

ENGINEERING SERVICES REPORT

NORTH HARBOUR PRECINCT 1

Prepared for **North Harbour Holdings Pty Ltd**



Document information

GENERAL INFORMATION

Author(s)	James McIntyre
Version	3
Path/file name	H:\23\000077.03 - Early Release BEW\2_Docs\Reports\Engineering Services Report
Prepared by (author)	James McIntyre
Reviewed by	Shaun Pilcher
Approved by	Shaun Pilcher
Security classification	Commercial-in-Confidence

HISTORY OF CHANGES

Version	Date	Checked by
0	14-10-2025	Shaun Pilcher
1	19-12-2025	Shaun Pilcher
2	27-01-2026	Shaun Pilcher
3	02-04-2026	Shaun Pilcher

COMMERCIAL IN CONFIDENCE

This document including any intellectual property is confidential and proprietary to Egis and may not be disclosed in whole or in part to any third party nor used in any manner whatsoever other than for the purposes expressly consented to by Egis in writing. Egis reserves all legal rights and remedies in relation to any infringement of its rights in respect of its confidential information | © Egis Consulting Pty Ltd.

TABLE OF CONTENTS

1 AMENDMENTS TO THIS REPORT (REV3)	4
2 INTRODUCTION	4
2.1 Technical Reports	4
3 PROPOSED DEVELOPMENT	5
4 EARTHWORKS	6
4.1 Acid Sulphate Soils	6
5 INTEGRATED MOVEMENT NETWORK	7
5.1 General	7
5.2 Speed Control	8
5.3 Refuse	8
5.4 Road Hierarchy	8
5.5 Active and Public Transport	8
5.6 External Road Impacts	8
6 STORMWATER MANAGEMENT	9
6.1 Regional Flooding	9
6.2 Local Drainage	10
6.3 Stormwater Quality	11
7 UTILITIES	11
7.1 Water Supply	11
7.2 Sewerage	12
7.3 Electrical and Communication	12
8 ENVIRONMENTAL MANAGEMENT	13
9 CONCLUSION	13
APPENDIX A: PLAN OF DEVELOPMENT	14
APPENDIX B: CONCEPT ENGINEERING DRAWINGS	15

TABLE OF FIGURES

Figure 1 - Site Locality (BITZIOS, 2025)	4
Figure 2 – North Harbour PDA Precinct Plan (Place, 2025)	5
Figure 3 – Overall Precinct 1 Road Servicing (Bitzios - Egis Edited 2025)	7
Figure 4 – External Catchment Proposed Diversions (Places – Egis Edited 2025)	10
Figure 5 – Overall Sewer Servicing for Precinct 1 (Unitywater Mapping – Egis edited 2025)	12

1 AMENDMENTS TO THIS REPORT (REV3)

Revision 3 of this report includes minor amendments to the concept engineering drawings included within Appendix B. The drawing updates include revisions to lot yield calculations, relocation of services to be positioned outside of laneways, and adjustments to gully pit locations to better align with proposed driveway configurations.

2 INTRODUCTION

Egis Consulting Pty Ltd has been commissioned by North Harbour Holdings Pty Ltd to prepare an Engineering Services Report to support a Reconfiguration of a Lot (RAL) for Precinct 1 of the North Harbour Priority Development Area (PDA). Precinct 1 comprises 250 residential lots, 2 open public spaces and a proposed wetland proposed over 10 stages. The site is described as Lot 1 on SP332514. The application area for Precinct 1 is shown in **Figure 1** below.

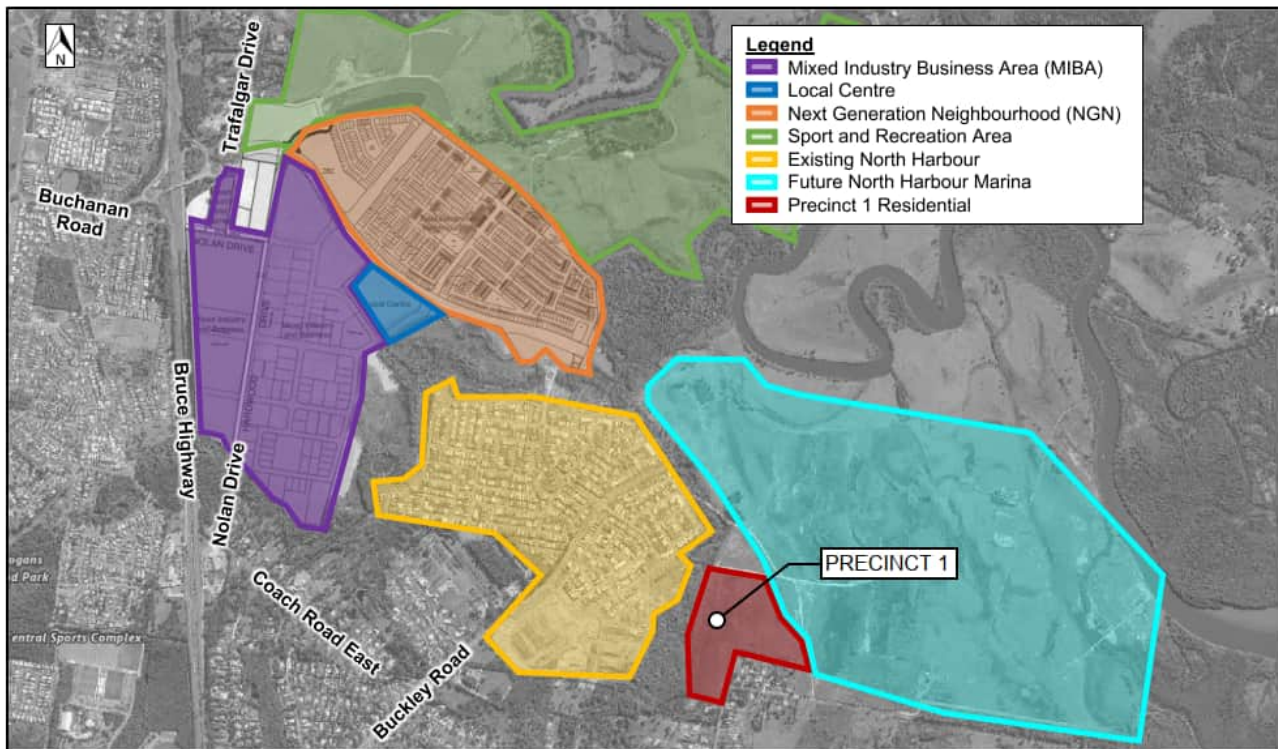


FIGURE 1 - SITE LOCALITY (BITZIOS, 2025)

This report covers issues related to civil infrastructure associated with servicing the proposed development. The civil infrastructure to be addressed includes, earthworks, roadworks, stormwater infrastructure, (including treatment, flooding and conveyance), water reticulation, sewer reticulation, and retaining walls.

Concept Engineering design has been undertaken to demonstrate that the proposed development can be supported by the existing infrastructure, serviced by new infrastructure and that the proposed development is compliant with the City of Moreton Bay Planning Scheme, Austroads, Australian Standards and other relevant guidelines. This concept engineering design is discussed herein and supported by engineering drawings provided in **Appendix B**.

2.1 Technical Reports

This report has been prepared in conjunction with and references various technical reports for the development area. These reports include:

- North Harbour Water Supply and Sewerage Marina Expansion Assessment (300203789) - Stantec
- Flood Management Plan (620.30047.00200-R01 – V8) - SLR
- North Harbour PDA Precinct 1 Transport Assessment (P7052.002T) – Bitzios

- North Harbour PDA - Precinct 1 Stormwater Quality Management Plan - Version 1 – Designflow
- Town Planning Report PDA (250060) – Place Design Group

Where applicable, this report draws on the finding of the reports listed above and provides further details on how those finding have been implemented as part of the concept engineering design discussed herein.

3 PROPOSED DEVELOPMENT

The proposed development is for a residential development consisting of the following uses:

- 250 residential lots, over development Stages 1 to 10
- 2 Local open spaces
- Proposed Wetland

The site is bound by the existing Farry Rd to the south and vacant land to the north. The vacant land will form future Precinct 2 of the North harbour PDA. Figure 2 below shows the location of Precinct 1 in relation to the broader PDA.

The Plan of Development (POD) is provided in **Appendix A**.

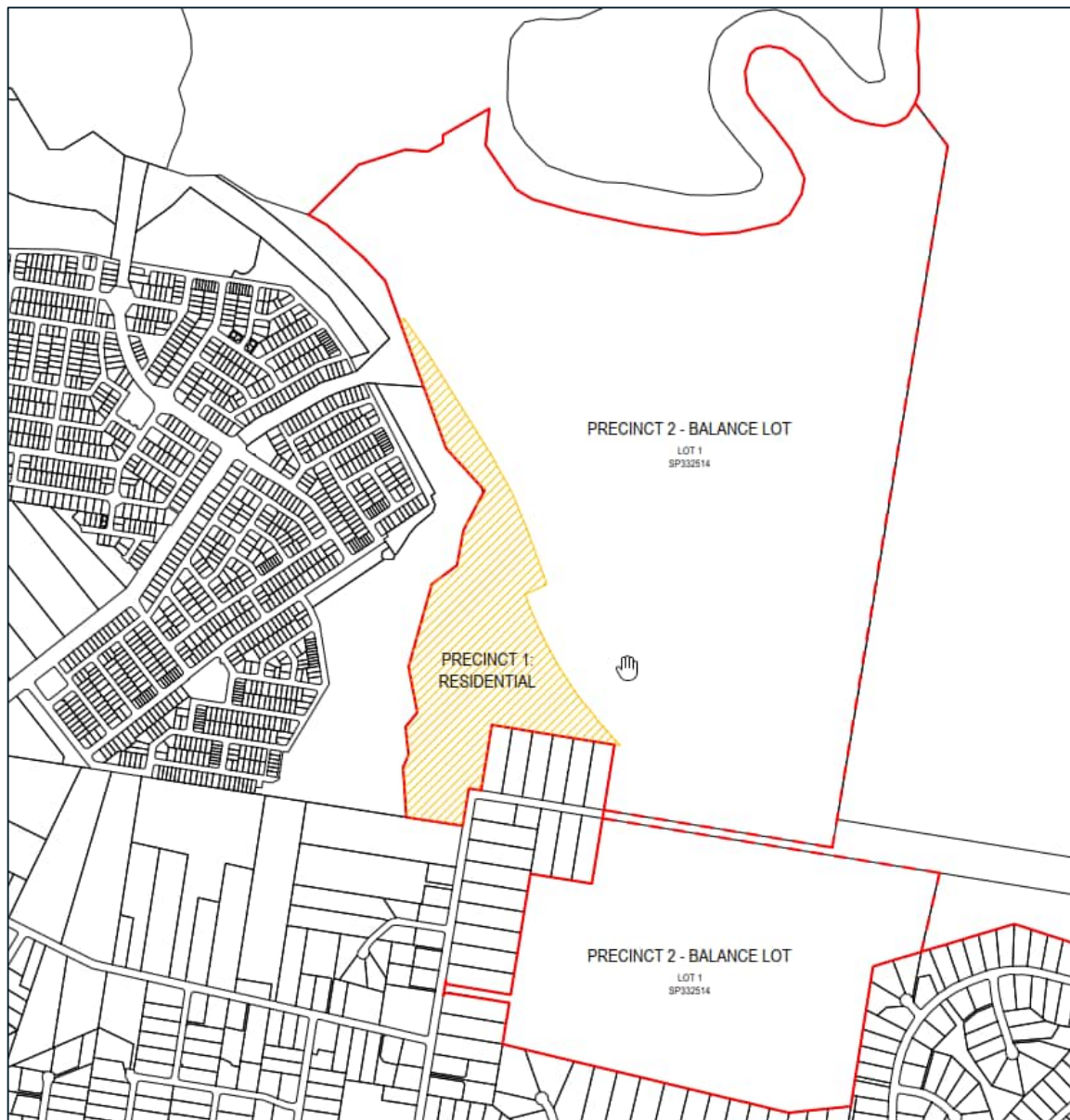


FIGURE 2 – NORTH HARBOUR PDA PRECINCT PLAN (PLACE, 2025)

4 EARTHWORKS

The proposed development site falls within a broader master-planned development site and as such is considered in the strategy for the broader development site (North Harbour PDA).

The Precinct 1 site is a part of an initial residential development area and is bounded by the Precinct 2 area for potential future development, described as private Lots 1 to 6 on RP847078, Lot 7 on RP107811 and Lot 1005 on SP320584. The proposed earthworks for the site has been designed to achieve suitable minimum lot levels above the regional flood level (as set out in the Flood Management Plan prepared by SLR). In general terms the site grades from west discharging towards Raff Creek.

Due to the existing topography and the requirement to achieve minimum lot levels and appropriate drainage gradients across the site, a substantial volume of fill will be required to raise the site levels. This material will establish the design platform for residential lots, internal roads, and associated infrastructure while maintaining efficient drainage connectivity to the downstream treatment devices.

The current proposal is to source the required fill material from an on site "borrow area". This borrow area is located in Precinct 2 and is proposed to be generally located coincidental with the future Marina footprint in Precinct 2. This approach avoids the need to import material to the site in order to fill Precinct 1. A future bulk earthworks application will provide further detail on the fill source and volumes required to fill Precinct 1.

The concept earthworks is outlined on drawings 005 - 007 inclusive in **Appendix B**.

4.1 Acid Sulphate Soils

An Acid Sulphate Soils assessment has been completed by Tectonic (Acid Sulphate Soil Investigation & Management Plan - 20334-007-REV0) which has identified the site as having actual and potential acid sulphate soils (ASS/PASS). The Acid Sulphate Soils Management Plan (ASSMP) prepared by Tectonic shall be implemented during earthworks operations to ensure that any ASS/PASS is treated and verified.

5 INTEGRATED MOVEMENT NETWORK

5.1 General

The proposed development will be accessed primarily via Farry Rd to the south and east of Precinct 1, connecting to Cobb Rd and Uhlmann Rd further south.

To the north, a future extension to North Harbour Blvd (NHB) is planned which will provide a northern connection point for Precinct 1. NHB will connect to an extension to the existing Buckley Rd to the west. This extension is proposed for delivery as per Place Design Group's Town Planning Report (250060). Refer to **Figure 2** below for details.



FIGURE 3 – OVERALL PRECINCT 1 ROAD SERVICING (BITZIOS - EGIS EDITED 2025)

The internal road layout provides logical connectivity throughout Precinct 1 as well as connections to future development areas within the North Harbour PDA.

Traffic and access arrangements have been assessed by Bitzios Consulting (Ref: P7052.003T), confirming the proposed layout supports safe and efficient vehicle movements throughout the site. On-street parking for

terrace lots and visitor bays has been included, and all internal roads accommodate Council's standard 12.5 m HRV for refuse collection.

5.2 Speed Control

Speed control measures will be provided in accordance with Council's residential street standards and as recommended in the Bitzios Transport Assessment, ensuring low-speed environments consistent with the residential character of the development.

5.3 Refuse

Refuse collection will be undertaken by Council's standard 12.5 m vehicle, with swept path analysis confirming full site access and compliance with MBRC Planning Scheme Schedule 6 – Waste – Appendix 4. Refer to drawings 080 and 081 in **Appendix B** for details.

Further Assessment Required to demonstrate waste vehicle swept paths are appropriate

5.4 Road Hierarchy

The proposed internal road network provides clear hierarchy and connectivity, comprising the following road types consistent with the Precinct 1 Concept Plan and PDA design intent:

- 7.0 m Laneways (CMB Laneway Residential)
- 14.5 m Local Access Esplanade Roads (CMB Access Residential)
- 16.5 m Local Access Street (CMB Access Residential)

The road network has been designed to ensure safe and efficient internal circulation while minimising potential for through traffic. Primary access will be via Buckley Road, with Farry Road serving as a secondary, localised access connection to improve permeability for the immediate neighbourhood.

The proposed road cross sections are consistent with City of Moreton Bay's Integrated Design for Streets, Roads & Utilities, providing for a minimum 1.5 m wide footpath on one side of all local access roads to support pedestrian connectivity.

These roads have sufficient capacity to support the proposed development as outlined in the Residential Development Transport Assessment (Ref: P7052.002T) prepared by Bitzios Consulting.

5.5 Active and Public Transport

The internal road network and streetscape design support the integration of active and public transport opportunities consistent with the PDA objectives.

At present, there are no existing public transport services operating within the vicinity of Precinct 1; however, future bus routes are expected to service the area via the proposed North Harbour Boulevard extension, as identified in the Precinct 1 Transport Assessment. It is not expected that any bus routes will be established within the Precinct 1 footprint.

In the interim, pedestrian and cyclist access will be facilitated via Farry Road, which connects to the existing local active transport network. The proposed internal roads will provide 1.5 m wide footpaths on at least one side of all carriageways, enabling safe and continuous pedestrian movement within the precinct and future linkage to the broader North Harbour active transport corridors.

5.6 External Road Impacts

Traffic modelling by Bitzios Consulting (Ref: P7052.003T) indicates the development will generate approximately 156 trips in both AM and PM peaks. The assessment confirmed:

- Minimal change to network performance
- Increased Farry Road traffic volume is still well below its functional capacity

No external upgrades are required to accommodate the proposed development. Farry Road will serve as the primary access, with the future extension to North Harbour Blvd providing the ultimate connection.

6 STORMWATER MANAGEMENT

6.1 Regional Flooding

Since the commencement of the North Harbour development, a Flood Management Plan has been expanded progressively to include new components of the development. However, each version of the model has been compared to the pre-development condition to avoid gradual “creep” in the results.

The most recent version of the Flood Management Plan, approved by Council on 16 September 2025 (SLR Consulting 620.30047.00200-R01 Ver7), includes development of Sports fields in the northwestern corner of the North Harbour development and additional filling in four locations in proximity to the North Harbour heritage park (DA/2025/2565). As with all approved models, the modelling included a sensitivity assessment adopting revised roughness conditions within the area adjacent to the Caboolture River. The proposed development results in no impacts greater than 20mm external to the site for all events except for the 1% AEP regional event. For this event, a maximum impact of 45 mm occurs to the east of the Caboolture River in an area currently subject to inundation to depths greater than 1.5m. Given this, it is considered that the development will not produce unacceptable impacts when revised roughness conditions are considered.

The approved Flood Management Plan has been updated to include the PDA Precinct 1 area. The Flood Management Plan (SLR Consulting 620.30047.00200-R01 Ver8) updates include residential lots, the North South Urban Arterial (NSUA) and associated features and some cut. The locations of these inclusions are shown below.

The Flood Management Plan “...proposed design includes a culvert crossing of the NSUA. The location of this crossing is shown above. The culverts adopted are 10 by 3.0 x 1.5 metre RCBC. This culvert arrangement has been found to result in no adverse impacts external to the site. This culvert arrangement may change during detailed design.

In order to ensure there were no impacts, modifications to the topography were also required. The site currently includes a bund along the southern side of an old channel between the borrow pits and the Caboolture River. It was found that if this bund was breached by the adjacent cut area, impacts occurred to the property to the east for regional events. However, if this bund was fully retained, impacts occurred to the property to the east for local events. It was found that a lowering of the bund over a length of 75 metres ensured no impacts occurred for any events. The location of this lowering is shown above.”

Consistent with all approved models, the modelling considered a revised roughness conditions within the area adjacent to the Caboolture River. The addition of the proposed PDA precinct 1 development resulted in no impacts greater than 20mm external to the site for all events except for the 1% AEP regional event. For this event, the previously Council accepted maximum impact of 45 mm continued to occur to the east of the Caboolture River in an area currently subject to inundation to depths greater than 1.5m. Given this, the Flood Management Plan considered that the development will not produce unacceptable impacts when revised roughness conditions are considered.

6.2 Local Drainage

Precinct 1 drainage will be serviced by a series of pit and pipe networks and overland flow paths, consistent with the City of Moreton Bay planning scheme. The design rainfall event will be as follows:

- Stormwater treatment – 4EY
- Minor rainfall event – 10% AEP
- Major rainfall event – 1% AEP

There are three main external catchments relevant to Precinct 1 that are to be managed as part of the Precinct 1 development works. These are:

1. Farry Road drainage – An existing overland flow path from Farry Rd drainage across the southern area of Precinct 1 within Stage 1. This existing flow path is to be realigned to the south to traverse the southern boundary of Precinct 1 and Lot 7 on RP107811 to the south via a 1500mm by 900mm RCBC to account for an estimated flow of $2.1\text{m}^3/\text{s}$ - subject to detailed design. The drainage corridor will be wholly contained within Precinct 1.
2. Drainage from Lots 1 to 3 on RP847078 fall to the north-west toward Precinct 1. A drainage corridor is proposed to the rear of these lots connecting to a 1500mm by 900mm RCBC to account for an estimated flow of $2.53\text{m}^3/\text{s}$ - subject to detailed design. This flow is then connected to a drainage reserve that drains east toward Raff Creek.
3. Drainage from Lots 4 to 6 on RP847078 fall to the north-east toward Precinct 1. A drainage corridor is proposed to the rear of these lots, which will divert flows to the east towards future Precinct 2. This drain will connect to an existing open drain within Precinct 2, draining towards the Caboolture River

In response to Item 2b in the "Meeting Agenda: North Harbour – DEV2025/1706" from EDQ, the above points as well as drawings 030 and 031 detail how the development in question proposes to convey existing upstream catchments from Farry Rd and Lots 1 to 6.

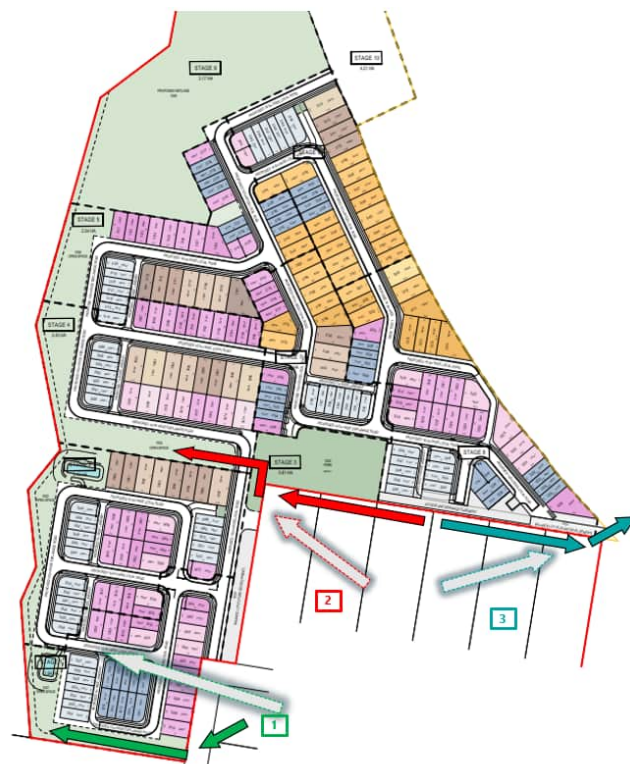


FIGURE 4 – EXTERNAL CATCHMENT PROPOSED DIVERSIONS (PLACES – EGIS EDITED 2025)

Drawing 030 and 031 in **Appendix B** provides conceptual details of the proposed drainage network throughout Precinct 1.

6.3 Stormwater Quality

Stormwater quality treatment will be implemented in the form of end of line stormwater quality improvement devices suitable to support the proposed development. All devices will be contained onsite and ensure stormwater quality objectives are met prior to discharge to the drainage reserve on the west and furthermore into the Caboolture River.

The proposed stormwater treatment strategy comprises:

- 1 constructed wetland
- 2 end of line bio basins
- 5 at source biopods (streetscape)

In general terms, the northern catchments of Precinct 1 will drain to the constructed wetland. The southern catchments are unable to drain to the wetland and as such will be treated by a series of end of line bio basins and streetscape biopods. This approach is reflected in the Stormwater Management Plan prepared by Designflow.

Refer to Precinct 1 Stormwater Quality Management Plan prepared by Designflow for details of the treatment proposal.

7 UTILITIES

7.1 Water Supply

The site falls within Unitywater's operational service area but outside Unitywater's Netserv Panning area. Overall Water Planning for the broader PDA has been undertaken by Stantec to demonstrate that the PDA can be adequately serviced by water and sewerage. This assessment is outlined in the North Harbour Water Supply and Sewer Marina Expansion Assessment report (300203789) prepared by Stantec.

The servicing of Precinct 1 will be provided via water supply connecting from existing water mains in Farry Rd. An interim arrangement is proposed (as detailed in the Stantec report) whereby watermain upgrades will be undertaken in Farry Rd to provide sufficient levels of service to Precinct 1. Ultimately the area will be serviced through the construction of a Trunk Water main (currently proposed as DN375) from Buckley Road and North Harbour Boulevard extension into the site. This is required to service Precinct 2 of the PDA. Upon completion of the Trunk Watermain, the supply from Farry Road will be closed.

The above servicing strategy has been tabled with and generally supported by Unitywater, subject to future detailed design and approvals.

Detailed design will be undertaken at the relevant stage to ensure the proposed development is adequately serviced. The proposed water servicing to Precinct 1, including the proposed water main upgrades in Farry Rd is shown on Drawings 060 in **Appendix B**.

7.2 Sewerage

Overall sewerage planning for the area is detailed in the North Harbour Water Supply and Sewer Marina Expansion Assessment Report (Ref: 300203789) prepared by Stantec.

Sewerage for Precinct 1 will be provided by an extension of the DN300 trunk sewer main, along the North Harbour Blvd extension corridor. This trunk main will drain west towards an existing sewer main which discharges to existing Sewer Pump Station SPS-BGY017. This pump station pumps effluent east to the Burpengary Sewerage Treatment Plant (STP) via a dual rising main arrangement (OD355 and OD 280), which traverses the west and southern boundaries of Precinct 1. The Precinct 1 catchment is estimated to generate approximately 643 equivalent persons (EPs). Detailed design will be undertaken to confirm main sizes, and ensure the proposed development is adequately serviced. Drawing 070 in **Appendix B** provide concept details of the proposed sewer main servicing throughout Precinct 1.

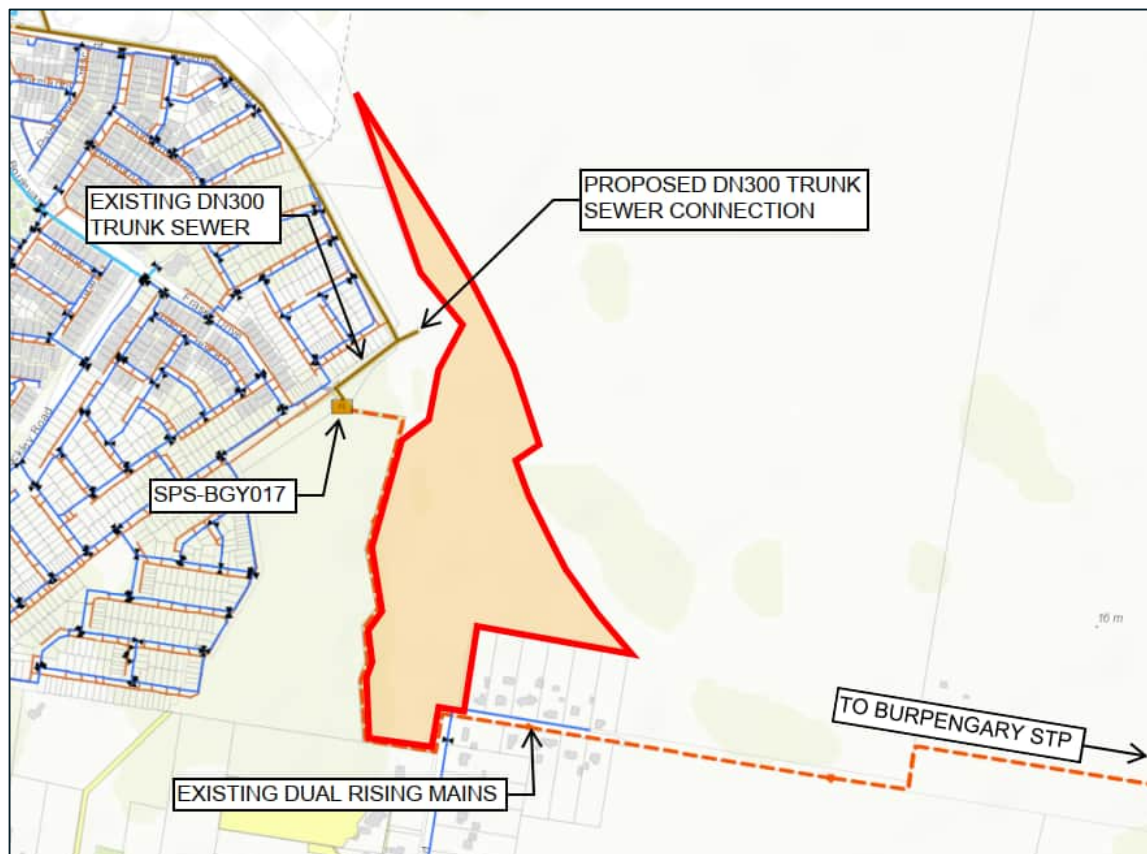


FIGURE 5 – OVERALL SEWER SERVICING FOR PRECINCT 1 (UNITYWATER MAPPING – EGIS EDITED 2025)

7.3 Electrical and Communication

The site will be serviced with electrical and telecommunication reticulation in accordance with agreements with the relevant providers. Detailed design will be undertaken at the Operational Works (OPW) stage to ensure the additional dwellings are adequately serviced.

8 ENVIRONMENTAL MANAGEMENT

Erosion and sediment control measures will be implemented onsite during construction and formalised with Council prior to the works commencing onsite at the appropriate approval phase.

Sediment and erosion control will consist of clean and dirty water diversion drains, temporary sediment basin, silt fences and shakedown services as required to meet CMBs requirements. These devices will be designed at the Operational Works (OPW) / construction phase as necessary.

As mentioned previously the ASSMP developed for the site will be implemented at all times to ensure Acid Sulphate soils are appropriately managed.

A Construction environmental Management Plan (CEMP) will be developed and implemented by the Civil Contractor to demonstrate that all works can be carried out in compliance with all relevant legislation. The CEMP will address (but not limited to):

- Traffic management
- Hours of works
- Community/complaint management
- Sediment, erosion and dust control
- Noise and vibration management
- Flora and Fauna management
- Safety and emergency procedures
- Acid Sulphate Soils

9 CONCLUSION

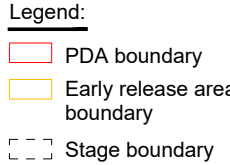
This report has been prepared to support a RAL application for Precinct 1 of the North Harbour PDA. This report demonstrates that the Development can be serviced from an engineering perspective and address earthworks, drainage, movement networks and utilities.

Concept Engineering design has been undertaken to support the engineering matters discussed herein.

We are of the opinion that information contained within this report and accompanying plans demonstrates that the proposed development can be delivered in compliance with the PDA and the local Council's design standards.

APPENDIX A: PLAN OF DEVELOPMENT





This plan is conceptual only and is subject to technical input and review addressing:

- Civil earthworks
- Street including traffic movement, street hierarchy and street engineering design
- Public and active transport network
- Open space, park distribution and public realm design
- Stormwater drainage
- Built form and residential density
- Services

**place
design
group.**

BRISBANE
Level 3
109 Edward Street,
Brisbane City QLD 4001
T + 61 7 3852 3922

© Place Design Group Pty Ltd A.C.N. 082 370 063

All information displayed, transmitted or carried within this drawing is protected by Copyright and Intellectual Property laws.

The information contained in this document is confidential.

Recipients of this document are prohibited from disclosing the information herein to any person without the written consent of Place Design Group. Annoted dimensions take precedence over any measures of scale.

Verify all dimensions on site prior to construction.

This drawing may display with permission a combination of specialist and other consultant(s) input and linework.

Nominated specialist and consultant information contained within this document is referenced from their supplied documentation and is contained in this document as indicative only and not for construction or certification purposes.

PROJECT

EARLY RELEASE AREA

CLIENT _____



NOTES

ALL LOT NUMBER AND DIMENSIONS (INCLUDING AREAS) ARE APPROXIMATE ONLY AND SUBJECT TO FURTHER DESIGN DEVELOPMENT.

ALL DIMENSIONS HAVE BEEN ROUNDED TO THE NEAREST 0.1 METRES AND ALL AREAS HAVE BEEN ROUNDED TO THE NEAREST SQUARE METRE.

THE BOUNDARIES ON THIS PLAN SHOULD NOT BE USED FOR THE FINAL DESIGN AND ARE SUBJECT TO FINAL DETAILED DESIGN BY ENGINEERS.

INFORMATION ON THIS PLAN ARE FROM THE FOLLOWING SOURCES:

CONCEPT LOT LAYOUT: JENSEN BOWERS
(SEPTEMBER 2025)
ADJOINING CADASTRE: QSPATIAL

ISSUE	CODE	ISSUE DESCRIPTION	BY	CHK	DATE
-	PRE	DRAFT ISSUE	NV	NV	08/10/2025
A	PRE	DRAFT ISSUE	NV	NV	16/10/2025
B	PRE	FINAL (DA LODGEMENT)	NV	NV	17/10/2025
C	PRE	DRAFT ISSUE	NV	NV	18/12/2025
D	PRE	RESPONSE TO EDQ	NV	NV	05/02/2026
E	PRE	STAGES 2 AND 7 UPDATES	NV	NV	01/04/2026

PRE - Preliminary | CA - Council Approval | T - Tender | CON - Construction

DRAWING TITLE

EARLY RELEASE AREA -
PLAN OF SUBDIVISION

DESIGN : NV
DOCUMENT : NV
PROJECT : 240123
1:2,500 @ A3

NORTH



DRAWING NUMBER	REVISION
240123 - 19	E

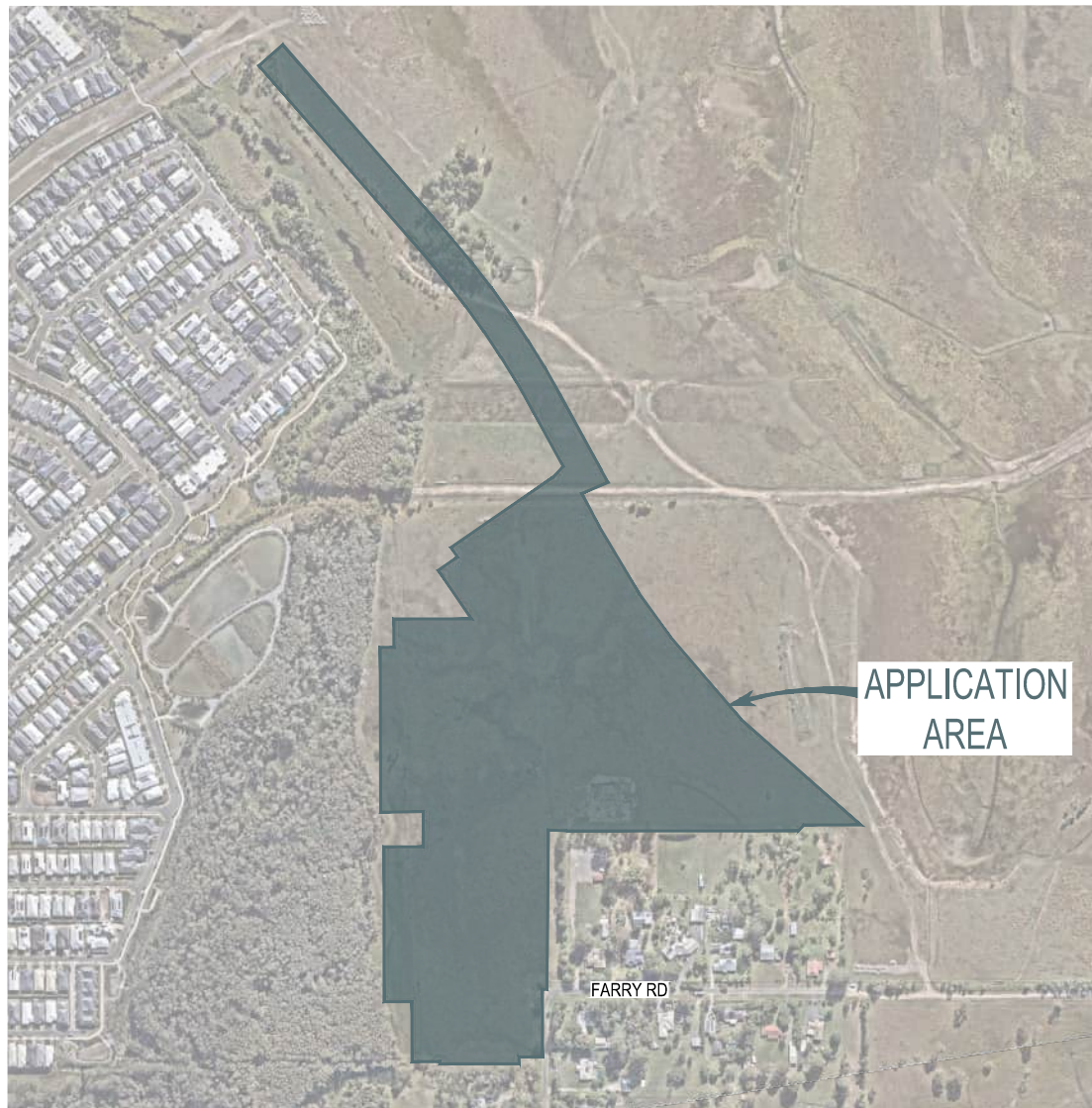
APPENDIX B: CONCEPT ENGINEERING DRAWINGS

NORTH HARBOUR

PRECINCT 1

DEVELOPMENT APPLICATION

NORTH HARBOUR



CITY OF MORETON BAY
LOT 1 ON RP: SP332514

DRG NO	REVISION	DRAWING TITLE
000	C	COVER SHEET
005	C	EARTHWORKS LAYOUT PLAN
006	A	BORROW AREA LAYOUT PLAN
007	A	EARTHWORKS SECTIONS
010	B	ROAD HIERACHY CONCEPT PLAN
011	A	PROPOSED ROAD CROSS SECTIONS SHEET 1 OF 2
012	-	PROPOSED ROAD CROSS SECTIONS SHEET 2 OF 2
020	C	OVERALL INTERSECTION CONCEPT PLAN
021	C	INTERSECTION LAYOUT SHEET 1 OF 2
022	B	INTERSECTION LAYOUT SHEET 2 OF 2
030	C	MAJOR FLOW PATHS CONCEPT PLAN
031	B	MAJOR FLOW PATHS DETAILS PLAN
040	C	STORMWATER DRAINAGE PLAN
045	-	BIO RETENTION DETAILS
050	B	OVERALL SERVICING PLAN
060	B	WATER RETICULATION CONCEPT PLAN
070	B	SEWER RETICULATION CONCEPT PLAN
080	A	TURN MANOEUVRE LAYOUT PLAN SHEET 1 OF 2
081	A	TURN MANOEUVRE LAYOUT PLAN SHEET 2 OF 2

IMAGINE. CREATE. ACHIEVE.
a sustainable future

REFER RIGHT FOR CONTINUATION



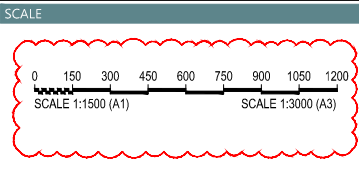
REFER LEFT FOR CONTINUATION

LEGEND

- PROPOSED WORKS BOUNDARY (EARTHWORKS)
- PROPOSED RETAINING WALL
- AREA OF FILL
- AREA OF CUT
- PROPOSED DESIGN SURFACE CONTOURS

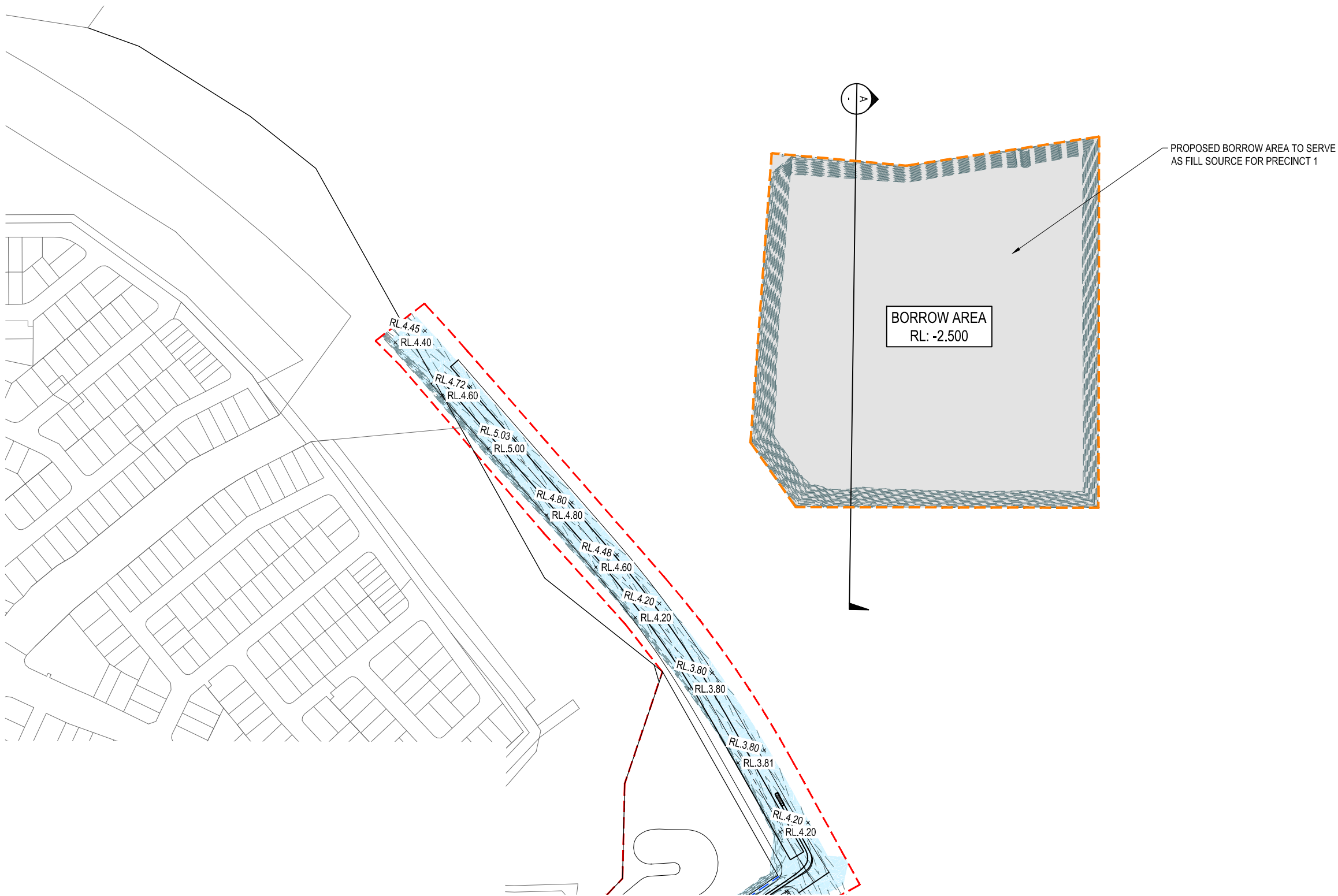
INITIAL	DES	DRN	CHK	APP	DATE	AMENDMENT DETAILS
A	AT	JH	JM	SP	17.10.25	LAYOUT AMENDED TO SUIT RFI
B	NV	NV	JM	SP	18.12.25	DRAINAGE AND WETLAND AREA UPDATED
C	NV	JMH	JM	SP	01.04.26	LOT CALCS, SERVICES & LANEWAYS UPDATED

STATUS
FOR APPROVAL
APPROVED
BY: Shaun Pilcher RPEQ NO: 14593
SIGN: DATE: 01.04.26



CLIENT	PROJECT	DRAWING TITLE
NORTH HARBOUR	NORTH HARBOUR PRECINCT 1 DEVELOPMENT APPLICATION	EARTHWORKS LAYOUT PLAN
PROJECT No. 23-000077.03	DRAWING No. 005	REVISION C

DISCLAIMER: ALL DIMENSIONS TO BE CHECKED ON SITE BY CONTRACTOR PRIOR TO CONSTRUCTION. USE WRITTEN DIMENSIONS ONLY, DO NOT SCALE.



PROPOSED BORROW AREA TO SERVE
AS FILL SOURCE FOR PRECINCT 1

BORROW AREA
RL: -2.500



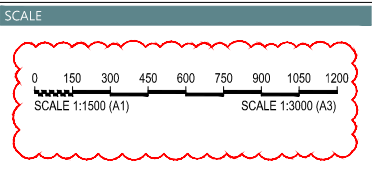
SECTION A-A
SCALE (A1): 1:50
1:100

LEGEND

- PROPOSED WORKS BOUNDARY (EARTHWORKS)
- PROPOSED RETAINING WALL
- AREA OF FILL
- AREA OF CUT
- PROPOSED DESIGN SURFACE CONTOURS

INITIAL	DES	DRN	CHK	APP	DATE	AMENDMENT DETAILS
NV	NV	JM	SP	18.12.25		
A	NV	JMH	JM	SP	01.04.26	LOT CALCS, SERVICES & LANEWAYS UPDATED

STATUS	
FOR APPROVAL	
APPROVED	
BY: Shaun Pilcher	RPEQ NO: 14593
SIGN:	DATE: 01.04.26

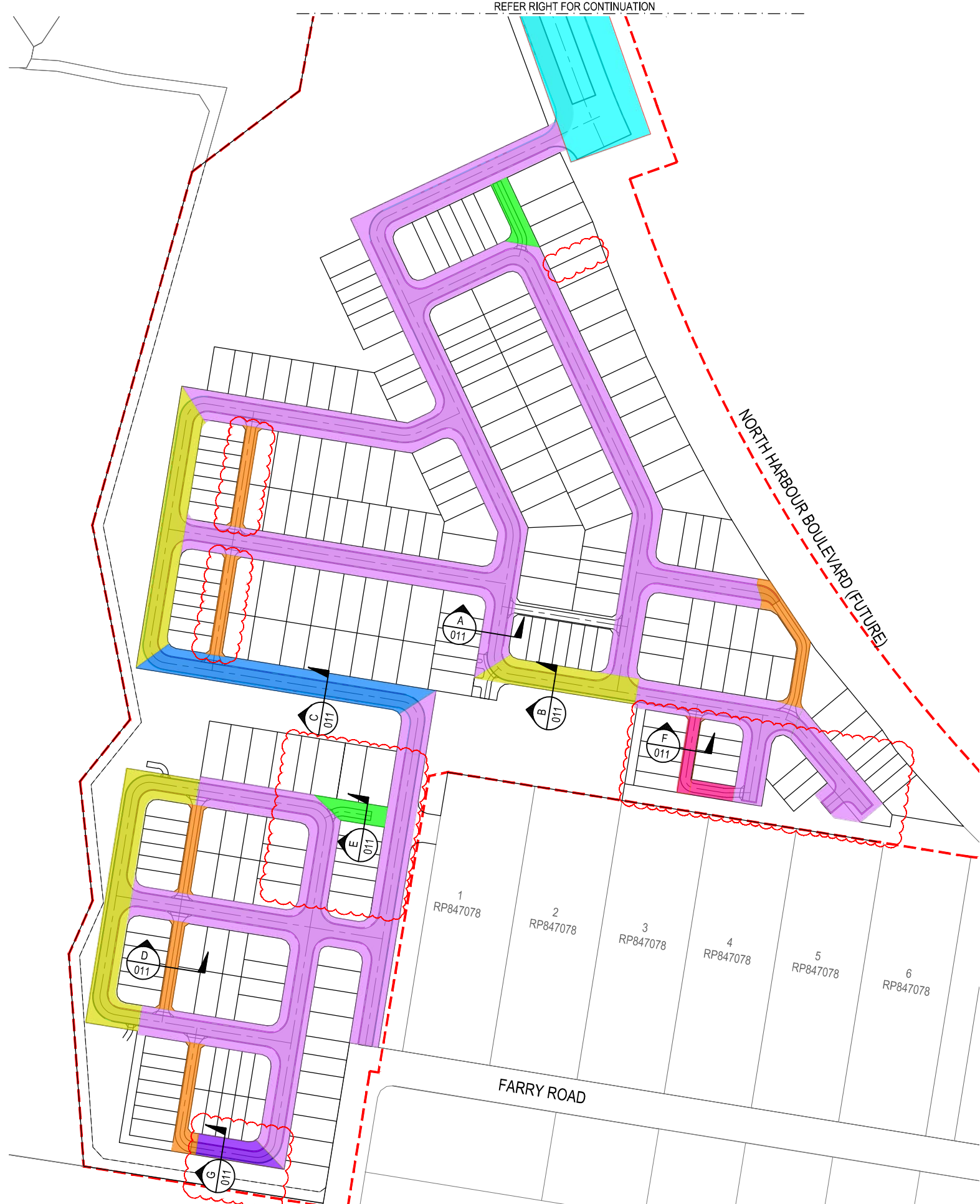


CLIENT
NORTH HARBOUR

PROJECT
NORTH HARBOUR PRECINCT 1 DEVELOPMENT APPLICATION

DRAWING TITLE		
BORROW AREA LAYOUT PLAN		
PROJECT No.	DRAWING No.	REVISION
23-000077.03	006	A

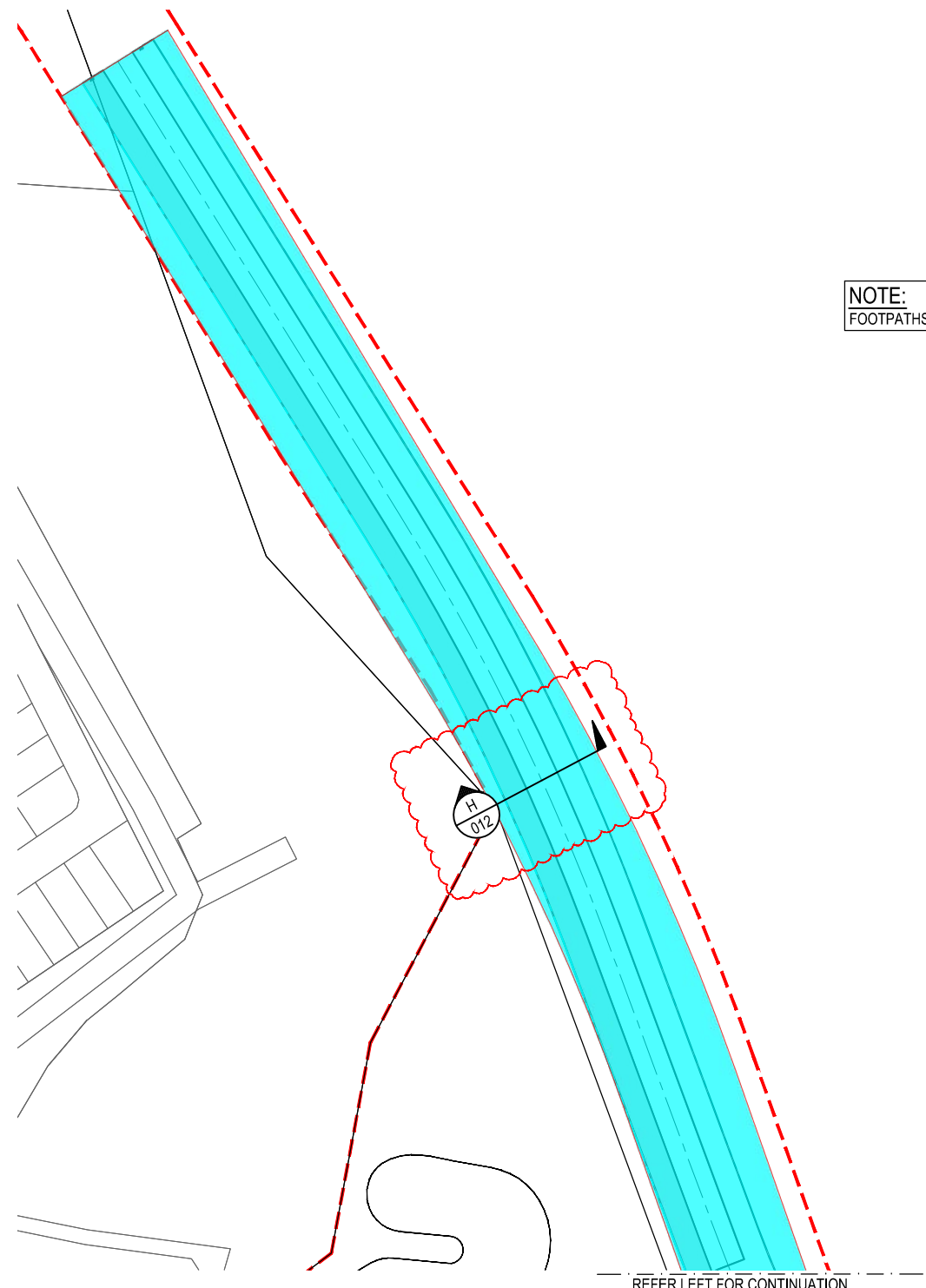
REFER RIGHT FOR CONTINUATION



NORTH HARBOUR BOULEVARD (FUTURE)

FARRY ROAD

1 RP847078
2 RP847078
3 RP847078
4 RP847078
5 RP847078
6 RP847078



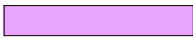
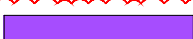
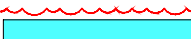
REFER LEFT FOR CONTINUATION



NOTE:
FOOTPATHS NOT SHOWN FOR CLARITY

LEGEND

PROPOSED ROADS

- | | | | |
|---|---|---|---|
|  | LOCAL ACCESS STREET (TYPE 1)
(ROAD RESERVE VARIES [Min 16.5m]) |  | LANEWAY (TYPE 1)
(ROAD RESERVE VARIES [Min 7.0m]) |
|  | LOCAL ACCESS STREET (TYPE 2)
(ROAD RESERVE VARIES [Min 14.5m]) |  | LANEWAY (TYPE 2)
(ROAD RESERVE VARIES [Min 10.0m]) |
|  | LOCAL ACCESS STREET (TYPE 3)
(ROAD RESERVE VARIES [Min 17.5m] 1 WAY CROSSFALL) |  | LANEWAY (TYPE 3)
(ROAD RESERVE VARIES [Min 7.0m]) |
|  | LOCAL ACCESS STREET (TYPE 4)
(ROAD RESERVE VARIES [Min 12.0m]) |  | NORTH HARBOUR BOULEVARD
(ROAD RESERVE VARIES [Min 56.50m]) |

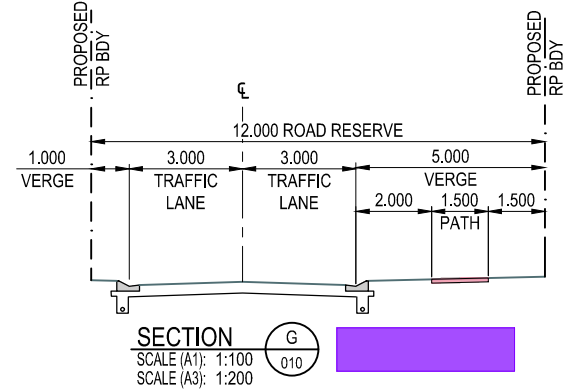
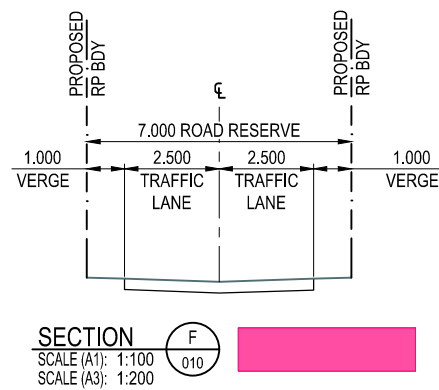
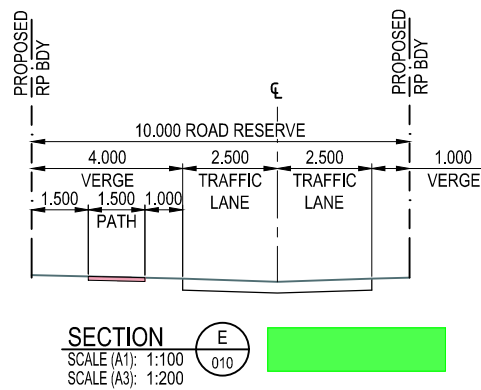
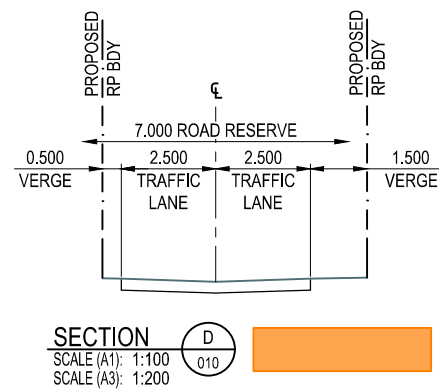
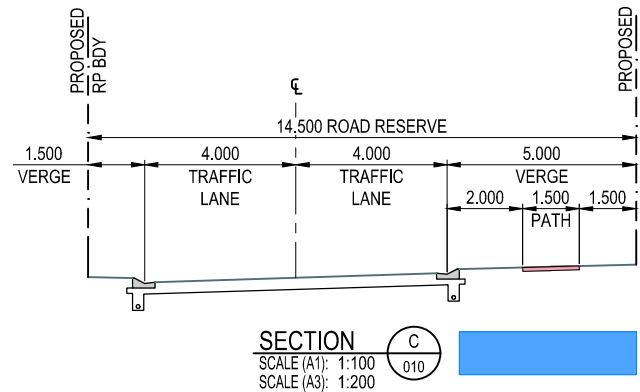
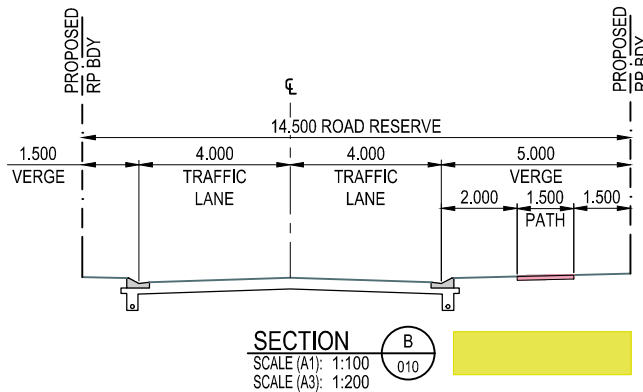
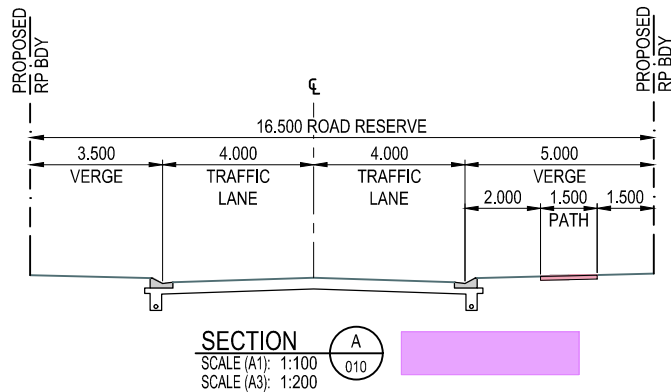
AMENDMENT DETAILS						STATUS	SCALE	CLIENT	PROJECT	DRAWING TITLE	
INITIAL ISSUE	DES	DRN	CHK	APP	DATE	FOR APPROVAL		 © 2024 Egis Consulting Pty Ltd www.egis-group.com	NORTH HARBOUR 	NORTH HARBOUR PRECINCT 1 DEVELOPMENT APPLICATION	ROAD HIERACHY CONCEPT PLAN
A	AT	JH	JM	SP	17.10.25						
	NV	NV	JM	SP	18.12.25						
B	NV	JMH	JM	SP	01.04.26						
LAYOUT AMENDED TO SUIT RFI						APPROVED					
LOT CALCS, SERVICES & LANEWAYS UPDATED						BY: Shaun Pilcher	RPEQ NO: 14593				
						SIGN:	DATE: 01.04.26				

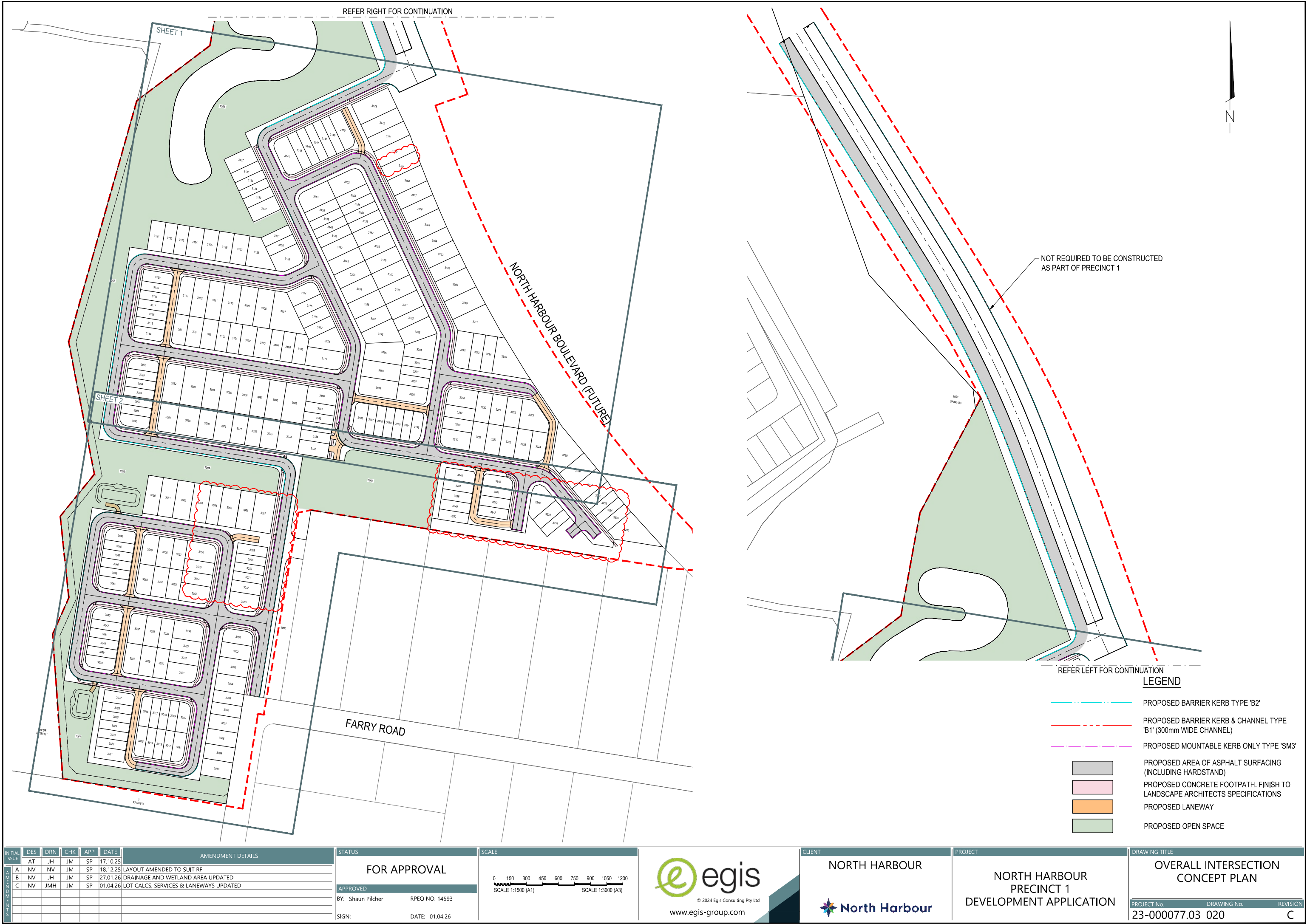


NOTE: PROPOSED CROSS SECTION
SUBJECT TO FURTHER DISCUSSION WITH
TMR. (DIMENSIONS SUBJECT TO CHANGE)

INITIAL ISSUE	DES	DRN	CHK	APP	DATE	AMENDMENT DETAILS	STATUS	SCALE	CLIENT	PROJECT	DRAWING TITLE		
	NV	JMH	JM	SP	01.04.26		FOR APPROVAL		 © 2024 Egis Consulting Pty Ltd www.egis-group.com	NORTH HARBOUR 	NORTH HARBOUR PRECINCT 1 DEVELOPMENT APPLICATION	PROPOSED ROAD CROSS SECTIONS SHEET 2 OF 2	
						APPROVED		PROJECT No.				DRAWING No.	REVISION
						BY: Shaun Pilcher	RPEQ NO: 14593						
						SIGN:	DATE: 01.04.26						

DISCLAIMER: ALL DIMENSIONS TO BE CHECKED ON SITE BY CONTRACTOR PRIOR TO CONSTRUCTION. USE WRITTEN DIMENSIONS ONLY, DO NOT SCALE.

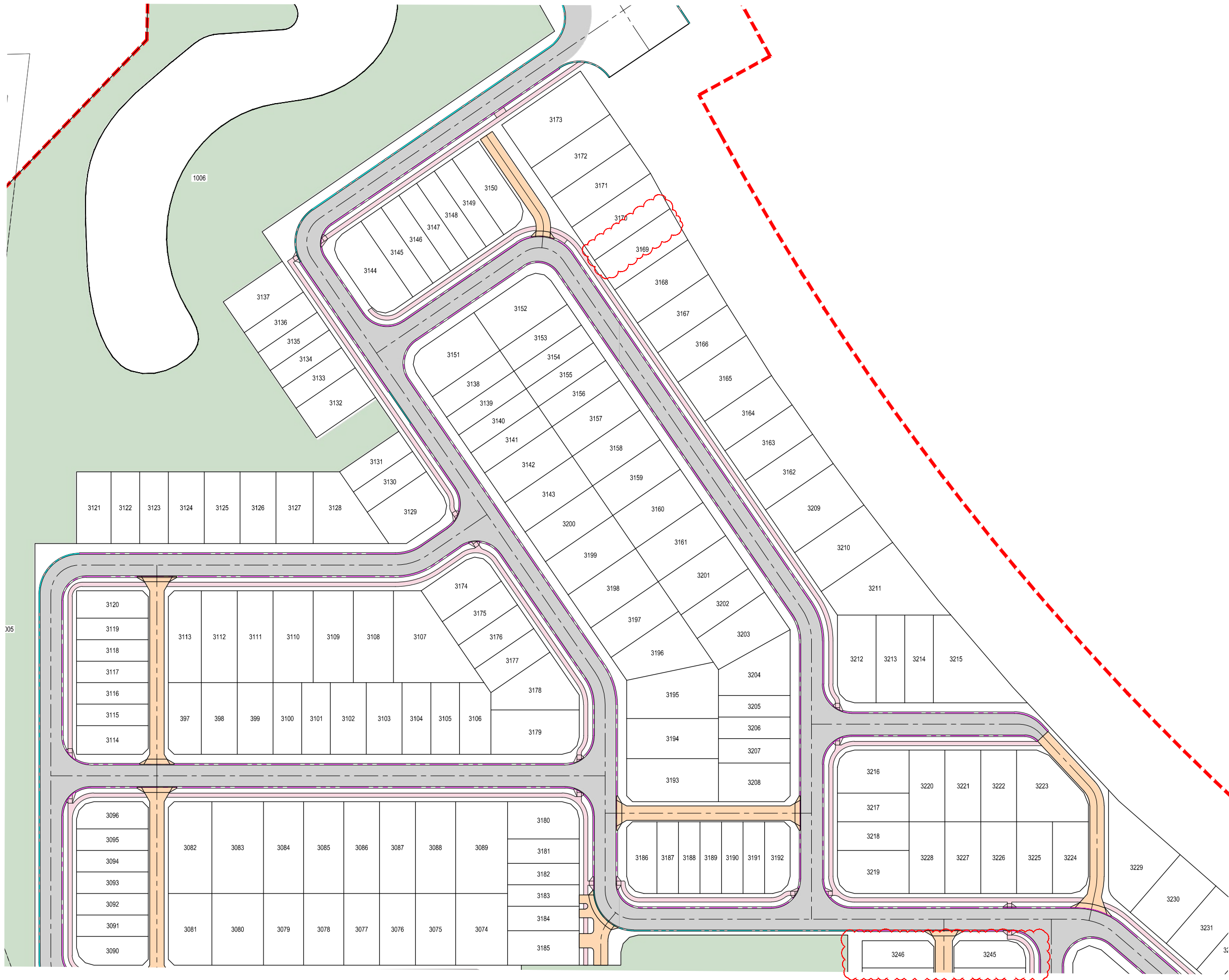




INITIAL	DES	DRN	CHK	APP	DATE	AMENDMENT DETAILS
A	AT	JH	JM	SP	17.10.25	
B	NV	NV	JM	SP	18.12.25	LAYOUT AMENDED TO SUIT RFI
C	NV	JH	JM	SP	27.01.26	DRAINAGE AND WETLAND AREA UPDATED
	NV	JMH	JM	SP	01.04.26	LOT CALCS, SERVICES & LANEWAYS UPDATED

STATUS
FOR APPROVAL
APPROVED
BY: Shaun Pilcher RPEQ NO: 14593
SIGN: DATE: 01.04.26

DISCLAIMER: ALL DIMENSIONS TO BE CHECKED ON SITE BY CONTRACTOR PRIOR TO CONSTRUCTION. USE WRITTEN DIMENSIONS ONLY, DO NOT SCALE.

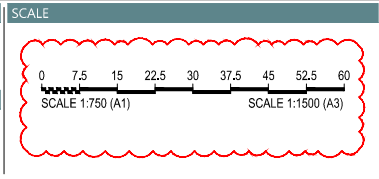


LEGEND

- PROPOSED BARRIER KERB TYPE 'B2'
- PROPOSED BARRIER KERB & CHANNEL TYPE 'B1' (300mm WIDE CHANNEL)
- PROPOSED MOUNTABLE KERB ONLY TYPE 'SM3'
- PROPOSED AREA OF ASPHALT SURFACING (INCLUDING HARDSTAND)
- PROPOSED CONCRETE FOOTPATH. FINISH TO LANDSCAPE ARCHITECTS SPECIFICATIONS
- PROPOSED LANEWAY
- PROPOSED OPEN SPACE

INITIAL	DES	DRN	CHK	APP	DATE	AMENDMENT DETAILS
A	AT	JH	JM	SP	17.10.25	
B	NV	NV	JM	SP	18.12.25	LAYOUT AMENDED TO SUIT RFI
C	NV	JH	JM	SP	27.01.26	DRAINAGE AND WETLAND AREA UPDATED
	NV	JMH	JM	SP	01.04.26	LOT CALCS, SERVICES & LANEWAYS UPDATED

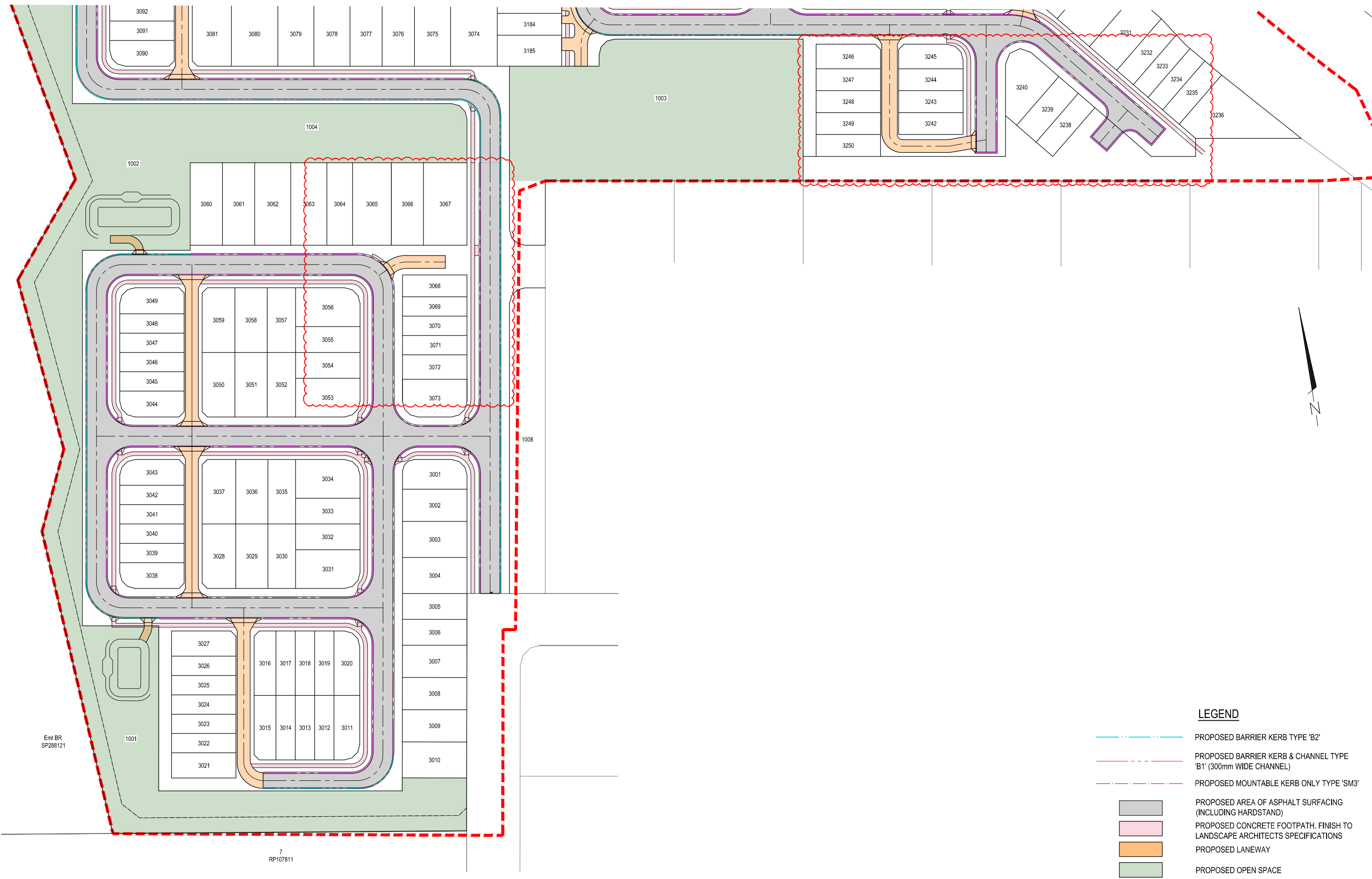
STATUS
FOR APPROVAL
APPROVED
BY: Shaun Pilcher
RPEQ NO: 14593
SIGN:
DATE: 01.04.26



CLIENT
NORTH HARBOUR
North Harbour

PROJECT
NORTH HARBOUR PRECINCT 1 DEVELOPMENT APPLICATION

DRAWING TITLE
INTERSECTION LAYOUT SHEET 1 OF 2
PROJECT No. 23-000077.03
DRAWING No. 021
REVISION C

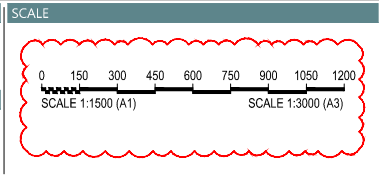


LEGEND

- PROPOSED BARRIER KERB TYPE 'B2'
- PROPOSED BARRIER KERB & CHANNEL TYPE 'B1' (300mm WIDE CHANNEL)
- PROPOSED MOUNTABLE KERB ONLY TYPE 'SM3'
- PROPOSED AREA OF ASPHALT SURFACING (INCLUDING HARDSTAND)
- PROPOSED CONCRETE FOOTPATH. FINISH TO LANDSCAPE ARCHITECTS SPECIFICATIONS
- PROPOSED LANEWAY
- PROPOSED OPEN SPACE

INITIAL	DES	DRN	CHK	APP	DATE	AMENDMENT DETAILS	
A	AT	JH	JM	SP	17.10.25		
B	NV	NV	JM	SP	18.12.25	LAYOUT AMENDED TO SUIT RFI	
	NV	JMH	JM	SP	01.04.26	LOT CALCS, SERVICES & LANEWAYS UPDATED	

STATUS	
FOR APPROVAL	
APPROVED	
BY: Shaun Pilcher	RPEQ NO: 14593
SIGN:	DATE: 01.04.26

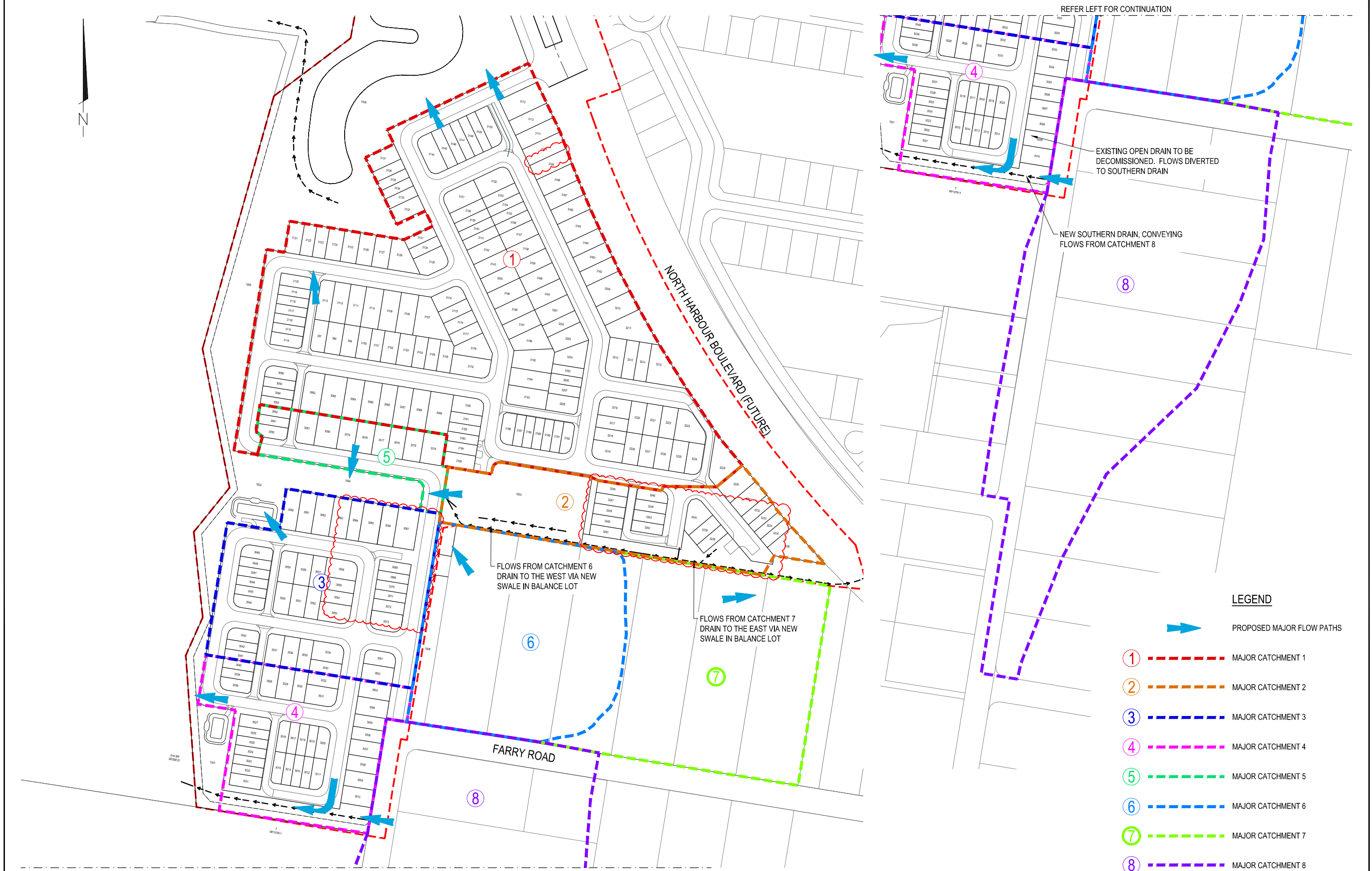


CLIENT
NORTH HARBOUR

PROJECT
NORTH HARBOUR PRECINCT 1 DEVELOPMENT APPLICATION

DRAWING TITLE		
INTERSECTION LAYOUT SHEET 2 OF 2		
PROJECT No.	DRAWING No.	REVISION
23-000077.03	022	B

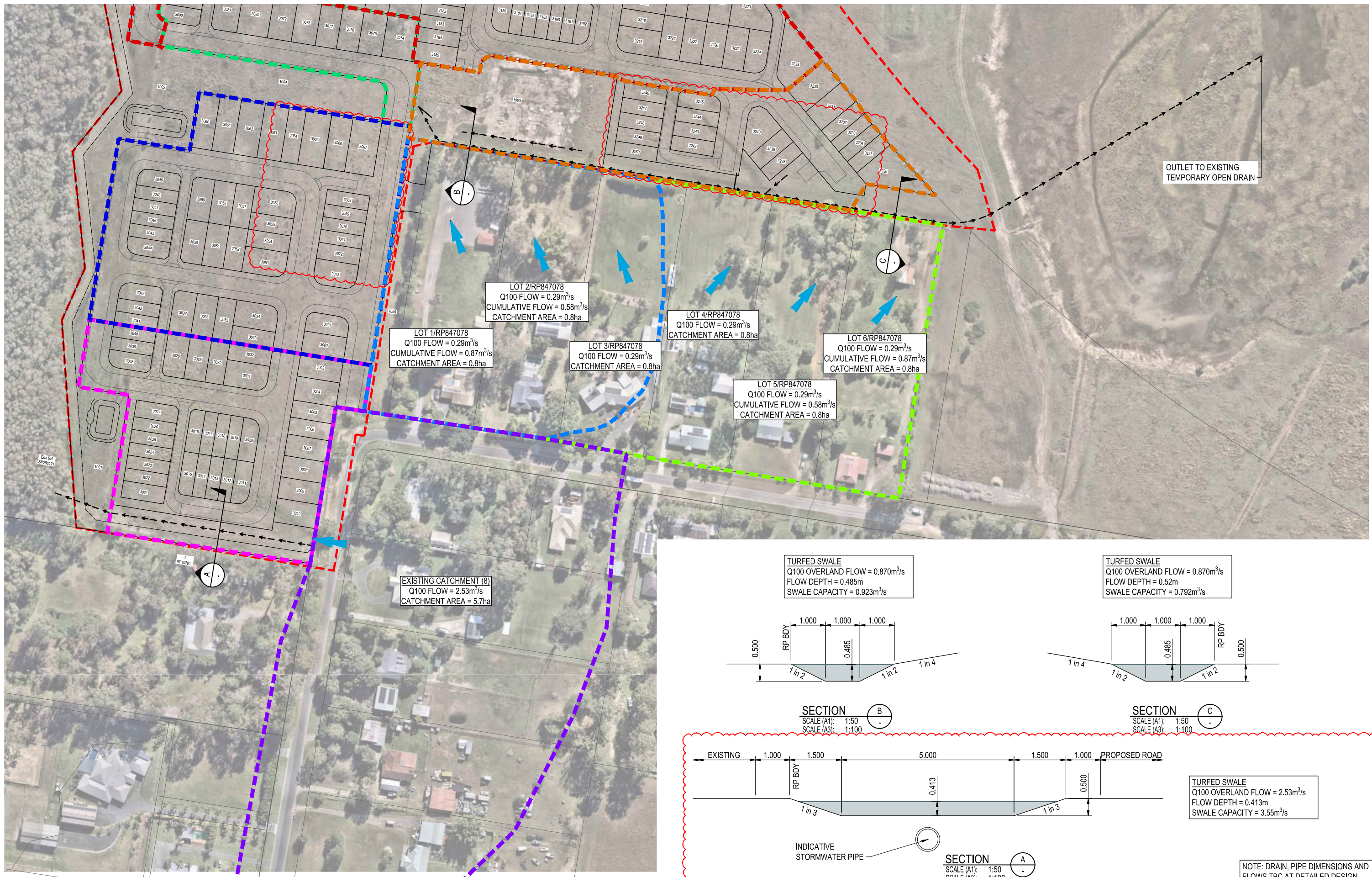
DISCLAIMER: ALL DIMENSIONS TO BE CHECKED ON SITE BY CONTRACTOR PRIOR TO CONSTRUCTION. USE WRITTEN DIMENSIONS ONLY, DO NOT SCALE.



LEGEND

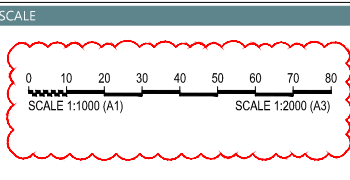
- ➡ PROPOSED MAJOR FLOW PATHS
- ① --- MAJOR CATCHMENT 1
 - ② --- MAJOR CATCHMENT 2
 - ③ --- MAJOR CATCHMENT 3
 - ④ --- MAJOR CATCHMENT 4
 - ⑤ --- MAJOR CATCHMENT 5
 - ⑥ --- MAJOR CATCHMENT 6
 - ⑦ --- MAJOR CATCHMENT 7
 - ⑧ --- MAJOR CATCHMENT 8

REV	AMENDMENT DETAILS						STATUS		SCALE		egis © 2024 Egis Consulting Pty Ltd www.egis-group.com	CLIENT	PROJECT	DRAWING TITLE			
	INITIAL	DES	DRN	CHK	APP	DATE	FOR APPROVAL		0 150 300 450 600 750 900 1050 1200 SCALE 1:1500 (A1) SCALE 1:3000 (A3)			NORTH HARBOUR	NORTH HARBOUR PRECINCT 1 DEVELOPMENT APPLICATION	MAJOR FLOW PATHS CONCEPT PLAN			
	A	NV	NV	JM	SP	17.10.25	APPROVED							PROJECT No.	DRAWING No.	REVISION	
	B	NV	JH	JM	SP	27.01.26	BY: Shaun Pilcher RPEQ NO: 14593							23-000077.03	030	C	
	C	NV	JMH	JM	SP	01.04.26	SIGN: DATE: 01.04.26										



INITIAL	DES	DRN	CHK	APP	DATE	AMENDMENT DETAILS
A	NV	NV	JM	SP	18.12.25	DRAINAGE AND WETLAND AREA UPDATED
B	NV	JH	JM	SP	27.01.26	LOT CALCS, SERVICES & LANEWAYS UPDATED
B	NV	JMH	JM	SP	01.04.26	LOT CALCS, SERVICES & LANEWAYS UPDATED

STATUS
FOR APPROVAL
APPROVED
BY: Shaun Pilcher RPEQ NO: 14593
SIGN: DATE: 01.04.26



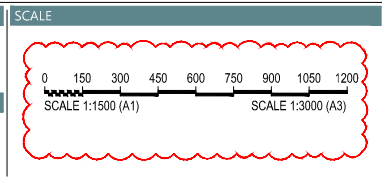
PROJECT
NORTH HARBOUR
PRECINCT 1
DEVELOPMENT APPLICATION

DRAWING TITLE
MAJOR FLOW PATHS DETAILS PLAN
PROJECT No. 23-000077.03
DRAWING No. 031
REVISION B



REV	INITIAL	DES	DRN	CHK	APP	DATE	AMENDMENT DETAILS
	A	AT	JH	JM	SP	17.10.25	
	B	NV	NV	JM	SP	18.12.25	
	C	NV	JH	JM	SP	27.01.26	
		NV	JMH	JM	SP	01.04.26	

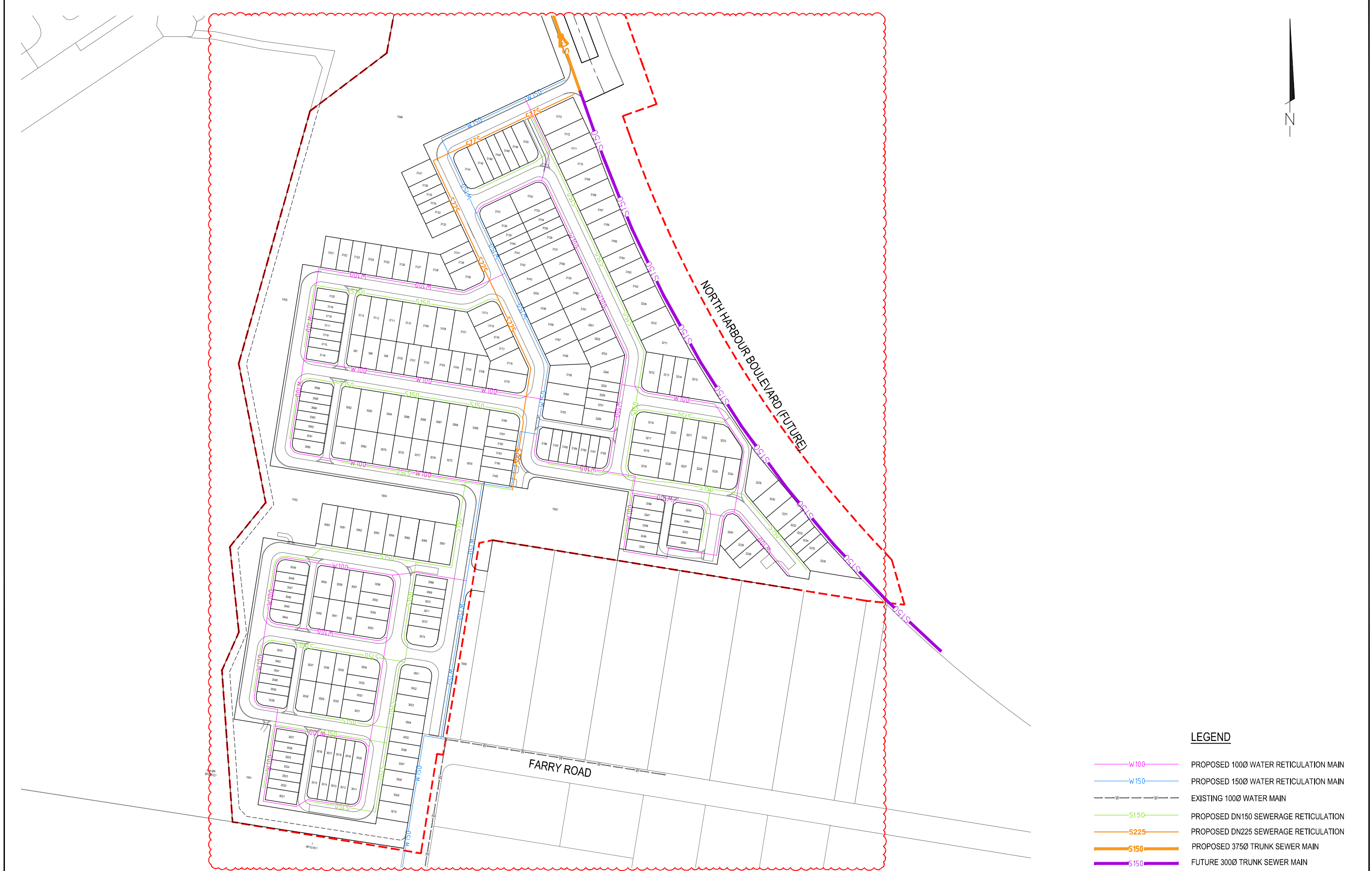
STATUS	
FOR APPROVAL	
APPROVED	
BY: Shaun Pilcher	RPEQ NO: 14593
SIGN:	DATE: 01.04.26



CLIENT
NORTH HARBOUR

PROJECT
NORTH HARBOUR PRECINCT 1 DEVELOPMENT APPLICATION

DRAWING TITLE		
STORMWATER DRAINAGE PLAN		
PROJECT No.	DRAWING No.	REVISION
23-000077.03	040	C



LEGEND

- PROPOSED 1000 WATER RETICULATION MAIN
- PROPOSED 1500 WATER RETICULATION MAIN
- EXISTING 1000 WATER MAIN
- PROPOSED DN150 SEWERAGE RETICULATION
- PROPOSED DN225 SEWERAGE RETICULATION
- PROPOSED 3750 TRUNK SEWER MAIN
- FUTURE 3000 TRUNK SEWER MAIN

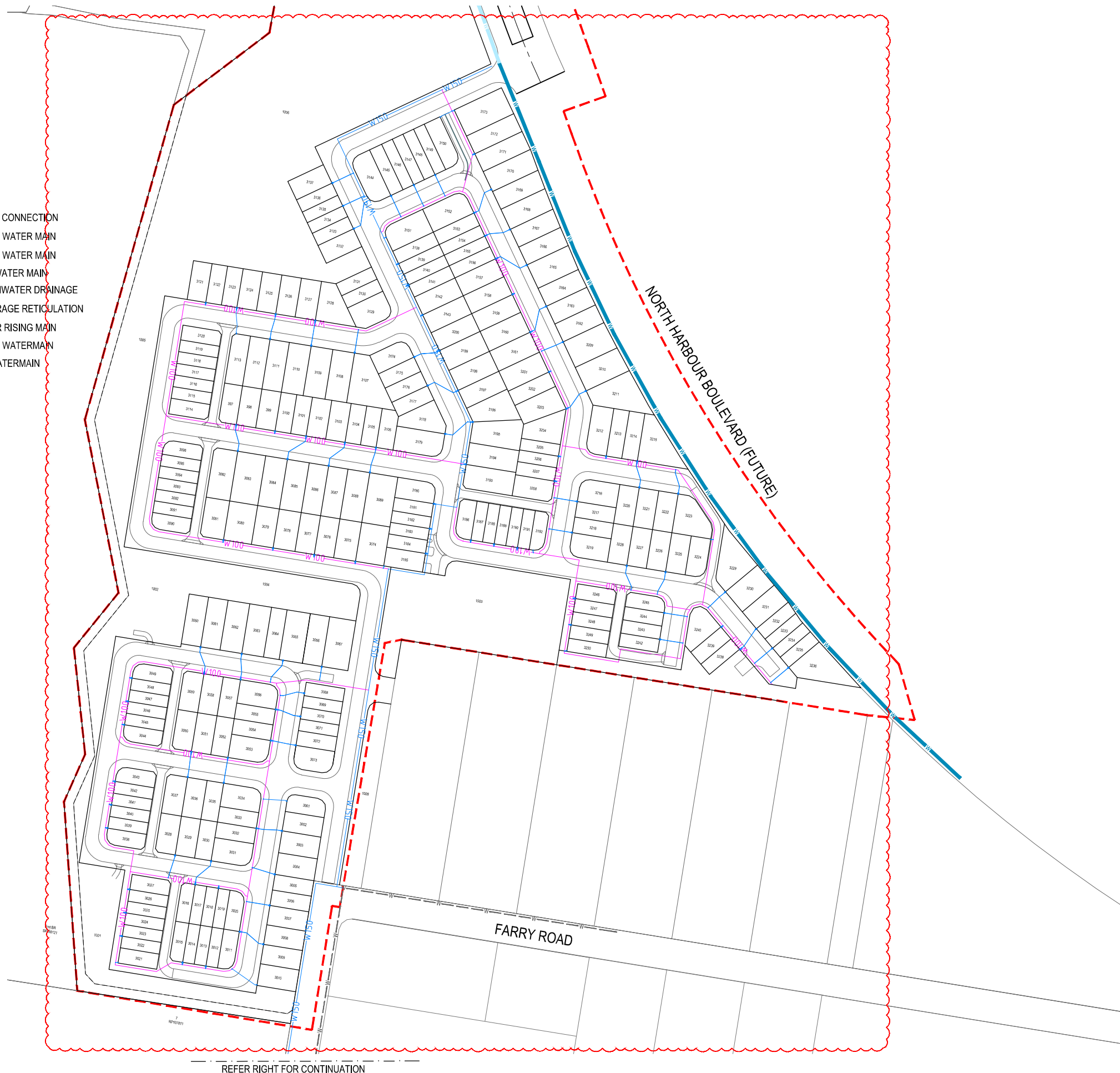
INITIAL ISSUE	DES	DRN	CHK	APP	DATE	AMENDMENT DETAILS		STATUS		SCALE		CLIENT	PROJECT	DRAWING TITLE			
	AT	JH	JM	SP	17.10.25			FOR APPROVAL				 © 2024 Egis Consulting Pty Ltd www.egis-group.com		NORTH HARBOUR PRECINCT 1 DEVELOPMENT APPLICATION	OVERALL SERVICING PLAN		
	NV	NV	JM	SP	18.12.25	LAYOUT AMENDED TO SUIT RFI		APPROVED									
	NV	JMH	JM	SP	01.04.26	LOT CALCS, SERVICES & LANEWAYS UPDATED		BY: Shaun Pilcher RPEQ NO: 14593									
								SIGN: DATE: 01.04.26						PROJECT No. 23-000077.03 050 DRAWING No. REVISION B			

DISCLAIMER: ALL DIMENSIONS TO BE CHECKED ON SITE BY CONTRACTOR PRIOR TO CONSTRUCTION. USE WRITTEN DIMENSIONS ONLY, DO NOT SCALE.

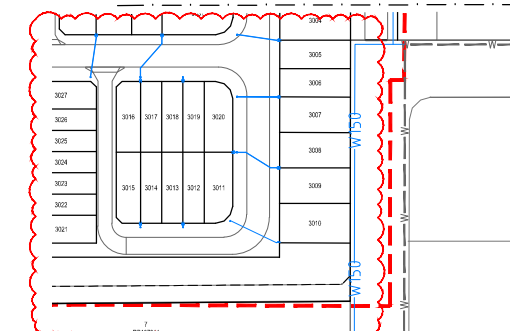
NOTE: MAINS SIZES SUBJECT TO
APPROVAL BY UNITYWATER

LEGEND

- | | |
|--|--------------------------------|
|  | WATER SERVICE CONNECTION |
|  | PROPOSED Ø100 WATER MAIN |
|  | PROPOSED Ø150 WATER MAIN |
|  | EXISTING Ø150 WATER MAIN |
|  | EXISTING STORMWATER DRAINAGE |
|  | EXISTING SEWERAGE RETICULATION |
|  | EXISTING SEWER RISING MAIN |
|  | PROPOSED Ø375 WATERMAIN |
|  | FUTURE Ø375 WATERMAIN |



REFER LEFT FOR CONTINUATION

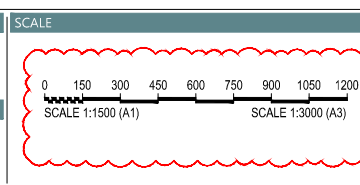


DN150 WATER MAIN
UPGRADE IN FARRY RD

CONNECT NEW DN150 MAIN TO
EXISTING MAIN IN FARRY ROAD

	INITIAL ISSUE	DES	DRN	CHK	APP	DATE	AMENDMENT DETAILS
AMENDMENTS	A	AT	JH	JM	SP	17.10.25	LAYOUT AMENDED TO SUIT RFI
	B	NV	NV	JM	SP	18.12.25	LOT CALCS, SERVICES & LANEWAYS UPDATED
	B	NV	JMH	JM	SP	01.04.26	

STATUS	
FOR APPROVAL	
APPROVED	
BY: Shaun Pilcher	RPEQ NO: 14593
SIGN:	DATE: 01.04.26



CLIENT

NORTH HARBOUR

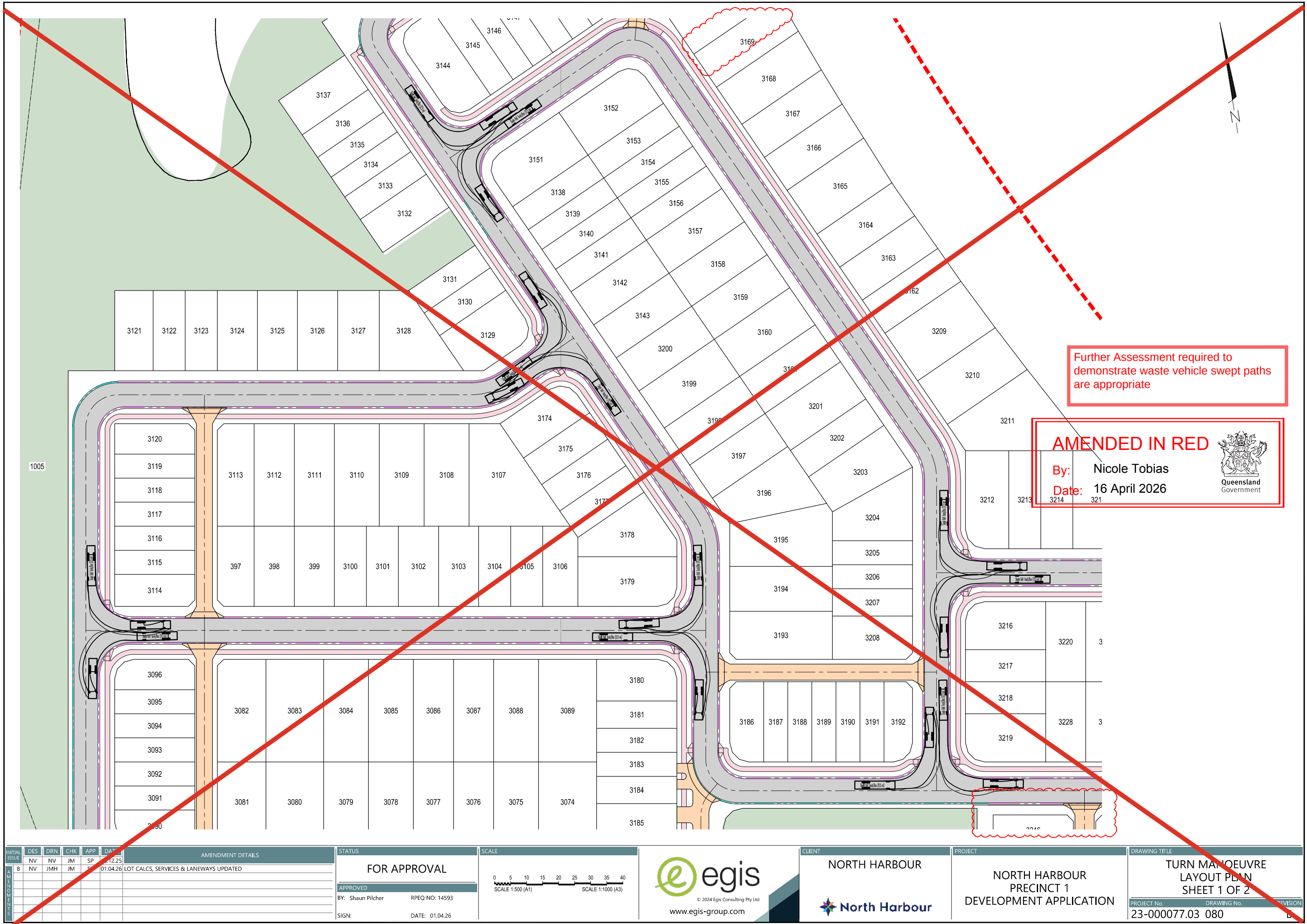
 North Harbour

PROJECT

NORTH HARBOUR
PRECINCT 1
DEVELOPMENT APPLICATION

DRAWING TITLE		
WATER RETICULATION CONCEPT PLAN		
PROJECT No.	DRAWING No.	REVISION
23-000077.03	060	B

DISCLAIMER: ALL DIMENSIONS TO BE CHECKED ON SITE BY CONTRACTOR PRIOR TO CONSTRUCTION. USE WRITTEN DIMENSIONS ONLY, DO NOT SCALE.



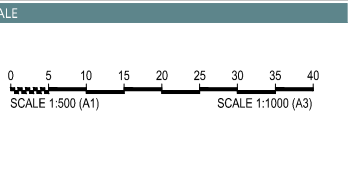
Further Assessment required to demonstrate waste vehicle swept paths are appropriate

~~AMENDED IN RED~~

By: Nicole Tobias
Date: 16 April 2026

[illegible]

STATUS	
FOR APPROVAL	
APPROVED	
BY: Shaun Pilcher	RPEQ NO: 14593
SIGN:	DATE: 01.04.26



CLIENT

NORTH HARBOUR



PROJECT

NORTH HARBOUR
PRECINCT 1
DEVELOPMENT APPLICATION

DRAWING TITLE		
TURN MANOEUVRE LAYOUT PLAN SHEET 1 OF 2		
PROJECT No.	DRAWING No.	REVISION
23-000077.03	080	

DISCLAIMER: ALL DIMENSIONS TO BE CHECKED ON SITE BY CONTRACTOR PRIOR TO CONSTRUCTION. USE WRITTEN DIMENSIONS ONLY, DO NOT SCALE.

Further Assessment required to demonstrate waste vehicle swept paths are appropriate

AMENDED IN RED

By: Nicole Tobias

Date: 16 April 2026



Emt BR
SP288121

1001

7
RP107811

[illegible]

FOR APPROVAL

RPEQ NO: 14593

DATE: 01.04.26



NORTH HARBOUR



NORTH HARBOUR
PRECINCT 1
DEVELOPMENT APPLICATION

TURN MANOEUVRE
LAYOUT PLAN
SHEET 2 OF 2

PROJECT No.	DRAWING No.	REVISION
23-000077.03	081	D

DISCLAIMER: ALL DIMENSIONS TO BE CHECKED ON SITE BY CONTRACTOR PRIOR TO CONSTRUCTION. USE WRITTEN DIMENSIONS ONLY, DO NOT SCALE.

Egis Consulting Pty Ltd

www.egis-group.com



CONTACT US

Egis Consulting Pty Ltd

Unit 402, Level 4, 8 Market Lane, Maroochydore, 4558, QLD

Ph: +61 7 3517 4175