

Attachment 14 Engineering Services Report

Prepared by Arcadis

CHAMBERS FLAT AND LOGAN RESERVE ROADS, LOGAN RESERVE

Engineering Services Report


26 JULY 2024





Incorporating

JLF CORPORATION PTY LTD CHAMBERS FLAT AND LOGAN RESERVE ROADS, LOGAN RESERVE

ENGINEERING SERVICES REPORT

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RPEQ16855 

Report No F0001-30105783-AAR

Date 26/07/2024

Revision 05

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This report has been prepared for JLF Corporation Pty Ltd in accordance with the terms and conditions of appointment for Chambers Flat and Logan Reserve Roads, Chambers Flat. Arcadis Australia Pacific Pty Limited (ABN 76 104 485 289) cannot accept any responsibility for any use of or reliance on the contents of this report by any third party.

REVISIONS

Revision	Date	Description	Prepared by	Approved by
01	16/11/2021	Issue for Approval	SH	MW
02	23/11/2021	Sewer Connection Amendment	SH	MW
03	22/07/2022	RFI Response/ Issue for Approval	GD	MW
04A	3/11/2022	RFI Response/ Issue for Approval	GD	MW
04B	16/03/2023	RFI Response/ Issue for Approval	GD	MW
05	26/07/2024	Revised Layout and Increased Yield	GD	MW

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1 EXECUTIVE SUMMARY

JLF Corporation Pty Ltd has commissioned Arcadis to prepare an Engineering Services Report (ESR) for a proposed residential subdivision development at Chambers Flat and Logan Reserve Roads, Logan Reserve. The development is located over the following existing allotments:

- 680-688 Chambers Flat Road, Logan Reserve (Lot 12 on RP106853).
- 690-702 Chambers Flat Road, Logan Reserve (Lot 13 on RP106853).
- 715-7211 Logan Reserve Road, Logan Reserve (Lot 26 on RP106853).
- 707-713 Logan Reserve Road, Logan Reserve (Lot 27 on RP106853).
- 699-705 Logan Reserve Road, Logan Reserve (Lot 28 on RP106853).
- 691-697 Logan Reserve Road, Logan Reserve (Lot 29 on RP106853).

The development includes creation of 166 residential allotments in addition to new roads, drainage reserves and parks. It is important to note that Stage 1 has already been approved under application number OW/237/2023/A and is already under construction therefore no changes have been made to Stage 1.

This report addresses and provides information relating specifically to the civil engineering aspects of the proposed development works including water, sewer, electrical and telecommunications connections, as well as information on stormwater drainage and bulk earthworks.

Stormwater quantity and quality from the site will be managed through the use of municipal infrastructure. The Site Based Stormwater Management Plan (SBSMP), reference 'F0002-30105783-AAR-05 SMP', for the site has demonstrated that attenuation of the post-development site discharge to pre-development rates can be achieved through the use of detention basins prior to discharge. Proposed bio-retention basins will facilitate stormwater quality treatment prior to discharging from the site. The SBSMP prepared by Arcadis should be referred to for a more in-depth analysis of the proposed drainage regime.

Connection for the development's water reticulation network to Council's existing water supply network will be provided via connection to the water infrastructure delivered by QM Properties "Chambers Green" located west of the development on Chambers Flat Road.

It is understood that Logan Water is proposing a pump station in the proximity of Lot 17 & 18 RP105335. The proposed pump station is not yet online therefore a temporary connection for the development to Logan's Wastewater Supply Network will be via connection to the sewer main within the "Chambers Green" development delivered by QM Properties, west of the site. Initial connection to Logan Waters sewerage network will be via a connection to the existing gravity main located west of the site. Stages 2A to 4 are proposed to be serviced by a temporary sewerage pump station within Lot 35 of Stage 2B until such time as municipal sewerage is provided to the site and local sewer catchment. Ultimately however the development will connect to the proposed sewer infrastructure being provided by Logan Water located east of Lot 18 RP105335.

The development shall connect to the existing electrical and telecommunications infrastructure within Chambers Flat Road and Logan Reserve Road and shall be designed by a specialist electrical and telecommunications consultant in accordance with Council and Energex requirements.

Vehicular access to the development is proposed from Chambers Flat Road while the construction of new roads internal to the development site will service the proposed residential allotments.

1.1 Revision 05

Revision 05 of this report is to reflect an updated layout and new sewer strategy refer to section 4.3 for further details. It is noted that no changes have been made to Stages 1A & 1B, which has been assessed and approved under application OW/237/2023/A. Construction has commenced for Stages 1A & 1B.

2 EXISTING SITE CHARACTERISTICS

2.1 SITE DESCRIPTION & LAND USE

The subject site is located at Chambers Flat and Logan Reserve Roads, Logan Reserve within the Logan City Council local government boundary over the following parcels of land:

- 680-688 Chambers Flat Road, Logan Reserve (Lot 12 on RP106853).
- 690-702 Chambers Flat Road, Logan Reserve (Lot 13 on RP106853).
- 715-7211 Logan Reserve Road, Logan Reserve (Lot 26 on RP106853).
- 707-713 Logan Reserve Road, Logan Reserve (Lot 27 on RP106853).
- 699-705 Logan Reserve Road, Logan Reserve (Lot 28 on RP106853).
- 691-697 Logan Reserve Road, Logan Reserve (Lot 29 on RP106853).

The site is bordered by rural residential and emerging urban residential development to the north, rural residential lots to the south, Chambers Flat Road to the west and Logan Reserve Road to the east. The site has a total area of 10.18ha.

In its current state, the project site consists of rural residential lots. Figure 2-1 below illustrates the site location.



Figure 2-1 Site Locality Plan (Aerial Image Courtesy of Nearmap)

2.2 EXISTING TOPOGRAPHY

The existing site topography can be described to consist of low to medium grades (1 – 5%) generally grading south. An existing dam is located partially within the south-eastern lot, with

much of the eastern areas draining to it. Western areas of the site generally grade south-west towards Chambers Flat Road. The site has an approximate high point of RL35.50m AHD on the northern boundary of the western side and an approximate low point of RL20.00m AHD in the south-eastern corner.

The site is subject to external catchments that discharge from the properties to the north and south before discharging to the aforementioned dam, Logan Reserve Road and Chambers Flat Road.

3 PROPOSED DEVELOPMENT

The proposed development will deliver a residential subdivision consisting of approximately 166 lots. The site is proposed to be serviced by a new road network and will feature combined stormwater bio-retention and detention basins. The layout for Stage 1 has not changed since application OW/237/2023/A as these lots are already under construction.

Figure 3-1 depicts the proposal for the development.

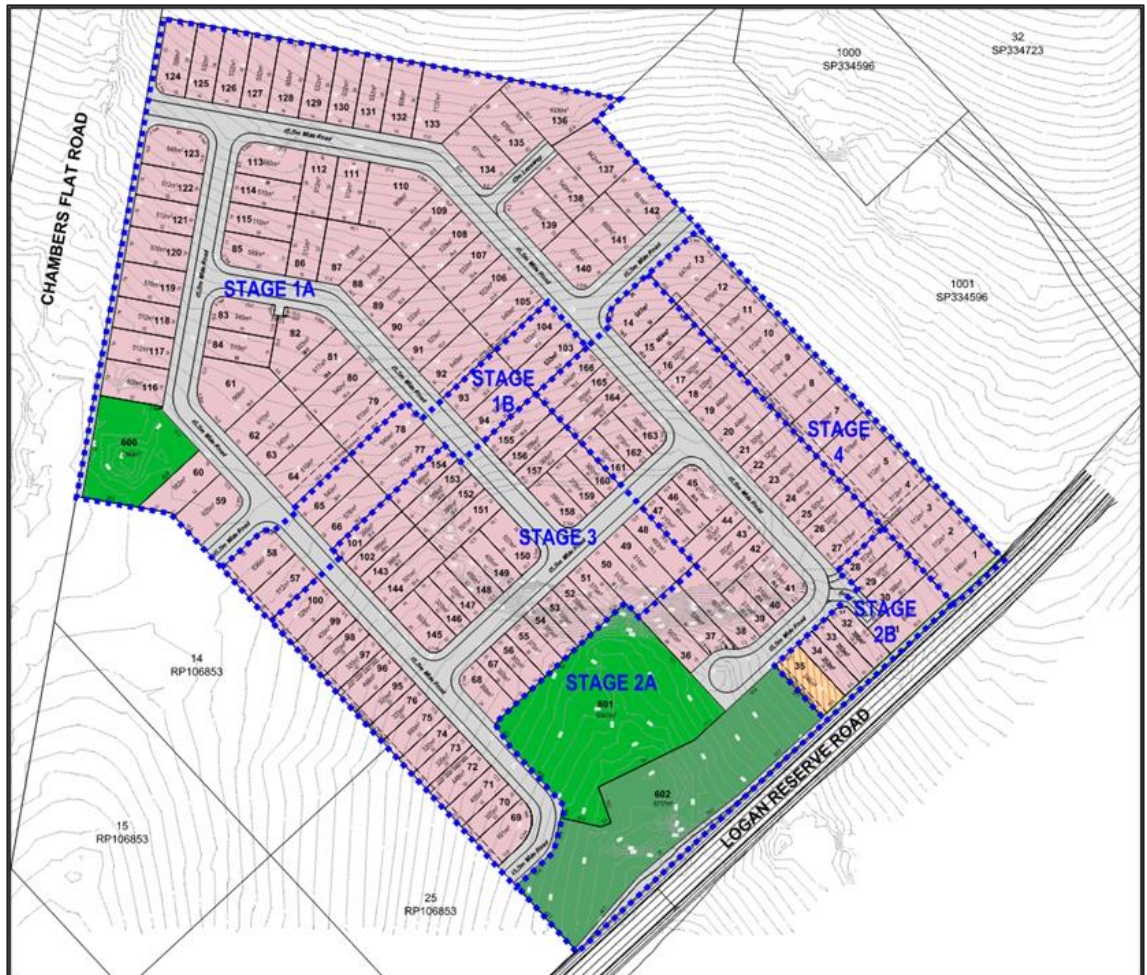


Figure 3-1 Development Proposal Plan (Courtesy of Wolter Consulting Group)

4 INFRASTRUCTURE SERVICES

4.1 STORMWATER DRAINAGE

An SBSMP 'F0002-30105783-AAR-03 SMP' which addresses the issues of stormwater quantity and quality for the development has been prepared separately. This SBSMP should be referred to for an in-depth analysis of prevailing stormwater conditions.

4.1.1 EXISTING STORMWATER DRAINAGE

The site is subject to external catchments that discharge from the properties to the north before discharging to the aforementioned dam, Logan Reserve Road and Chambers Flat Road.

There is an existing minor drainage culvert which traverses Logan Reserve Road.

4.1.2 POST DEVELOPED STORMWATER DRAINAGE OBJECTIVES

To prevent degradation of Council's waterways, ecologically sustainable development principles have been embraced and regulated by LCC. The core principles of Water Sensitive Urban Design (WSUD) are to:

- Protect natural ecosystems.
- Integrate stormwater treatment into the urban landscape.
- Protect water quality.
- Reduce runoff and peak flows; and
- Add value while minimising development costs.

With these principles in mind, the stormwater management objectives aim to:

1. Identify the water quality and quantity objectives and performance criteria.
2. Estimate the pollutant and flood storage loads; and
3. Detail within the management plan, strategies aimed at achieving the required objectives.

The achievement of these objectives has been summarised in the following section of this report and is explained in full within the SBSMP 'F0002-30105783-AAR-03 SMP'.

4.1.3 PROPOSED STORMWATER DRAINAGE INFRASTRUCTURE

The SBSMP 'F002-30105783-AAR' for the site has demonstrated that attenuation of the post-development site discharge to pre-development rates can be achieved through the use of stormwater detention basins. Stormwater will subsequently discharge from the basins to the existing lawful point of discharge location west and south of the site. Bio-retention basins will also be employed to facilitate stormwater quality treatment prior to discharging from the site.

For a more detailed explanation, in depth analysis and proposed drainage regime refer to the SBSMP 'F0002-30105783-AAR-03 SMP'.

4.1.4 LCC STORMWATER PRIORITY INFRASTRUCTURE PLAN

A review of the LCC Priority Infrastructure Plan (PIP), for trunk stormwater infrastructure Map PIP-05.00 has not identified any proposed upgrades within the vicinity of the proposed development site.

4.1.5 FLOOD MANAGEMENT

A review of the LCC Flood Hazard Trigger Overlay Map OM-05 has identified the site as not being affected by the designated Flooding and Inundation Areas.

4.2 WATER SUPPLY

4.2.1 EXISTING WATER SUPPLY INFRASTRUCTURE

There is presently no existing water infrastructure available to the site. QM Properties have recently delivered a 200mm diameter external water main directly opposite on Chambers Flat Road as part of Stage 1 of their Chambers Green project.

4.2.2 PROPOSED WATER SUPPLY INFRASTRUCTURE

Connection to the proposed 200mm diameter potable water main opposite on Chambers Flat Road is proposed for provision of adequate service to the proposed development.

The developer shall, as part of the development works, construct an internal water reticulation network for the proposed development.

The proposed connection locations and indicative internal water network are detailed on the engineering drawings included in Appendix A.

4.2.3 LCC WATER PRIORITY INFRASTRUCTURE PLAN

A review of the LCC Priority Infrastructure Plan (PIP), for trunk water infrastructure Map PIP-03.00 has not identified any proposed upgrades within the vicinity of the proposed development site.

It is noted that within the aforementioned PI-258 – Park Ridge and Logan Reserve Water Supply Detailed Planning map that a 200mm diameter main is proposed along Logan Reserve Road.

4.2.4 PLANNED DEVELOPMENT LOADINGS

The development loading has been calculated based on the proposed plan of development to determine the expected demand in Equivalent Persons (EP) proposed to be added to Council's water network.

Table 4-1 Planned Demand from Approved Application

Category	Units	Conversion Rate	Planned Approved Demand (EP)
Single Residential Lot	166	3.03 EP/Lot	502.98
TOTAL			502.98

As shown in Table 4-1, the calculated demand for the development is 502.98EP, this is a 72.72EP increase from the proposed demand assessed in the water network capacity report which is not considered to be a significant increase.

Refer to the water network capacity report F0003-30105783-AAR-01 WNR that illustrated the capacity of Council Water network.

4.2.5 FIRE SYSTEM WATER SUPPLY

In accordance with the SEQ WS&S D&C Code, the site is permitted to draw the following fire flows.

- Residential subdivision – 15L/sec for 2 hours.

As outlined above, the external water connection and internal water reticulation network for the residential subdivision will be designed as part of future Operational Works applications for the site.

4.3 SEWERAGE

4.3.1 EXISTING SEWERAGE SUPPLY INFRASTRUCTURE

There are presently no existing sewer assets located within the subject site. The nearest sewer connection is located opposite Chambers Flat Road in the Chambers Green Development.

4.3.2 PROPOSED SEWERAGE SUPPLY INFRASTRUCTURE

It is understood Logan Water has been engaged to undertake sewer network study of the local catchment and that a pump station is likely to be constructed somewhere in the proximity of Lot 17 & 18 RP105335. The final location and timing for delivery of this infrastructure is still to be confirmed by Logan City Council.

Arcadis' preference option would be that the whole development would ultimately connect to councils' regional infrastructure. However, it is understood that this development will proceed the pump station.

At the time of this report, Stages 1A & 1B of the subject development has been previously approved to construct a gravity sewer main and a connection across to the existing infrastructure located in Chambers Green (refer COM/237/2023/A). It is still not known when the abovementioned regional sewer pump station will commence.

In order to allow the development and adjacent surrounding developments within the local sewerage catchment to proceed, a temporary sewerage pump station is proposed within Lot 35 of Stage 2B until such time as municipal sewerage is provided to the site. It is proposed to construct a gravity sewer network to convey flows to an interim sewer pump station which will capture effluent and pump back to Stage 1B's gravity sewer network via a pressure rising main. This sewer pump station must only be considered temporary, such that flows would be redirected back towards the ultimate Council pump station when online. Redundant infrastructure would then later be removed, or grout filled at the developer's expense.

The internal gravity sewer pipe size will be DN150, and the rising main pipe subject to detailed design and consideration of future development catchments to be advised by Council. Sewerage flows will cross under Logan Reserve Road and drain east through Lot 18 RP105335.

The proposed connection locations and indicative internal sewer network are detailed on the engineering drawings included in Appendix A.

4.3.3 PROPOSED SEWERAGE DEVELOPMENT LOADINGS

A sewer network assessment has been conducted refer which demonstrates that the existing pipe network in the Chambers Green development has capacity to convey all flows from the subject development. It has been determined this line also has spare capacity for adjacent catchments, being lots 11, 14 & 15 of RP106853 and lot 1001 on SP334596. Refer to Appendix E for the catchment plan.

In summary, the subject development is expected to generate a total loading of 503EP (1.16L/s ADWF and 5.82L/s PWWF).

Based on assessment of as-constructed records, the capacity downstream Ø150mm gravity sewer reticulation network within Chambers Green is 888EP (2.06L/s ADWF and 10.28L/s PWWF) which is sufficient to support both the subject development and surrounding properties within the local sewer catchment

Once the necessary downstream network augmentations and infrastructure has been completed by Council, Stages 2A – 4 of the subject development will send 297EP (0.69L/s ADWF and 3.44L/s PWWF) to the future regional pump station.

4.3.4 LCC SEWERAGE PRIORITY INFRASTRUCTURE PLAN

A review of the LCC Priority Infrastructure Plan (PIP), for trunk sewer infrastructure Map PIP-04.00 has identified proposed upgrades north of the proposed development site.

It is noted that within the aforementioned Loganholme – Wastewater Master Planning 2019 – Figure PI_215_Loganholme that a combination of pump stations, rising main, and gravity sewer is proposed in lots immediately east of the development with works proposed in 2036 to ultimately connect with the rising main as proposed above in Logan Reserve Road and Derby Road with connection to the proposed gravity main within Derby Road.

4.3.5 PROJECTED DEVELOPMENT LOADINGS

Due to the nature of the proposed development the wastewater demand was calculated in same manner as the water supply within Section 4.2.4.

4.4 ELECTRICAL AND TELECOMMUNICATIONS SERVICES

A Dial Before You Dig (DBYD) search has identified existing electrical and telecommunications services within Chambers Flat and Logan Reserve Road adjacent to the development site.

The proposed development will incorporate low-voltage electricity and telecommunications supply designed by a specialist electrical and telecommunications consultant in accordance with Council and Energex requirements.

The DBYD search results are provided in Appendix B and should be referred to for the locations of the above-mentioned services within the vicinity of the site.

5 ROADS AND ACCESS

Vehicular access to the development is proposed via temporary access from Chambers Flat Road.

Chambers Flat Road is designated to become an Urban Arterial Dual Carriageway Road. In the interim and subject to traffic advice, it is proposed to construct a basic turn left (BAL) intersection configuration.

Provision for ultimate access will be provided to the north of the site facilitating connectivity to future developments. It is noted that proposed lots 1-13 are intended to be access via future road as a part of proposed development to the north. No access from Logan Reserve Road is proposed.

All internal roads will be designed in accordance with Logan City Council Guidelines as Urban Access classification, based on the proposed lots within the service catchment. Pedestrian access will be provided from the adjoining roadway via footpaths designed in accordance with LCC guidelines.

The proposed development considers future upgrade to Logan Reserve Road. The future roadworks design has been incorporated into the design to demonstrate no impact or future road dedication requirement along Logan Reserve Road. Refer to engineering drawings included in Appendix A.

6 EARTHWORKS

6.1 EARTHWORKS OPERATIONS

The proposed development will involve the undertaking of cut and fill earthworks operations to facilitate the construction of roads, surface drainage and allotments. Retaining walls will likely be constructed throughout the site to create a terraced profile between the internal lots.

The existing dam located on site will be completely filled allowing for the construction of allotments.

Preliminary bulk earthworks drawings are provided in Appendix A for reference.

6.2 ACID SULFATE SOIL ASSESSMENT

Acid sulfate soils are soils that contain iron pyrites which are formed under specific geological conditions typical to low lying areas. These conditions require the presence of iron, sulphur and organic matter and generally occur in alluvial soils. The pyrites oxidise when exposed to air and, when combined with water, form sulfuric acid. The resulting sulfuric acid leaches out of the soil and may lower the pH of the receiving waters, increase the levels of dissolved metals in the receiving waters (particularly iron and aluminium) and strip the natural neutralising capacity from the receiving waters. These consequences can have a serious impact on constructed environments and environmental ecosystems.

As a result of the existing elevation, the proposed development site is not identified as being at risk on the Logan Planning Scheme 2015 Acid Sulfate Soils Overlay Map, OM-01, refer Appendix C for details.

7 LCC OVERLAY MAPS

The proposed development site is subject to property constraints as identified by LCC's 2015 Planning Scheme overlay mapping system. Screenshots from Council's interactive mapping system for each applicable overlay trigger have been provided in Appendix C. Clarification and acknowledgement of these constraints are presented below in order to demonstrate mitigation of any potential impacts on the design and surrounding area.

ACID SULFATE SOILS (OM-01)

The proposed development site is not identified. Please refer to Section 6.2 and Appendix C for mapping.

BIODIVERSITY AREAS (OM-02)

The project site partially triggers the biodiversity area overlay map as being an area of local environmental significance. Therefore, the impacts of development to local wildlife and vegetation must be considered, refer Appendix C for mapping.

BUSHFIRE HAZARD (OM-03)

The site falls within the bushfire hazard trigger area. A bushfire management plan may be required to further investigate potential issues related to bushfire in and around the vicinity of the development however aerial imagery indicates areas adjacent to the development site works have been largely cleared.

FLOOD HAZARD OVERLAY (OM-05)

The proposed development site is identified as not being affected.

LANDSLIDE HAZARD OVERLAY (OM-08)

A small section of the site in the triggers Council's landslide hazard overlay. The section is identified as being a hazard area with a slope equal to or greater than 15%. This location is largely around the existing dams onsite which shall be removed in conjunction with the bulk earthworks operations.

8 LCC COUNCIL CODES

LCC Development Codes applicable to the proposed development have been completed and provided in Appendix C for reference. The relevant codes that have been completed are as follows:

- Development Code 9.4.2 – Filling and excavation code; and
- Development Code 9.4.3 – Infrastructure code.

9 CONCLUSION

JLF Corporation Pty Ltd has commissioned Arcadis to prepare an Engineering Services Report (ESR) for a proposed residential subdivision development at Logan Reserve.

The development includes creation of 166 residential allotments in addition to new roads, drainage reserves and park.

This report addresses and provides information relating specifically to the civil engineering aspects of the proposed development works including water, sewer, electrical and telecommunications connections, as well as information on stormwater drainage and bulk earthworks.

Stormwater quantity and quality from the site will be managed through the use of municipal infrastructure. The Site Based Stormwater Management Plan (SBSMP), reference 'F0002-30105783-AAR-05 SMP', for the site has demonstrated that attenuation of the post-development site discharge to pre-development rates can be achieved through the use of detention basins prior to discharge. Proposed bio-retention basins will facilitate stormwater quality treatment prior to discharging from the site. The SBSMP prepared by Arcadis should be referred to for a more in-depth analysis of the proposed drainage regime.

Connection for the development's water reticulation network to Council's existing water supply network will be provided via connection to the water infrastructure currently being delivered by QM Properties "Chambers Green" located west of the development on Chambers Flat Road.

Initial connection to Logan Waters sewerage network will be via a connection to the existing gravity main located opposite on Chambers Flat Road. Stages 2A to 4 are proposed to be serviced by a temporary sewerage pump station within Lot 35 of Stage 2B until such time as municipal sewerage is provided to the site and local sewer catchment. Ultimately however the development will connect to the proposed sewer infrastructure being provided by Logan Water located east of Lot 18 RP105335.

The development shall connect to the existing electrical and telecommunications infrastructure within Chambers Flat Road and Logan Reserve Road and shall be designed by a specialist electrical and telecommunications consultant in accordance with Council and Energex requirements.

Vehicular access to the development is proposed initially from Chambers Flat Road while the construction of new roads internal to the development site will service the proposed residential allotments.

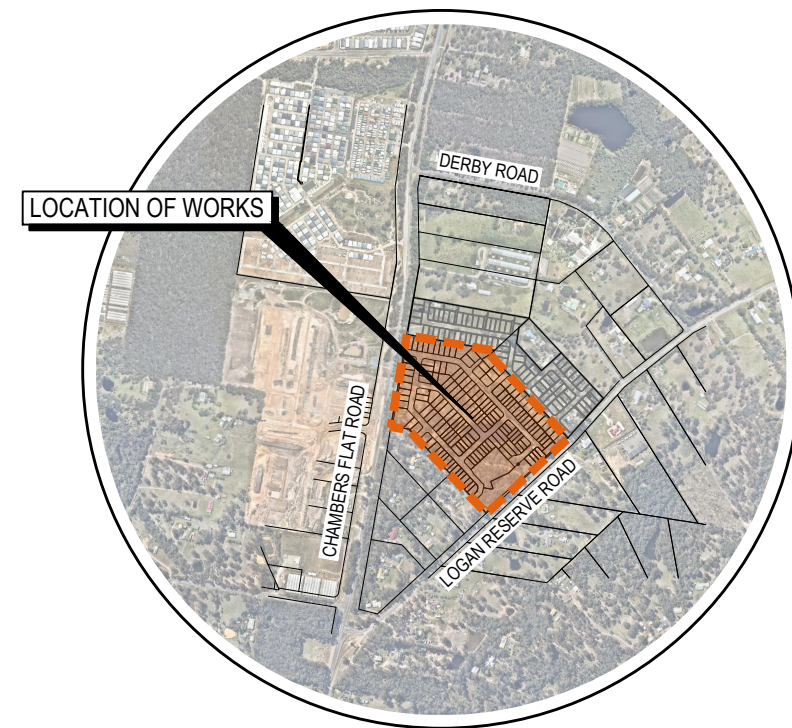
APPENDIX A

ENGINEERING DRAWINGS

680 - 688 & 690 CHAMBERS FLAT ROAD AND 691 - 697 & 699 LOGAN RESERVE ROAD, LOGAN RESERVE DEVELOPMENT APPLICATION LOGAN CITY COUNCIL

DRAWING SCHEDULE

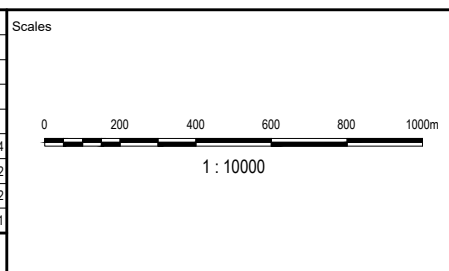
DWG. No.	DESCRIPTION
GENERAL	
0001	COVER SHEET, LOCALITY PLAN & DRAWING SCHEDULE
EARTHWORKS	
0100	BULK EARTHWORKS CUT & FILL LAYOUT PLAN SHEET 1
0101	BULK EARTHWORKS CUT & FILL LAYOUT PLAN SHEET 2
0102	BULK EARTHWORKS CUT & FILL LAYOUT PLAN SHEET 3
0105	TYPICAL RETAINING WALL DETAILS
0110	BULK EARTHWORKS SECTIONS SHEET 1
0111	BULK EARTHWORKS SECTIONS SHEET 2
ROADWORKS	
0210	ROADWORKS AND DRAINAGE LAYOUT PLAN SHEET 1
0211	ROADWORKS AND DRAINAGE LAYOUT PLAN SHEET 2
0212	ROADWORKS AND DRAINAGE LAYOUT PLAN SHEET 3
0215	ROADWORKS AND DRAINAGE DETAILS & NOTES
0220	LOGAN RESERVE ROAD LONGITUDINAL SECTION
0230	LOGAN RESERVE ROAD CROSS SECTIONS SHEET 1
0231	LOGAN RESERVE ROAD CROSS SECTIONS SHEET 2
0232	LOGAN RESERVE ROAD CROSS SECTIONS SHEET 3
STORMWATER DRAINAGE	
0310	STORMWATER CATCHMENT PLAN - PRE DEVELOPMENT
0311	STORMWATER CATCHMENT PLAN - POST DEVELOPMENT
0312	INTERIM STAGE 1 STORMWATER CATCHMENT PLAN - POST DEVELOPMENT
0380	COMBINED DETENTION - BIO-RETENTION BASIN 1 LAYOUT PLAN
0381	COMBINED DETENTION - BIO-RETENTION BASIN 2 LAYOUT PLAN
0382	BIO-RETENTION TYPICAL SECTIONS AND DETAILS SHEET 1
0383	BIO-RETENTION TYPICAL SECTIONS AND DETAILS SHEET 2
SERVICES	
0400	SEWER AND WATER RETICULATION LAYOUT PLAN SHEET 1
0401	SEWER AND WATER RETICULATION LAYOUT PLAN SHEET 2
0402	SEWER AND WATER RETICULATION LAYOUT PLAN SHEET 3
0405	TEMPORARY SEWER PUMP STATION LAYOUT PLAN
0500	EXTERNAL SEWER RETICULATION LAYOUT PLAN



LOCALITY PLAN
1 : 10000

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Issue	Description	DR	CH	VE	Date
04	UPDATED LOT LAYOUT	DK	GM		26.07.2024
03	ADDITIONAL RFI RESPONSE	DK	GM		03.11.2022
02	RFI RESPONSE	DK	GM		22.07.2022
01	ORIGINAL ISSUE	DK	GM		11.11.2021



Town Planner

Urban Designer

Planning Urban Design Landscape Environment Surveying

JLF CORPORATION

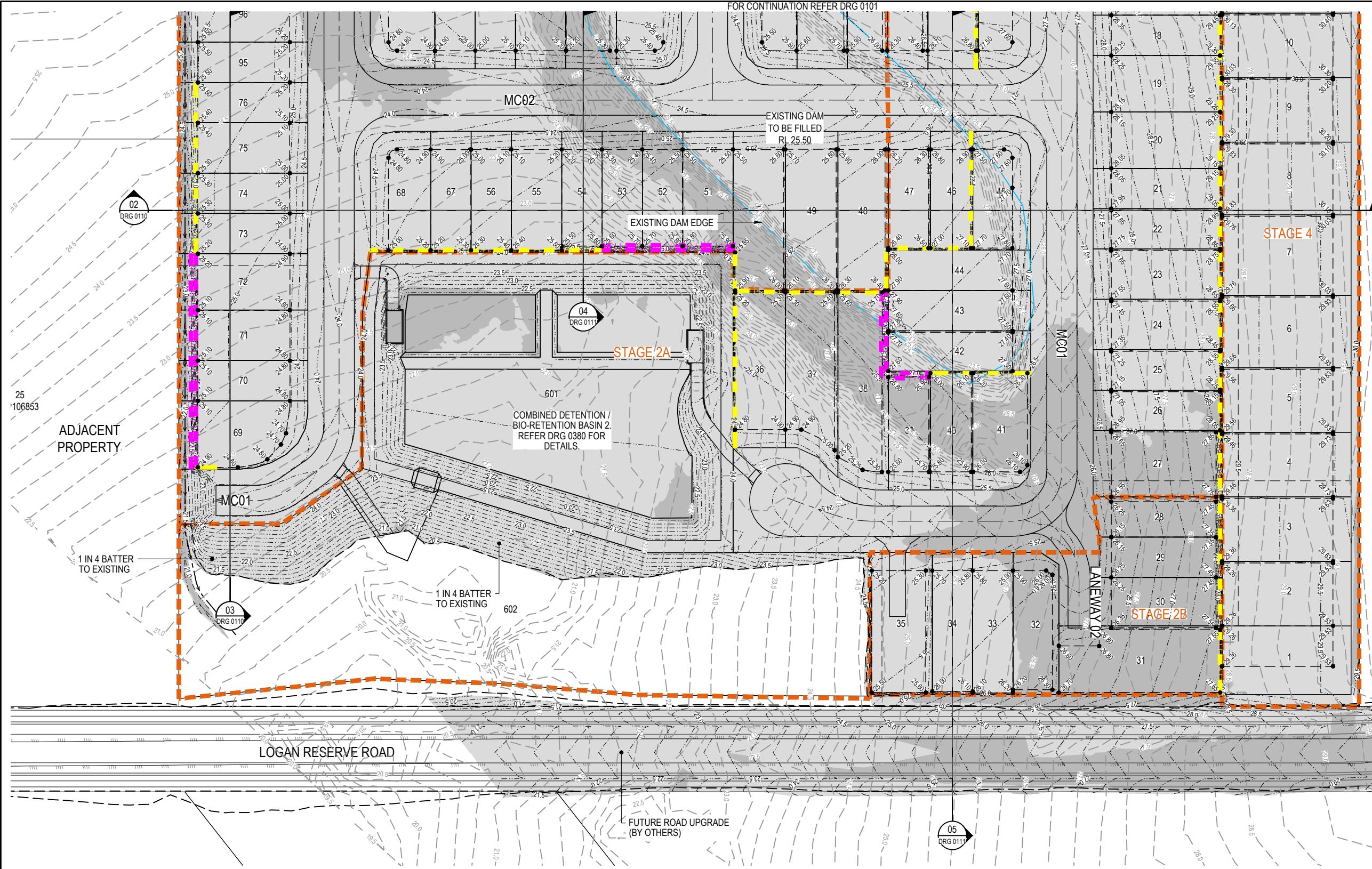
Status			
PRELIMINARY NOT TO BE USED FOR CONSTRUCTION			
© Copyright reserved			
Original Issue Signatures			
Drawn	D. KEARNEY	Original Size	A1
Designed	R. MARTINEZ	Height Datum	AHD
Project Manager	G. MENZIES	Grid	LOCAL
Verified	.		

Project
680 - 688 & 690 CHAMBERS FLAT ROAD AND 691 - 697 & 699 LOGAN RESERVE ROAD, LOGAN RESERVE

Title
COVER SHEET, LOCALITY PLAN & DRAWING SCHEDULE

Arcadis Australia Pacific Pty Limited
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Southport QLD 4215
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Fax No: +61 7 5591 4778
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Project No. | Folder Prefix | Zone | Stage | Phase | Discipline | Type | Drawing No. | Issue
30105783 - DABA - 0000DA - CV - DRG - 0001 - 04



LEGEND

- 5.0 --- PROPOSED SURFACE CONTOURS
- 5.0 --- EXISTING SURFACE CONTOURS
- TOP/TOE OF BATTER
- █ EARTHWORKS AREA OF FILL
- █ EARTHWORKS AREA OF CUT
- 14.25 ● BUILDING PAD AND LEVEL
- PROPOSED 0.5m - 1.5m HIGH RETAINING WALL
- PROPOSED 1.5m - 3.0m HIGH TWO TIER RETAINING WALL
- NOMINAL KERB LINE
- SWD --- EXISTING STORMWATER RETICULATION
- S --- EXISTING SEWERAGE RETICULATION
- W --- EXISTING WATER RETICULATION
- e --- EXISTING UNDERGROUND ELECTRICAL RETICULATION
- oh --- EXISTING OVERHEAD ELECTRICAL RETICULATION
- c --- EXISTING COMMUNICATIONS RETICULATION
- PROPOSED SWALE DRAIN
- SITE BOUNDARY

ADJACENT DEVELOPMENT COM/93/2022

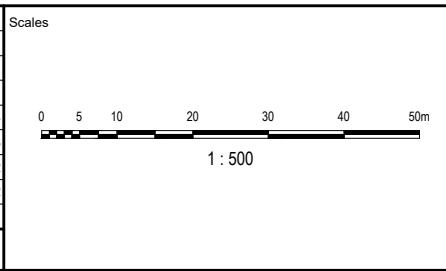
CUT / FILL VOLUMES

CUT	-39,177.149m ³
FILL	92,699.845m ³
BALANCE (IMPORT)	53,522.696m ³

NOTE: NO TOPSOIL STRIP OF EXISTING AND TOPSOIL RE-SPREAD HAS BEEN APPLIED TO VOLUMES. NO COMPACTION OR BULKING FACTORS HAVE BEEN APPLIED. NO ALLOWANCE FOR UNSUITABLE MATERIAL OR ROAD BOXING.



Issue	Description	DR	CH	VE	Date
05	UPDATED LOT LAYOUT	DK	GM		26.07.2024
04	MINOR CHANGES TO LOT BOUNDARIES	DK	GM		13.03.2023
03	ADDITIONAL RFI RESPONSE	DK	GM		03.11.2022
02	RFI RESPONSE	DK	GM		22.07.2022
01	ORIGINAL ISSUE	DK	GM		11.11.2021



Town Planner

Urban Designer

Planning Urban Design Landscape Environment Surveying

JLF CORPORATION

Status: **PRELIMINARY**
NOT TO BE USED FOR CONSTRUCTION

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Original Issue Signatures	
Drawn	D. KEARNEY
Designed	R. MARTINEZ
Project Manager	G. MENZIES
Verified	

Original Size	A1
Height Datum	AHD
Grid	LOCAL

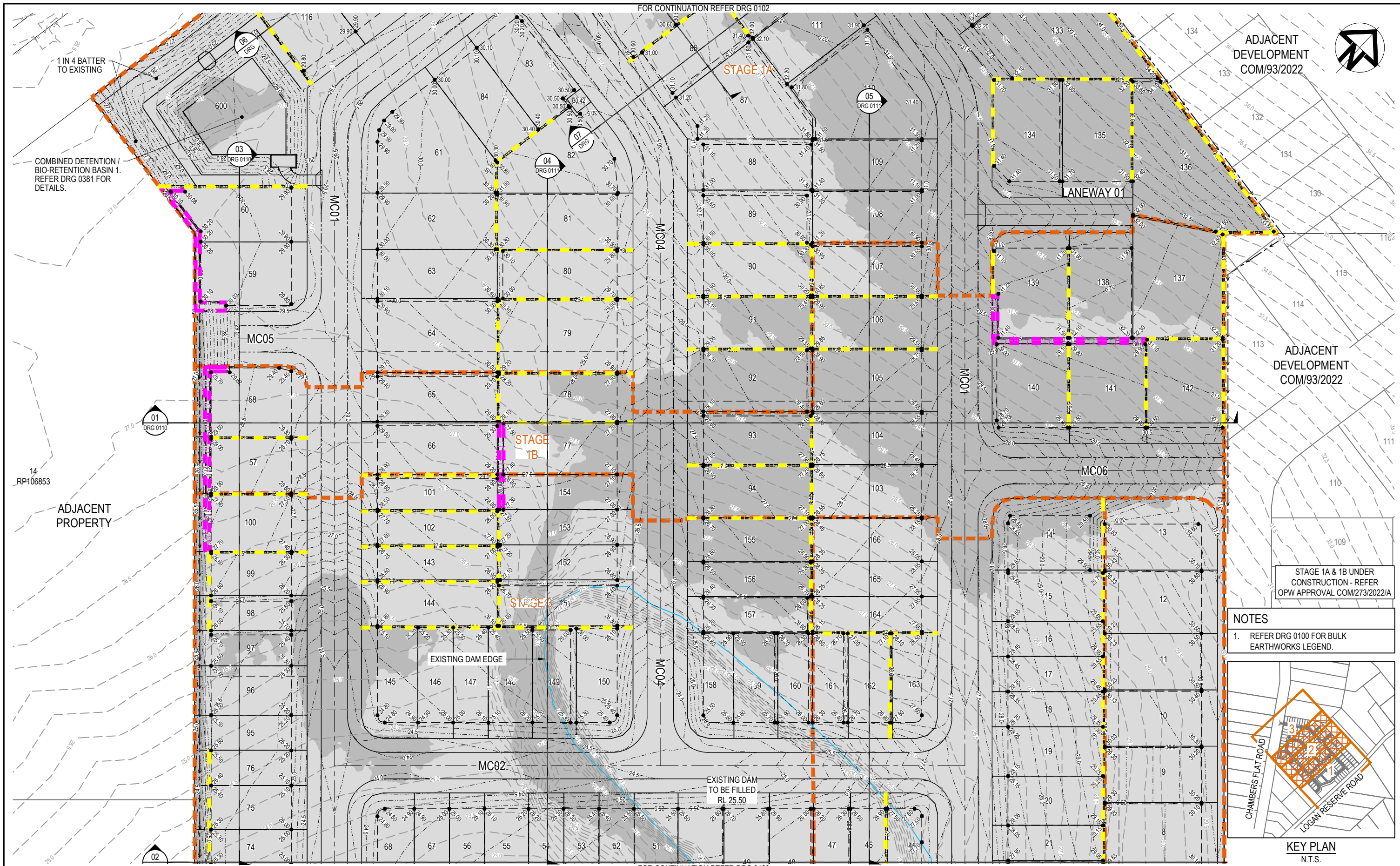
Project: **680 - 688 & 690 CHAMBERS FLAT ROAD AND 691 - 697 & 699 LOGAN RESERVE ROAD, LOGAN RESERVE**

Title: **BULK EARTHWORKS CUT & FILL LAYOUT PLAN SHEET 1**

Arcadis Australia Pacific Pty Limited
P O Box 1653
Southport QLD 4215
ABN 76 104 485 289
Tel No: +61 7 5532 3933
Fax No: +61 7 5591 4778
www.arcadis.com

Project No. | Folder Path | Zone | Stage | Phase | Discipline | Type | Drawing No. | Issue

30105783 - DABA - 0000DA - CV - DRG - 0100 - 05



ADJACENT DEVELOPMENT COM/93/2022



ADJACENT DEVELOPMENT COM/93/2022

STAGE 1A & 1B UNDER CONSTRUCTION - REFER OPW APPROVAL COM/273/2022/A

NOTES
1. REFER DRG 0100 FOR BULK EARTHWORKS LEGEND.

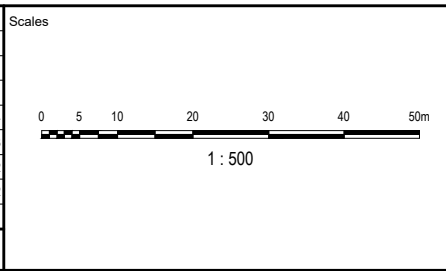


KEY PLAN
N.T.S.

FOR CONTINUATION REFER DRG 0102

FOR CONTINUATION REFER DRG 0100

Issue	Description	DR	CH	VE	Date
05	UPDATED LOT LAYOUT	DK	GM		26.07.2024
04	MINOR CHANGES TO LOT BOUNDARIES	DK	GM		13.03.2023
03	ADDITIONAL RFI RESPONSE	DK	GM		03.11.2022
02	RFI RESPONSE	DK	GM		22.07.2022
01	ORIGINAL ISSUE	DK	GM		11.11.2021



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Project Manager	G. MENZIES	Grid	LOCAL
Verified			

Project
680 - 688 & 690 CHAMBERS FLAT ROAD AND 691 - 697 & 699 LOGAN RESERVE ROAD, LOGAN RESERVE

Title
BULK EARTHWORKS CUT & FILL LAYOUT PLAN SHEET 2

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Project No. | Folder Path | Zone | Stage | Phase | Discipline | Type | Drawing No. | Issue

30105783 - DABA - 0000DA - CV - DRG - 0101 - 05

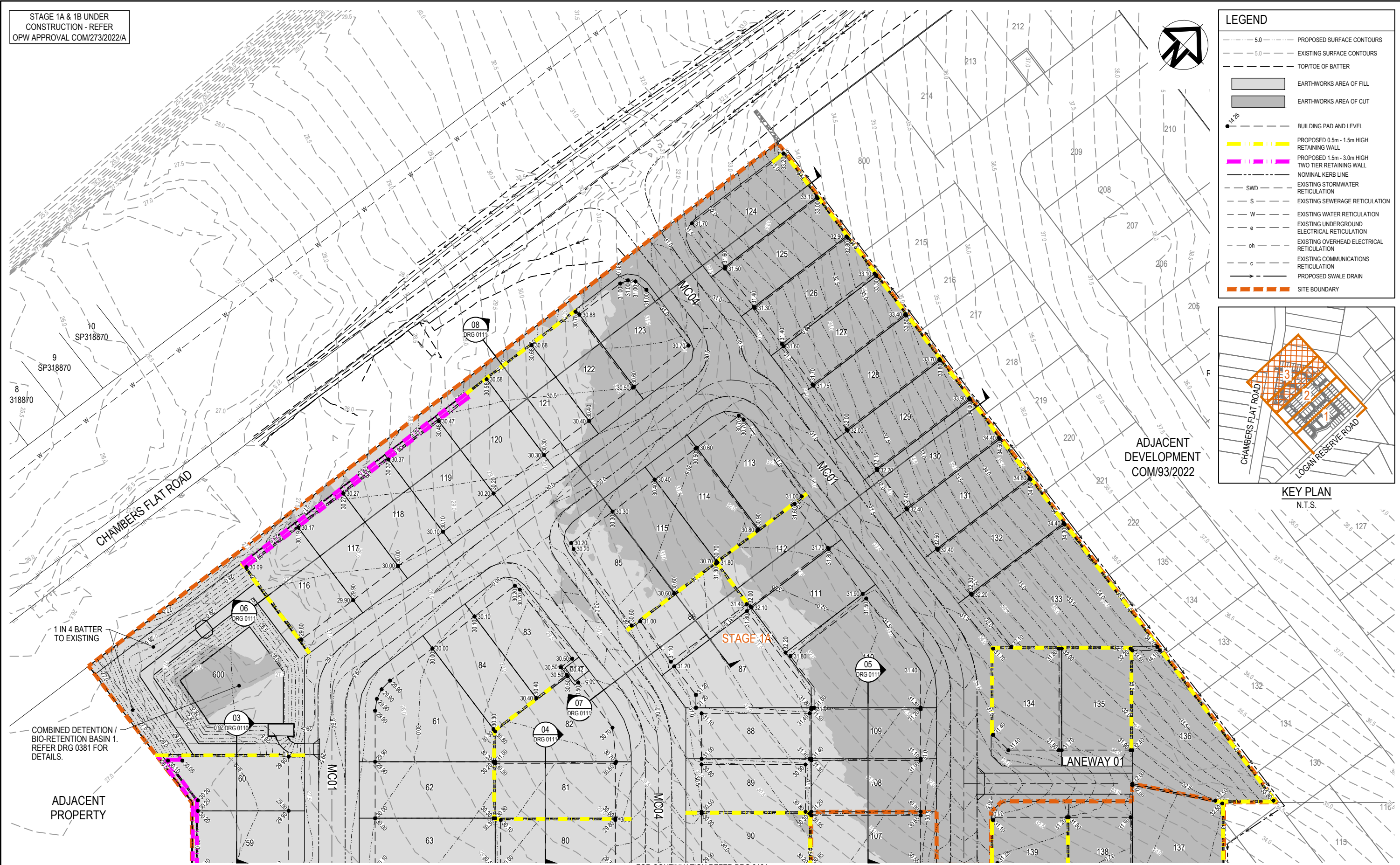
STAGE 1A & 1B UNDER
CONSTRUCTION - REFER
OPW APPROVAL COM/273/2022/A



LEGEND	
	5.0 PROPOSED SURFACE CONTOURS
	5.0 EXISTING SURFACE CONTOURS
	TOP/TOE OF BATTER
	EARTHWORKS AREA OF FILL
	EARTHWORKS AREA OF CUT
	BUILDING PAD AND LEVEL
	PROPOSED 0.5m - 1.5m HIGH RETAINING WALL
	PROPOSED 1.5m - 3.0m HIGH TWO TIER RETAINING WALL
	NOMINAL KERB LINE
	SWD EXISTING STORMWATER RETICULATION
	S EXISTING SEWERAGE RETICULATION
	W EXISTING WATER RETICULATION
	e EXISTING UNDERGROUND ELECTRICAL RETICULATION
	oh EXISTING OVERHEAD ELECTRICAL RETICULATION
	c EXISTING COMMUNICATIONS RETICULATION
	PROPOSED SWALE DRAIN
	SITE BOUNDARY



KEY PLAN
N.T.S.



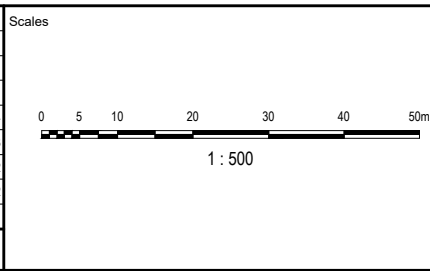
1 IN 4 BATTER TO EXISTING

COMBINED DETENTION /
BIO-RETENTION BASIN 1.
REFER DRG 0381 FOR
DETAILS.

ADJACENT
PROPERTY

FOR CONTINUATION REFER DRG 0101

Issue	Description	DR	CH	VE	Date
05	UPDATED LOT LAYOUT	DK	GM		26.07.2024
04	MINOR CHANGES TO LOT BOUNDARIES	DK	GM		13.03.2023
03	ADDITIONAL RFI RESPONSE	DK	GM		03.11.2022
02	RFI RESPONSE	DK	GM		22.07.2022
01	ORIGINAL ISSUE	DK	GM		11.11.2021



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Project Manager	G. MENZIES	Grid	LOCAL
Verified			

Project
680 - 688 & 690 CHAMBERS
FLAT ROAD AND 691 - 697 &
699 LOGAN RESERVE ROAD,
LOGAN RESERVE

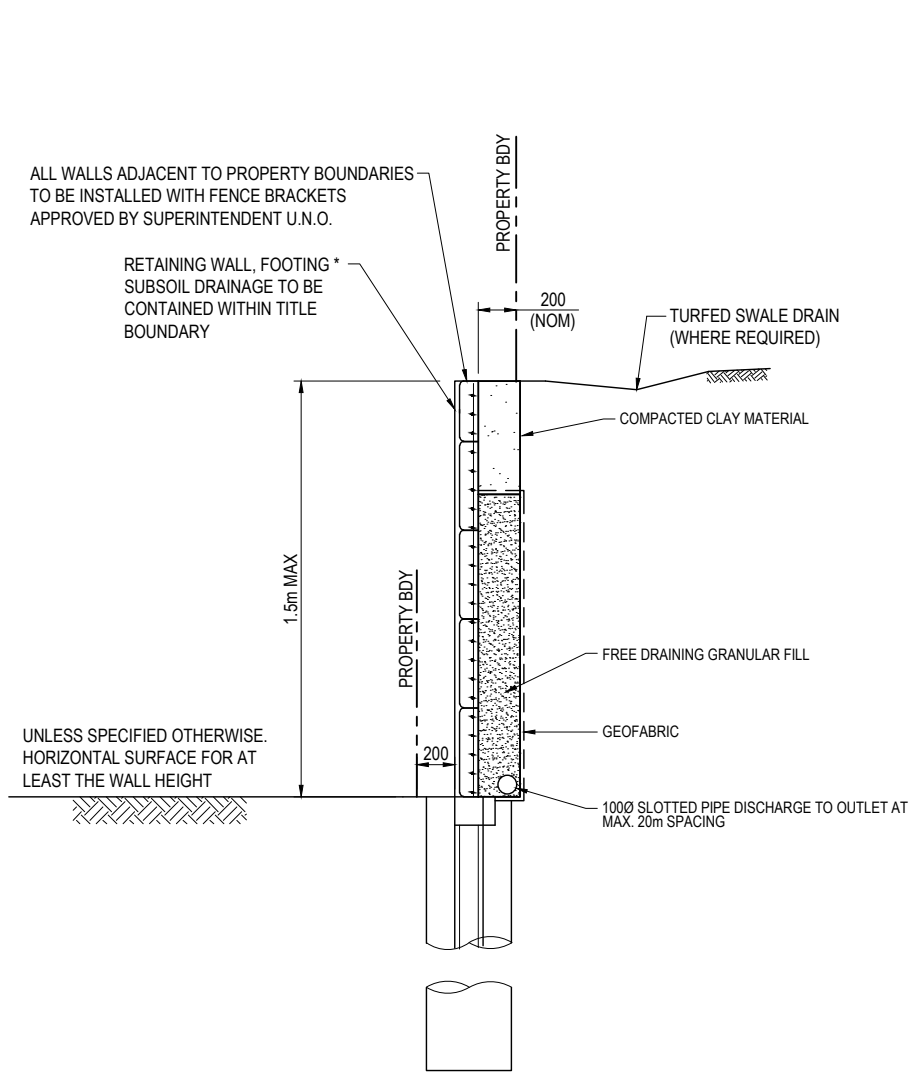
Title
BULK EARTHWORKS CUT
& FILL LAYOUT PLAN
SHEET 3

Arcadis Australia Pacific Pty Limited
P O Box, 1653
Southport QLD 4215
ABN 76 104 485 289

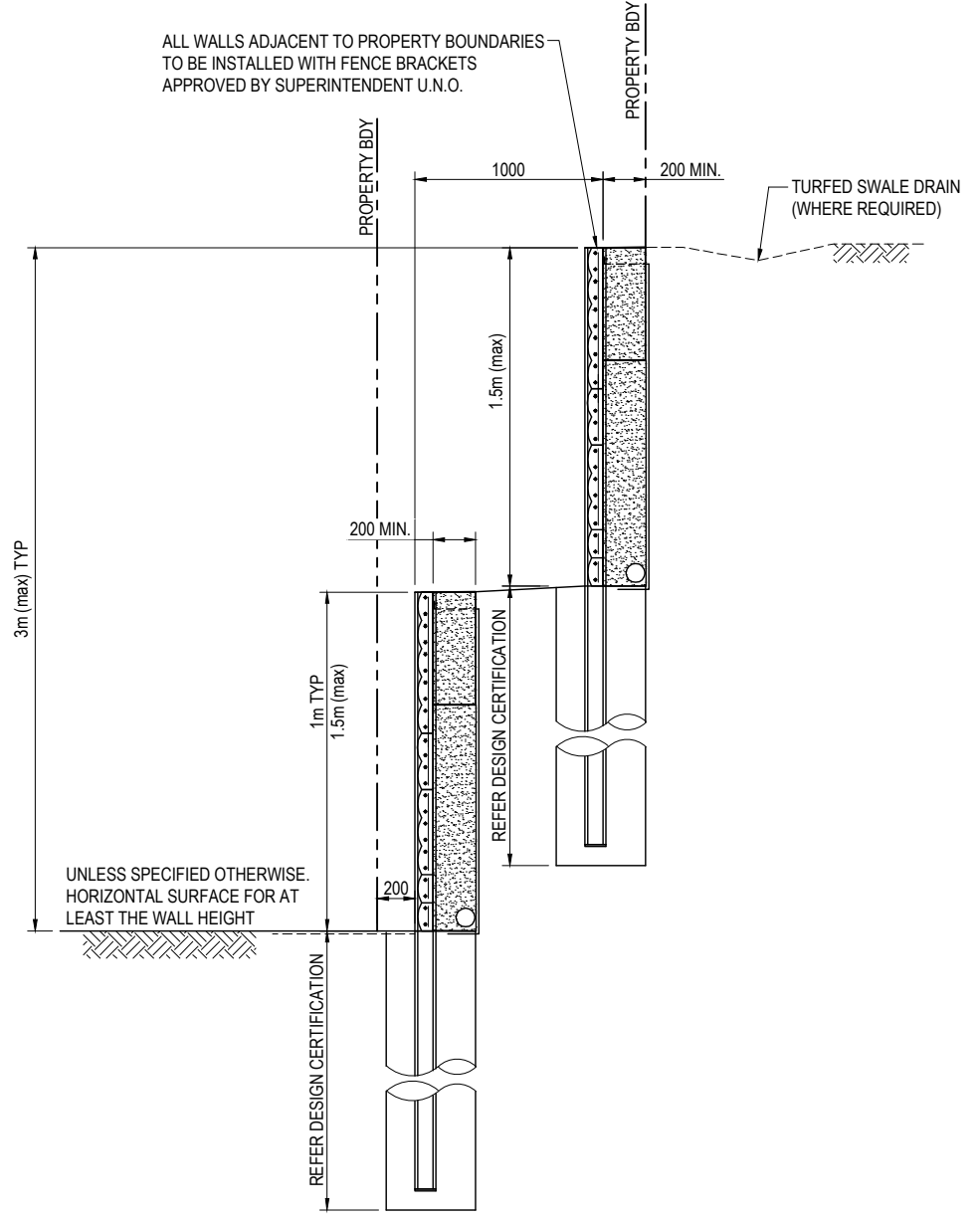
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Project No. | Folder Path | Zone | Stage | Phase | Discipline | Type | Drawing No. | Issue

30105783 - DABA - 0000DA - CV - DRG - 0102 - 05



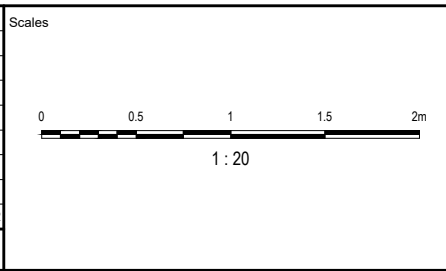
0.5m TO 1.5m HIGH RETAINING WALL - CONCRETE SLEEPER (TYPICAL ONLY)
SCALE 1:20



1.5m TO 3.0m HIGH TWO TIER RETAINING WALL - CONCRETE SLEEPER (TYPICAL ONLY)
SCALE 1:20

DETAILS ARE CONCEPTUAL ONLY AND SUBJECT TO DETAILED DESIGN OPERATIONAL WORKS.

Issue	Description	DR	CH	VE	Date
01	ORIGINAL ISSUE	DK	GM		22.07.2022



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Verified	.		

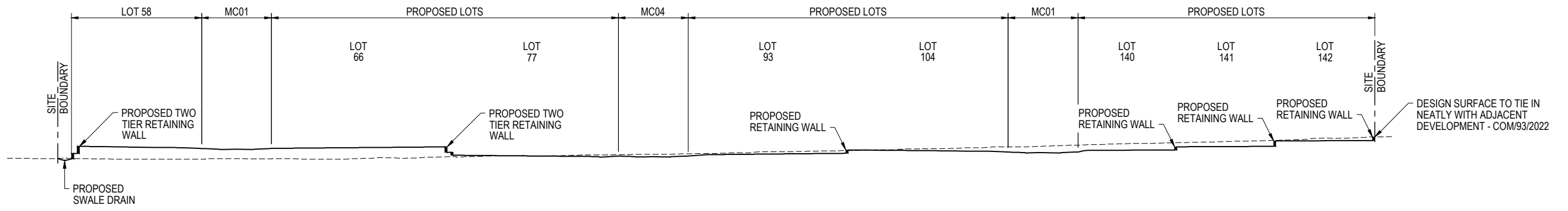
Project
680 - 688 & 690 CHAMBERS
FLAT ROAD AND 691 - 697 &
699 LOGAN RESERVE ROAD,
LOGAN RESERVE

Title
TYPICAL RETAINING
WALL DETAILS

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Fax No: +61 7 5591 4778
www.arcadis.com

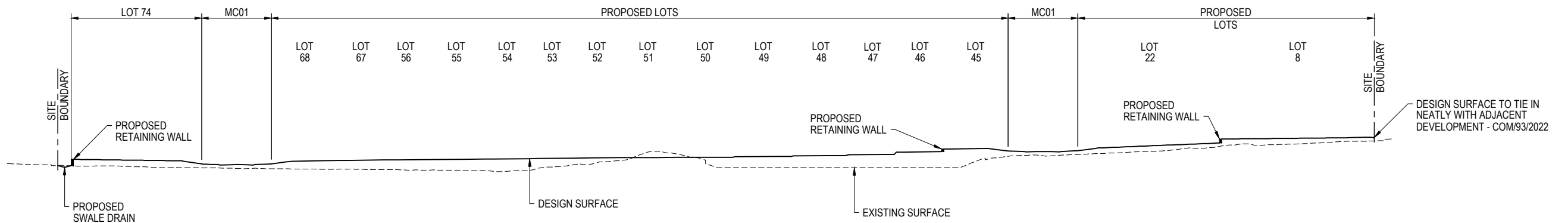
Project No. | Folder Profile | Zone | Stage | Phase | Discipline | Type | Drawing No. | Issue

30105783 - DABA - 0000DA - CV - DRG - 0105 - 01



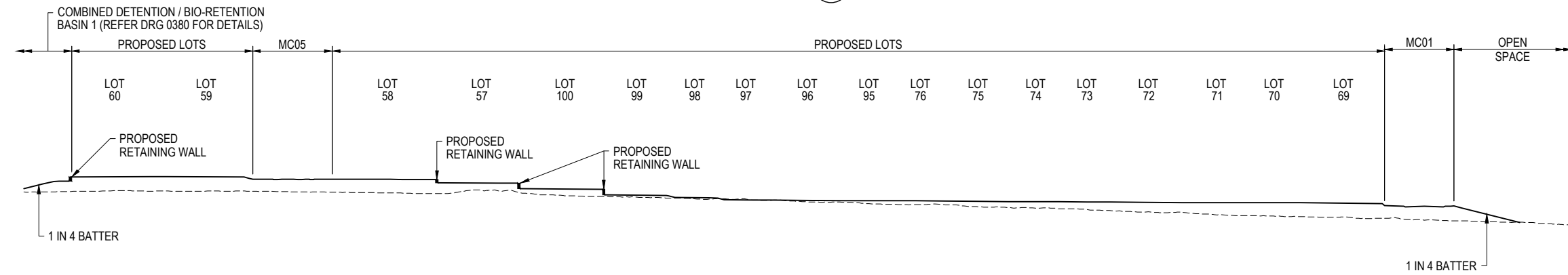
DATUM RL.5.000

SECTION 01
1:500 DRG 0100



DATUM RL.5.000

SECTION 02
1:500 DRG 0101

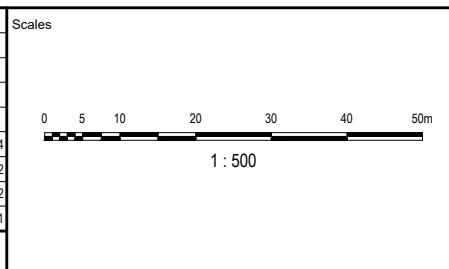


DATUM RL.0.000

SECTION 03
1:500 DRG 0100
DRG 0101
DRG 0102

STAGE 1A & 1B UNDER CONSTRUCTION - REFER OPW APPROVAL COM/273/2022/A

Issue	Description	DR	CH	VE	Date
04	UPDATED LOT LAYOUT	DK	GM		26.07.2024
03	ADDITIONAL RFI RESPONSE	DK	GM		03.11.2022
02	RFI RESPONSE	DK	GM		22.07.2022
01	ORIGINAL ISSUE	DK	GM		11.11.2021



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Project Manager	G. MENZIES	Grid	LOCAL
Verified	.		

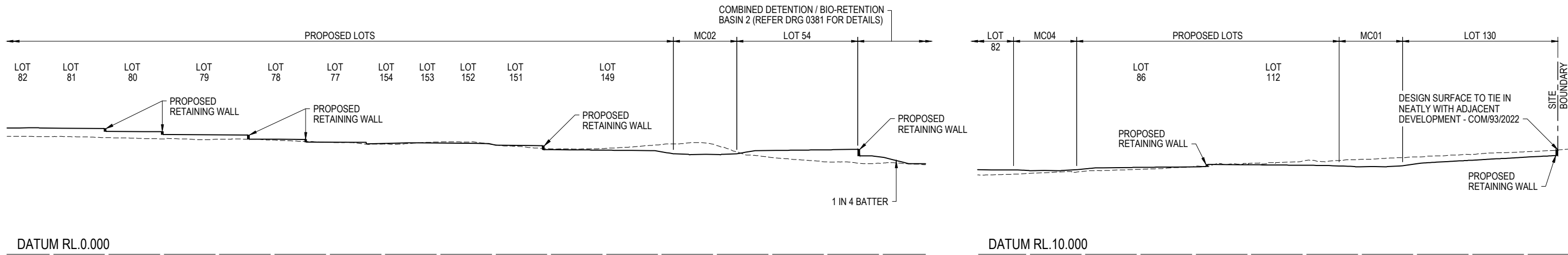
Project
680 - 688 & 690 CHAMBERS
FLAT ROAD AND 691 - 697 &
699 LOGAN RESERVE ROAD,
LOGAN RESERVE

Title
BULK EARTHWORKS
SECTIONS SHEET 1

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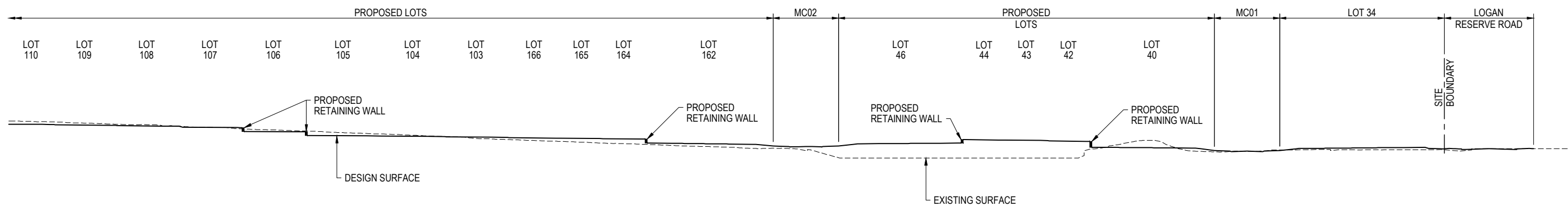
Project No. | Folder Profile | Zone | Stage | Phase | Discipline | Type | Drawing No. | Issue

30105783 - DABA - 0000DA - CV - DRG - 0110 - 04



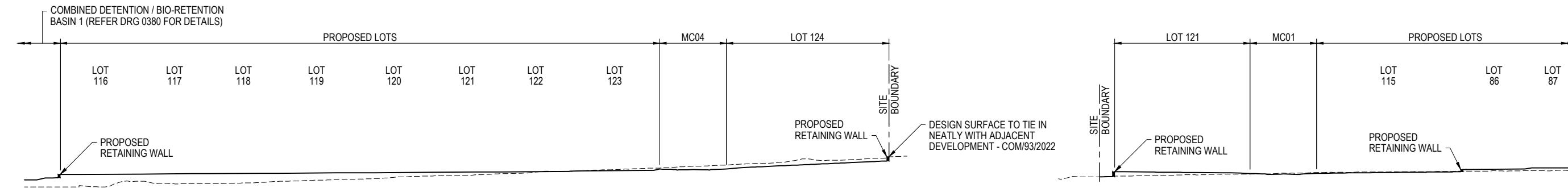
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1:500
DRG 0101
DRG 0101
DRG 0102

SECTION 07
1:500
DRG 0102



SECTION 05
1:500
DRG 0101
DRG 0101
DRG 0102

DATUM RL.5.000



SECTION 06
1:500
DRG 0102

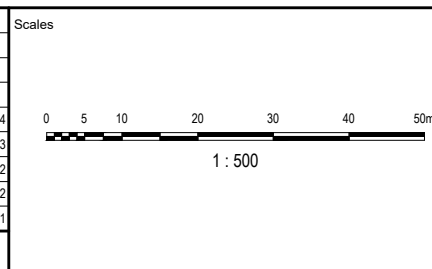
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DRG 0102

DATUM RL.10.000

DATUM RL.10.000

STAGE 1A & 1B UNDER
CONSTRUCTION - REFER
OPW APPROVAL COM/273/2022/A

Issue	Description	DR	CH	VE	Date
05	UPDATED LOT LAYOUT	DK	GM		26.07.2024
04	MINOR CHANGES TO LOT BOUNDARIES	DK	GM		13.03.2023
03	ADDITIONAL RFI RESPONSE	DK	GM		03.11.2022
02	RFI RESPONSE	DK	GM		22.07.2022
01	ORIGINAL ISSUE	DK	GM		11.11.2021



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Project Manager	G. MENZIES	Grid	LOCAL
Verified	.		

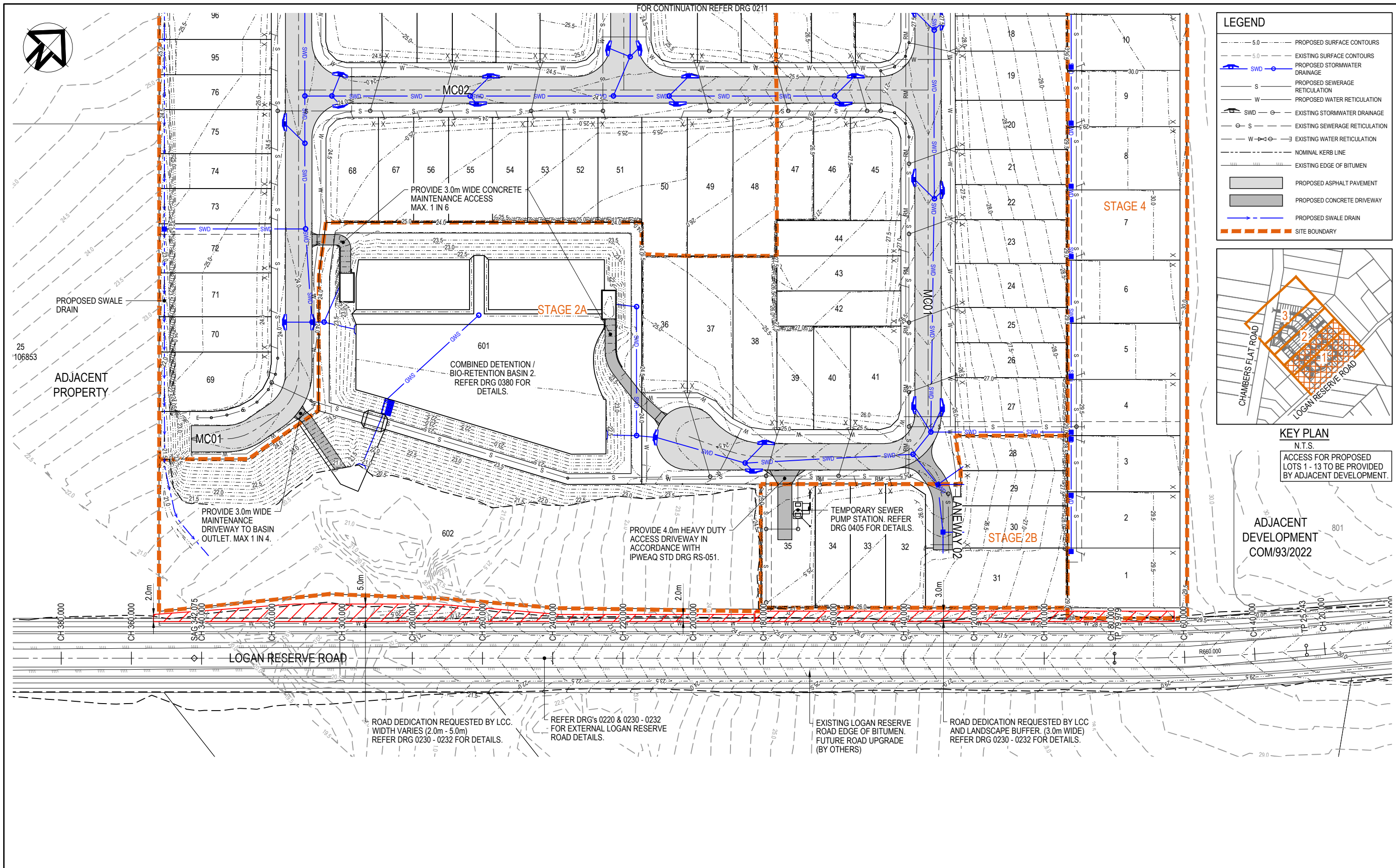
Project
680 - 688 & 690 CHAMBERS
FLAT ROAD AND 691 - 697 &
699 LOGAN RESERVE ROAD,
LOGAN RESERVE

Title
BULK EARTHWORKS
SECTIONS SHEET 2

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Project No. | Folder Profile | Zone | Stage | Phase | Discipline | Type | Drawing No. | Issue

30105783 - DABA - 0000DA - CV - DRG - 0111 - 05



LEGEND

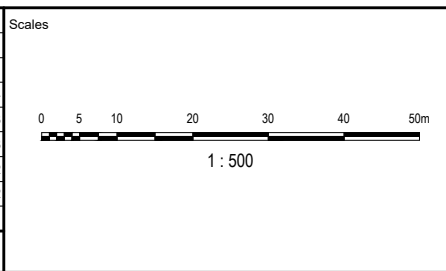
- 5.0 PROPOSED SURFACE CONTOURS
- 5.0 EXISTING SURFACE CONTOURS
- SWD PROPOSED STORMWATER DRAINAGE
- S PROPOSED SEWERAGE RETICULATION
- W PROPOSED WATER RETICULATION
- SWD EXISTING STORMWATER DRAINAGE
- S EXISTING SEWERAGE RETICULATION
- W EXISTING WATER RETICULATION
- NOMINAL KERB LINE
- EXISTING EDGE OF BITUMEN
- PROPOSED ASPHALT PAVEMENT
- PROPOSED CONCRETE DRIVEWAY
- PROPOSED SWALE DRAIN
- SITE BOUNDARY



KEY PLAN
N.T.S.
ACCESS FOR PROPOSED LOTS 1 - 13 TO BE PROVIDED BY ADJACENT DEVELOPMENT.

ADJACENT DEVELOPMENT COM/93/2022

Issue	Description	DR	CH	VE	Date
06	UPDATED LOT LAYOUT	DK	GM		26.07.2024
05	MINOR CHANGES TO LOT BOUNDARIES AND FURTHER RFI AMENDMENTS	DK	GM		13.03.2023
04	ADDITIONAL RFI RESPONSE	DK	GM		21.02.2023
03	ADDITIONAL RFI RESPONSE	DK	GM		03.11.2022
02	RFI RESPONSE	DK	GM		22.07.2022
01	ORIGINAL ISSUE	DK	GM		11.11.2021



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Project Manager	G. MENZIES	Grid	LOCAL
Verified			

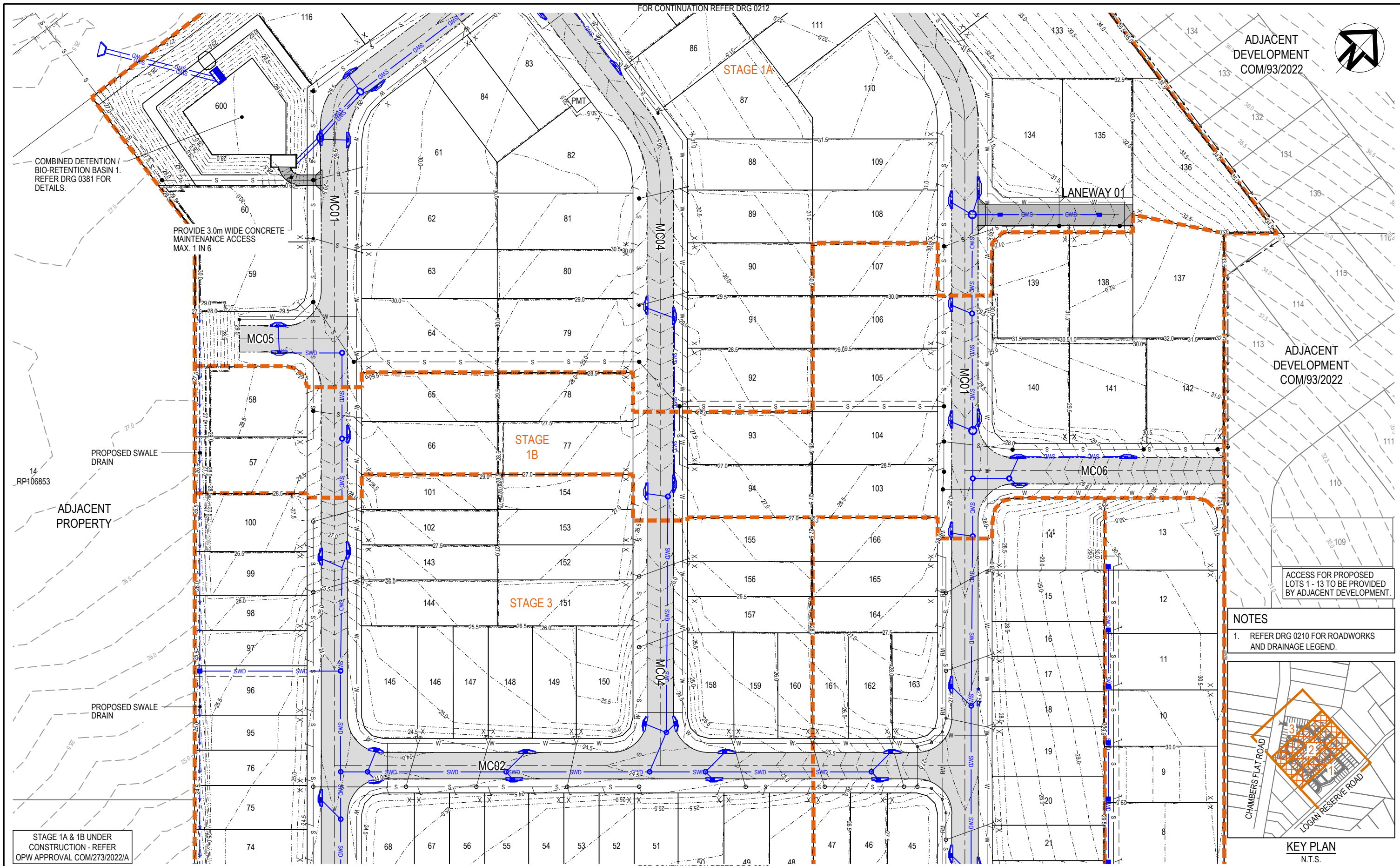
Project: **680 - 688 & 690 CHAMBERS FLAT ROAD AND 691 - 697 & 699 LOGAN RESERVE ROAD, LOGAN RESERVE**

Title: **ROADWORKS AND DRAINAGE LAYOUT PLAN SHEET 1**

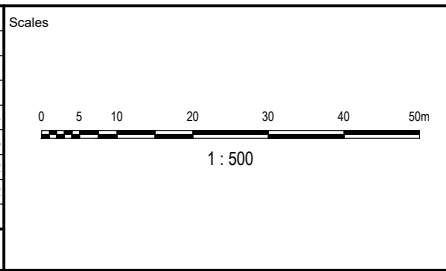
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ABN 76 104 485 289
Tel No: +61 7 5532 3933
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Project No. | Folder Profile | Zone | Stage | Phase | Discipline | Type | Drawing No. | Issue

30105783 - DABA - 0000DA - CV - DRG - 0210 - 06



Issue	Description	DR	CH	VE	Date
05	UPDATED LOT LAYOUT	DK	GM		26.07.2024
04	MINOR CHANGES TO LOT BOUNDARIES	DK	GM		13.03.2023
03	ADDITIONAL RFI RESPONSE	DK	GM		03.11.2022
02	RFI RESPONSE	DK	GM		22.07.2022
01	ORIGINAL ISSUE	DK	GM		11.11.2021



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Designed	G. MENZIES	Height Datum	AHD
Project Manager	G. MENZIES	Grid	LOCAL
Verified			

Project

680 - 688 & 690 CHAMBERS FLAT ROAD AND 691 - 697 & 699 LOGAN RESERVE ROAD, LOGAN RESERVE

Title

ROADWORKS AND DRAINAGE LAYOUT PLAN SHEET 2

Arcadis Australia Pacific Pty Limited
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Project No. | Release Profile | Zone | Stage | Phase | Discipline | Type | Drawing No. | Issue

30105783 - DABA - 0000DA - CV - DRG - 0211 - 05

STAGE 1A & 1B UNDER
CONSTRUCTION - REFER
OPW APPROVAL COM/273/2022/A

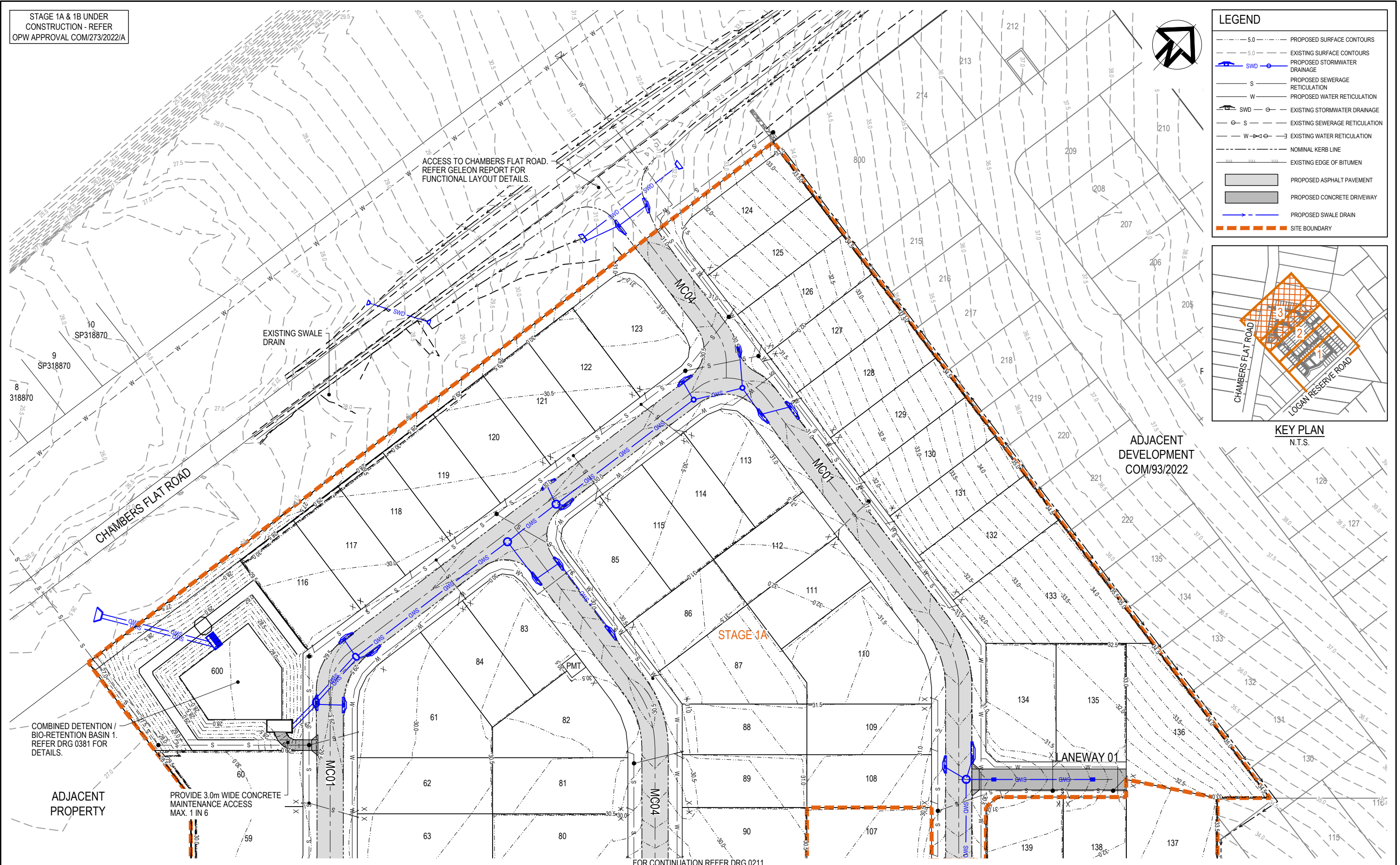


LEGEND	
5.0	PROPOSED SURFACE CONTOURS
5.0	EXISTING SURFACE CONTOURS
	PROPOSED STORMWATER DRAINAGE
S	PROPOSED SEWERAGE RETICULATION
W	PROPOSED WATER RETICULATION
	EXISTING STORMWATER DRAINAGE
S	EXISTING SEWERAGE RETICULATION
W	EXISTING WATER RETICULATION
- - -	NOMINAL KERB LINE
- - -	EXISTING EDGE OF BITUMEN
	PROPOSED ASPHALT PAVEMENT
	PROPOSED CONCRETE DRIVEWAY
	PROPOSED SWALE DRAIN
	SITE BOUNDARY



KEY PLAN
N.T.S.

ADJACENT
DEVELOPMENT
COM/93/2022

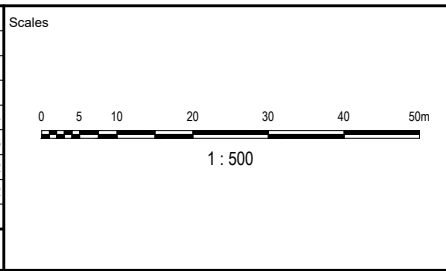


COMBINED DETENTION /
BIO-RETENTION BASIN 1.
REFER DRG 0381 FOR
DETAILS.

PROVIDE 3.0m WIDE CONCRETE
MAINTENANCE ACCESS
MAX. 1 IN 6

FOR CONTINUATION REFER DRG 0211

Issue	Description	DR	CH	VE	Date
05	UPDATED LOT LAYOUT	DK	GM		26.07.2024
04	MINOR CHANGES TO LOT BOUNDARIES	DK	GM		13.03.2023
03	ADDITIONAL RFI RESPONSE	DK	GM		03.11.2022
02	RFI RESPONSE	DK	GM		22.07.2022
01	ORIGINAL ISSUE	DK	GM		11.11.2021



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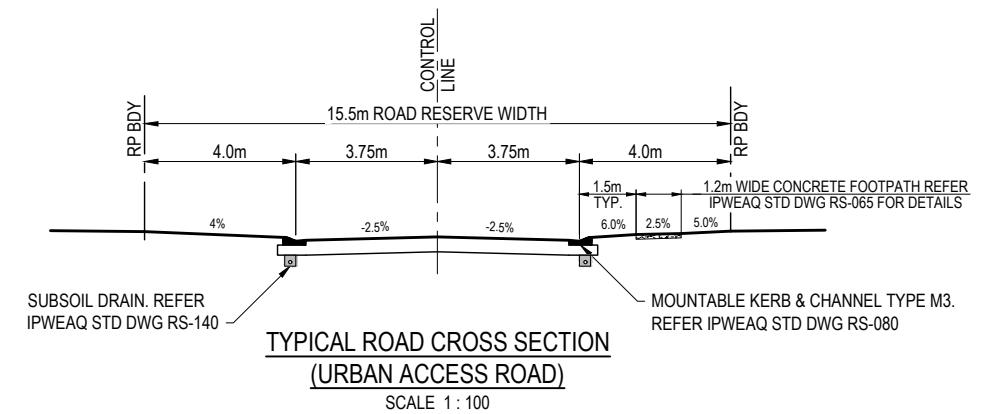
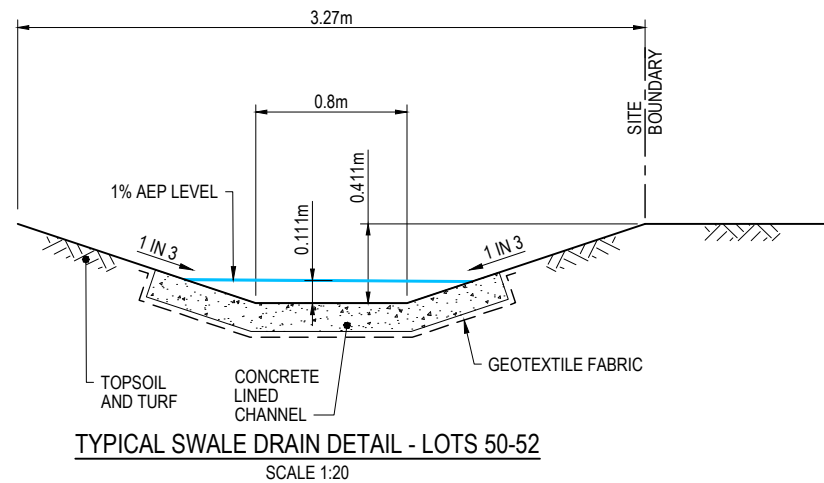
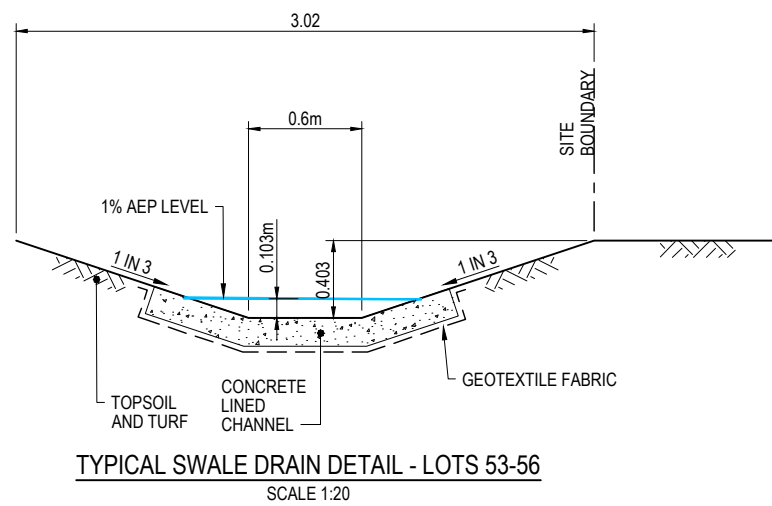
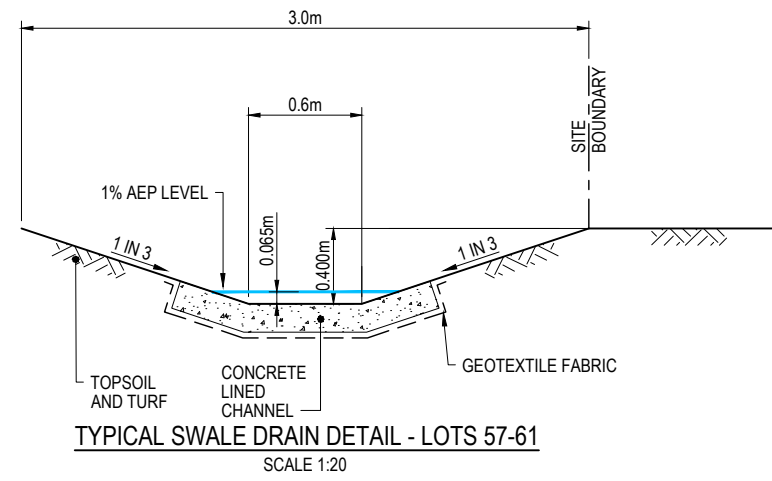
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Verified			

Project
680 - 688 & 690 CHAMBERS
FLAT ROAD AND 691 - 697 &
699 LOGAN RESERVE ROAD,
LOGAN RESERVE

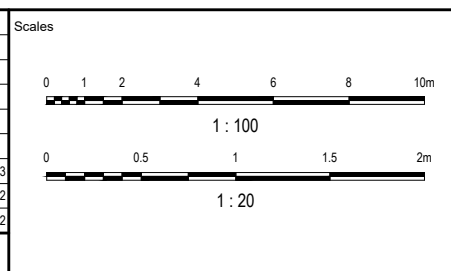
Title
ROADWORKS AND
DRAINAGE LAYOUT
PLAN SHEET 3

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Project No. | File No. | Zone | Stage | Phase | Discipline | Type | Drawing No. | Issue
30105783 - DABA - 0000DA - CV - DRG - 0212 - 05



Issue	Description	DR	CH	VE	Date
03	REVISED SWALE DETAILS	DK	GM		09.01.2023
02	ADDITIONAL RFI RESPONSE	DK	GM		03.11.2022
01	ORIGINAL ISSUE	DK	GM		22.07.2022



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Project Manager	G. MENZIES	Grid	LOCAL
Verified	.		

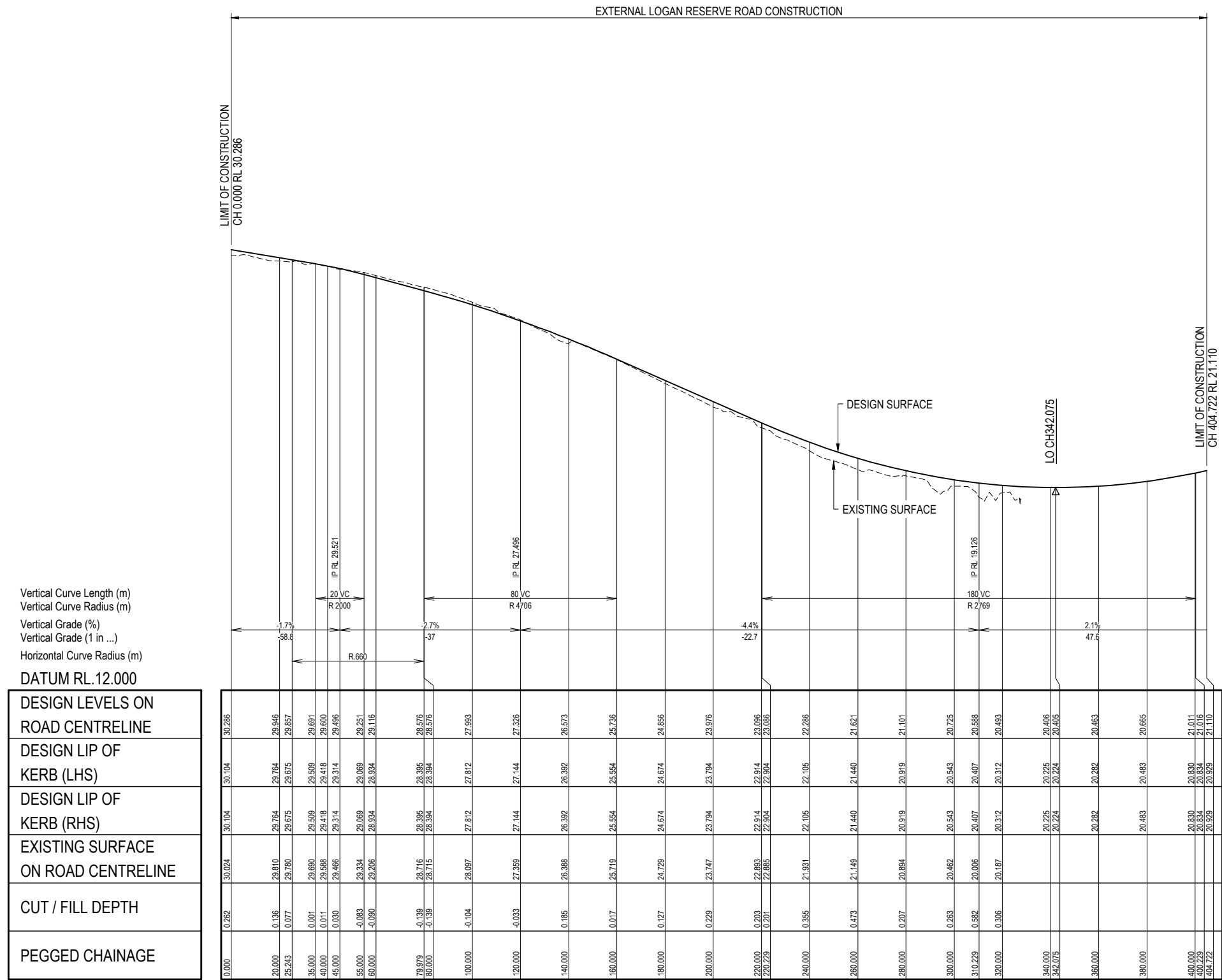
Project
**680 - 688 & 690 CHAMBERS
FLAT ROAD AND 691 - 697 &
699 LOGAN RESERVE ROAD,
LOGAN RESERVE**

Title
**ROADWORKS AND
DRAINAGE DETAILS & NOTES**

Arcadis Australia Pacific Pty Limited
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ABN 76 104 485 289
Tel No: +61 7 5532 3933
Fax No: +61 7 5591 4778
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Project No. | Folder Profile | Zone | Stage | Phase | Discipline | Type | Drawing No. | Issue

30105783 - DABA - 0000DA - CV - DRG - 0215 - 03



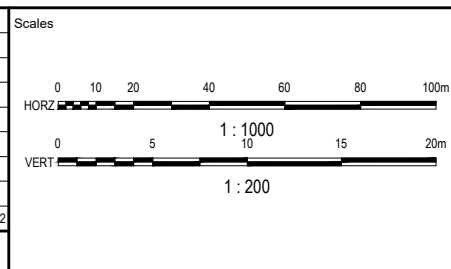
Vertical Curve Length (m)
Vertical Curve Radius (m)
Vertical Grade (%)
Vertical Grade (1 in ...)
Horizontal Curve Radius (m)
DATUM RL. 12.000

PEGGED CHAINAGE	DESIGN LEVELS ON ROAD CENTRELINE	DESIGN LIP OF KERB (LHS)	DESIGN LIP OF KERB (RHS)	EXISTING SURFACE ON ROAD CENTRELINE	CUT / FILL DEPTH
0+000	30.286	30.104	30.104	30.024	0.262
20+000	29.946	29.764	29.764	29.610	0.136
25+243	29.857	29.675	29.675	29.780	0.077
35+000	29.691	29.509	29.509	29.690	0.001
40+000	29.600	29.418	29.418	29.588	0.011
45+000	29.496	29.314	29.314	29.466	0.030
55+000	29.251	29.069	29.069	29.334	-0.083
60+000	29.116	28.934	28.934	29.206	-0.090
79+979	28.576	28.395	28.395	28.716	-0.139
80+000	28.576	28.394	28.394	28.715	-0.139
100+000	27.993	27.812	27.812	28.097	-0.104
120+000	27.326	27.144	27.144	27.359	-0.033
140+000	26.573	26.392	26.392	26.888	0.185
160+000	25.736	25.554	25.554	25.719	0.017
180+000	24.856	24.674	24.674	24.729	0.127
200+000	23.976	23.794	23.794	23.747	0.229
220+000	23.096	22.914	22.914	22.893	0.203
220+229	23.086	22.904	22.904	22.885	0.201
240+000	22.286	22.105	22.105	21.931	0.355
260+000	21.621	21.440	21.440	21.149	0.473
280+000	21.101	20.919	20.919	20.884	0.207
300+000	20.725	20.543	20.543	20.462	0.263
310+229	20.588	20.407	20.407	20.006	0.582
320+000	20.493	20.312	20.312	20.187	0.306
340+000	20.406	20.225	20.225	20.225	0.000
342+075	20.405	20.224	20.224	20.224	0.000
360+000	20.463	20.282	20.282	20.282	0.000
380+000	20.665	20.483	20.483	20.483	0.000
400+000	21.011	20.830	20.830	20.830	0.000
400+229	21.016	20.834	20.834	20.834	0.000
404+722	21.110	20.929	20.929	20.929	0.000

LOGAN RESERVE ROAD LONGITUDINAL SECTION

SCALE: HORIZONTAL - 1:1000
VERTICAL - 1:100

Issue	Description	DR	CH	VE	Date
01	ORIGINAL ISSUE	DK	GM		22.07.2022



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Planning Urban Design Landscape Environment Surveying

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Project Manager	G. MENZIES	Grid	LOCAL
Verified	.		

Project
**680 - 688 & 690 CHAMBERS
FLAT ROAD AND 691 - 697 &
699 LOGAN RESERVE ROAD,
LOGAN RESERVE**

Title
**LOGAN RESERVE ROAD
LONGITUDINAL SECTION**

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ABN 76 104 485 289

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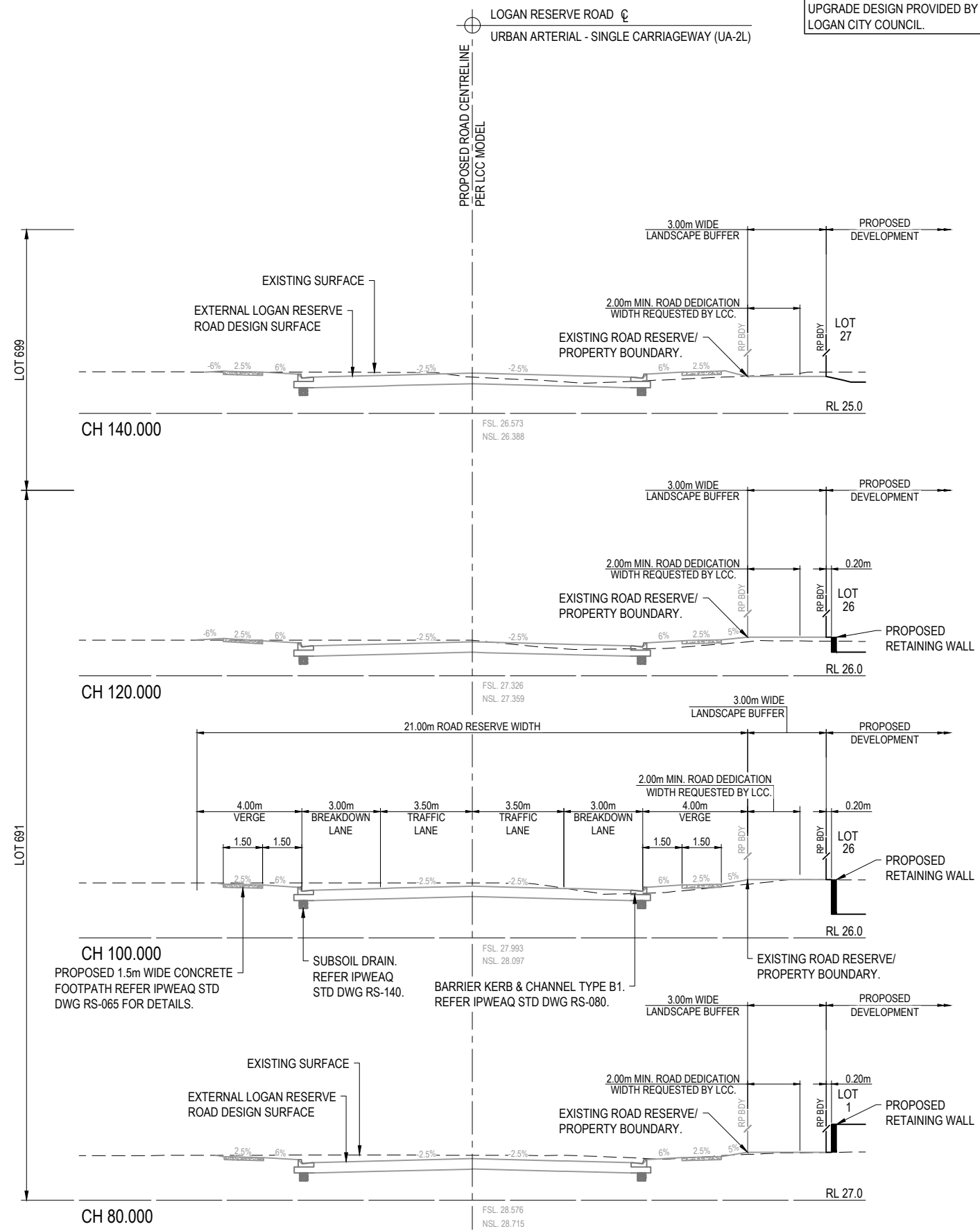
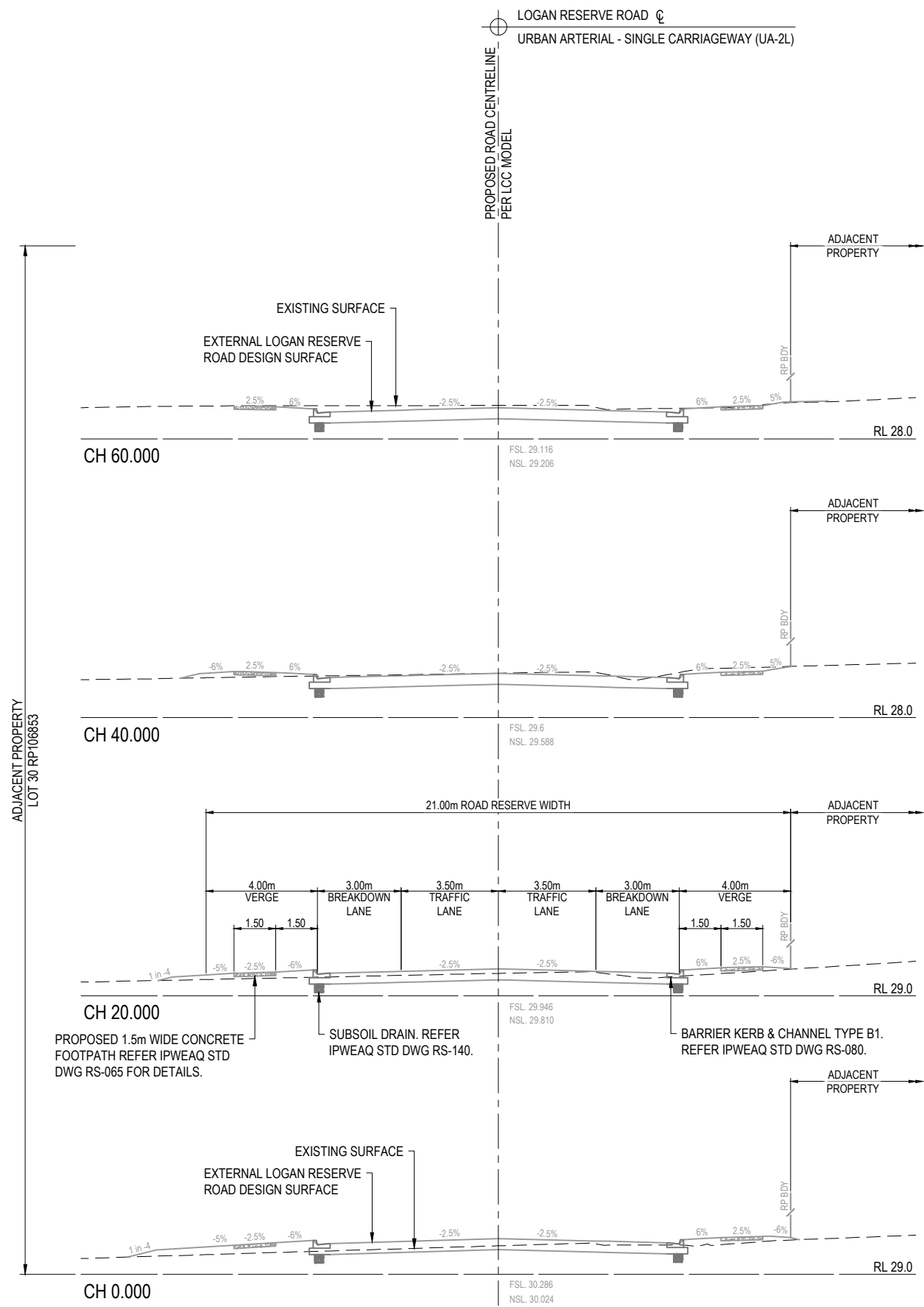
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30105783 - DABA - 0000DA - CV - DRG - 0220 - 01

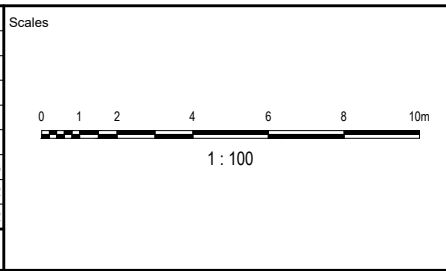
FUTURE LOGAN RESERVE ROAD UPGRADE DESIGN PROVIDED BY LOGAN CITY COUNCIL.

LOGAN RESERVE ROAD CL
URBAN ARTERIAL - SINGLE CARRIAGEWAY (UA-2L)

LOGAN RESERVE ROAD CL
URBAN ARTERIAL - SINGLE CARRIAGEWAY (UA-2L)



Issue	Description	DR	CH	VE	Date
03	FURTHER RFI AMENDMENTS	DK	GM		13.03.2023
02	ADDITIONAL RFI RESPONSE	DK	GM		03.11.2022
01	ORIGINAL ISSUE	DK	GM		22.07.2022



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Project
680 - 688 & 690 CHAMBERS
FLAT ROAD AND 691 - 697 &
699 LOGAN RESERVE ROAD,
LOGAN RESERVE

Title
LOGAN RESERVE ROAD
CROSS SECTIONS
SHEET 1

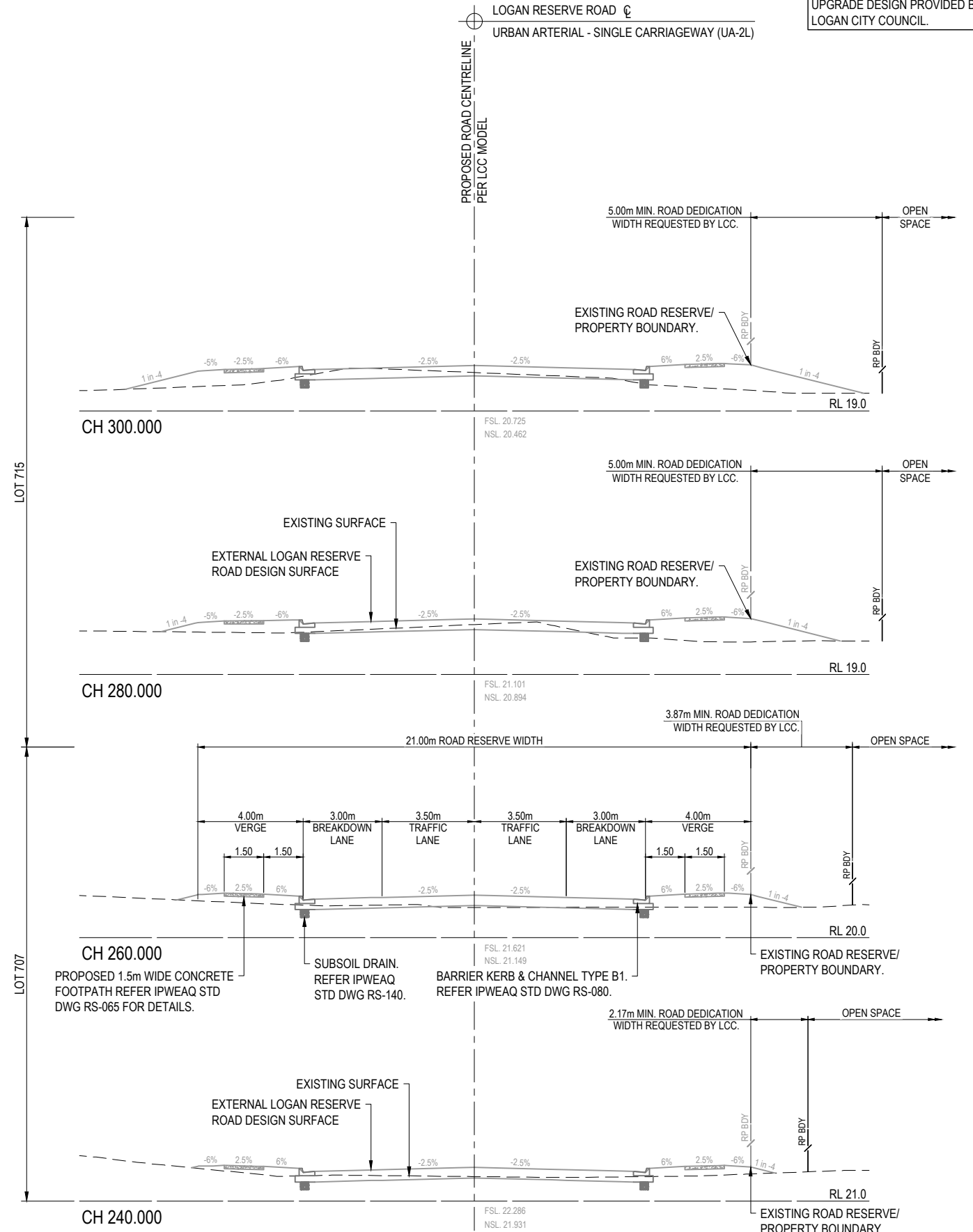
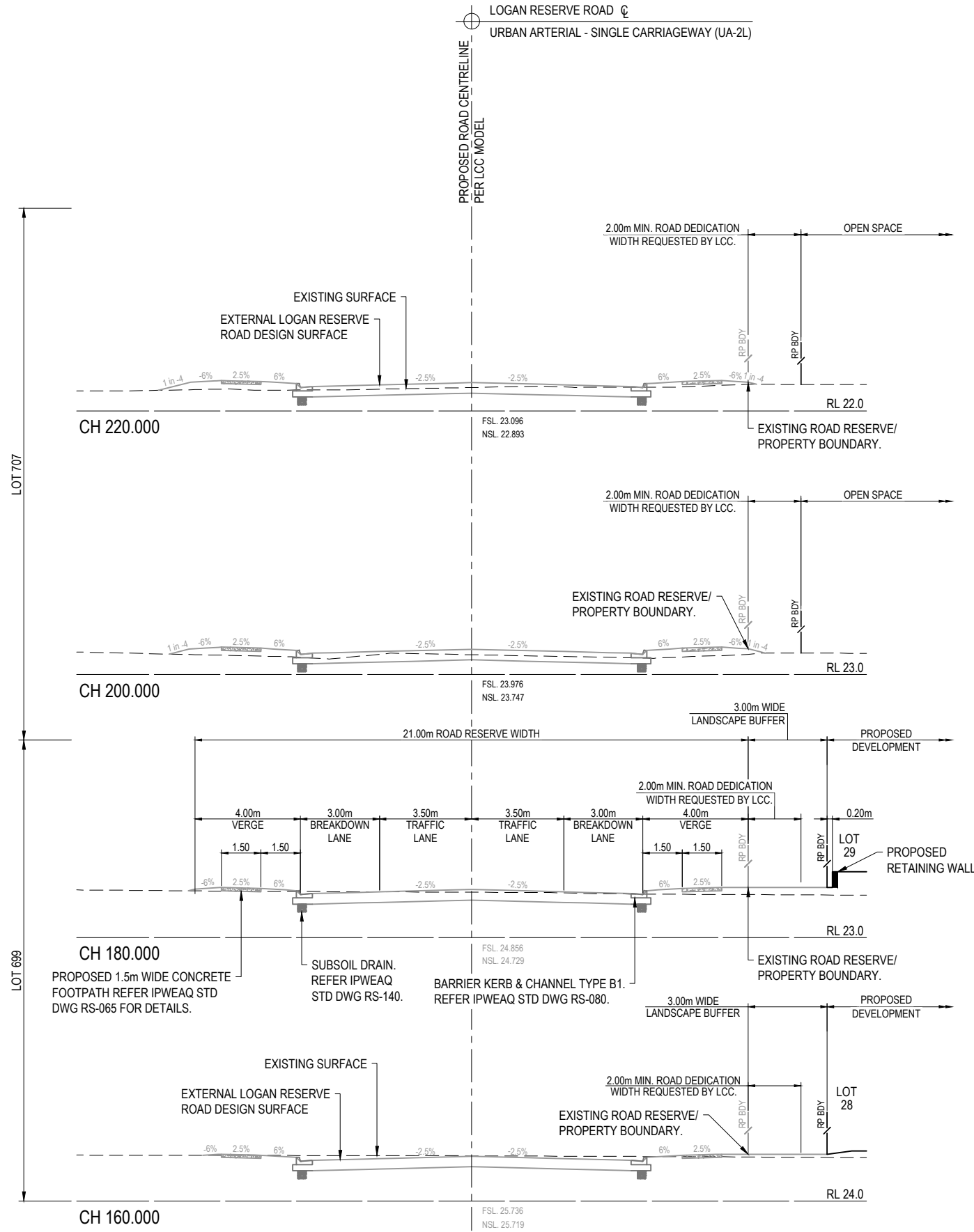
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Project No. | Folder Profile | Zone | Stage | Phase | Discipline | Type | Drawing No. | Issue

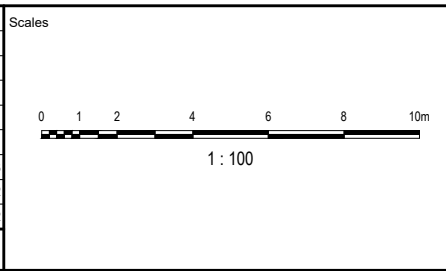
30105783 - DABA - 0000DA - CV - DRG - 0230 - 03

LOGAN RESERVE ROAD CL
URBAN ARTERIAL - SINGLE CARRIAGEWAY (UA-2L)

LOGAN RESERVE ROAD CL
URBAN ARTERIAL - SINGLE CARRIAGEWAY (UA-2L)



Issue	Description	DR	CH	VE	Date
03	FURTHER RFI AMENDMENTS	DK	GM		13.03.2023
02	ADDITIONAL RFI RESPONSE	DK	GM		03.11.2022
01	ORIGINAL ISSUE	DK	GM		22.07.2022



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Project
680 - 688 & 690 CHAMBERS
FLAT ROAD AND 691 - 697 &
699 LOGAN RESERVE ROAD,
LOGAN RESERVE

Title
LOGAN RESERVE ROAD
CROSS SECTIONS
SHEET 2

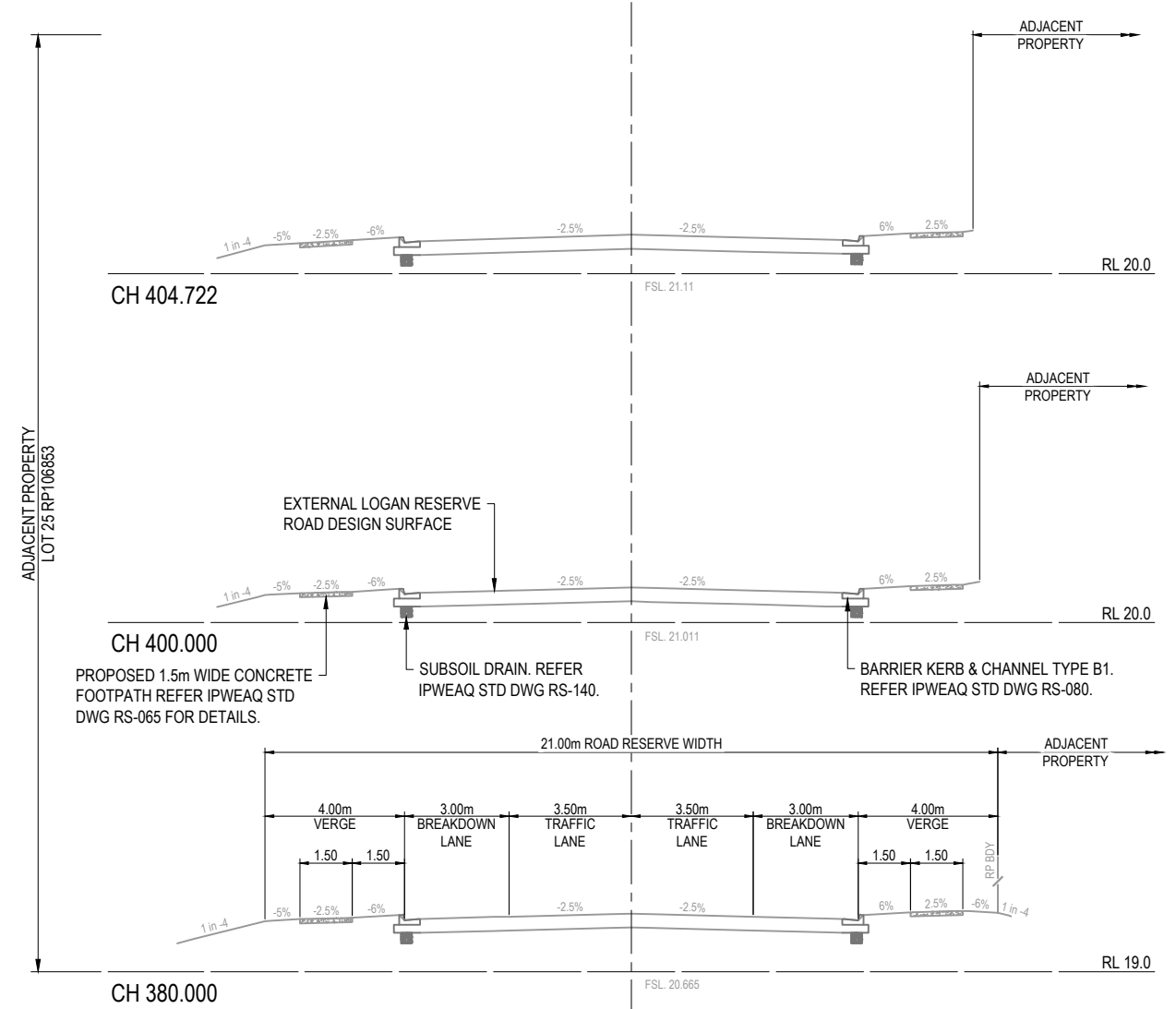
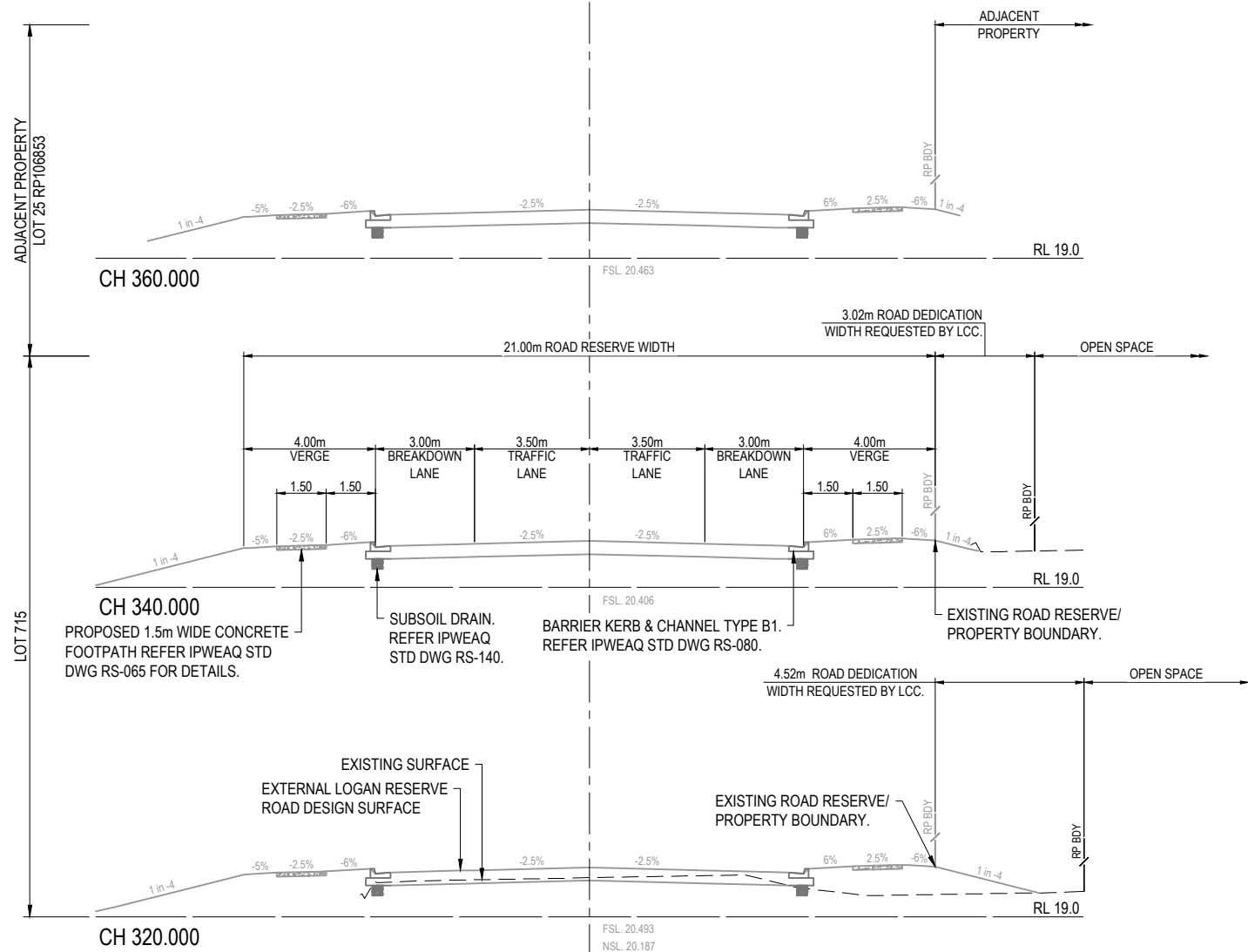
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Project No. | Folder Path | Zone | Stage | Phase | Discipline | Type | Drawing No. | Issue

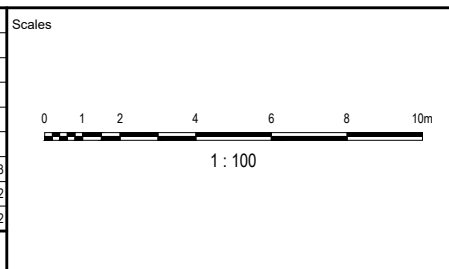
30105783 - DABA - 0000DA - CV - DRG - 0231 - 03

LOGAN RESERVE ROAD CL
URBAN ARTERIAL - SINGLE CARRIAGEWAY (UA-2L)

LOGAN RESERVE ROAD CL
URBAN ARTERIAL - SINGLE CARRIAGEWAY (UA-2L)



Issue	Description	DR	CH	VE	Date
03	FURTHER RFI AMENDMENTS	DK	GM		13.03.2023
02	ADDITIONAL RFI RESPONSE	DK	GM		03.11.2022
01	ORIGINAL ISSUE	DK	GM		22.07.2022



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Project
680 - 688 & 690 CHAMBERS
FLAT ROAD AND 691 - 697 &
699 LOGAN RESERVE ROAD,
LOGAN RESERVE

Title
LOGAN RESERVE ROAD
CROSS SECTIONS
SHEET 3

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Project No. | Folder Profile | Zone | Stage | Phase | Discipline | Type | Drawing No. | Issue

30105783 - DABA - 0000DA - CV - DRG - 0232 - 03



LEGEND	
	CATCHMENT BOUNDARY
	CATCHMENT IDENTIFIER
	EXISTING STORMWATER RETICULATION AND STRUCTURE
	EXISTING SURFACE CONTOURS
	DIRECTION OF OVERLAND FLOW
	LEGAL POINT OF DISCHARGE
	SITE BOUNDARY

EXTERNAL CATCHMENTS CAPTURED BY ADJACENT DEVELOPMENT COM/93/2022

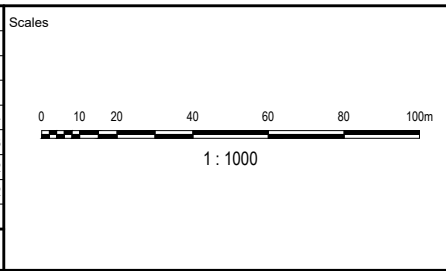
ADJACENT DEVELOPMENT COM/93/2022

ADJACENT DEVELOPMENT COM/93/2022

STAGE 1A & 1B UNDER CONSTRUCTION - REFER OPW APPROVAL COM/273/2022/A

CATCHMENT TABLE	
CATCHMENT LABEL	AREA (ha)
EX/A	2.767
EX/B	4.713
EX/C	7.295
EXT1/B	4.491
EXT2/B	0.271
EXT3/B	1.342
EXT4/B	1.534

Issue	Description	DR	CH	VE	Date
05	UPDATED LOT LAYOUT	DK	GM		26.07.2024
04	ADDITIONAL RFI RESPONSE	DK	GM		21.02.2023
03	ADDITIONAL RFI RESPONSE	DK	GM		03.11.2022
02	RFI RESPONSE	DK	GM		22.07.2022
01	ORIGINAL ISSUE	DK	GM		11.11.2021



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Project
 680 - 688 & 690 CHAMBERS
 FLAT ROAD AND 691 - 697 &
 699 LOGAN RESERVE ROAD,
 LOGAN RESERVE
 Title
 STORMWATER
 CATCHMENT PLAN -
 PRE DEVELOPMENT

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 Project No. | File No. | Zone | Stage | Phase | Discipline | Type | Drawing No. | Issue
 30105783 - DABA - 0000DA - CV - DRG - 0310 - 05

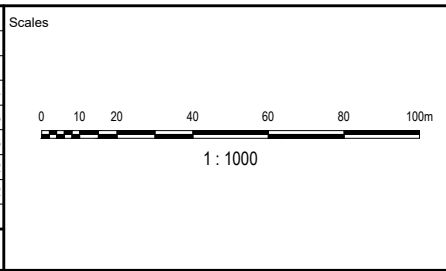


CATCHMENT TABLE		
CATCHMENT LABEL	AREA (ha)	DIRECTED TO
DEVA	2.540	BASIN 1
DEV/C	8.694	BASIN 2
BP/C	0.942	LOGAN RESERVE ROAD
EXT1*/B	4.442	BASIN - COM/93/2022
EXT2*/B	0.468	BASIN - COM/93/2022
EXT3/B	1.341	BASIN - COM/93/2022
EXT4/B	1.534	BASIN - COM/93/2022
EXT1/C	2.463	BASIN 2

STAGE 1A & 1B UNDER CONSTRUCTION - REFER OPW APPROVAL COM/273/2022/A

LEGEND	
	CATCHMENT BOUNDARY
	CATCHMENT IDENTIFIER
	PROPOSED STORMWATER RETICULATION AND STRUCTURE
	EXISTING STORMWATER RETICULATION AND STRUCTURE
	NOMINAL KERB LINE
	PROPOSED SURFACE CONTOURS
	EXISTING SURFACE CONTOURS
	DIRECTION OF OVERLAND FLOW
	LEGAL POINT OF DISCHARGE
	SITE BOUNDARY

Issue	Description	DR	CH	VE	Date
06	UPDATED LOT LAYOUT	DK	GM		26.07.2024
05	MINOR CHANGES TO LOT BOUNDARIES	DK	GM		13.03.2023
04	ADDITIONAL RFI RESPONSE	DK	GM		21.02.2023
03	ADDITIONAL RFI RESPONSE	DK	GM		03.11.2022
02	RFI RESPONSE	DK	GM		22.07.2022
01	ORIGINAL ISSUE	DK	GM		11.11.2021



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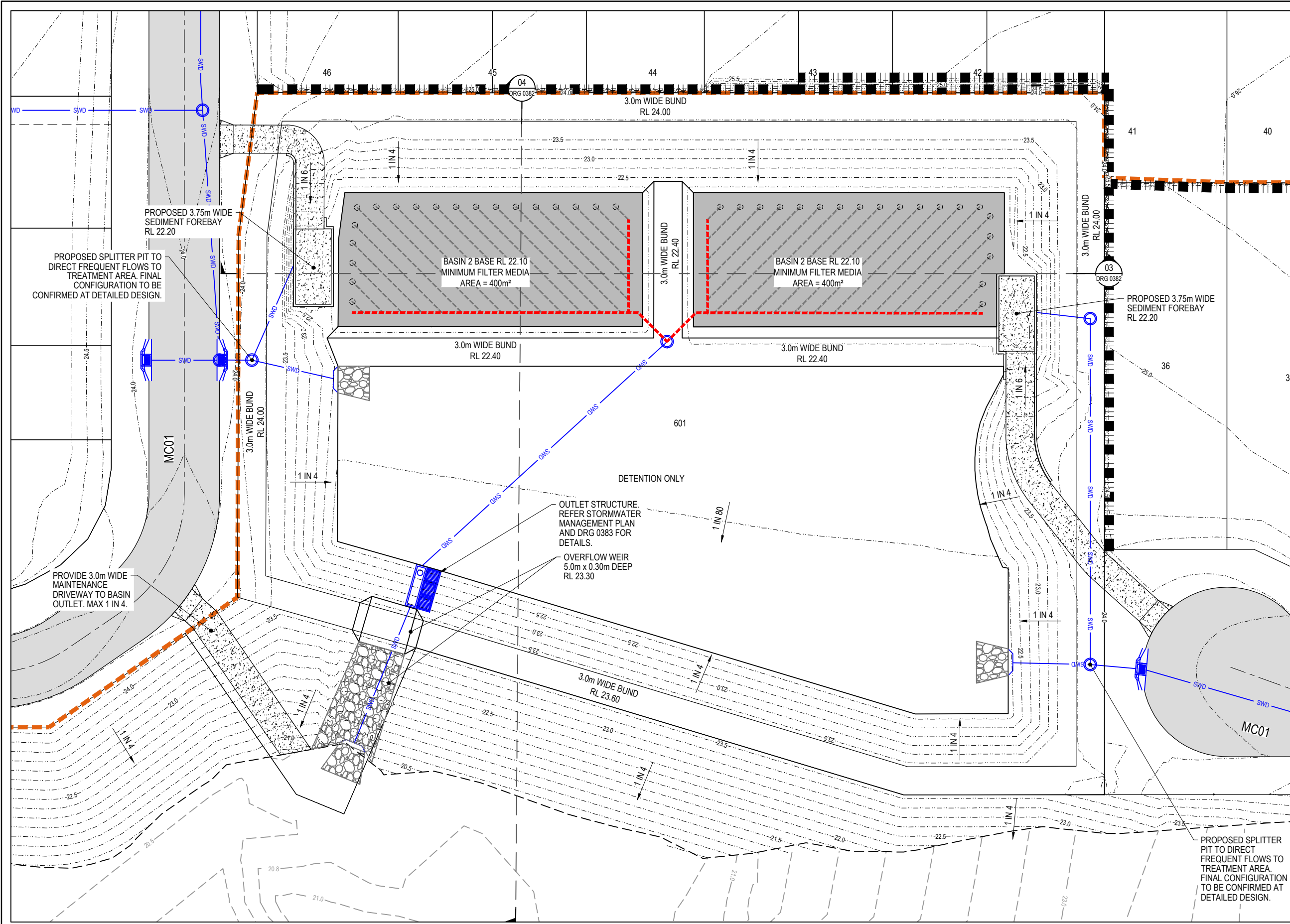
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Project
 680 - 688 & 690 CHAMBERS
 FLAT ROAD AND 691 - 697 &
 699 LOGAN RESERVE ROAD,
 LOGAN RESERVE

Title
 STORMWATER
 CATCHMENT PLAN -
 POST DEVELOPMENT

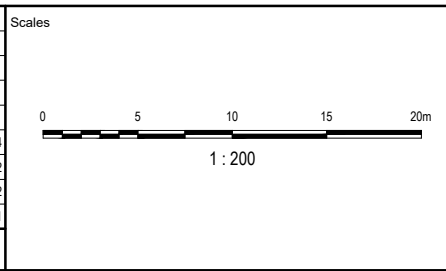
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Project No. | File No. | Phase | Discipline | Type | Drawing No. | Issue
 30105783 - DABA - 0000DA - CV - DRG - 0311 - 06



LEGEND	
	PROPOSED SURFACE CONTOURS
	PROPOSED STORMWATER RETICULATION
	Ø100mm SLOTTED PVC PIPE 0.5% FALL WITH C.I CAP SUBSOIL CLEAN OUT POINT
	Ø225 uPVC COLLECTOR PIPE 0.5% FALL
	EXTENT OF FILTER MEDIA
	PROPOSED 3.0m WIDE CONCRETE MAINTENANCE ACCESS
	PROPOSED RETAINING WALL. REFER DRG 0105 FOR DETAILS.
	PROPOSED SWALE DRAIN
	PROPOSED TIMBER BOLLARDS (BY LANDSCAPE)
	LEVEL SPREADER
	SITE BOUNDARY

Issue	Description	DR	CH	VE	Date
04	UPDATED LOT LAYOUT	DK	GM		26.07.2024
03	ADDITIONAL RFI RESPONSE	DK	GM		03.11.2022
02	RFI RESPONSE	DK	GM		22.07.2022
01	ORIGINAL ISSUE	DK	GM		11.11.2021



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Project
680 - 688 & 690 CHAMBERS
FLAT ROAD AND 691 - 697 &
699 LOGAN RESERVE ROAD,
LOGAN RESERVE

Title
COMBINED DETENTION /
BIO-RETENTION BASIN 2
LAYOUT PLAN

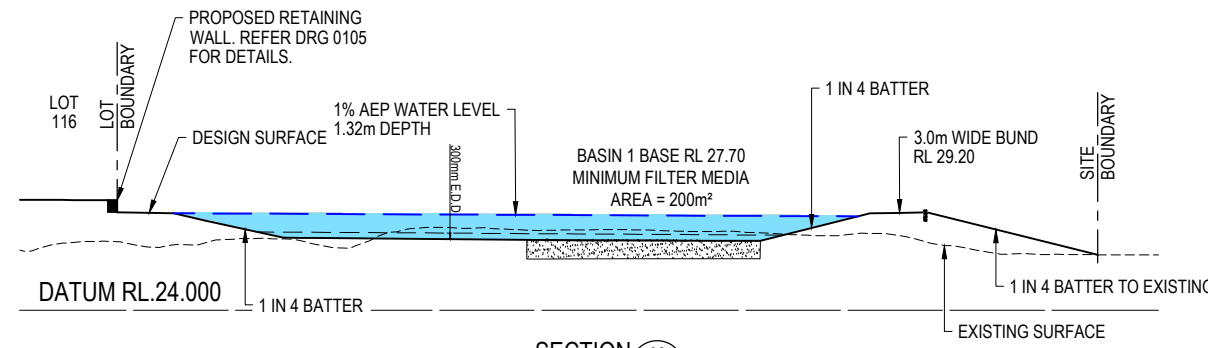
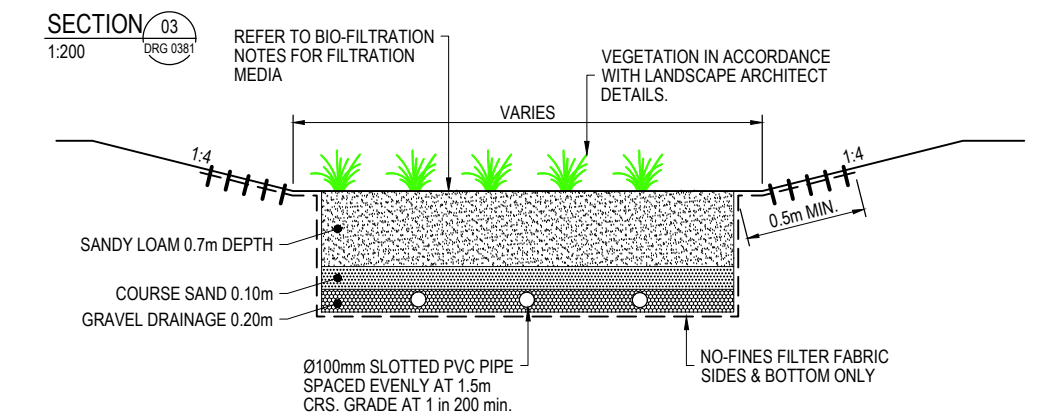
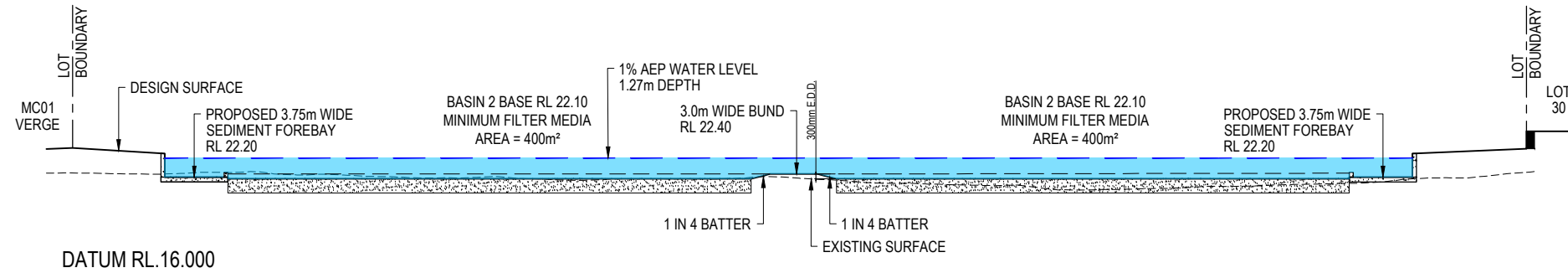
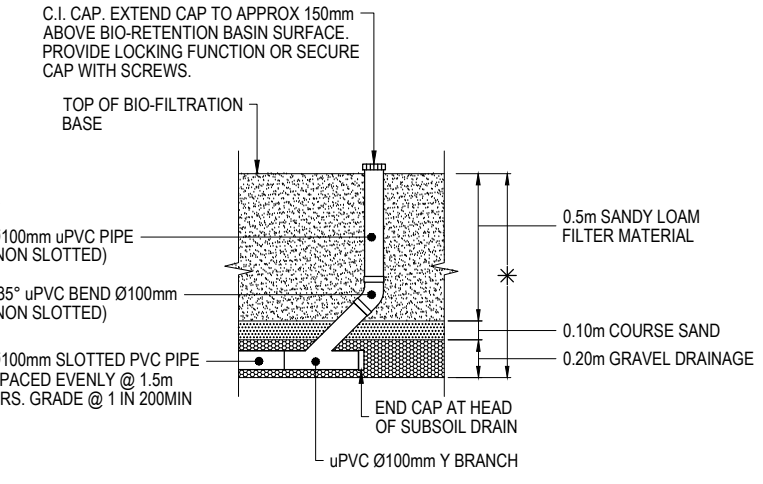
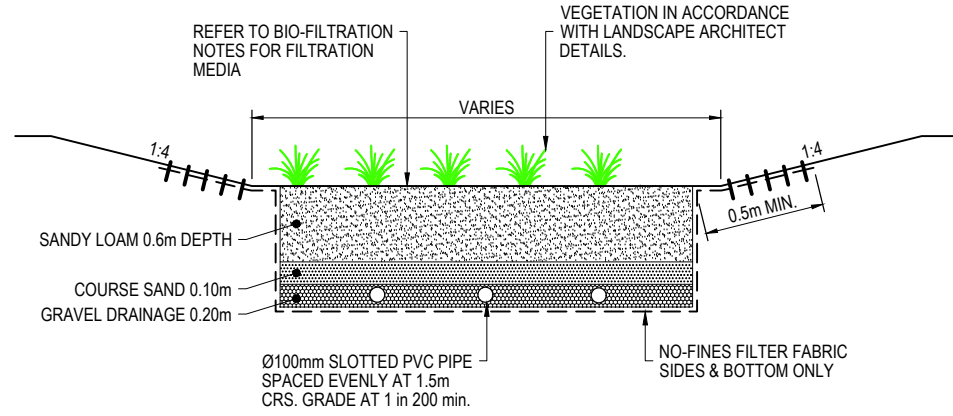
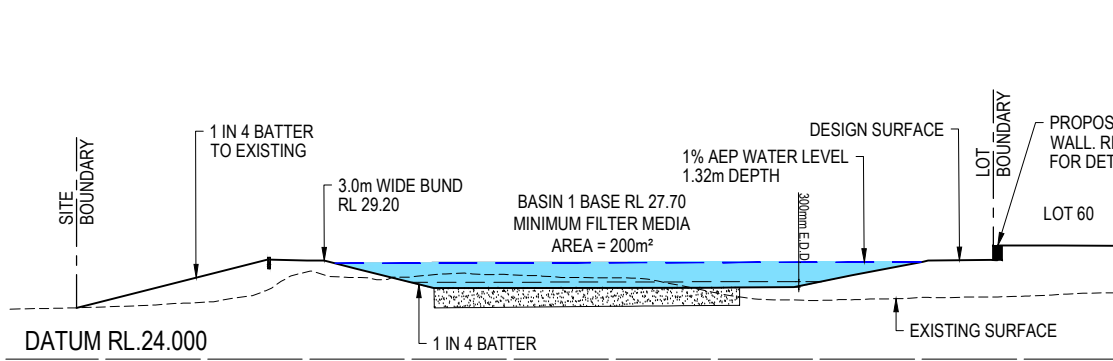
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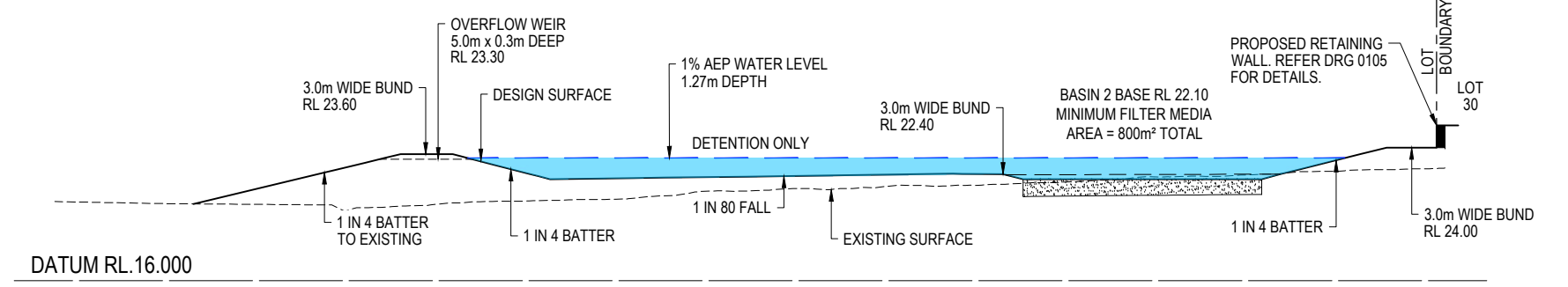
Project No. | Folder Prefix | Zone | Stage | Phase | Discipline | Type | Drawing No. | Issue

30105783 - DABA - 0000DA - CV - DRG - 0381 - 04

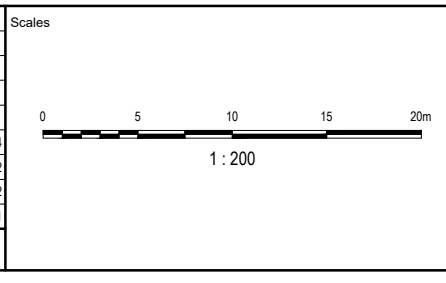
STAGE 1A & 1B UNDER
CONSTRUCTION - REFER
OPW APPROVAL COM/273/2022/A



- BIO-FILTRATION NOTES**
- MINIMUM FILTER DEPTH IS TO BE 0.8m AND IS TO CONSIST OF THE FOLLOWING MEDIA:
- 0.5m OF SANDY LOAM MATERIAL WITH A HYDRAULIC CONDUCTIVITY OF 50-500mm/h (200 PREFERRED).
 - TRANSITION LAYER - MINIMUM 100mm COARSE SAND TYPICALLY 1mm PARTICLE SIZE DIAMETER WITH <2% FINES.
 - DRAINAGE LAYER - FINE GRAVEL (NOMINAL 2-5mm) WITH <2% FINES.
 - ALL UNDERDRAINAGE PIPES TO BE COVERED BY A MINIMUM 50mm DRAINAGE LAYER MATERIAL.
 - CONTRACTOR TO ERECT SIGNAGE IDENTIFYING THE PURPOSE OF THE BIO-RETENTION BASIN AS PER COUNCIL REQUIREMENTS.
 - CONTRACTOR TO INSTALL GEOFABRIC, LAY TOPSOIL AND TURF AFTER BASIN INTERNAL DRAINAGE AND FILTER MEDIA IS INSTALLED TO PROTECT FILTER MEDIA. TURF AND GEOFABRIC TO BE REMOVED AFTER 80% OF BUILDINGS AND CONSTRUCTION IS COMPLETE.



Issue	Description	DR	CH	VE	Date
04	UPDATED LOT LAYOUT	DK	GM		26.07.2024
03	ADDITIONAL RFI RESPONSE	DK	GM		03.11.2022
02	RFI RESPONSE	DK	GM		22.07.2022
01	ORIGINAL ISSUE	DK	GM		11.11.2021



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Project
**680 - 688 & 690 CHAMBERS
FLAT ROAD AND 691 - 697 &
699 LOGAN RESERVE ROAD,
LOGAN RESERVE**

Title
**BIO-RETENTION TYPICAL
SECTIONS AND DETAILS
SHEET 1**

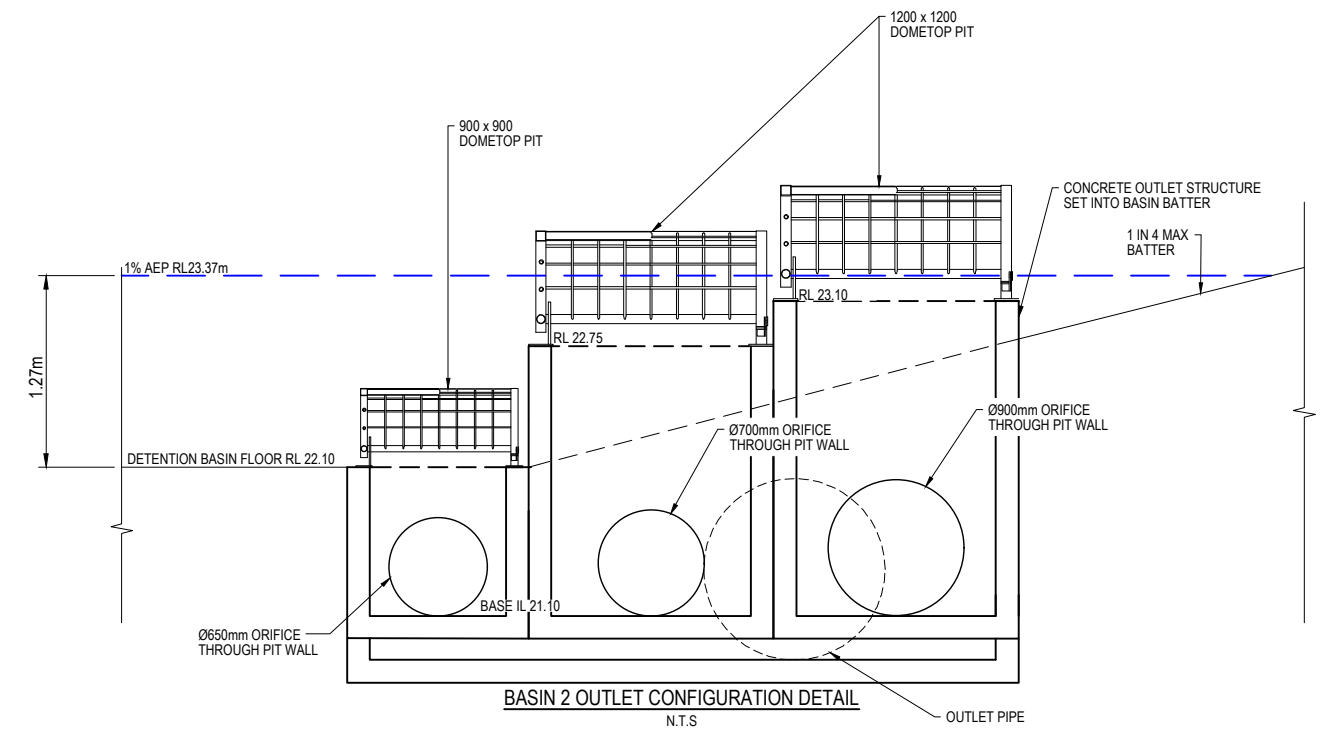
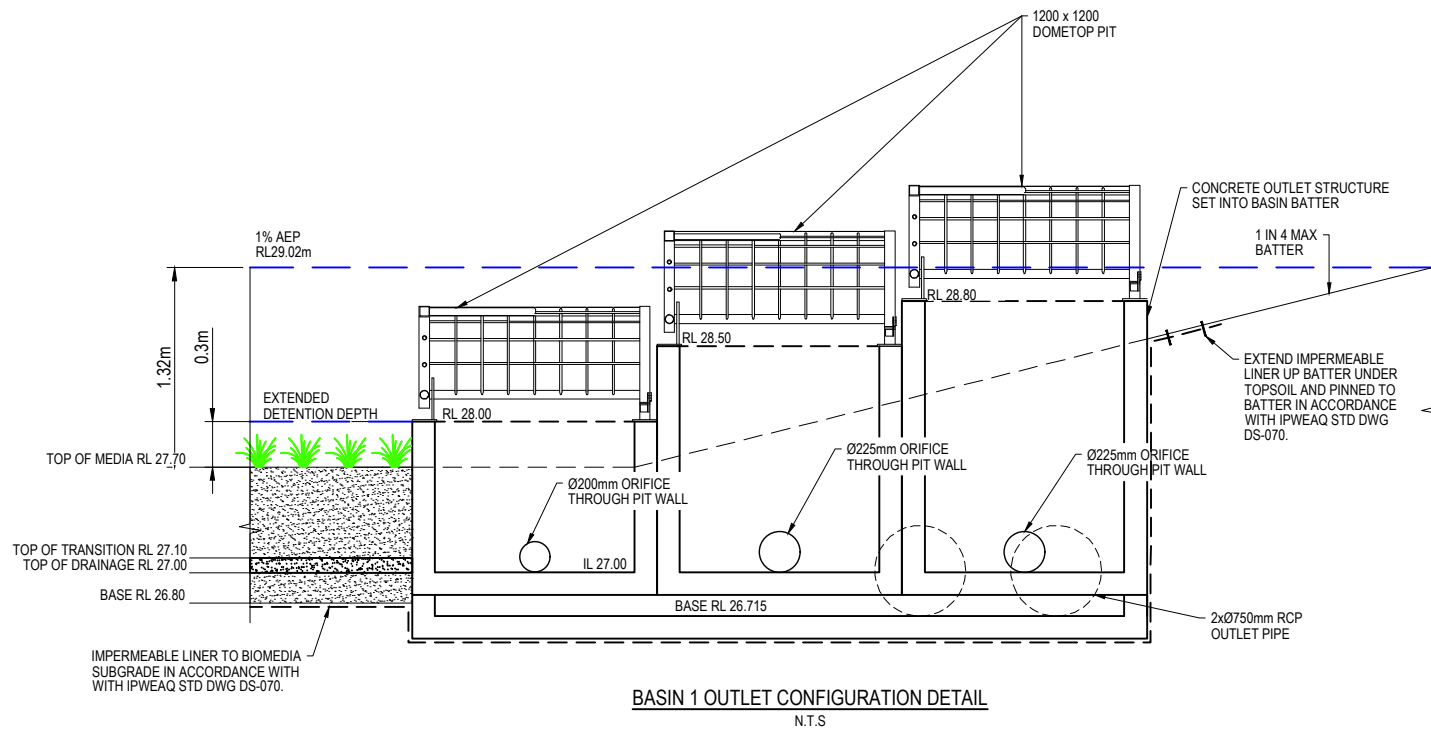
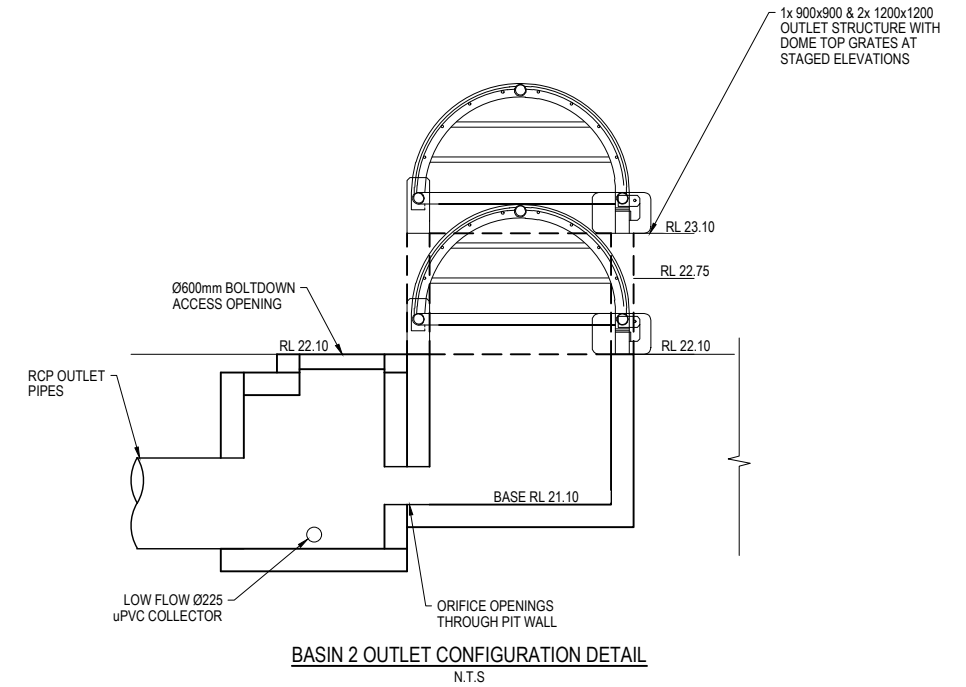
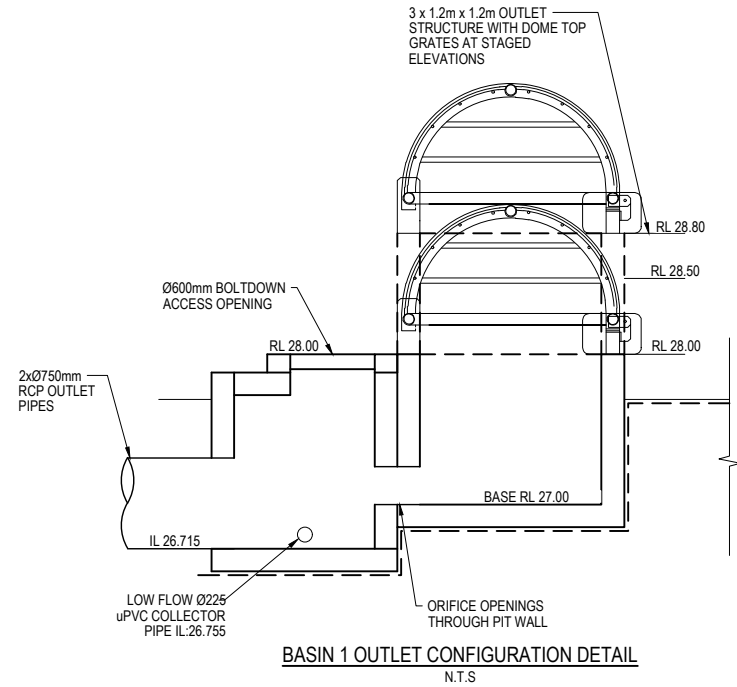
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Project No. | Folder Path | Zone | Stage | Phase | Discipline | Type | Drawing No. | Issue
30105783 - DABA - 0000DA - CV - DRG - 0382 - 04

STAGE 1A & 1B UNDER
CONSTRUCTION - REFER
OPW APPROVAL COM/273/2022/A



Issue	Description	DR	CH	VE	Date
04	UPDATED LOT LAYOUT	DK	GM		26.07.2024
03	ADDITIONAL RFI RESPONSE	DK	GM		21.02.2023
02	ADDITIONAL RFI RESPONSE	DK	GM		03.11.2022
01	ORIGINAL ISSUE	DK	GM		22.07.2022

Scales	
NOT TO SCALE	

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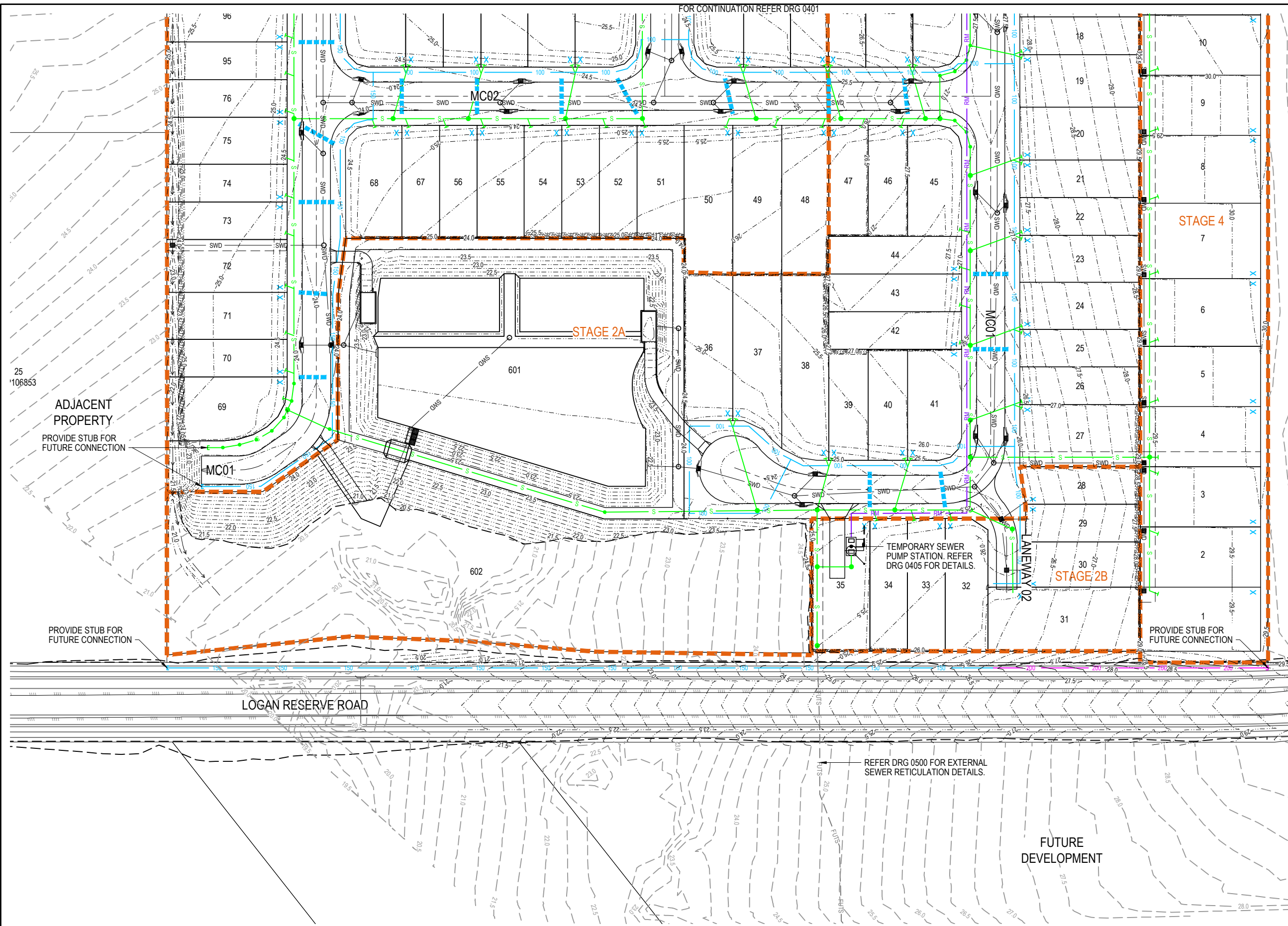
Project
680 - 688 & 690 CHAMBERS
FLAT ROAD AND 691 - 697 &
699 LOGAN RESERVE ROAD,
LOGAN RESERVE

Title
BIO-RETENTION TYPICAL
SECTIONS AND DETAILS
SHEET 2

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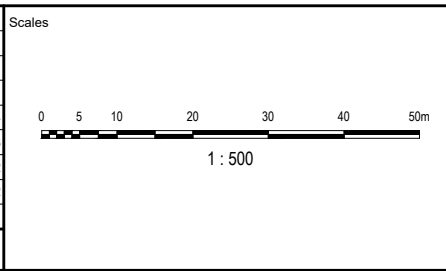
LEGEND	
5.0	PROPOSED SURFACE CONTOURS
10.0	EXISTING SURFACE CONTOURS
SWD	PROPOSED STORMWATER DRAINAGE
S	PROPOSED SEWERAGE RETICULATION
RM	PROPOSED SEWERAGE RISING MAIN
FUTS	APPROXIMATE ALIGNMENT OF ULTIMATE SEWERAGE INFRASTRUCTURE (FUTURE)
100	PROPOSED Ø100 WATER RETICULATION
150	PROPOSED Ø150 WATER RETICULATION
200	PROPOSED Ø200 WATER RETICULATION
Ø100 PVC-M PN12 SERIES 1 CONDUIT	
PROP. XX	WATER SERVICES
BDY.	
SWD	EXISTING STORMWATER DRAINAGE
S	EXISTING SEWERAGE RETICULATION
W	EXISTING WATER RETICULATION
---	NOMINAL KERB LINE
---	SITE BOUNDARY

WATER SERVICES FOR PROPOSED LOTS 1 - 13 TO BE CONNECTED TO ADJACENT DEVELOPMENT RETICULATION.

ADJACENT DEVELOPMENT COM/93/2022



Issue	Description	DR	CH	VE	Date
05	UPDATED LOT LAYOUT	DK	GM		26.07.2024
04	MINOR CHANGES TO LOT BOUNDARIES	DK	GM		13.03.2023
03	ADDITIONAL RFI RESPONSE	DK	GM		03.11.2022
02	RFI RESPONSE	DK	GM		22.07.2022
01	ORIGINAL ISSUE	DK	GM		11.11.2021



Town Planner

Urban Designer

Planning Urban Design Landscape Environment Surveying

JLF CORPORATION

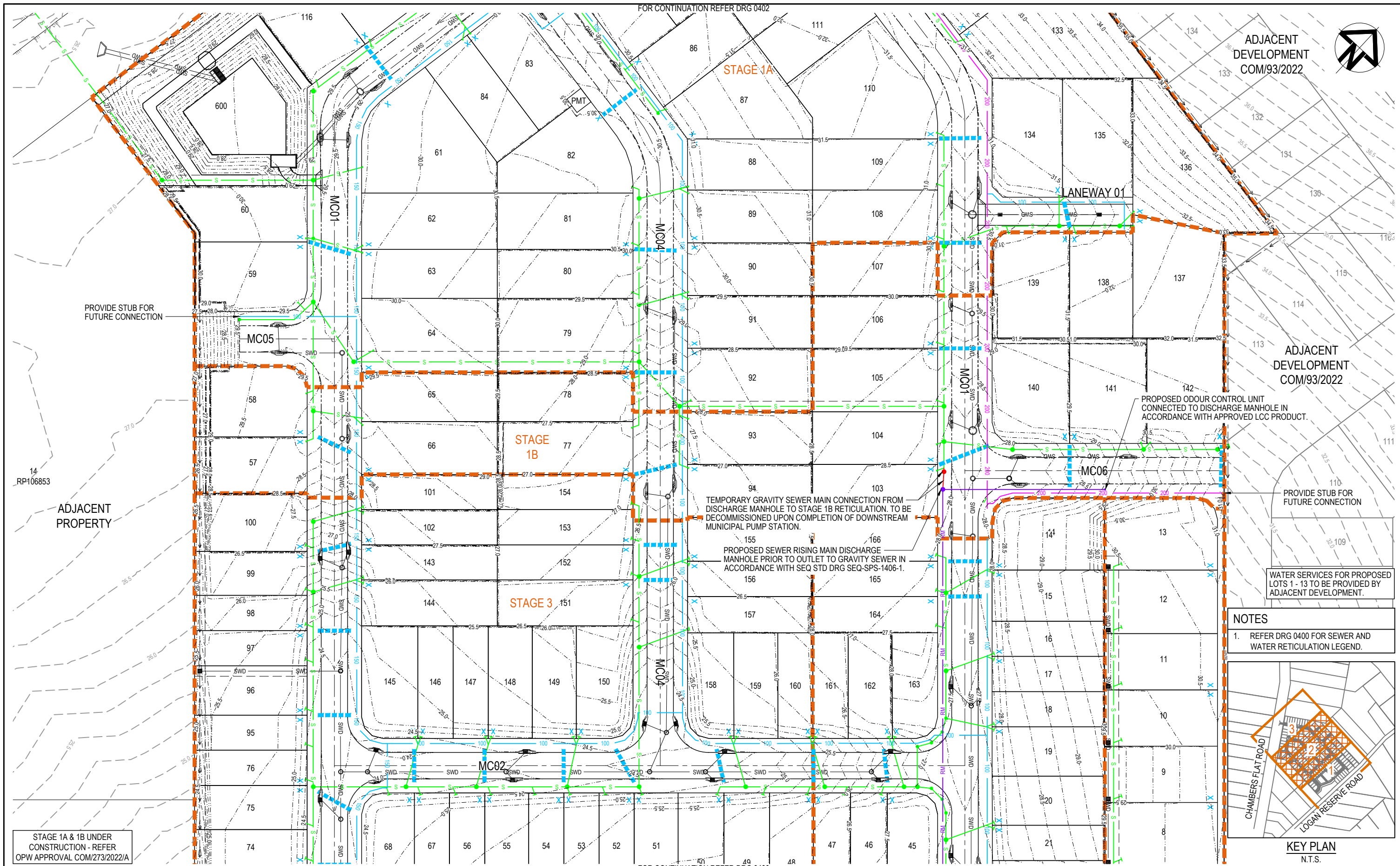
Status	PRELIMINARY NOT TO BE USED FOR CONSTRUCTION	
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Original Issue Signatures		
Drawn	D. KEARNEY	Original Size: A1
Designed	G. MENZIES	Height Datum: AHD
Project Manager	G. MENZIES	Grid: LOCAL
Verified		

Project
680 - 688 & 690 CHAMBERS FLAT ROAD AND 691 - 697 & 699 LOGAN RESERVE ROAD, LOGAN RESERVE

Title
SEWER AND WATER RETICULATION LAYOUT PLAN SHEET 1

Arcadis Australia Pacific Pty Limited
P O Box, 1653
Southport QLD 4215
ABN 76 104 485 289
Tel No: +61 7 5532 3933
Fax No: +61 7 5591 4778
www.arcadis.com

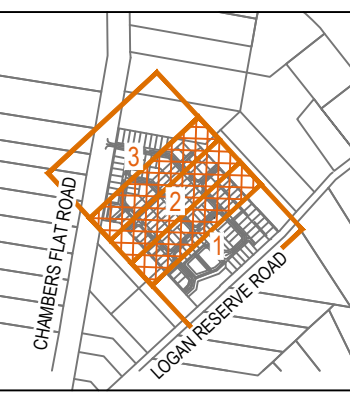
Project No. | Folder Path | Zone | Stage | Phase | Discipline | Type | Drawing No. | Issue
30105783 - DABA - 0000DA - CV - DRG - 0400 - 05



ADJACENT DEVELOPMENT COM/93/2022

ADJACENT DEVELOPMENT COM/93/2022

NOTES
1. REFER DRG 0400 FOR SEWER AND WATER RETICULATION LEGEND.

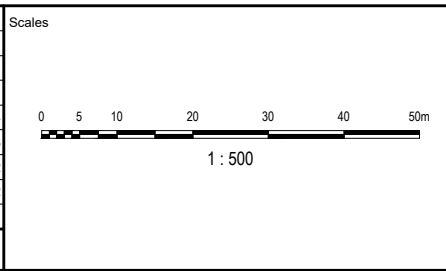


STAGE 1A & 1B UNDER CONSTRUCTION - REFER OPW APPROVAL COM/273/2022/A

FOR CONTINUATION REFER DRG 0402

FOR CONTINUATION REFER DRG 0400

Issue	Description	DR	CH	VE	Date
05	UPDATED LOT LAYOUT	DK	GM		26.07.2024
04	MINOR CHANGES TO LOT BOUNDARIES	DK	GM		13.03.2023
03	ADDITIONAL RFI RESPONSE	DK	GM		03.11.2022
02	RFI RESPONSE	DK	GM		22.07.2022
01	ORIGINAL ISSUE	DK	GM		11.11.2021



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Urban Designer

Planning Urban Design Landscape Environment Surveying

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Original Issue Signatures			
Drawn	D. KEARNEY	Original Size	A1
Designed	G. MENZIES	Height Datum	AHD
Project Manager	G. MENZIES	Grid	LOCAL
Verified			

Project
680 - 688 & 690 CHAMBERS FLAT ROAD AND 691 - 697 & 699 LOGAN RESERVE ROAD, LOGAN RESERVE

Title
SEWER AND WATER RETICULATION LAYOUT PLAN SHEET 2

Arcadis Australia Pacific Pty Limited
P O Box 1653
Southport QLD 4215
ABN 76 104 485 289
Tel No: +61 7 5532 3933
Fax No: +61 7 5591 4778
www.arcadis.com

Project No. | File No. | Zone | Stage | Phase | Discipline | Type | Drawing No. | Issue
30105783 - DABA - 0000DA - CV - DRG - 0401 - 05

STAGE 1A & 1B UNDER
CONSTRUCTION - REFER
OPW APPROVAL COM/273/2022/A

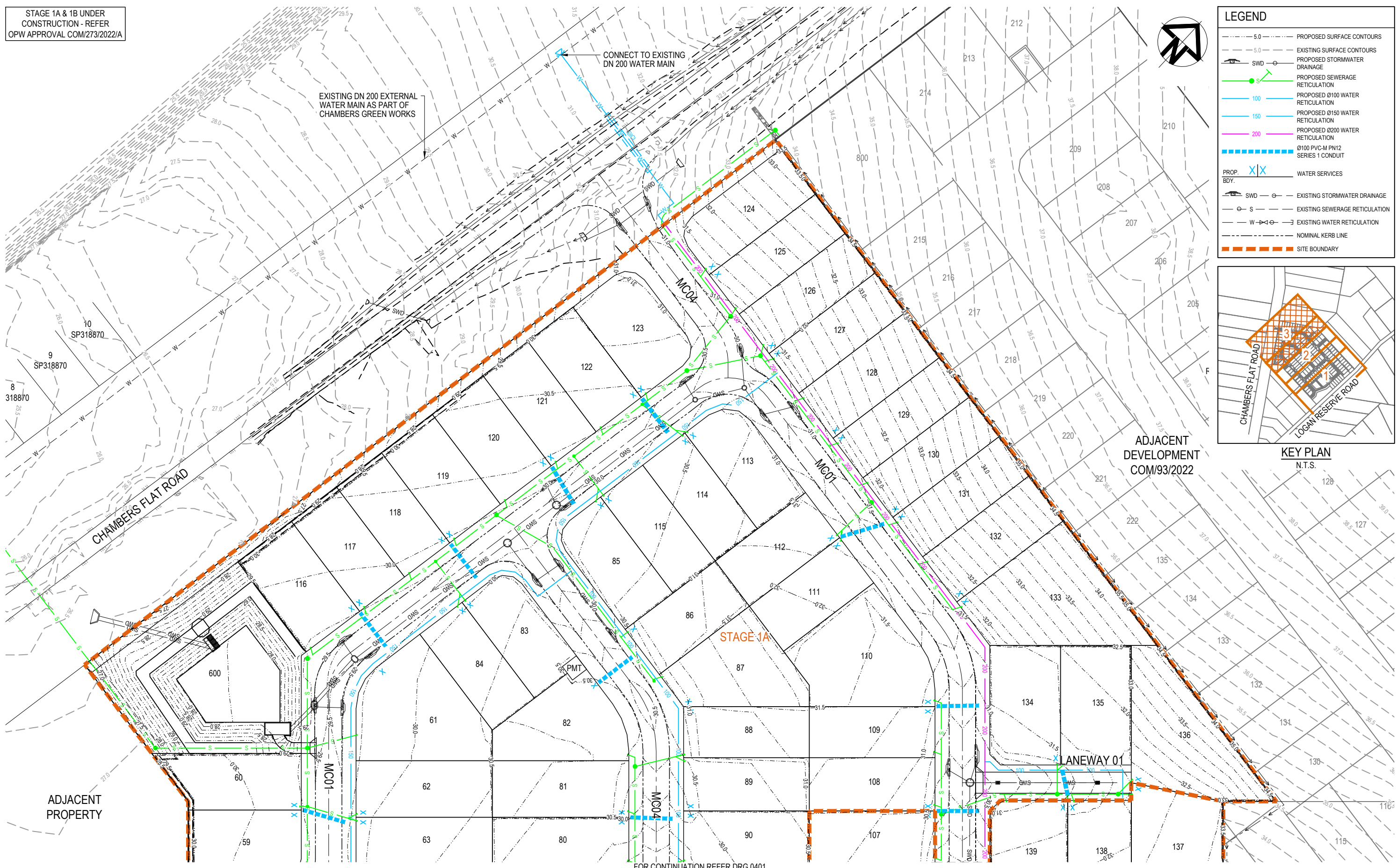


LEGEND	
5.0	PROPOSED SURFACE CONTOURS
5.0	EXISTING SURFACE CONTOURS
SWD	PROPOSED STORMWATER DRAINAGE
S	PROPOSED SEWERAGE RETICULATION
100	PROPOSED Ø100 WATER RETICULATION
150	PROPOSED Ø150 WATER RETICULATION
200	PROPOSED Ø200 WATER RETICULATION
Ø100 PVC-M PN12 SERIES 1 CONDUIT	
PROP. X X	WATER SERVICES
BDY.	
SWD	EXISTING STORMWATER DRAINAGE
S	EXISTING SEWERAGE RETICULATION
W	EXISTING WATER RETICULATION
---	NOMINAL KERB LINE
---	SITE BOUNDARY

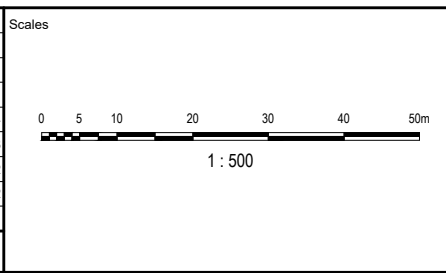


KEY PLAN
N.T.S.

ADJACENT
DEVELOPMENT
COM/93/2022



Issue	Description	DR	CH	VE	Date
05	UPDATED LOT LAYOUT	DK	GM		26.07.2024
04	MINOR CHANGES TO LOT BOUNDARIES	DK	GM		13.03.2023
03	ADDITIONAL RFI RESPONSE	DK	GM		03.11.2022
02	RFI RESPONSE	DK	GM		22.07.2022
01	ORIGINAL ISSUE	DK	GM		11.11.2021



Town Planner

Urban Designer

Planning Urban Design Landscape Environment Surveying

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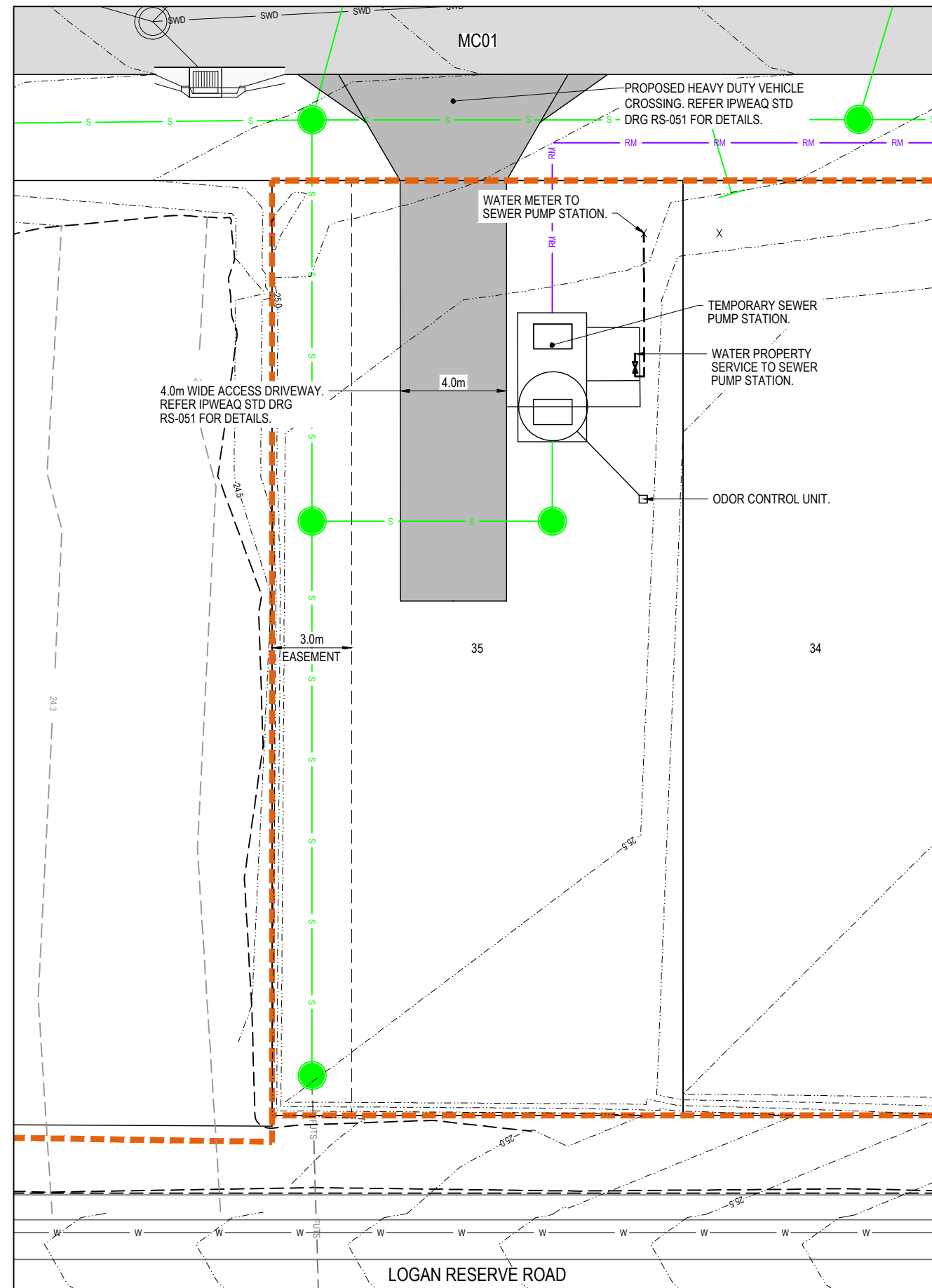
Project
680 - 688 & 690 CHAMBERS
FLAT ROAD AND 691 - 697 &
699 LOGAN RESERVE ROAD,
LOGAN RESERVE

Title
SEWER AND WATER
RETICULATION LAYOUT PLAN
SHEET 3

Arcadis Australia Pacific Pty Limited
P O Box 1653
Southport QLD 4215
ABN 76 104 485 289
Tel No: +61 7 5532 3933
Fax No: +61 7 5591 4778
www.arcadis.com

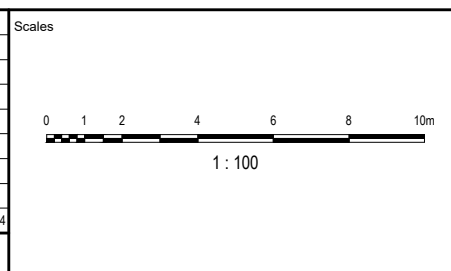
Project No. | File No. | Zone | Stage | Phase | Discipline | Type | Drawing No. | Issue

30105783 - DABA - 0000DA - CV - DRG - 0402 - 05



LEGEND	
--- 5.0 ---	PROPOSED SURFACE CONTOURS
- - - 5.0 - - -	EXISTING SURFACE CONTOURS
RM	INDICATIVE SEWER RISING MAIN ALIGNMENT
S	PROPOSED SEWERAGE RETICULATION
- - - - -	APPROXIMATE ALIGNMENT OF ULTIMATE SEWERAGE INFRASTRUCTURE (FUTURE)
SWD	PROPOSED STORMWATER DRAINAGE
W	PROPOSED WATER RETICULATION
SWD	EXISTING STORMWATER DRAINAGE
S	EXISTING SEWERAGE RETICULATION
W	EXISTING WATER RETICULATION
- - - - -	NOMINAL KERB LINE
	EXISTING EDGE OF BITUMEN
[Grey Box]	PROPOSED ASPHALT PAVEMENT
[Dark Grey Box]	PROPOSED CONCRETE DRIVEWAY
- - - - -	SITE BOUNDARY

Issue	Description	DR	CH	VE	Date
01	ORIGINAL ISSUE	DK	GM		26.07.2024



Town Planner

Urban Designer

Planning Urban Design Landscape Environment Surveying

JLF CORPORATION

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Original Issue Signatures			
Drawn	D. KEARNEY	Original Size	A1
Designed	G. MENZIES	Height Datum	AHD
Project Manager	G. MENZIES	Grid	LOCAL
Verified	.		

Project
680 - 688 & 690 CHAMBERS
FLAT ROAD AND 691 - 697 &
699 LOGAN RESERVE ROAD,
LOGAN RESERVE

Title
TEMPORARY SEWER PUMP
STATION LAYOUT PLAN

Arcadis Australia Pacific Pty Limited
P O Box, 1653
Southport QLD 4215
ABN 76 104 485 289
Tel No: +61 7 5532 3933
Fax No: +61 7 5591 4778
www.arcadis.com

Project No. | Folder Profile | Zone | Stage | Phase | Discipline | Type | Drawing No. | Issue

30105783 - DABA - 0000DA - CV - DRG - 0405 - 01



LEGEND	
	5.0 PROPOSED SURFACE CONTOURS
	5.0 EXISTING SURFACE CONTOURS
	PROPOSED GRAVITY SEWER RETICULATION
	EXISTING SEWER RETICULATION
	FUTS APPROXIMATE ALIGNMENT OF ULTIMATE SEWER INFRASTRUCTURE (FUTURE)
	RM INDICATIVE SEWER RISING MAIN ALIGNMENT
	NOMINAL KERB LINE
	SITE BOUNDARY

STAGE 1A & 1B UNDER CONSTRUCTION - REFER OPW APPROVAL COM/273/2022/A

INTERIM SEWER CONNECTION TO EXISTING DOWNSTREAM NETWORK
REFER OW/66/2020/1 FOR DEVELOPMENT APPROVAL DETAILS.

TEMPORARY GRAVITY SEWER MAIN CONNECTING STAGES 2A - 4 THROUGH TO STAGE 1A & 1B NETWORK. TO BE DECOMMISSIONED UPON COMPLETION OF REGIONAL MUNICIPAL PUMP STATION.

PROPOSED SEWER RISING MAIN TO DISCHARGE MANHOLE. DIRECTED TO GRAVITY SEWER RETICULATION.

GRAVITY SEWER TO BE REDIRECTED UPON COMPLETION OF DOWNSTREAM REGIONAL MUNICIPAL PUMP STATION.

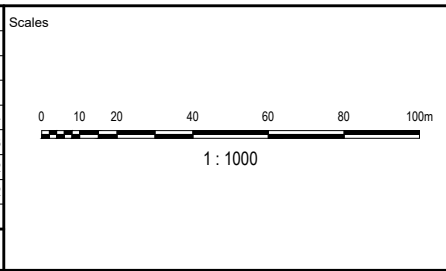
TEMPORARY SEWER PUMP STATION. REFER DRG 0405 FOR DETAILS.

EXTERNAL SEWER ALIGNMENT SUBJECT TO FUTURE DEVELOPMENT LAYOUT.

INDICATIVE SEWER RISING MAIN ALIGNMENT.

APPROXIMATE LOCATION OF FUTURE SEWER PUMP STATION. FINAL LOCATION SUBJECT TO CATCHMENT STUDY PRESENTLY BEING UNDERTAKEN BY LOGAN WATER.

Issue	Description	DR	CH	VE	Date
05	UPDATED LOT LAYOUT	DK	GM		26.07.2024
04	MINOR CHANGES TO LOT BOUNDARIES	DK	GM		13.03.2023
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Town Planner

Urban Designer

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Project Manager	G. MENZIES	Grid	LOCAL
Verified			

Project
680 - 688 & 690 CHAMBERS FLAT ROAD AND 691 - 697 & 699 LOGAN RESERVE ROAD, LOGAN RESERVE

Title
EXTERNAL SEWER RETICULATION LAYOUT PLAN

Arcadis Australia Pacific Pty Limited
P O Box 1653
Southport QLD 4215
ABN 76 104 485 289
Tel No: +61 7 5532 3933
Fax No: +61 7 5591 4778
www.arcadis.com

Project No. | Folder Path | Zone | Stage | Phase | Discipline | Type | Drawing No. | Issue

30105783 - DABA - 0000DA - CV - DRG - 0500 - 05

APPENDIX B

DBYD

Dial Before You Dig (DBYD)

Asset Location Response



PO Box 3226 Logan City DC QLD 4114 • 150 Wembley Road, Logan Central
p (07) 3412 3412 • e council@logan.qld.gov.au • www.logan.qld.gov.au • ABN 21-627-796 435



Stefan Heyward
Level 1, Office 7,12-14 Marine Parade
Southport QLD 4215
Stefan.Heyward@arcadis.com

Logan City Council has been advised that you have placed an enquiry through the Dial Before You Dig service. Our records indicate the enquiry with the following details are affecting Logan City Council asset(s).

Enquiry Details	
Sequence Number	203542094
Enquiry Date	30/09/2021 10:16
Response	AFFECTED
Address	715-721 Logan Reserve Road Logan Reserve
Location in Road	Road,Nature Strip,Footpath
Activity	Manual Excavation,Mechanical Excavation

Please review plans attached and contact Logan City Council prior to commencing works:

Logan City Council now provides a limited amount of As-Constructed and Drainage Plans on-line, click on the [Logan City As-Constructed Plans](#) link and type in the property address you are seeking.

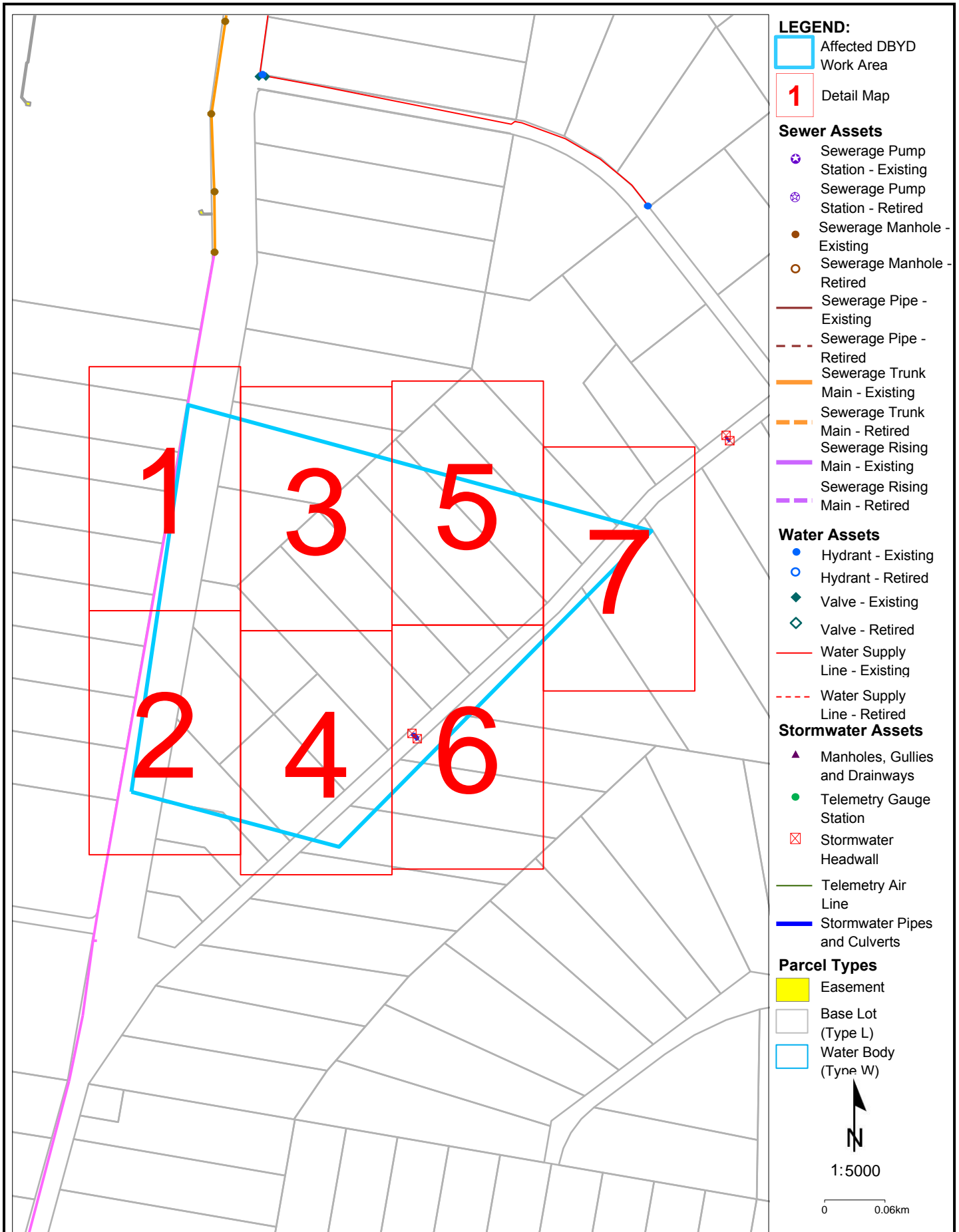
Unfortunately, not all properties will have plan records accessible on-line. The following options are available to customers should a record not be available:

- For **As Constructed Private Sewer/Roofwater (Inside Properties)**
Contact *Development Assessment, Building & Plumbing*
p: (07) 3412 5269
Alternatively visit our Website [Link to the relevant PS1 or PS2 forms:](#)
[Logan City As-Constructed Plans](#)
- For **As Constructed Private Sewer/Water/Stormwater (Outside Properties)**
Contact *Road Infrastructure Planning*
p: (07) 3412 5282
Alternatively visit our Website [Link for PS3 forms:](#)
[Logan City As-Constructed Plans](#)

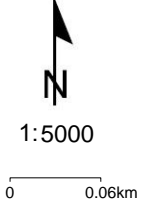
If you need more assistance please call us on 07 3412 3412 or email us at council@logan.qld.gov.au.

Disclaimer: This document is confidential to the addressee and may also be privileged, and neither confidentiality nor privilege is waived, lost or destroyed by virtue of it being transmitted to an incorrect addressee. Unauthorised use of the contents is therefore strictly prohibited. Any information contained in this document that has been extracted from Council's records is believed to be accurate, but no responsibility is assumed for any error or omission. Council will only accept responsibility for information contained under official letterhead and duly signed by, or on behalf of, Chief Executive Officer.

Logan City Council's infrastructure dates back over many years and may include manufactured materials containing asbestos. You are solely responsible for ensuring that appropriate care is taken at all times and that you comply with all mandatory requirements relating to such matters, including but not limited to "workplace health and safety".

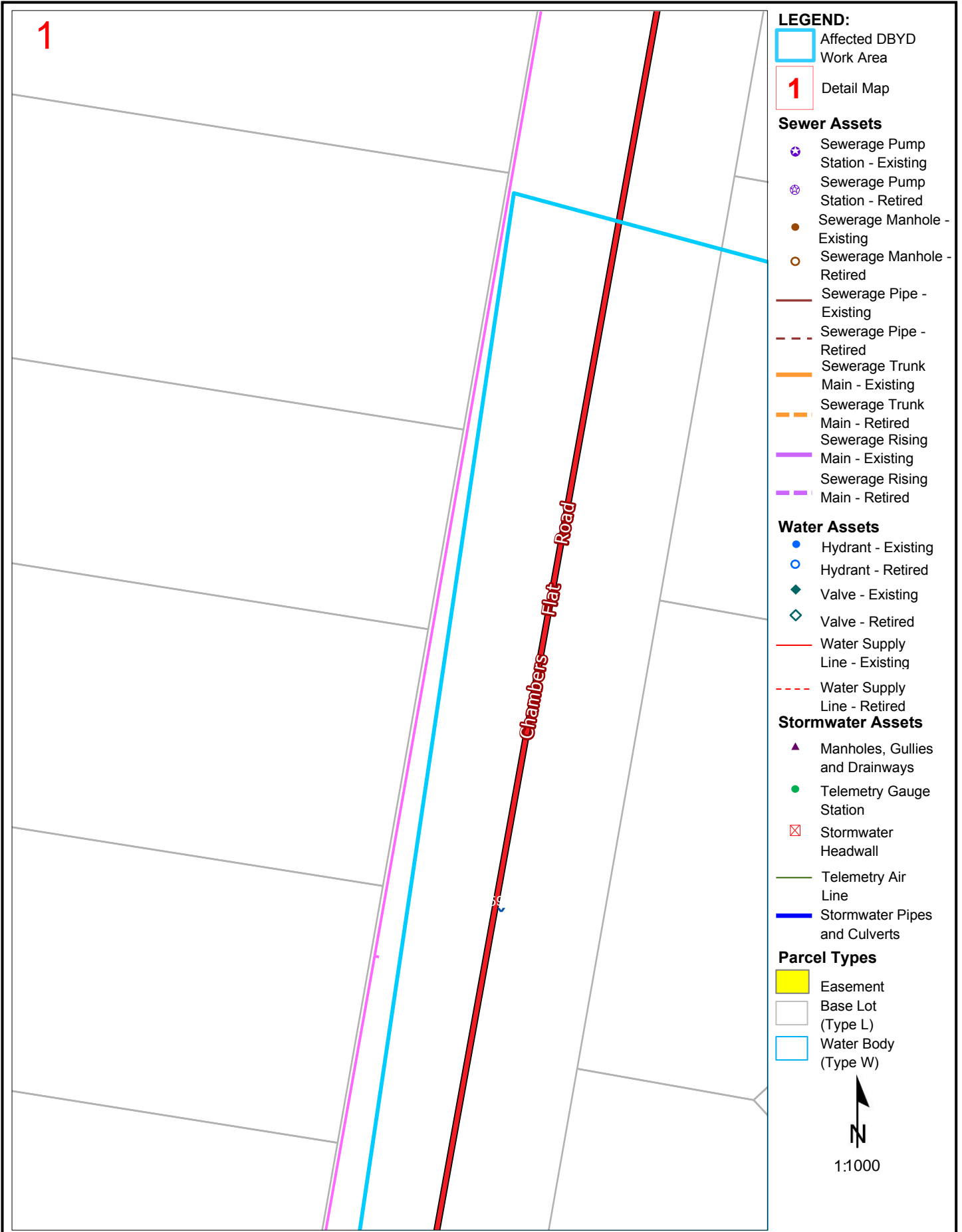


- LEGEND:**
- Affected DBYD Work Area
 - 1 Detail Map
- Sewer Assets**
- ✱ Sewerage Pump Station - Existing
 - ✱ Sewerage Pump Station - Retired
 - Sewerage Manhole - Existing
 - Sewerage Manhole - Retired
 - Sewerage Pipe - Existing
 - - - Sewerage Pipe - Retired
 - Sewerage Trunk Main - Existing
 - - - Sewerage Trunk Main - Retired
 - Sewerage Rising Main - Existing
 - - - Sewerage Rising Main - Retired
- Water Assets**
- Hydrant - Existing
 - Hydrant - Retired
 - ◆ Valve - Existing
 - ◇ Valve - Retired
 - Water Supply Line - Existing
 - - - Water Supply Line - Retired
- Stormwater Assets**
- ▲ Manholes, Gullies and Drainways
 - Telemetry Gauge Station
 - ⊠ Stormwater Headwall
 - Telemetry Air Line
 - Stormwater Pipes and Culverts
- Parcel Types**
- Easement
 - Base Lot (Type L)
 - Water Body (Type W)




Disclaimer: The plans are indicative only and while all reasonable care has been taken in producing this information, Logan City Council does not warrant the accuracy, completeness or currency of this information and accepts no responsibility for, or in connection with any loss or damage suffered as a result of any inaccuracies, errors or omissions or your reliance on this information. Base material reproduced with permission of the Director-General, Department of Natural Resources and Mines. The State of Queensland (Department of Natural Resources and Mines).

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LEGEND:







 Affected DBYD Work Area

 Detail Map






Sewer Assets

-  Sewerage Pump Station - Existing
-  Sewerage Pump Station - Retired
-  Sewerage Manhole - Existing
-  Sewerage Manhole - Retired
-  Sewerage Pipe - Existing
-  Sewerage Pipe - Retired
-  Sewerage Trunk Main - Existing
-  Sewerage Trunk Main - Retired
-  Sewerage Rising Main - Existing
-  Sewerage Rising Main - Retired




Water Assets

-  Hydrant - Existing
-  Hydrant - Retired
-  Valve - Existing
-  Valve - Retired
-  Water Supply Line - Existing
-  Water Supply Line - Retired

Stormwater Assets

-  Manholes, Gullies and Drainways
-  Telemetry Gauge Station
-  Stormwater Headwall
-  Telemetry Air Line
-  Stormwater Pipes and Culverts

Parcel Types

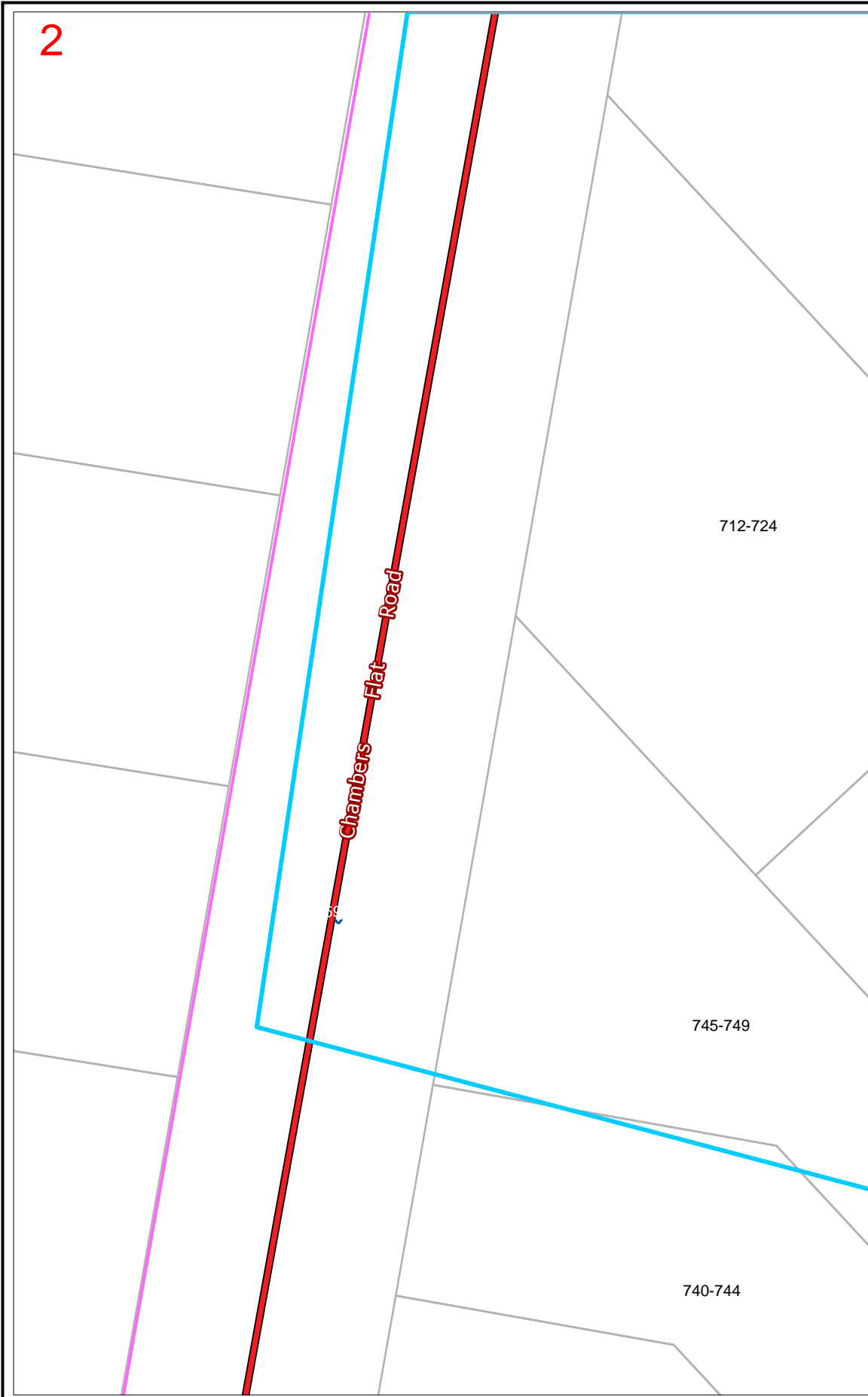
-  Easement
-  Base Lot (Type L)
-  Water Body (Type W)



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2



LEGEND:

Affected DBYD Work Area

Detail Map

Sewer Assets

- Sewerage Pump Station - Existing
- Sewerage Pump Station - Retired
- Sewerage Manhole - Existing
- Sewerage Manhole - Retired
- Sewerage Pipe - Existing
- Sewerage Pipe - Retired
- Sewerage Trunk Main - Existing
- Sewerage Trunk Main - Retired
- Sewerage Rising Main - Existing
- Sewerage Rising Main - Retired

Water Assets

- Hydrant - Existing
- Hydrant - Retired
- Valve - Existing
- Valve - Retired
- Water Supply Line - Existing
- Water Supply Line - Retired

Stormwater Assets

- Manholes, Gullies and Drainways
- Telemetry Gauge Station
- Stormwater Headwall
- Telemetry Air Line
- Stormwater Pipes and Culverts

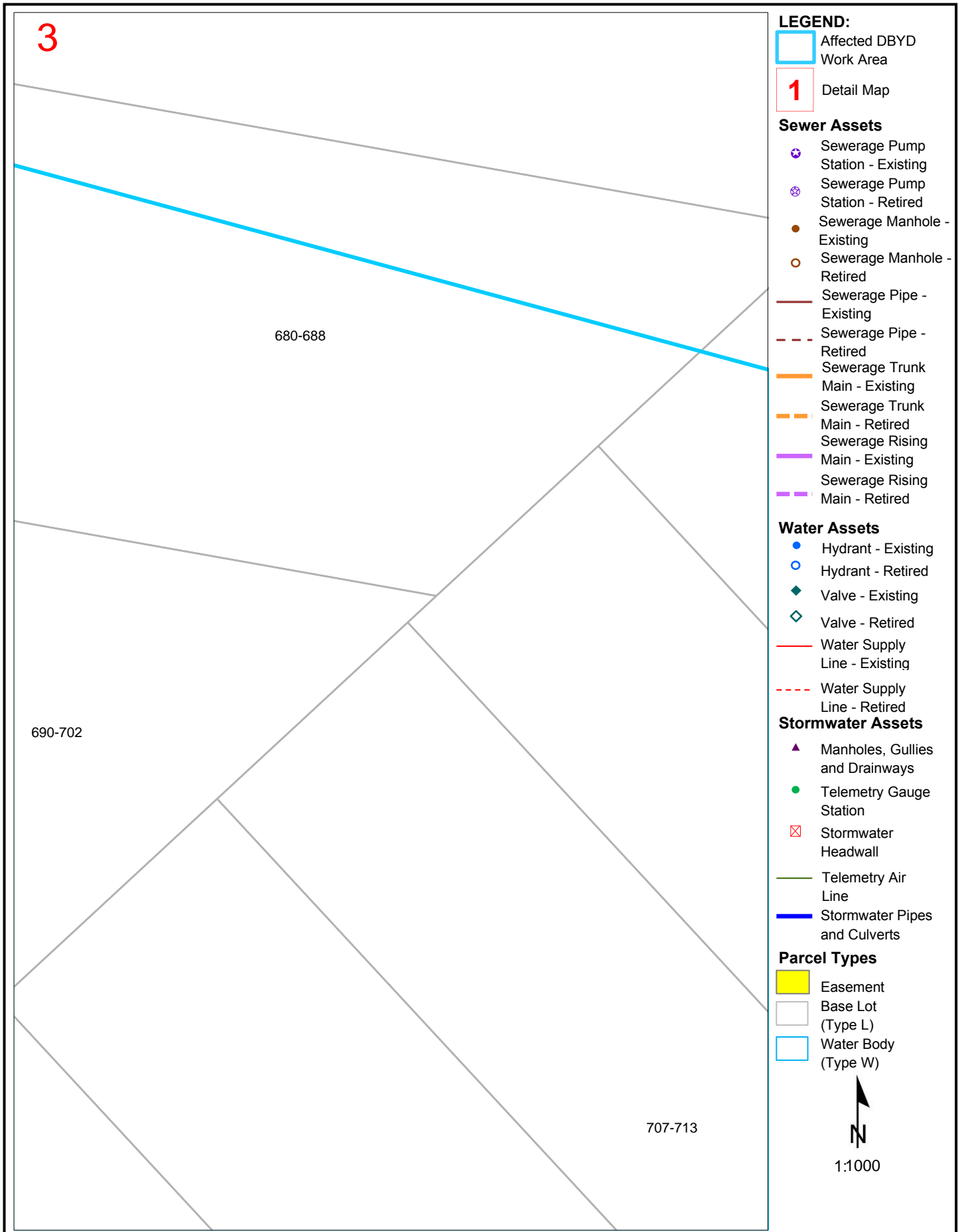
Parcel Types

- Easement
- Base Lot (Type L)
- Water Body (Type W)



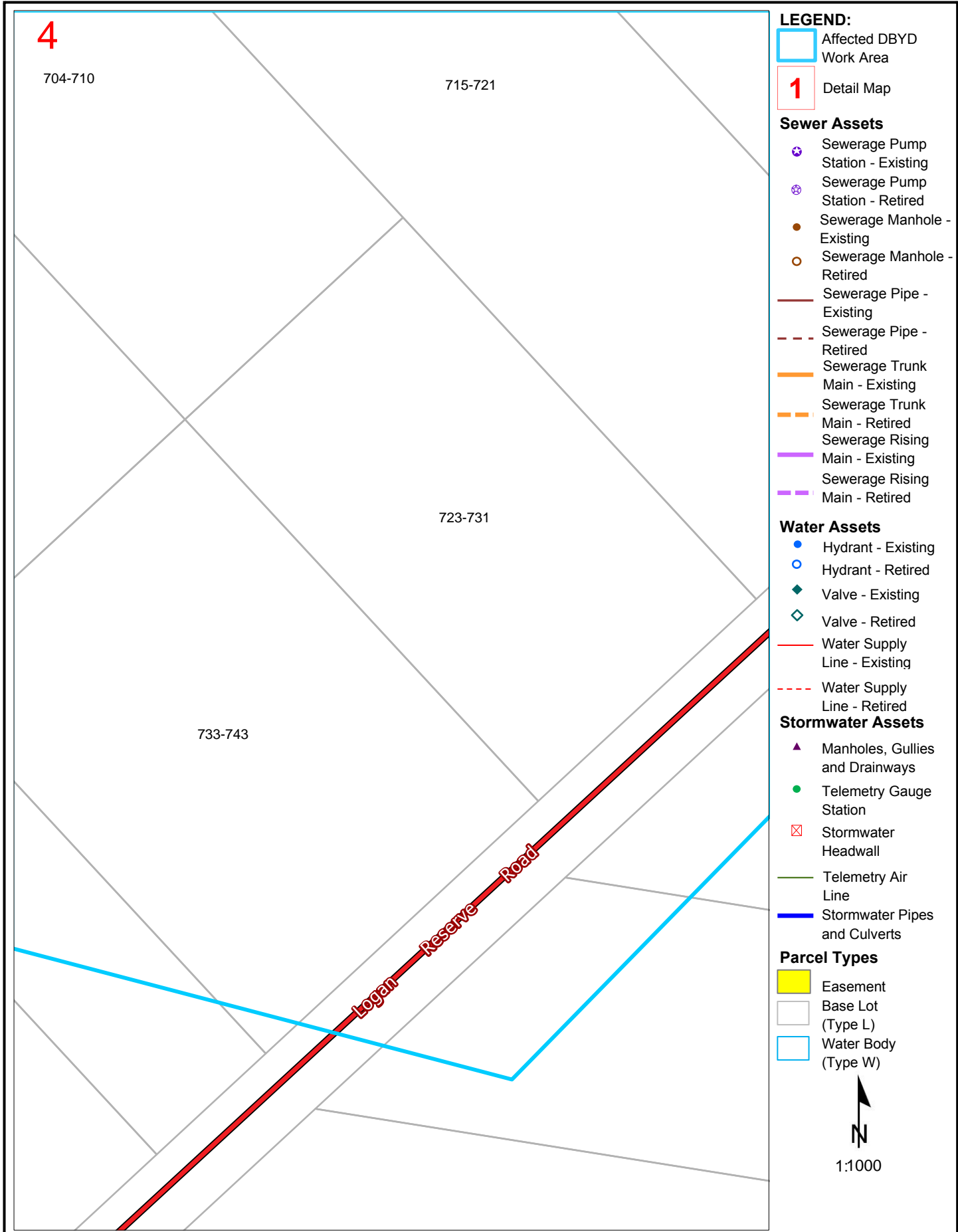
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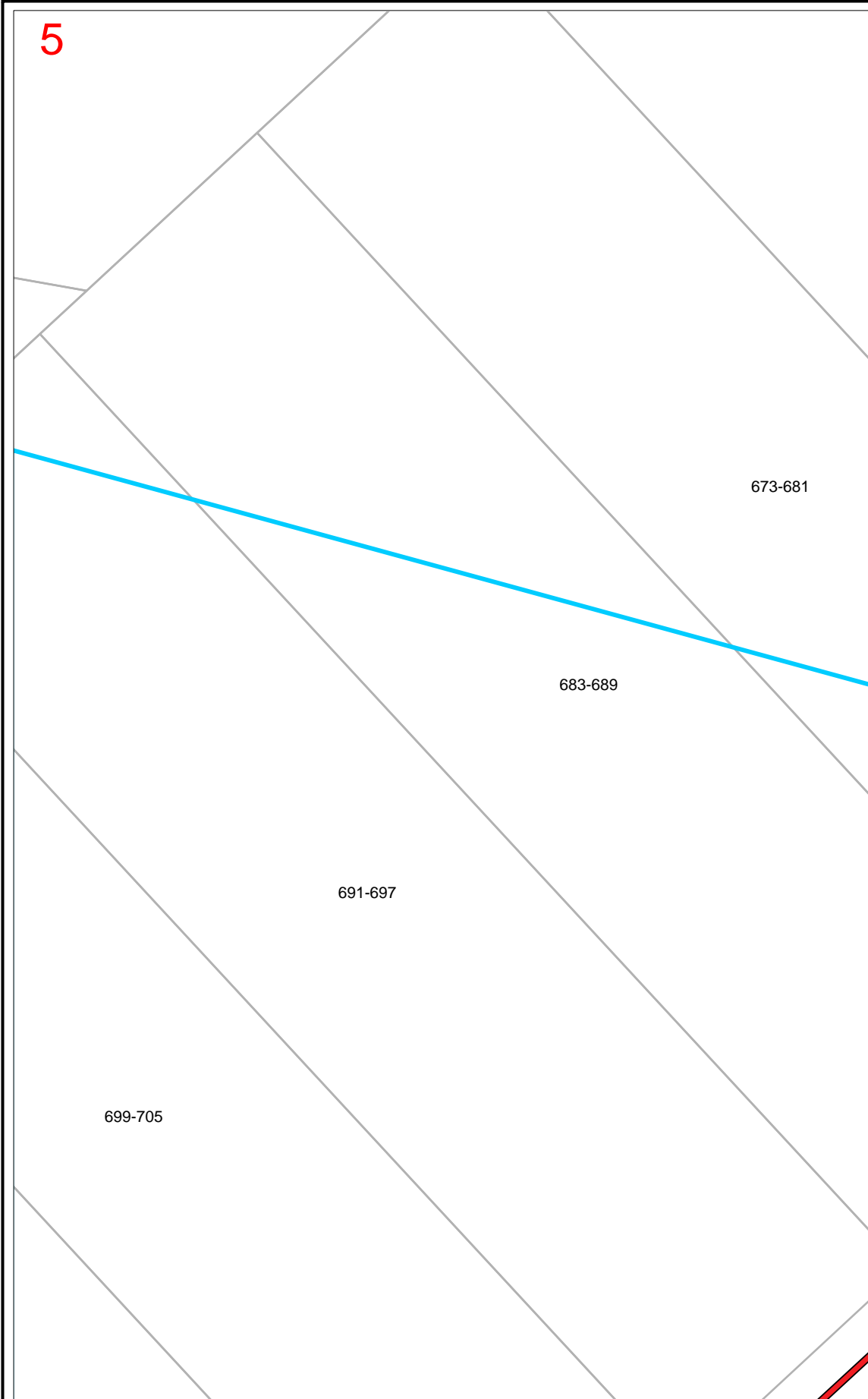
- Affected DBYD Work Area
- 1 Detail Map
- Sewer Assets**
- ✱ Sewerage Pump Station - Existing
- ✱ Sewerage Pump Station - Retired
- Sewerage Manhole - Existing
- Sewerage Manhole - Retired
- Sewerage Pipe - Existing
- - - Sewerage Pipe - Retired
- Sewerage Trunk Main - Existing
- - - Sewerage Trunk Main - Retired
- Sewerage Rising Main - Existing
- - - Sewerage Rising Main - Retired
- Water Assets**
- Hydrant - Existing
- Hydrant - Retired
- ◆ Valve - Existing
- ◇ Valve - Retired
- Water Supply Line - Existing
- - - Water Supply Line - Retired
- Stormwater Assets**
- ▲ Manholes, Gullies and Drainways
- Telemetry Gauge Station
- ⊠ Stormwater Headwall
- Telemetry Air Line
- Stormwater Pipes and Culverts
- Parcel Types**
- Easement
- Base Lot (Type L)
- Water Body (Type W)




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5













LEGEND:







 Affected DBYD Work Area

 Detail Map






Sewer Assets

-  Sewerage Pump Station - Existing
-  Sewerage Pump Station - Retired
-  Sewerage Manhole - Existing
-  Sewerage Manhole - Retired
-  Sewerage Pipe - Existing
-  Sewerage Pipe - Retired
-  Sewerage Trunk Main - Existing
-  Sewerage Trunk Main - Retired
-  Sewerage Rising Main - Existing
-  Sewerage Rising Main - Retired




Water Assets

-  Hydrant - Existing
-  Hydrant - Retired
-  Valve - Existing
-  Valve - Retired
-  Water Supply Line - Existing
-  Water Supply Line - Retired

Stormwater Assets

-  Manholes, Gullies and Drainways
-  Telemetry Gauge Station
-  Stormwater Headwall
-  Telemetry Air Line
-  Stormwater Pipes and Culverts

Parcel Types

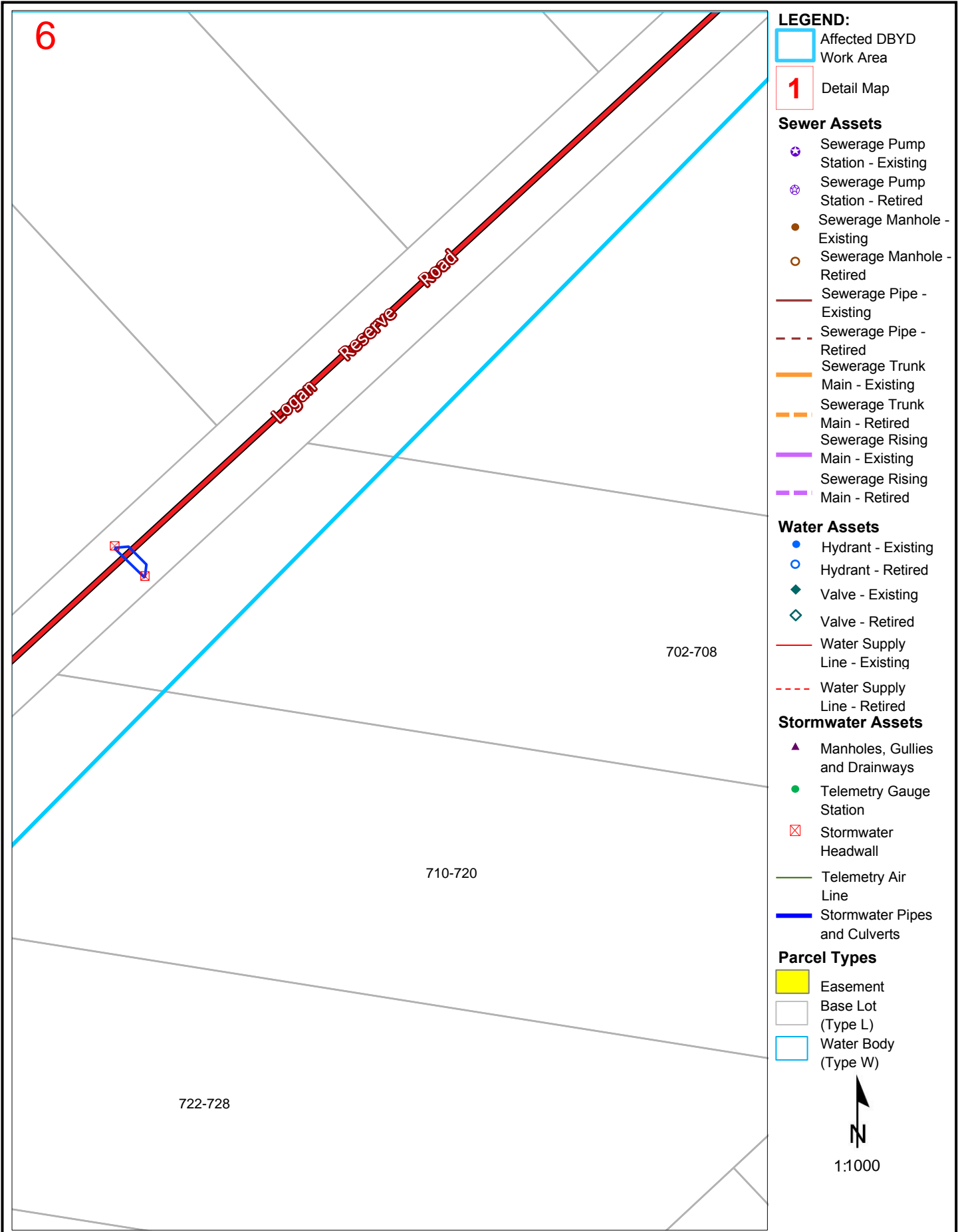
-  Easement
-  Base Lot (Type L)
-  Water Body (Type W)



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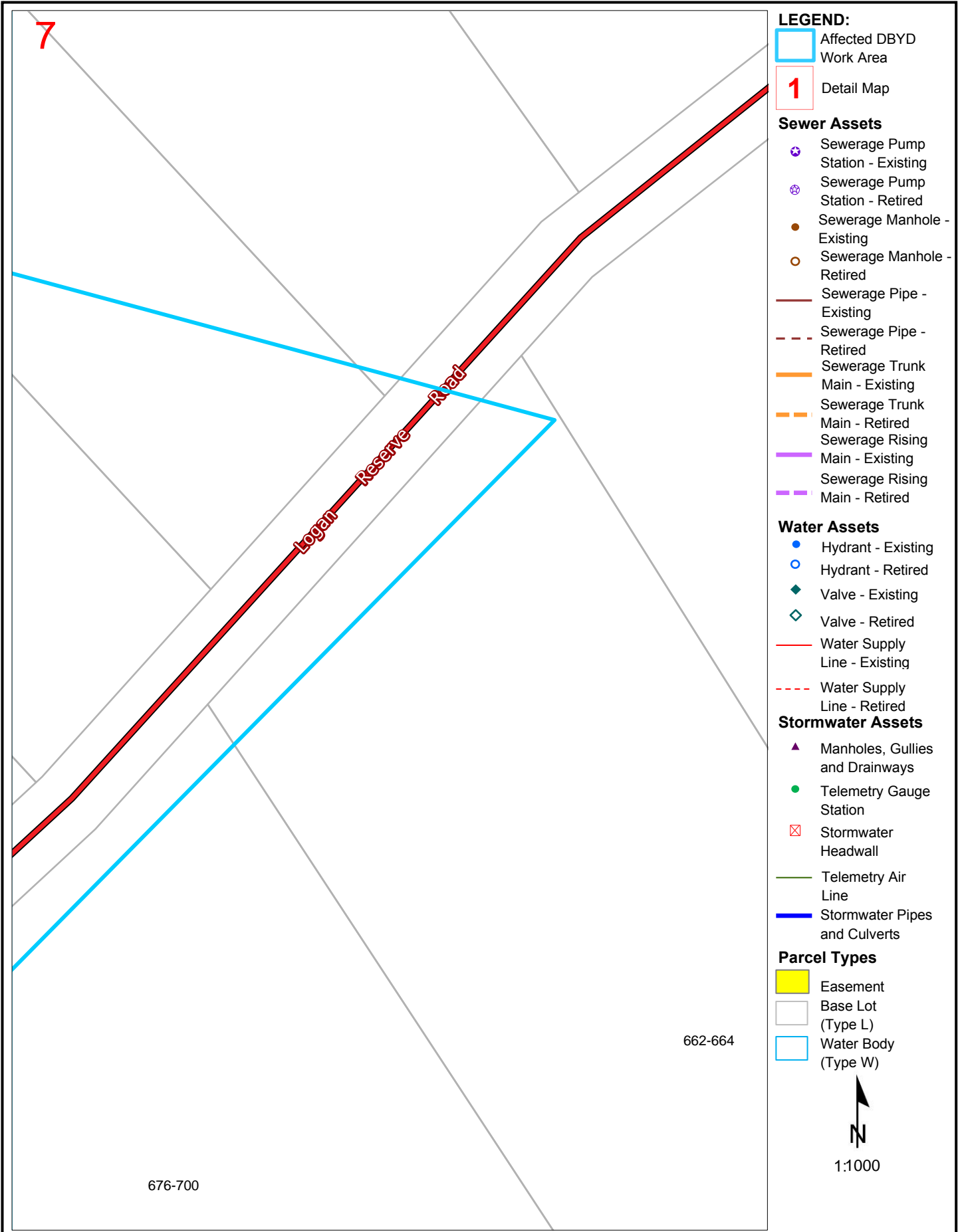
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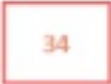




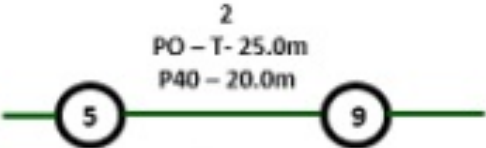






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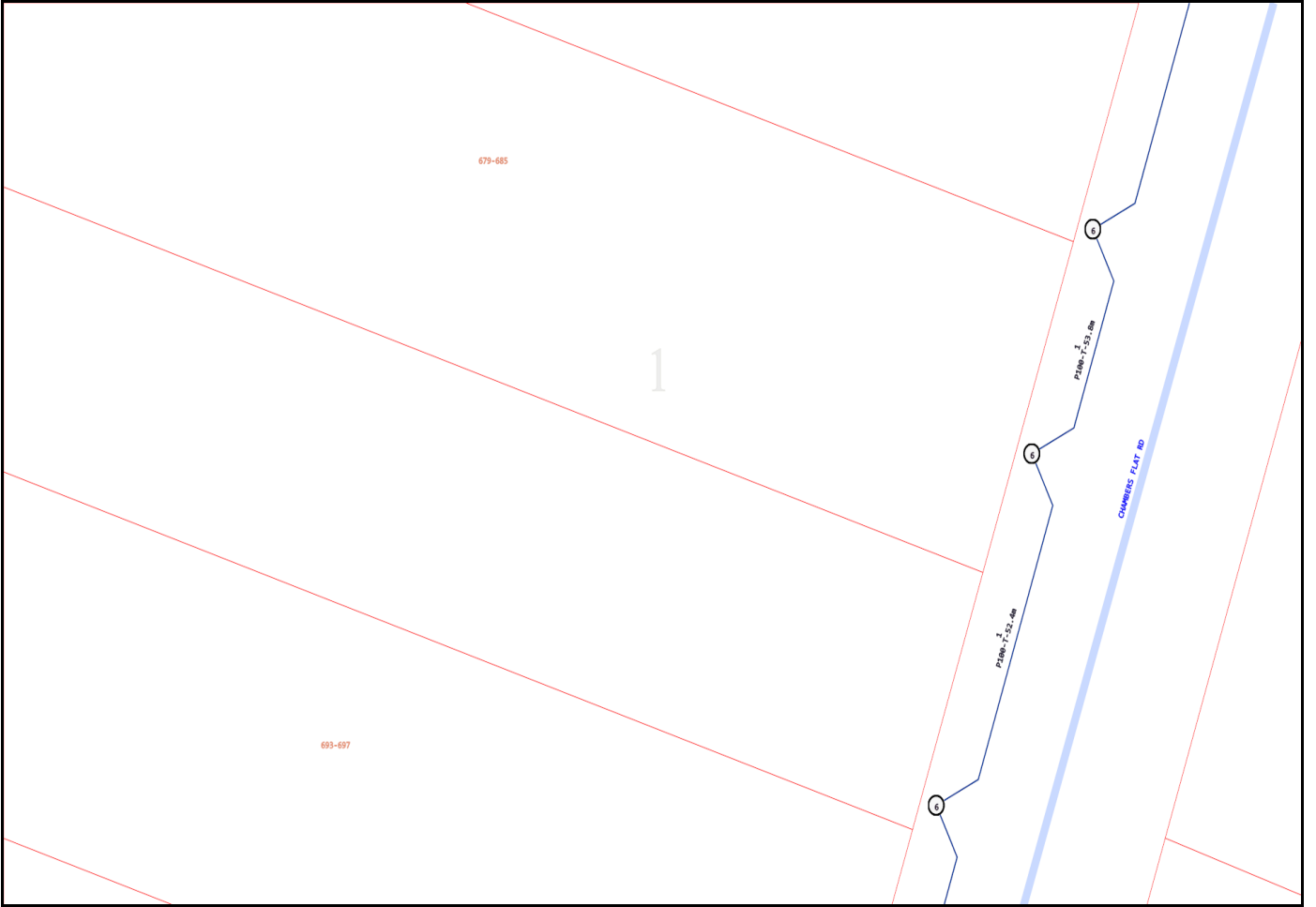
Logan City Council's infrastructure dates back over many years and may include manufactured materials containing asbestos. You are solely responsible for ensuring that appropriate care is taken at all times and that you comply with all mandatory requirements relating to such matters, including but not limited to "workplace health and safety".

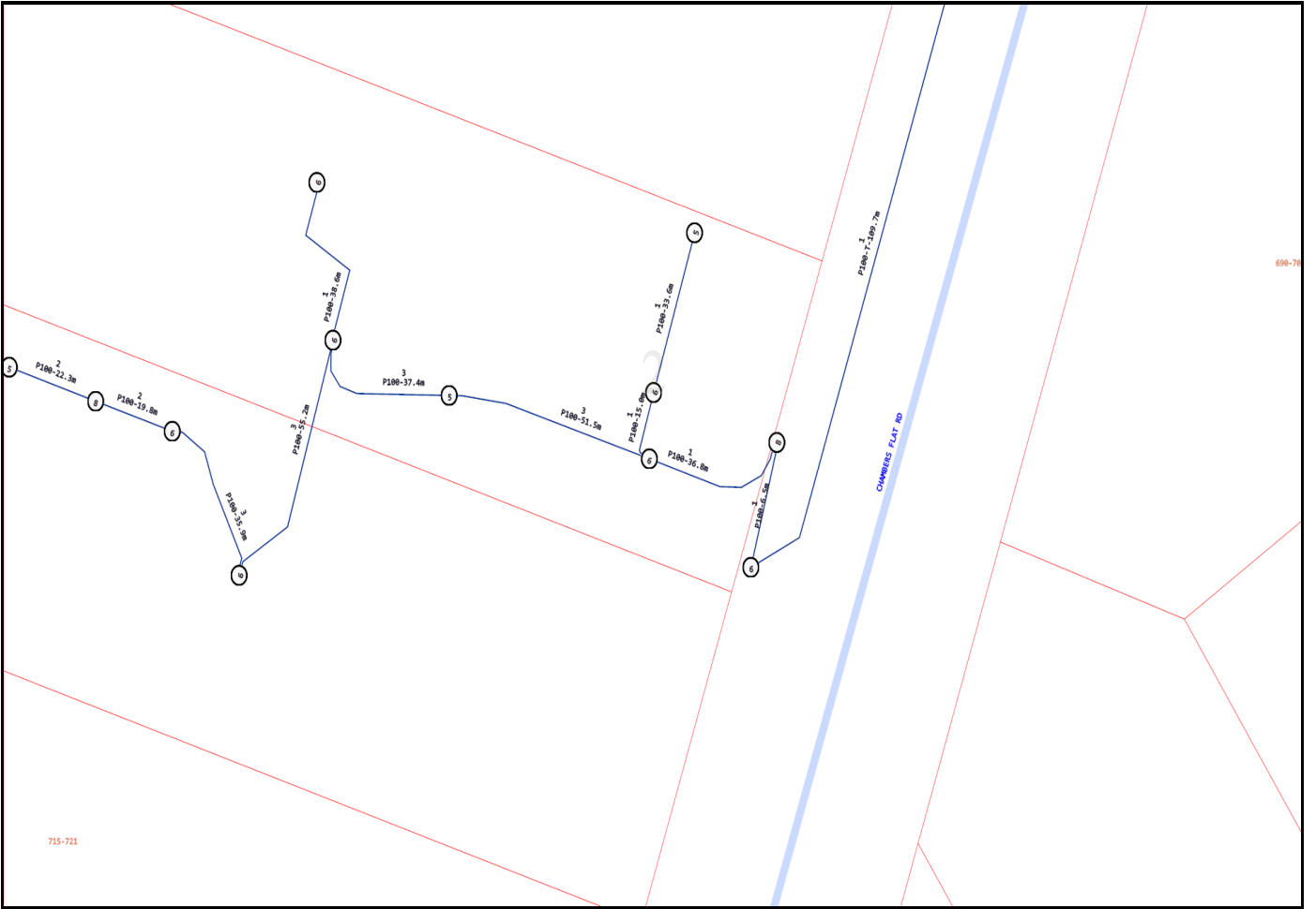


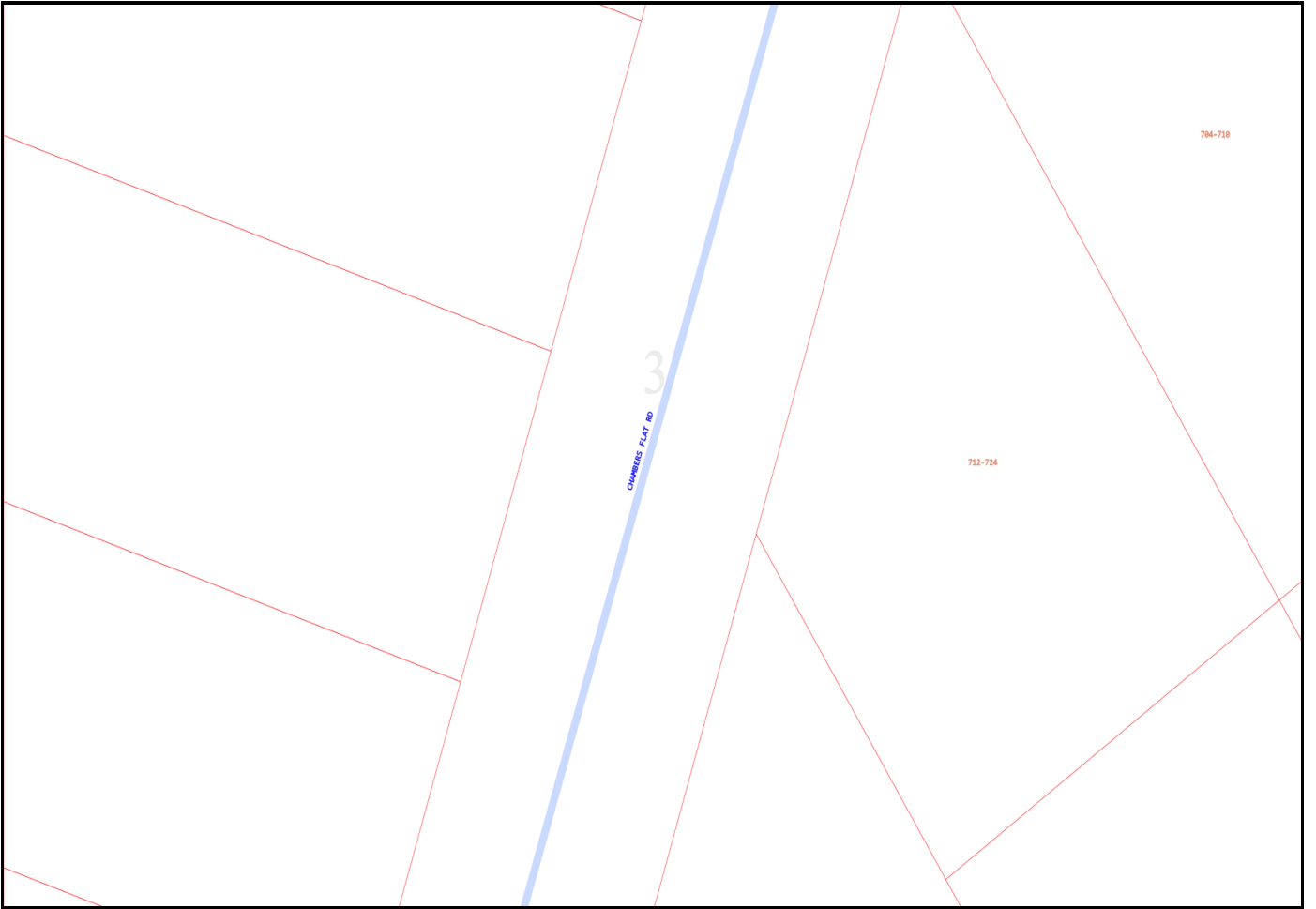
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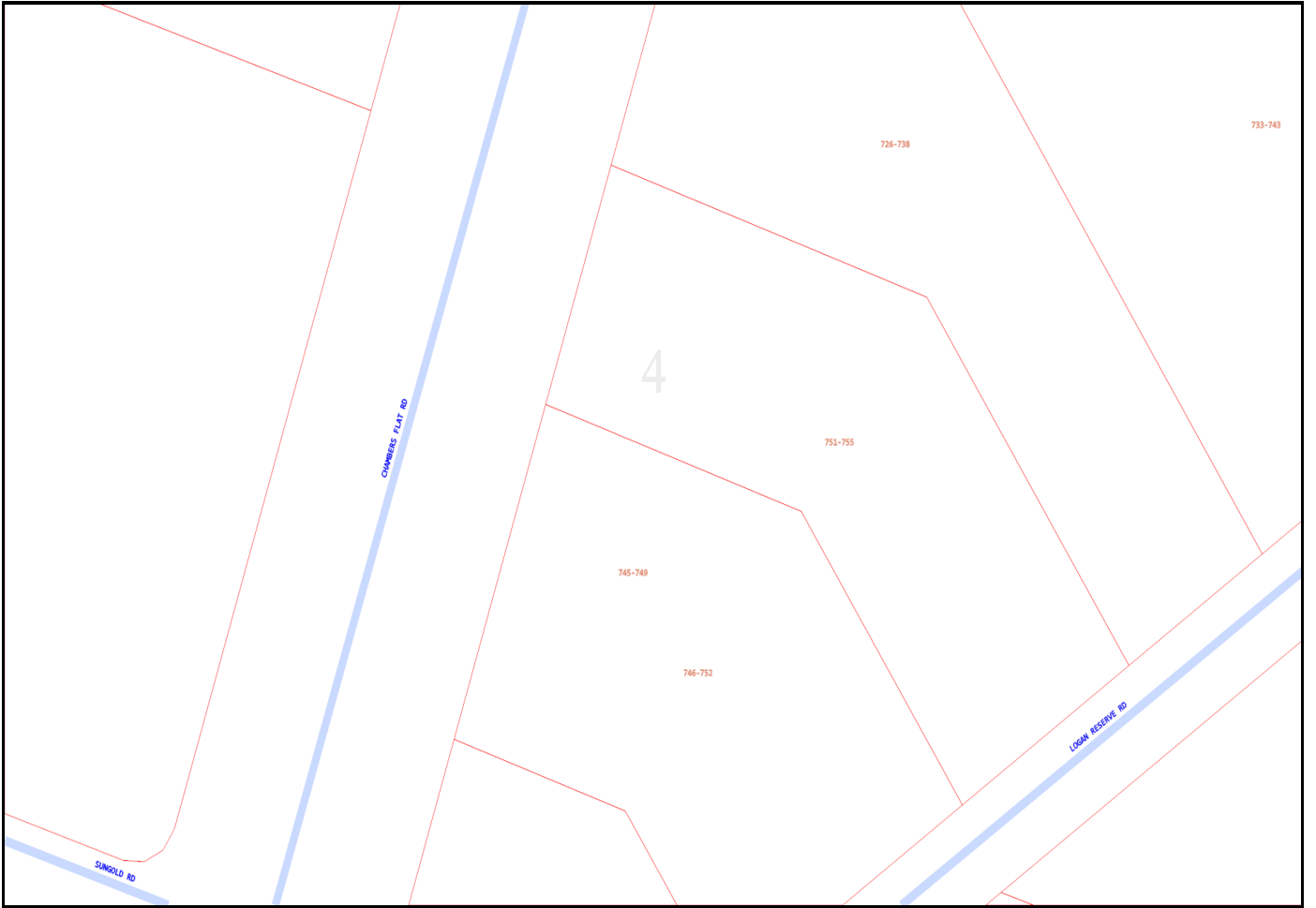


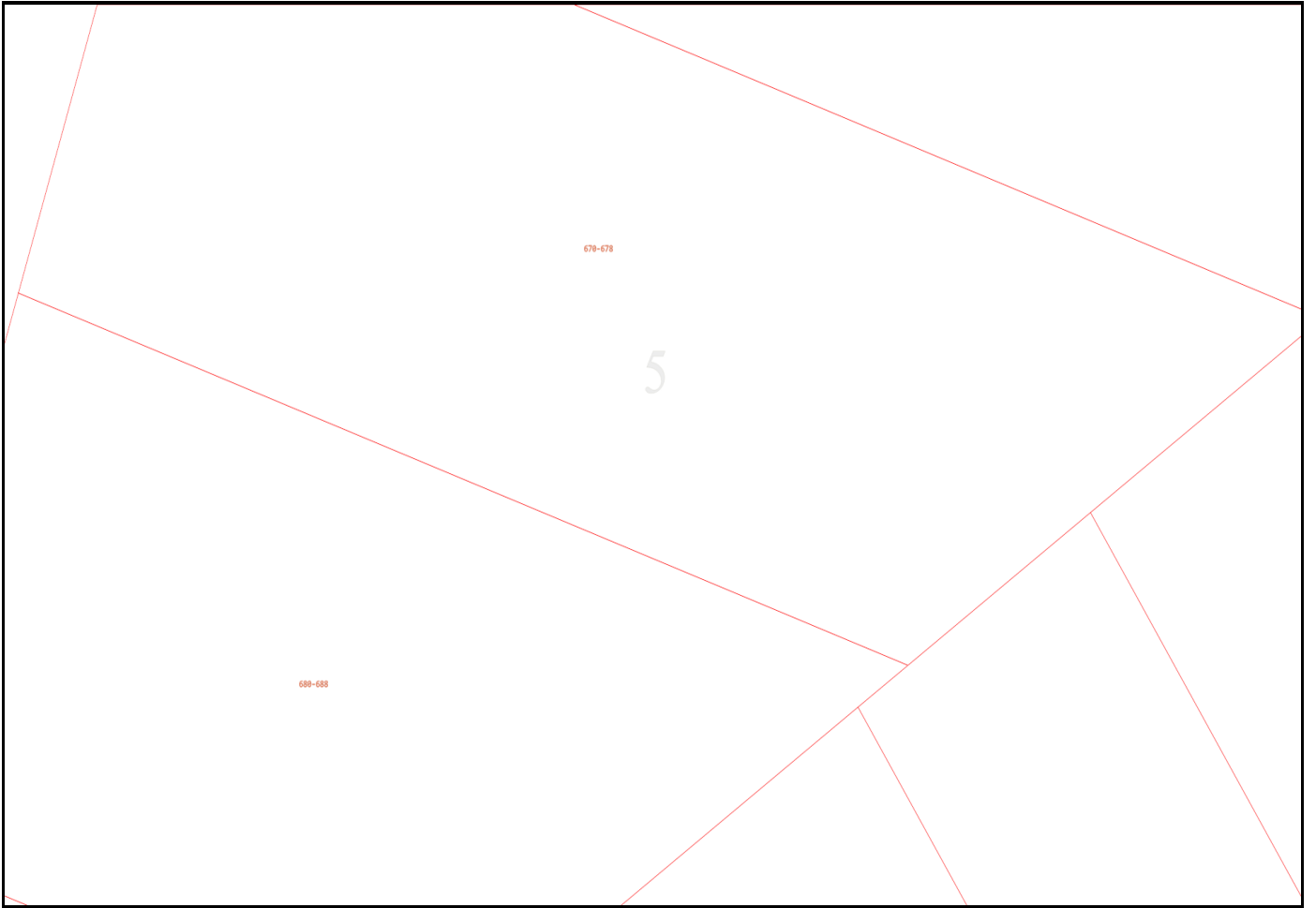
	Parcel and the location
	Pit with size "5"
	Power Pit with size "2E". Valid PIT Size: e.g. 2E, 5E, 6E, 8E, 9E, E, null.
	Manhole
	Pillar
	Cable count of trench is 2. One "Other size" PVC conduit (PO) owned by Telstra (-T-), between pits of sizes, "5" and "9" are 25.0m apart. One 40mm PVC conduit (P40)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

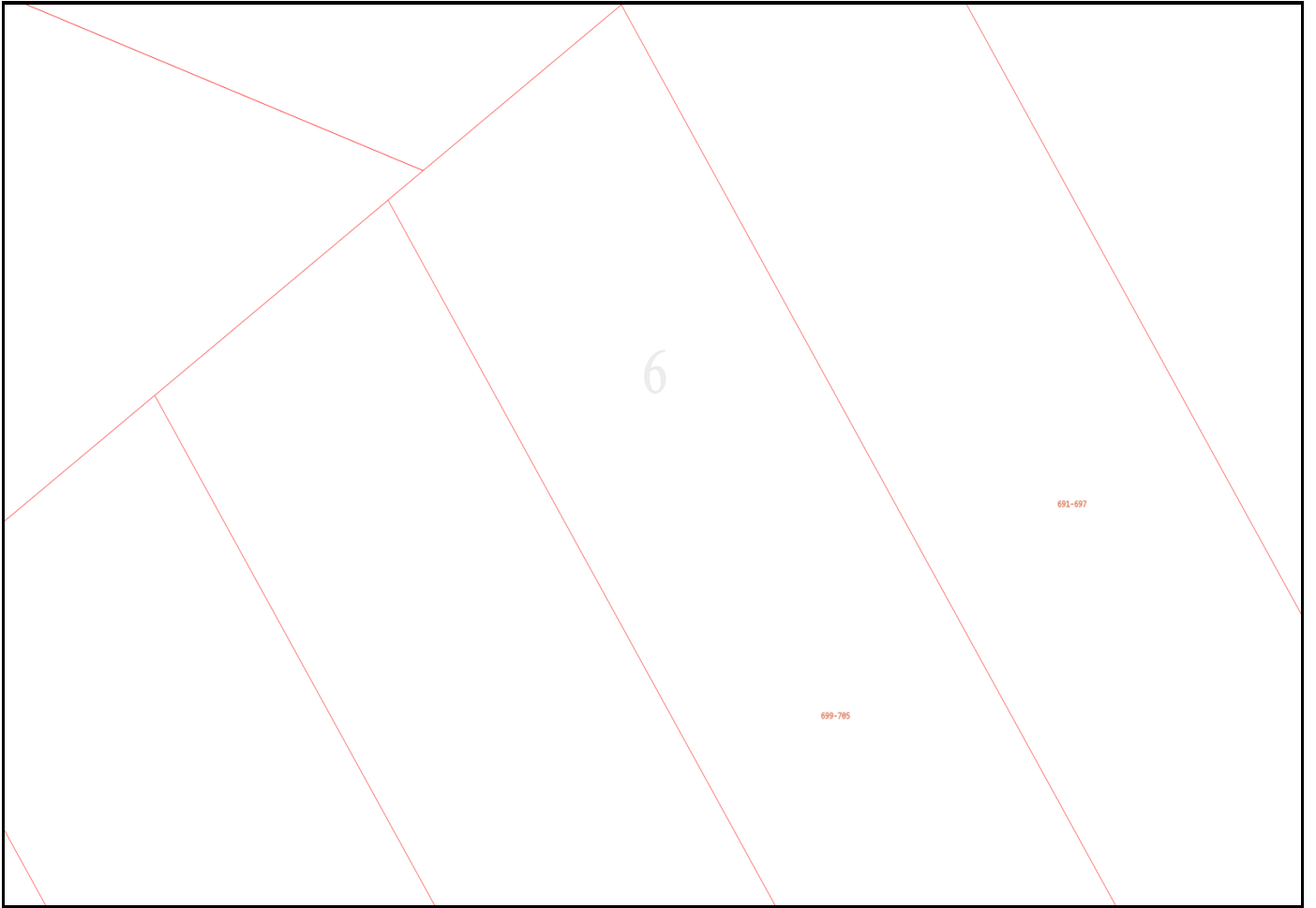


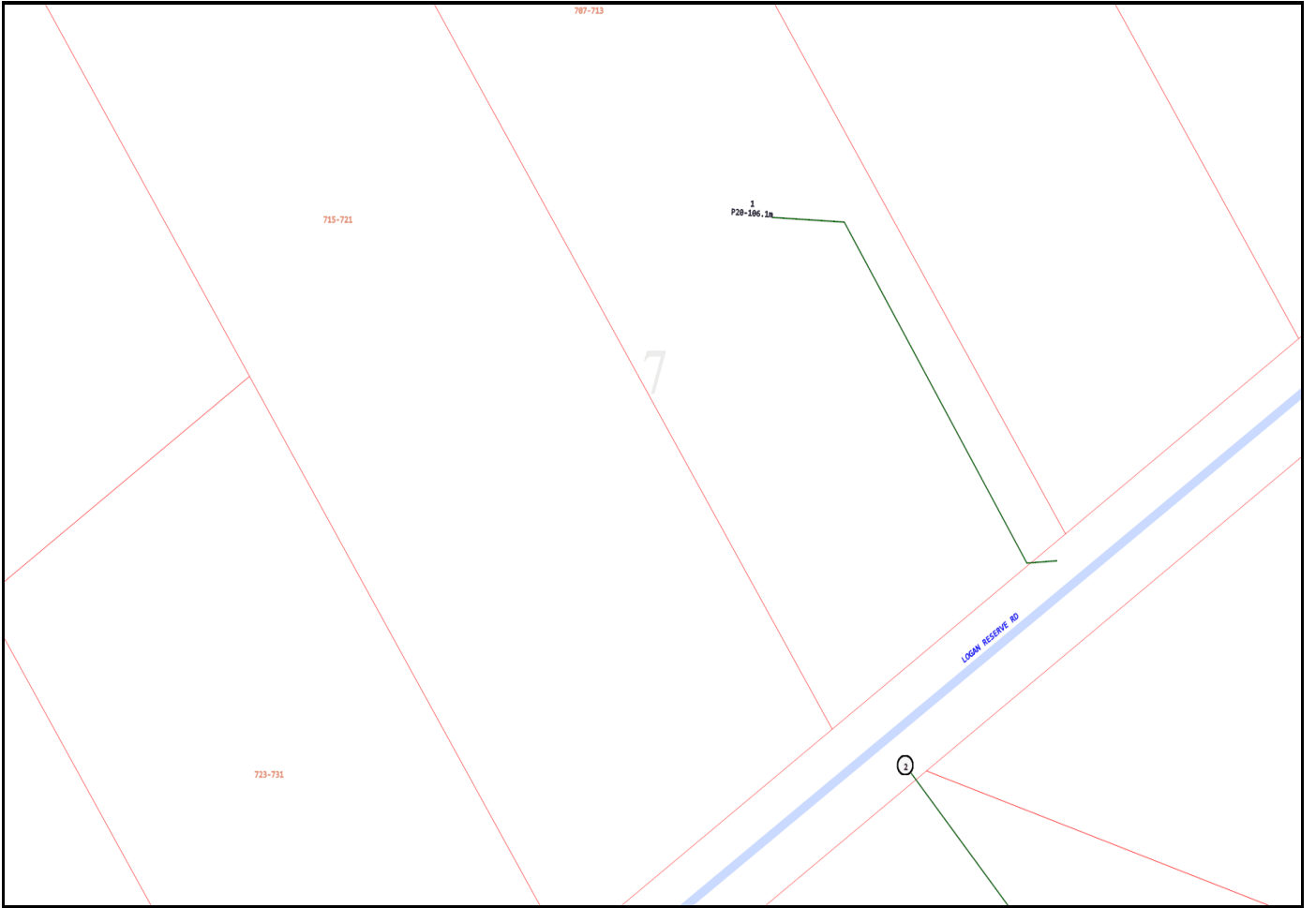


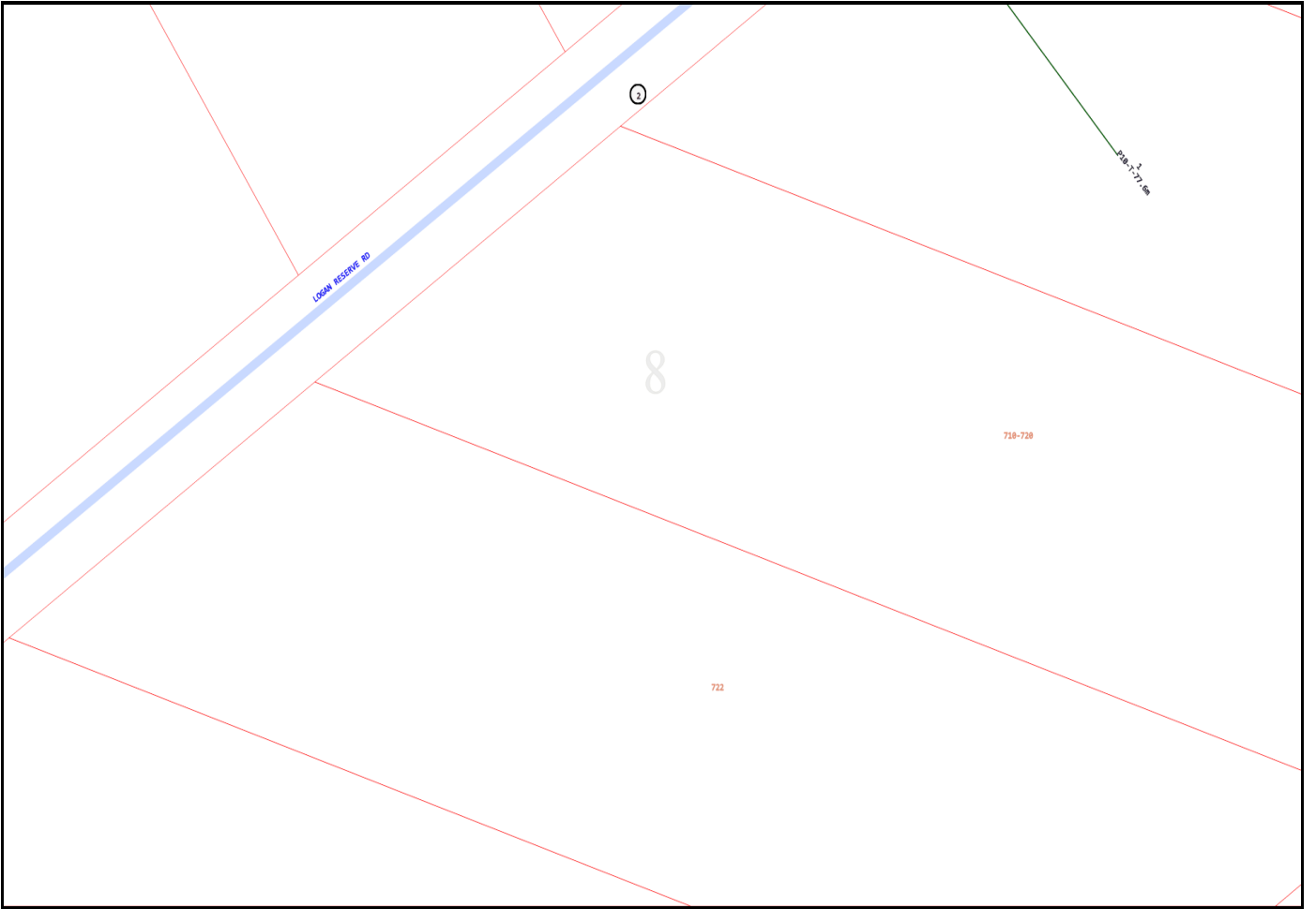


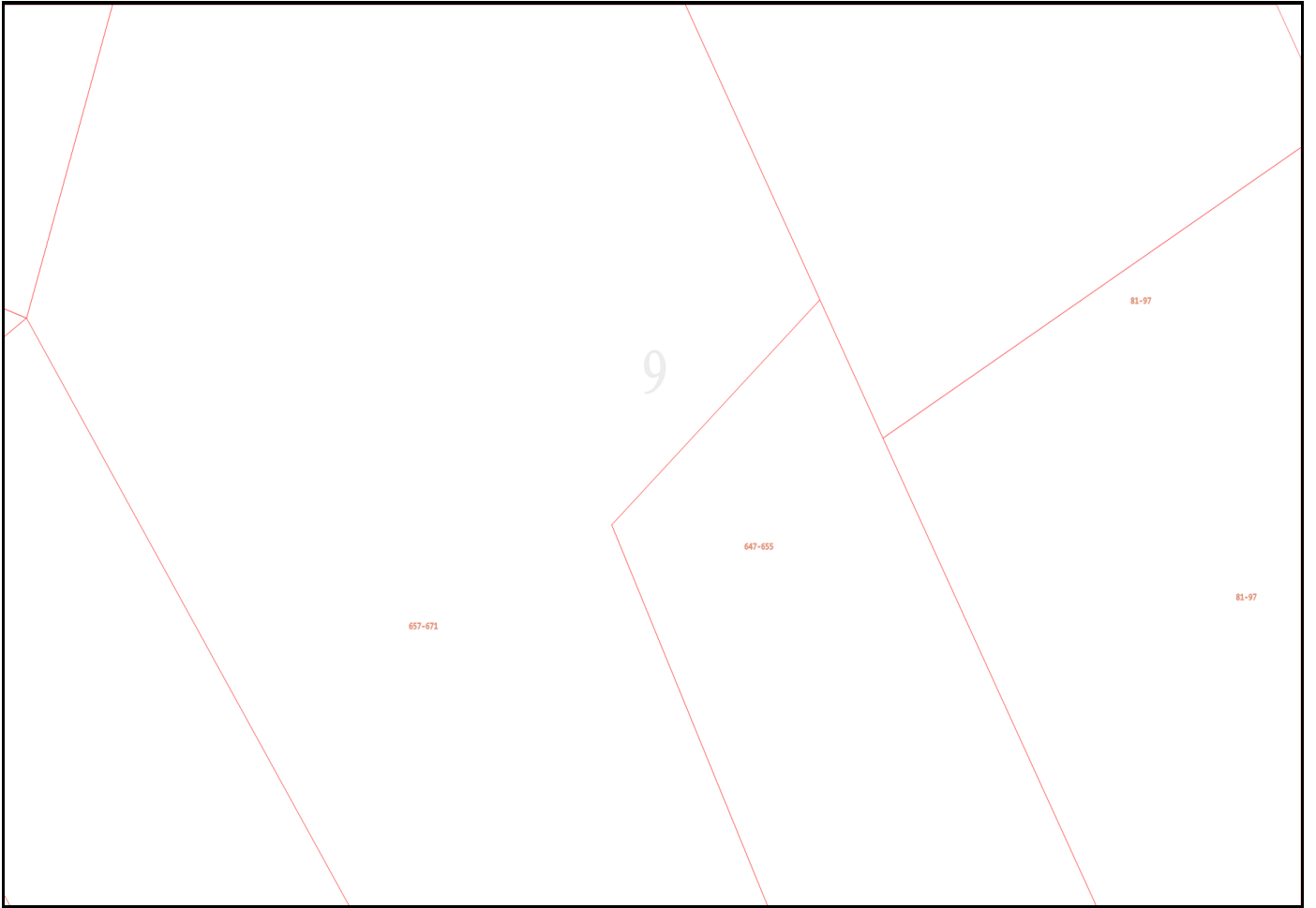


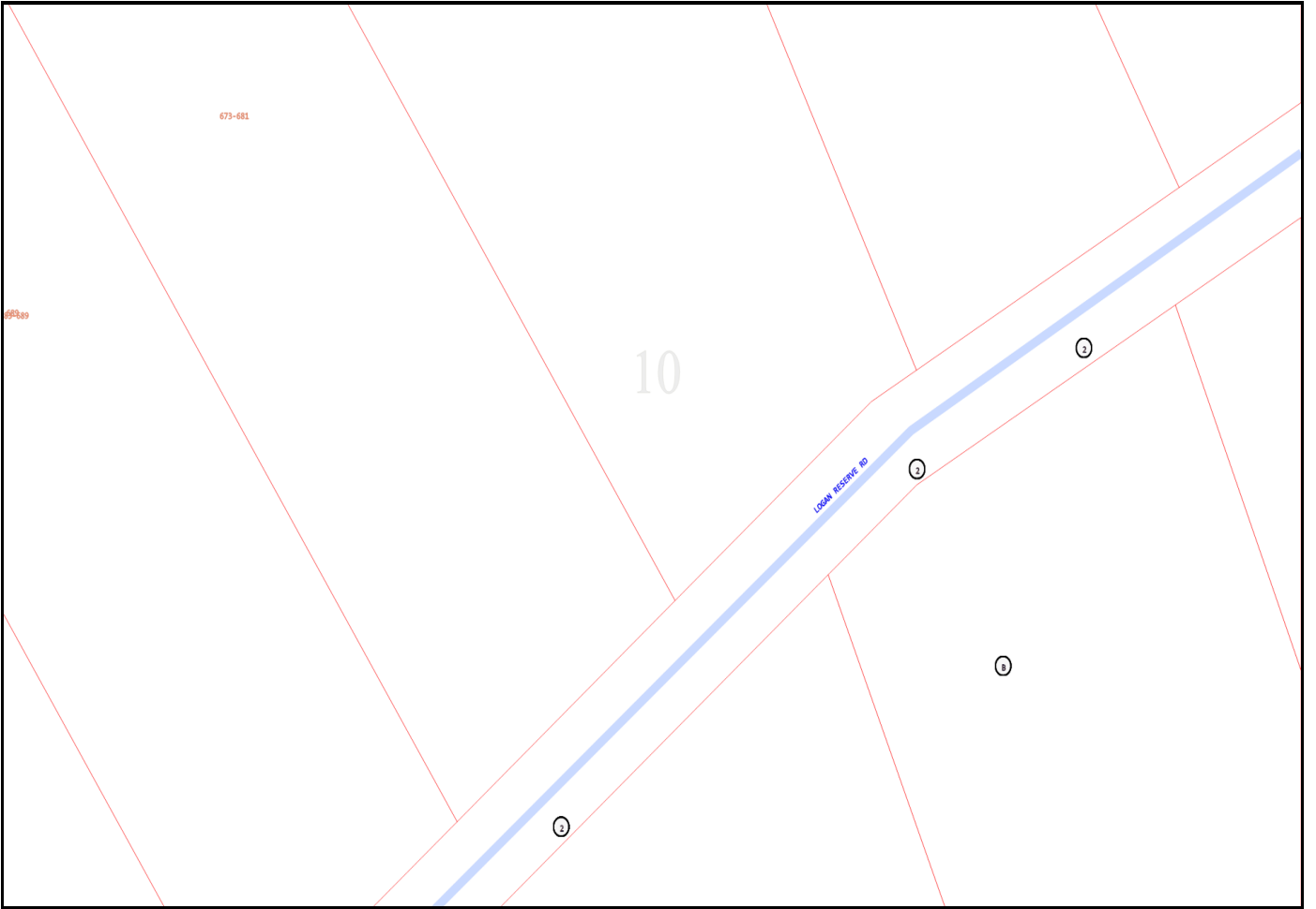


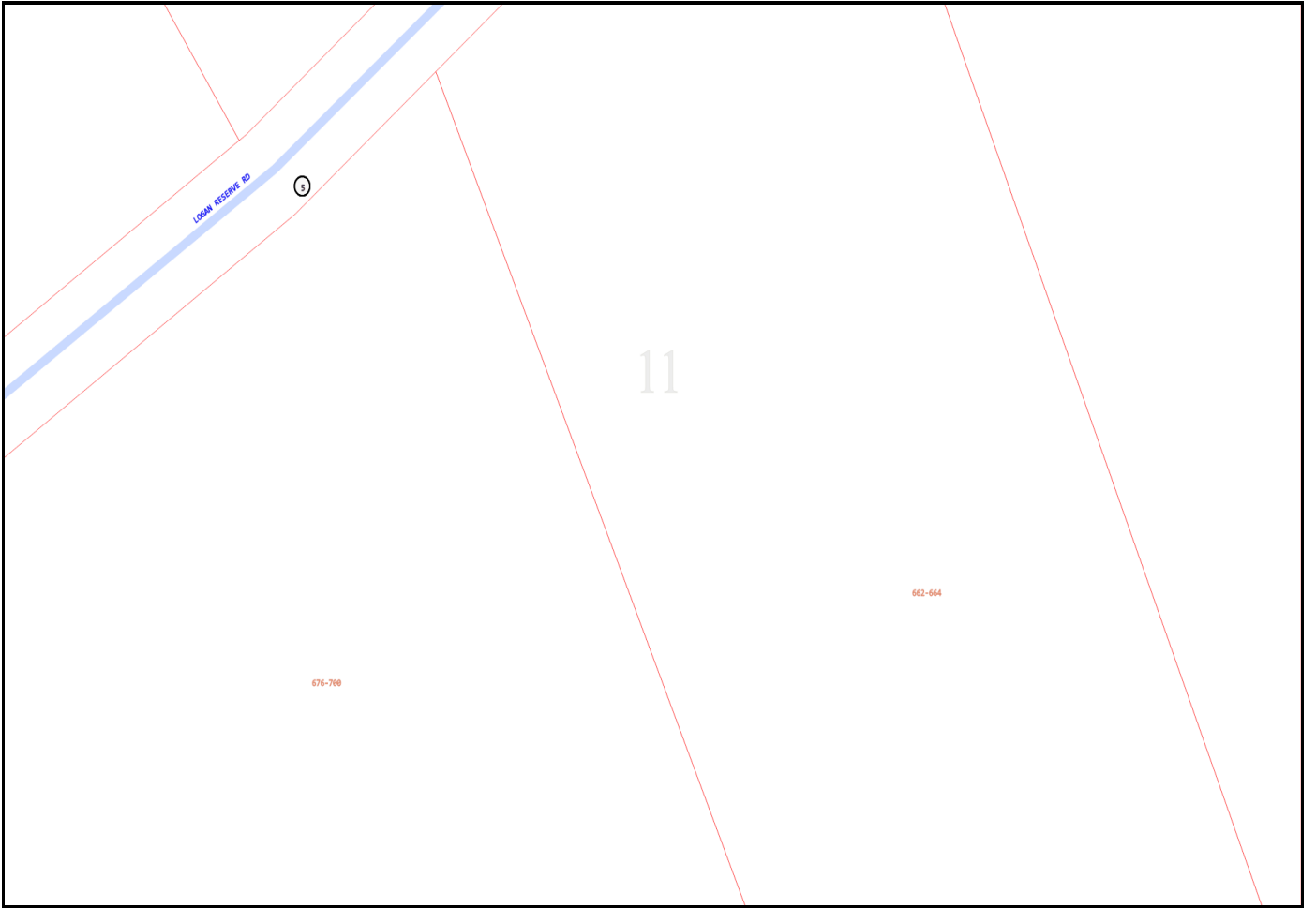


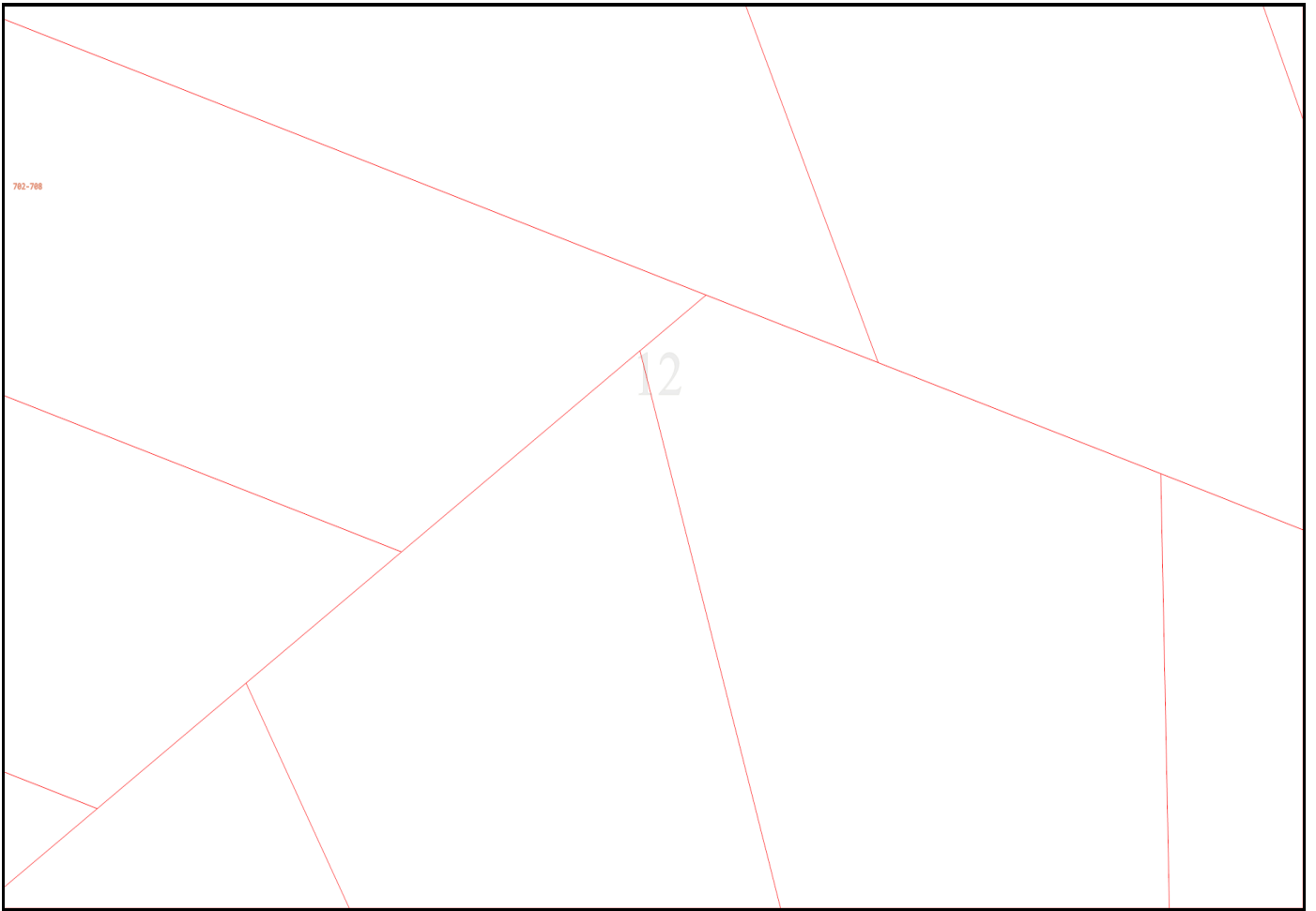










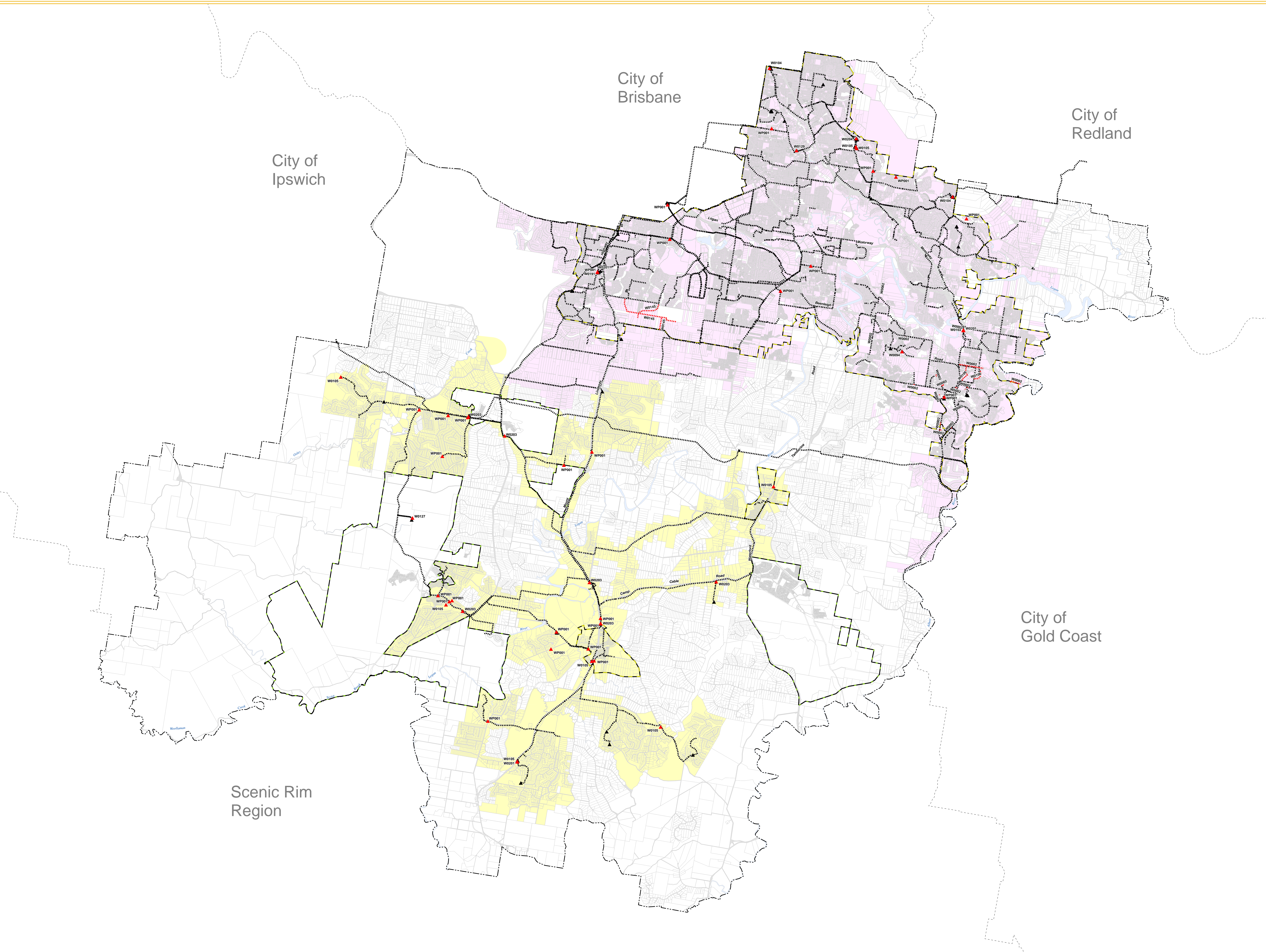


Emergency Contacts

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

APPENDIX C

LCC OVERLAY MAPS



Existing trunk infrastructure

- ▲ Existing water facilities
- Existing water mains

Future trunk infrastructure

- Future pump stations, flow meters, water quality monitoring, reservoir, chlorine dosing and pressure management facilities
- ▲ Future water facilities
- Future water mains

Water service catchments

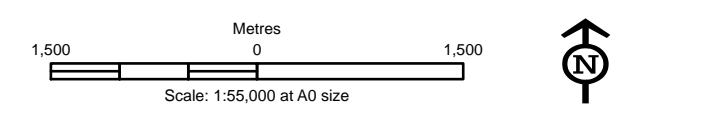
- Kuraby
- SRWP

Other features:

- Priority infrastructure area
- Priority development area
- Cadastre boundary
- Road
- Watercourse
- Logan LGA boundary

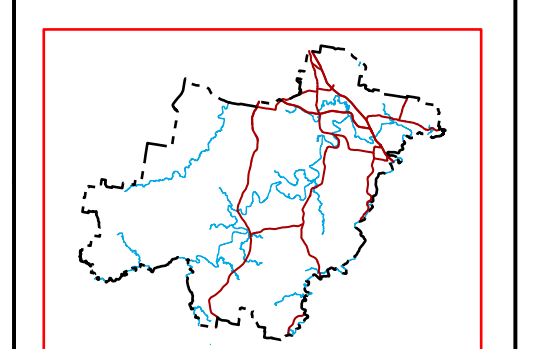
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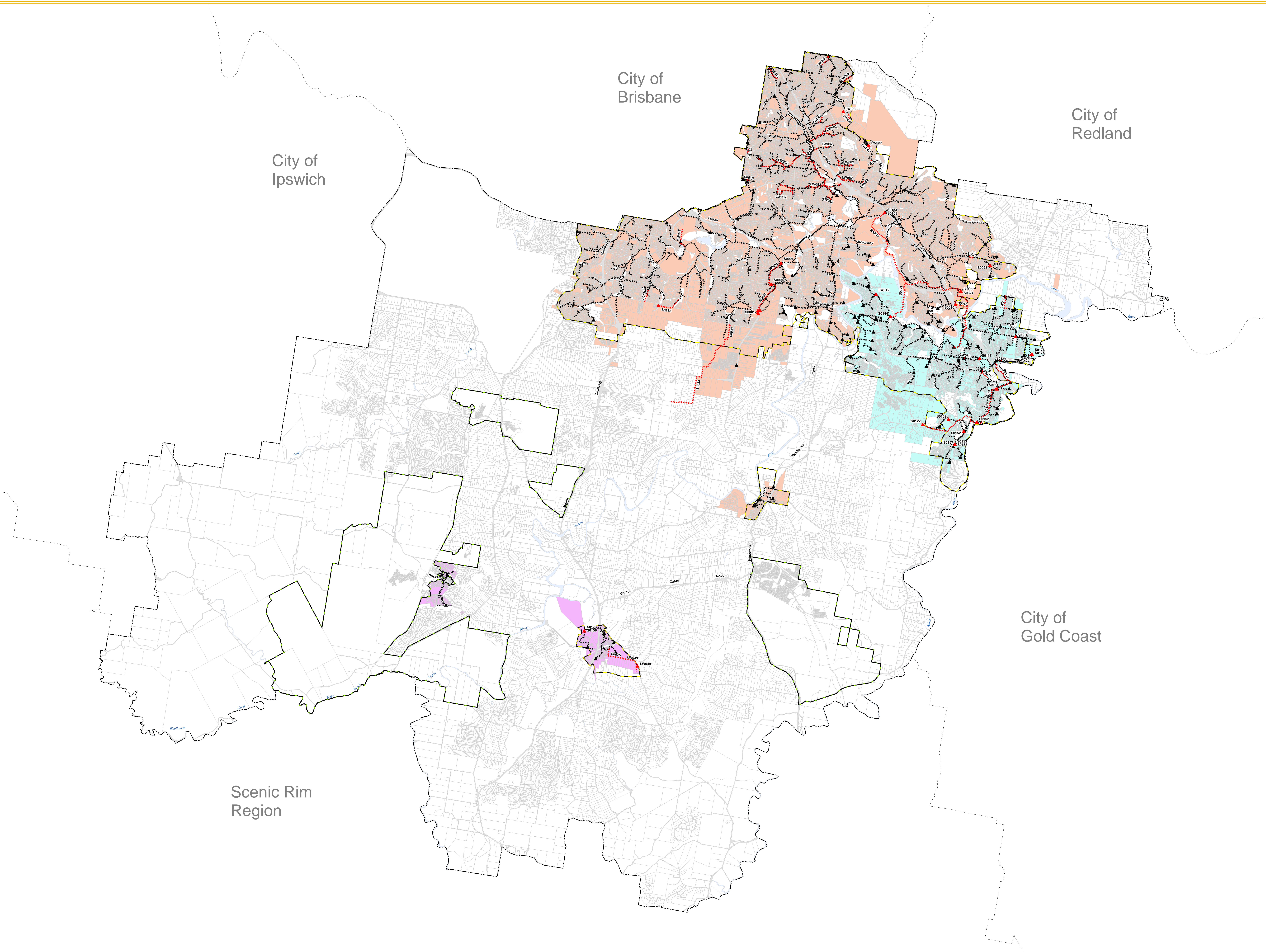
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Map Projection : Universal Transverse Mercator
Horizontal Datum : Geocentric Datum of Australia 2020
Grid : Map Grid of Australia, Zone 56

MAP SHEET REFERENCE:





Existing trunk infrastructure

- ▲ Existing sewerage facilities
- Existing sewerage mains

Future trunk infrastructure

Future pump systems, sewer optimisations, system upgrades, pump stations, gravity main upgrades, conveyance projects and water treatment plants

- Future wastewater mains

Sewerage service catchments

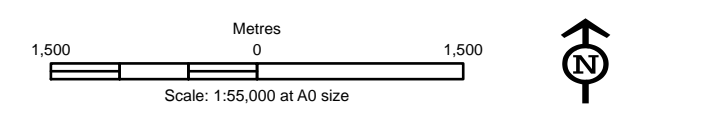
- Beenleigh
- Logan South
- Loganholme

Other features:

- Priority infrastructure area
- Priority development area
- Cadastre boundary
- Road
- Watercourse
- Logan LGA boundary

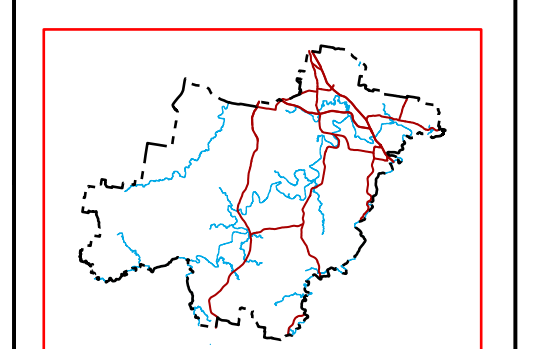
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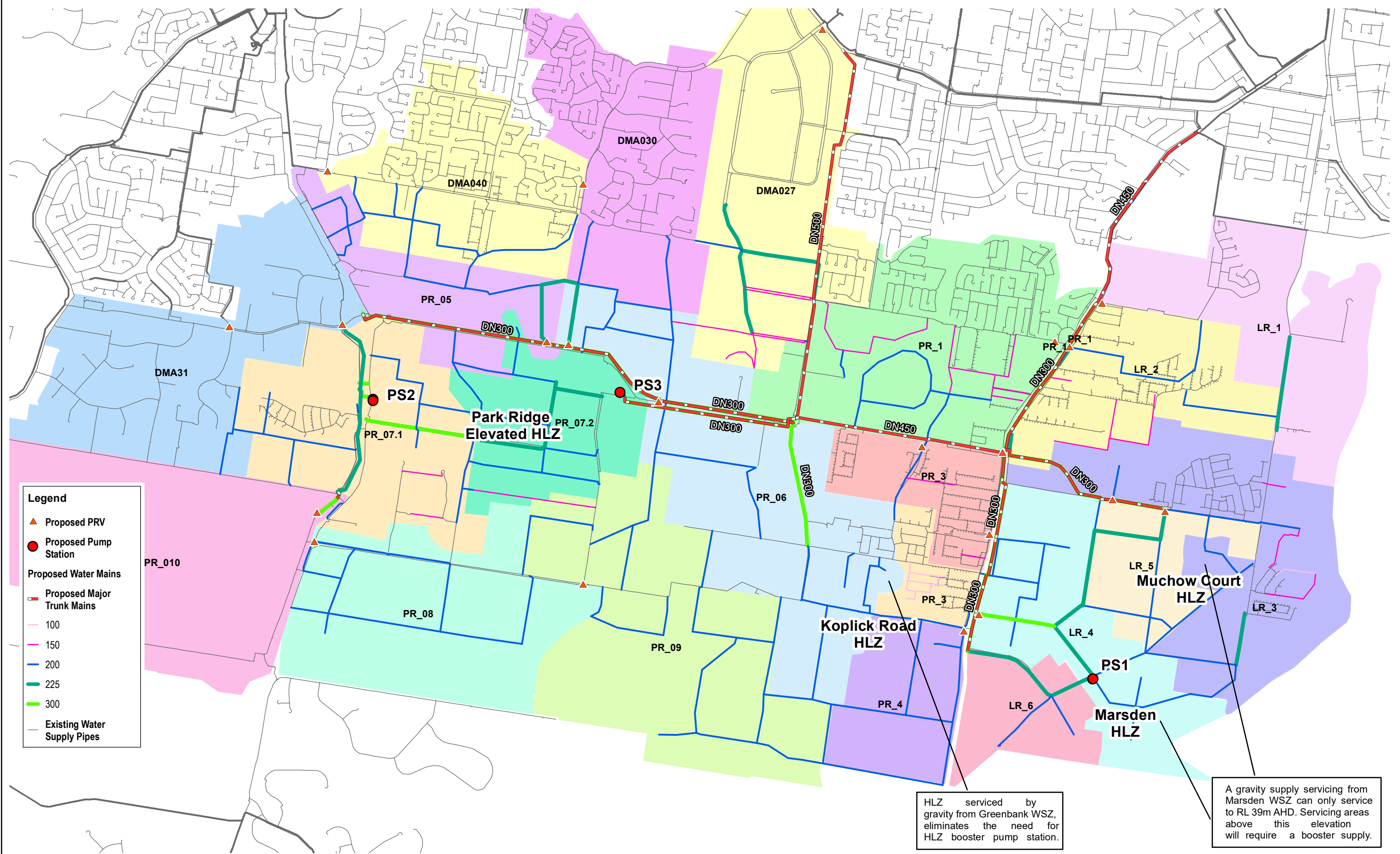
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Map Projection : Universal Transverse Mercator
Horizontal Datum : Geocentric Datum of Australia 2020
Grid : Map Grid of Australia, Zone 56

MAP SHEET REFERENCE:





Legend

- ▲ Proposed PRV
- Proposed Pump Station
- Proposed Water Mains
- Proposed Major Trunk Mains
- 100
- 150
- 200
- 225
- 300
- Existing Water Supply Pipes

HLZ serviced by gravity from Greenbank WSZ, eliminates the need for HLZ booster pump station.

A gravity supply servicing from Marsden WSZ can only service to RL 39m AHD. Servicing areas above this elevation will require a booster supply.

Project Manager:	PS
Designed By:	PS
Drawn By:	HC
Date:	10/06/2020

LoganWIA References	Project No:
	PI-258
Sheet Size:	A3
Datum:	GDA 1994 MGA Zone 56



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Project: PI-258 - ParkRidge and Logan Reserve Water Supply Detailed Planning

Project Description:
Ultimate Infrastructure by Diameter

LoganWIA Figure No:
2 of 3

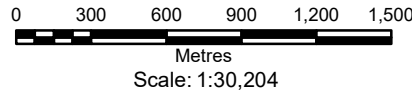
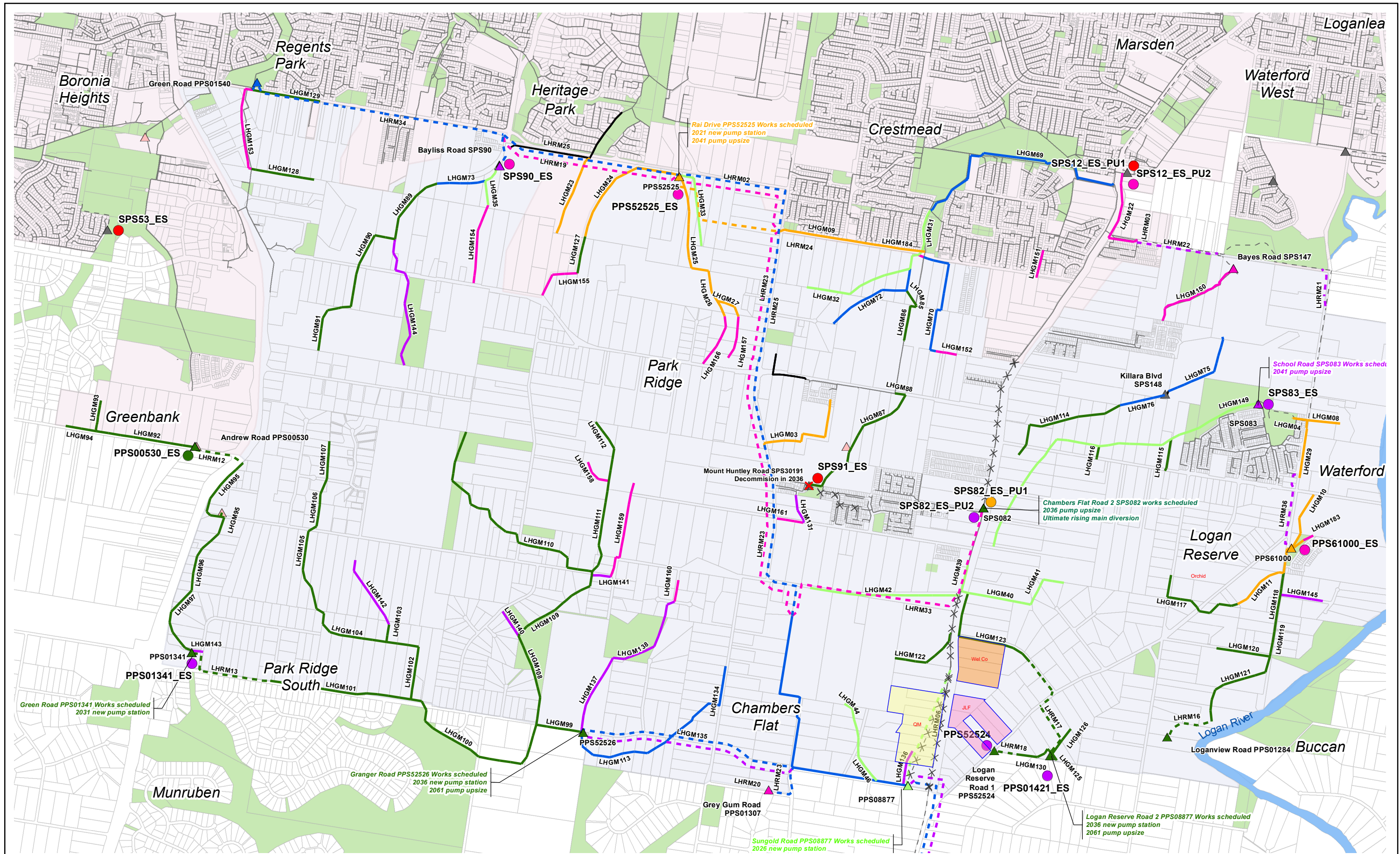


Figure No: 2
Rev: A



Project Manager:
M.P.
Designed By:
I.M. & M.S.
Drawn By:
H.C.
Date:
23/07/2019

LoganWIA References
Project No:
PI-215
Sheet Size:
A3
Datum:
GDA 1994 MGA Zone 56



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Legend

Watercourse	2018 Infrastructure Existing	Rising Main to be Decommissioned	Pump Station 2021	Rising Main 2021	Gravity Main 2021
Parks	2021 Infrastructure Existing	Under Construction	2026	2026	2031
Service Boundaries	2036 Infrastructure Existing	2018/19 SDO	2031	2036	2036
Loganholme Existing	2041 Infrastructure Existing	Gravity Mains Proposed	2041	2041	2041
Park Ridge	2061 Infrastructure Existing		2061	2061	2061
	2061 Infrastructure Existing				

Project: Loganholme - Wastewater Master Planning 2019
Project Description: Loganholme - Wastewater Master Planning 2019

0 200 400 600 800 1,000
Metres
Scale: 1:26,000

LoganWIA Figure No:
PI_215_Loganholme
Figure No:
Sheet of
Rev:
1

APPENDIX D

LOGAN CITY COUNCIL DEVELOPMENT CODES

9.4.3 Infrastructure code

9.4.3.1 Application

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

9.4.3.2 Purpose

1. The purpose of the code is to ensure that infrastructure is provided to service development.
2. The purpose of the code will be achieved through the following overall outcomes:
 - a. development protects the existing infrastructure and planned infrastructure networks being the:
 - i. movement network;
 - ii. park network;
 - iii. water network;
 - iv. sewerage network;
 - v. stormwater network;
 - vi. other networks including electricity, gas and telecommunications;
 - vii. land for community facilities network;
 - b. development other than operational work provides infrastructure that is necessary to service the development, including elements of:
 - i. a safe, efficient and legible road network;

- ii. a safe, efficient and legible public transport network;
- iii. a safe, efficient and legible cycle network; iv. a safe, efficient and legible pedestrian network;
- v. a safe, efficient and legible parks network;
- vi. a safe and efficient water network;
- vii. a safe and efficient sewerage network;
- viii. a safe and efficient stormwater network; ix. safe and efficient other networks including electricity, gas and telecommunications;
- x. a safe and efficient road lighting network;
- xi. land for a community facilities network;
- c. development integrates with existing and planned infrastructure networks;
- d. infrastructure is designed and constructed to deliver a standard of service that is efficient and equitable;
- e. the cost to the community for the life of the infrastructure is minimised by providing for a suitable design life, ease of maintenance and ease of replacement;
- f. infrastructure protects personal health and safety and premises;
- g. infrastructure protects environmental values.

9.4.3.3 Assessment benchmarks for assessable development and requirements for accepted development

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

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

Performance outcomes	Acceptable outcomes	Comments
For accepted development (subject to requirements) and assessable development		
Provision, design, construction and location of infrastructure		
<p>PO1 Development is demonstrated to be capable of being serviced by necessary infrastructure.</p>	<p>AO1 Reports, plans and drawings are provided in accordance with part 2 of planning scheme policy 5—Infrastructure.</p>	<p>AO1 – COMPLIES The development is able to be adequately serviced with all necessary engineering services, including sewer, water, stormwater drainage, electrical and telecommunication infrastructure. The Engineering Services Report, reference F0001-30105783-AAR by Arcadis should be referred to for further details.</p>

Performance outcomes	Acceptable outcomes	Comments
<p>PO2 Development:</p> <ul style="list-style-type: none"> a. provides necessary infrastructure to service the development; b. provides that the design, construction and location of necessary infrastructure: <ul style="list-style-type: none"> i. protects existing and planned infrastructure networks; ii. services proposed development; iii. integrates with existing and planned infrastructure networks; iv. delivers a standard of service that is efficient and equitable; v. minimises the cost to the community for the life of the infrastructure by providing a suitable design life, ease of maintenance and ease of replacement; vi. protects personal health, safety and premises; vii. protects environmental values. 	<p>AO2 Development:</p> <ul style="list-style-type: none"> a. in a water supply service area connects to the water network in accordance with the SEQ Water Supply and Sewerage Design and Construction Code; b. not in a water supply service area provides a tank with a minimum storage capacity of 45,000 litres; c. in a sewerage supply service area connects to the waste water network in accordance with the SEQ Water Supply and Sewerage Design and Construction Code; d. not in a sewerage supply service area complies with part 1 of the Queensland Plumbing and Wastewater Code; e. provides stormwater infrastructure in accordance with part 3.6 of planning scheme policy 5–Infrastructure; f. provides a movement network infrastructure in accordance with part 3.4 of planning scheme policy 5–Infrastructure; g. provides parks in accordance with part 3.12 of planning scheme policy 5–Infrastructure; h. provides road lighting in accordance with part 3.5 of planning scheme policy 5–Infrastructure; 	<p>AO2 – COMPLIES The development shall make connection to Council’s existing water and sewer supply services in accordance with the SEQ Code. The Engineering Services Report, reference F0001-30105783-AAR by Arcadis should be referred to for further details.</p>

Performance outcomes	Acceptable outcomes	Comments
	<ul style="list-style-type: none"> i. provides electricity reticulation in accordance with part 3.8 of planning scheme policy 5—Infrastructure; j. provides gas and telecommunications reticulation in accordance with part 3.9 of planning scheme policy 5—Infrastructure. <p>Editor's note—The delivery of any part of a network identified in the plans for trunk infrastructure is governed by Part 4—Local government infrastructure plan.</p>	
Location of development		
<p>PO3 Development is located to protect existing and planned infrastructure networks.</p>	<p>AO3 Development is located outside:</p> <ul style="list-style-type: none"> a. planned widening of a road or a new road identified in Table 7.3.1.1—Road encroachment maps of planning scheme policy 5—Infrastructure; b. planned public transport network identified on Figure 3.4.1.3.1—Public transport network in planning scheme policy 5—Infrastructure; c. a planned cycle network identified on Figure 3.4.1.2.1—Cycle network in planning scheme policy 5—Infrastructure; d. a planned network identified in Local government infrastructure plan map—LGIP07.00 Plan for trunk parks infrastructure in Schedule 3 – Local government infrastructure plan mapping and tables. 	<p>AO3 – NOT APPLICABLE</p>

Performance outcomes	Acceptable outcomes	Comments
Fire fighting		
<p>PO4</p> <p>Development in a water service area accessed by common private title provides:</p> <ul style="list-style-type: none"> a. fire hydrant infrastructure; b. unimpeded access for emergency services vehicles. <p>Editor's note—The term common private title refers to areas such as access roads in community title developments or strata title unit access, which are private and under group or body corporate control.</p>	<p>AO4</p> <p>Development in a water service area accessed by common private title complies with the Acceptable outcomes of the SPP code: Fire services in developments accessed by common private title in Appendix 1 of the state planning policy.</p>	<p>PO4 – NOT APPLICABLE</p> <p>The development does not propose any common private titles.</p>
<p>PO5</p> <p>Development not in a water service area provides sufficient water storage with adequate pressure, volume and flow to service development for fire fighting purposes.</p>	<p>AO5</p> <p>Development:</p> <ul style="list-style-type: none"> a. is connected to a reticulated water supply scheme that has sufficient flow and pressure characteristics for fire fighting purposes at all times with a minimum pressure and flow of 10 litres per second at 200kPa; or b. has an on-site water storage in accordance with Table 9.4.3.3.2—Water storage for fire fighting, dedicated or retained for fire fighting purposes that is made of fire resistant materials and is: <ul style="list-style-type: none"> i. a separate tank; or ii. a reserve section in the bottom part of the main water supply tankwater tank . <p>Editor's note—The requirement in AO5 is;</p> <ul style="list-style-type: none"> - in addition to the requirement for potable watersupply/storage in AO2 in Table 9.4.3.3.1—Infrastructure code: accepted development (subject to requirements) and assessable development; 	<p>AO5 – COMPLIES</p> <p>The development will be connected to a reticulated water supply network which shall be designed to provide adequate levels of service for firefighting and property service demands.</p> <p>The Engineering Services Report, reference F0001-30105783-AAR by Arcadis should be referred to for further details.</p>

Performance outcomes	Acceptable outcomes	Comments
	<ul style="list-style-type: none"> - reflected in AO5 in Table 8.2.3.3.1–Bushfire hazardoverlay code: accepted development (subject to requirements) and assessable development. 	
Disposal of trade waste		
<p>P06</p> <p>The disposal of trade waste in a sewerage supply service area does not adversely affect the sewerage network.</p>	<p>A06</p> <p>The disposal of trade waste in a sewerage supply service area complies with the sewer admission standards in section 3.2.6–Sewer admission standards in planning scheme policy 3– Environmental management.</p>	<p>A06 – NOT APPLICABLE</p> <p>The development does not propose any sites which are to generate or dispose of trade waste.</p>
Roof water drainage and surface water drainage		
<p>P07</p> <p>Development provides stormwater infrastructure for the drainage of the premises so as not to cause any of the following:</p> <ul style="list-style-type: none"> a. ponding of stormwater on the premises; b. a hazard to personal health and safety; c. damage to premises; d. an increased risk of flooding to premises within the catchment. 	<p>A07</p> <p>Development complies with the standards for stormwater infrastructure specified in part 3.6 of planning scheme policy 5–Infrastructure.</p>	<p>A07 – COMPLIES</p> <p>The development proposes to maintain a similar drainage regime as the existing scenario. The site shall be free draining and is to incorporate bio-retention basins to treat stormwater and detention basins to mitigate stormwater discharge prior to leaving the site in accordance with Council’s planning scheme requirements.</p> <p>The Stormwater Management Plan, reference F0002-30105783-AAR by Arcadis, should be referred to for further details.</p>
Natural flow of surface water		

Performance outcomes	Acceptable outcomes	Comments
<p>PO8 Development provides that the natural flow of surface water is:</p> <ul style="list-style-type: none"> a. not altered so as to cause a risk to personal health and safety or damage to property; b. not increased in intensity, velocity or frequency; c. not concentrated onto adjoining premises. 	<p>AO8 Development complies with the standards for stormwater infrastructure specified in part 3.6 of planning scheme policy 5–Infrastructure.</p>	<p>AO8 – COMPLIES The development does not propose to significantly disturb the natural flow of surface water. The Stormwater Management Plan, reference F0001-30105783-AAR by Arcadis, should be referred to for further details.</p>
Water sensitive urban design		
<p>PO9 Development which provides stormwater infrastructure incorporates water sensitive urban design principles having regard to:</p> <ul style="list-style-type: none"> a. protecting existing natural features and ecological processes; b. protecting the natural hydrologic behaviour of catchments; c. protecting the existing natural flow and water quality regimes of waterways; d. protecting water quality of surface and ground waters; e. minimising demand on the water network; f. minimising sewage discharges to the natural environment; g. integrating water into the landscape to enhance visual and ecological values. 	<p>AO9 Development complies with the standards for stormwater infrastructure specified in part 3.6 of planning scheme policy 5–Infrastructure.</p>	<p>AO9 – COMPLIES The development proposes to manage stormwater quantity and quality through the use of bioretention basins and detention basins. These have been designed in accordance with QUDM, and Council guidelines. The Stormwater Management Plan, reference F0001-30105783AAR by Arcadis, should be referred to for further details.</p>

Performance outcomes	Acceptable outcomes	Comments
Movement network		
<p>PO10</p> <p>The projected traffic levels for a use do not adversely affect the planned standards of service for a road or intersection.</p>	<p>AO10</p> <p>Development does not cause or contribute to projected traffic levels:</p> <ul style="list-style-type: none"> a. exceeding the maximum vehicle trips per day in Table 3.4.1.4.2 in planning scheme policy 5—Infrastructure; or b. exceeding the maximum control delays through intersections in peak periods in Table 3.4.1.4.3 in planning scheme policy 5 —Infrastructure. 	<p>PO10 – COMPLIES</p> <p>The proposed internal road network shall be subject to detailed design, however the proposed uses are consistent with the planned area zoning. Refer Traffic Impact Assessment prepared by others.</p>
Integrated movement concept report		
<p>PO11</p> <p>Development which generates more than 3,000 vehicle trips per average weekday is designed to integrate the movement network to minimise the transportation costs required to service the use.</p>	<p>AO11</p> <p>Development which generates more than 3,000 vehicle trips per average weekday provides an integrated movement concept report which integrates the planning of the movement network in accordance with part 2 and 3 of planning scheme policy 5—Infrastructure.</p>	<p>PO11 – NOT APPLICABLE</p>
For assessable development only		
Land use and transport integration		
<p>PO12</p> <p>Development within 400 metres of existing or future public passenger transport facilities where the total site area is 5,000m² or more:</p> <ul style="list-style-type: none"> a. supports a road hierarchy which facilitates efficient, safe and accessible bus services connecting to existing and future public passenger transport facilities; 	<p>AO12</p> <p>No acceptable outcome provided.</p>	<p>PO12 – COMPLIES</p> <p>The proposed development will incorporate a road network which is designed and constructed in accordance with Council's guidelines. The road network will be designed to facilitate efficient, safe and accessible travel routes to support pedestrian and vehicle movements.</p>

Performance outcomes	Acceptable outcomes	Comments
<p>b. enhances connectivity between existing and future public passenger transport facilities and other transport modes;</p> <p>c. optimises the walkable catchment to existing and future public passenger transport facilities;</p> <p>d. provides for direct and safe access to and use of existing or future public passenger transport facilities.</p> <p>Note—SPP code: Land use and transport integration in Appendix 4 of the state planning policy provides guidance to achieve this outcome.</p>		

Table 9.4.3.3.2—Water storage for fire fighting

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

Part 9 Development codes

9.4 Other development codes

9.4.2 Filling and excavation code

9.4.2.1 Criteria for assessment

Part A—Criteria for self-assessable and assessable development

Table 9.4.2.1.1—Filling and excavation code: self-assessable and assessable development

Performance outcomes	Acceptable outcomes	Comments
For self-assessable and assessable development		
Protection of natural processes and ecosystems		
<p>PO1 The discharge of sediments and pollutants from filling or excavation does not adversely affect a waterway or the stormwater network.</p>	<p>AO1 The discharge of sediments and pollutants to a waterway or stormwater network complies with part 3.3—Filling and excavation standards in planning scheme policy 5—Infrastructure.</p>	<p>AO1 – COMPLIES The development site shall incorporate drainage, sediment, erosion and dust control measures to ensure works undertaken on site do not adversely affect the downstream waterway and stormwater network.</p> <p>Preliminary sediment and erosion control plans are provided in the Site Based Stormwater Management Plan, reference F0002-30105783-AAR by Arcadis, and should be referred to for further details.</p>

Performance outcomes	Acceptable outcomes	Comments
<p>PO2 Topsoil and spoil stockpiled on the premises do not adversely affect natural processes and ecosystems.</p>	<p>AO2 Topsoil and spoil is stockpiled to comply with part 3.3–Filling and excavation standards in planning scheme policy 5–Infrastructure.</p>	<p>AO2 – COMPLIES Topsoil and spoil shall be stockpiled in select locations around the site during construction. Appropriate measures, including sediment and erosion control shall be implemented to ensure the stockpiling of such materials does not adversely affect natural processes and ecosystems.</p>
<p>PO3 Filling is carried out using stable, solid and clean earth, free of organic and putrescible waste, rubbish and refuse material.</p>	<p>AO3 Filling complies with part 3.3–Filling and excavation standards in planning scheme policy 5–Infrastructure.</p>	<p>AO3 – COMPLIES Filling on site shall be carried out using stable, solid and clean materials. It is expected that Level 1 geotechnical supervision shall be undertaken during the earthworks phase.</p>
Protection of existing and planned infrastructure		
<p>PO4 Filling or excavation works do not adversely affect infrastructure, including any services.</p>	<p>AO4 Filling or excavation works comply with part 3.3–Filling and excavation standards in planning scheme policy 5–Infrastructure.</p>	<p>AO4 – COMPLIES All earthworks conducted on site shall be undertaken in a manner which protects any existing or proposed infrastructure and services in accordance with the standards in planning scheme policy 5–Infrastructure.</p>
Protection and enhancement of personal health and safety and premises		
<p>PO5 Filling or excavation works do not adversely affect personal health and safety.</p>	<p>AO5 Filling or excavation works comply with part 3.3–Filling and excavation standards in planning scheme policy 5–Infrastructure.</p>	<p>AO5 – COMPLIES All earthworks conducted on site shall be undertaken in a safe manner, with appropriate work place health and safety measures being implemented.</p>

Performance outcomes	Acceptable outcomes	Comments
Surface water flow		
<p>PO6 Surface water drainage does not cause any of the following:</p> <ul style="list-style-type: none"> (a) ponding on any premises; or (b) a hazard or adversely affect personal health and safety and premises; or (c) diversion or concentration of flow from or onto adjoining premises or infrastructure. 	<p>AO6 Surface water drainage complies with part 3.3– Filling or excavation standards in planning scheme policy 5–Infrastructure.</p>	<p>AO6 – COMPLIES The development proposes to maintain a similar drainage regime as the existing scenario. The site shall be free draining and is to incorporate combined bioretention/detention basins to treat and detain stormwater prior to discharging from the site in accordance with Council’s planning scheme requirements.</p> <p>The Site Based Stormwater Management Plan, reference F0001-30105783-AAR by Arcadis, should be referred to for further details.</p>
Batters		
<p>PO7 A batter:</p> <ul style="list-style-type: none"> (a) does not adversely affect the natural physical processes and ecosystems; (b) protects existing and planned infrastructure; (c) is safe, stable and easily maintained; (d) is landscaped to enhance visual amenity. 	<p>AO7 A batter is designed and constructed to comply with the standards specified in section 3.3.6– Batters and retaining walls in planning scheme policy 5–Infrastructure.</p>	<p>AO7 – COMPLIES Batters shall be designed and constructed to comply with the standards specified in section 3.3.6–Batters and retaining walls in planning scheme policy 5–Infrastructure.</p> <p>The final design shall be submitted to Council for approval as part of a future development application.</p>
Retaining walls		
<p>PO8 A retaining wall:</p> <ul style="list-style-type: none"> (a) is not constructed of timber and are not located on existing or proposed lot boundaries, or movement networks; 	<p>AO8 A retaining wall is designed and constructed to comply with the standards specified in section 3.3.6.2–Retaining walls in planning scheme policy 5–Infrastructure.</p>	<p>AO8 – COMPLIES Batters shall be designed and constructed to comply with the standards specified in section 3.3.6–Batters and retaining walls in planning scheme policy 5–Infrastructure.</p>

Performance outcomes	Acceptable outcomes	Comments
<ul style="list-style-type: none"> (b) does not adversely affect the natural physical processes and ecosystems; (c) is located to avoid conflict with adjoining premises; (d) is located such that existing and planned infrastructure is not adversely affected; (e) protects the visual amenity of adjoining premises or a public open space; (f) is located within the premises that is being filled; (g) is located within the premises that is cut and is designed to take any surcharge loading allowable on the uphill lot; (h) is safe and stable; (i) enables easy access for maintenance. 		<p>The final design shall be submitted to Council for approval as part of a future development application.</p>
Filling of a dam		
<p>PO9 The filling of a dam:</p> <ul style="list-style-type: none"> (a) does not adversely affect the natural physical processes and ecosystems; (b) creates a safe and stable surface; (c) is integrated into the landscape. 	<p>AO9 The filling of a dam complies with part 3.3–Filling and excavation standards in planning scheme policy 5–Infrastructure.</p>	<p>PO9 – NOT APPLICABLE Filling of dams will comply with part 3.3.</p>

APPENDIX E

SEWER ASSESSMENT CATCHMENT PLAN

