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SITE BASED STORMWATER MANAGEMENT PLAN

7-101 BAYLISS ROAD, SOUTH RIPLEY

KDL DEV 3 PTY LTD



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SITE BASED STORMWATER MANAGEMENT PLAN

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04	15/09/2026	DA Change Application

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GLOSSARY OF TERMS

Australia Rainfall and Runoff (ARR) 2019 recommends adaptation of new terminology relating to storm events summarised in Table A below. As recommended, this report documents data with respect to AEP (%).

The following definitions should be noted:

- EY = Number of exceedances per year.
- AEP = Annual Exceedance Probability.
- AEP (1 in x) = 1/AEP.
- ARI = Average Recurrence Interval (years).

The below table should be refereed to for a comparison of storm events.

Table A – Adopted Terminology

EY	AEP (%)	AEP (1 in ….)	ARI
1	63.21	1.58	1
0.69	50	2	1.44
0.5	39.35	2.54	2
0.22	20	5	4.48
0.2	18.13	5.52	5
0.11	10	10	9.49
0.05	5	20	20
0.02	2	50	50
0.01	1	100	100

ASSOCIATED MODELLING FILES

For internal reference, the following modelling file packages are associated with this report.

- 30287851_DRAINS_Rev05_enveloped.drn
- 30287851_DRAINS_Rev05_enveloped_BLK.drn
- 30287851-EDC0001-03 MUSIC amber.sqz

1. EXECUTIVE SUMMARY

KDL Dev 3 Pty Ltd has commissioned Arcadis to prepare a Site Based Stormwater Management Plan (SBSMP) for a development application for the site located over the following allotments:

- Lot 80 on SP162940 (7-101 Bayliss Road, South Ripley).

The proposed development intended for the site is for the construction of a residential subdivision including a road network and stormwater management areas.

Integration of future potential development of infill lot 25 Bayliss Road, South Ripley has been made. Ultimately details of this lot will be subject to a separate and future development application.

This report demonstrates the proposed development will be constructed and operated in accordance with the Water Sensitive Urban Design (WSUD) Requirements of Council, the South-East Queensland State Planning Policy (SPP), the Queensland Development Code, the Queensland Urban Drainage Manual (QUDM), Australian Rainfall and Runoff (2019) and the Environmental Protection (Water) Policy (2009). The primary objectives of this Site Based Stormwater Management Plan (SBSMP) are achieved as follows:

Lawful Point of Discharge (LPoD)

Stormwater will be discharged to the existing lawful point of discharge, being the road reserve bordering the northern boundary.

Provision to receive any upstream existing runoff has been made, particularly from lot 944-948 Ripley Road, South Ripley. This report may be reviewed should development proposals of these external lots seek to redirect runoff away from the subject site.

Stormwater Quantity

The site proposes to mitigate the increase in peak run off, where expected to occur at LPoD through the use of detention basins. These basins will integrate bio-retention areas.

Stormwater Quality

A stormwater quality assessment is provided which demonstrates that a specially tailored treatment system will be required in order to meet the pollutant removal targets of Ipswich City Council during the operational phase of the proposed development. The proposed treatment system features bioretention areas. A stormwater quality assessment is provided which demonstrates that a specially tailored treatment system

All the stormwater quality controls detailed in this document are contained within the development site and will be handed over to Ipswich City Council following the completion of the ‘On Maintenance’ period post construction. Regular maintenance of the treatment devices must be undertaken to ensure the continuing performance of the stormwater quality treatment train.

Erosion and Sediment Control

Erosion and sediment control measures during construction shall be undertaken in accordance with the SPP and Council requirements.

Sequencing of Basins

The stormwater quantity and quality assessments demonstrate that the proposed interim drainage and treatment arrangements are sufficient to service the initial stages of development. Accordingly, Stages 1-5 can be delivered without construction of the Eastern Basin (Basin 2), with no adverse downstream hydraulic or water quality impacts anticipated. Basin 2 is only required when development proceeds within the eastern catchments associated with Stages 6-10.

2. SITE CHARACTERISTICS

2.1 Location Details

The subject site is located within South Ripley, South-East Queensland, Australia, comprising the following allotments:

- Lot 80 on SP162940 – 7–101 Bayliss Road, South Ripley

The site is bordered by:

- Part of the proposed South Providence Estate development (3701/2024/PDA) to the south
- A proposed residential development to the east (7251/2018/MAPDA)
- Bayliss Road to the west
- An established residential area to the north

The total site area is approximately 171,890 m². Ipswich City Council is the local government authority.

2.2 Land Usage

In its current state, the site contains medium-density vegetation. A current locality plan is shown in Figure 2-1.



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

2.3 Topography and Features

The site topography consists of grades ranging from approximately 2 to 10%. The site has a high point of approximately RL 75m AHD in the southeast corner of the site and a low point of approximately RL 48m AHD in the northwest corner of the site.

The site's topography varies from approximately 2% to 10% grade, with a high point of RL 75 m AHD in the southeast corner and a low point of RL 48 m AHD in the northwest corner.

Two well-defined crest lines run north–south across the site, forming a central overland flow path. These crests divide the site into three distinct internal catchments draining towards the:

- Northwest corner
- Northeast corner, and
- North

Two major external catchments also discharge into the site from the south:

- EXT_E1 (7.72 ha): drains via the mapped overland flow path in the central part of the site
- EXT_W1 (2.11 ha): drains through the western section of the site (not mapped in the overlay)

Under the Ipswich City Council Planning Scheme, Overlay OV12 – Flood Risk and Overland Flow identifies part of the site as being affected by an overland flow path (refer Figure 2-2).



Figure 2-2 ICC Overlay Map 12

3 PROPOSED DEVELOPMENT

The proposed development involves the construction of 339 residential dwellings, stormwater management areas, open space areas and an internal road network.

A plan extract of the proposed development has been provided in Figure 3-1.

A full set of development plans are provided within the development application package and should be referred to for further information.

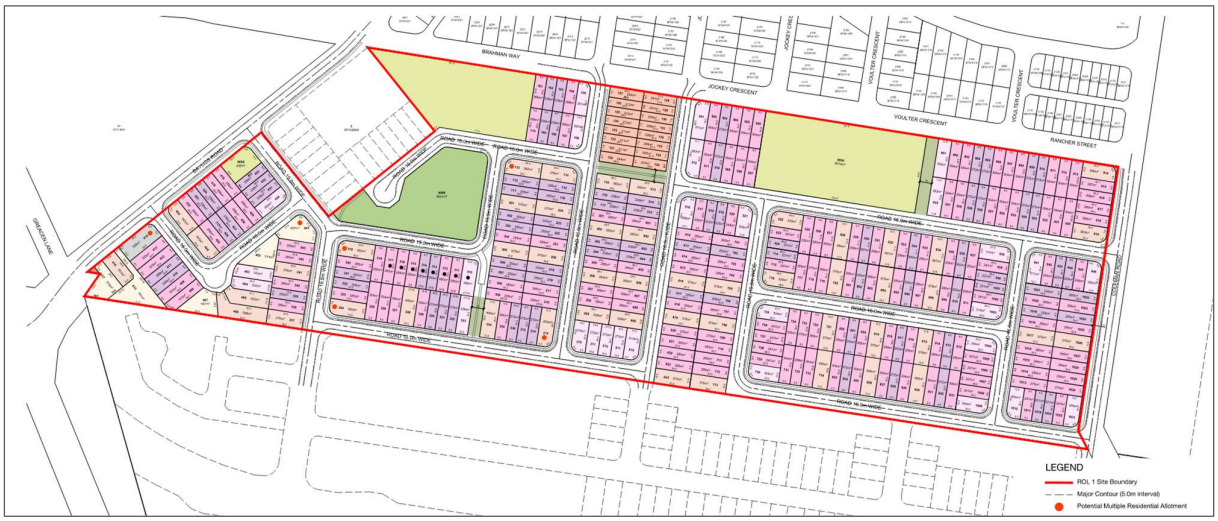


Figure 3-1 Proposed Development Proposed Plans

4 LAWFUL POINT OF DISCHARGE AND DRAINAGE

4.1 Existing Stormwater Drainage

The majority of stormwater runoff from the site naturally drains towards the road reserve north of the property. A series of cut off drains and stormwater pits have been constructed as part of the northern development that receive this runoff.

The mapped central overland flow path also conveys runoff from the large external catchment to the south (EXT_E1) through the site.

Survey data provided in Appendix A has been used to confirm existing drainage patterns.

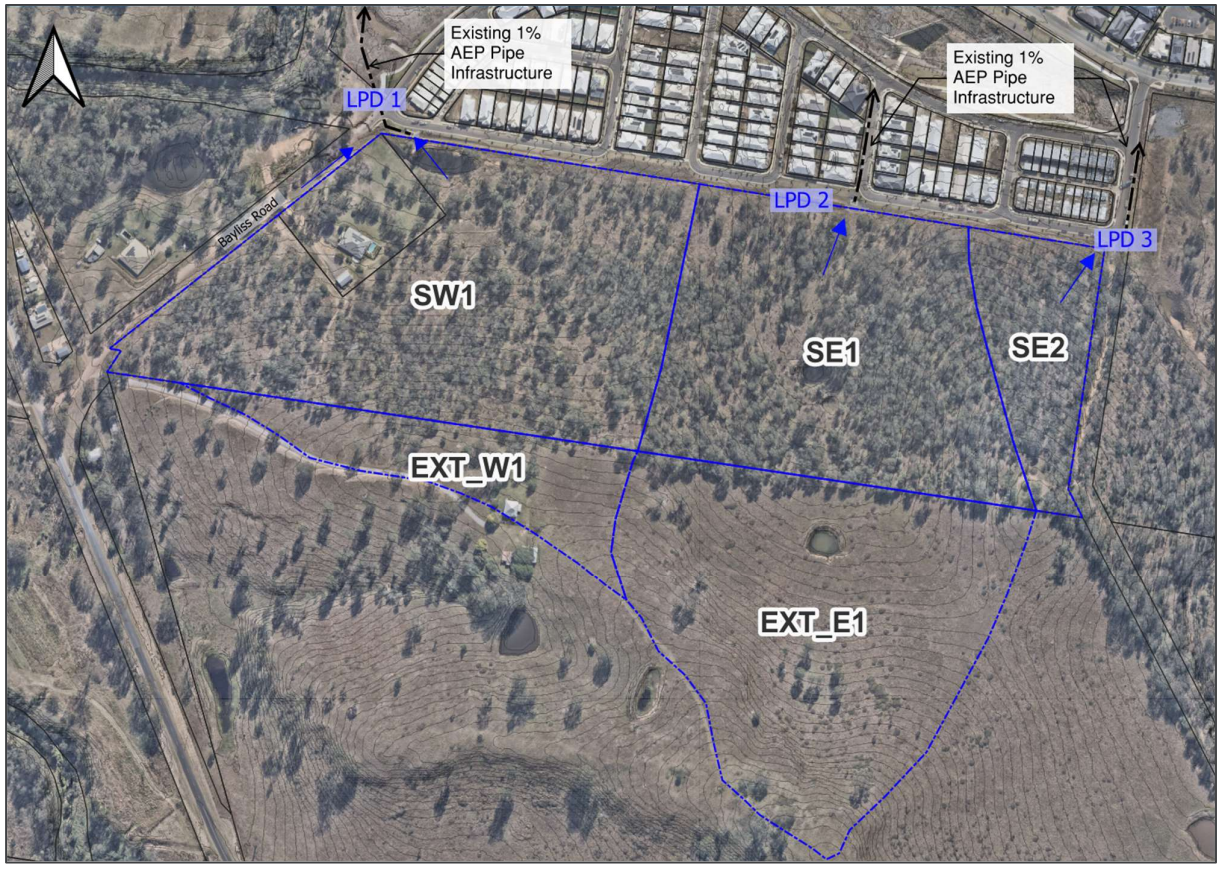


Figure 4-1 Existing Stormwater Catchments

4.2 Proposed Drainage Characteristics and LPOD Test

The drainage concept for the developed site has been designed in accordance with the principles of the *Queensland Urban Drainage Manual* (QUDM, 2017). The proposed drainage strategy is illustrated in Figure 4-2 and further detailed on the engineering drawings in Appendix B.



Figure 4-2 Developed Stormwater Catchments

Each catchment will continue to discharge to the existing downstream drainage system at the same location as in the pre-development condition. Section 5.3.1 describes the connection methodology in further detail. All lawful points of discharge are provided with drainage infrastructure (pits, pipes and roads) designed to convey 1% AEP flows, as shown in Figure 4-2.

In particular, flows from the western basins will be captured and conveyed via the proposed internal pipe network and connected directly to the downstream stormwater system. Accordingly, stormwater from these basins will be conveyed within the formal drainage infrastructure and will not rely on overland flow paths discharging to Bundamba Creek, as was previously discussed in earlier approved assessments.

Key considerations for compliance with QUDM include:

- **Lawful location of discharge** – Each discharge point is located within an area under the lawful control of the local government or other statutory authority (e.g. park, drainage reserve, road reserve, or stormwater drainage easement).
- **No actionable nuisance** – Discharges will be managed to ensure there is no worsening of downstream conditions, in accordance with QUDM's lawful point of discharge test.
- **Peak flow management** – Existing discharge rates will be maintained for all assessed storm events (refer to Section 5 – Water Quantity).
- **Water quality compliance** – Stormwater quality objectives will be met in accordance with Council's requirements (refer to Section 6 – Water Quality).

This strategy ensures that the post-development flow regime is consistent with QUDM's requirements for lawful discharge while maintaining downstream capacity and environmental performance.

For the purposes of the proceeding assessments, 25 Bayliss Road, South Ripley (shown in grey in Figure 4-2 above) has been assumed to be fully developed. All other external, upstream catchments are assumed in their current undeveloped state.

5 STORMWATER QUANTITY

5.1 Objective

This assessment demonstrates that the proposed development will not adversely affect existing drainage conditions adjacent to the site. The analysis considers the existing and developed conditions for all recurrent design storm events up to and including the 1% Annual Exceedance Probability (AEP), with results presented as direct comparisons of median peak discharge for each AEP. The assessment has been undertaken in accordance with the Ipswich City Plan 2025, Australian Rainfall and Runoff (ARR 2019, Book 1–9), and the LIMB 2020 IFD Envelope dataset recommended for use within Ipswich City Council's local government area.

5.2 Design Rainfall Inputs

Design rainfall intensity frequency duration (IFD) data were obtained from the ARR Data Hub. For Ipswich, the Envelope of the 2016 BOM IFDs and the 2020 LIMB IFDs has been applied in accordance with local guidance. The grid cell for the site was extracted at the coordinates shown in Table 5-1 below.

Table 5-1 Site Latitude and Longitude

Parameter	Value
Latitude	-27.7014
Longitude	152.8084

- Temporal Patterns (TPs): The East Coast South ARR region temporal patterns were adopted for all assessed durations and AEPs, with the full ensemble of ten temporal patterns used in each case.
- Pre-burst Depths: Median pre-burst depths and ratios were applied in accordance with ARR regional values.

5.3 Hydrological Parameters

The existing condition scenario was modelled using the DRAINS software with the XP-RAFTS hydrological method. The developed condition was modelled using the ILSAX hydrological method.

Storm loss values were adopted in accordance with ARR 2019 guidance and adjusted to reflect local catchment conditions, as summarised below:

- Existing undeveloped scenario:
  - Initial Loss: 21.0 mm
  - Continuing Loss: 0.8 mm/hr
- Developed scenario:
  - Initial Loss (pervious): 5 mm
  - Initial Loss (impervious): 1 mm
  - Continuing Loss: Soil type 3 – rather wet (default value)

Rainfall Depths – LIMB 2020 IFD Envelope

The adopted rainfall depths were obtained from the LIMB 2020 IFD Envelope (high-resolution, 0.005° grid). These depths represent the higher of the BOM 2016 and LIMB 2020 datasets and are consistent with Ipswich City Council guidance.

Table 5-2 IFD Depths (mm) for Selected Durations and AEPs

Duration	50%	20%	10%	5%	2%	1%
5 min	10.9	14.9	17.8	20.5	24.5	27.6
10 min	17.8	24.1	27.9	31.5	35.7	38.7
15 min	22.4	30.3	35	39.2	43.9	48.8
20 min	25.7	34.9	40.3	45.2	51	56.7
25 min	28.2	38.4	44.5	50.1	56.5	63
30 min	30.1	41.3	48.1	54.3	61.4	68.2
45 min	34.3	47.7	56.2	64.1	73.9	81
1 hour	37.1	52.2	62.1	71.5	83.7	92.8
1.5 hour	41.1	58.7	70.8	82.6	98.9	111.5
2 hour	44	63.4	77.2	91	110.5	126
3 hour	48.4	70.6	87	103.7	128	147.9
4.5 hour	53.4	78.8	97.8	117.7	146.9	171.4
6 hour	57.7	85.3	106.4	128.7	161.4	188.9
9 hour	66.2	95.7	119.9	145.9	183.5	215.5
12 hour	73.2	104	130.7	159.5	200.9	236.1
18 hour	84.8	118	147.7	181.1	228.5	268.8
24 hour	94.1	132	161	198.1	250.8	295.4

5.4 Catchments Layout Parameters

Two hydrologic conditions were modelled:

- Existing Scenario – site in its current state.
- Developed Scenario – site in the proposed developed state.

The existing scenario catchment plan is presented in Figure 4-1 and details are presented in Table 5-3 below

Table 5-3 Existing Scenario Modelling Catchment Details

Catchment	Area (ha)	EA Slope (%)	Impervious Area (%)	Manning's (n)
Ext_W1	2.11	9.4	0	0.05
Ext_E1	7.72	9.78	0	0.05
SW1	8.886	6.51	0	0.06
SE1	6.516	4.21	0	0.06
SE2	1.75	10.48	0	0.06

The developed scenario catchment plan and details are presented in Figure 4-2 and Table 5-4 below

Table 5-4 Developed Scenario Modelling Internal Catchment Details

Catchment	Area (ha)	Impervious Area (%)	Tc impervious (min)	Tc pervious (min)
DW1	1.87	80	7.5	9.5
DW2	5.98	80	10	12
DE1	8.36	80	9	11
DE2	0.93	80	6	8

As shown in Figure 4-2, parts of the internal catchment will not be fully directed to the proposed detention basins. In general, all piped flows from the development will discharge to the basin; however, flows that exceed pipe capacity in some areas (i.e. overland flows) will bypass the basin. These areas are identified in Figure 4-2 as Overland Flow Basin Bypass.

The overland flow bypass areas from each catchment are as follows:

- DW1 – 1.18 ha
- DW2 – 0.95 ha
- DE1 – 0.58 ha

External catchments have been adjusted to suit downstream proposed development levels and LPD. Areas are presented in Table 5-5.

Table 5-5 Developed Scenario Modelling External Catchment Details

Catchment	Area (ha)	EA Slope (%)	Impervious Area (%)	Manning's (n)
Ext_W1A	0.178	9.4	0	0.05
Ext_ W1B	1.361	9.4	0	0.05
Ext_E1	8.287	9.78	0	0.05

5.4.1 Detention System Design

The proposed onsite detention systems, which include integrated bio-retention cells, have been designed to mitigate post-development peak flows to at or below existing condition values for all assessed AEPs. Flows entering each basin are split so that up to the 3-month ARI flows are diverted through the bio-retention cells for treatment, while larger flows bypass the cells and discharge directly to the detention storage.

For design purposes, the bio-retention extended detention zone has been assumed to be full at the start of each event, representing a conservative approach. In addition, bio-retention bund levels have been set above the 1-year ARI (1EY) water level to provide some protection of the treatment system.

A review of the as constructed drawings for the development downstream of the basins indicated that the pipe networks previously constructed to convey external flows (ie. the proposed basin outlet flows) have been designed to convey the 1% AEP (Refer Appendix C). Based on that, the proposed basin outlets have been designed so that 1% AEP flows discharging from the basins will be piped connecting directly to the exiting pits. The Western Basin (LPD1) will connect to existing Pit FI03 and the Eastern Basin (LPD 2) will connect to existing Pit FI01.

The proposed basins will be provided with emergency weirs in case of severe blockage of the pit and pipe outlets. An assessment of the blockage scenario is provided in Section 5.3.2.1.

A summary of the proposed basin outlet configuration is provided in Tables 5-6 and 5-7 below.

Table 5-6 Summary of Proposed Detention Basin Parameters (Western)

Parameters	Detention System
Area at basin Invert (m^2)	10
Area at 1% AEP Water Level (m^2)	3,119
Volume at 1% AEP Water Level (m^3)	1,948 (excludes volume below EDD)
Minimum Required Internal Basin Depth (m)	1.25m Detention 0.3m Freeboard
Outlet	1200x1200 pit @ RL 48.7 (290mm Orifice inside the pit @ RL 47.45) 1200x1200 pit @ RL 49.50 (560mm Orifice inside the pit @ RL 47.45) 1200x1200 pit @ RL 49.75 (560mm Orifice inside the pit @ RL 47.45) 5m wide Emergency Weir @ RL 50.00

Table 5-7 Summary of Proposed Detention Basin Parameters (Eastern)

Parameters	Detention System
Area at basin Invert (m^2)	23.9
Area at 1% AEP Water Level (m^2)	4,742
Volume at 1% AEP Water Level (m^3)	3,609 (excludes volume below EDD)
Minimum Required Internal Basin Depth (m)	1.34m Detention 0.3m Freeboard
Outlet	1200x1200 pit @ RL 52.8 (450mm Orifice inside the pit @ RL 51.55) 1200x1200 pit @ RL 53.25 (480mm Orifice inside the pit @ RL 51.55) 1200x1200 pit @ RL 53.61 (2x500mm Orifice inside the pit @ RL 51.55 12m wide Emergency Weir @ RL 54.2

5.4.2 Model Results

Peak discharge results from the DRAINS model for each scenario are summarised below. Results are presented for all recurrent intervals, allowing direct comparison between existing and developed cases.

Table 5-8 Summary of DRAINS Hydrologic/Hydraulic Results at the LPoD 1

Scenario	AEP (%)	1EY	50	20	10	5	2	1
Existing (1)	Median Flow (m^3/s)	0.547	0.687	1.31	1.857	2.351	2.98	3.561
Mitigated (2)	Median Flow (m^3/s)	0.539	0.626	1.26	1.74	2.23	2.71	3.09
Difference (2 – 1)	(m^3/s)	-0.008	-0.061	-0.05	-0.117	-0.121	-0.27	-0.471
Depth	(m)	0.76	0.84	0.97	1.04	1.10	1.18	1.24

Table 5-9 Summary of DRAINS Hydrologic/Hydraulic Results at the LPoD 2

Scenario	AEP (%)	1EY	50	20	10	5	2	1
Existing (1)	Median Flow (m^3/s)	0.718	0.886	1.693	2.4	3.16	3.96	4.7
Mitigated (2)	Median Flow (m^3/s)	0.713	0.845	1.66	2.37	3.09	3.76	3.96
Difference (2 – 1)	(m^3/s)	-0.005	-0.041	-0.033	-0.03	-0.07	-0.2	-0.74
Depth	(m)	0.44	0.52	0.81	1.0	1.11	1.21	1.33

Table 5-10 Summary of DRAINS Hydrologic/Hydraulic Results at the LPoD 3

Scenario	AEP (%)	1EY	50	20	10	5	2	1
Existing (1)	Median Flow (m^3/s)	0.113	0.158	0.281	0.410	0.506	0.655	0.753
Developed (2)	Median Flow (m^3/s)	0.192	0.225	0.326	0.407	0.475	0.549	0.613
Difference (2 – 1)	(m^3/s)	0.079	0.067	0.045	-0.003	-0.031	-0.106	-0.14

The 1% AEP flow results presented in Tables 5-8, 5-9 and 5-10 above correlate well with the flows documented in the Alcove Ascon plans (Appendix C) at the outlet locations.

Table 5-11 provides a comparison between the flows calculated as part of this assessment and those documented in the Alcove Ascon plans.

Table 5-11 Comparison Between Arcadis and Ascon 1% AEP Flows at Outlet locations

Scenario	LPoD 1 (F\03)	LPoD 2 (F\01)	LPoD 3 (F\02)
Arcadis	3.09	3.96	0.613
Alcove Ascon	3.04	6.6	0.93

As a minimum, all bio-retention basins located within the detention basins have been protected to the 1EY water level. Figures 5-1 and 5-2 below show representative sections of the Western Basin (LPD 1) and Eastern Basin (LPD 2), respectively

For the Western Basin, the 1EY water level is predicted to be RL 49.46 m AHD, and the bio-retention bunds are set at RL 49.50 m AHD. For the Eastern Basin, the predicted 1EY water level is RL 53.24 m AHD, and the bunds are set at RL 53.80 m AHD. Refer to Appendix B for design Drawings.

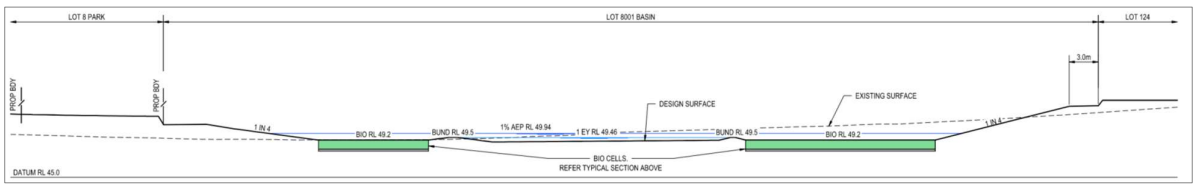


Figure 5-1 Western Basin (LPD 1)

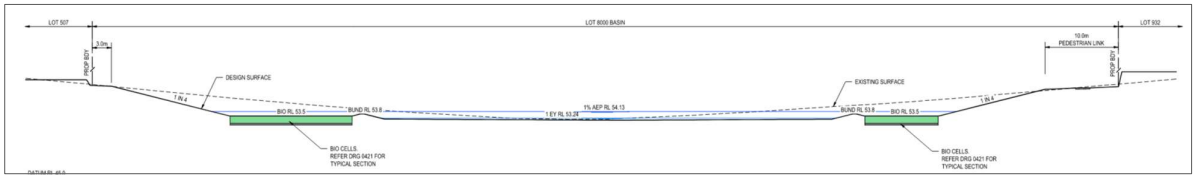


Figure 5-2 Eastern Basin (LPD 2)

5.4.2.1 Blockage Sensitivity Assessment

A blockage sensitivity assessment was undertaken to ensure that, in the event of severe blockage of the proposed outlet, each basin is provided with an emergency weir capable of safely conveying flows.

For the Western Basin (LPD 1), a 5m wide emergency weir is proposed at RL 50.00m AHD, which is approximately 50mm above the 1% AEP water level. Modelling indicates that, under a 100% blockage scenario, the water level would reach RL 50.36m AHD, equating to 360mm of depth over the weir. The proposed top of the basin bund is RL 50.50m AHD.

For the Eastern Basin (LPD 2), a 12m wide emergency weir is proposed at RL 54.20m AHD, approximately 60mm above the 1% AEP water level. Modelling indicates that, under a 100% blockage scenario, the water level would reach RL 54.56m AHD, also equating to 360mm of depth over the weir. The proposed top of the basin bund is RL 54.60m AHD.

6 STORMWATER QUALITY (OPERATION)

6.1 Objectives

The following operational water quality objectives are set out by Council:

- Gross Pollutants (>5mm) – 90% reduction in mean annual load.
- Total Suspended Solids (TSS) – 80% reduction in mean annual load.
- Total Phosphorous (TP) – 60% reduction in mean annual load.
- Total Nitrogen (TN) – 45% reduction in mean annual load.

6.2 Proposed Stormwater Treatment Devices

WSUD aims to minimise the impact of a development on the natural water cycle by reducing the export of pollutants, sediments and nutrients from the site into the natural watercourse. In order to treat the stormwater runoff from the site, various treatment devices can be used throughout the development area and these concepts can be integrated into the overall design of the road layouts, road cross sections, stormwater layouts and water supply reticulation systems. Stormwater from the development will follow a specially designed stormwater quality treatment train prior to discharge from the site, which will ensure compliance with the water quality objectives.

A treatment train has been proposed for the site which comprises of a number of individually designed treatment devices that collectively contribute to the achievement of whole site water quality objectives.

6.2.1 Bio-Retention Areas

A bio-retention area is a vegetated region where runoff is filtered through a filter media layer (e.g. sandy loam) as it percolates downwards to receiving underlying drainage. Specific vegetation is to be incorporated into the landscaping of bio-retention areas which effectively reduce nutrient loads. Appendix A of Healthy Waterways' Water Sensitive Urban Design Technical Guidelines for South East Queensland provides guidance on selecting appropriate plant species for systems where plants have a functional role in stormwater treatment.

A typical example of a bio-retention area in operation with suitable vegetation is presented in Figure 6-1 below.



Figure 6-1 Example of Urban Bio-Retention Basin (Courtesy Water by Design)

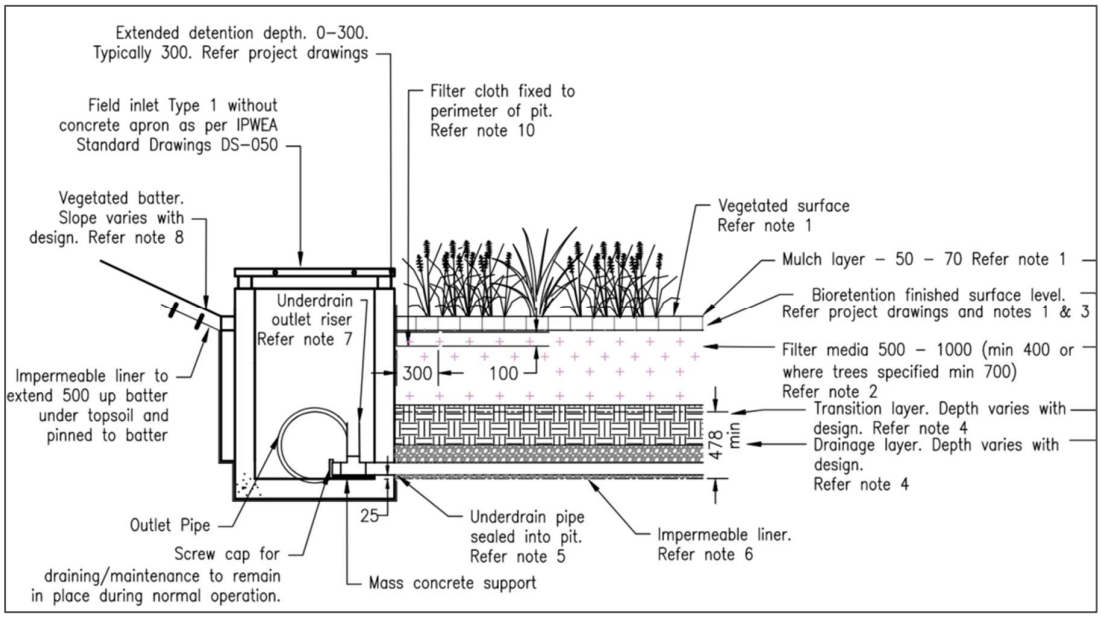


Figure 6-2 Example of Urban Bio-Retention Garden-Bed (Institute of Public Works Engineering Australasia)

6.3 Modelling

Modelling of the site was undertaken using the 'Model for Urban Stormwater Improvement Conceptualisation (MUSIC)' as promoted by ICC and the South East Queensland Healthy Waterways Partnership. The development was modelled using the split catchment approach. An appropriate type of land use was applied to all surface types within the developed catchments; where individual treatment devices were assigned the relevant modelling treatment parameters. Consequently, a treatment train was established for the site, ensuring that water discharging from site adheres to the specified Water Quality Objectives.

Meteorological data for input into MUSIC was obtained from Amberley AMO Station 40004 from the Bureau of Meteorology. Six-minute time step rainfall data was obtained for the climate period from 01/01/1990 to 31/12/1999. The catchment parameters of the MUSIC modelling are specified within the South East Queensland Healthy Waterways Partnerships' Water by Design MUSIC Modelling Guidelines for South East Queensland Version 1 (2010), and have been modelled as such.

6.3.1 Pollutant Source Node Details

The pollutant source node parameters input into the MUSIC model were determined using the South East Queensland Healthy Waterways Partnership's Water by Design MUSIC Modelling Guidelines for South East Queensland version 1 (2010), specifically Table 3.8 for urban residential surface types.

The catchment imperviousness has been conservatively adopted to be 80% impervious.

A summary of the source these nodes have been provided in Table 6-1 below.

Table 6-1 Summary of Source Node Details

Catchment	MUSIC Source Node	Imperviousness (%)	Area (ha)
DW1 (Bypass)	Urban Residential	80	0.76
DW1	Urban Residential	80	1.18
DW2_1	Urban Residential	50	0.98
DW2_2	Urban Residential	80	4.04
DE1_1	Urban Residential	80	5.15
DE1_2	Urban Residential	80	2.40
DE2 (Bypass)	Urban Residential	80	0.96

6.3.2 Treatment Device Node Details

The bio-retention area has been designed in accordance with the Bio-retention Technical Design Guidelines (2014). Details of the location and standard design of the proposed treatment devices are provided on the Engineering Drawings in Appendix B of this report.

Once the site is fully developed, stormwater runoff from the contributing sub-catchments will be collected via the internal drainage system and directed to the relevant bio-retention areas, as shown in Figure 4-2.

To improve operational performance and reduce sediment build-up within the filter media, each bio-retention system will be provided with a coarse sediment pre-treatment device upstream of the filter surface. This pre-treatment will capture larger particles, gross pollutants, and debris before flows enter the bio-retention cell, extending the effective life of the filter media and reducing maintenance requirements.

At the detailed design stage, the most appropriate pre-treatment type will be confirmed based on the final internal drainage layout. Options under consideration include sediment forebays and sediment ponds, which would be sized and configured to provide adequate settling prior to inflow to the bio-retention filter surface.

General modelling parameters for the bio-retention treatment system are summarised in Table 6-2.

Table 6-2 Bio-Retention Design Parameters

Parameter	Western Bio-retention (W1)	Eastern Bio-retention (W2_1)	Eastern Bio-retention (W2_2)	Western Bio-retention (E1_1)	Western Bio-retention (E1_2)
Minimum Filter Media Area (m²)	30m²	260m²	680m²	632m²	496m²
Minimum Ponding Surface Area (m²)	40m²	285m²	740m²	720m²	510m²
Extended Detention Depth Within Ponding Area(m)	0.30	0.30	0.30	0.30	0.30
Minimum Filter Media Depth (m) (excluding transition layer and under drainage)	0.70	0.70	0.70	0.70	0.70
Underdrainage Layers (m)	0.30	0.30	0.30	0.30	0.30
Minimum Saturated Hydraulic Conductivity (mm/hour)	200	200	200	200	200
Maximum Filter Media Total Nitrogen (mg/kg)	400	400	400	400	400
Maximum Filter Media Orthophosphate (mg/kg)	30	30	30	30	30
Submerged Zone Depth (m)	0.40	0.40	0.40	0.40	0.40

6.3.3 Model Layout and Results

A diagrammatical view and pollutant reduction results can be found in Figure 6-3 below.

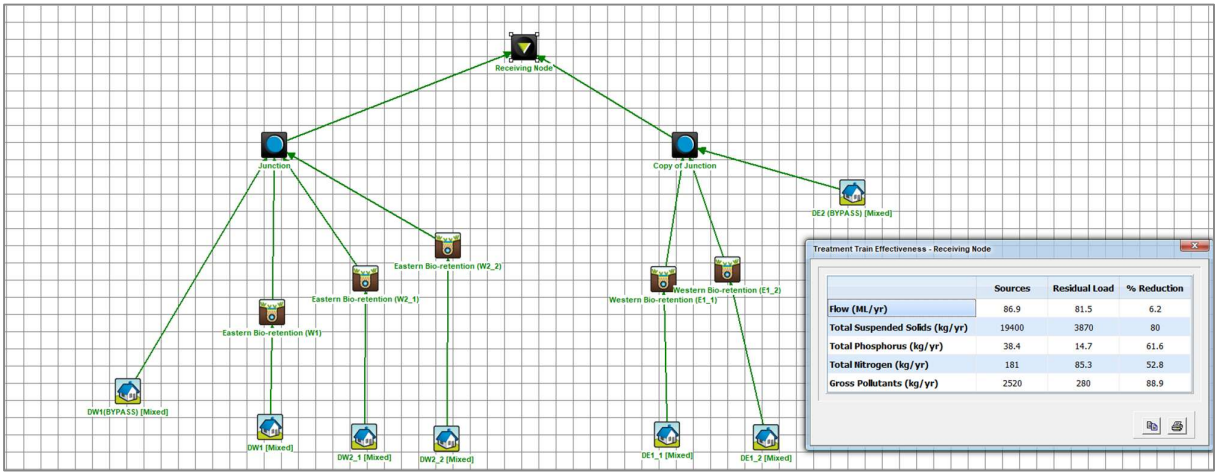


Figure 6-3 MUSIC Model Layout and Results

6.3.4 Sediment Forebay Calculations

Sediment forebays are proposed upstream of each bioretention system to intercept coarse and medium sediments, reduce maintenance demands on the filter media and improve the long-term performance of the treatment system. The forebays are provided for bioretention systems catering to catchments greater than 2ha only. The forebays have been sized using a simple mass-balance approach based on the expected sediment load for the 4EY event, an assumed annual cleanout frequency, and a target fraction of sediment removed of 80%.

The sizing process adopted is as follows:

- Design flow event:
  - The 4EY flow event was adopted as the representative frequent event that dominates sediment transport to the bioretention systems.
  - Peak inflows to each bioretention system for the 4EY event were obtained from the hydrologic model.
- Cleanout / maintenance frequency:
  - A cleanout frequency of 1 year was adopted, consistent with typical operational maintenance programs for WSUD assets in South East Queensland.
  - The sediment forebay volume and surface area have therefore been sized to accommodate the sediment load accumulated over a 12-month period.
- Target sediment removal:
  - The forebays have been designed to remove at least 80% of the target coarse and medium sediment fraction prior to flows entering the bioretention filter media.
  - This reduces the rate of clogging of the filter media and prolongs the design life of the bioretention systems.

A summary of the minimum required sediment forebay area for each bioretention system is provided in Table 6-2 below. Full calculations are provided in Appendix D

Table 6-2 Sediment Forebay Sizes

Outlet Name	Size (m^2)
W2_2A	32
E1_1A	52
E1_2A	25

7 STORMWATER QUALITY (CONSTRUCTION)

7.1 Water Quality Objectives

Table 7-1 Construction Phase Quality Objectives (SPP and ICC LDG)

Pollutant	Criteria
Drainage Control	Design life and design storm of temporary drainage works: • Disturbed area open for <12 months—1 in 2 ARI. • Disturbed area open for 12-24 months—1 in 5 ARI. • Disturbed area open for > 24 months—1 in 10 ARI.
Erosion Control	• Minimise exposure of disturbed soils at any time. • Avoid or minimise large construction activities in the wet season. • Divert water run-off from undisturbed areas around disturbed areas. • Use erosion risk ratings to determine appropriate erosion control measures.
Sediment Control	Use soil loss rates to determine appropriate sediment control measures Design storm for sediment control basins should be based on retaining the maximum sediment quantity for the maximum volume of water run-off Site discharge during sediment basin dewatering should not exceed 50 mg/L TSS and pH between 6.5–8.5
Stormwater Drainage / Flow Management	Hydraulics and hydrology—Take all reasonable and practicable measures to minimise significant changes to the natural waterway hydraulics and hydrology from: • peak flow for the one-year and 100-year ARI event (respectively for aquatic ecosystems and flood protection). • run-off frequency and volumes entering receiving waters. • Uncontrolled release of contaminated stormwater.
Water Quality Outcomes	Stormwater flows from undisturbed and disturbed areas—manage to help protect environmental values Coarse sediment—coarse sediment is retained on site Fine sediment—Site discharge during sediment basin dewatering has a TSS concentration less than 50 mg/L Turbidity—Site discharge during sediment basin dewatering has a turbidity (NTU) less than 10% above receiving waters turbidity— measured immediately upstream of the site Nutrients (N & P)—Nitrogen and phosphorus are managed through sediment control. pH—Site discharge during sediment basin dewatering has a pH range 6.5–8.5 Litter and other waste—Prevent litter/waste entering the site, the stormwater system or watercourses that discharge from the site. Also minimise or sufficiently contain on-site litter and waste production and regularly clear waste bins Hydrocarbons and other contaminants—Hydrocarbons and other contaminants are prevented from entering the stormwater system or internal watercourses that discharge from the site. Wash down water—Wash down water is prevented from entering the stormwater system or internal watercourses that discharge from the site Cations and anions—Cations and anions including aluminium, iron and Sulfate are managed as required under an approved acid Sulfate soil management plan

Table 7-1 provides the construction phase stormwater quality objectives outline by the State Planning Policy. Additional relevant acts, policies and information that may be useful for construction phase planning include:

- Environmental Protection Act (1994).
- Environmental Protection (Water) Policy (2009).
- Queensland Development Code, Sediment and Erosion Control (2010).
- Best Practice Erosion and Sediment Control for Building and Construction Sites Guidelines (2008).

7.2 Erosion and Sediment Control Plan Purpose

During the construction phase it shall be the Principal Contractor's responsibility to ensure the objectives of Table 7-1 are achieved.

The following section of this report provides a suggested framework for an Erosion and Sediment Control Plan. This includes recommended actions and responses for specific activities; monitoring and reporting; and construction of specifically designed site-specific sediment basins.

7.3 Specific Activities

7.3.1 Erosion and Sediment Control of Disturbed Land

During the construction phase it shall be the Principal Contractor's responsibility to ensure the following:

- Diversion of any clean water runoff that may interfere with land disturbance by the use of earth bunds, or other control devices deemed appropriate by a suitable supervisor.
- Reduction of sediment migration from disturbed land parcels by implementing silt fences, sediment basins or other control devices as deemed appropriate by a suitable supervisor.
- Where cut to fill operations produce a spoil it is recommended that the excess material be placed upstream of the excavation location to ensure any sediment runoff is directed back into the trench. Earth bunds or sediment fences may be required to control direction of sediment flow should the spoil be placed on the downstream side of the excavation site.
- Control measures such as a gully pit sediment barrier (see Arcadis drawings attached) shall be installed around inlet pits where required reducing the potential for sediment discharge into the surrounding stormwater system.
- Any sediment deposited from construction vehicles will be swept up and removed.
- Erosion and sediment control devices may only be removed once disturbed lands which they are protecting are rehabilitated and capable of resisting further erosion.

7.3.2 Spoil and Stockpile Management

It shall be the Principal Contractor's responsibility to oversee the following controls during the construction phase unless otherwise specified:

- The placement of spoil and stockpile material shall be kept at a maximum distance from stormwater inlets, gutters and stormwater pipes to reduce unnecessary sediment migration into nearby infrastructure.
- Spoil and stockpile material shall be placed in a way that reduces the likelihood of sedimentation, erosion and slippage. Advice from an appropriate project manager/representative shall be sought in this instance.
- Spoil or stockpile material that is deemed a contaminant shall be placed on a designated zone of either fill material, plastic or concrete with the installation of appropriate containment devices. Advice from an appropriate project manager/representative shall be sought in this instance as the resulting control will be highly dependent on the severity of contamination.
- It shall be the Project Manager's responsibility to foresee and develop appropriate control measures to prevent the impacts of spoil and stockpile material prior to construction activities. Monitoring and reporting shall also be required during the implementation of any given device associated with spoil and stockpile management.

7.3.3 Erosion Control

It shall be the Principal Contractor's responsibility to oversee the following controls during the construction phase:

- Traffic of any type shall be kept away from areas of rehabilitation to promote stabilisation of the zone.
- Where wind and water are acknowledged as potential erosion sources temporary protection shall be installed. Such measures only apply to zones of spoil, stockpile and land disturbance which are unlikely to receive works within a period of 6-8 weeks. Further advice from an appropriate project manager/representative shall be sought in this instance as the resulting control will be highly dependent on the disturbance type and erosion source.
- Once viable, final landscaping shall be undertaken on applicable zones to increase stability.

7.3.4 Personnel Training

It shall be the Principal Contractor's responsibility to oversee the following training protocols during the construction phase:

- Environmental management and incident reporting is to be included on all site induction courses.
- All personnel are to receive adequate training in; workplace health and safety issues, environmental management, best practice erosion and sediment control practices, incident reporting procedures and where applicable site inspection and maintenance procedures.

7.3.5 Miscellaneous

It is the Principal Contractor's responsibility to ensure erosion and sediment controls are operated and maintained in an effective operational condition. These structures are not allowed to accumulate sediment volume in excess of 70% sediment storage design capacity as per Section 6 of the Urban Stormwater Quality Planning Guidelines 2010.

- Sediment removed from control measures must be disposed of in a manner approved by the local Council that does not cause pollution and forms part of the Contractor's obligation.
- Any chemicals, fuel or oil stored on site shall be stored under cover in a bounded area or placed sufficiently above ground level to prevent contamination of surface water.
- A waste concrete receptor (disposal area) must be established if significant concreting is to occur on site. The site must be surrounded by perimeter bunds and be clearly signed.
- A general waste collection area shall be established which is to include appropriate pollutant runoff controls, dependent on the nature of the waste.

7.4 Project Personnel Responsibilities

A description of the key personnel involved with implementing the Erosion and Sediment Control Plan are listed in Table 7-2. It is recommended that all parties involved attend a pre-construction conference to discuss and clarify all issues associated with sediment and erosion control as well as this plan.

Table 7-2 Project Personnel Responsibilities

Project Role	Responsibilities
Superintendent	• Authorisation of this plan; and • Review and monitoring of this plan.
Contractor / Site Manager	• Implementation of this plan; • Monitoring of this plan; • Supervising any activities or requirements required by this plan; and • Ensuring all personnel are aware of the contractual agreements associated with this plan.
All Personnel	• Ensuring they are aware of the contractual agreements associated with this plan; and • Informing appropriate personnel of any issues that may arise with respect to the desired sediment and erosion control measures.

7.5 Monitoring and Responsibility

7.5.1 All Personnel

It is the obligation of all personnel to report any failures in the erosion and sediment control works utilised during the projects life cycle. Any identified errors within the sediment and erosion control system shall be reported in writing to a relevant project manager. A formal inquiry shall be undertaken in accordance with the reported issue as well as the relevant party procedures (i.e. Principal Contractor).

7.5.2 Contractor/Contractor's Foreman

It shall be the responsibility of the Contractor and Contractor's Foreman to monitor and report on the erosion and sediment control measures utilised in the construction phase. Inspections are to be undertaken:

- On a daily basis during earthworks, land disturbance, spoil or stockpile activities and rain events.
- Weekly during site inactivity.
- Within 24 hours prior to expected rainfall and 18 hours prior to intense rainfall events.

The following shall be inspected or reported on:

- Erosion and sediment control devices are in the correct location and are working as defined by this plan.
- Drainage systems both internal and external to the site are operating effectively or to pre-construction efficiencies.
- Spilled material is removed if it can potentially mobilise via stormwater runoff or wind.
- Stabilisation of disturbed land parcels has been undertaken in an effective manner.
- Excess sediment has been removed from erosion and sediment measures appropriately if the device is operation ineffectively or requires decommissioning.
- It is understood that repairs, maintenance or reinstallation may be required if any control measures are operating inadequately, or if infrastructure is damaged due to inefficient operation of the outlined measures.

7.5.3 Environmental Representative

It shall be the responsibility of the environment representative to periodically inspect and report on the effectiveness of the erosion and sediment controls during the construction phase of the project. Technical advice shall be given to personnel outlying any uncertainty with regards to the; applicability, installation, operation, maintenance, removal or rehabilitation of any sediment and erosion control.

7.6 Construction Phase Sediment Control Devices

As the site has been assessed as multiple catchments, it is appropriate to approach the assessment of construction phase sediment devices in a similar manner.

In accordance with the Best Practice Erosion and Sediment Control Manual (ICEA 2009) the construction phase catchment has been classified to determine the level of sediment and erosion control techniques required. The site is identified as per Table 4.4.6 (ICEA 2009) to be closest to the Ipswich locality and therefore attracts an average monthly rainfall depth of 31m to 125mm.

As the extent of soil disturbance is widespread, Type 1 techniques will be used in accordance with Table 4.5.3. This will require control techniques such as a vehicle shakedown at the site entry, sediment fences, sediment basins and check dams. Preliminary explanations of the measures can be found in the engineering drawings in Appendix B.

8 SEQUENCING OF BASINS

The proposed combined detention and bioretention basins service separate catchments across the development site. Given the staged nature of the development, not all catchments will be developed at the commencement of works, and therefore it is not necessary for all permanent stormwater infrastructure to be constructed during the initial stages.

The eastern basin (Basin 2) primarily services catchments associated with Stages 6 to 10. As these stages are not proposed to be developed initially, construction of Basin 2 can potentially be deferred until development proceeds within these catchments. To confirm the suitability of this approach, stormwater quantity and quality assessments were undertaken to determine whether the earlier stages of development can be adequately serviced through interim drainage and treatment measures without compromising downstream hydraulic or water quality outcomes.

The following sections assess the proposed staging arrangement and identify when each detention basin and bioretention system is required to be brought online.

8.1 Stormwater Quantity

The staging strategy has been developed to ensure that each detention basin is brought online when the corresponding contributing catchment is developed. This approach allows for the orderly delivery of stormwater infrastructure while maintaining compliance with the adopted stormwater management objectives.

Table 8-1 identifies the development stages at which each detention basin is required to be operational.

Table 8-1 Sequencing order for Detention Basins

Basin	Timing
Western Detention Basin (#1)	Development of stage 1
Eastern Detention Basin (#2)	Development of any stage 6-10

During the interim period between development stages, a temporary overland swale and construction sediment basins will be implemented where required to manage runoff and maintain downstream hydraulic conditions. These temporary measures will ensure that no adverse impacts occur to downstream properties or infrastructure prior to the construction of the ultimate stormwater management infrastructure.

Eastern portions of Stage 1-3 (combined catchment area of 2.058ha) are proposed to drain toward the future Basin 2 area via the ultimate piped drainage network. During the development of Stages 1-3, prior to the construction of Basin 2, runoff from this catchment will be intercepted by a construction sediment basin and discharged via a temporary overland swale directed towards the existing drainage pit located along Vaulter Crescent.

To verify the suitability of this interim arrangement, DRAINS hydrologic and hydraulic modelling was undertaken to assess potential downstream impacts associated with the undetained flows from stages 1-3. The model was setup to consider the temporary storage over the existing pit (LoPD 2) in the existing and developed scenarios to gauge the difference in the depth of water ponding over the existing pit and thereby observing the impacts of the development. The modelling demonstrates that the increase in water depth at the legal point of discharge (LPoD 2) during the 1% AEP event is negligible, 40mm increase relative to existing conditions. Furthermore, the increase in the water ponding depth is contained within the development site and/or road reserve area at the development boundary, thereby ensuring no adverse impacts downstream.

It should be noted that the assessment does not account for any additional detention benefits that may be provided by the interim sediment basin arrangement, and therefore represents a conservative assessment of the interim condition.

The assessment also indicates that the interim development arrangement results in a negligible impact on the downstream 1% AEP capture and conveyance system. Table 5-11 in Section 5 of the report demonstrates that the existing downstream infrastructure, with an as-constructed capacity of 6.6m³/s, has sufficient capacity to accommodate the additional runoff generated by Stages 1-3. Accordingly, the eastern catchment can be

adequately serviced through the proposed interim drainage measures, allowing construction of Basin 2 to be deferred until development proceeds within Stages 6-10.

Table 8-2 Summary of DRAINS Hydrologic/Hydraulic Results at the LPoD 2 with Portions of Stages 1-3 undetained

Scenario	AEP (%)	1%
Existing (1)	Water depth within Temporary Storage (m)	0.45
Undetained Stage 1 flows (2)	Water depth within Temporary Storage (m)	0.49
Difference (2 – 1)	(m)	0.04

8.2 Stormwater Quality

The combined portion of Stages 1-3 draining towards the eastern basin catchment (Basin 2) was assessed to determine whether the initial stages of development could achieve the required stormwater quality outcomes prior to construction of the permanent Basin 2 treatment infrastructure. A total contributing area of approximately 2.058ha from Stages 1-3 ultimately drains towards Basin 2.

To assess the interim arrangement, a MUSIC model was developed assuming Stages 1-4 were constructed with Basin 1 operating in accordance with the proposed staging strategy. Stage 5 was excluded from this assessment, as runoff from this stage is treated by a separate treatment system associated with Basin 3.

The proposed temporary overland swale was modelled as a 50m long vegetated swale with a 1m base width and 500mm depth. The swale was incorporated into the MUSIC model to convey and provide treatment for runoff from the eastern portions of Stages 1-3 prior to discharge at LPoD 2. The adopted treatment train and modelling results are presented in Figure 8-1.

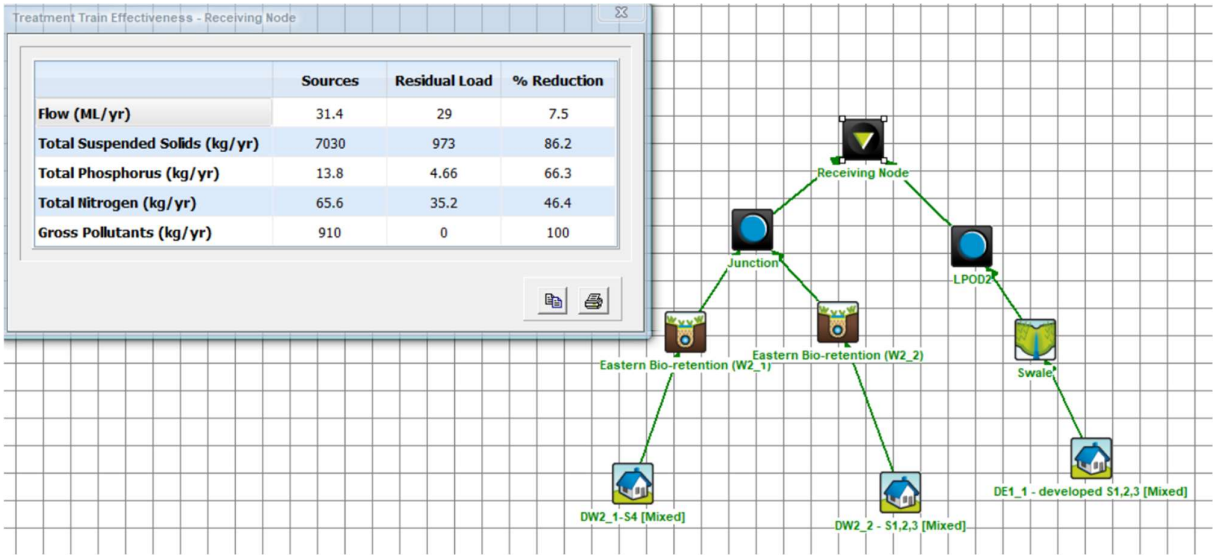


Figure 8-1 MUSIC Model Layout and Results

The modelling demonstrates that the interim treatment train, comprising Basin 1 and the proposed swale arrangement, provides sufficient stormwater quality treatment for the initial stages of development. The results

confirm that the applicable water quality objectives can be achieved without construction of Basin 2 during the early stages of the development.

Accordingly, Stages 1-5 can be developed without the construction of Basin 2 and its associated bioretention systems. The Basin 2 bioretention infrastructure is only required when development proceeds within the eastern catchment associated with Stages 6-10. The timing for implementation of the permanent bioretention systems is summarised in Table 8-12.

Table 8-3 Sequencing order for Bioretention Systems

Basin	Timing
Western Detention Basin (#1) – Eastern Bio	Development of stage 1
Western Detention Basin (#1) – Western Bio	Development of stage 4
Eastern Detention Basin (#2) – Bioretention Systems	Development of any stage 6-10

9 ASSET MAINTENANCE AND HANDOVER

All the stormwater quantity and quality controls detailed in this document will be handed over to the Ipswich City Council following the completion of the 'On Maintenance' period in accordance with ICC requirements and procedures.

10 CONCLUSION

This report demonstrates the proposed development will be constructed and operated in accordance with the Water Sensitive Urban Design (WSUD) Requirements of Council, the South-East Queensland State Planning Policy (SPP), the Queensland Development Code, the Queensland Urban Drainage Manual (QUDM), Australian Rainfall and Runoff (2019) and the Environmental Protection (Water) Policy (2009). This SBSMP has been prepared to provide a design proposal and guide to the stormwater quantity and quality management techniques for the site.

The primary objectives of this report are achieved as follows:

Lawful Point of Discharge (LPoD)

- Stormwater will be discharged to the existing lawful point of discharge, being the road reserve bordering the northern/western boundary.

Stormwater Quality & Quantity

- Combined bio-retention and detention basins area proposed to meet ICC's stormwater quality and quantity objectives.

Erosion and Sediment Control

- Erosion and sediment control measures during construction shall be undertaken in accordance with the SPP and Council requirements.

APPENDIX A

Survey



Ipswich 2023 LGA – 1m LiDAR QLD Government. Source : www.elevation.fsdf.org.au



otes:

plan is prepared for KDL from a combination of field survey and existing records for the purpose of design and should not be used for any other purpose.

title boundaries as shown hereon have been determined from minimum connections to survey marks placed by others and then from measurements by others, the verification of which does not form part of this survey. This survey shows site tours and features only. It does not guarantee the position of boundary pegs, if found. The position of fence lines, retaining walls and other features is indicative only and should not be relied upon as depicting the boundary lines.

visible surface features of underground services on or adjacent to the site have been located by field survey.

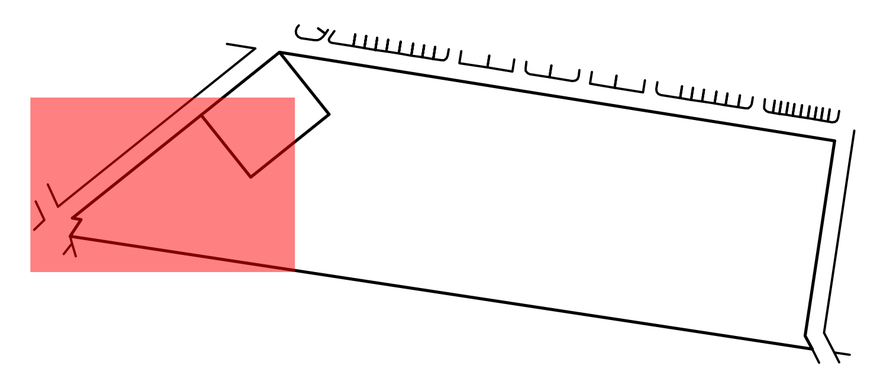
t able to be so located, known services have been plotted from the records of relevant authorities where available and have been noted accordingly on this plan. Where such records either do not exist or are considered inadequate, a notation been made hereon.

Position of underground services on this drawing are indicated by a single line. Care should be exercised as services may occupy a considerably wider corridor than that indicated on this drawing. Users should be aware during excavation or struction that services may exist for which there is no record.

to construction commencing, it is the clients responsibility:
to accurately locate and/or expose any non visible services.
to determine whether title encumbrances will prevent or limit development, and
to check on the local authority's definition of Natural Ground Level.

to any demolition, excavation or construction on the site, the relevant authority should be contacted for possible location of further underground services and detailed location of all services.

contours shown are from field survey. These contours should not be used for Natural Ground Level as defined by the local authority planning Scheme for the purposes of determining building heights.



REV	DESCRIPTION	DATE	DRAWN	CHECKED	APPROVED
A	Initial issue to client	06/03/26	KMJ	BDG	LEH

Client:	KDL	Height Datum:	AHD D
Plan Type:	Contour & Detail Survey	Height Origin:	PM212425 RL:50.021m
Project:	Bayliss Road, South Ripley	Scale:	1:250 (A0)
RPD:	Lot 80 on SP162940	Contour Intervals:	0.25m
Locality:	South Ripley	Surveyed:	SP - 19/02/26
Local Authority:	Ipswich City Council	Drawn:	KMJ - 03/03/26
Meridian:	IS345259	Checked:	BDG - 06/03/26

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Plan Ref:

7390-0002-A

Sheet 1



Vegetation Key

Palm Tree

Tree >300mm Trunk Diameter / Shrub

Tree >500mm Trunk Diameter

Services Key

Hydrant (on-line) ——— CLASS W ——— DN - CLASS W ——— DN - CLASS W

Asset ——— CLASS W ——— CLASS W ——— CLASS W ——— CLASS W

Water Main ——— CLASS W ——— CLASS W ——— CLASS W ——— CLASS W

Valve/Meter ——— CLASS W ——— CLASS W ——— CLASS W

Electrical (Overhead Cable) ——— CLASS W ——— CLASS W

Electrical (Above Ground) ——— CLASS W ——— CLASS W

Gas Pipe ——— CLASS W ——— CLASS W

Note: Classification of subsurface utility information in accordance with Australian Standard 5488

Legend

- Communications Pit
- Communications Pillar
- Communications Marker
- Electrical Box
- Electrical Marker
- Electrical Light Pole
- Electrical Pole
- Electrical Pit
- Electrical Stay Pole
- Gas Marker
- Gas Pit
- Gas Valve
- Kerb Outlet
- Pole
- Pylon
- Unknown Manhole (U/MH)
- Rochester Track Pit (RM-01)
- Sewer Manhole (Sew MH)
- Stormwater Manhole (SW MH)
- Sign
- Survey Mark
- Traffic Light
- Water Hydrant
- Water Hydrant Marker
- Water Meter
- Water Valve

Notes:

plan is prepared for KDL from a combination of field survey and existing records for the purpose of design and should not be used for any other purpose.

title boundaries as shown hereon have been determined from minimum connections to survey marks placed by others and from from measurements by others, the verification of which does not form part of this survey. This survey shows site tures and features only. It does not guarantee the position of boundary pegs, if found. The position of fence lines, retaining walls and other features is indicative only and should not be relied upon as depicting the boundary lines.

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to any demolition, excavation or construction on the site, the relevant authority should be contacted for possible location of further underground services and detailed location of all services.

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Rev	Description	Date	Drawn	Checked	Approved
A	Initial issue to client	06/03/26	KMJ	BDG	LEH

Client:	KDL
Plan Type:	Contour & Detail Survey
Project:	Bayliss Road, South Ripley
RPD:	Lot 80 on SP162940
Locality:	South Ripley
Local Authority:	Ipswich City Council
Meridian:	IS345259
Height Datum:	AHD 0
Height Origin:	PM170425 RL:50.027m
Scale:	1:250 (A3)
Contour Intervals:	0.25m
Surveyed:	SP - 19/02/26
Drawn:	KMJ - 03/03/26
Checked:	BDG - 06/03/26

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Plan Ref:

7390-0002-A

Sheet 2 of

shed

80
SP162940

test pit location

timber post and barbed wire fence

timber post and barbed wire fence

timber post and barbed wire fence

239 /
SP162142

241
SL92253

N

Vegetation Key

- Palm Tree
- Tree >200mm Trunk Diameter / Shrub
- Tree 1200mm Trunk Diameter

Services Key

Stormwater ==== GAS ==== CLASS X ==== CLASS X ==== CLASS X ====

Sewer ==== S ==== CLASS X ==== CLASS X ==== CLASS X ====

Water Main ==== W ==== CLASS X ==== W ==== CLASS X ====

Hydrants ==== C ==== CLASS X ==== C ==== CLASS X ====

Electrical (Underground) ==== CLASS X ==== CLASS X ====

Telstra ==== Optical Fibre ==== CLASS X ==== CLASS X ====

Gas Pipe ==== CLASS X ==== CLASS X ====

Note: Classification of subsurface utility information in accordance with Australian Standard 5488

Legend

- Communications Pit
- Communications Pillar
- Communications Marker
- Electrical Box
- Electrical Hatway
- Electrical Light Pole
- Electrical Pit
- Electrical Pit
- Electrical Stay Pole
- Gas Marker
- Gas Pit
- Gas Valve
- Kerb Outlet
- Pole
- Pylon
- Unknown Manhole (U/M)
- Stormwater Pipe Pit (SW PP)
- Sewer Manhole (Sew MH)
- Stormwater Manhole (SW MH)
- Sign
- Survey Mark
- Traffic Light
- Traffic Pit
- Water Hydrant
- Water Hydrant Marker
- Water Meter
- Water Valve

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visible surface features of underground services on or adjacent to the site have been located by field survey.

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Position of underground services on this drawing are indicated by a single line. Care should be exercised as services may occupy a considerably wider corridor than that indicated in this drawing. Users should be aware during excavation or struction that services may exist for which there is no record.

to construction commencing, it is the clients responsibility:
to locate all services within the site and adjacent roadways; and
to determine whether title encumbrances will prevent or limit development; and
to check on the local authority's definition of Natural Ground Level.

to any demolition, excavation or construction on the site, the relevant authority should be contacted for possible location of further underground services and detailed location of all services.

contours shown are from field survey. These contours should not be used for Natural Ground Level as defined by the local authority planning Scheme for the purposes of determining building heights.

REV	DESCRIPTION	DATE	DRAWN	APPROVED
A	Initial issue to client	06/03/26	KMJ	BDG	LEH

Client:	KDL
Plan Type:	Contour & Detail Survey
Project:	Bayliss Road, South Ripley
RPD:	Lot 80 on SP162940
Locality:	South Ripley
Local Authority:	Ipswich City Council
Meridian:	1SS45259
Height Datum:	AHD 0.
Height Origin:	PM010425 RL:50.027m
Scale:	1:250 (A3)
Contour Intervals:	0.25m
Surveyed:	SP - 19/02/26
Drawn:	KMJ - 03/03/26
Checked:	BDG - 06/03/26

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Plan Ref:

7390-0002-A

Sheet 3 -

BRAHMAN WAY

JOCKEY CRESCENT

2212 SP341321

2191 SP341320

2190 SP341320

2172 SP341320

2171 SP341320

2159 SP341319

2215 SP341321

2214 SP341321

2213 SP341321

test pit location

80
SP162940

Vegetation Key

Palm Tree

Tree >200mm Trunk Diameter / Shrub

Tree >300mm Trunk Diameter

Services Key

Electrical (Underground) Electrical (Above Ground)

Note: Classification of subsurface utility information in accordance with Australian Standard 5488

Legend

Communications Pit
Communications Pillar
Communications Marker
Electrical Box
Electrical Marker
Electrical Light Pole
Electrical Pole
Electrical Pit
Electrical Sky Pole
Gas Marker
Gas Pit
Gas Valve
Kerb Outlet
Pole
Pylon
Unknown Manhole (≥ 1M2)
Stormwater Pit/Pit (SW Pit)
Sewer Manhole (Sew MH)
Stormwater Manhole (SW MH)
Sign
Survey Mark
Traffic Light
Traffic Pit
Water Hydrant
Water Hydrant Marker
Water Meter
Water Valve

Notes:

- plan is prepared for KDL from a combination of field survey and existing records for the purpose of design and should not be used for any other purpose.
- title boundaries as shown hereon have been determined from information provided to survey mark planned by others and then from measurements by others, the verification of which does not form part of this survey. This survey shows site features in relation to title boundaries and does not consist of boundary pegs. It should not be used as a basis for erecting fences, retaining walls and other features is indicative only and should not be relied upon as depicting the boundary lines.
- visible surface features of underground services on or adjacent to the site have been located by field survey.
- d able to be so located, known services have been plotted from the records of relevant authorities where available and have been noted accordingly on this plan. Where such records either do not exist or are considered inadequate, a notation been made hereon.
- Position of underground services on this drawing are indicated by a single line. Care should be exercised as services may occupy a considerably wider corridor than that indicated on this drawing. Users should be aware during excavation or struction that services may exist for which there is no record.
- to construction commencing, it is the clients responsibility:
  - to accurately locate and/or expose any non visible services,
  - to determine whether site encumbrances will prevent or limit development, and
  - to obtain any other relevant information from the authorities.
- to any demolition, excavation or construction on the site, the relevant authority should be contacted for possible location of further underground services and detailed location of all services.
- contours shown are from field survey. These contours should not be used for Natural Ground Level as defined by the local authority planning Scheme for the purposes of determining building heights.

A	Initial issue to client	06/03/26	KMJ	BDG | LEH
Rev	Description	Date	Drawn	Approved

Client:	KDL
Plan Type:	Contour & Detail Survey
Project:	Bayliss Road, South Ripley
RPD:	Lot 80 on SP162940
Locality:	South Ripley
Local Authority:	Ipswich City Council
Meridian:	IS345259
Height Datum:	AHD D
Height Origin:	PM212425 RL:50.027m
Scale:	1:250 (A0)
Contour Intervals:	0.25m
Surveyed:	SP - 19/02/26
Drawn:	KMJ - 03/03/26
Checked:	BDG - 06/03/26

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Plan Ref:

7390-0002-A

Sheet 4 o

80
SP162940

test pit location

Barbed wire fence

241
SL10253

Timber post and barbed wire fencing

N

Vegetation Key

Palm Tree

Tree >200mm Trunk Diameter / Shrub

Tree >200mm Trunk Diameter

Services Key

Telephone ——T—— CLASS W ——T—— DIA CLASS W ——T—— DIA CLASS W ——T——
Gas ——G—— CLASS W ——G—— CLASS W ——G—— CLASS W ——G——
Water Main ——W—— CLASS W ——W—— DIA CLASS W ——W—— DIA CLASS W ——W——
Telephone ——T—— CLASS W ——T—— CLASS W ——T—— CLASS W ——T——
Electrical (Underground) ——E—— CLASS W ——E——
Electrical (Above Ground) ——E—— CLASS W ——E——
Gas Pipe ——G—— CLASS W ——G—— CLASS W ——G—— CLASS W ——G——

Note: Classification of subsurface utility information in accordance with Australian Standard 5488

Legend

Communications Pit
Communications Pillar
Communications Marker
Electrical Box
Electrical Meter
Electrical Light Pole
Electrical Pole
Electrical Pit
Electrical Slip Pole
Gas Marker
Gas Pit
Gas Valve
Kerb Outlet
Pole
Pylon
Unknown Manhole (U MH)
Stormwater Pit/Inlet (SW PI)
Sewer Manhole (Sew MH)
Stormwater Manhole (SW MH)
Sign
Survey Mark
Traffic Light
Traffic Pit
Water Hydrant
Water Hydrant Marker
Water Meter
Water Valve

Notes:

plan is prepared for KDL from a combination of field survey and existing records for the purpose of design and should not be used for any other purpose.

tical boundaries as shown hereon have been determined from minimum connections to survey marks placed by others and then from measurements by others, the verification of which does not form part of this survey. This survey shows site ures in relation to boundaries only. It does not guarantee the position of boundary pegs, if found. The position of fences, retaining walls and other features is indicative only and should not be relied upon as depicting the boundary lines.

visible surface features of underground services on or adjacent to the site have been located by field survey.

d able to be so located, known services have been plotted from the records of relevant authorities where available and have been noted accordingly on this plan. Where such records either do not exist or are considered inadequate, a notation been made hereon.

Position of underground services on this drawing are indicated by a single line. Care should be exercised as services may occupy a considerably wider corridor than that indicated on this drawing. Users should be aware during excavation or struction that services may exist for which there is no record.

to construction commencing, it is the clients responsibility:
to accurately locate and/or expose any non visible services,
to determine whether title encumbrances will prevent or limit development, and
to check the requirements of the relevant planning scheme.

to any demolition, excavation or construction on the site, the relevant authority should be contacted for possible location of further underground services and detailed location of all services.

contours shown are from field survey. These contours should not be used for Natural Ground Level as defined by the local authority planning Scheme for the purposes of determining building heights.

No.	Description	Date	Drawn	Approved
A	Initial issue to client	06/03/26	KMJ	BDG

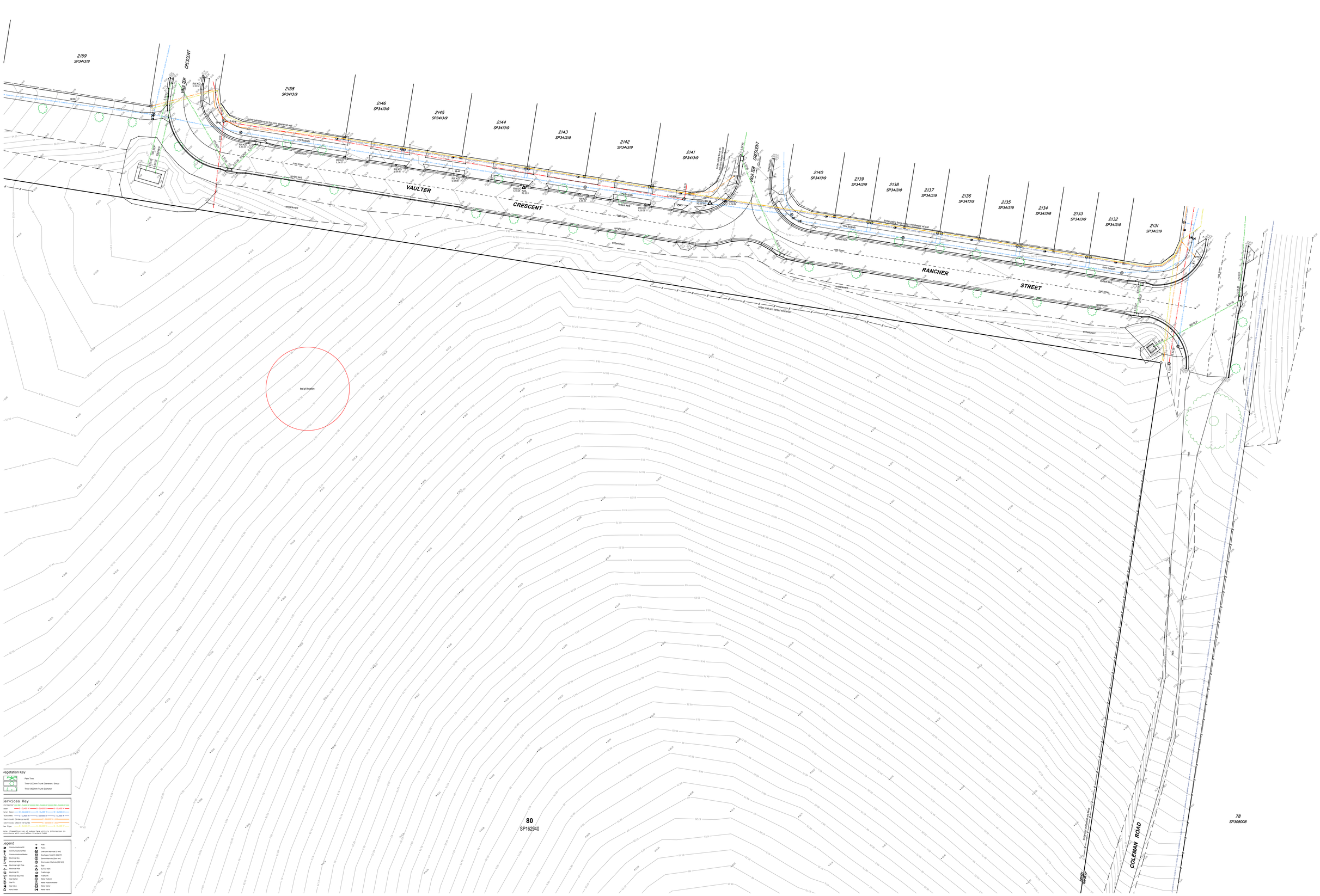
Client:	KDL
Plan Type:	Contour & Detail Survey
Project:	Bayliss Road, South Ripley
RPD:	Lot 80 on SP162940
Locality:	South Ripley
Local Authority:	Ipswich City Council
Meridian:	I13452259
Height Datum:	AHD D.
Height Origin:	PM212425 RL:50.027m
Scale:	1:250 (A0)
Contour Intervals:	0.25m
Surveyed:	SP - 19/02/26
Drawn:	KMJ - 03/03/26
Checked:	BDG - 06/03/26

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Plan Ref:

7390-0002-A

Sheet 5 o



Vegetation Key

Palm Tree

Tree <200mm Trunk Diameter / Shrub

Tree >200mm Trunk Diameter

Services Key

Stormwater ——— (CLASS 'X') ——— DN (CLASS 'X') ——— DN (CLASS 'X') ———
Sewer ——— (CLASS 'X') ——— DN (CLASS 'X') ——— DN (CLASS 'X') ———
Water Main ——— (CLASS 'X') ——— DN (CLASS 'X') ——— DN (CLASS 'X') ———
Watermains ——— (CLASS 'X') ——— (CLASS 'X') ——— (CLASS 'X') ———
Electrical (Underground) ——— (CLASS 'X') - (JO) ———
Electrical (Above Ground) ——— (CLASS 'X') (JO) ———
Gas Pipe ——— (CLASS 'X') ——— (CLASS 'X') ——— (CLASS 'X') ———

NOTE: Classification of subsurface utility information in accordance with Australian Standard 5488

Legend

- Communications Pit
- Communications Pillar
- Communications Marker
- Electrical Box
- Electrical Marker
- Electrical Light Pole
- Electrical Pole
- Electrical Pit
- Electrical Sky Pole
- Gas Marker
- Gas Pit
- Gas Valve
- Kerb Outlet
- Pole
- Point
- Unknown Manhole (U MH)
- Boundary Trap Pit (BB DP)
- Sewer Manhole (Sew MH)
- Stormwater Manhole (SW MH)
- Sign
- Survey Mark
- Traffic Light
- Traffic Pit
- Water Hydrant
- Water Marker Marker
- Water Valve
- Water Valve

Notes:

plan is prepared for KDL from a combination of field survey and existing records for the purpose of design and should not be used for any other purpose.

title boundaries as shown hereon have been determined from minimum connections to survey marks placed by others and then from measurements by others, the verification of which does not form part of this survey. This survey shows site ours and features only. It does not guarantee the position of boundary pegs, if found. The position of fence lines, retaining walls and other features is indicative only and should not be relied upon as depicting the boundary lines.

visible surface features of underground services on or adjacent to the site have been located by field survey.

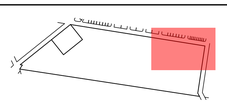
f able to be so located, known services have been plotted from the records of relevant authorities where available and have been noted accordingly on this plan. Where such records either do not exist or are considered inadequate, a notation been made hereon.

Position of underground services on this drawing are indicated by a single line. Care should be exercised as services may occupy a considerably wider corridor than that indicated on this drawing. Users should be aware during excavation or struction that services may exist for which there is no record.

to construction commencing, it is the clients responsibility:
to determine the precise location of all services, and
to determine whether title encumbrances will prevent or limit development, and
to check on the local authority's definition of Natural Ground Level.

to any demolition, excavation or construction on the site, the relevant authority should be contacted for possible location of further underground services and detailed location of all services.

contours shown are from field survey. These contours should not be used for Natural Ground Level as defined by the local authority planning Scheme for the purposes of determining building heights.



REV	DESCRIPTION	DATE	DRAWN	APPROVED
A	Initial issue to client	06/03/26	KMJ	BDG

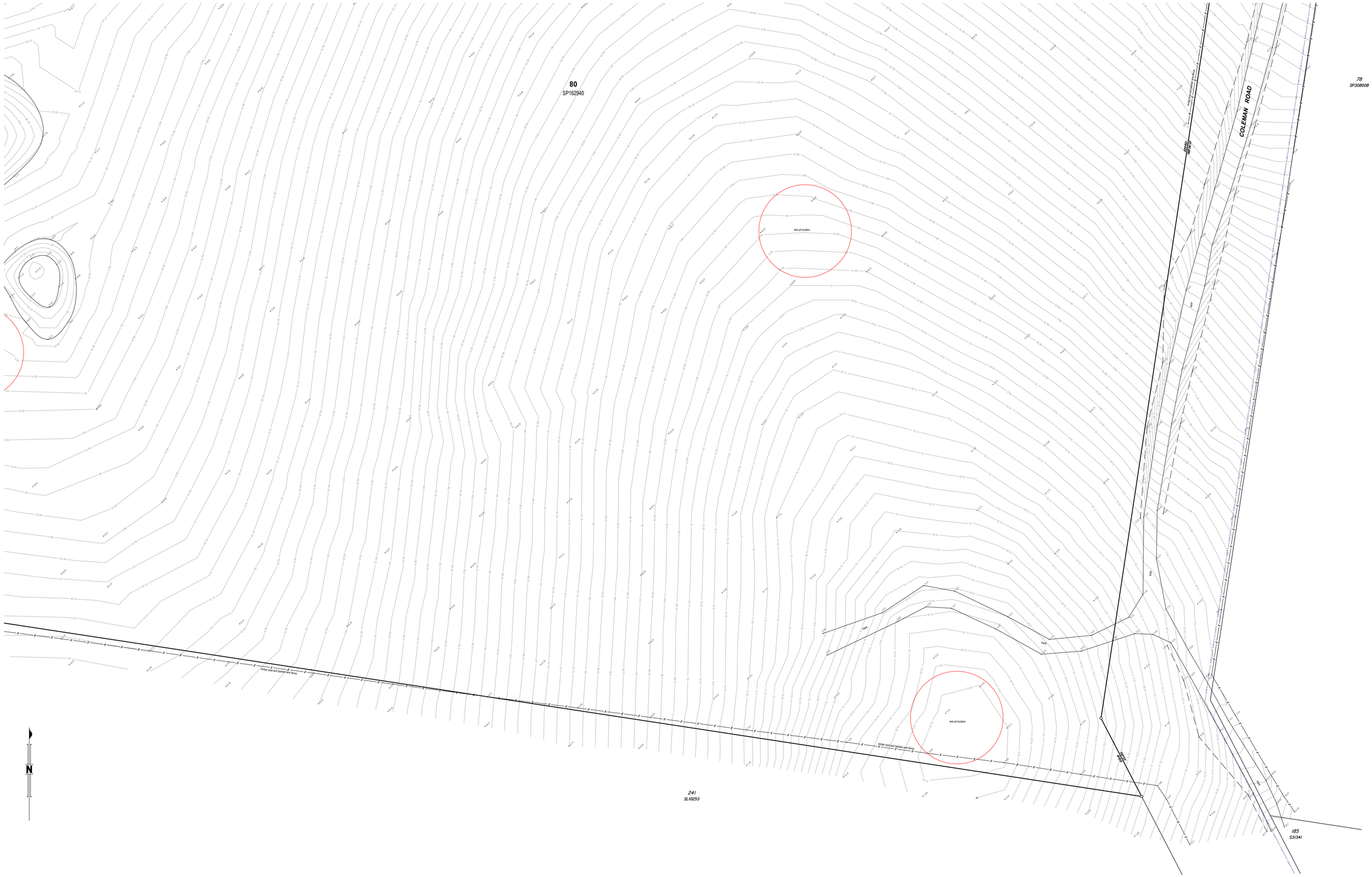
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Plan Type:	Contour & Detail Survey	Height Origin:	PM212425 RL:50.021m
Project:	Bayliss Road, South Ripley	Scale:	1:250 (A3)
RPD:	Lot 80 on SP162940	Contour Intervals:	0.25m
Locality:	South Ripley	Surveyed:	SP - 19/02/26
Local Authority:	Ipswich City Council	Drawn:	KMJ - 03/03/26
Meridian:	15345259	Checked:	BDG - 06/03/26

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Plan Ref:

7390-0002-A

Sheet 6 o



Vegetation Key

Palm Tree

Tree <200mm Trunk Diameter / Shrub

Tree >200mm Trunk Diameter

Services Key

Sewer Main ——S—— CLASS X ——S—— CLASS X ——S—— CLASS X

Water Main ——W—— CLASS X ——W—— CLASS X ——W—— CLASS X

Telecoms ——T—— CLASS X ——T—— CLASS X ——T—— CLASS X

Electrical (Underground) ——E—— CLASS X ——E——

Electrical (Above Ground) ——E—— CLASS X ——E——

Gas Pipe ——G—— CLASS X ——G—— CLASS X ——G——

NOTE: Classification of Subsurface Utility Information in accordance with Australian Standard 5488

Legend

- Communications Pit
- Communications Pillar
- Communications Marker
- Electrical Box
- Electrical Marker
- Electrical Light Pole
- Electrical Pole
- Electrical Pit
- Electrical Slip Pole
- Gas Marker
- Gas Pit
- Gas Valve
- Kerb Outlet
- Pole
- Pylon
- Unknown Manhole (≥ 1M2)
- Stormwater Pit/Inlet (SW Pit)
- Sewer Manhole (Sew MH)
- Stormwater Manhole (SW MH)
- Sign
- Survey Mark
- Traffic Light
- Traffic Pit
- Water Hydrant
- Water Hydrant Marker
- Water Meter
- Water Valve

Notes:

plan is prepared for KDL from a combination of field survey and existing records for the purpose of design and should not be used for any other purpose.

total boundaries as shown hereon have been determined from minimal connections to survey marks placed by others and then from measurements by others, the verification of which does not form part of this survey. This survey shows site ures only. It does not guarantee the position of boundary pegs, if found. The position of fences, retaining walls and other features is indicative only and should not be relied upon as depicting the boundary lines.

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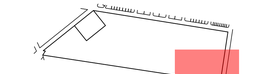
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Position of underground services on this drawing are indicated by a single line. Care should be exercised as services may occupy a considerably wider corridor than that indicated on this drawing. Users should be aware during excavation or struction that services may exist for which there is no record.

to construction commencing, it is the clients responsibility:
to accurately locate and/or expose any non visible services,
to determine whether site encumbrances will prevent or limit development, and
to verify the suitability of the development for the intended use.

to any demolition, excavation or construction on the site, the relevant authority should be contacted for possible location of further underground services and detailed location of all services.

ntours shown are from field survey. These contours should not be used for Natural Ground Level as defined by the local authority planning Scheme for the purposes of determining building heights.



A	Initial issue to client	06/03/26	KMJ	BDG | LEH
Rev	Description	Date	Drawn	Approved

Client:	KDL	Height Datum:	AHD D.
Plan Type:	Contour & Detail Survey	Height Origin:	PM212425 RL:50.027m
Project:	Bayliss Road, South Ripley	Scale:	1:250 (A0)
RPD:	Lot 80 on SP162940	Contour Intervals:	0.25m
Locality:	South Ripley	Surveyed:	SP - 19/02/26
Local Authority:	Ipswich City Council	Drawn:	KMJ - 03/03/26
Meridian:	ISG45259	Checked:	BDG - 06/03/26

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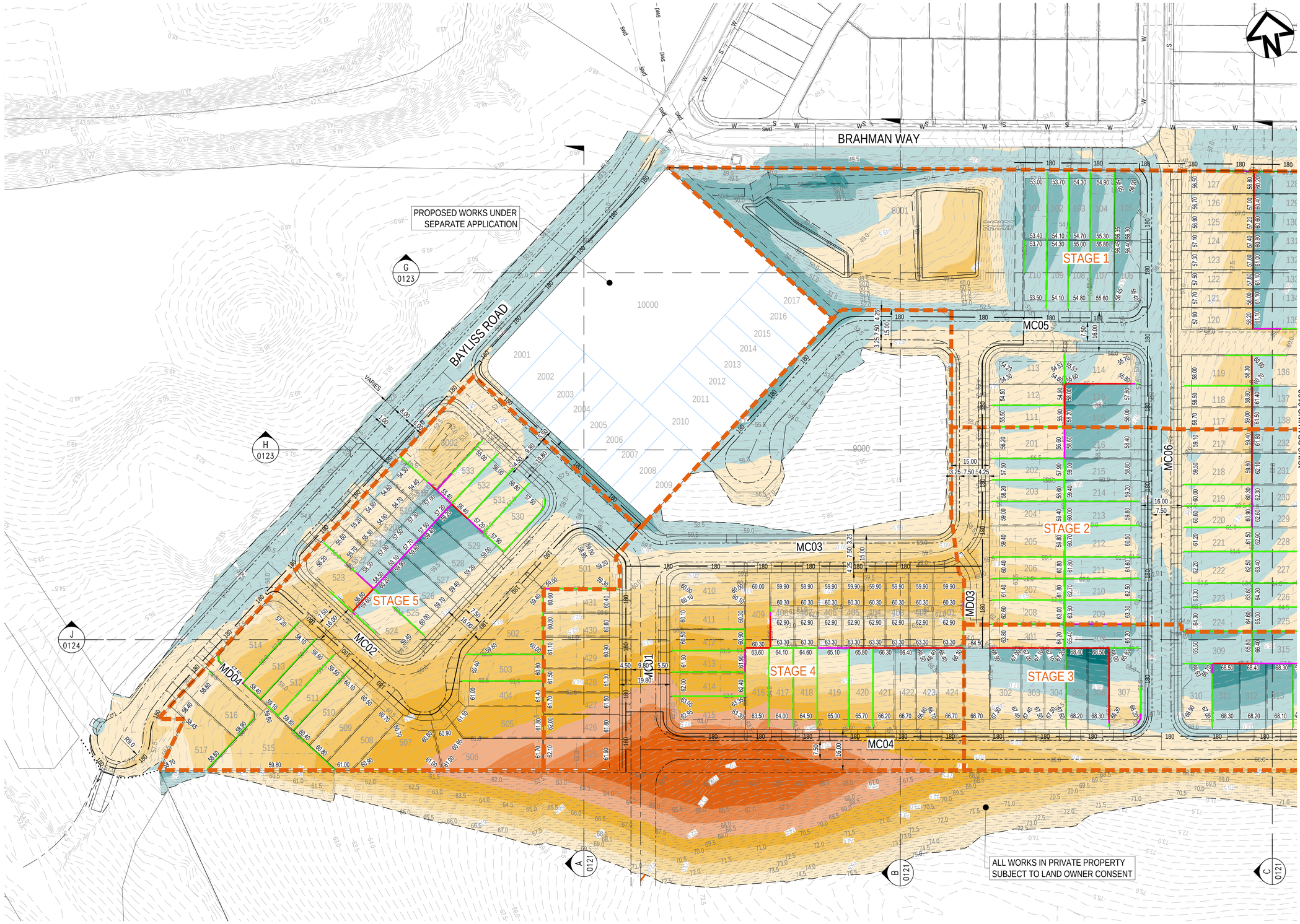
Plan Ref:

7390-0002-A

Sheet 1 o

APPENDIX B

Engineering Drawings



LEGEND

- STAGE BOUNDARY
- 5.0 DESIGN SURFACE CONTOUR
- 5.0 EXISTING SURFACE CONTOUR
- 60.00 PROPOSED BUILDING PAD AND LEVEL
- PROPOSED RETAINING WALL 0.5m - 1.5m
- PROPOSED RETAINING WALL >1.5m - 2.0m
- PROPOSED RETAINING WALL >2.0m - 3.5m
- EARTHWORKS BATTER
- swd EXISTING STORMWATER DRAINAGE
- s EXISTING SEWERAGE RETICULATION
- w EXISTING WATER RETICULATION

CUT FILL DEPTH RANGE

Lower_value		Upper_value		Colour
Greater than -6			m	
-6	to	-5	m	
-5	to	-4	m	
-4	to	-3	m	
-3	to	-2	m	
-2	to	-1	m	
-1	to	0.00	m	
0.000	to	1	m	
1	to	2	m	
2	to	3	m	
3	to	4	m	
4	to	5	m	
5	to	6	m	
Greater than 6			m	

Issue	Description	DR	CH	VE	Date
04	MINOR CHANGE APPLICATION	JU	SS	GE	14.09.26
03	FURTHER IR RESPONSE	LB	BF	MW	16.03.26
02	COUNCIL IR RESPONSE	LB	BF	MW	25.11.25
01	ORIGINAL ISSUE	LB	BF	MW	22.08.25

Scales

0 15 30 45 60 75m

1 : 750

100mm on Original

Surveyor

Client

KDL PROPERTY GROUP

Status

PRELIMINARY
NOT FOR CONSTRUCTION

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Original Issue Signatures

Drawn	L. BRINDELL	Original Size	A1
Designed	B. FINSELBACH	Height Datum	AHD
Project Manager	J. STOCKWELL	Grid	LOCAL
Verified	GARY ELLIS	RPEQ: 17942 DATE: 14 SEP 26	

Project

7-101 & 25 BAYLISS ROAD, SOUTH RIPLEY
CIVIL ENGINEERING SERVICES

Title

BULK EARTHWORKS
LAYOUT PLAN SHEET 1

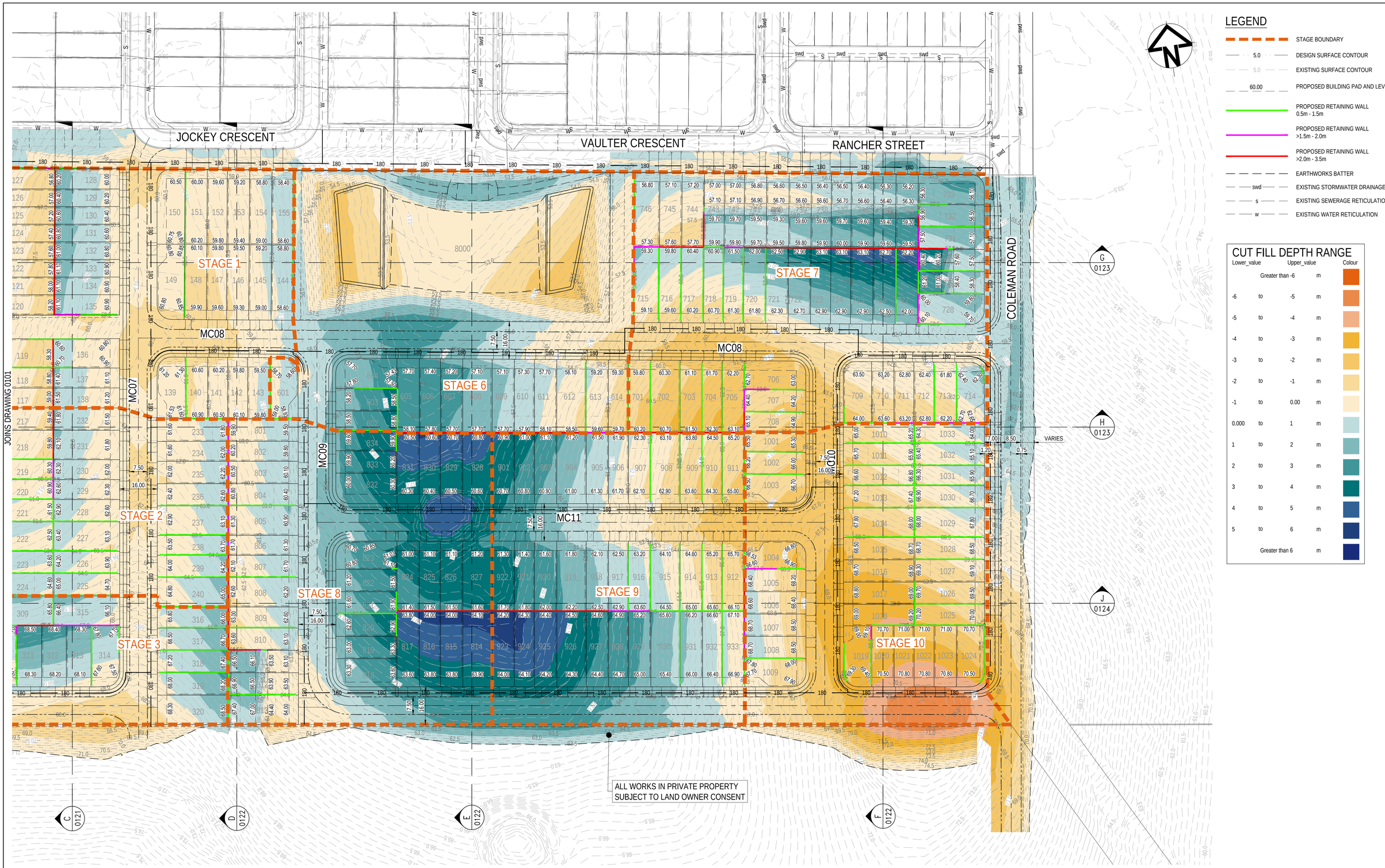
ARCADIS
Arcadis Australia Pacific Pty Limited
Level 7, Seabank Building, 12-14 Marine Parade
SOUTHPORT QLD 4215
ABN 76 104 485 289
Tel No: +61 7 5503 4800
www.arcadis.com/au

Project Number: 30287851

Drawing No.: BSR-AAU-DA-WS00-DRG-CV-0101

Issue: 04

Date Plotted: 14 Sep 2026 - 01:33pm File Name: C:\Users\umipigj3186\DC\ACCDocs\Arcadis ACC AU\AAU-30287851-7 To 101 Bayliss Road\Project Files\10_WIP\10_Civil\STG_00\DRG\BSR-AAU-DA-WS00-DRG-CV-0101-EarthworksLayout.dwg



LEGEND

- STAGE BOUNDARY
- 5.0 DESIGN SURFACE CONTOUR
- 5.0 EXISTING SURFACE CONTOUR
- 60.00 PROPOSED BUILDING PAD AND LEVEL
- PROPOSED RETAINING WALL 0.5m - 1.5m
- PROPOSED RETAINING WALL >1.5m - 2.0m
- PROPOSED RETAINING WALL >2.0m - 3.5m
- EARTHWORKS BATTER
- swd EXISTING STORMWATER DRAINAGE
- s EXISTING SEWERAGE RETICULATION
- w EXISTING WATER RETICULATION

CUT FILL DEPTH RANGE

Lower_value		Upper_value		Colour
Greater than -6			m	
-6	to	-5	m	
-5	to	-4	m	
-4	to	-3	m	
-3	to	-2	m	
-2	to	-1	m	
-1	to	0.00	m	
0.000	to	1	m	
1	to	2	m	
2	to	3	m	
3	to	4	m	
4	to	5	m	
5	to	6	m	
Greater than 6			m	

Issue	Description	DR	CH	VE	Date
04	MINOR CHANGE APPLICATION	JU	SS	GE	14.09.26
03	FURTHER IR RESPONSE	LB	BF	MW	16.03.26
02	COUNCIL IR RESPONSE	LB	BF	MW	25.11.25
01	ORIGINAL ISSUE	LB	BF	MW	22.08.25

100mm on Original

Scales

0 15 30 45 60 75m

1 : 750

Surveyor

Client

KDL PROPERTY GROUP

Status

PRELIMINARY
NOT FOR CONSTRUCTION

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Original Issue Signatures			
Drawn	L. BRINDELL	Original Size	A1
Designed	B. FINSELBACH	Height Datum	AHD
Project Manager	J. STOCKWELL	Grid	LOCAL
Verified	GARY ELLIS	RPEQ: 17942 DATE: 14 SEP 26	

Project

7-101 & 25 BAYLISS ROAD,
SOUTH RIPLEY
CIVIL ENGINEERING SERVICES

Title

BULK EARTHWORKS
LAYOUT PLAN SHEET 2

ARCADIS
Arcadis Australia Pacific Pty Limited
Level 7, Seabank Building, 12-14 Marine Parade
SOUTHPORT QLD 4215
ABN 76 104 485 289
Tel No: +61 7 5503 4800
www.arcadis.com/au

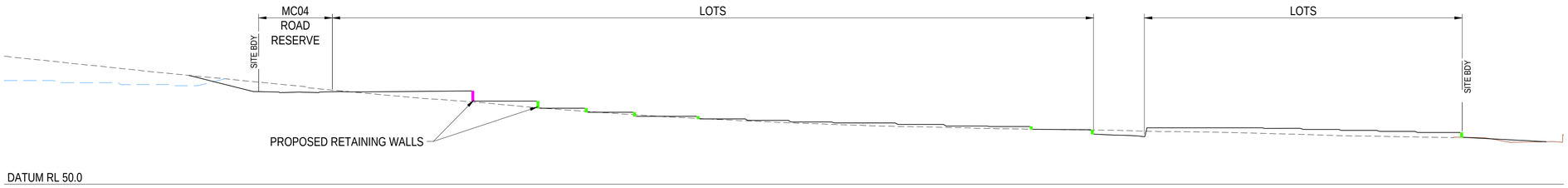
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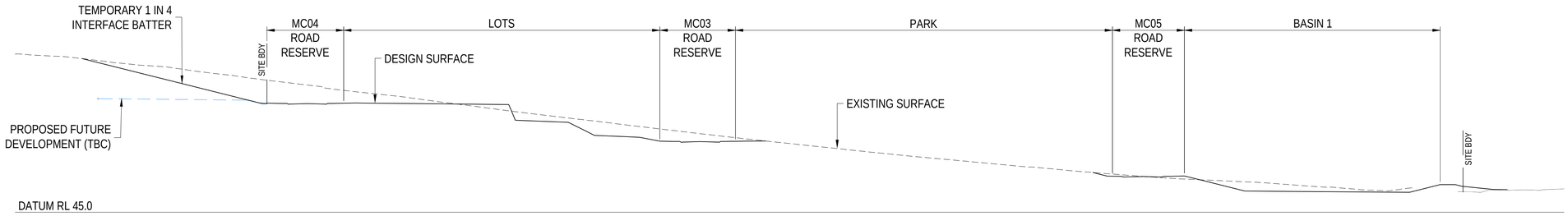
Issue: 04

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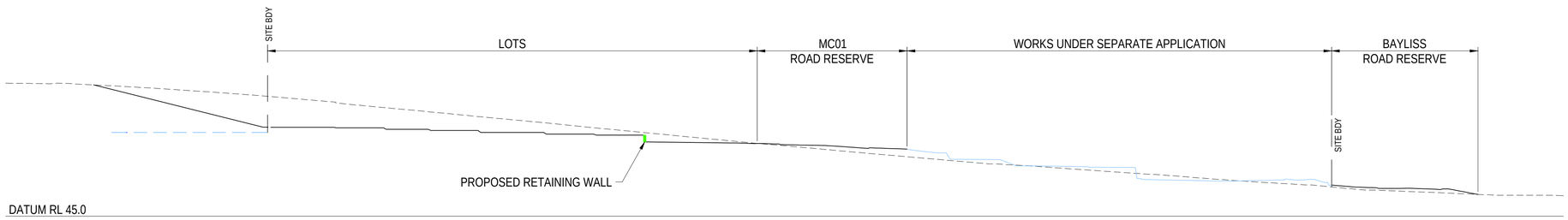
DEVELOPMENT EARTHWORKS INTERFACE TO THE SOUTH DEPENDANT ON ADJOINING DEVELOPMENT PROGRESSION. DEVELOPMENT EARTHWORKS CONSIDER INTERFACE TO CONCEPT FUTURE EARTHWORKS LEVELS OF THE ADJOINING DEVELOPMENT TO THE SOUTH. INTERIM 1 IN 4 BATTER SHOWN SHOULD DEVELOPMENT EARTHWORKS PROGRESS PRIOR.



SECTION C (0101 / 0102)
1 : 500



SECTION B (0101)
1 : 500



SECTION A (0101)
1 : 500

Issue	Description	DR	CH	VE	Date
03	MINOR CHANGE APPLICATION	JU	SS	GE	14.09.26
02	COUNCIL IR RESPONSE	LB	BF	MW	25.11.25
01	ORIGINAL ISSUE	LB	BF	MW	22.08.25

100mm on Original

Scales
0 5 10 20 30 40 50m
1 : 500

Surveyor

Client
KDL PROPERTY GROUP

Status
PRELIMINARY
NOT FOR CONSTRUCTION

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Original Issue Signatures			
Drawn	L. BRINDELL	Original Size	A1
Designed	B. FINSELBACH	Height Datum	AHD
Project Manager	J. STOCKWELL	Grid	LOCAL
Verified	GARY ELLIS	RPEQ: 17942 DATE: 14 SEP 26	

Project
7-101 & 25 BAYLISS ROAD,
SOUTH RIPLEY
CIVIL ENGINEERING SERVICES

Title
EARTHWORK SECTIONS
SHEET 1

ARCADIS
Arcadis Australia Pacific Pty Limited
Level 7, Seabank Building, 12-14 Marine Parade
SOUTHPORT QLD 4215
ABN 76 104 485 289
Tel No: +61 7 5503 4800
www.arcadis.com/au

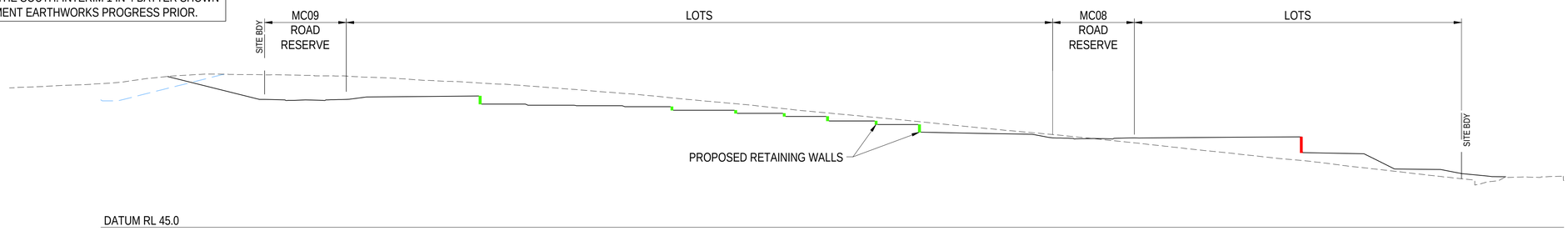
Project Number: 30287851

Drawing No.: BSR-AAU-DA-WS00-DRG-CV-0121

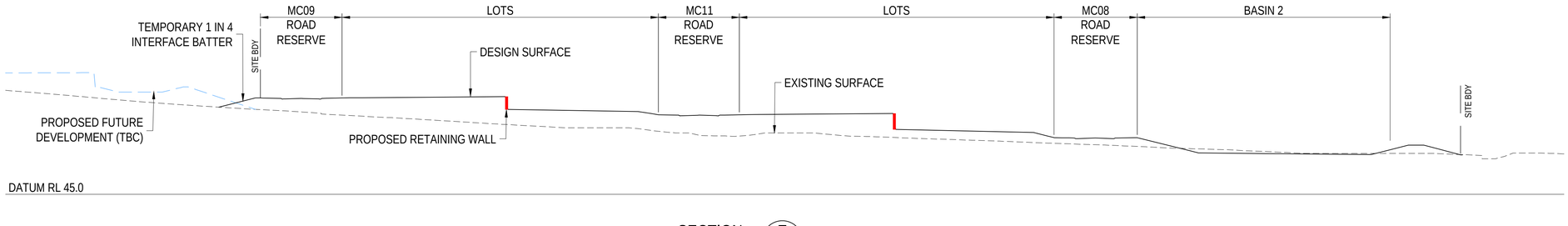
Issue: 03

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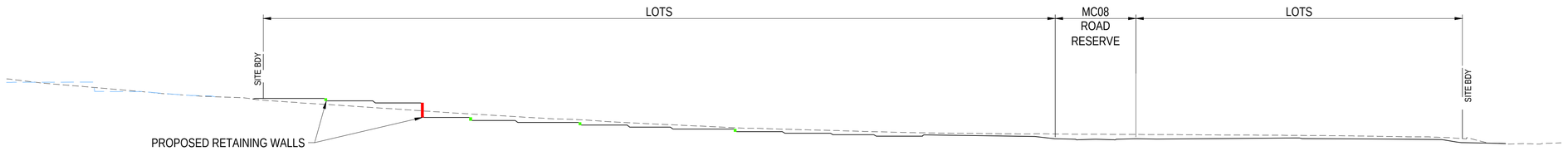
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SECTION F
1 : 500
0102



SECTION E
1 : 500
0102



SECTION D
1 : 500
0102

Issue	Description	DR	CH	VE	Date
04	MINOR CHANGE APPLICATION	JU	SS	GE	14.09.26
03	FURTHER IR RESPONSE	LB	BF	MW	16.03.26
02	COUNCIL IR RESPONSE	LB	BF	MW	25.11.25
01	ORIGINAL ISSUE	LB	BF	MW	22.08.25

Scales

0 5 10 20 30 40 50m

1 : 500

100mm on Original

Surveyor

Client

KDL PROPERTY GROUP

Status

PRELIMINARY
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Original Issue Signatures			
Drawn	L. BRINDELL	Original Size	A1
Designed	B. FINSELBACH	Height Datum	AHD
Project Manager	J. STOCKWELL	Grid	LOCAL
Verified	GARY ELLIS	RPEQ: 17942 DATE: 14 SEP 26	

Project

7-101 & 25 BAYLISS ROAD,
SOUTH RIPLEY
CIVIL ENGINEERING SERVICES

Title

EARTHWORK SECTIONS
SHEET 2

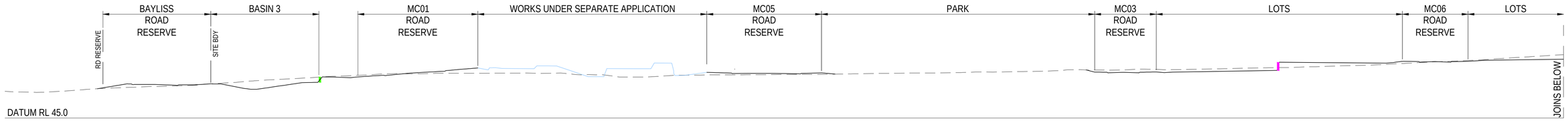
ARCADIS
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SOUTHPORT QLD 4215
ABN 76 104 485 289
Tel No: +61 7 5503 4800
www.arcadis.com/au

Project Number 30287851

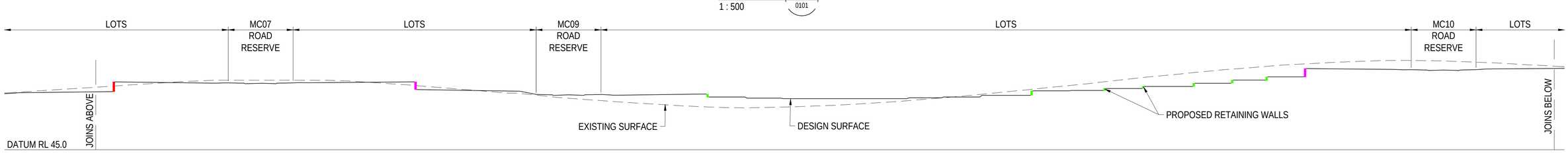
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Issue 04

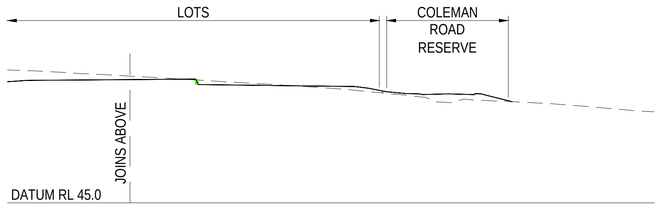
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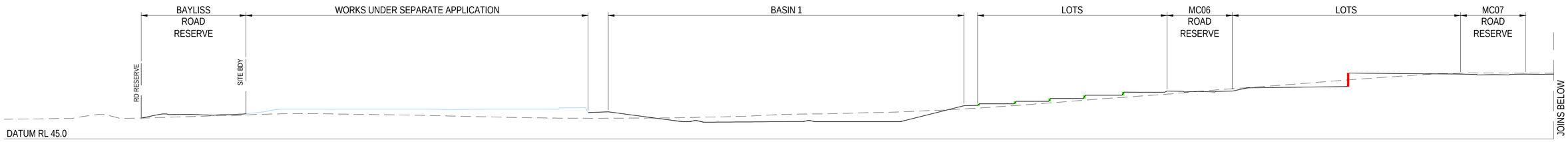
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0101



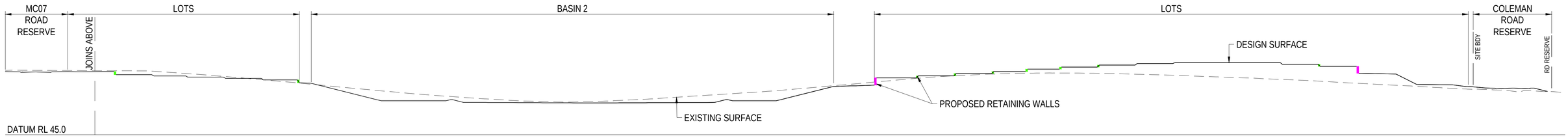
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0102



SECTION H CONTINUED
1 : 500
0102



SECTION G
1 : 500
0101



SECTION G CONTINUED
1 : 500
0102

Issue	Description	DR	CH	VE	Date
03	MINOR CHANGE APPLICATION	JU	SS	GE	14.09.26
02	FURTHER IR RESPONSE	LB	BF	MW	16.03.26
01	ORIGINAL ISSUE	LB	BF	MW	25.11.25

100mm on Original

Scales

0 5 10 20 30 40 50m

1 : 500

Surveyor

Client

KDL PROPERTY GROUP

Status

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Original Issue Signatures			
Drawn	L. BRINDELL	Original Size	A1
Designed	B. FINSELBACH	Height Datum	AHD
Project Manager	J. STOCKWELL	Grid	LOCAL
Verified	GARY ELLIS	RPEQ: 17942 DATE: 14 SEP 26	

Project

7-101 & 25 BAYLISS ROAD,
SOUTH RIPLEY
CIVIL ENGINEERING SERVICES

Title

EARTHWORK SECTIONS
SHEET 3

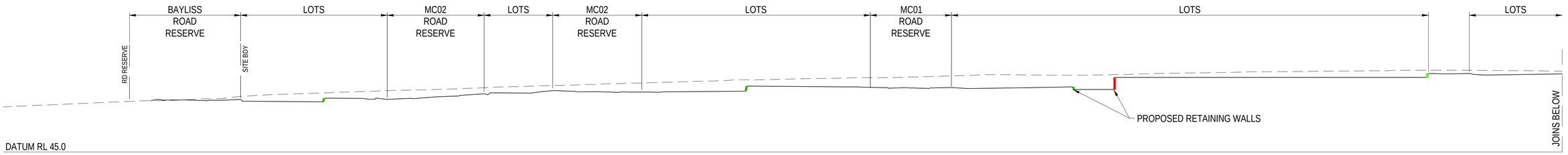
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Level 7, Seabank Building, 12-14 Marine Parade
SOUTHPORT QLD 4215
ABN 76 104 485 289
Tel No: +61 7 5503 4800
www.arcadis.com/au

Project Number: 30287851

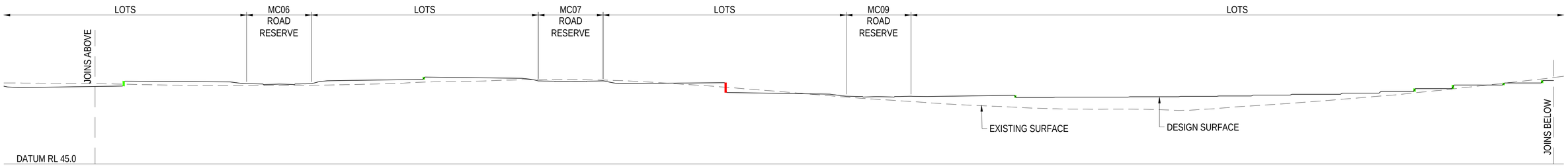
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Issue: 03

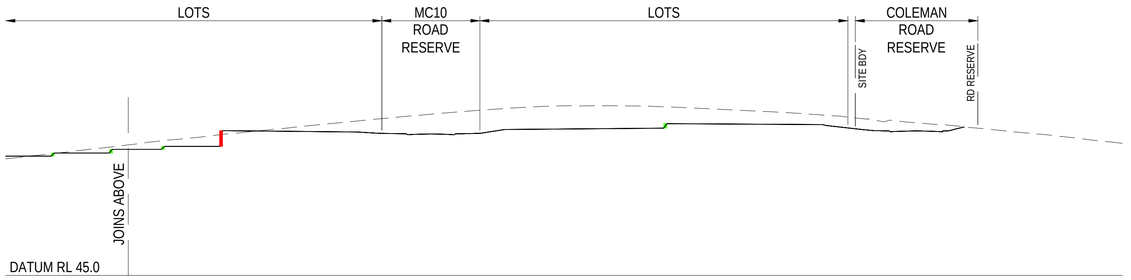
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SECTION J 0101
1 : 500



SECTION J 0102 CONTINUED
1 : 500



SECTION J 0102 CONTINUED
1 : 500

Issue	Description	DR	CH	VE	Date
03	MINOR CHANGE APPLICATION	JU	SS	GE	14.09.26
02	FURTHER IR RESPONSE	LB	BF	MW	16.03.26
01	ORIGINAL ISSUE	LB	BF	MW	25.11.25

100mm on Original

Scales
0 5 10 20 30 40 50m
1 : 500

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Drawn	L. BRINDELL	Original Size	A1
Designed	B. FINSELBACH	Height Datum	AHD
Project Manager	J. STOCKWELL	Grid	LOCAL
Verified	GARY ELLIS	RPEQ: 17942 DATE: 14 SEP 26	

Project
7-101 & 25 BAYLISS ROAD, SOUTH RIPLEY
CIVIL ENGINEERING SERVICES

Title
EARTHWORK SECTIONS SHEET 4

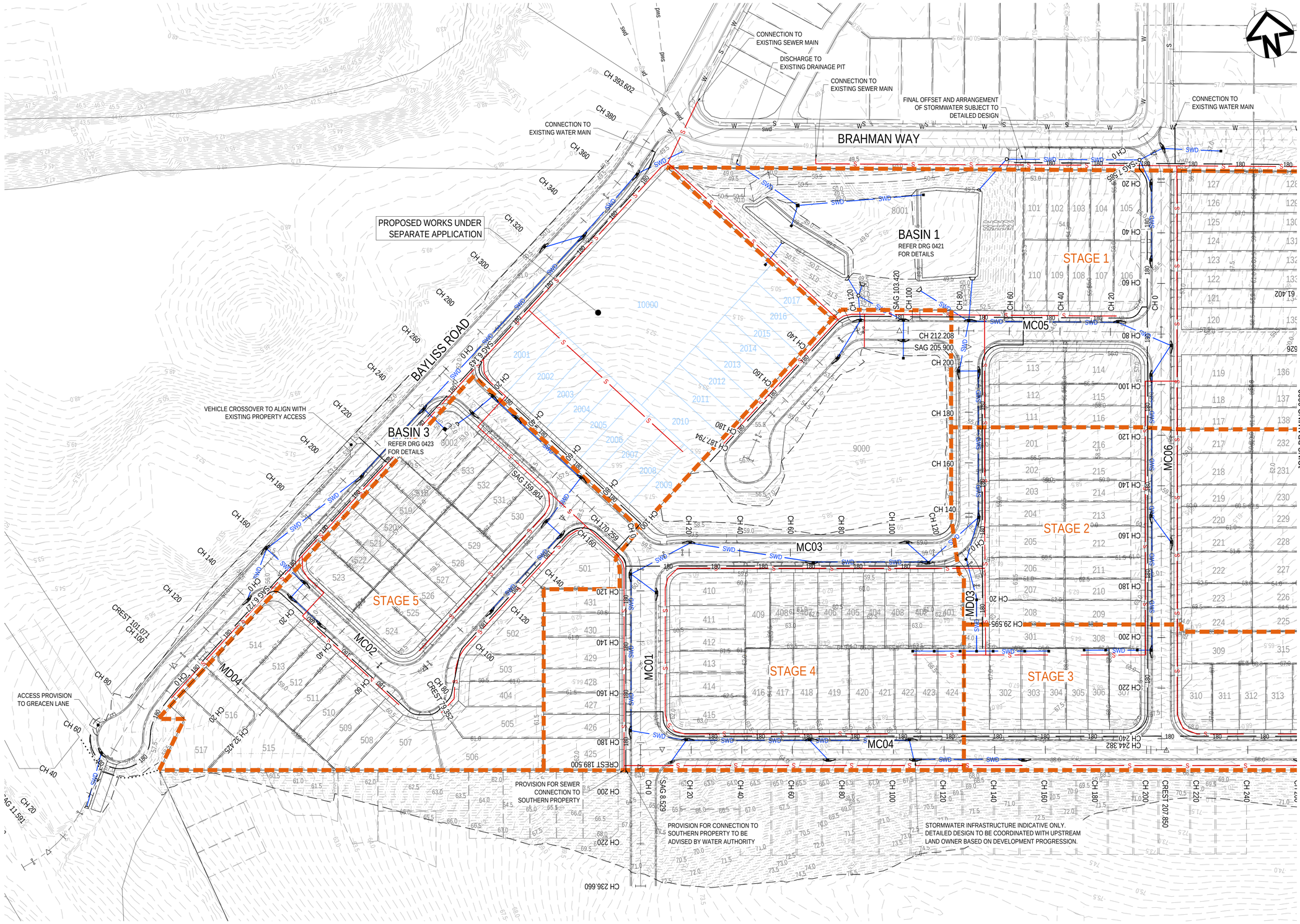
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Project Number 30287851

Drawing No. BSR-AAU-DA-WS00-DRG-CV-0124

Issue 03

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Issue	Description	DR	CH	VE	Date
04	MINOR CHANGE APPLICATION	JU	SS	GE	14.09.26
03	FURTHER IR RESPONSE	LB	BF	MW	16.03.26
02	COUNCIL IR RESPONSE	LB	BF	MW	25.11.25
01	ORIGINAL ISSUE	LB	BF	MW	22.08.25

Scales

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1 : 750

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Original Issue Signatures

Drawn	L. BRINDELL	Original Size	A1
Designed	B. FINSELBACH	Height Datum	AHD
Project Manager	J. STOCKWELL	Grid	LOCAL
Verified	GARY ELLIS	RPEQ: 17942 DATE: 14 SEP 26	

Project

7-101 & 25 BAYLISS ROAD, SOUTH RIPLEY
CIVIL ENGINEERING SERVICES

Title

COMBINED SERVICES LAYOUT PLAN SHEET 1

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ABN 76 104 485 289
Tel No: +61 7 5503 4800
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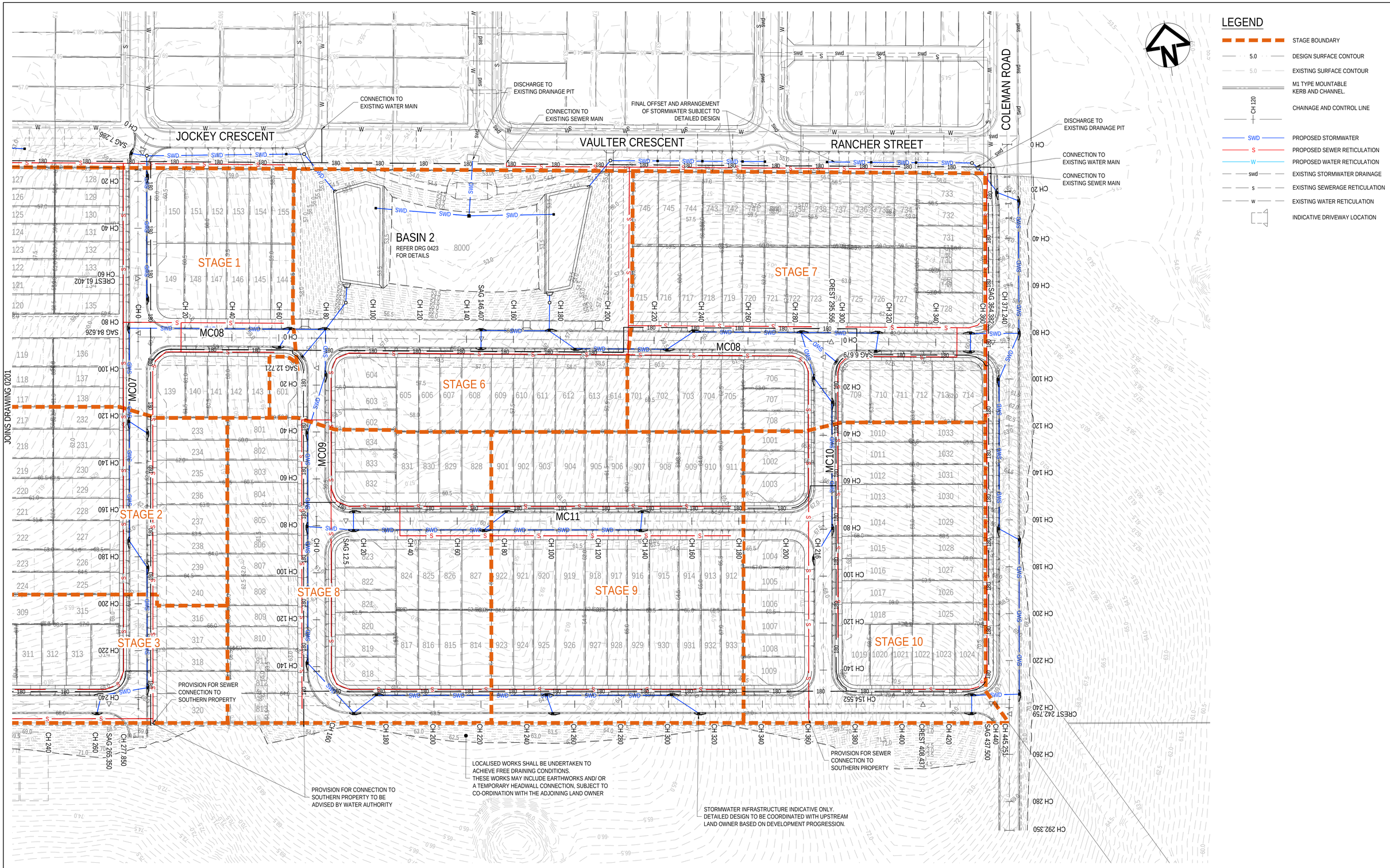
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Drawing No.: BSR-AAU-DA-WS00-DRG-CV-0201

Issue: 04

100mm on Original

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Issue	Description	DR	CH	VE	Date
04	MINOR CHANGE APPLICATION	JU	SS	GE	14.09.26
03	FURTHER IR RESPONSE	LB	BF	MW	16.03.26
02	COUNCIL IR RESPONSE	LB	BF	MW	25.11.25
01	ORIGINAL ISSUE	LB	BF	MW	22.08.25

Scales

0 15 30 45 60 75m

1 : 750

100mm on Original

Surveyor

Client

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Original Issue Signatures

Drawn	L. BRINDELL	Original Size	A1
Designed	B. FINSELBACH	Height Datum	AHD
Project Manager	J. STOCKWELL	Grid	LOCAL
Verified	GARY ELLIS	RPEQ: 17942 DATE: 14 SEP 26	

Project

7-101 & 25 BAYLISS ROAD, SOUTH RIPLEY
CIVIL ENGINEERING SERVICES

Title

COMBINED SERVICES LAYOUT PLAN SHEET 2

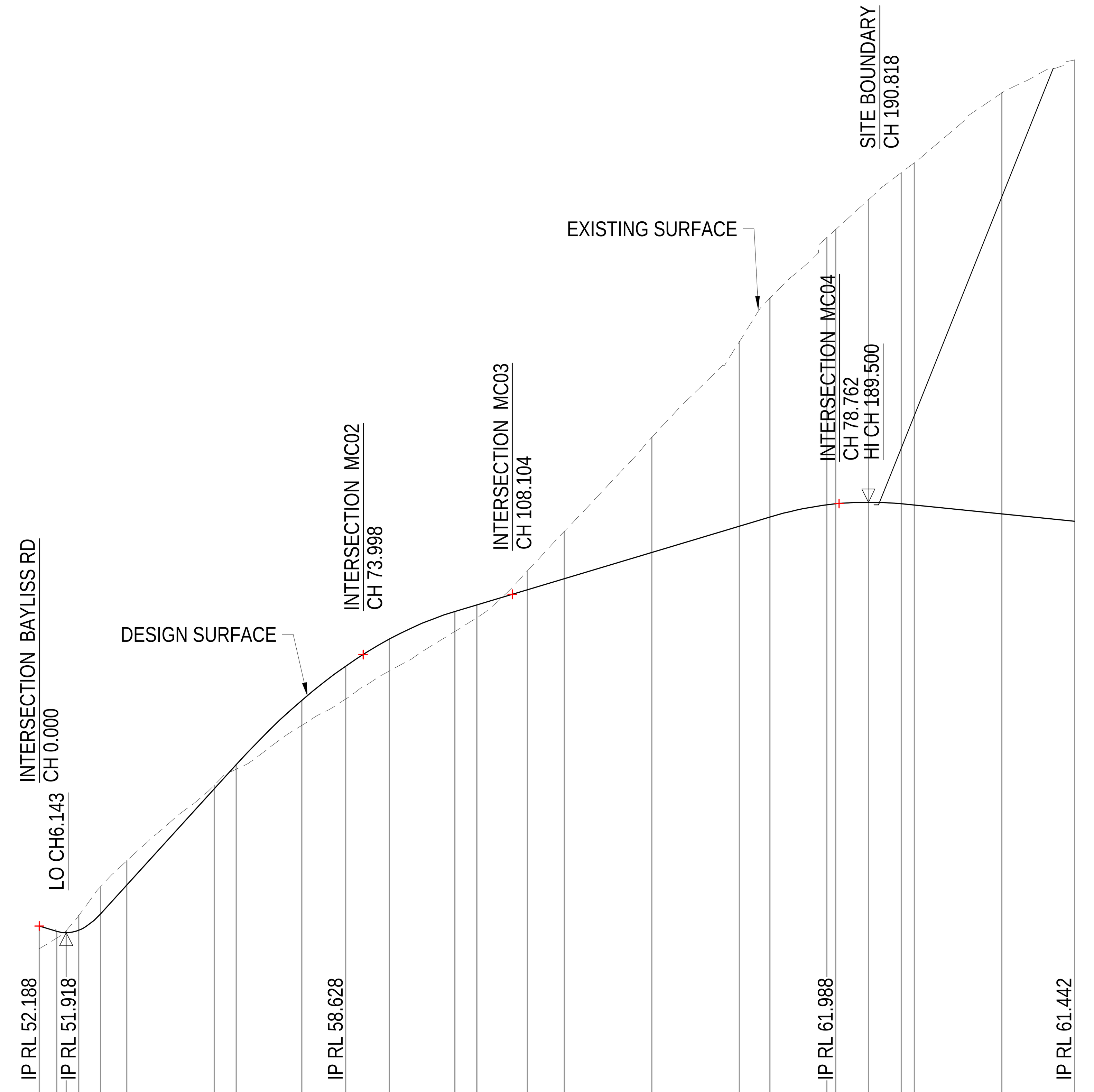
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Arcadis Australia Pacific Pty Limited
Level 7, Seabank Building, 12-14 Marine Parade
SOUTHPORT QLD 4215
ABN 76 104 485 289
Tel No: +61 7 5503 4800
www.arcadis.com/au

Project Number: 30287851

Drawing No.: BSR-AAU-DA-WS00-DRG-CV-0202

Issue: 04

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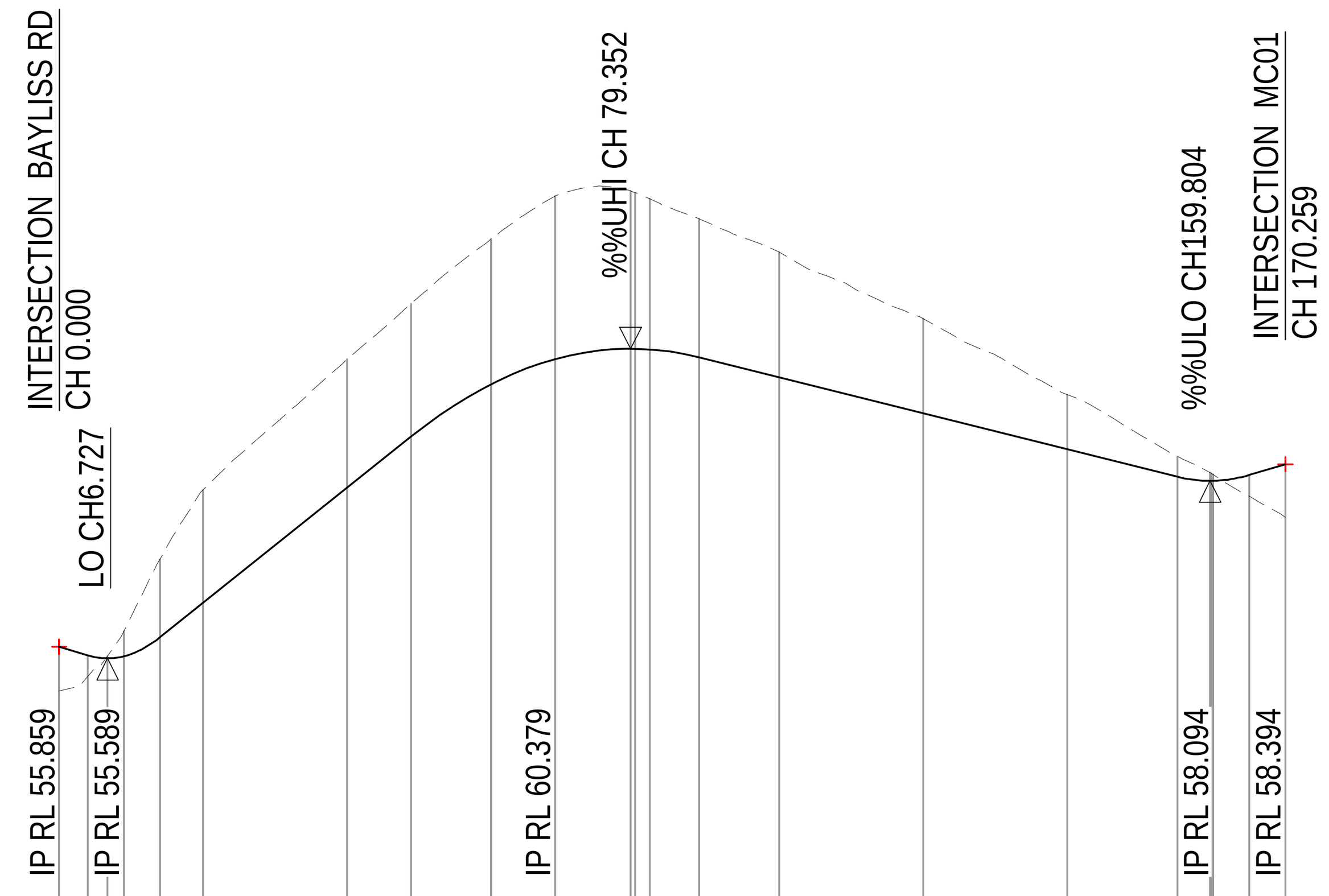


DATUM RL.44.000

DESIGN LEVELS ON ROAD CENTRELINE	52.188	52.068	52.036	52.093	52.468	53.128	55.328	55.878	57.348	58.128	58.748	59.378	59.527	59.528	59.874	60.128	60.728	61.328	61.538	61.815	61.838	61.875	61.838	61.808	61.608	
EXISTING SURFACE ON ROAD CENTRELINE	51.672	51.914	52.083	52.429	53.087	53.681	55.406	55.772	56.775	57.376	58.019	58.921	59.234	59.236	60.302	61.208	63.358	65.544	66.541	67.923	68.105	68.788	69.406	69.633	71.230	71.985
CUT / FILL DEPTH	0.516	0.154	-0.048	-0.336	-0.619	-0.553	-0.078	0.106	0.573	0.752	0.729	0.457	0.293	0.292	-0.428	-1.080	-2.630	-4.216	-5.004	-6.108	-6.267	-6.913	-7.569	-7.825	-9.623	
PEGGED CHAINAGE	0.000	4.000	6.143	9.000	14.000	20.000	40.000	45.000	60.000	70.000	80.000	95.000	99.962	100.000	111.537	120.000	140.000	160.000	167.000	180.000	182.000	189.500	197.000	200.000	220.000	236.660

MC01 LONGITUDINAL SECTION

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



DATUM RL.48.000

DESIGN LEVELS ON ROAD CENTRELINE	55.859	55.739	55.698	55.726	55.989	56.469	58.069	58.779	59.506	59.507	59.854	59.998	59.998	59.989	59.879	59.601	59.101	58.601	58.219	58.163	58.163	58.163	58.244	58.395
EXISTING SURFACE ON ROAD CENTRELINE	55.240	55.448	55.726	56.077	57.074	58.037	59.852	60.624	61.524	61.524	62.117	62.190	62.166	62.082	61.800	61.339	60.415	59.358	58.503	58.279	58.267	58.250	57.947	57.654
CUT / FILL DEPTH	0.619	0.291	-0.028	-0.350	-1.085	-1.568	-1.783	-1.845	-2.018	-2.018	-2.263	-2.191	-2.169	-2.093	-1.921	-1.738	-1.314	-0.757	-0.284	-0.116	-0.105	-0.087	0.297	0.741
PEGGED CHAINAGE	0.000	4.000	6.727	9.000	14.000	20.000	40.000	48.876	59.998	60.000	68.876	79.352	80.000	81.991	88.876	100.000	120.000	140.000	155.259	159.804	160.000	160.259	165.259	170.259

MC02 LONGITUDINAL SECTION

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

Issue	Description	DR	CH	VE	Date
04	MINOR CHANGE APPLICATION	JU	SS	GE	14.09.26
03	FURTHER IR RESPONSE	LB	BF	MW	16.03.26
02	COUNCIL IR RESPONSE	LB	BF	MW	25.11.25
01	ORIGINAL ISSUE	LB	BF	MW	22.08.25

100mm on Original

Scales
HORZ 0 10 20 40 60 80 100m
1:1000
VERT 0 1 2 4 6 8 10m
1:100

Surveyor

Client
KDL PROPERTY GROUP

Status
PRELIMINARY
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Original Issue Signatures			
Drawn	L. BRINDELL	Original Size	A1
Designed	B. FINSELBACH	Height Datum	AHD
Project Manager	J. STOCKWELL	Grid	LOCAL
Verified	GARY ELLIS	RPEQ: 17942 DATE: 14 SEP 26	

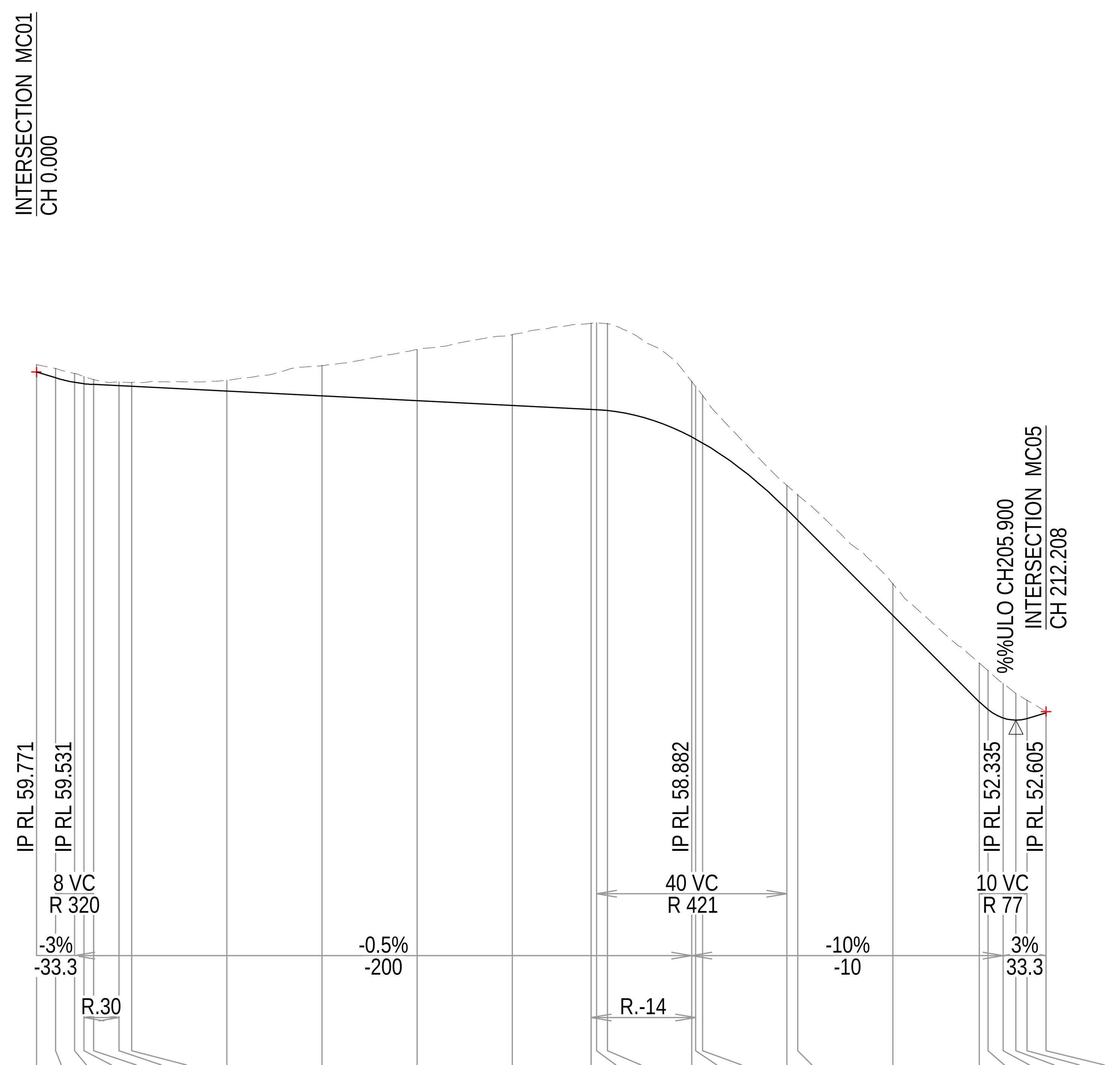
Project
7-101 & 25 BAYLISS ROAD,
SOUTH RIPLEY
CIVIL ENGINEERING SERVICES

Title
ROAD LONGITUDINAL SECTIONS
SHEET 1

ARCADIS
Arcadis Australia Pacific Pty Limited
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SOUTHPORT QLD 4215
ABN 76 104 485 289
Tel No: +61 7 5503 4800
www.arcadis.com/au

Project Number 30287851

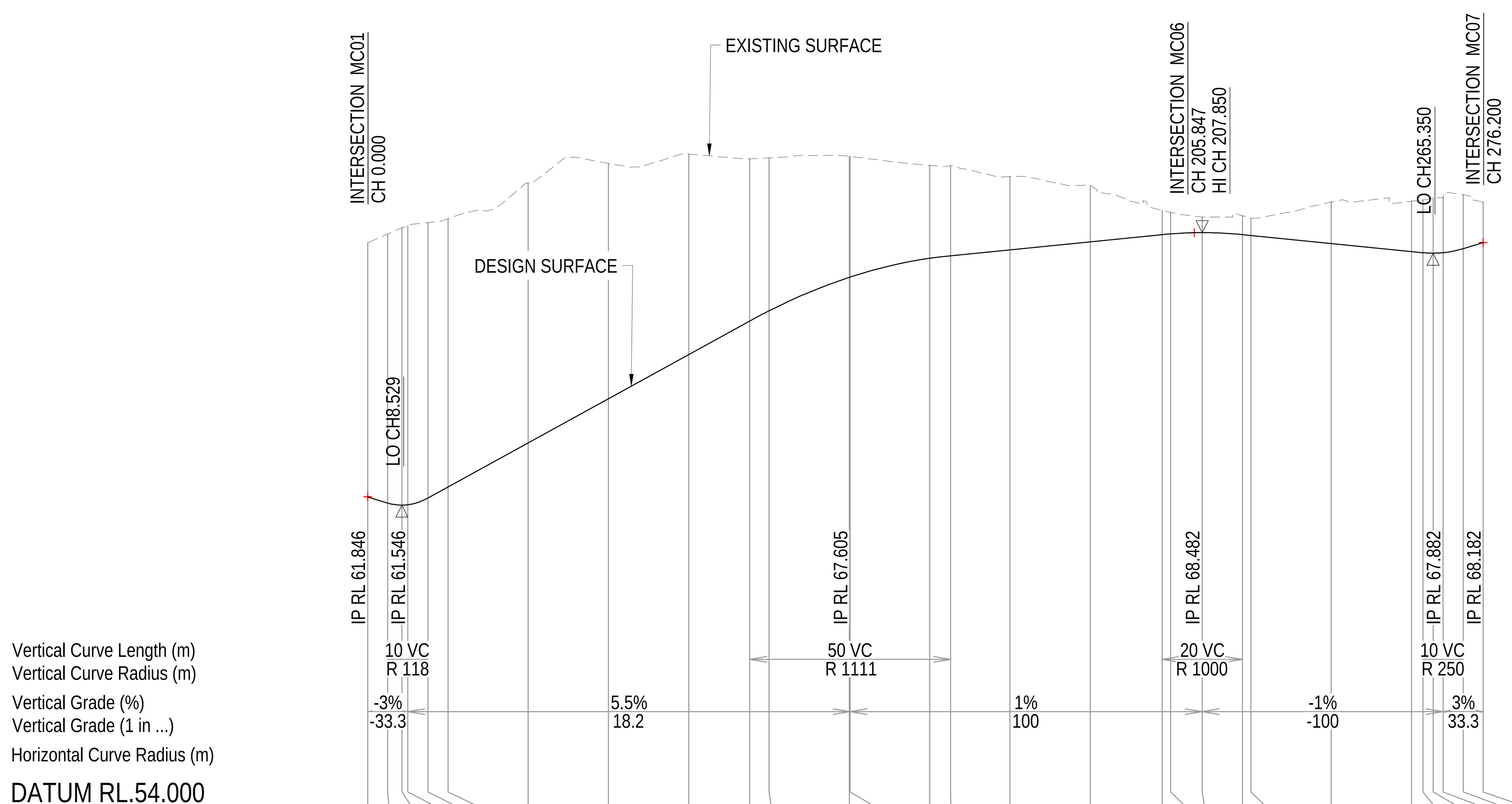
Drawing No. BSR-AAU-DA-WS00-DRG-CV-0251
Issue 04



PEGGED CHAINAGE	DESIGN LEVELS ON ROAD CENTRELINE	EXISTING SURFACE ON ROAD CENTRELINE	CUT / FILL DEPTH
0.000	59.771	59.928	-0.157
4.000	59.651	59.843	-0.193
8.000	59.556	59.742	-0.186
9.979	59.527	59.679	-0.152
12.000	59.511	59.614	-0.103
17.337	59.484	59.561	-0.077
20.000	59.471	59.554	-0.083
40.000	59.371	59.595	-0.224
60.000	59.271	59.904	-0.634
80.000	59.171	60.245	-1.075
100.000	59.071	60.557	-1.486
116.570	58.988	60.797	-1.809
117.742	58.982	60.805	-1.823
120.000	58.965	60.787	-1.823
137.742	58.407	59.575	-1.168
138.572	58.363	59.467	-1.105
140.000	58.282	59.280	-0.998
157.742	56.882	57.388	-0.506
160.000	56.656	57.193	-0.537
180.000	54.656	55.320	-0.664
198.208	52.835	53.650	-0.814
200.000	52.677	53.493	-0.816
203.208	52.498	53.220	-0.723
205.900	52.451	53.013	-0.562
208.208	52.485	52.871	-0.385
212.208	52.605	52.633	-0.027

MC03 LONGITUDINAL SECTION

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



PEGGED CHAINAGE	DESIGN LEVELS ON ROAD CENTRELINE	EXISTING SURFACE ON ROAD CENTRELINE	CUT / FILL DEPTH
0.000	61.846	68.180	-6.334
5.000	61.696	68.395	-6.700
8.529	61.643	68.550	-6.908
10.000	61.652	68.600	-6.949
15.000	61.821	68.679	-6.858
20.000	62.096	68.774	-6.678
40.000	63.196	69.666	-6.470
60.000	64.296	70.153	-5.857
80.000	65.396	70.388	-4.993
95.175	66.230	70.269	-4.038
100.000	66.485	70.292	-3.807
120.000	67.318	70.331	-3.012
120.175	67.324	70.329	-3.005
140.000	67.791	70.105	-2.314
145.175	67.855	70.093	-2.237
160.000	68.003	69.827	-1.823
180.000	68.203	69.595	-1.392
197.850	68.382	68.983	-0.601
200.000	68.401	68.936	-0.535
207.850	68.432	68.819	-0.387
217.850	68.382	68.851	-0.469
220.000	68.360	68.793	-0.432
240.000	68.160	69.190	-1.030
260.000	67.960	69.214	-1.254
262.850	67.932	69.242	-1.310
265.350	67.919	69.295	-1.376
267.850	67.932	69.307	-1.376
272.850	68.032	69.373	-1.342
277.850	68.182	69.190	-1.008

MC04 LONGITUDINAL SECTION

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

Issue	Description	DR	CH	VE	Date
04	MINOR CHANGE APPLICATION	JU	SS	GE	14.09.26
03	FURTHER IR RESPONSE	LB	BF	MW	16.03.26
02	COUNCIL IR RESPONSE	LB	BF	MW	25.11.25
01	ORIGINAL ISSUE	LB	BF	MW	22.08.25

100mm on Original

Scales
HORZ 0 10 20 40 60 80 100m — 1:1000
VERT 0 1 2 4 6 8 10m — 1:100

Surveyor

Client: KDL PROPERTY GROUP

Status: PRELIMINARY
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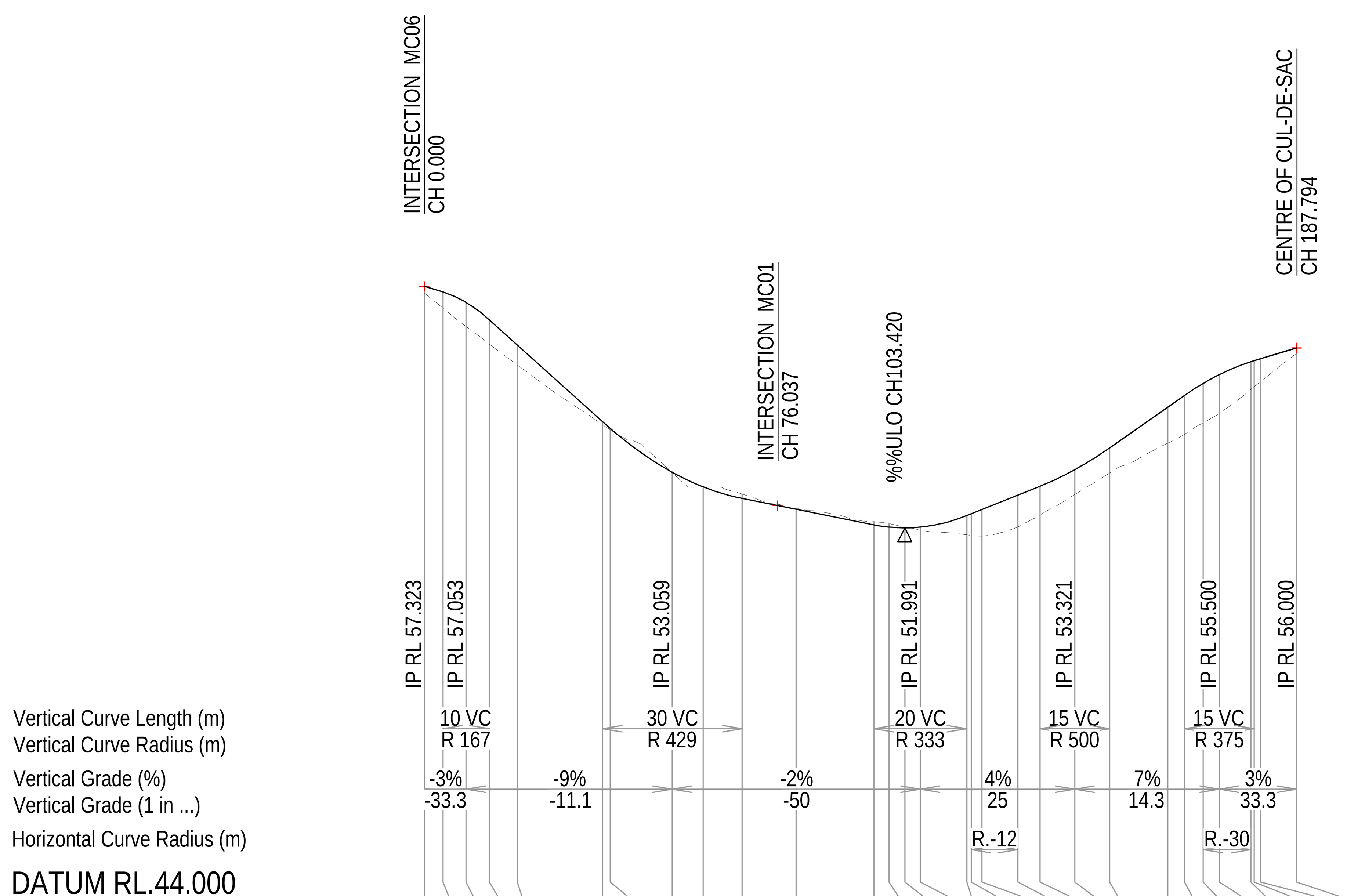
Drawn	L. BRINDELL	Original Size	A1
Designed	B. FINSELBACH	Height Datum	AHD
Project Manager	J. STOCKWELL	Grid	LOCAL
Verified	GARY ELLIS	RPEQ: 17942 DATE: 14 SEP 26	

Project: 7-101 & 25 BAYLISS ROAD, SOUTH RIPLEY
CIVIL ENGINEERING SERVICES

Title: ROAD LONGITUDINAL SECTIONS SHEET 2

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ABN 76 104 485 289
Tel No: +61 7 5503 4800
www.arcadis.com/au

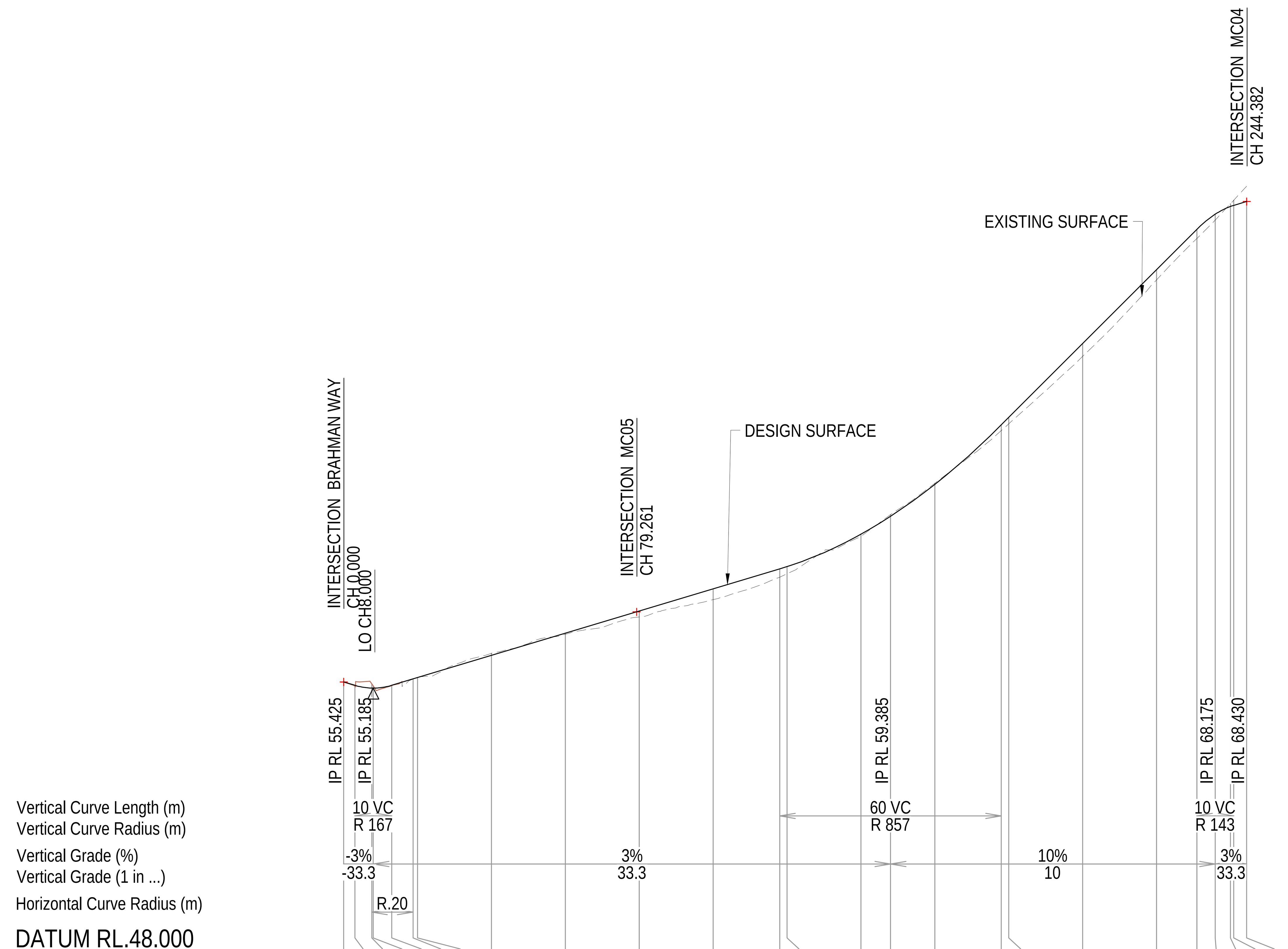
Project Number: 30287851
Drawing No.: BSR-AAU-DA-WS00-DRG-CV-0252
Issue: 04



PEGGED CHAINAGE	DESIGN LEVELS ON ROAD CENTRELINE	EXISTING SURFACE ON ROAD CENTRELINE	CUT / FILL DEPTH
0.000	57.323	57.179	0.144
4.000	57.203	56.855	0.348
9.000	56.978	56.456	0.521
14.000	56.603	56.083	0.520
20.000	56.063	55.634	0.429
38.379	54.409	54.346	0.063
40.000	54.266	54.234	0.032
53.379	53.321	53.313	0.009
60.000	53.008	53.000	0.008
68.379	52.759	52.852	-0.094
80.000	52.526	52.537	-0.011
96.754	52.191	52.257	-0.066
100.000	52.142	52.220	-0.078
103.420	52.125	52.145	-0.020
106.754	52.141	52.081	0.061
116.754	52.391	51.975	0.416
117.738	52.431	51.962	0.469
120.000	52.521	51.948	0.573
127.745	52.831	52.144	0.687
132.500	53.021	52.401	0.620
140.000	53.377	52.844	0.533
147.500	53.846	53.308	0.538
160.000	54.721	53.947	0.774
163.627	54.975	54.139	0.836
167.671	55.236	54.388	0.848
171.127	55.425	54.590	0.835
177.923	55.703	55.109	0.594
178.627	55.725	55.165	0.560
180.000	55.766	55.270	0.496
187.794	56.000	55.886	0.114

MC05 LONGITUDINAL SECTION

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



PEGGED CHAINAGE	DESIGN LEVELS ON ROAD CENTRELINE	EXISTING SURFACE ON ROAD CENTRELINE	CUT / FILL DEPTH
0.000	55.425	55.425	0.000
3.000	55.335	55.312	0.023
7.585	55.261	55.376	-0.115
8.000	55.260	55.319	-0.059
13.000	55.335	55.332	0.004
18.739	55.508	55.505	0.002
20.000	55.545	55.550	-0.005
40.000	56.145	56.200	-0.055
60.000	56.745	56.717	0.029
80.000	57.345	57.187	0.158
100.000	57.945	57.657	0.288
117.980	58.485	58.259	0.226
120.000	58.548	58.357	0.190
140.000	59.428	59.371	0.058
147.980	59.910	59.955	-0.045
160.000	60.775	60.806	-0.031
177.980	62.385	62.233	0.151
180.000	62.587	62.414	0.173
200.000	64.587	64.240	0.347
220.000	66.587	66.314	0.272
230.882	67.675	67.424	0.251
235.882	68.087	67.932	0.155
240.000	68.296	68.371	-0.076
240.882	68.325	68.466	-0.141
244.382	68.430	68.843	-0.413

MC06 LONGITUDINAL SECTION

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

Issue	Description	DR	CH	VE	Date
04	MINOR CHANGE APPLICATION	JU	SS	GE	14.09.26
03	FURTHER IR RESPONSE	LB	BF	MW	16.03.26
02	COUNCIL IR RESPONSE	LB	BF	MW	25.11.25
01	ORIGINAL ISSUE	LB	BF	MW	22.08.25

100mm on Original

Scales
HORZ 0 10 20 40 60 80 100m — 1:1000
VERT 0 1 2 4 6 8 10m — 1:100

Surveyor

Client
KDL PROPERTY GROUP

Status
PRELIMINARY
NOT FOR CONSTRUCTION

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Original Issue Signatures

Drawn	L. BRINDELL	Original Size	A1
Designed	B. FINSELBACH	Height Datum	AHD
Project Manager	J. STOCKWELL	Grid	LOCAL
Verified	GARY ELLIS	RPEQ: 17942 DATE: 14 SEP 26	

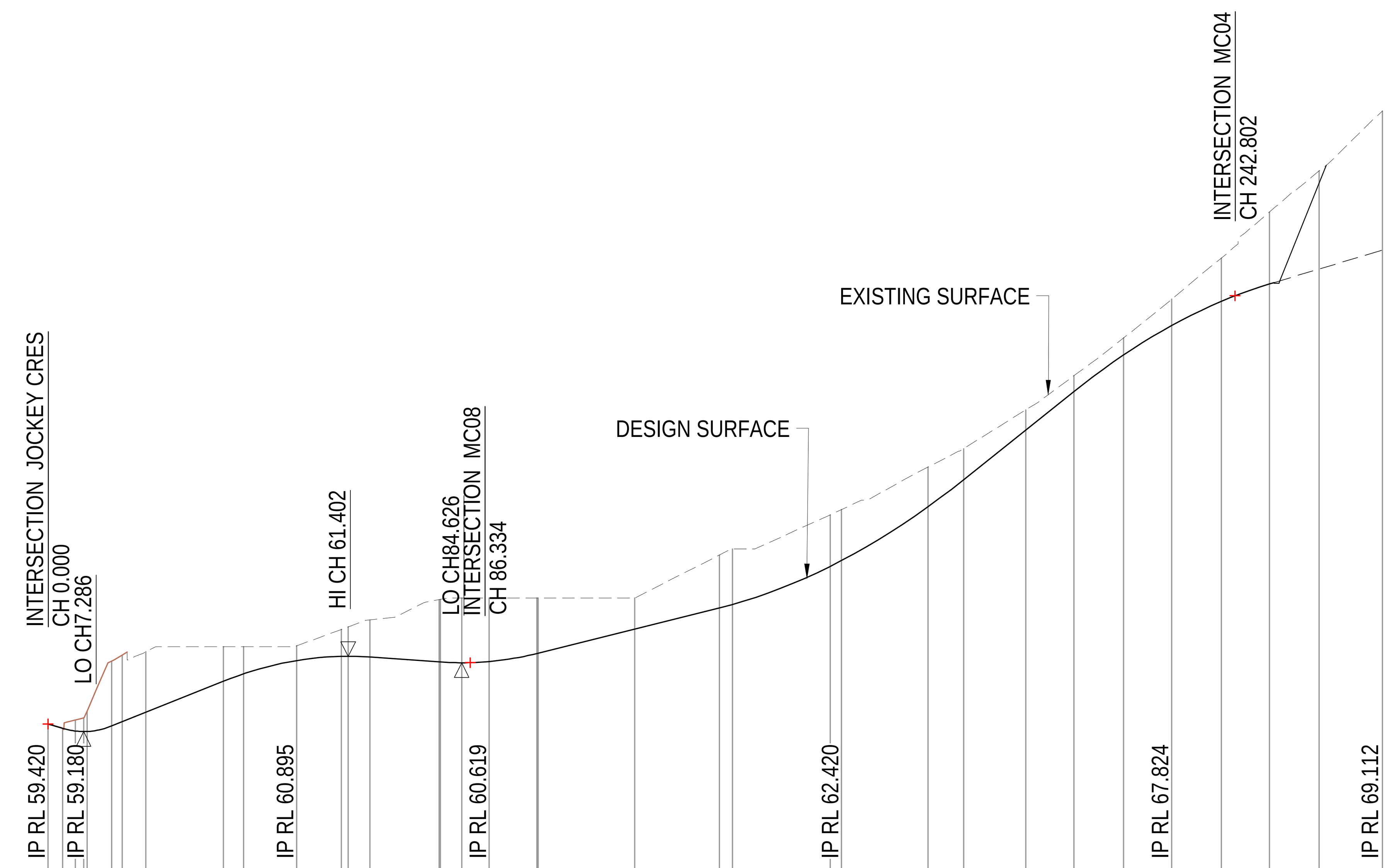
Project
7-101 & 25 BAYLISS ROAD, SOUTH RIPLEY CIVIL ENGINEERING SERVICES

Title
ROAD LONGITUDINAL SECTIONS SHEET 3

ARCADIS
Arcadis Australia Pacific Pty Limited
Level 7, Seabank Building, 12-14 Marine Parade
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www.arcadis.com/au

Project Number 30287851

Drawing No. BSR-AAU-DA-WS00-DRG-CV-0253 Issue 04



Vertical Curve Length (m) / Vertical Curve Radius (m)	10 VC R 143	30 VC R 638	20 VC R 625	50 VC R 909	40 VC R 800

Vertical Grade (%) / Vertical Grade (1 in ...)	-3% -33.3	4% 25	-0.7% -142.9	2.5% 40	8% 12.5	3% 33.3

Horizontal Curve Radius (m): R.-20

DATUM RL.52.000

PEGGED CHAINAGE	DESIGN LEVELS ON ROAD CENTRELINE	EXISTING SURFACE ON ROAD CENTRELINE	CUT / FILL DEPTH
0.000	59.420	59.420	0.000
3.000	59.330	59.328	0.001
5.607	59.275	59.503	-0.228
7.286	59.266	59.543	-0.278
8.000	59.267	59.687	-0.420
13.000	59.380	60.707	-1.327
15.161	59.466	60.828	-1.361
20.000	59.660	60.897	-1.238
35.870	60.295	61.000	-0.705
40.000	60.447	61.000	-0.553
50.870	60.718	61.019	-0.300
60.000	60.804	61.356	-0.552
61.402	60.805	61.408	-0.602
65.870	60.790	61.549	-0.759
80.000	60.691	61.963	-1.272
80.251	60.689	61.968	-1.279
84.626	60.674	62.000	-1.326
90.251	60.699	62.000	-1.301
100.000	60.863	62.000	-1.137
100.251	60.869	62.000	-1.131
120.000	61.363	62.000	-0.637
137.309	61.795	62.877	-1.081
140.000	61.867	63.000	-1.133
160.000	62.646	63.700	-1.054
162.309	62.764	63.805	-1.041
180.000	63.865	64.678	-0.813
187.309	64.420	65.056	-0.635
200.000	65.436	65.847	-0.411
209.855	66.224	66.545	-0.321
220.000	66.971	67.318	-0.347
229.855	67.574	68.112	-0.538
240.000	68.068	68.951	-0.883
249.855	68.424	69.894	-1.470
260.000	68.728	70.734	-2.005
272.990		71.959	

MC07 LONGITUDINAL SECTION

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

Issue	Description	DR	CH	VE	Date
04	MINOR CHANGE APPLICATION	JU	SS	GE	14.09.26
03	FURTHER IR RESPONSE	LB	BF	MW	16.03.26
02	COUNCIL IR RESPONSE	LB	BF	MW	25.11.25
01	ORIGINAL ISSUE	LB	BF	MW	22.08.25

100mm on Original

Scales
HORZ 0 10 20 40 60 80 100m — 1:1000
VERT 0 1 2 4 6 8 10m — 1:100

Surveyor

Client: KDL PROPERTY GROUP

Status: PRELIMINARY NOT FOR CONSTRUCTION

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Original Issue Signatures			
Drawn	L. BRINDELL	Original Size	A1
Designed	B. FINSELBACH	Height Datum	AHD
Project Manager	J. STOCKWELL	Grid	LOCAL
Verified	GARY ELLIS	RPEQ: 17942 DATE: 14 SEP 26	

Project: 7-101 & 25 BAYLISS ROAD, SOUTH RIPLEY CIVIL ENGINEERING SERVICES

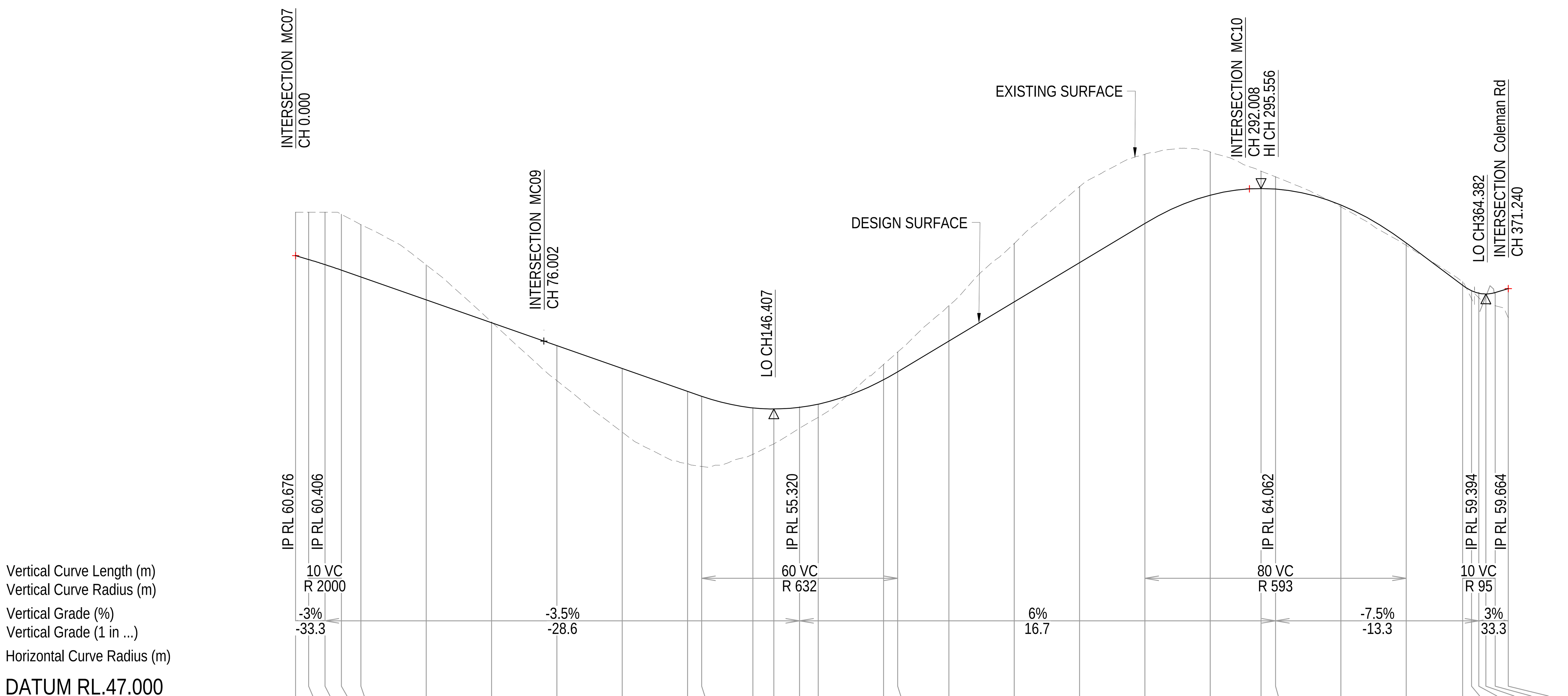
Title: ROAD LONGITUDINAL SECTIONS SHEET 4

ARCADIS

Arcadis Australia Pacific Pty Limited
Level 7, Seabank Building, 12-14 Marine Parade
SOUTHPORT QLD 4215
ABN 76 104 485 289
Tel No: +61 7 5503 4800
www.arcadis.com/au

Project Number: 30287851

Drawing No.: BSR-AAU-DA-WS00-DRG-CV-0254 Issue: 04



DATUM RL.47.000

PEGGED CHAINAGE	DESIGN LEVELS ON ROAD CENTRELINE	EXISTING SURFACE ON ROAD CENTRELINE	CUT / FILL DEPTH
0.000	60.676	62.000	-1.324
4.000	60.556	62.000	-1.444
9.000	60.400	62.000	-1.600
14.000	60.231	61.940	-1.709
20.000	60.021	61.619	-1.598
40.000	59.321	60.390	-1.069
60.000	58.621	58.643	-0.022
80.000	57.921	56.846	1.076
100.000	57.221	55.273	1.948
120.000	56.521	54.309	2.212
124.302	56.370	54.226	2.145
140.000	56.016	54.598	1.418
146.407	55.984	54.915	1.069
154.302	56.033	55.394	0.639
160.000	56.130	55.727	0.403
180.000	56.877	57.343	-0.466
184.302	57.120	57.726	-0.605
200.000	58.062	59.145	-1.083
220.000	59.262	61.047	-1.785
240.000	60.462	62.787	-2.325
260.000	61.662	63.776	-2.114
280.000	62.525	63.846	-1.321
295.556	62.729	63.260	-0.531
300.000	62.712	63.086	-0.374
320.000	62.225	62.168	0.056
340.000	61.062	60.990	0.072
357.240	59.769	59.876	-0.107
360.000	59.602	59.358	0.245
362.240	59.526	59.379	0.146
364.382	59.502	59.209	0.293
367.240	59.544	59.141	0.404
371.240	59.664	58.778	0.886

MC08 LONGITUDINAL SECTION

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

Issue	Description	DR	CH	VE	Date
04	MINOR CHANGE APPLICATION	JU	SS	GE	14.09.26
03	FURTHER IR RESPONSE	LB	BF	MW	16.03.26
02	COUNCIL IR RESPONSE	LB	BF	MW	25.11.25
01	ORIGINAL ISSUE	LB	BF	MW	22.08.25

100mm on Original

Scales
HORZ 0 10 20 40 60 80 100m — 1:1000
VERT 0 1 2 4 6 8 10m — 1:100

Surveyor

Client: KDL PROPERTY GROUP

Status: PRELIMINARY
NOT FOR CONSTRUCTION

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Original Issue Signatures

Drawn	L. BRINDELL	Original Size	A1
Designed	B. FINSELBACH	Height Datum	AHD
Project Manager	J. STOCKWELL	Grid	LOCAL
Verified	GARY ELLIS	RPEQ: 17942 DATE: 14 SEP 26	

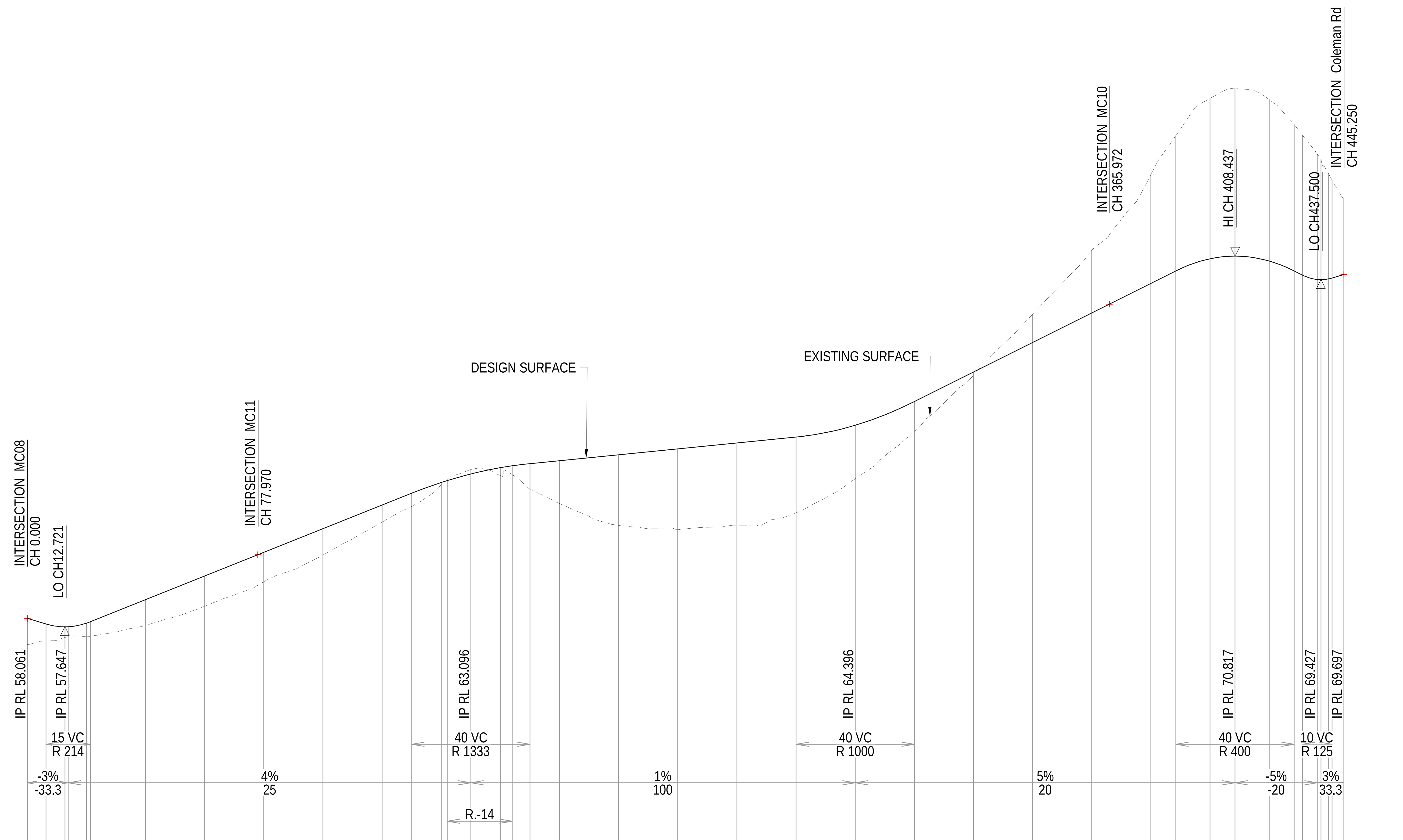
Project: 7-101 & 25 BAYLISS ROAD, SOUTH RIPLEY CIVIL ENGINEERING SERVICES

Title: ROAD LONGITUDINAL SECTIONS SHEET 5

ARCADIS
Arcadis Australia Pacific Pty Limited
Level 7, Seabank Building, 12-14 Marine Parade
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Tel No: +61 7 5503 4800
www.arcadis.com/au

Project Number: 30287851

Drawing No.: BSR-AAU-DA-WS00-DRG-CV-0255 Issue: 04



DATUM RL.50.000

PEGGED CHAINAGE	DESIGN LEVELS ON ROAD CENTRELINE	EXISTING SURFACE ON ROAD CENTRELINE	CUT / FILL DEPTH
0.000	58.061	57.177	0.884
6.292	57.872	57.293	0.579
12.721	57.776	57.412	0.364
13.792	57.779	57.438	0.341
20.000	57.899	57.437	0.462
21.292	57.947	57.449	0.499
40.000	58.696	57.819	0.877
60.000	59.496	58.472	1.024
80.000	60.296	59.301	0.994
100.000	61.096	60.208	0.887
120.000	61.896	61.315	0.581
130.000	62.296	61.848	0.448
140.000	62.658	62.578	0.080
141.981	62.721	62.743	-0.022
150.000	62.946	63.099	-0.153
160.000	63.158	62.901	0.257
163.961	63.222	62.923	0.298
170.000	63.296	62.439	0.856
180.000	63.396	61.949	1.447
200.000	63.596	61.206	2.390
220.000	63.796	61.066	2.730
240.000	63.996	61.211	2.785
260.000	64.196	61.635	2.560
280.000	64.596	62.785	1.811
300.000	65.396	64.389	1.007
320.000	66.396	66.289	0.106
340.000	67.396	68.354	-0.958
360.000	68.396	70.508	-2.112
380.000	69.396	73.090	-3.694
388.437	69.817	74.393	-4.576
400.000	70.228	75.653	-5.425
408.437	70.317	75.998	-5.681
420.000	70.150	75.612	-5.461
428.437	69.817	74.775	-4.957
431.250	69.677	74.409	-4.732
436.250	69.527	73.774	-4.247
437.500	69.521	73.590	-4.070
440.000	69.546	73.115	-3.569
441.250	69.577	72.895	-3.318
445.251		72.239	

MC09 LONGITUDINAL SECTION

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

Issue	Description	DR	CH	VE	Date
04	MINOR CHANGE APPLICATION	JU	SS	GE	14.09.26
03	FURTHER IR RESPONSE	LB	BF	MW	16.03.26
02	COUNCIL IR RESPONSE	LB	BF	MW	25.11.25
01	ORIGINAL ISSUE	LB	BF	MW	22.08.25

100mm on Original

Scales
HORZ 0 10 20 40 60 80 100m
1:1000
VERT 0 1 2 4 6 8 10m
1:100

Surveyor

Client
KDL PROPERTY GROUP

Status
PRELIMINARY
NOT FOR CONSTRUCTION

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Original Issue Signatures

Drawn	L. BRINDELL	Original Size	A1
Designed	B. FINSELBACH	Height Datum	AHD
Project Manager	J. STOCKWELL	Grid	LOCAL
Verified	GARY ELLIS	RPEQ: 17942 DATE: 14 SEP 26	

Project
7-101 & 25 BAYLISS ROAD, SOUTH RIPLEY
CIVIL ENGINEERING SERVICES

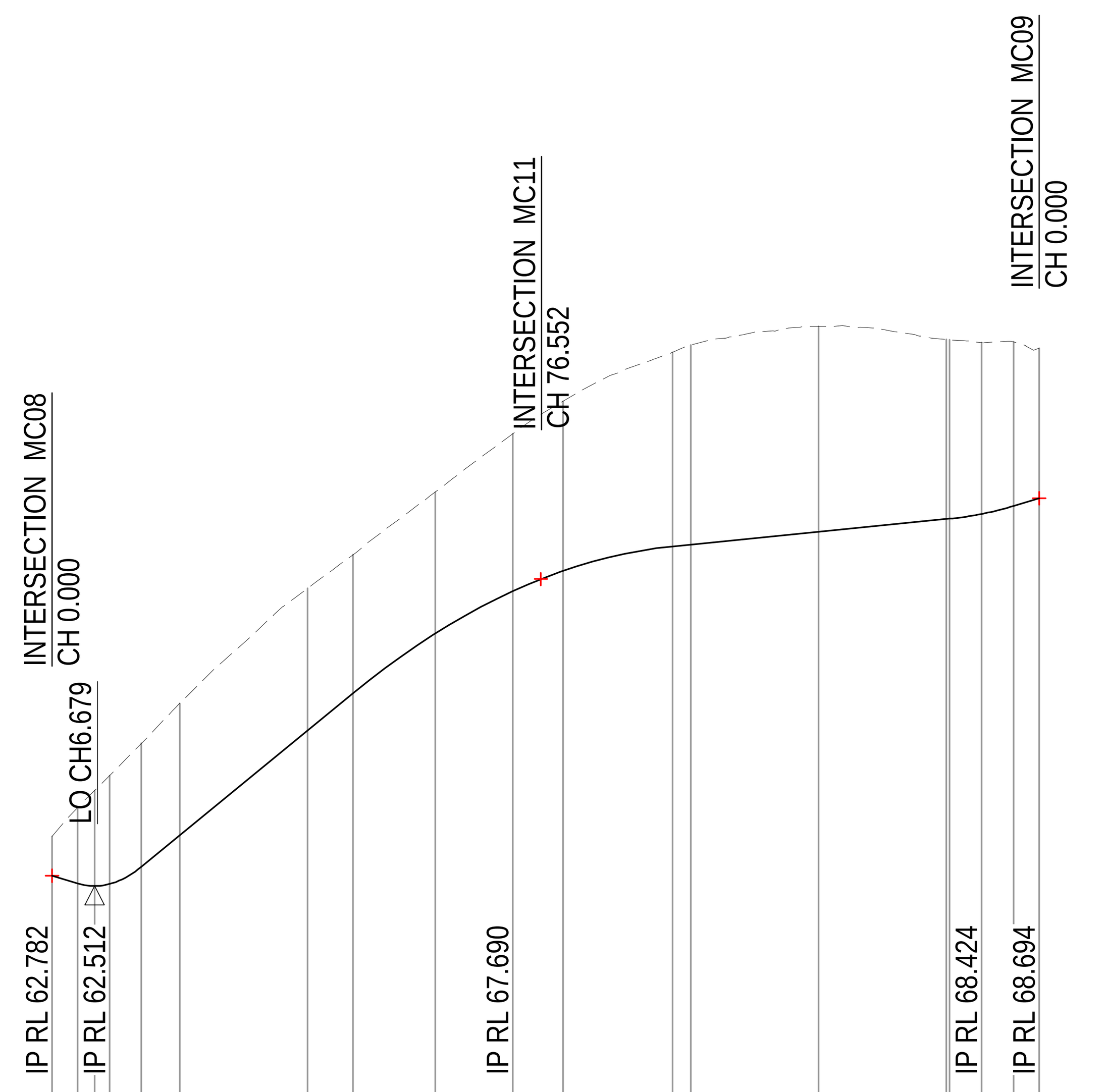
Title
ROAD LONGITUDINAL SECTIONS
SHEET 6

ARCADIS
Arcadis Australia Pacific Pty Limited
Level 7, Seabank Building, 12-14 Marine Parade
SOUTHPORT QLD 4215
ABN 76 104 485 289
Tel No: +61 7 5503 4800
www.arcadis.com/au

Project Number 30287851

Drawing No. BSR-AAU-DA-WS00-DRG-CV-0256
Issue 04

Date Plotted: 14 Sep 2026 - 01:23pm File Name: C:\Users\umipigj3186\DC\ACCDocs\Arcadis ACC AU\AAU-30287851-7 To 101 Bayliss Road\Project Files\10_WIP\10_Civil\STG_00\DRG\BSR-AAU-DA-WS00-DRG-CV-0251-RoadLS.dwg



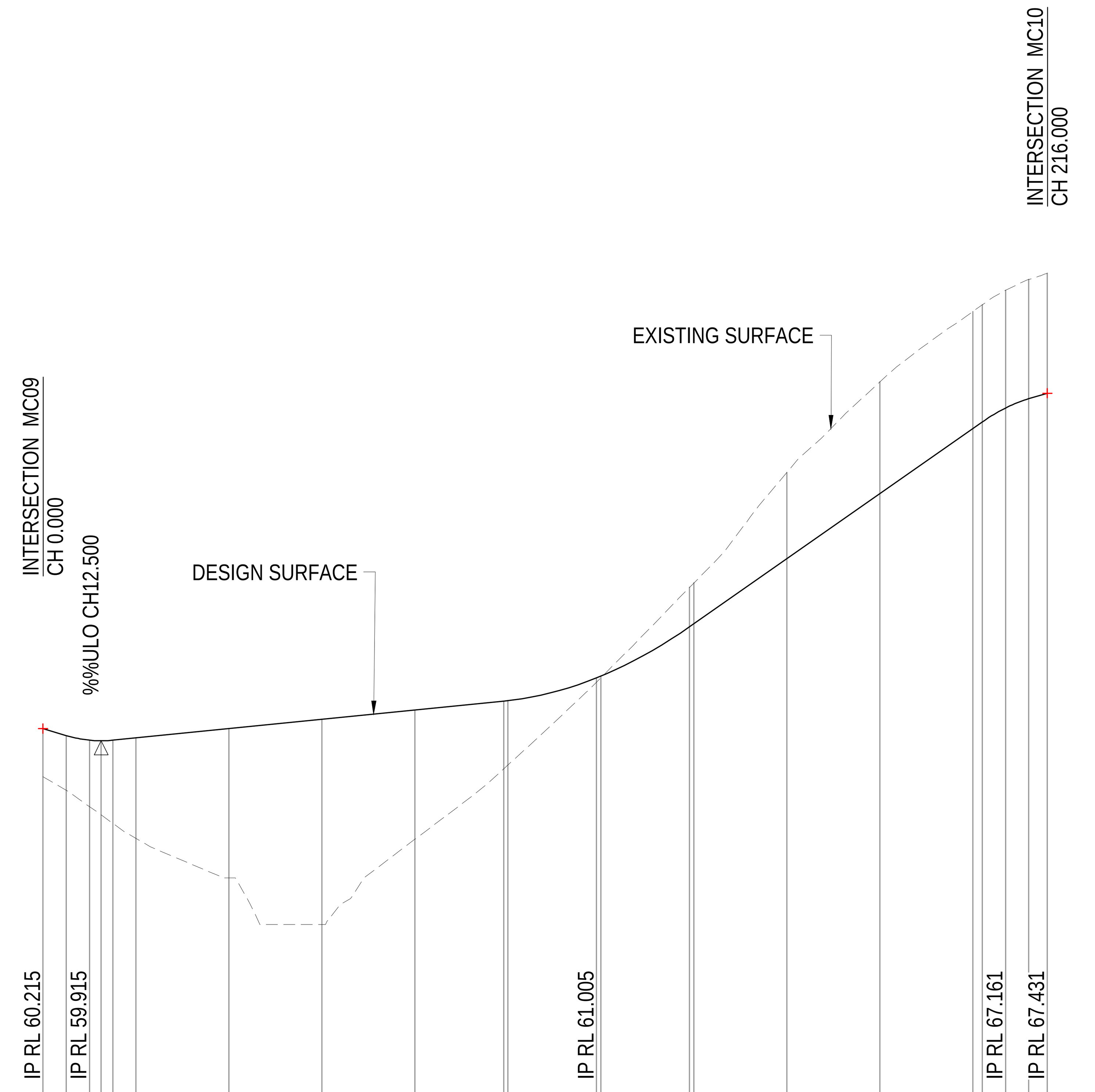
Vertical Curve Length (m)
Vertical Curve Radius (m)
Vertical Grade (%)
Vertical Grade (1 in ...)
Horizontal Curve Radius (m)

DATUM RL.55.000

PEGGED CHAINAGE	DESIGN LEVELS ON ROAD CENTRELINE	EXISTING SURFACE ON ROAD CENTRELINE	CUT / FILL DEPTH
0.000	62.782	63.397	-0.615
4.000	62.662	63.846	-1.184
6.679	62.622	64.119	-1.497
9.000	62.652	64.348	-1.696
14.000	62.922	64.856	-1.934
20.000	63.414	65.481	-2.067
40.000	65.054	67.282	-2.228
47.137	65.640	67.810	-2.170
60.000	66.575	68.791	-2.216
72.137	67.240	69.705	-2.465
80.000	67.557	70.212	-2.655
97.137	67.940	70.978	-3.038
100.000	67.968	71.095	-3.127
120.000	68.168	71.389	-3.221
140.000	68.368	71.183	-2.815
140.552	68.374	71.178	-2.804
145.552	68.449	71.131	-2.682
150.552	68.574	71.142	-2.569
154.552	68.694	71.043	-2.349

MC10 LONGITUDINAL SECTION

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



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

DATUM RL.48.000

PEGGED CHAINAGE	DESIGN LEVELS ON ROAD CENTRELINE	EXISTING SURFACE ON ROAD CENTRELINE	CUT / FILL DEPTH
0.000	60.215	59.182	1.033
5.000	60.065	58.889	1.176
10.000	59.965	58.535	1.430
12.500	59.952	58.360	1.592
15.000	59.965	58.177	1.787
20.000	60.015	57.852	2.163
40.000	60.215	57.000	3.215
60.000	60.415	56.000	4.415
80.000	60.615	57.835	2.779
99.057	60.805	59.345	1.461
100.000	60.815	59.431	1.384
119.057	61.305	61.215	0.090
120.000	61.344	61.310	0.034
139.057	62.405	63.254	-0.849
140.000	62.471	63.350	-0.878
160.000	63.871	65.729	-1.857
180.000	65.271	67.673	-2.402
200.000	66.671	69.189	-2.518
202.000	66.811	69.333	-2.522
207.000	67.111	69.644	-2.533
212.000	67.311	69.879	-2.568
216.000	67.431	70.010	-2.579

MC11 LONGITUDINAL SECTION

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

Issue	Description	DR	CH	VE	Date
04	MINOR CHANGE APPLICATION	JU	SS	GE	14.09.26
03	FURTHER IR RESPONSE	LB	BF	MW	16.03.26
02	COUNCIL IR RESPONSE	LB	BF	MW	25.11.25
01	ORIGINAL ISSUE	LB	BF	MW	22.08.25

100mm on Original

Scales
HORZ 0 10 20 40 60 80 100m
1:1000
VERT 0 1 2 4 6 8 10m
1:100

Surveyor

Client
KDL PROPERTY GROUP

Status
PRELIMINARY
NOT FOR CONSTRUCTION

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Original Issue Signatures

Drawn	L. BRINDELL	Original Size	A1
Designed	B. FINSELBACH	Height Datum	AHD
Project Manager	J. STOCKWELL	Grid	LOCAL
Verified	GARY ELLIS	RPEQ: 17942 DATE: 14 SEP 26	

Project
7-101 & 25 BAYLISS ROAD,
SOUTH RIPLEY
CIVIL ENGINEERING SERVICES

Title
ROAD LONGITUDINAL SECTIONS
SHEET 7

ARCADIS
Arcadis Australia Pacific Pty Limited
Level 7, Seabank Building, 12-14 Marine Parade
SOUTHPORT QLD 4215
ABN 76 104 485 289
Tel No: +61 7 5503 4800
www.arcadis.com/au

Project Number 30287851

Drawing No. BSR-AAU-DA-WS00-DRG-CV-0257

Issue 04

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



DATUM RL.41.000

PEGGED CHAINAGE	DESIGN LEVELS ON ROAD CENTRELINE	EXISTING SURFACE ON ROAD CENTRELINE	CUT / FILL DEPTH
0.000	53.712	53.712	0.000
4.457	53.579	53.561	0.017
7.500	53.487	53.478	0.010
11.591	53.426	53.690	-0.264
15.000	53.469	53.933	-0.464
20.000	53.685	54.358	-0.673
22.500	53.862	54.619	-0.757
31.500	54.582	55.950	-1.368
40.000	55.262	56.551	-1.289
43.929	55.577	56.786	-1.210
56.420	56.467	57.428	-0.961
60.000	56.682	57.558	-0.877
80.000	57.552	58.000	-0.448
93.929	57.827	58.235	-0.408
100.000	57.862	58.188	-0.326
101.071	57.862	58.150	-0.287
106.349	57.843	58.000	-0.157
120.000	57.612	57.566	0.046
140.000	56.802	56.172	0.630
143.929	56.577	55.890	0.687
160.000	55.612	55.000	0.612
160.510	55.582	55.000	0.582
180.000	54.530	54.174	0.356
190.510	54.059	53.578	0.482
200.000	53.693	53.275	0.419
220.000	53.104	52.563	0.541
220.510	53.092	52.546	0.546
240.000	52.644	52.137	0.507
260.000	52.184	51.612	0.571
264.399	52.082	51.532	0.550
265.939	52.047	51.511	0.536
280.000	51.724	51.318	0.405
300.000	51.264	50.651	0.613
320.000	50.804	50.252	0.551
340.000	50.344	49.720	0.624
352.901	50.047	49.457	0.590
360.000	49.884	49.250	0.634
368.216	49.695	49.000	0.695
368.742	49.681	49.000	0.681
379.033	49.424	48.662	0.763
380.000	49.396	49.401	-0.005
393.602		48.998	

BAYLISS ROAD LONGITUDINAL SECTION

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

Issue	Description	DR	CH	VE	Date
03	MINOR CHANGE APPLICATION	JU	SS	GE	14.09.26
02	FURTHER IR RESPONSE	LB	BF	MW	16.03.26
01	ORIGINAL ISSUE	LB	BF	MW	25.11.25

100mm on Original

Scales
HORZ 0 10 20 40 60 80 100m — 1:1000
VERT 0 1 2 4 6 8 10m — 1:100

Surveyor

Client: KDL PROPERTY GROUP

Status: PRELIMINARY
NOT FOR CONSTRUCTION

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Original Issue Signatures

Drawn	L. BRINDELL	Original Size	A1
Designed	B. FINSELBACH	Height Datum	AHD
Project Manager	J. STOCKWELL	Grid	LOCAL
Verified	GARY ELLIS	RPEQ: 17942 DATE: 14 SEP 26	

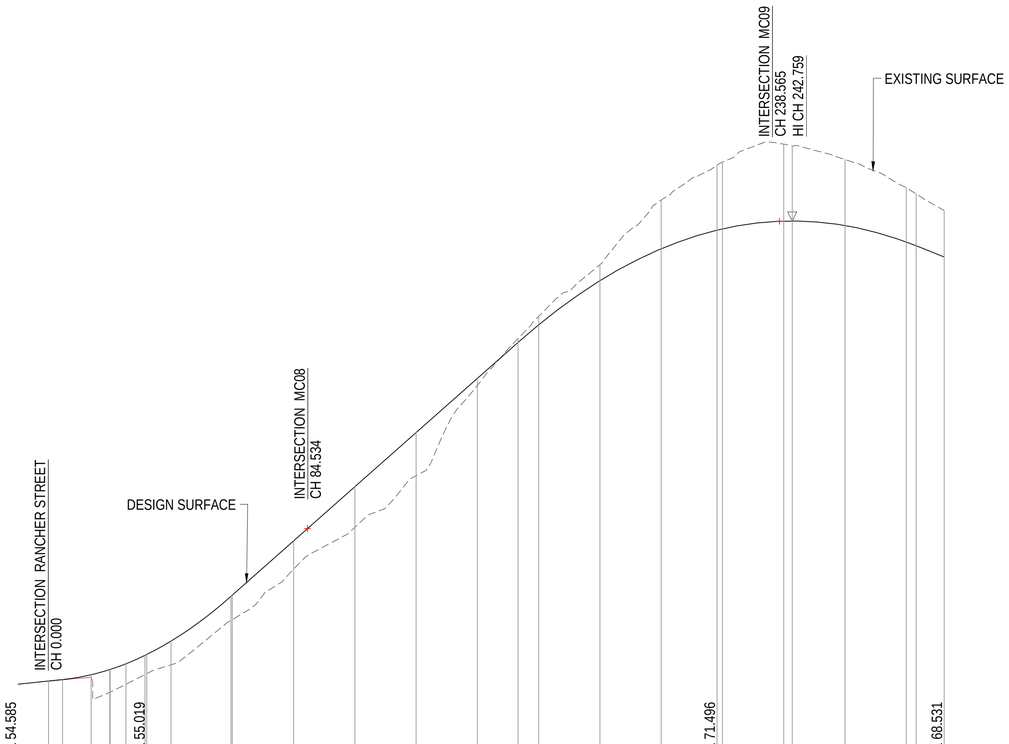
Project: 7-101 & 25 BAYLISS ROAD, SOUTH RIPLEY CIVIL ENGINEERING SERVICES

Title: ROAD LONGITUDINAL SECTIONS SHEET 8

ARCADIS
Arcadis Australia Pacific Pty Limited
Level 7, Seabank Building, 12-14 Marine Parade
SOUTHPORT QLD 4215
ABN 76 104 485 289
Tel No: +61 7 5503 4800
www.arcadis.com/au

Project Number: 30287851

Drawing No.: BSR-AAU-DA-WS00-DRG-CV-0258 Issue: 03



Vertical Curve Length (m)		55 VC	130 VC	
Vertical Curve Radius (m)		R 703	R 1012	
Vertical Grade (%)	1.031%		8.85%	-4%
Vertical Grade (1 in ...)	97		11.3	-25
Horizontal Curve Radius (m)		R.-100R.100		

DATUM RL.47.000

PEGGED CHAINAGE	DESIGN LEVELS ON ROAD CENTRELINE	EXISTING SURFACE ON ROAD CENTRELINE	CUT / FILL DEPTH
0.000	54.688	54.688	0.000
4.541	54.735	54.731	0.004
13.860	54.893	54.809	0.084
20.000	55.064	54.322	0.742
20.125	55.069	54.328	0.741
25.234	55.253	54.582	0.671
31.468	55.528	54.903	0.626
32.041	55.556	54.933	0.624
40.000	55.995	55.220	0.775
59.541	57.453	56.668	0.784
60.000	57.493	56.696	0.797
80.000	59.263	58.350	0.913
100.000	61.033	59.709	1.324
120.000	62.803	61.394	1.409
140.000	64.573	64.345	0.228
153.226	65.744	65.865	-0.121
160.000	66.320	66.599	-0.278
180.000	67.759	68.284	-0.525
200.000	68.802	70.392	-1.590
218.226	69.408	71.530	-2.122
220.000	69.449	71.628	-2.178
240.000	69.702	72.216	-2.514
242.759	69.705	72.155	-2.450
260.000	69.559	71.714	-2.155
280.000	69.020	70.796	-1.776
283.226	68.896	70.590	-1.694
292.350	68.531	70.046	-1.515

COLEMAN ROAD LONGITUDINAL SECTION

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

Issue	Description	DR	CH	VE	Date
02	MINOR CHANGE APPLICATION	JU	SS	GE	14.09.26
01	ORIGINAL ISSUE	LB	BF	MW	25.11.25

100mm on Original

Scales
HORZ 0 10 20 40 60 80 100m
1:1000
VERT 0 1 2 4 6 8 10m
1:100

Surveyor

Client
KDL PROPERTY GROUP

Status
PRELIMINARY
NOT FOR CONSTRUCTION

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Original Issue Signatures

Drawn	L. BRINDELL	Original Size	A1
Designed	B. FINSELBACH	Height Datum	AHD
Project Manager	J. STOCKWELL	Grid	LOCAL
Verified	GARY ELLIS	RPEQ: 17942 DATE: 14 SEP 26	

Project
7-101 & 25 BAYLISS ROAD,
SOUTH RIPLEY
CIVIL ENGINEERING SERVICES

Title
ROAD LONGITUDINAL SECTIONS
SHEET 9

ARCADIS
Arcadis Australia Pacific Pty Limited
Level 7, Seabank Building, 12-14 Marine Parade
SOUTHPORT QLD 4215
ABN 76 104 485 289
Tel No: +61 7 5503 4800
www.arcadis.com/au

Project Number 30287851

Drawing No. BSR-AAU-DA-WS00-DRG-CV-0259

Issue 02

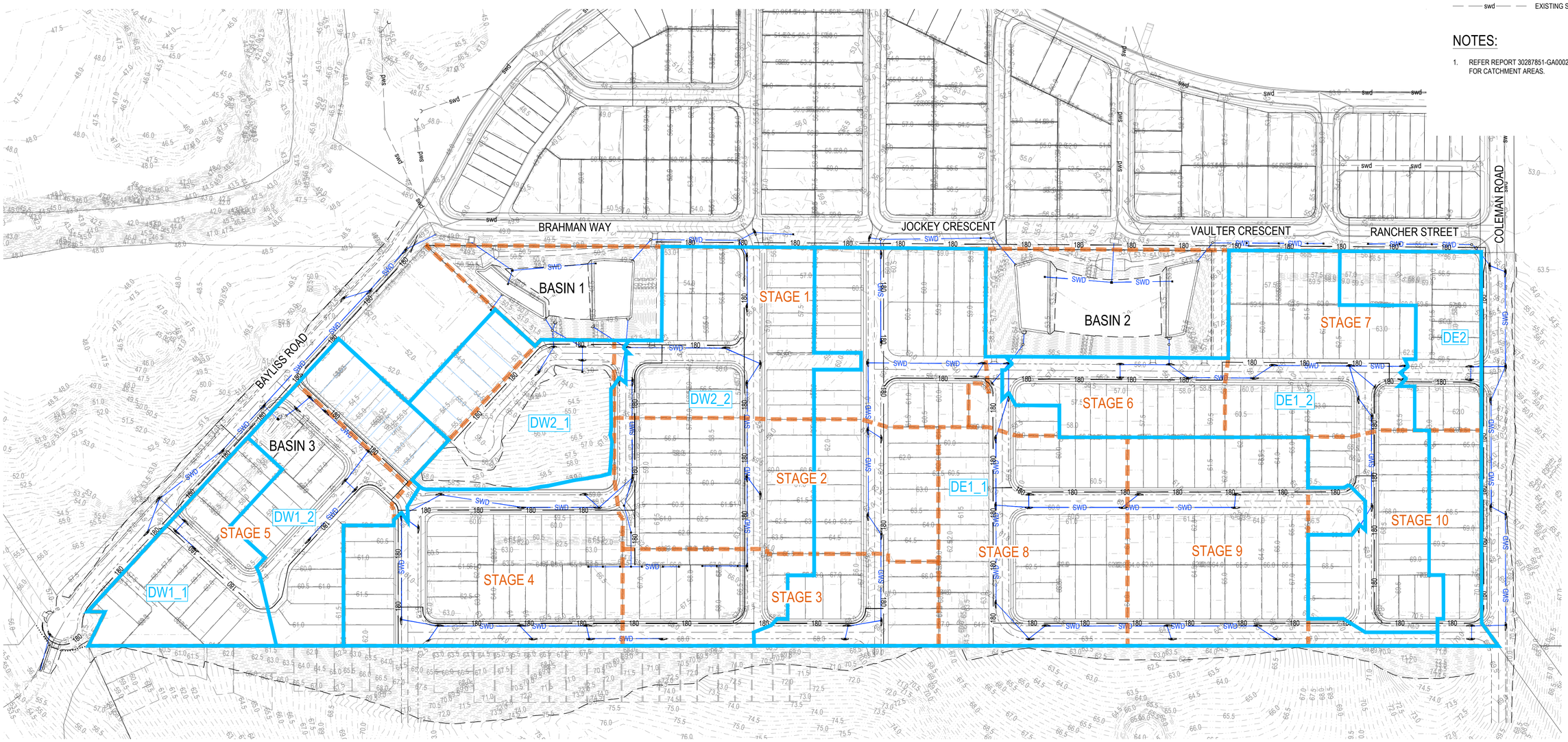
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LEGEND

- STAGE BOUNDARY
- 5.0 — DESIGN SURFACE CONTOUR
- NOMINAL FACE OF KERB
- SWD — PROPOSED STORMWATER
- DW1_1 — STORMWATER CATCHMENT, LABEL AND BOUNDARY
- swd — EXISTING STORMWATER DRAINAGE

NOTES:

1. REFER REPORT 30287851-GA0002-03 - SBSMP FOR CATCHMENT AREAS.



Issue	Description	DR	CH	VE	Date
02	REVISED STAGE BOUNDARIES	JU	BF	GE	15.09.26
01	ORIGINAL ISSUE	LB	BF	MW	16.03.26

100mm on Original

Scales

0 25 50 75 100 125m

1 : 1250

Surveyor

Client

KDL PROPERTY GROUP

Status

PRELIMINARY
NOT FOR CONSTRUCTION

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Original Issue Signatures

Drawn	L. BRINDELL	Original Size	A1
Designed	B. FINSELBACH	Height Datum	AHD
Project Manager	J. STOCKWELL	Grid	LOCAL
Verified	GARY ELLIS	RPEQ: 17942 DATE: 15 SEP 26	

Project

7-101 & 25 BAYLISS ROAD,
SOUTH RIPLEY
CIVIL ENGINEERING SERVICES

Title

STORMWATER
CATCHMENT PLAN

ARCADIS
Arcadis Australia Pacific Pty Limited
Level 7, Seabank Building, 12-14 Marine Parade
SOUTHPORT QLD 4215
ABN 76 104 485 289
Tel No: +61 7 5503 4800
www.arcadis.com/au

Project Number: 30287851

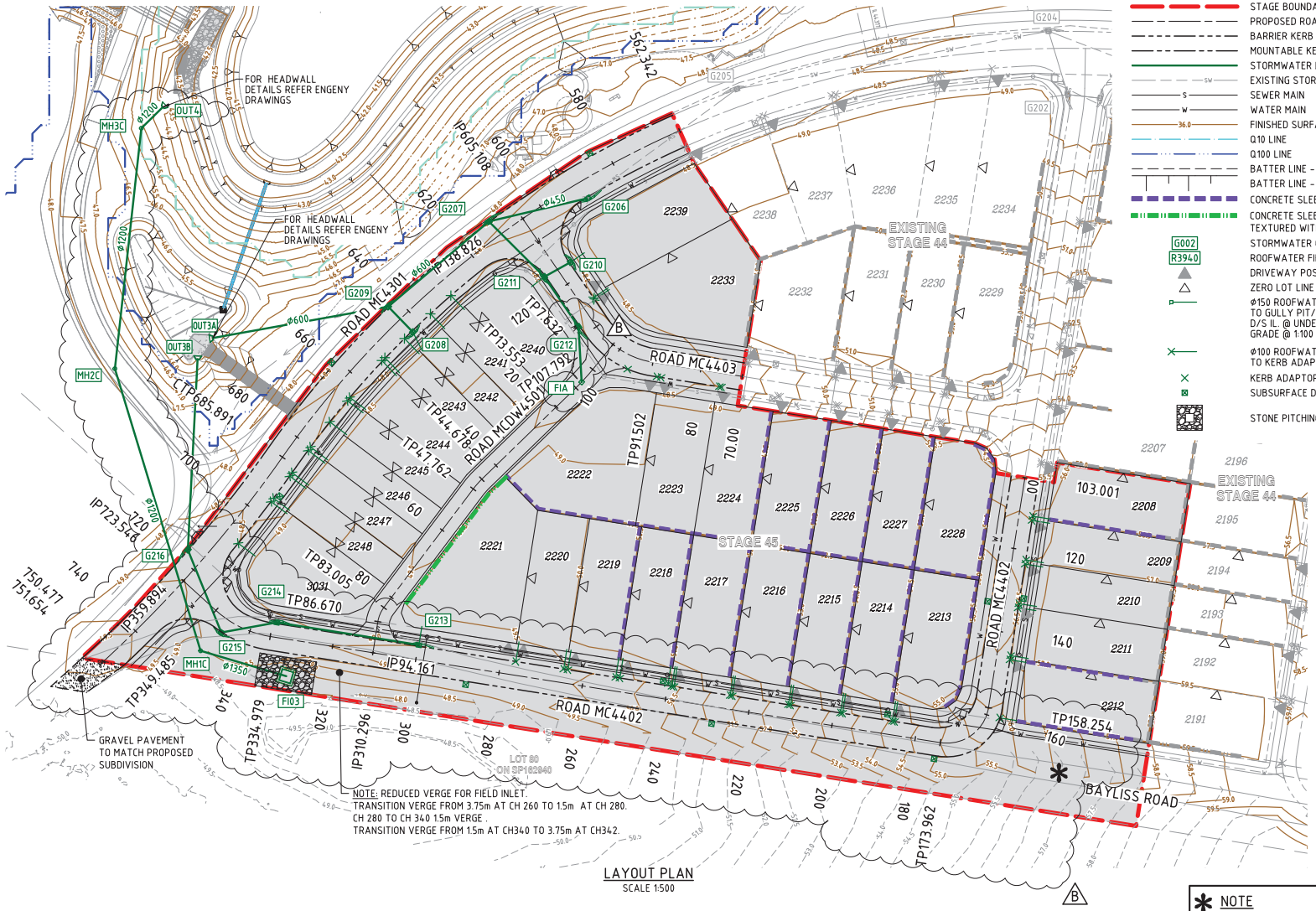
Drawing No.: BSR-AAU-DA-WS00-DRG-CV-0300

Issue: 02

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APPENDIX C

Alcove Ascon Plans



LAYOUT PLAN
SCALE 1:500

LEGEND

- STAGE BOUNDARY
- PROPOSED ROAD CENTRELINE
- BARRIER KERB AND CHANNEL (TYPE B1)
- MOUNTABLE KERB AND CHANNEL (TYPE M1)
- STORMWATER DRAINAGE
- EXISTING STORMWATER DRAINAGE
- SEWER MAIN
- WATER MAIN
- FINISHED SURFACE CONTOURS
- Q10 LINE
- Q100 LINE
- BATTER LINE - FILL
- BATTER LINE - CUT
- CONCRETE SLEEPER RETAINING WALL,
- CONCRETE SLEEPER RETAINING WALL, TEXTURED WITH FULL DEPTH COLOUR
- G002 STORMWATER GULLY PIT NUMBER
- R3940 ROOFWATER FIELD INLET NUMBER
- DRIVEWAY POSITION
- ZERO LOT LINE
- Ø150 ROOFWATER CONNECTION TO GULLY PIT/MH D/S IL @ UNDERSIDE OF LINTEL GRADE @ 1:100
- Ø100 ROOFWATER CONNECTION TO KERB ADAPTOR
- KERB ADAPTOR LOCATION
- SUBSURFACE DRAIN CLEANING POINT
- STONE PITCHING 150mm THICK

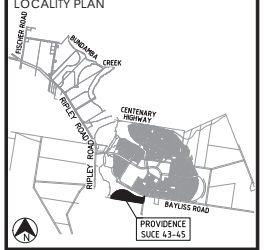
NOTE
EXISTING GRAVEL TRACK (BAYLISS ROAD) TO BE REPLACED BY 100mm TOPSOIL AND TURFED

SCALE 10 5 0 10 20 30 40 50m
1 : 500 (A1 UNREDUCED)

DO NOT SCALE THIS DRAWING
IF IN DOUBT - ASK!

NORTH

LOCALITY PLAN



REVISIONS

No	Description	Date	By
A	FOR APPROVAL	12.07.2023	AA
B	IPSWICH CITY COUNCIL RFI	27.10.2023	RW
C	AS CONSTRUCTED	28.10.2024	PK

AS CONSTRUCTED DETAILS

I CERTIFY THAT THE "AS CONSTRUCTED" DETAILS SHOWN ON THIS PLAN ARE A TRUE AND ACCURATE RECORD OF THE WORKS.

SIGNED Digitally signed by Robert William Mander BEng (Civil), CPEng, RPEQ 12805. Date: 2024.12.09 11:03:21+10'00'

COMPANY NAME KN GROUP PTY LTD

Client
Stockland
PROVIDENCE

Project
RIPLEY
PROVIDENCE SUCE
STAGE 45

AUTHORITY REFERENCE NUMBER
40/2015/MAPDA

kn group
ABN 35 112 53 611
L1, 62 Astor Tce
Spring Hill Q 4000
07 3017 1900
www.kngroup.com.au

Approved

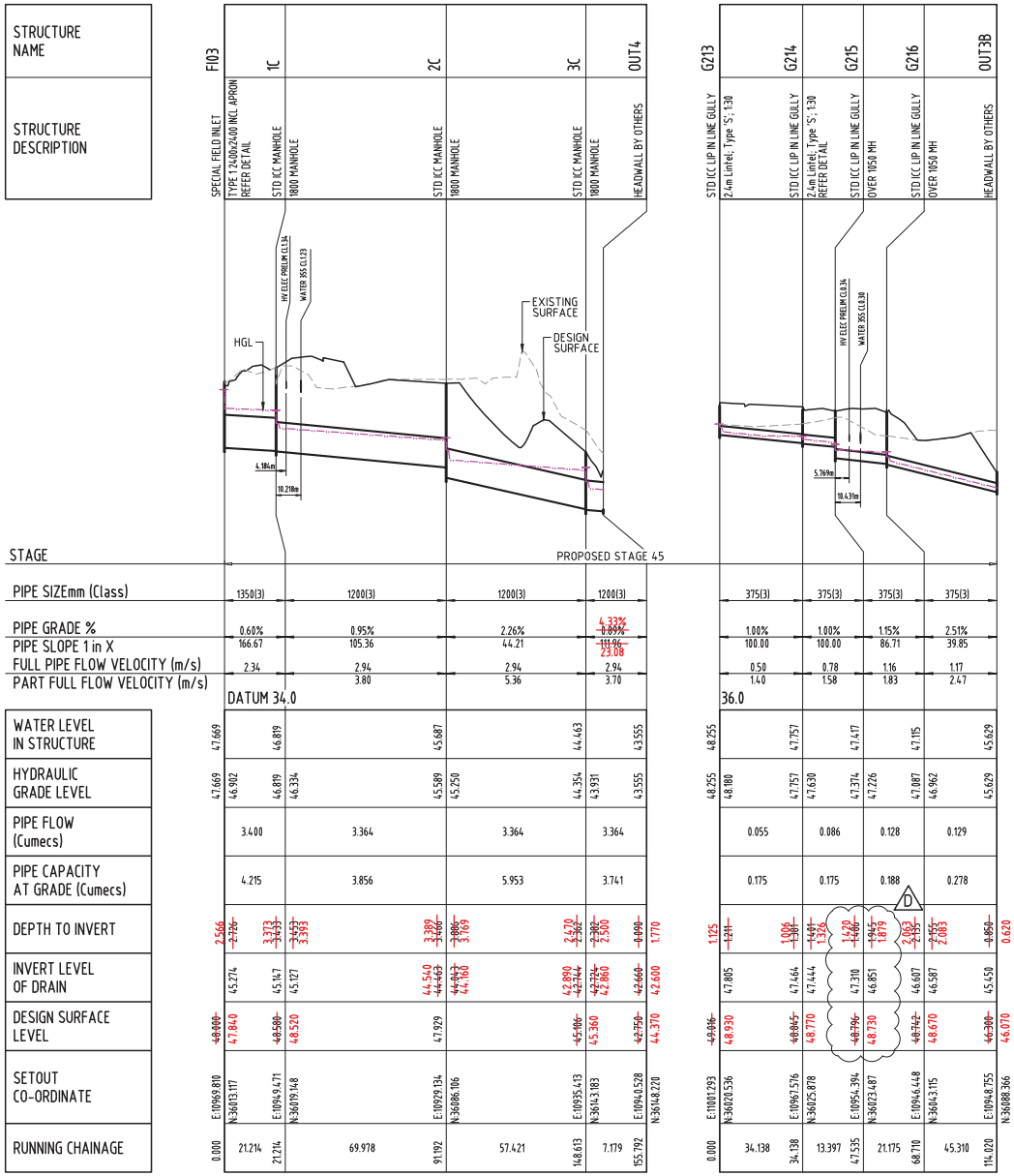
Drawing Title
GENERAL
LAYOUT PLAN

Drawn	Designed	Checked	Date
RW	JB	MS	JUN'23

Scale	Sheet
AS SHOWN	03 of 26

A3	Drawing No	Revision
	19-150-03	C

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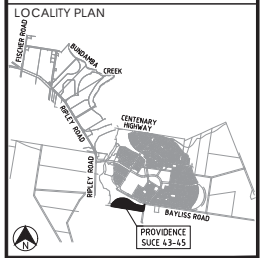


NOTES
1. GULLY PITS IN EXCESS OF 1.5m DEEP ARE TO BE CONSTRUCTED AS A GULLY PIT/ACCESS CHAMBER STRUCTURE
2. ALL ACCESS CHAMBERS ≤ 5m TO BE CONSTRUCTED AS PER ICC SD 02
3. STEP IRONS TO BE INSTALLED IN ALL ACCESS CHAMBERS AND GULLY PITS IN EXCESS OF 1.2m DEEP

SCALE A 1:1000 (Horiz.) 10 5 0 10 20 30 40 50 60 70 80 90 100m
B 1:100 (Vert.) 1 0.5 0 1 2 3 4 5 6 7 8 9 10m
(A1 UNREDUCED)

DO NOT SCALE THIS DRAWING
IF IN DOUBT - ASK!

LOCALITY PLAN



REVISIONS

No	Description	Date	By
A	FOR APPROVAL	12.07.2023	AA
B	IPSWICH CITY COUNCIL RFI	27.10.2023	AA
C	AS CONSTRUCTED	28.10.2024	PK
D	AS CONSTRUCTED	03.03.2025	RP

AS CONSTRUCTED DETAILS

I CERTIFY THAT THE "AS CONSTRUCTED" DETAILS SHOWN ON THIS PLAN ARE A TRUE AND ACCURATE RECORD OF THE WORKS.

SIGNED Digitally signed by Robert William Mander BEng (Civil), CPEng, RPEQ 12850. Date: 2025.03.03 11:48:30+10'00'

COMPANY NAME KN GROUP PTY LTD

Client
Stockland
PROVIDENCE

Project
RIPLEY
PROVIDENCE SUCE
STAGE 45

AUTHORITY REFERENCE NUMBER
40/2015/MAPDA

kn group
ABN 35 112 53 611
L1, 62 Astor Tce
Spring Hill Q 4000
07 3017 1900
www.kngroup.com.au

Approved

Drawing Title
STORMWATER
LONGITUDINAL SECTIONS
SHEET 2

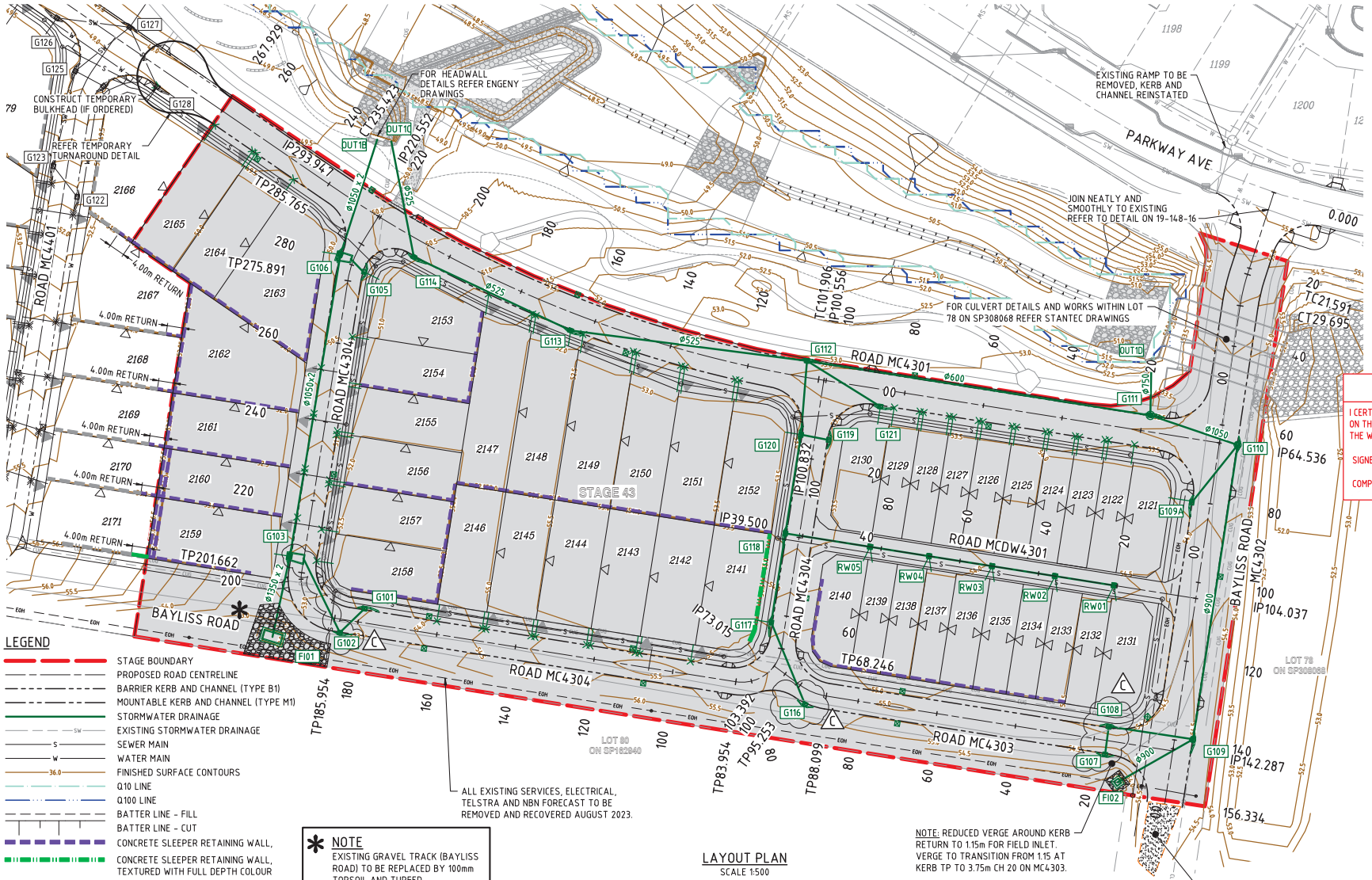
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RW	BK	MS	JUN'23

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Drawing No	Revision
19-150-21	D

A3

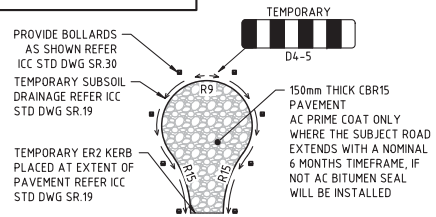
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LEGEND

- STAGE BOUNDARY
- PROPOSED ROAD CENTRELINE
- BARRIER KERB AND CHANNEL (TYPE B1)
- MOUNTABLE KERB AND CHANNEL (TYPE M1)
- STORMWATER DRAINAGE
- EXISTING STORMWATER DRAINAGE
- SEWER MAIN
- WATER MAIN
- FINISHED SURFACE CONTOURS
- Q10 LINE
- Q100 LINE
- BATTER LINE - FILL
- BATTER LINE - CUT
- CONCRETE SLEEPER RETAINING WALL,
- CONCRETE SLEEPER RETAINING WALL, TEXTURED WITH FULL DEPTH COLOUR
- G002 STORMWATER GULLY PIT NUMBER
- R3940 ROOFWATER FIELD INLET NUMBER
- DRIVEWAY POSITION
- ZERO LOT LINE
- ø150 ROOFWATER CONNECTION TO GULLY PIT/MH D/S IL. @ UNDERSIDE OF LINTEL GRADE @ 1:100
- ø150 ROOFWATER CONNECTION TO INLET PIT
- ø100 ROOFWATER CONNECTION TO KERB ADAPTOR
- KERB ADAPTOR LOCATION
- SUBSURFACE DRAIN CLEANING POINT
- STONE PITCHING 150mm THICK

NOTE
EXISTING GRAVEL TRACK (BAYLISS ROAD) TO BE REPLACED BY 100mm TOPSOIL AND TURFED



TEMPORARY TURNAROUND DETAIL
N.T.S

LAYOUT PLAN
SCALE 1:500

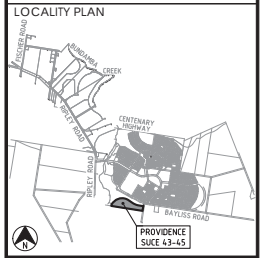
ALL EXISTING SERVICES, ELECTRICAL, TELSTRA AND NBN FORECAST TO BE REMOVED AND RECOVERED AUGUST 2023.

SCALE 10 5 0 10 20 30 40 50m
1 : 500 (A1 UNREDUCED)

DO NOT SCALE THIS DRAWING
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NORTH

LOCALITY PLAN



REVISIONS

No	Description	Date	By
A	FOR APPROVAL	12.07.2023	AA
B	IPSWICH CITY COUNCIL RFI	12.10.2023	RW
C	SW AMENDED	22.11.2023	AA
D	AS CONSTRUCTED	28.10.2024	PK

AS CONSTRUCTED DETAILS

I CERTIFY THAT THE "AS CONSTRUCTED" DETAILS SHOWN ON THIS PLAN ARE A TRUE AND ACCURATE RECORD OF THE WORKS.

SIGNED Digitally signed by Robert William Mander BEng (Civil), CPEng, RPEQ 12805 Date: 2024.11.12 18:35:03+10'00'

COMPANY NAME KN GROUP PTY LTD

Client: Stockland PROVIDENCE

Project: PROVIDENCE SUCE
RIPLEY
STAGE 43

AUTHORITY REFERENCE NUMBER
40/2015/MAPDA

kn group
ABN 35 112 53 611
L1, 62 Astor Tce
Spring Hill Q 4000
07 3017 1900
www.kngroup.com.au

Approved

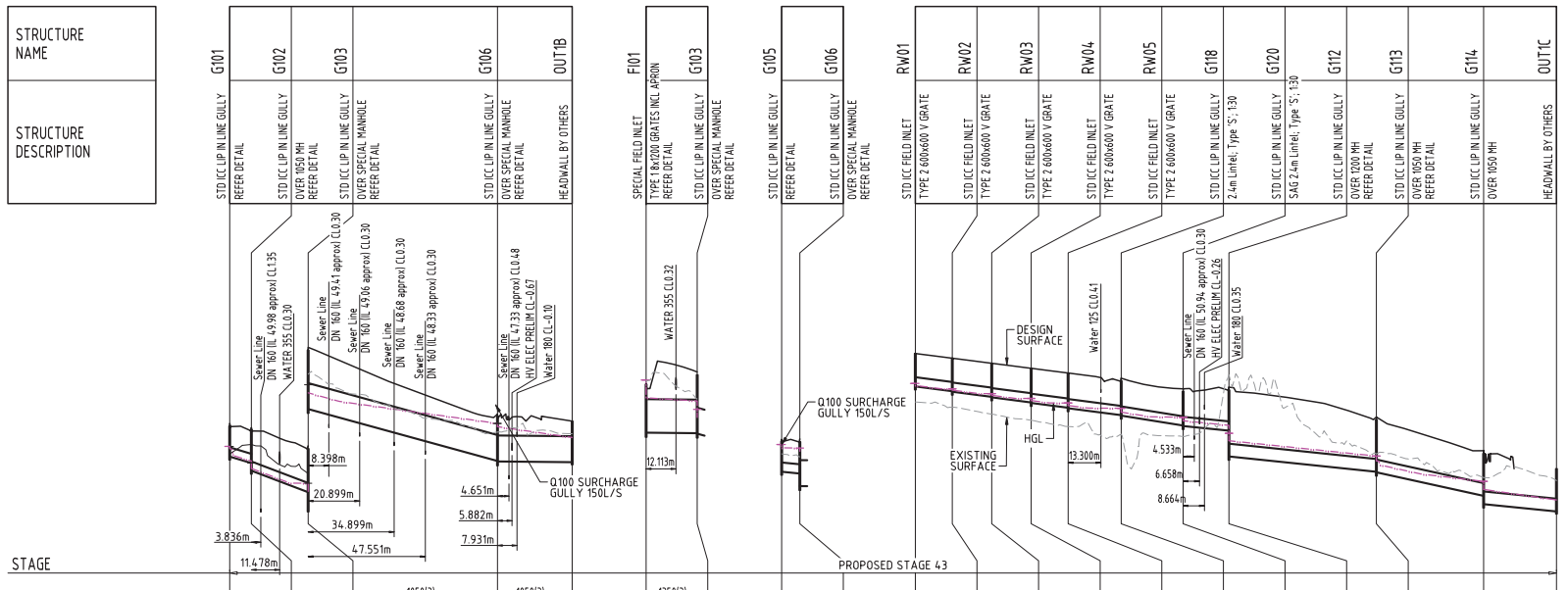
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Drawn	Designed	Checked	Date
RW	JB	MS	JUN' 23

Scale	Sheet
AS SHOWN	03 of 66

A1	Drawing No 19-148-03	Revision D

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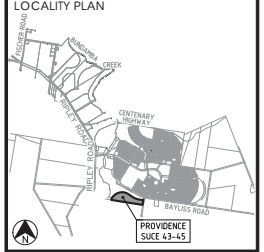
NOTES
1. GULLY PITS IN EXCESS OF 1.5m DEEP ARE TO BE CONSTRUCTED AS A GULLY PIT/ACCESS CHAMBER STRUCTURE
2. ALL ACCESS CHAMBERS ≤ 5m TO BE CONSTRUCTED AS PER ICC SD 02
3. STEP IRONS TO BE INSTALLED IN ALL ACCESS CHAMBERS AND GULLY PITS IN EXCESS OF 1.2m DEEP

SCALE A 1:1000 (Horiz.) 10 5 0 10 20 30 40 50 60 70 80 90 100m
B 1:100 (Vert.) 1 0.5 0 1 2 3 4 5 6 7 8 9 10m
(A1 UNREDUCED)

DO NOT SCALE THIS DRAWING
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NORTH

LOCALITY PLAN



REVISIONS

No	Description	Date	By
A	FOR APPROVAL	12.07.2023	AA
B	SW LINE AMENDED	12.10.2023	AA
C	AS CONSTRUCTED	28.10.2024	PK
D	AS CONSTRUCTED	19.03.2025	JQ

AS CONSTRUCTED DETAILS

I CERTIFY THAT THE "AS CONSTRUCTED" DETAILS SHOWN ON THIS PLAN ARE A TRUE AND ACCURATE RECORD OF THE WORKS.

SIGNED

Digitally signed by Robert William Mander BEng (Civil), CPEng, RPEQ 12806 Date: 2025.03.19 10:46:44+10'00'

COMPANY NAME KN GROUP PTY LTD

Client
Stockland
PROVIDENCE

Project
PROVIDENCE SUCE
RIPLEY
STAGE 43

AUTHORITY REFERENCE NUMBER
40/2015/MAPDA

kn group
ABN 35 112 53 611
L1, 62 Astor Tce
Spring Hill Q 4000
07 3017 1900
www.kngroup.com.au

Approved

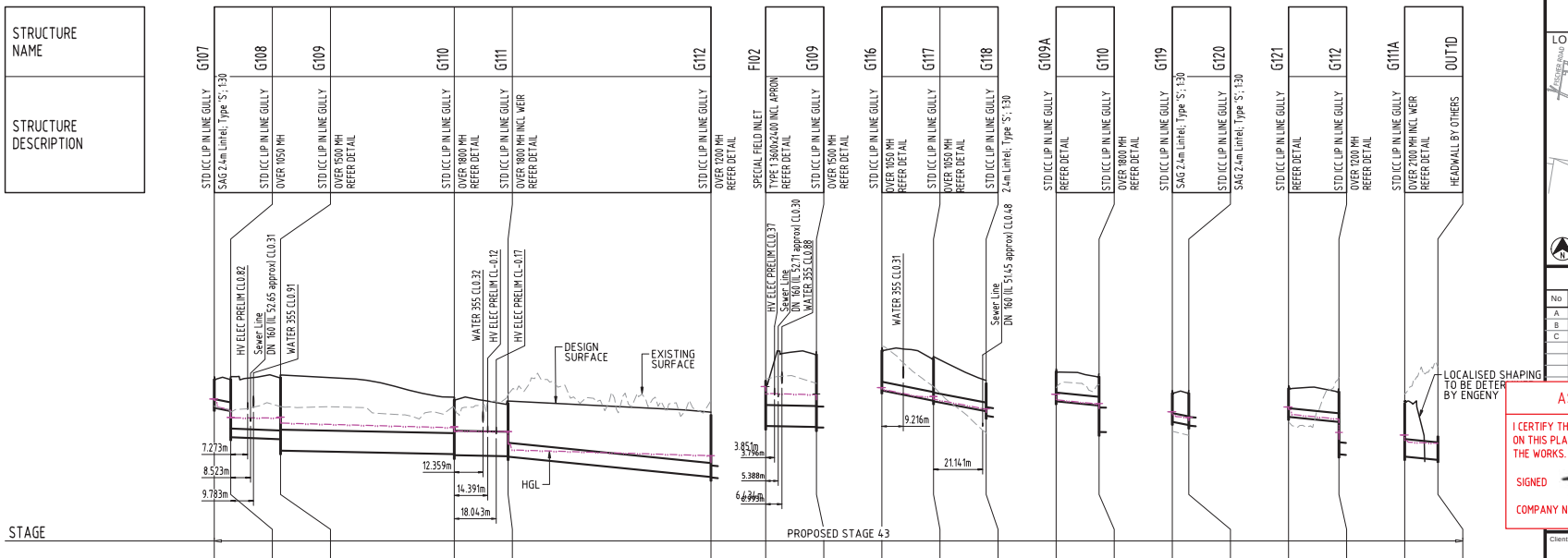
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STORMWATER
LONGITUDINAL SECTIONS
SHEET 1

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RW	BK	MS	JUN' 23

Scale	Sheet
AS SHOWN	24 of 66

A1	Drawing No 19-148-24	Revision D

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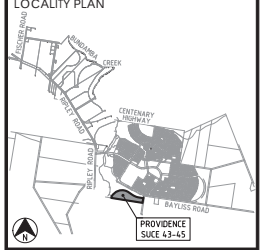
NOTES
1. GULLY PITS IN EXCESS OF 1.5m DEEP ARE TO BE CONSTRUCTED AS A GULLY PIT/ACCESS CHAMBER STRUCTURE
2. ALL ACCESS CHAMBERS ≤ 5m TO BE CONSTRUCTED AS PER ICC SD 02
3. STEP IRONS TO BE INSTALLED IN ALL ACCESS CHAMBERS AND GULLY PITS IN EXCESS OF 1.2m DEEP

SCALE A 1:1000 (Horiz.) 10 5 0 10 20 30 40 50 60 70 80 90 100m
B 1:100 (Vert.) 1 0.5 0 1 2 3 4 5 6 7 8 9 10m
(A1 UNREDUCED)

DO NOT SCALE THIS DRAWING IF IN DOUBT - ASK!

NORTH

LOCALITY PLAN



REVISIONS

No	Description	Date	By
A	FOR APPROVAL	12.07.2023	AA
B	SW LINES AMENDED	12.10.2023	AA
C	AS CONSTRUCTED	28.10.2024	PK

AS CONSTRUCTED DETAILS

I CERTIFY THAT THE "AS CONSTRUCTED" DETAILS SHOWN ON THIS PLAN ARE A TRUE AND ACCURATE RECORD OF THE WORKS.

SIGNED Digitally signed by Robert William Mander BEng (Civil), CPEng, RPEQ 12805 Date: 2024.11.12 18:35:06+10'00'

COMPANY NAME KN GROUP PTY LTD

Client: Stockland PROVIDENCE

Project: PROVIDENCE SUCE RIPLEY STAGE 43

AUTHORITY REFERENCE NUMBER 40/2015/MAPDA

kn group
ABN 35 112 53 611
L1, 62 Astor Tce
Spring Hill Q 4000
07 3017 1900
www.kngroup.com.au

Approved

Drawing Title: STORMWATER LONGITUDINAL SECTIONS SHEET 2

Drawn	Designed	Checked	Date
RW	BK	MS	JUN' 23

Scale	Sheet
AS SHOWN	25 of 66

Drawing No	Revision
19-148-25	C

A1

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APPENDIX D

Sediment Forebay Calculations

FOREBAY W2_2A

Volumetric Storage Calculation			Minimum Sediment Capture Calculation			Fraction of Sediment Removed Check Calculation			
A_c	3.05	ha	Vs	3.90	m3	n	0.5	-	
R	0.8	-	Ds	0.20	m	vs	0.1	m/s	
L_o	1.6	m^3/ha/year				Q	0.265	m^3/s	
F_c	1	years				A	32.00	m^2	
V_s	3.90	m^3	Af	19.52	m^2	R	0.80	≥	0.80

FOREBAY E1_1A

Volumetric Storage Calculation			Minimum Sediment Capture Calculation			Fraction of Sediment Removed Check Calculation			
A_c	4.71	ha	Vs	6.03	m3	n	0.5	-	
R	0.8	-	Ds	0.20	m	vs	0.1	m/s	
L_o	1.6	m^3/ha/year				Q	0.451	m^3/s	
F_c	1	years				A	52	m^2	
V_s	6.03	m^3	Af	30.14	m^2	R	0.80	≥	0.80

FOREBAY E1_2A

Volumetric Storage Calculation			Minimum Sediment Capture Calculation			Fraction of Sediment Removed Check Calculation			
A_c	2.21	ha	Vs	2.83	m3	n	0.5	-	
R	0.8	-	Ds	0.20	m	vs	0.1	m/s	
L_o	1.6	m^3/ha/year				Q	0.212	m^3/s	
F_c	1	years				A	25	m^2	
V_s	2.83	m^3	Af	14.14	m^2	R	0.80	≥	0.80