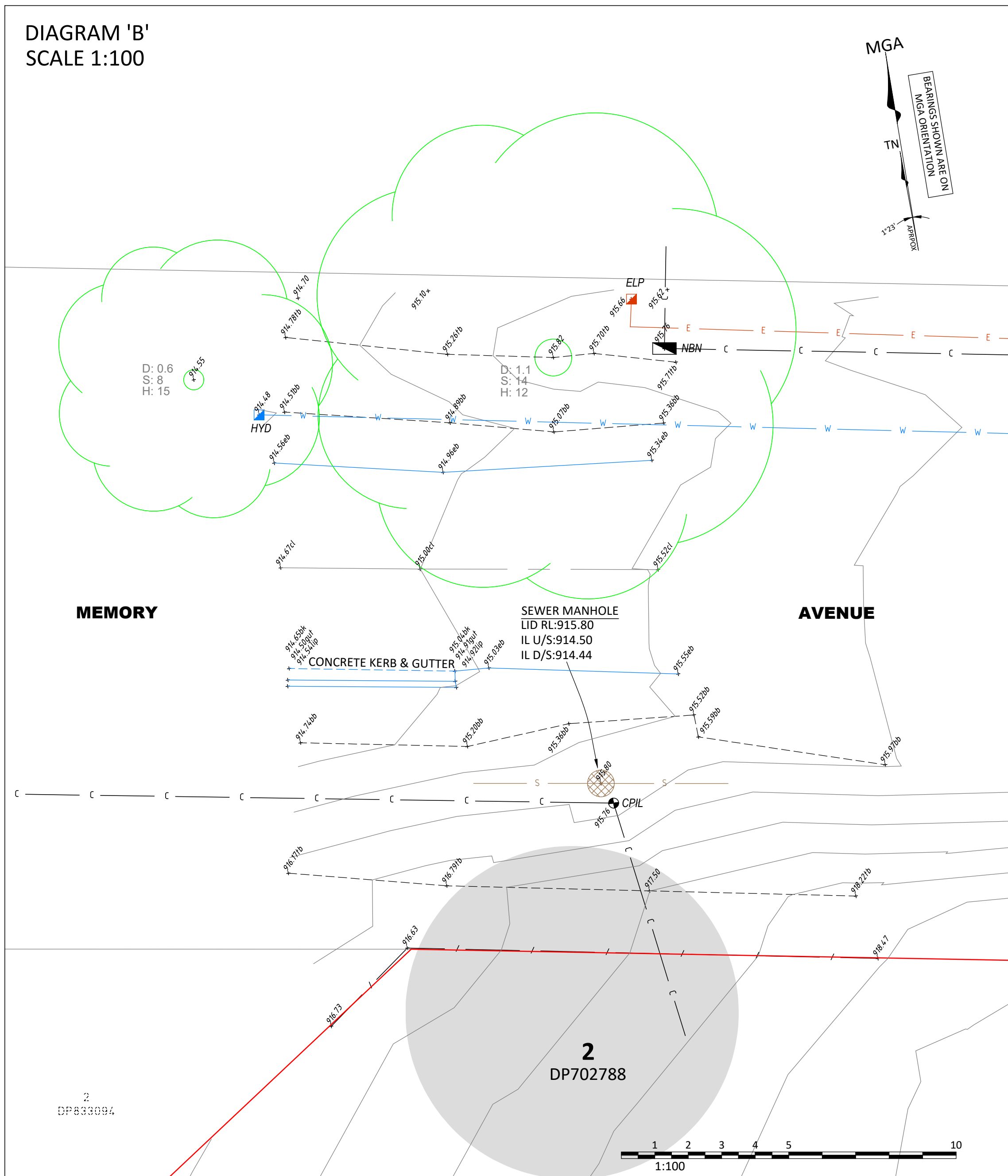
REF: 9293	CONTOURS: 0.5m
ISSUE: C	DATUM: AHD
SURVEY DATE: 17/12/2024	AZIMUTH: MGA2020
SCALE: 1:400	SHEET 1 OF 3 SHEETS

SDG Pty Ltd
abn 85 213 523 621
Suite 1, 3 Railway Street, Baulkham Hills NSW 2153
t: (02) 9630 7955 w: sdg.net.au
Liability limited by a scheme approved under Professional Standards Legislation

ISSUE	DATE	AMENDMENT	SURV	CHK
A	17/12/24	ORIGINAL ISSUE	JM	MP
B	13/01/25	ADDED TREE PROTECTION ZONES	JM	MP
C	03/03/25	EXTRA DETAIL AND SEWER INFORMATION	JM	MP



M. Ploam
MATTHEW PLOWMAN ID: SU005915
REGISTERED LAND SURVEYOR

DIAGRAM 'A'
SCALE 1:100DIAGRAM 'B'
SCALE 1:100

GENERAL NOTES

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SERVICES NOTES

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UNDERGROUND SERVICES HAVE BEEN PLOTTED WITHIN THE AREAS OF DIAGRAMS A AND B ONLY FROM 'DIAL-BEFORE-YOU-DIG' PLANS, ARE QUALITY LEVEL D AS DEFINED BY AS 5488.1:2022 AND ARE ONLY CURRENT AT THE DATE OF SEARCH.

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WATER AND SEWER UNDERGROUND SERVICES FOR THIS AREA ARE NOT AVAILABLE ON DBYD AND HAVE NOT BEEN SHOWN ON THE PLAN.

ENQUIRIES TO THE LOCAL COUNCIL AUTHORITY WOULD NEED TO BE UNDERTAKEN TO OBTAIN UNDERGROUND SERVICE DIAGRAMS FOR WATER AND SEWER SERVICES.

LEGEND

TAG	DESCRIPTION
BB	BOTTOM OF BANK
BK	BACK OF KERB
CL	CENTERLINE OF ROAD
COM	COMMUNICATIONS PIT
CPIL	COMMUNICATIONS PILLAR
D.S.H	DIAMETER, SPREAD, HEIGHT
EB	EDGE OF BITUMENT
ELP	ELECTRICITY PILLAR
EOG	EDGE OF GRAVEL
GUT	GUTTER OF KERB
HYD	HYDRANT
LIP	LIP OF KERB
PP	POWER POLE
SMH	SEWER MANHOLE
SS	STREET SIGN
SV	STOP VALVE
TB	TOP OF BANK

TPZ (FILE PROVIDED BY ABEL ECOLOGY)

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PROJECT:

DETAIL AND LEVEL SURVEY OF
LOT 2 IN DP702788

3 MEMORY AVENUE
CROOKWELL

CLIENT: OLIVER WEHBE

FILE: 9293-Detail-Issue C-3 Memory Avenue Crookwell.dwg

LGA: UPPER LACHLAN SHIRE

REF: 9293

ISSUE: C

SURVEY DATE: 17/12/2024

SCALE: AS SHOWN

CONTOURS: 0.5m

DATUM: AHD

AZIMUTH: MGA2020

SHEET 2 OF 3 SHEETS



SDG Pty Ltd
abn 85 213 523 621
Suite 1, 3 Railway Street, Baulkham Hills NSW 2153
t: (02) 9630 7955 w: sdg.net.au
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UNDERGROUND SERVICES LEGEND
QUALITY LEVEL D (AS 5488.1:2022)

W	POTABLE WATER MAIN
D	STORMWATER PIPE
S	SEWER MAIN
C	COMMUNICATIONS CABLES
E	ELECTRICITY CABLES

CAUTION: FIBRE OPTIC CABLES ARE PRESENT IN THIS AREA

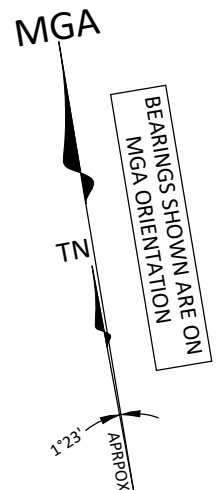
APPROXIMATE POSITION ONLY VIDE 'DIAL-BEFORE-YOU-DIG' PLANS JOB NO. 38283272 SEARCH DATE 16/12/2024. WHERE CRITICAL TO DESIGN, UNDERGROUND SERVICES SHOULD BE LOCATED BY MORE ACCURATE METHODS.

SERVICES NOTES:-

- ONLY THOSE SERVICES VISIBLE AT THE TIME OF SURVEY HAVE BEEN LOCATED AND IF SHOWN AS '+.89.67' ARE QUALITY LEVEL A AS DEFINED BY AS 5488.1:2022. LEVELS SHOWN ARE SURFACE LEVELS UNLESS NOTED OTHERWISE.
- UNDERGROUND SERVICES HAVE BEEN PLOTTED FROM 'DIAL-BEFORE-YOU-DIG' PLANS, ARE QUALITY LEVEL D AS DEFINED BY AS 5488.1:2022 AND ARE ONLY CURRENT FOR 3 MONTHS FROM THE SEARCH DATE NOTED ABOVE. ALL RELEVANT AUTHORITIES MUST BE CONTRACTED TO DETERMINE THE FULL EXTENT OF SERVICES PRIOR TO ANY PLANNING OR WORKS NEAR THE SITE.

ISSUE	DATE	AMENDMENT	SURV	CHK
A	17/12/24	ORIGINAL ISSUE	JM	MP
B	13/01/25	ADDED TREE PROTECTION ZONES	JM	MP
C	03/03/25	EXTRA DETAIL AND SEWER INFORMATION	JM	MP





UNDERGROUND SERVICES LEGEND
QUALITY LEVEL D (AS 5488.1:2022)

W	POTABLE WATER MAIN
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GENERAL NOTES

THE OVERALL SURVEY OF LOT 2 DP702788 SHOWN IS FROM A SURVEY BY SOUTHERN CROSS CONSULTING SURVEYORS DATED 25/11/2022 REF 24884C.

SDG HAS SURVEYED THE AREAS WITHIN DIAGRAMMS A AND B AND THE DRAINAGE INFORMATION SHOWN ALONG MCINTOSH ROAD ONLY.

THE ORIGINAL 3D DTM MESH BY SOUTHERN CROSS CONSULTING SURVEYORS WITHIN THE AREAS OF DIAGRAMMS A AND B HAS BEEN DELETED AND THE SDG 3D MESH HAS BEEN SPLICED IN.

SDG HAS NOT CHECKED THE OVERALL SURVEY BY SOUTHERN CROSS CONSULTING SURVEYORS.

ONLY TREES GREATER THAN 3.5 METRES IN HEIGHT ARE SHOWN ON THIS PLAN AND THEIR POSITIONS ARE DIAGRAMMATIC ONLY AND MAY REQUIRE ADDITIONAL SURVEY WHERE CRITICAL TO DESIGN.

CONTOURS ARE INDICATIVE AT GROUND FORM ONLY. SPOT LEVELS ONLY SHOULD BE USED FOR CALCULATIONS OF QUANTITIES WITH CAUTION.

LEVELS ARE ON AUSTRALIAN HEIGHT DATUM (AHD).

ALL SETOUT LEVELS MUST BE REFERRED TO THE BENCH MARK SHOWN ON THIS PLAN.

BOUNDARY NOTES

A BASIC BOUNDARY SURVEY HAS BEEN DONE SUITABLE FOR DA LODGEMENT PURPOSES.

BOUNDARIES HAVE NOT BEEN MARKED.

SURVEY INFORMATION NOTES

THE ORIGIN OF COORDINATES COMES FROM PM35953 E727183.306 N6185234.235 CLASS B POSITIONAL UNCERTAINTY (PU) 0.02 (MGA2020) ADOPTED FROM SCIMS DATED 19/12/2024.

THE ORIGIN OF LEVELS COMES FROM PM35953 RL904.891 CLASS LB POSITIONAL UNCERTAINTY (PU) 0.41 ADOPTED FROM SCIMS DATED 19/12/2024.

THE ORIENTATION OF THIS PLAN IS MGA NORTH WHICH HAS BEEN DETERMINED BY A COORDINATE JOIN BETWEEN PM35953 AND PM61189.

CERTIFICATE OF TITLE NOTES

THE FOLLOWING INFORMATION RELATES TO THE RESPECTIVE CERTIFICATE OF TITLE OF EACH LOTS:

- LOT 2 IN DP702788 (CT EDITION 14 DATED 17/04/2024 SEARCH DATE 06/01/2025)
- AFFECTED BY:
 - EASEMENT FOR WATER SUPPLY APPURTANANT TO THE LAND DESCRIBED (DP614271)
 - COVENANT (V236534)

COVENANTS AND RESTRICTIONS NOTED ON THE TITLE HAVE NOT BEEN INVESTIGATED. THESE SHOULD BE INVESTIGATED PRIOR TO DESIGN TO ENSURE ANY FUTURE DEVELOPMENT COMPLIES.

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PROJECT:

DETAIL AND LEVEL SURVEY OF LOT 2 IN DP702788

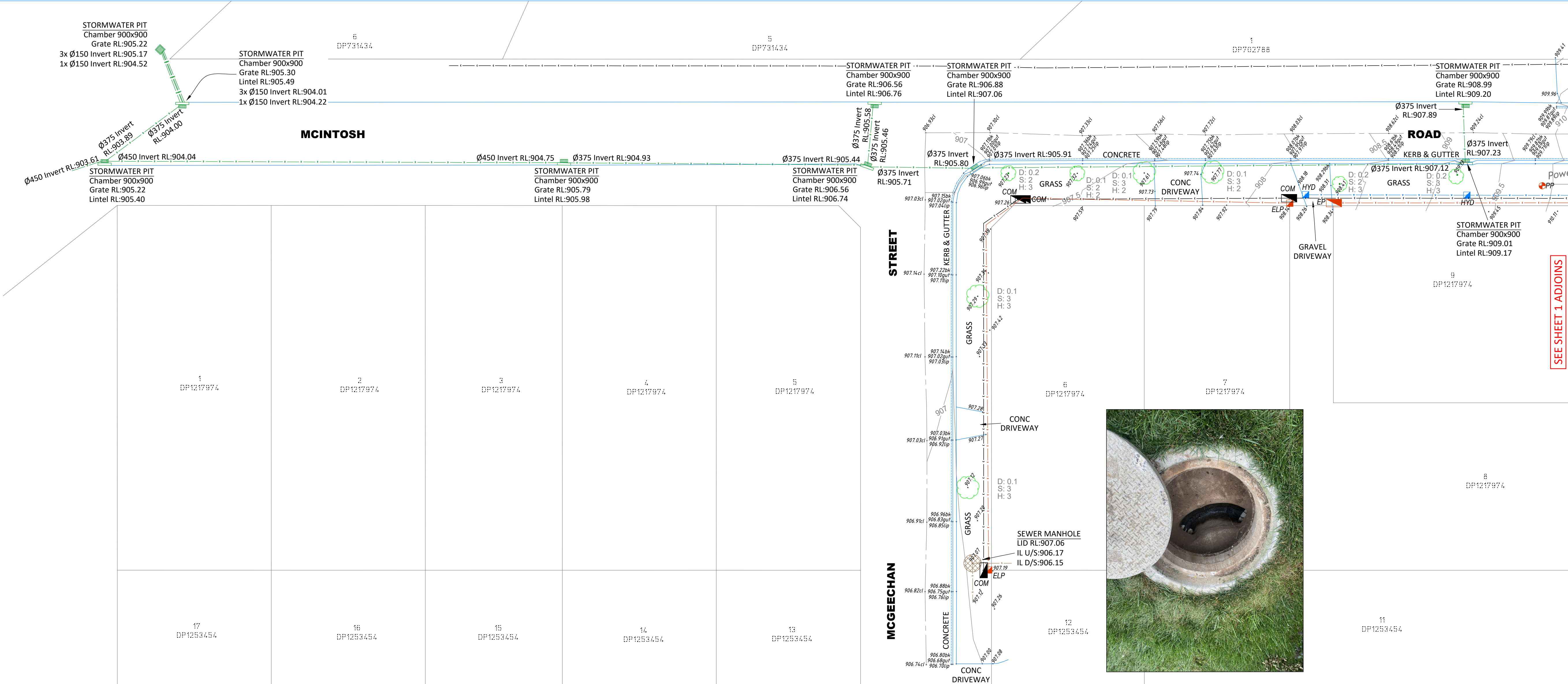
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ISSUE: C	DATUM: AHD
SURVEY DATE: 17/12/2024	AZIMUTH: MGA2020
SCALE: 1:300	SHEET 3 OF 3 SHEETS



ISSUE	DATE	AMENDMENT	SURV	CHK
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M. Ploam
MATTHEW PLOWMAN ID: SU005915
REGISTERED LAND SURVEYOR



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