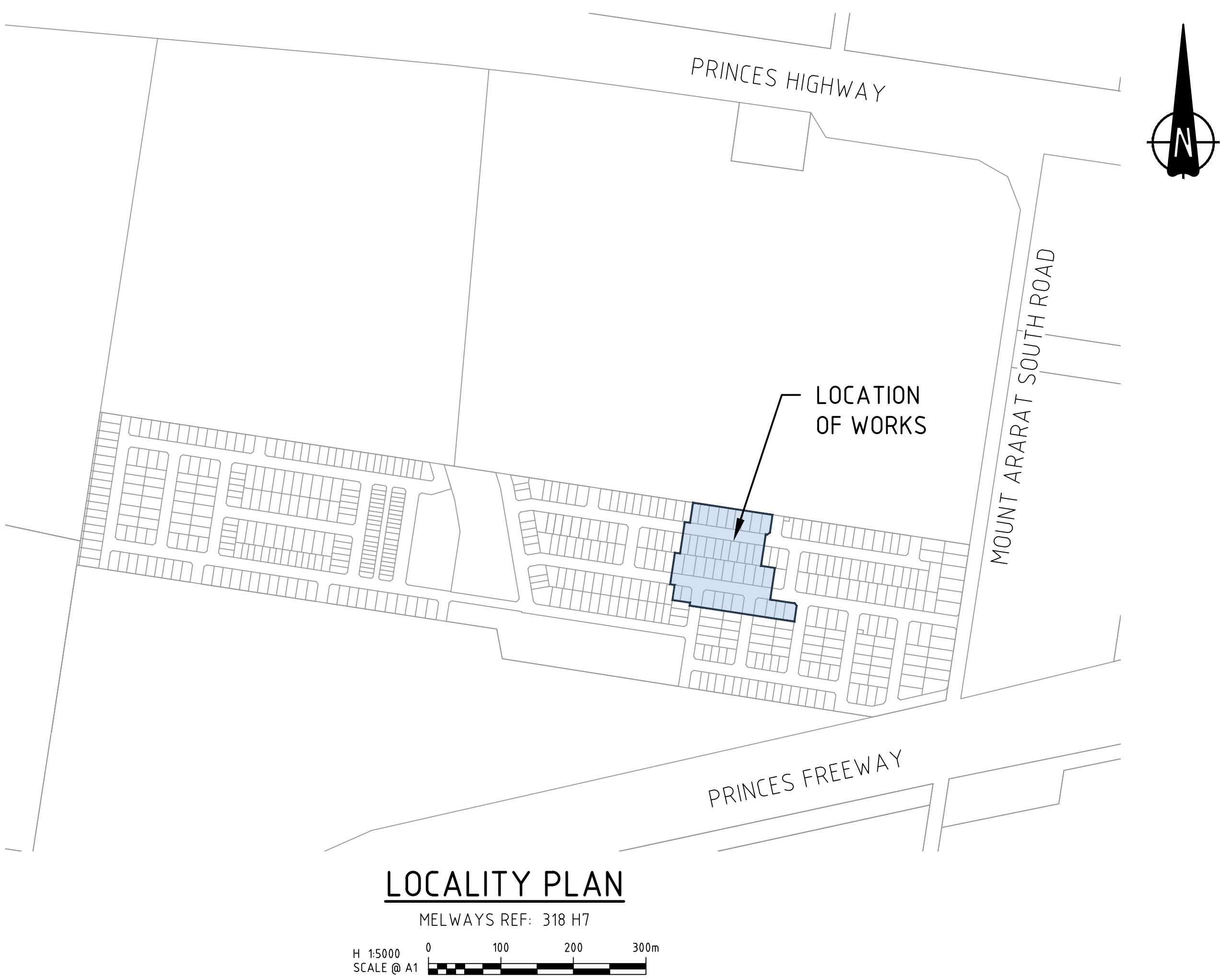


KALA ESTATE  
STAGE 02  
SUBDIVISIONAL WORKS  
FOR SIG GROUP

APPROVED FOR CONSTRUCTION  
CARDINIA SHIRE COUNCIL  
Ref No.: S25-008, T220227  
Sheet: 1 of 22  
Approved by: Vithu Vijeyakumar  
CARDINIA SHIRE COUNCIL  
Date: Monday, 28 July 2025



SHEET LIST TABLE	
SHEET NUMBER	DESCRIPTION
3086-02-001	COVER SHEET
3086-02-010	GENERAL NOTES AND PAVEMENT DETAILS
3086-02-011	GENERAL DETAILS
3086-02-020	TYPICAL CROSS SECTIONS
3086-02-100	LAYOUT PLAN
3086-02-101	OUTLET SWALE SETOUT
3086-02-150	EARTHWORKS PLAN
3086-02-200	ROAD LONGITUDINAL SECTIONS (SHEET 1 OF 3)
3086-02-201	ROAD LONGITUDINAL SECTIONS (SHEET 2 OF 3)
3086-02-202	ROAD LONGITUDINAL SECTIONS (SHEET 3 OF 3)
3086-02-250	ROAD CROSS SECTIONS (SHEET 1 OF 3)
3086-02-251	ROAD CROSS SECTIONS (SHEET 2 OF 3)
3086-02-252	ROAD CROSS SECTIONS (SHEET 3 OF 3)
3086-02-300	INTERSECTION DETAILS
3086-02-350	SIGNAGE AND LINEMARKING PLAN
3086-02-400	DRAINAGE LONGITUDINAL SECTIONS (SHEET 1 OF 2)
3086-02-401	DRAINAGE LONGITUDINAL SECTIONS (SHEET 2 OF 2)
3086-02-420	DRAINAGE PIT SCHEDULE

B	06.02.25	AT			ISSUED FOR COUNCIL SUBMISSION
A	14.11.24	NT	MA	K. LORRIMAR	INITIAL ISSUE
REV	DATE	DRN	CKD	APP	AMENDMENT

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E [Melbourne.Reception@cosweb.com.au](mailto:Melbourne.Reception@cosweb.com.au)

CLIENT		PROJECT			
		KALA ESTATE - STAGE 02			
APPROVED PE 0005927 		TITLE COVER SHEET			
DESIGNED M. ALI SCALE AS SHOWN		MUNICIPALITY CARDINIA SHIRE COUNCIL			
PP No. T220227		DRAWING No. 3086-02-001		REVISION B	

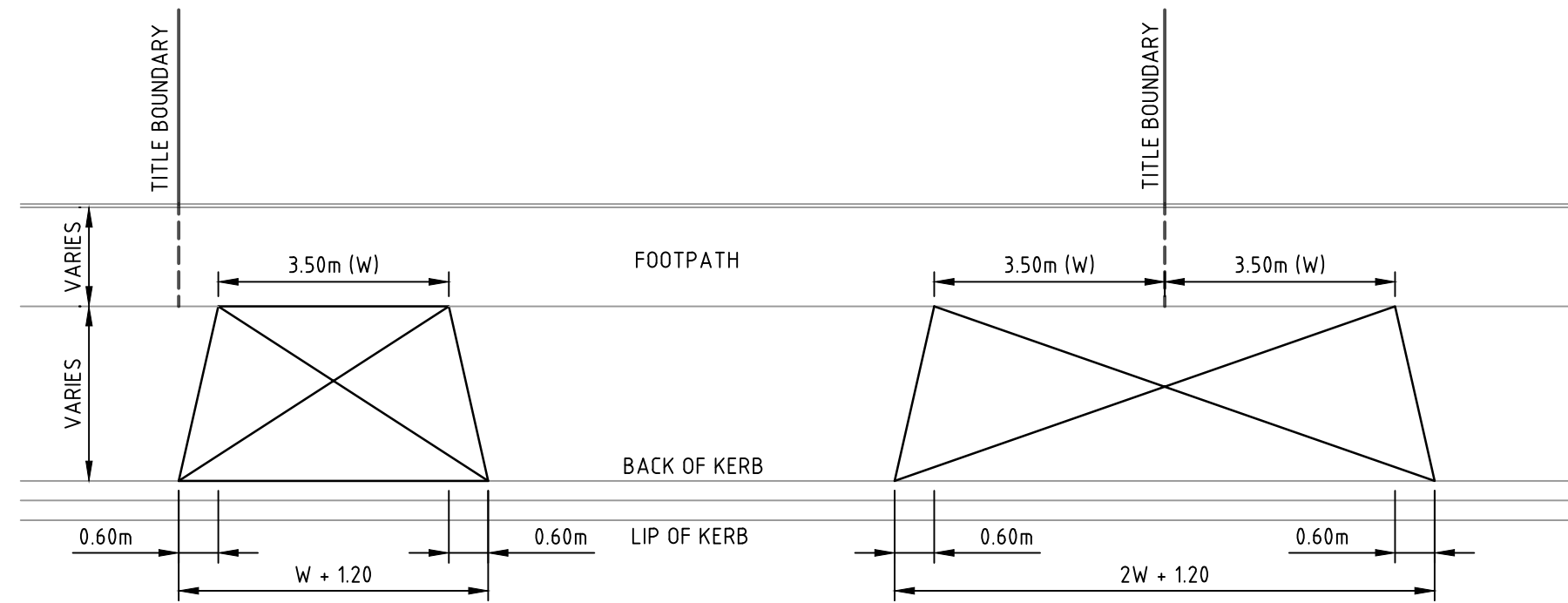
ORIGINAL SIZE  
A1

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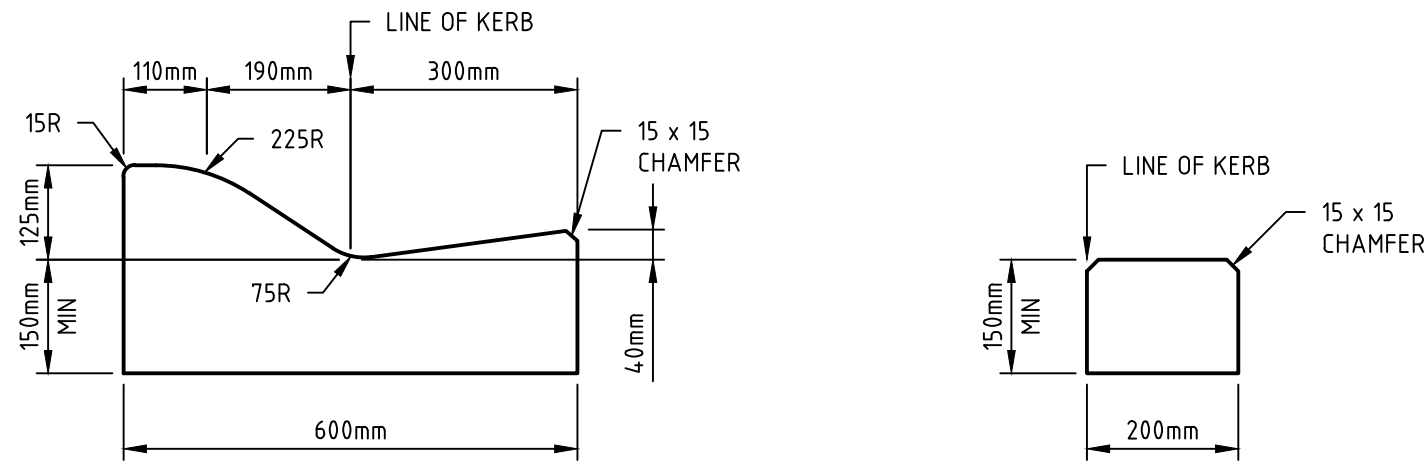


**SINGLE DRIVEWAY**

NOT TO SCALE  
REFER VPA STD DWG EDM 501

**DOUBLE DRIVEWAY**

NOT TO SCALE  
REFER VPA STD DWG EDM 502

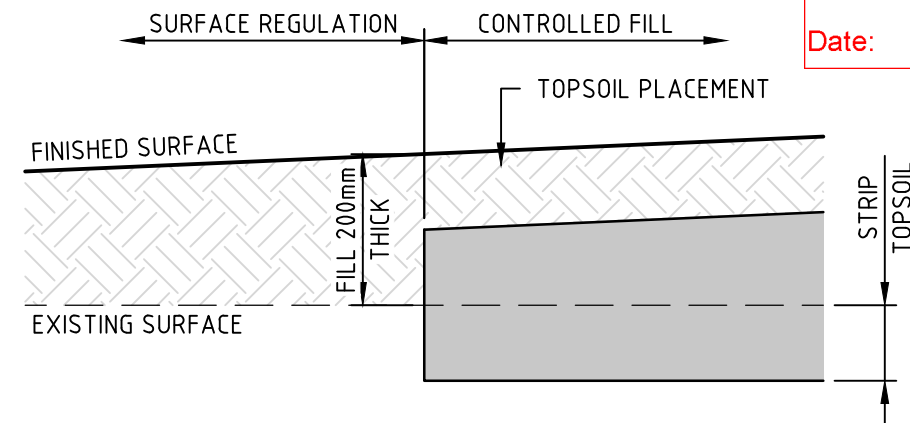


SM2

EDGESTRIP

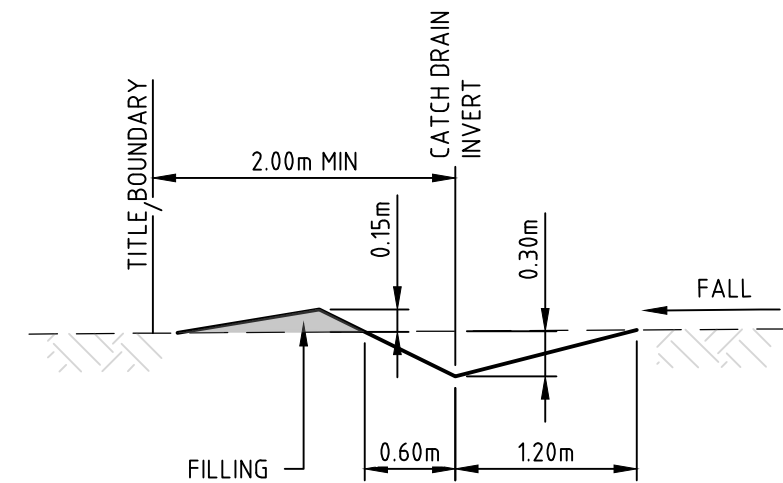
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SCALE: 1:10 @ A1



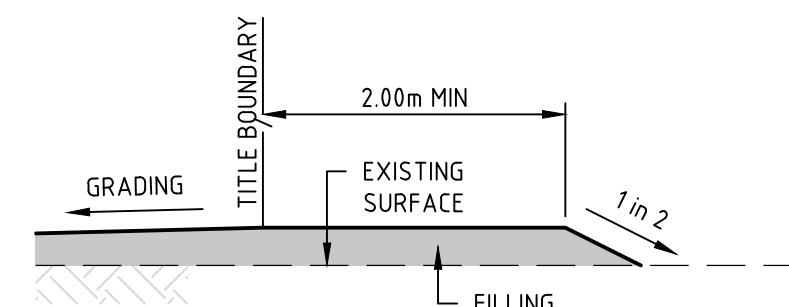
**LOT REGRADING DETAIL**

SCALE 1:50 @ A1



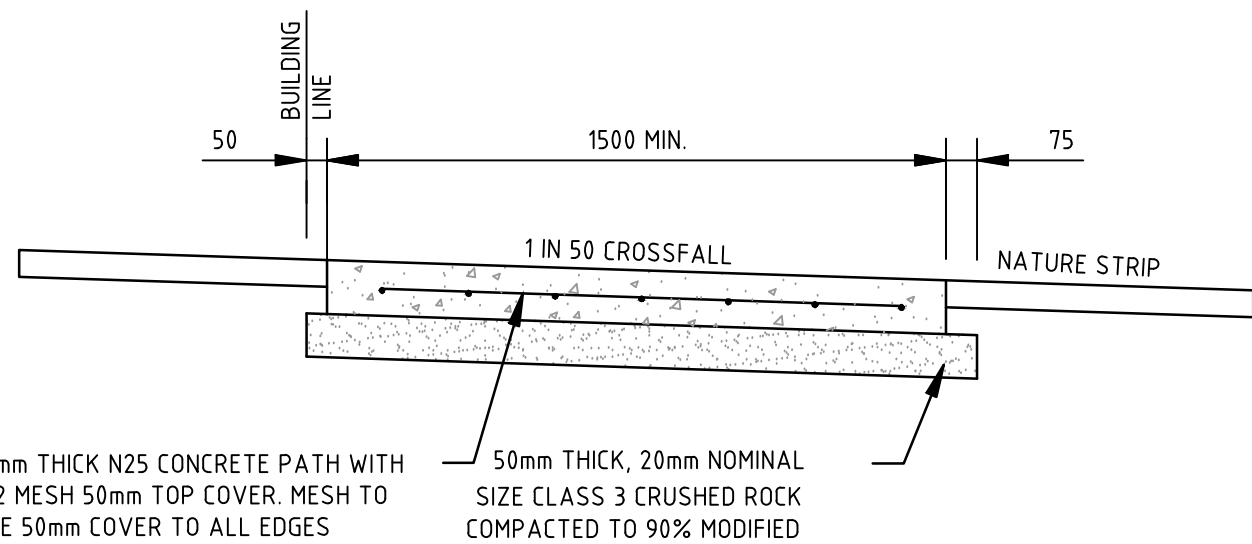
**TYPICAL CATCH DRAIN SECTION**

SCALE 1:50 @ A1



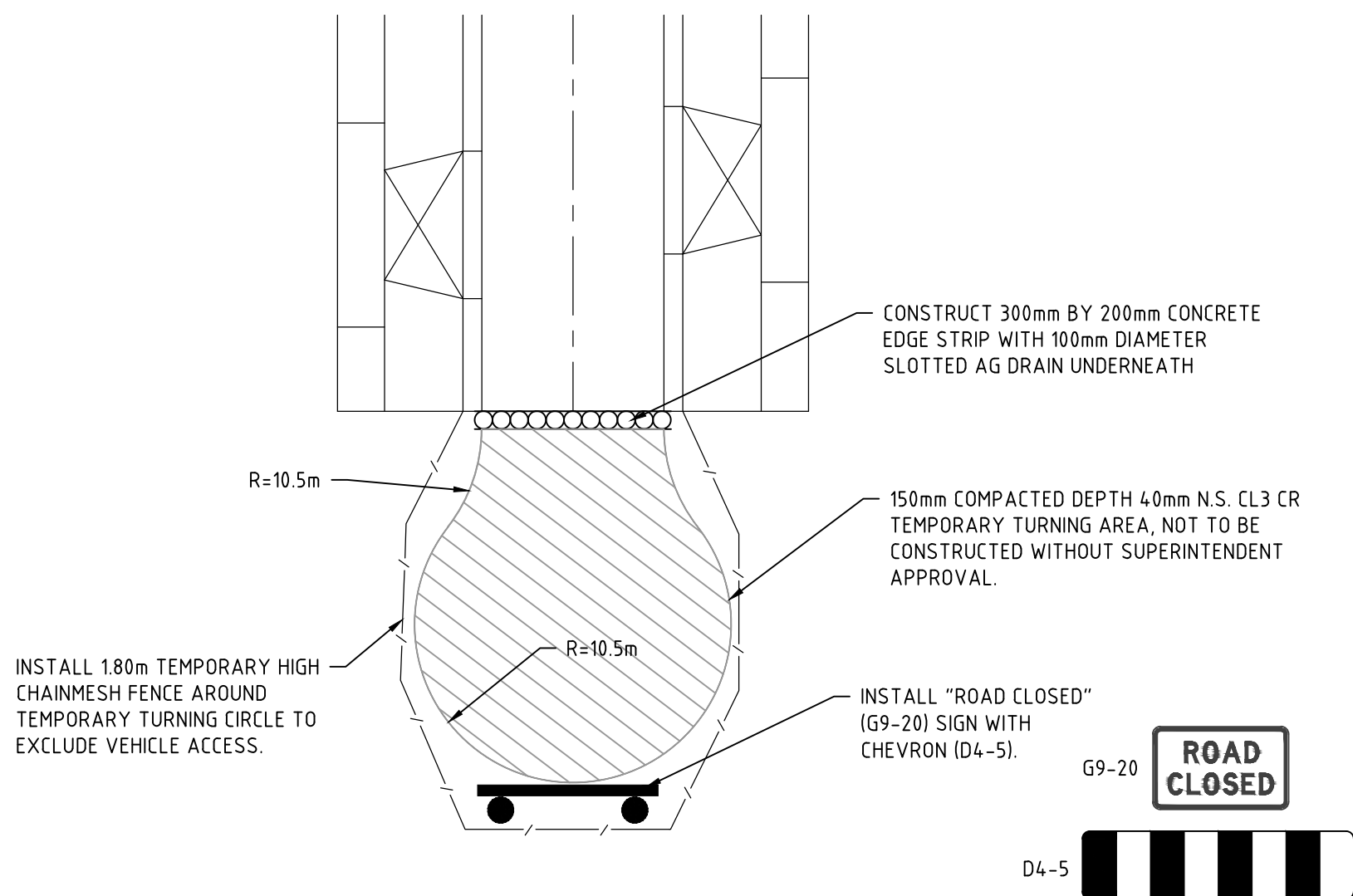
**STAGE BOUNDARY LOT FILLING**

SCALE 1:50 @ A1



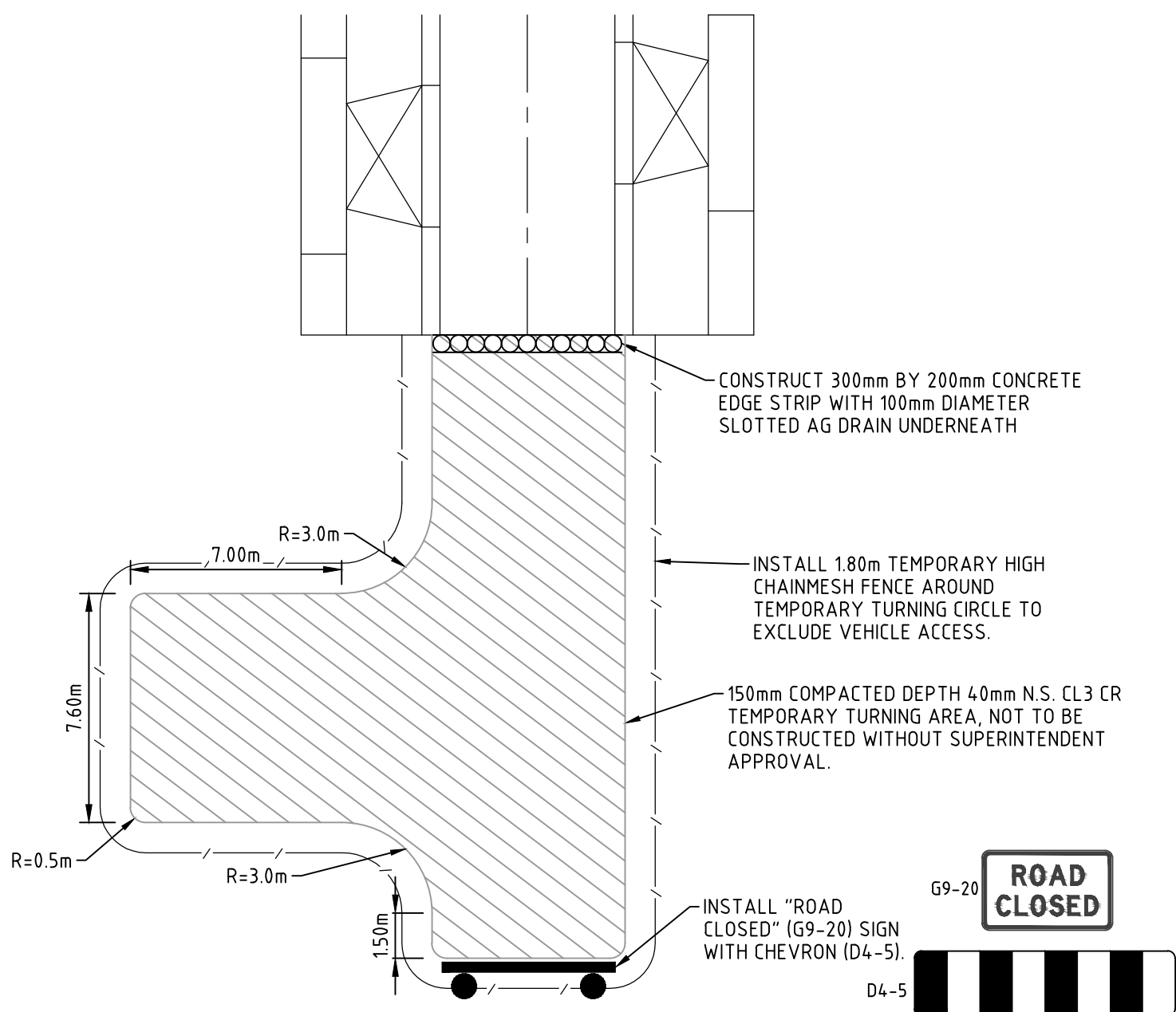
**TYPICAL RESIDENTIAL FOOTPATH CROSS SECTION**

NOT TO SCALE



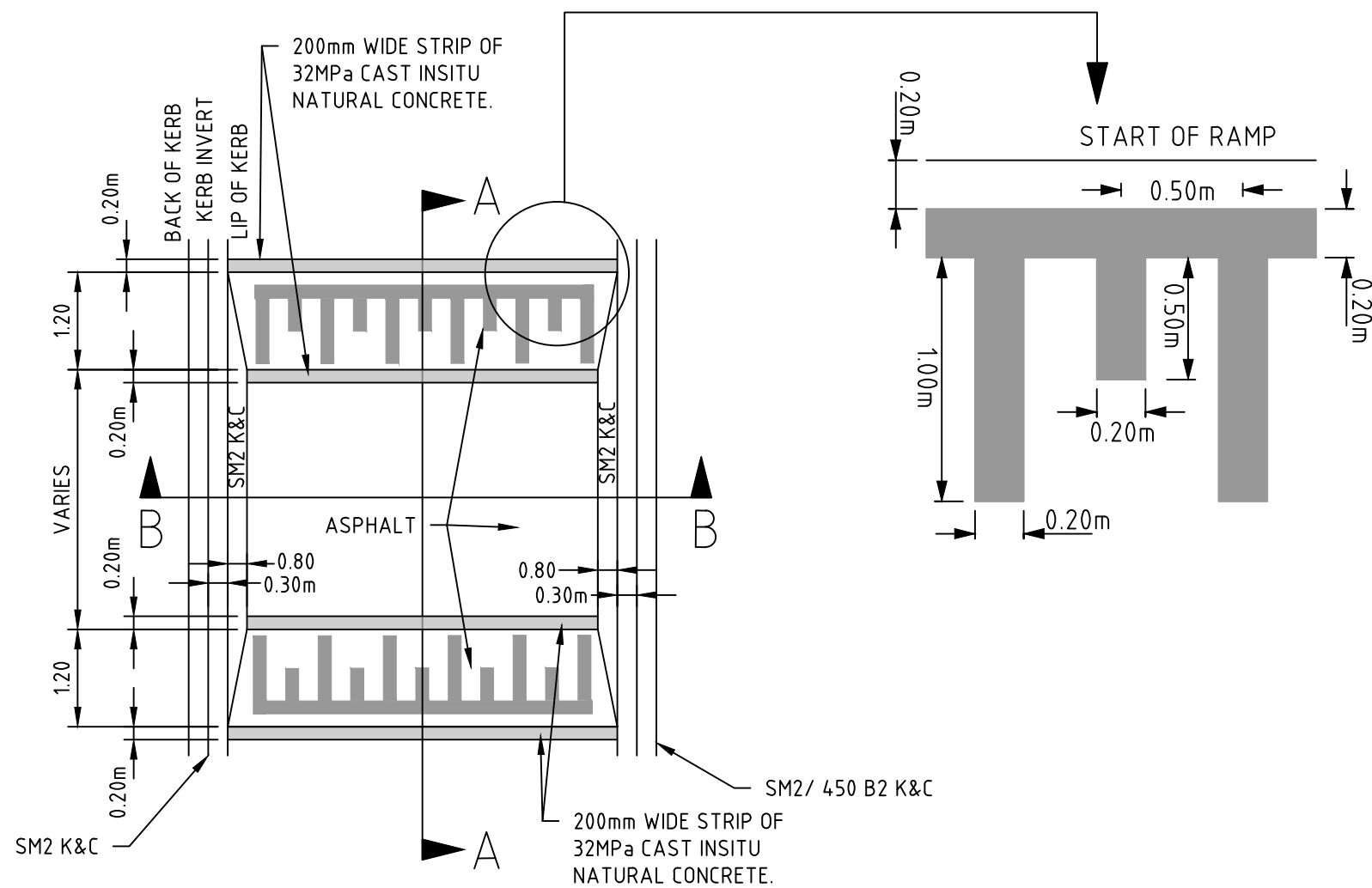
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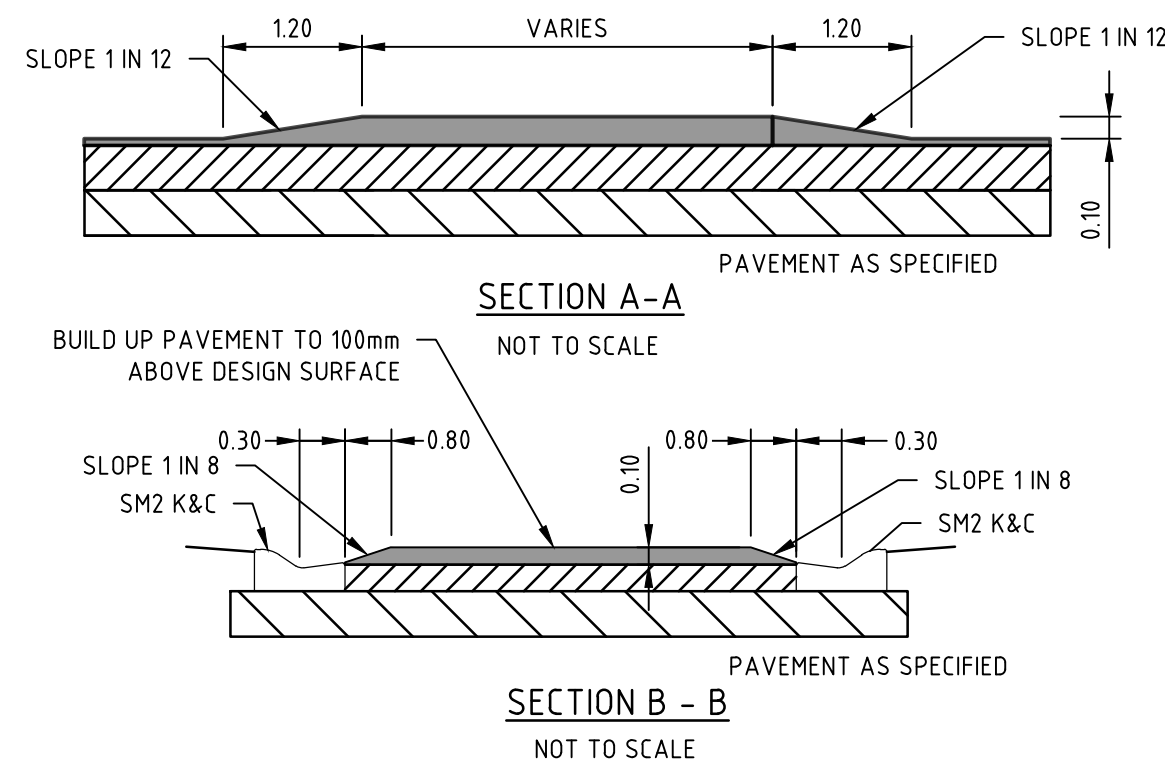
**TEMPORARY TURN AREA DETAIL**

NOT TO SCALE



**PROPOSED SPEED BUMP DETAIL**

NOT TO SCALE



**SECTION A-A**

NOT TO SCALE

**SECTION B-B**

NOT TO SCALE

APPROVED FOR CONSTRUCTION

CARDINIA SHIRE COUNCIL

Ref No.: S25-008, T220227

Sheet: 3 of 22

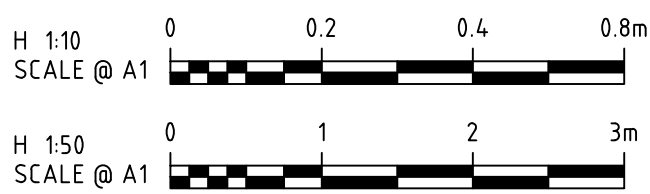
Approved by: Vithu Vijayakumar

CARDINIA SHIRE COUNCIL

Date: Monday, 28 July 2025

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REV	DATE	DRN	CKD	APP	AMENDMENT
D	01.06.25	EK			SPEED BUMP & TURNING AREA DETAILS ADDED
C	05.05.25	MA	MA	K. LORRIMAR	DIVEWAYS REFERENCE NOTE AMENDED
B	05.02.25	AT	MA	K. LORRIMAR	ISSUED FOR COUNCIL SUBMISSION
A	14.11.24	NT	MA	K. LORRIMAR	INITIAL ISSUE



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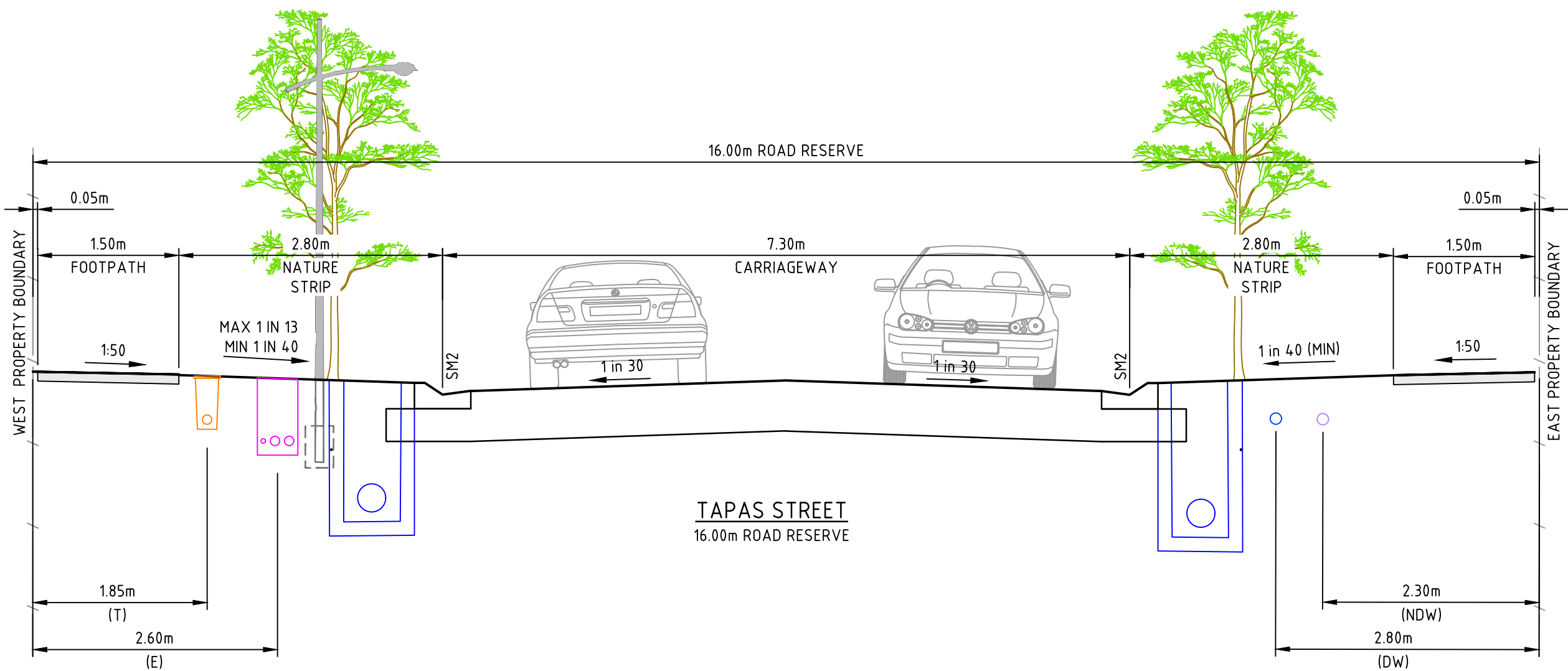
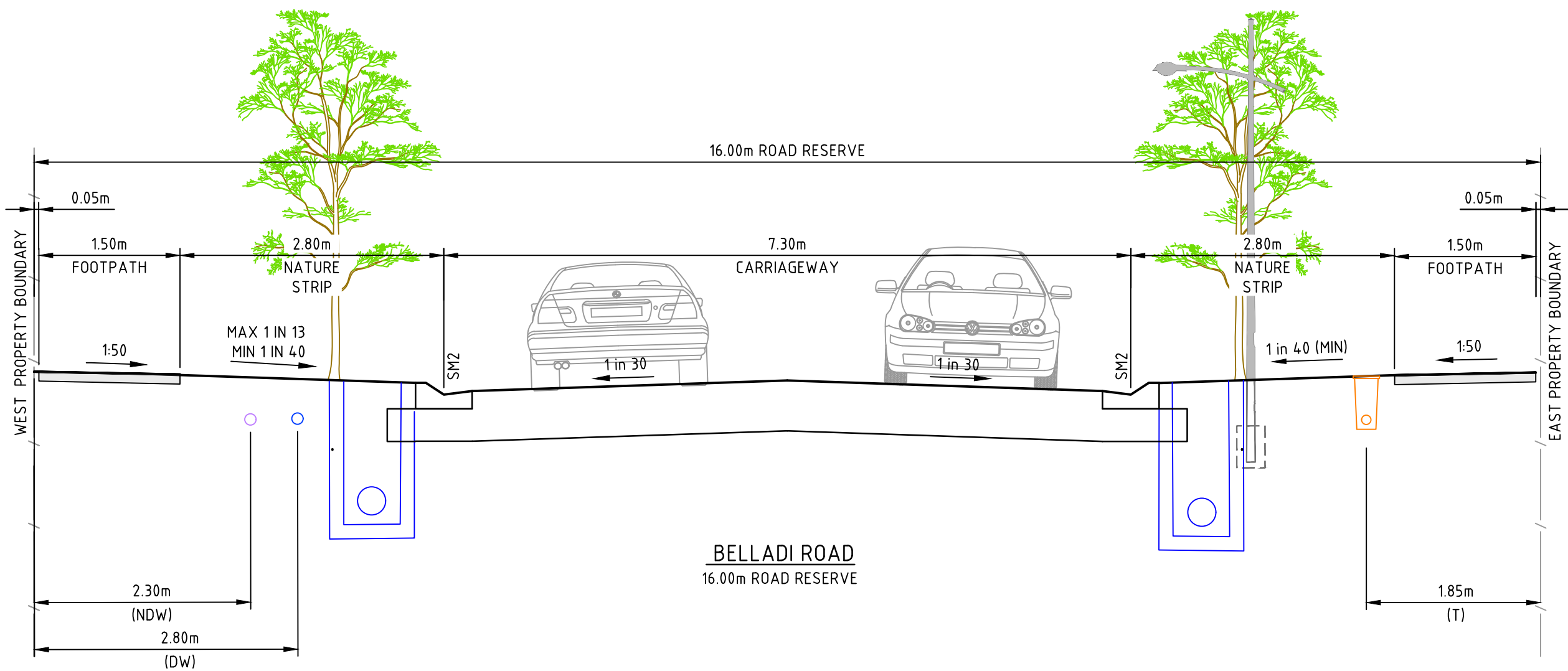
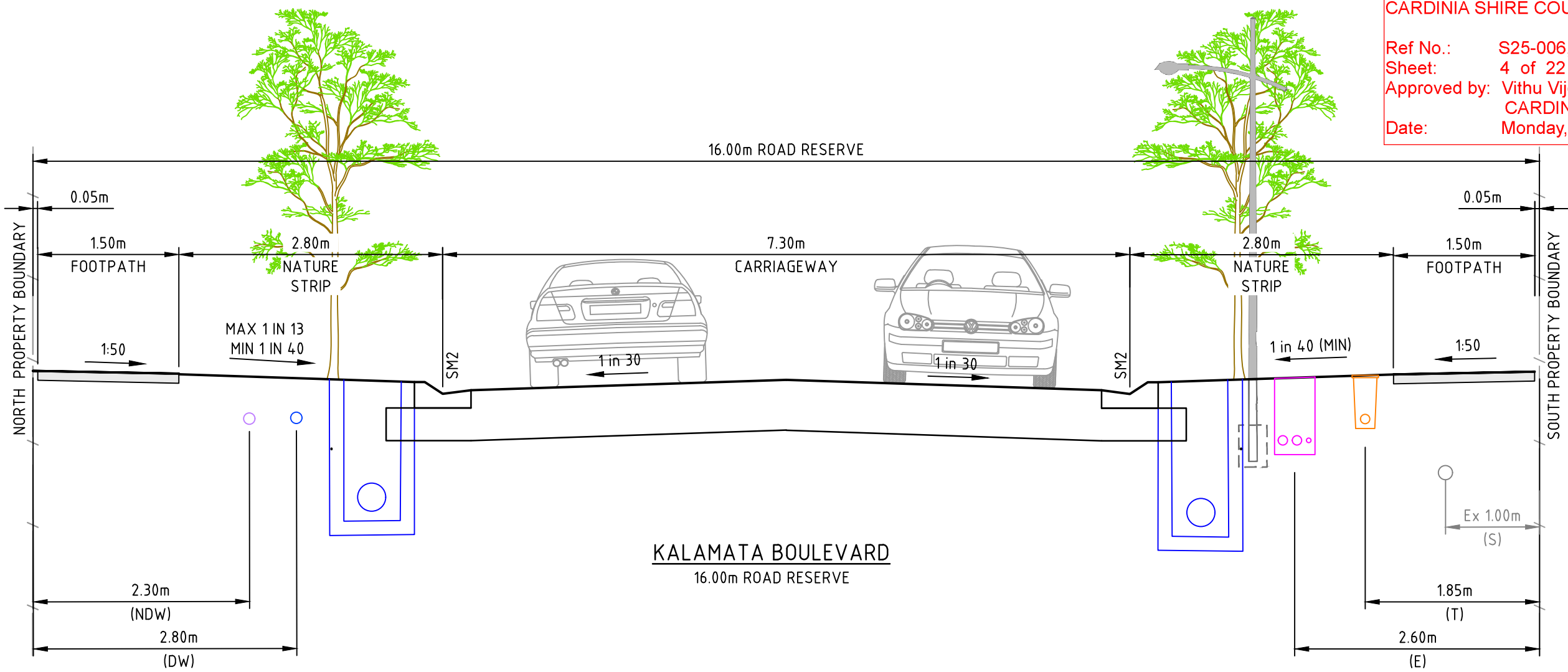
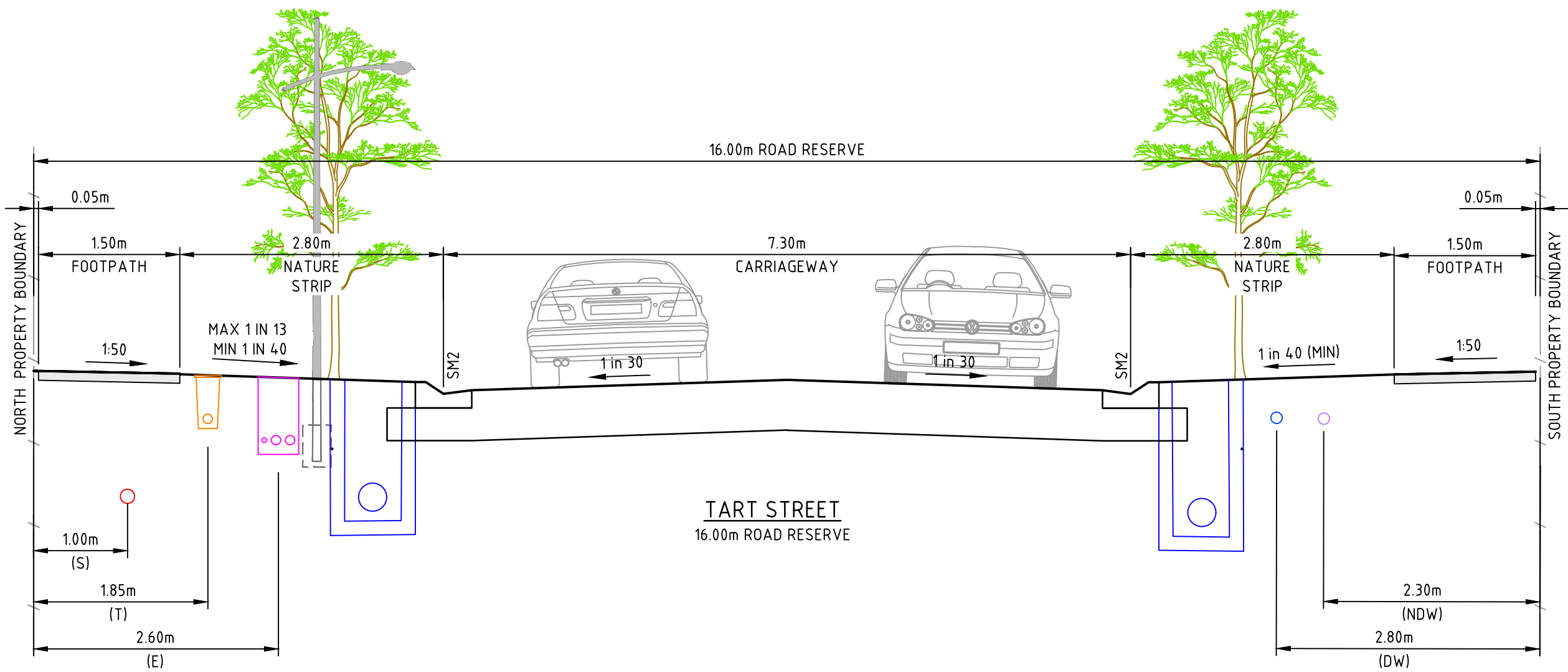
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CLIENT	<b>SIG GROUP</b>
APPROVED PE 0005927	DESIGNED M. ALI
	SCALE AS SHOWN

PROJECT	KALA ESTATE - STAGE 02
TITLE	GENERAL DETAILS
MUNICIPALITY	CARDINIA SHIRE COUNCIL
PP No.	T220227
DRAWING No.	3086-02-011
REVISION	D

ORIGINAL SIZE  
A1



C	09.05.25	MA	<i>[Signature]</i>	<i>[Signature]</i>	ELECTRICITY REMOVED FROM BELLADI ROAD
B	05.02.25	AT	MA	K. LORRIMAR	ISSUED FOR COUNCIL SUBMISSION
A	14.11.24	NT	MA	K. LORRIMAR	INITIAL ISSUE
REV	DATE	DRN	CKD	APP	AMENDMENT



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CLIENT	<b>SIG GROUP</b>
APPROVED PE 0005927	DESIGNED M. ALI
<i>[Signature]</i>	SCALE 1:50 @ A1

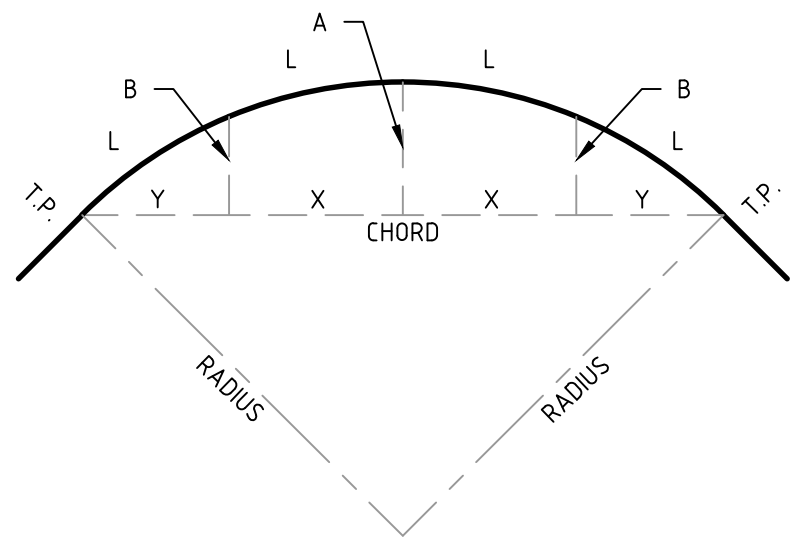
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TITLE	TYPICAL CROSS SECTIONS
MUNICIPALITY	CARDINIA SHIRE COUNCIL
PP No.	T220227
DRAWING No.	3086-02-020
REVISION	C

ORIGINAL SIZE  
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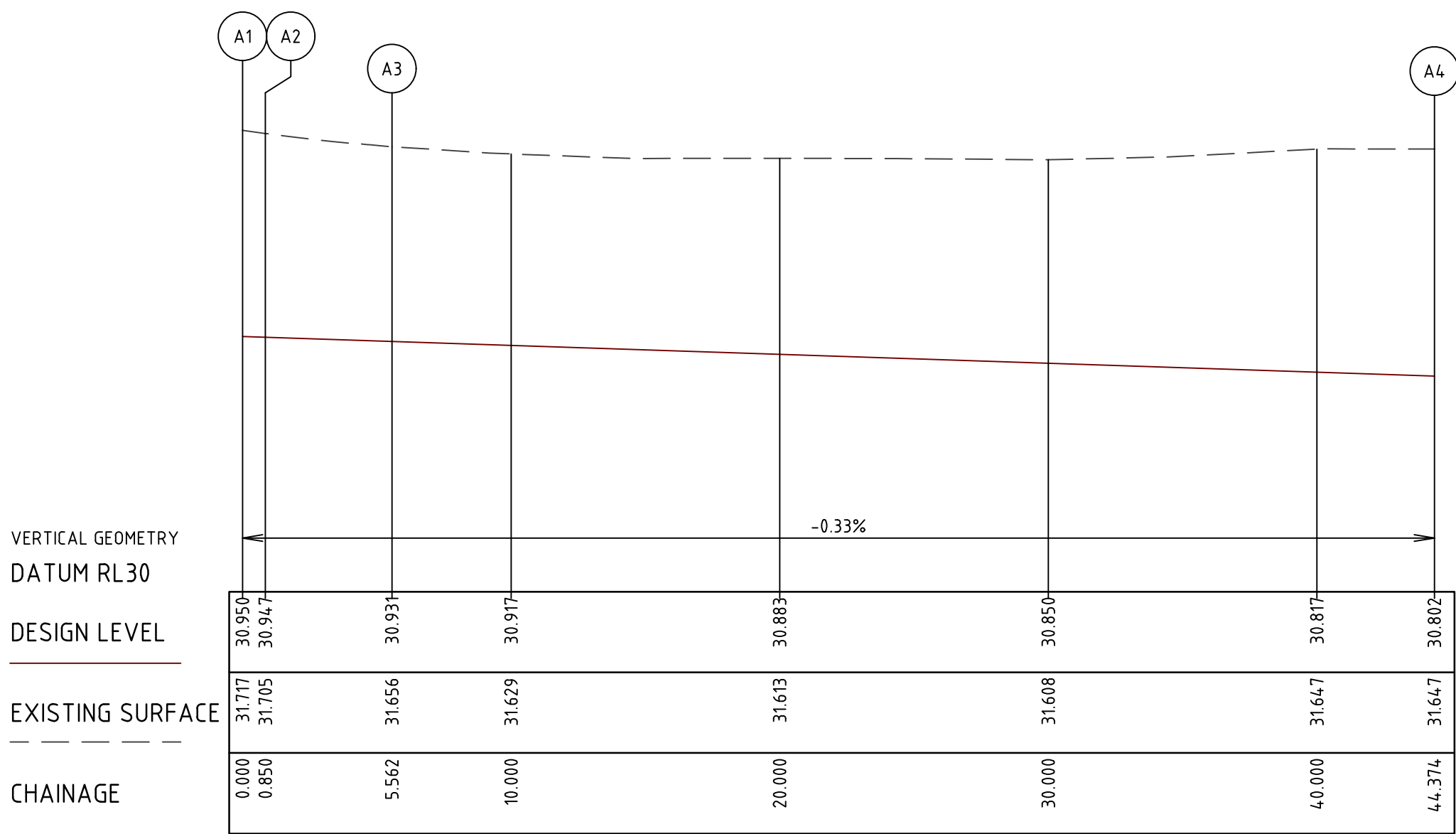






SETOUT DETAIL  
N.T.S.

APPROVED FOR CONSTRUCTION  
CARDINIA SHIRE COUNCIL  
Ref No.: S25-008, T220227  
Sheet: 6 of 22  
Approved by: Vithu Vijayakumar  
CARDINIA SHIRE COUNCIL  
Date: Monday, 28 July 2025

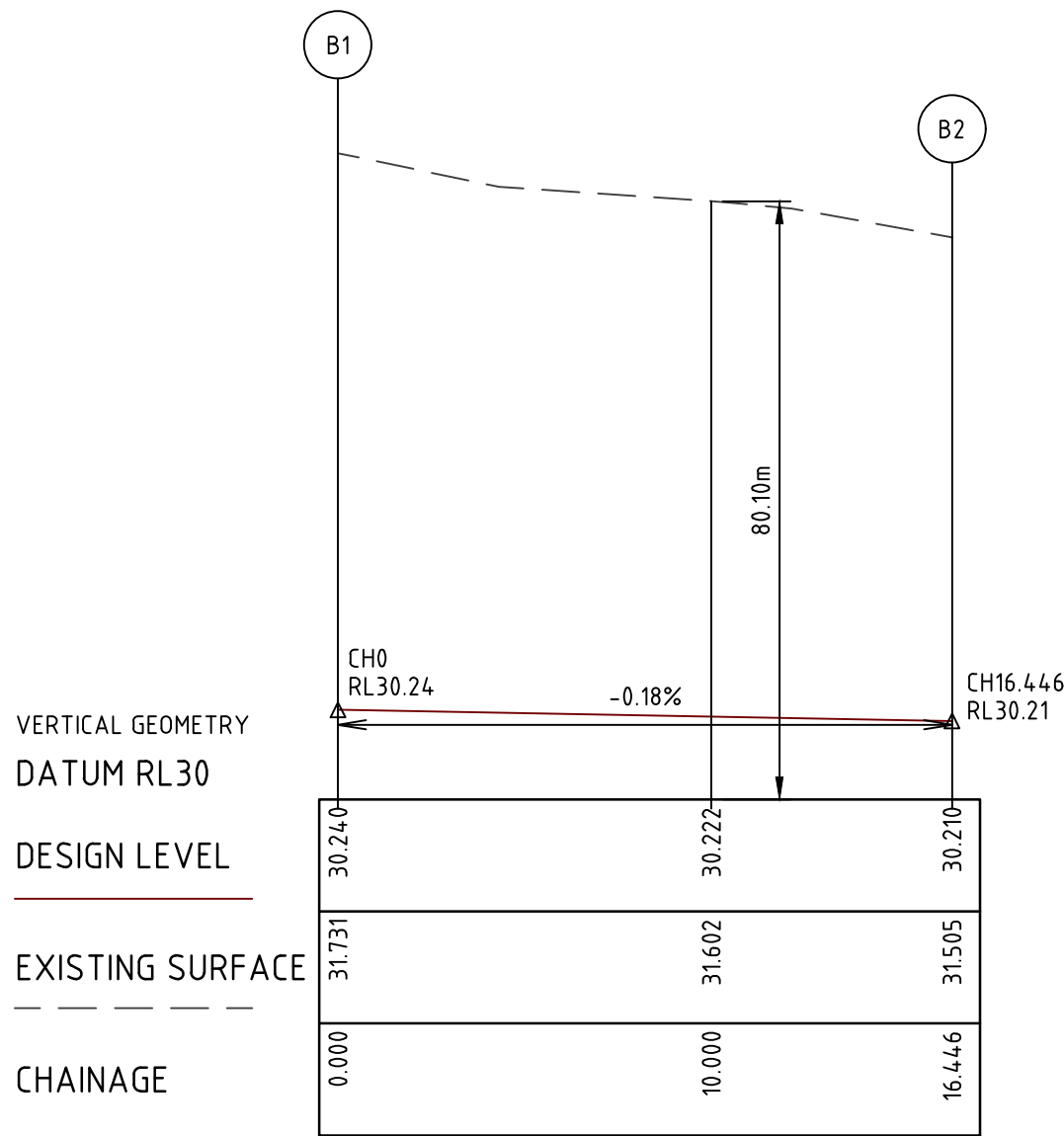


OUTLET SWALE A

Alignment A

Point no	Easting	Northing	RL
A1	372000.531	5785177.185	30.950
A2	372000.403	5785176.345	30.947
A3	371996.985	5785173.832	30.931
A4	371958.618	5785179.686	30.802

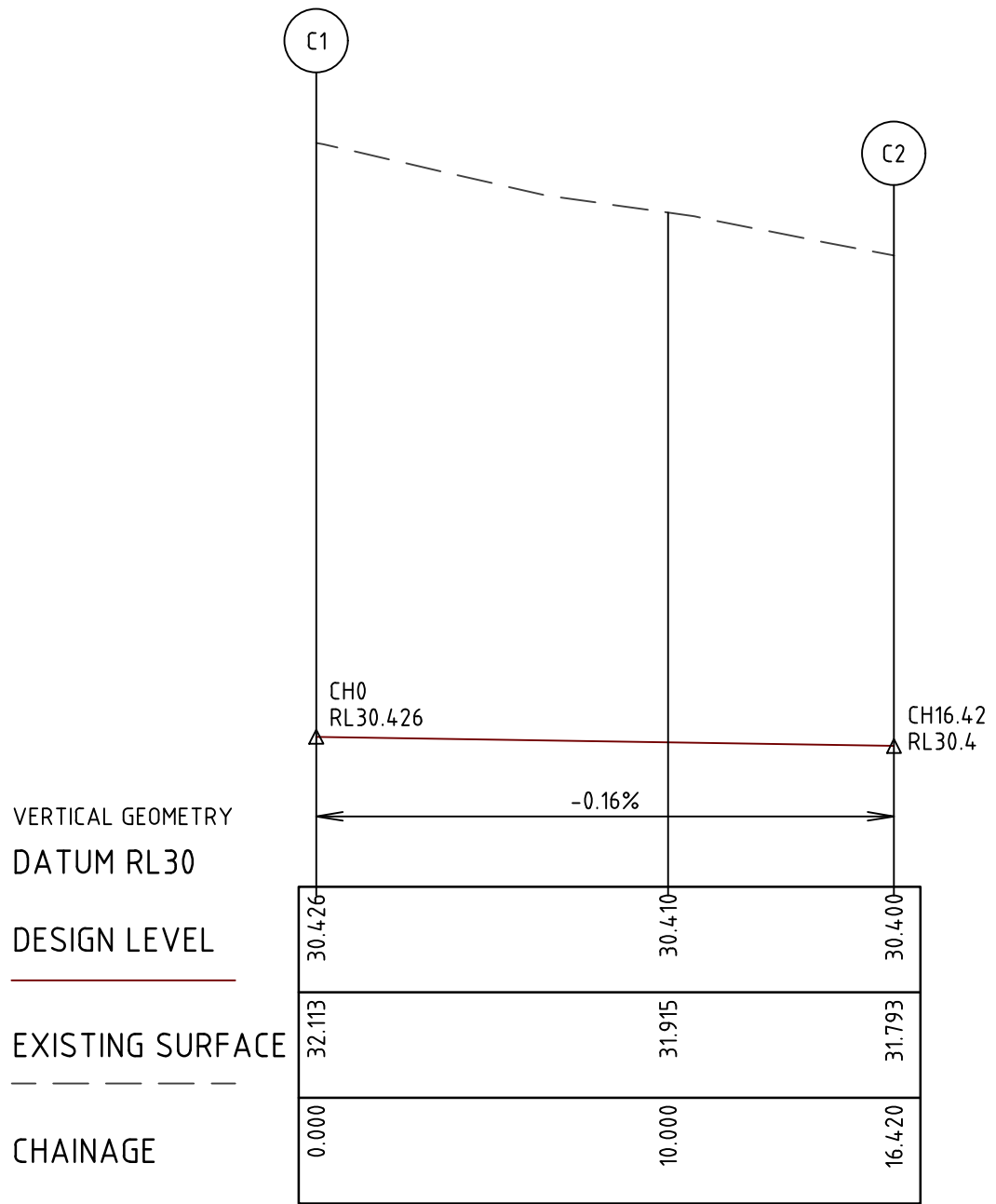
Curve no	L	Radius	Arc	A	B	X	Y	L	Mid point RL
A2 - A3	90.000	3.000	4.712	0.879	0.650	1.148	0.973	1.178	30.939



OUTLET SWALE B

Alignment B

Point no	Easting	Northing	RL
B1	372035.829	5785168.672	30.240
B2	372033.348	5785152.414	30.210

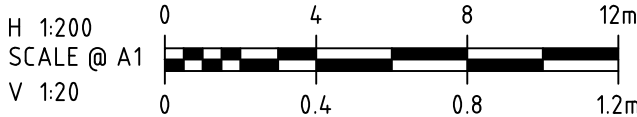


OUTLET SWALE C

Alignment C

Point no	Easting	Northing	RL
C1	372107.963	5785157.643	30.426
C2	372105.486	5785141.411	30.400

B	06.02.25	AT			ISSUED FOR COUNCIL SUBMISSION
A	14.11.24	NT	MA	K. LORRIMAR	INITIAL ISSUE
REV	DATE	DRN	CKD	APP	AMENDMENT



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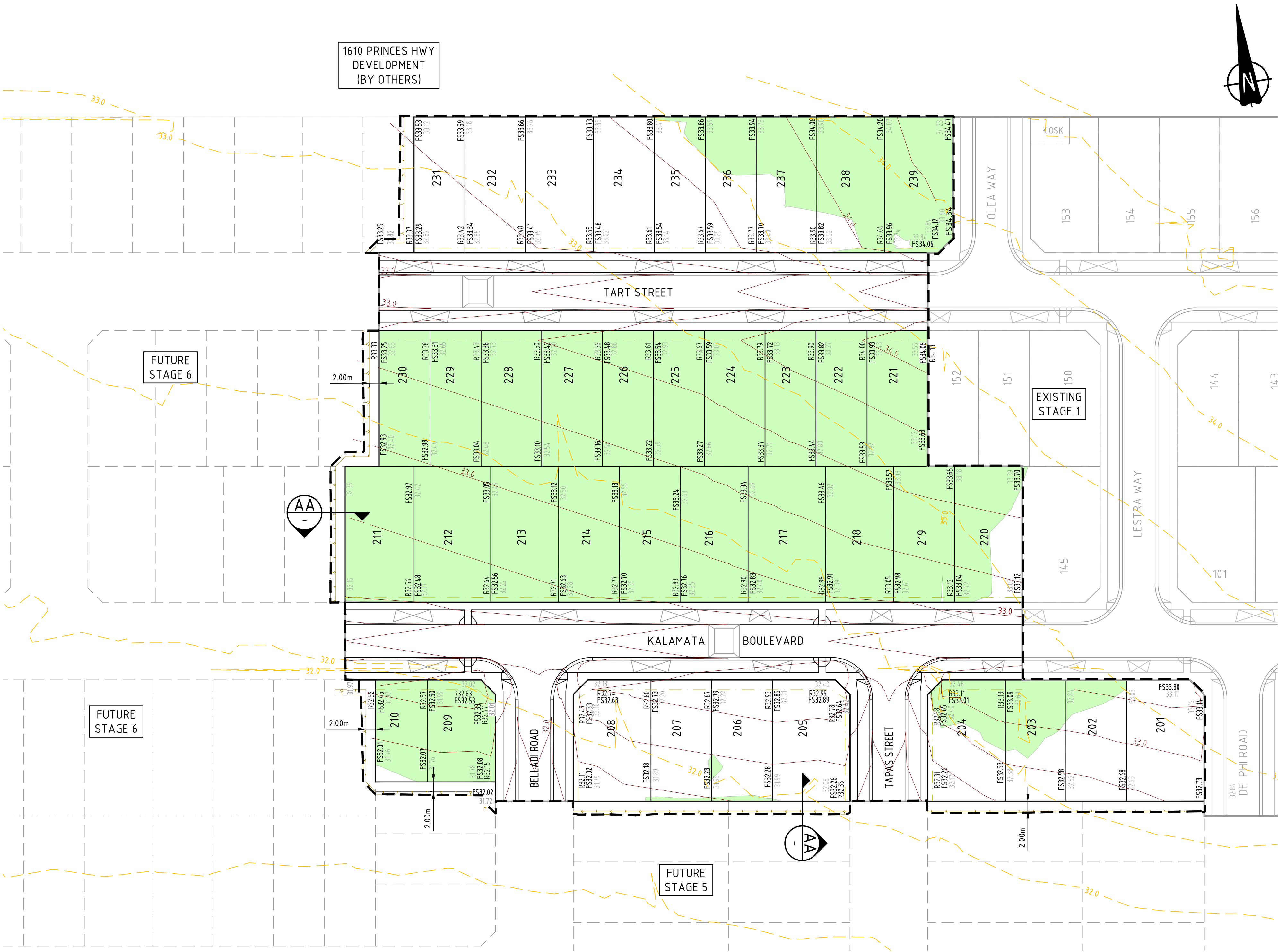
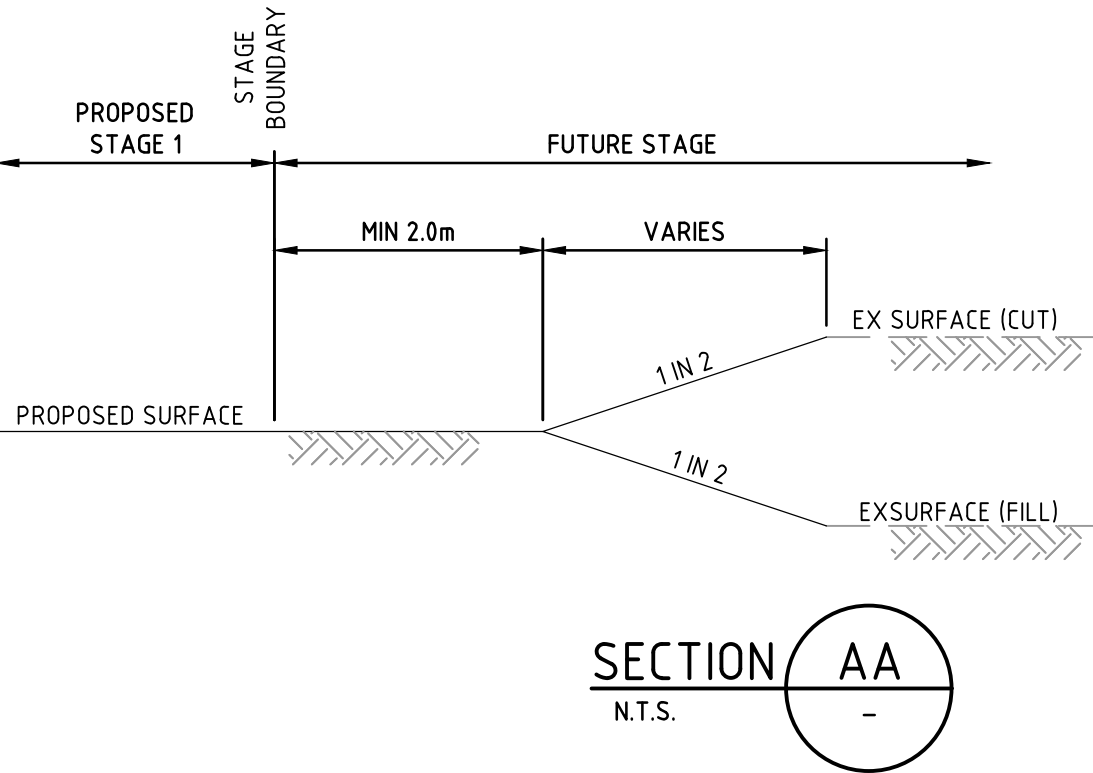
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APPROVED PE 0005927	
DESIGNED M. ALI	SCALE H 1:200 V 1:20 @ A1

PROJECT KALA ESTATE - STAGE 02	TITLE OUTLET SWALE SETOUT
MUNICIPALITY CARDINIA SHIRE COUNCIL	PP No. T220227
REVISION B	DRAWING No. 3086-02-101

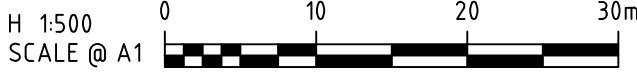
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A1



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DESCRIPTION	EXISTING	PROPOSED
BOUNDARY OF WORKS		-----
SURFACE CONTOUR MAJOR	-52.00-	-52.00-
FINISHED SURFACE LEVEL	4.3.21	FS44.33
RIDGE LEVEL		R4.3.55
RIDGE / CHANGE OF GRADE LINE		- - - - -
FILLING GREATER THAN 300mm		



C	28.05.25	EK	MA	K. LORRIMAR	SPEED HUMP ADDED IN TART STREET
B	05.02.25	AT	MA	K. LORRIMAR	ISSUED FOR COUNCIL SUBMISSION
A	14.11.24	NT	MA	K. LORRIMAR	INITIAL ISSUE
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APPROVED PE 0005927		M. ALI	
SCALE		1:500	

PROJECT		MUNICIPALITY	
KALA ESTATE - STAGE 02		CARDINIA SHIRE COUNCIL	
TITLE		DRAWING No.	
EARTHWORKS PLAN		3086-02-150	
PP No.		REVISION	
T220227		C	

ORIGINAL SIZE  
A1

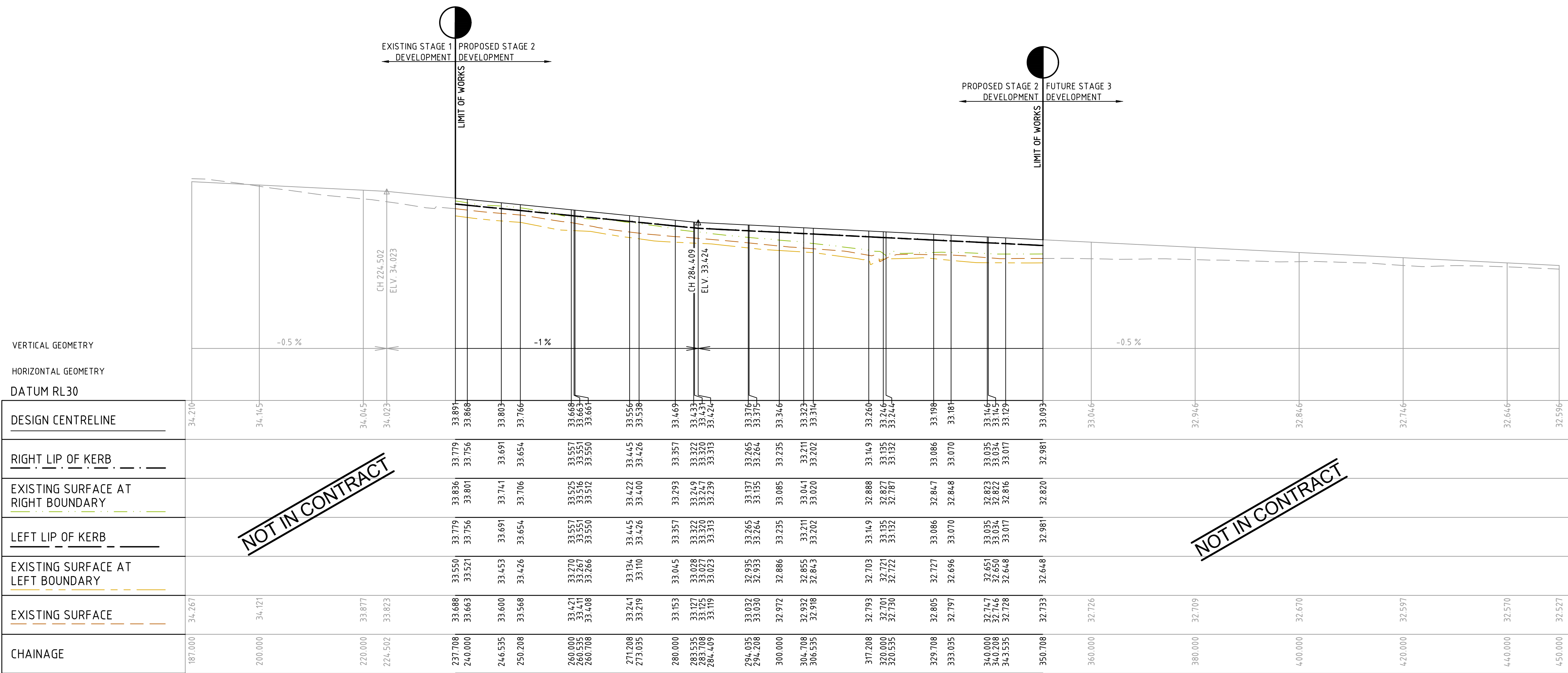


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DESIGN LINE	—
FUTURE DESIGN LINE	- - - -
EXISTING SURFACE AT RIGHT BOUNDARY	---
RIGHT LIP OF KERB	- . - . - .
EXISTING SURFACE AT LEFT BOUNDARY	---
LEFT LIP OF KERB	---

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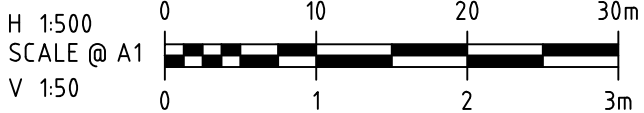
CARDINIA SHIRE COUNCIL

Ref No.: S25-006, T220227  
Sheet: 8 of 22  
Approved by: Vithu Vijeyakumar  
CARDINIA SHIRE COUNCIL  
Date: Monday, 28 July 2025



TART STREET LONGITUDINAL SECTION

B	06.02.25	AT	<i>[Signature]</i>	<i>[Signature]</i>	ISSUED FOR COUNCIL SUBMISSION
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<b>SIG GROUP</b>	
APPROVED PE 0005927 <i>[Signature]</i>	DESIGNED M. ALI
SCALE H 1:500 V 1:50	REVISION B

PROJECT	
KALA ESTATE - STAGE 02	
TITLE	
ROAD LONGITUDINAL SECTIONS (SHEET 1 OF 3)	
MUNICIPALITY	
CARDINIA SHIRE COUNCIL	
PP No.	T220227
DRAWING No.	3086-02-200
REVISION	B

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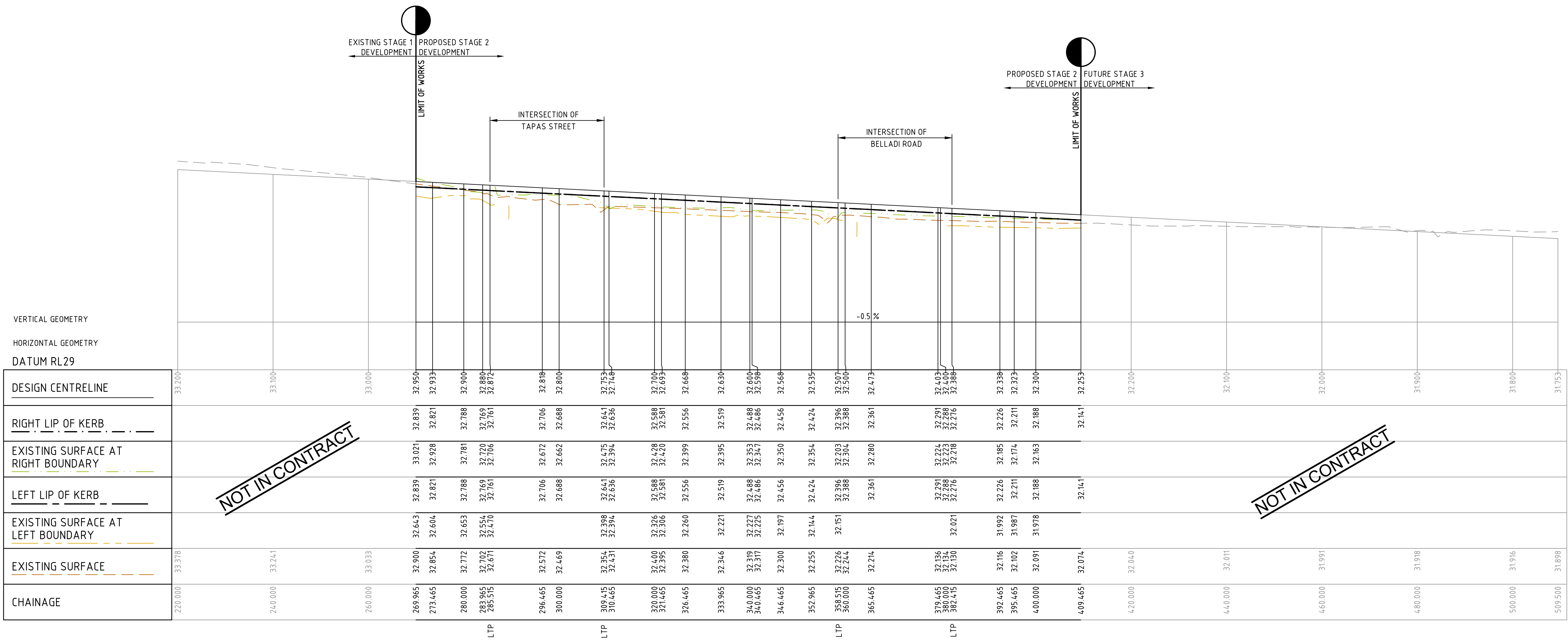


LEGEND	
DESCRIPTION	LINETYPE
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DESIGN LINE	—
FUTURE DESIGN LINE	- - - -
EXISTING SURFACE AT RIGHT BOUNDARY	---
RIGHT LIP OF KERB	- · - · - ·
EXISTING SURFACE AT LEFT BOUNDARY	---
LEFT LIP OF KERB	- · - · - ·

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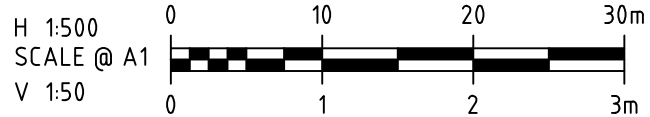
CARDINIA SHIRE COUNCIL

Ref No.: S25-006, T220227  
Sheet: 9 of 22  
Approved by: Vithu Vijeyakumar  
CARDINIA SHIRE COUNCIL  
Date: Monday, 28 July 2025



KALAMATA BOULEVARD LONGITUDINAL SECTION

B	06.02.25	AT	<i>[Signature]</i>	<i>[Signature]</i>	ISSUED FOR COUNCIL SUBMISSION
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<b>SIG GROUP</b>	
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<i>[Signature]</i>	SCALE H 1:500 V 1:50

PROJECT	
KALA ESTATE - STAGE 02	
TITLE	
ROAD LONGITUDINAL SECTIONS (SHEET 2 OF 3)	
MUNICIPALITY	
CARDINIA SHIRE COUNCIL	
PP No.	T220227
DRAWING No.	3086-02-201
REVISION	B

ORIGINAL SIZE  
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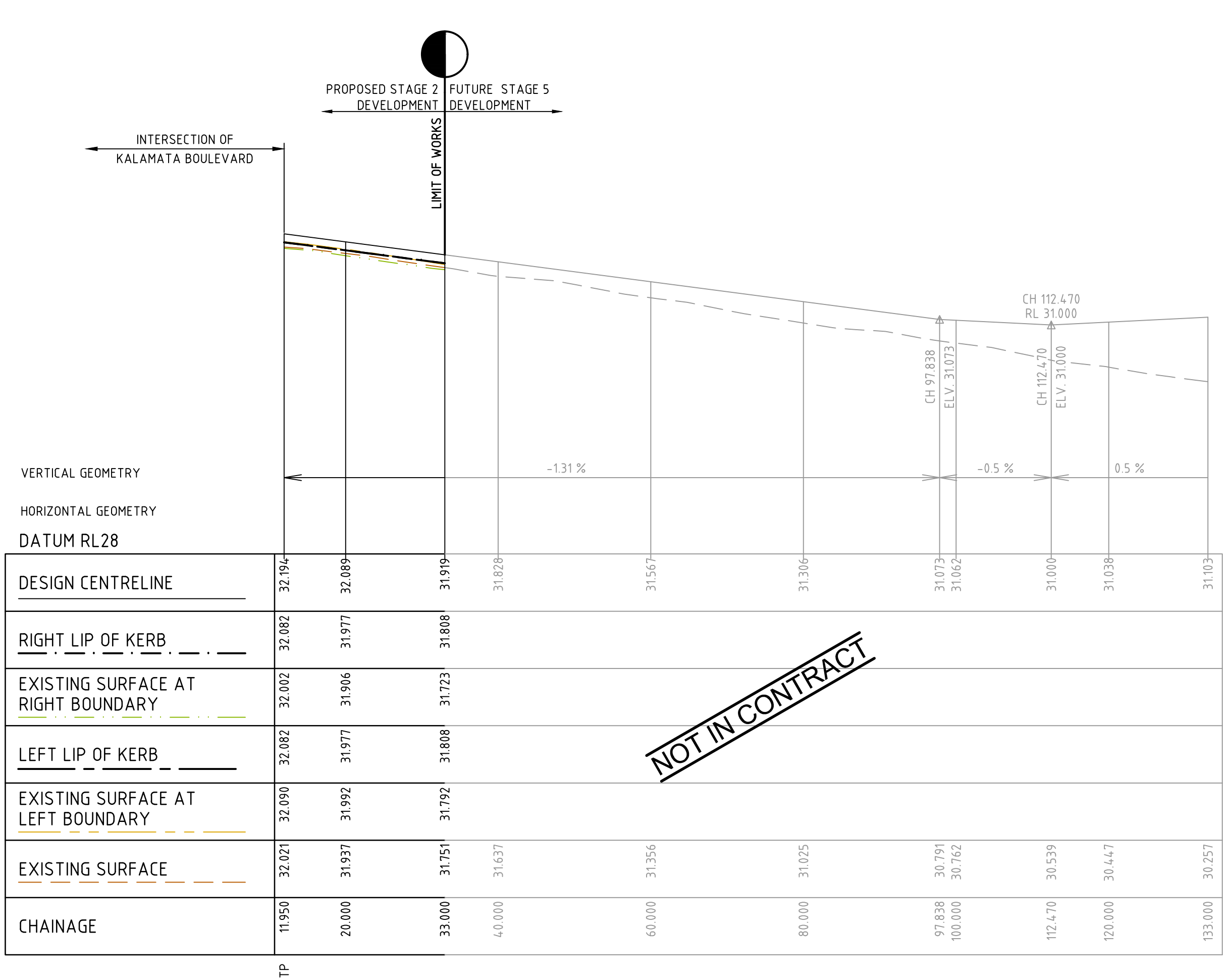


LEGEND	
DESCRIPTION	LINETYPE
EXISTING SURFACE	---
DESIGN LINE	—
FUTURE DESIGN LINE	- - - - -
EXISTING SURFACE AT RIGHT BOUNDARY	---
RIGHT LIP OF KERB	- . - . - .
EXISTING SURFACE AT LEFT BOUNDARY	---
LEFT LIP OF KERB	---

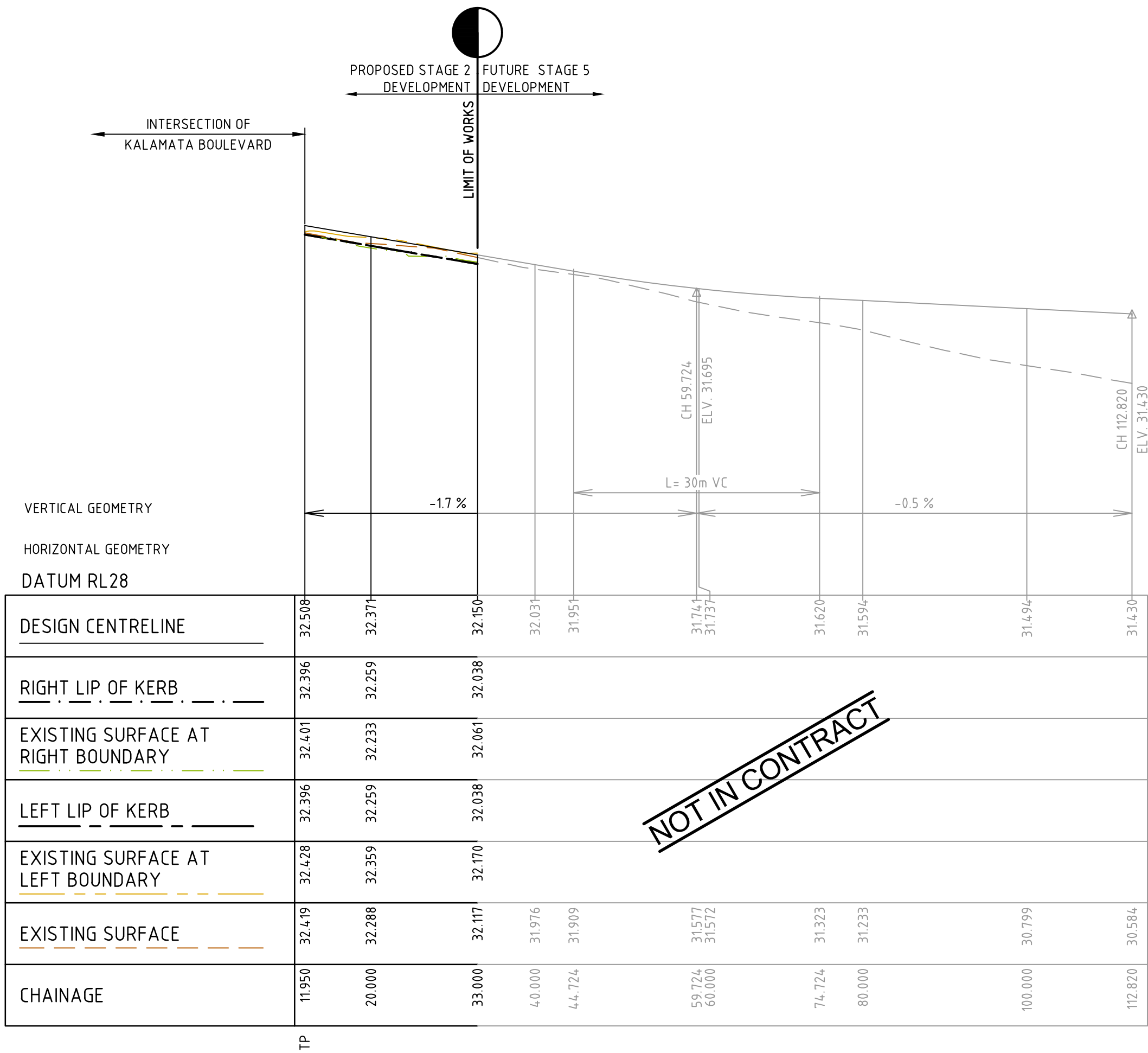
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Sheet: 10 of 22  
Approved by: Vithu Vijeyakumar  
CARDINIA SHIRE COUNCIL  
Date: Monday, 28 July 2025

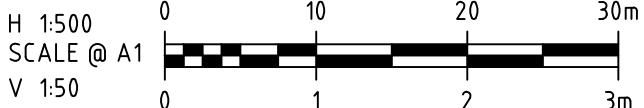


BELLADI ROAD LONGITUDINAL SECTION



TAPAS STREET LONGITUDINAL SECTION

B	06.02.25	AT	<i>[Signature]</i>	<i>[Signature]</i>	ISSUED FOR COUNCIL SUBMISSION
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CLIENT	
<b>SIG GROUP</b>	
APPROVED PE 0005927 <i>[Signature]</i>	DESIGNED M. ALI
SCALE H 1:500 V 1:50	

PROJECT	
KALA ESTATE - STAGE 02	
TITLE	
ROAD LONGITUDINAL SECTIONS (SHEET 3 OF 3)	
MUNICIPALITY	
CARDINIA SHIRE COUNCIL	
PP No.	T220227
DRAWING No.	3086-02-202
REVISION	B

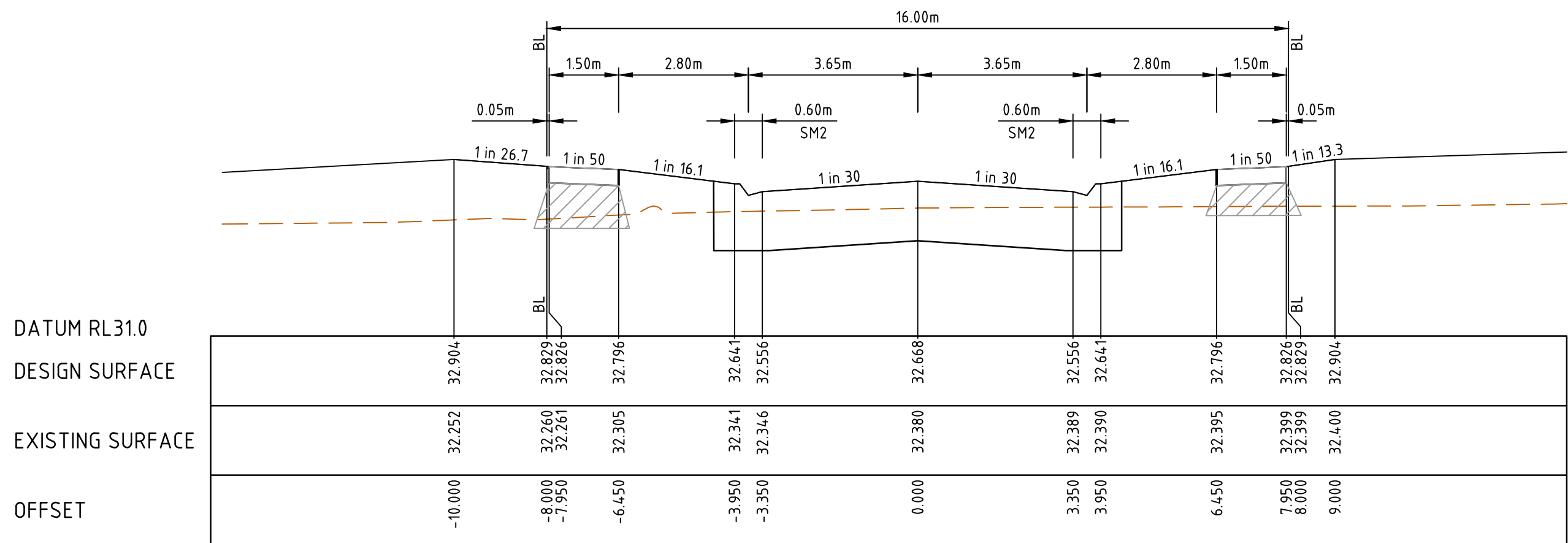
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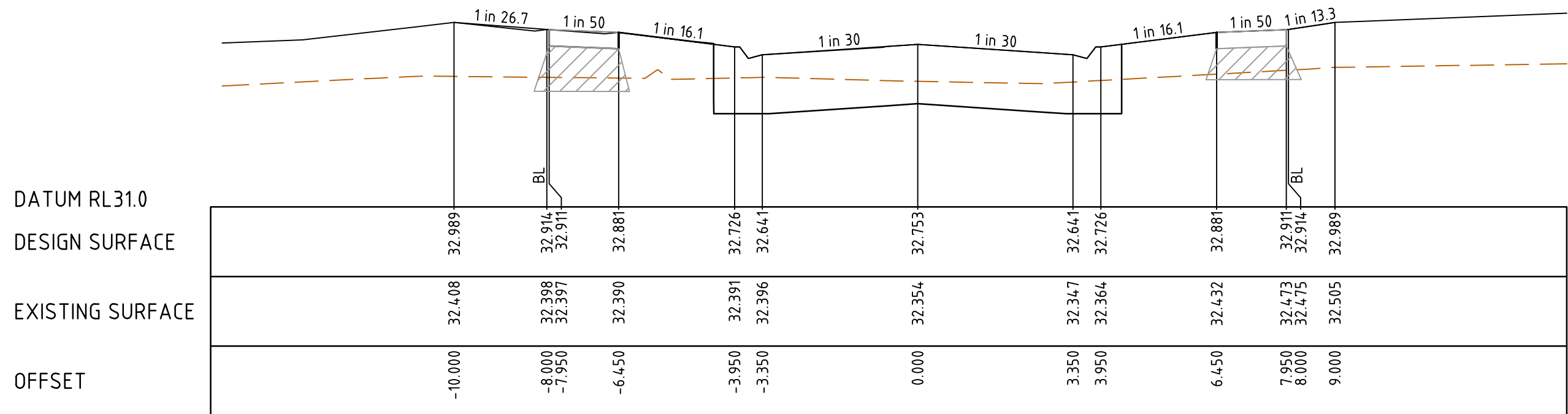




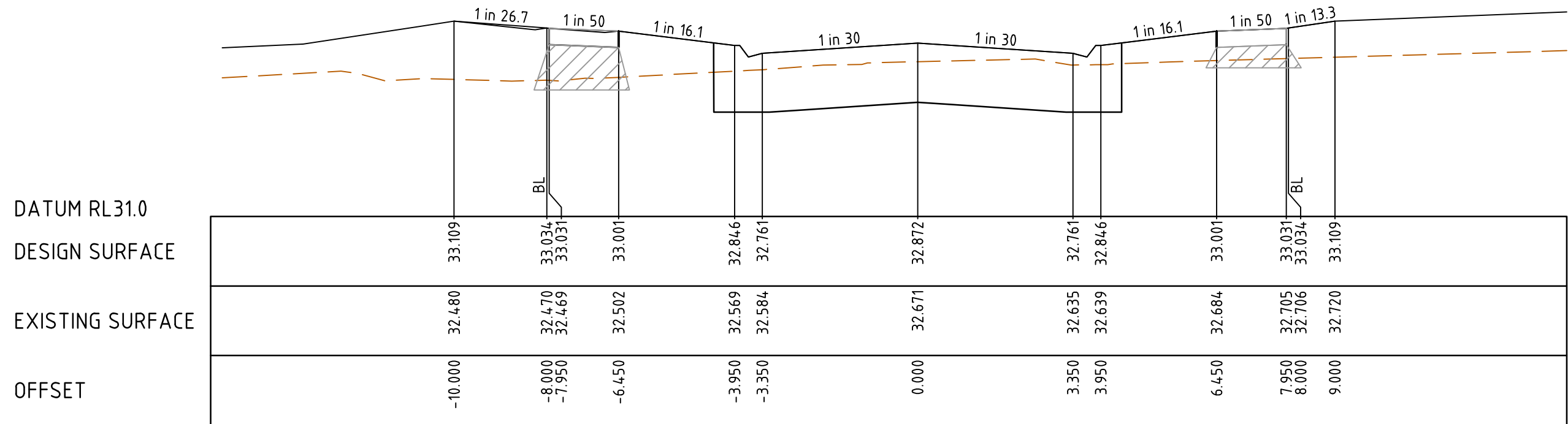
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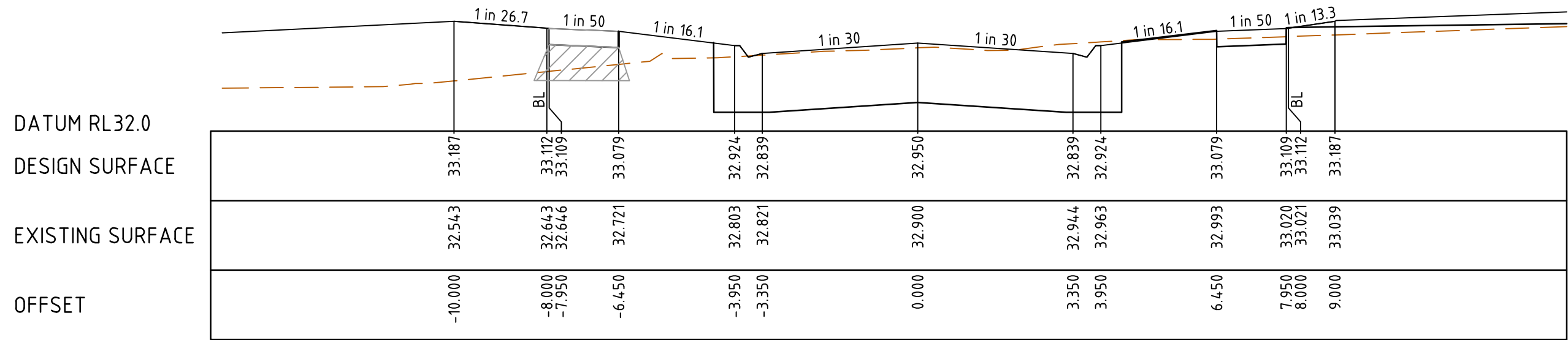
CH 326.465



LTPCH 309.415



LTPCH 285.515



CH 269.965

APPROVED FOR CONSTRUCTION

CARDINIA SHIRE COUNCIL

Ref No.: S25-006, T220227

Sheet: 12 of 22

Approved by: Vithu Vijeyakumar

CARDINIA SHIRE COUNCIL

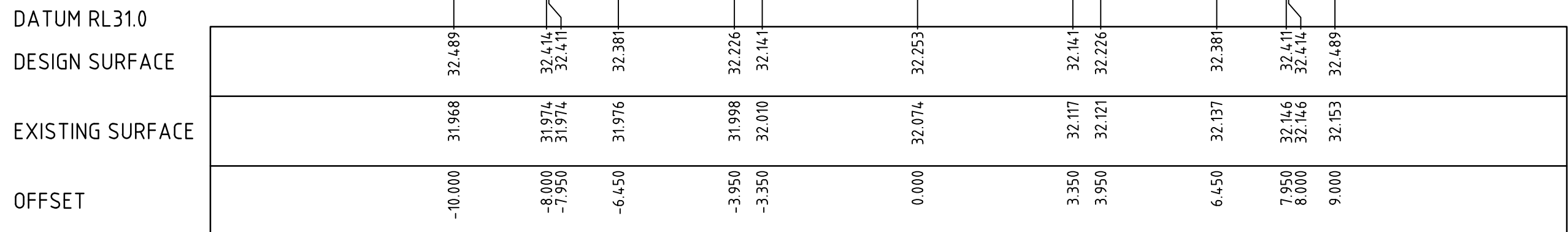
Date: Monday, 28 July 2025

LEGEND

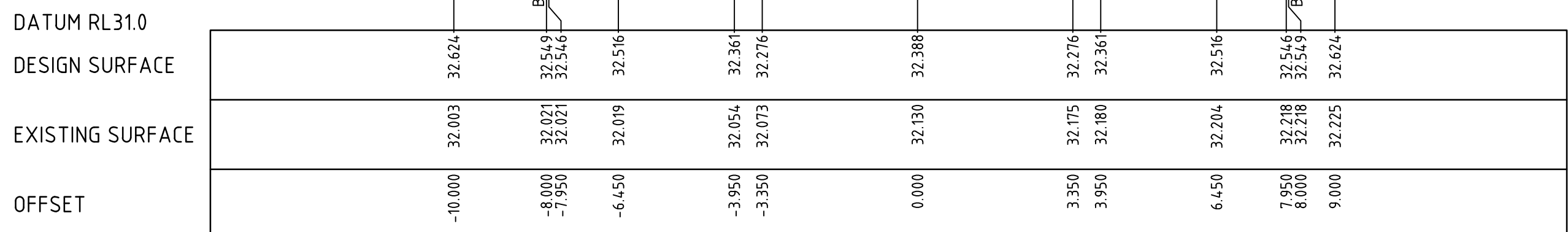
EXISTING SURFACE

DESIGN SURFACE

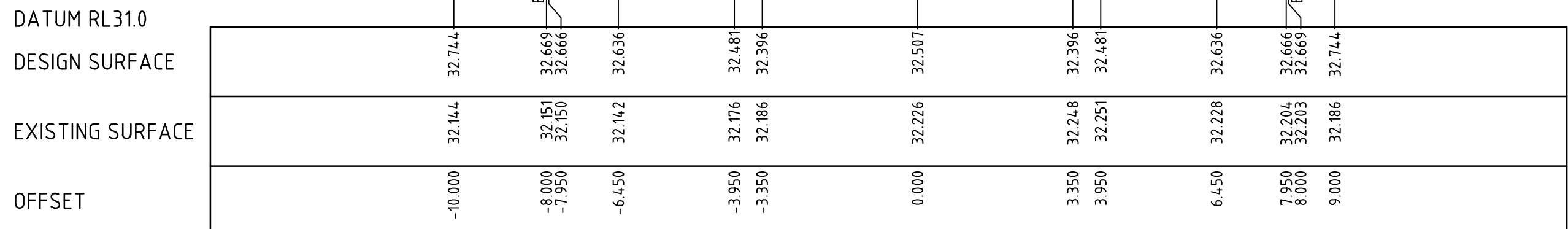
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IN ACCORDANCE WITH THE  
RELEVANT SPECIFICATION



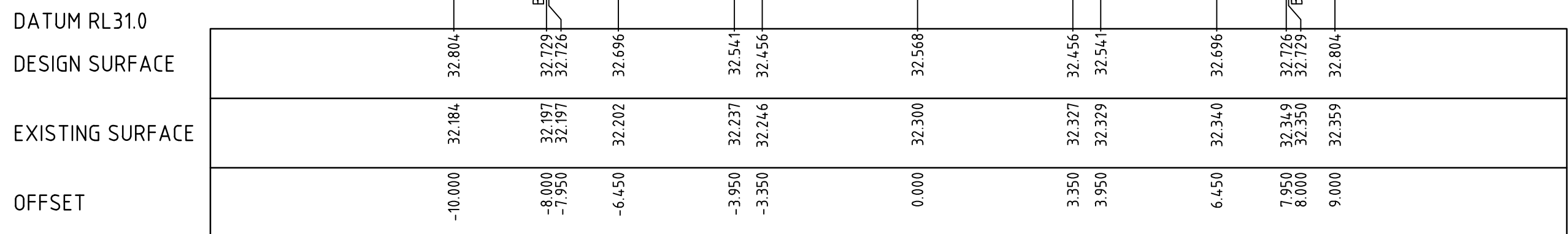
CH 409.465  
(LIMIT OF WORKS)



LTPCH 382.415



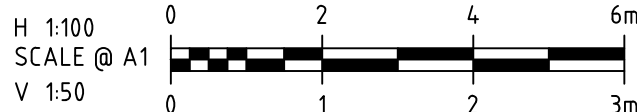
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CH 346.465

KALAMATA BOULEVARD - ROAD CROSS SECTIONS

B	06.02.25	AT	<i>[Signature]</i>	<i>[Signature]</i>	ISSUED FOR COUNCIL SUBMISSION
A	14.11.24	NT	MA	K. LORRIMAR	INITIAL ISSUE
REV	DATE	DRN	CKD	APP	AMENDMENT



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E Melbourne.Reception@cosweb.com.au

CLIENT	<b>SIG GROUP</b>
APPROVED PE 0005927	DESIGNED M. ALI
<i>[Signature]</i>	SCALE H 1:100 V 1:50 @ A1

PROJECT	KALA ESTATE - STAGE 02
TITLE	ROAD CROSS SECTIONS (SHEET 2 OF 3)
MUNICIPALITY	CARDINIA SHIRE COUNCIL
PP No.	T220227
DRAWING No.	3086-02-251
REVISION	B

ORIGINAL SIZE  
A1

LEGEND

EXISTING SURFACE

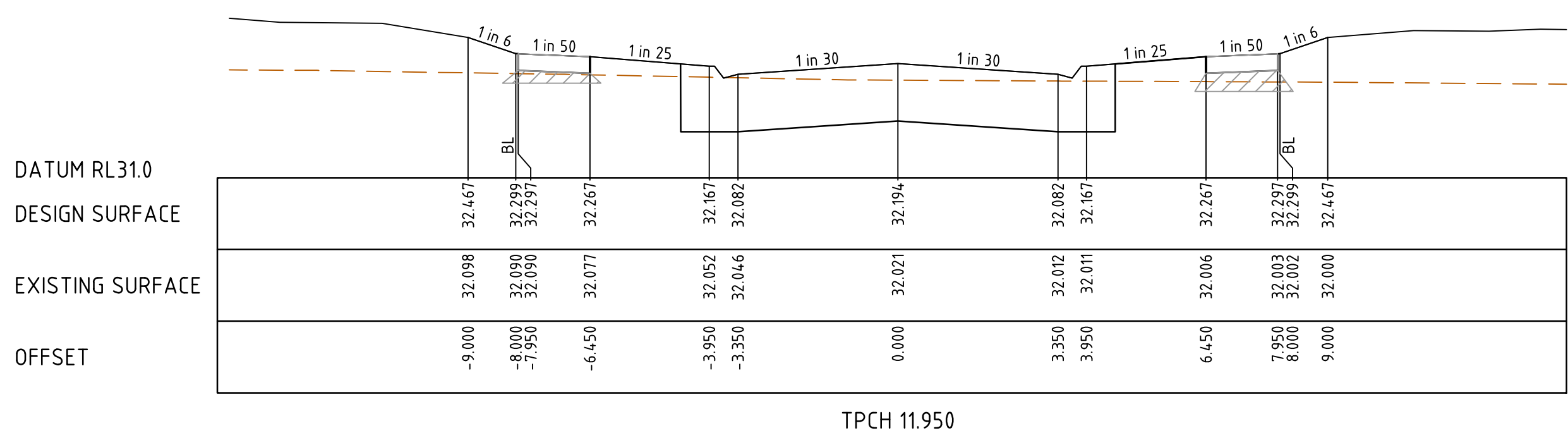
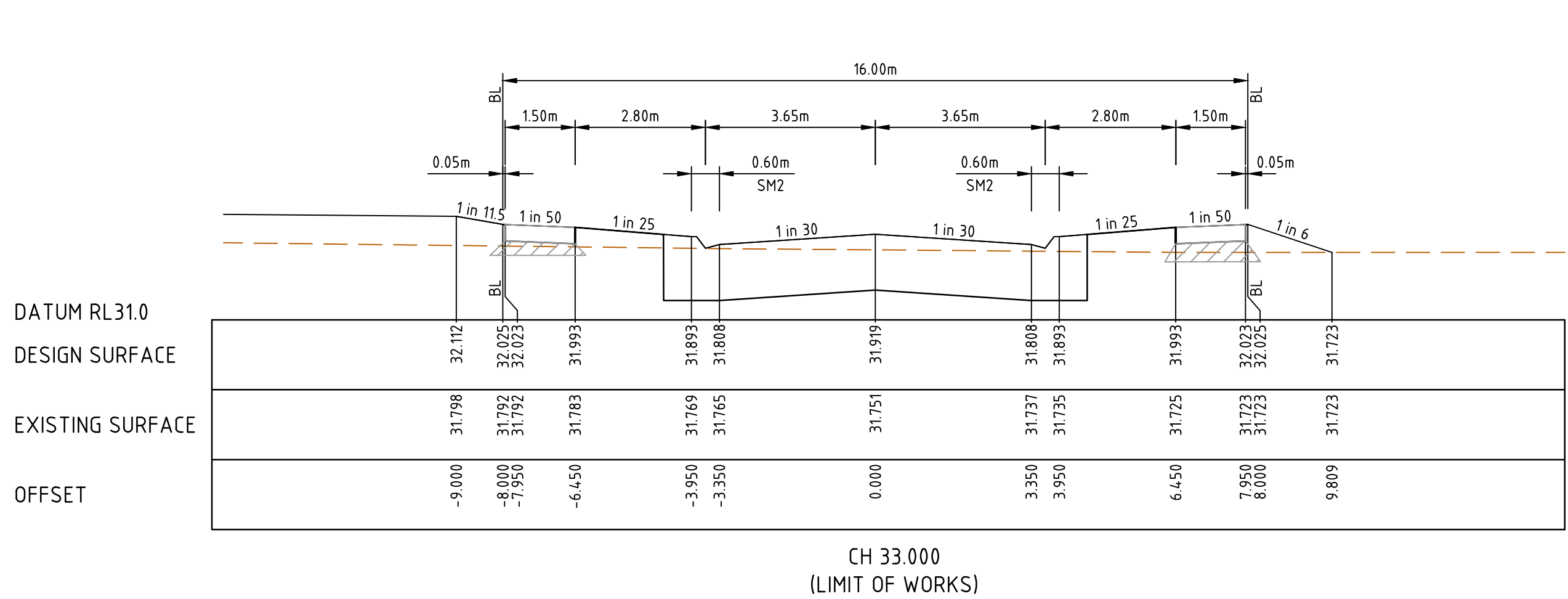
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COMPACTED STRUCTURAL FILL  
IN ACCORDANCE WITH THE  
RELEVANT SPECIFICATION

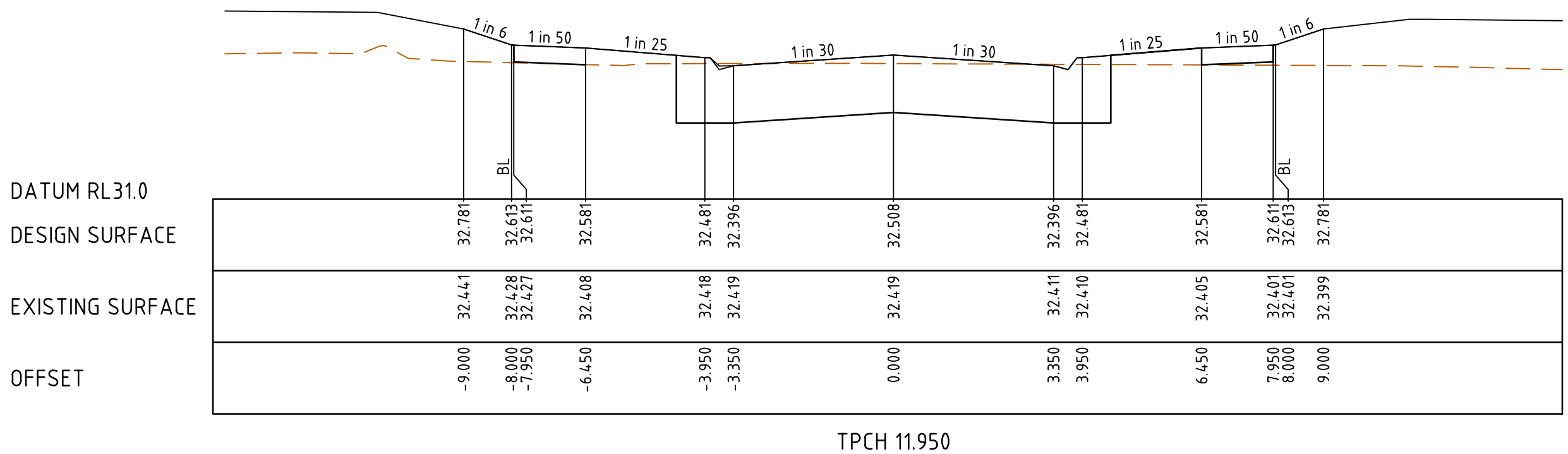
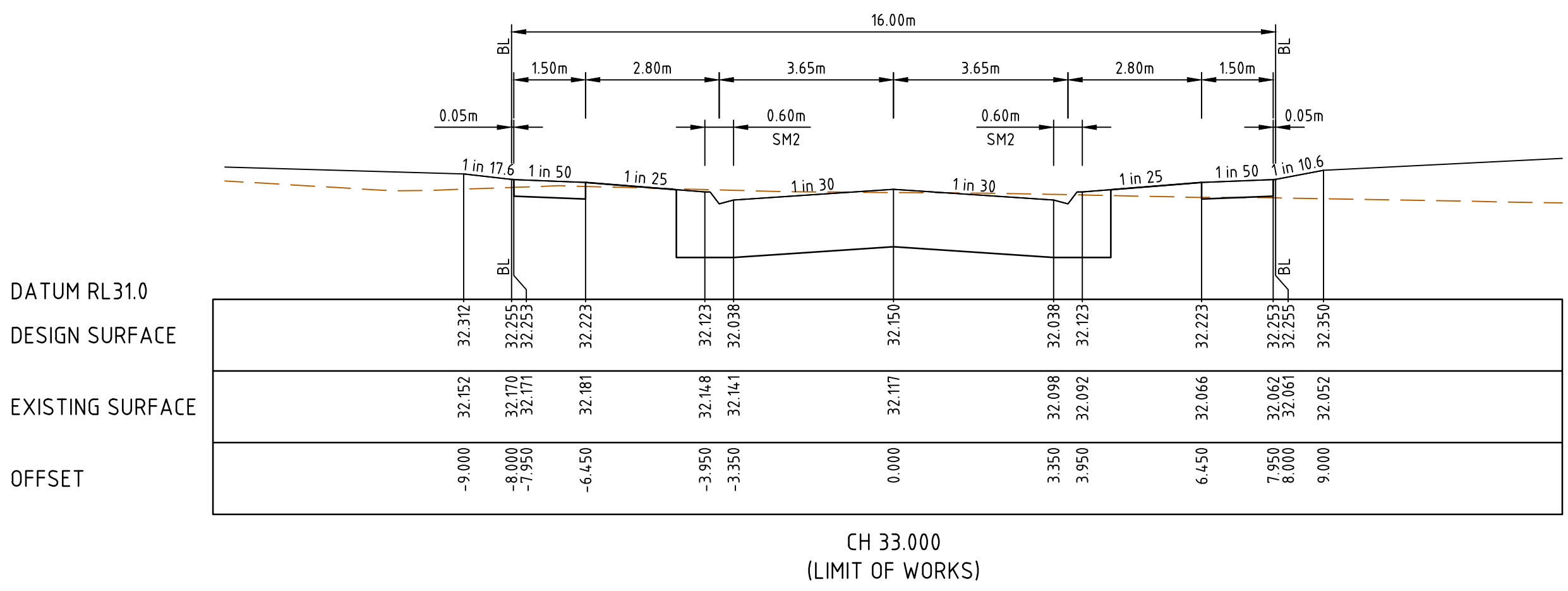
APPROVED FOR CONSTRUCTION

CARDINIA SHIRE COUNCIL

Ref No.: S25-006, T220227  
Sheet: 13 of 22  
Approved by: Vithu Vijeyakumar  
CARDINIA SHIRE COUNCIL  
Date: Monday, 28 July 2025

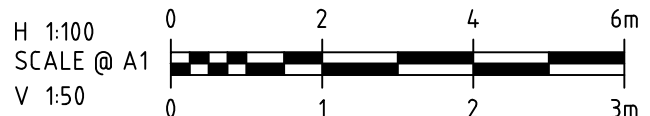


BELLADI ROAD- ROAD CROSS SECTIONS



TAPAS STREET- ROAD CROSS SECTIONS

B	06.02.25	AT	<i>[Signature]</i>	<i>[Signature]</i>	ISSUED FOR COUNCIL SUBMISSION
A	14.11.24	NT	MA	K. LORRIMAR	INITIAL ISSUE
REV	DATE	DRN	OKD	APP	AMENDMENT



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E Melbourne.Reception@cosweb.com.au

CLIENT

SIG GROUP

APPROVED PE 0005927  
*[Signature]*

DESIGNED  
M. ALI

SCALE  
H 1:100 V 1:50 @ A1

PROJECT  
KALA ESTATE - STAGE 02

TITLE  
ROAD CROSS SECTIONS  
(SHEET 3 OF 3)  
CARDINIA SHIRE COUNCIL

MUNICIPALITY  
CARDINIA SHIRE COUNCIL

PP No.  
T220227

DRAWING No.  
3086-02-252

REVISION  
B

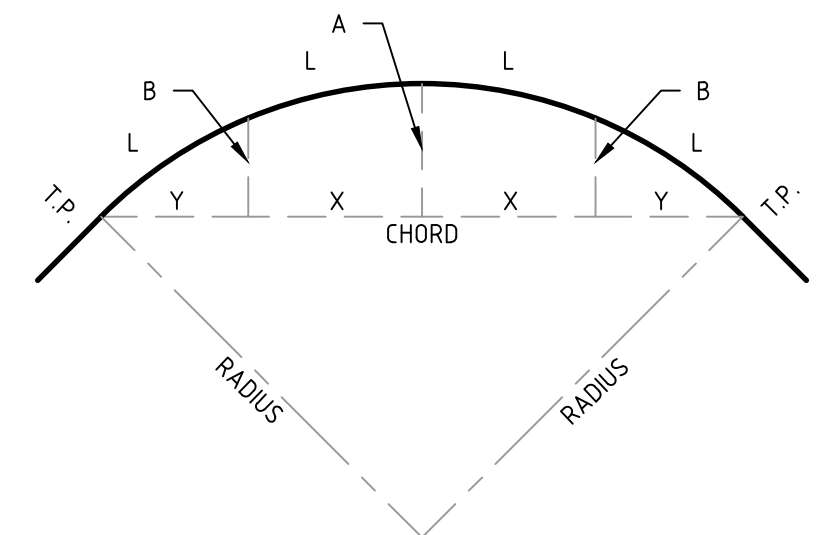
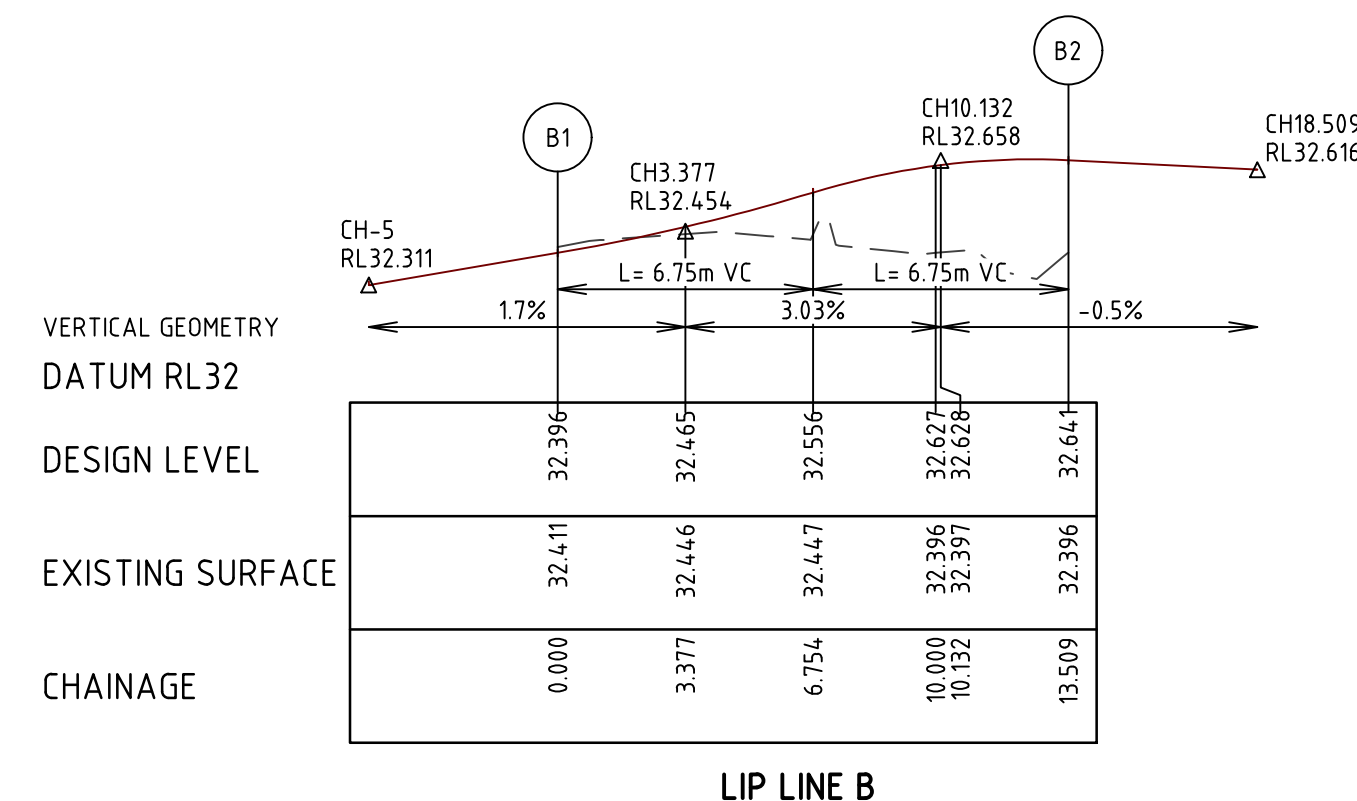
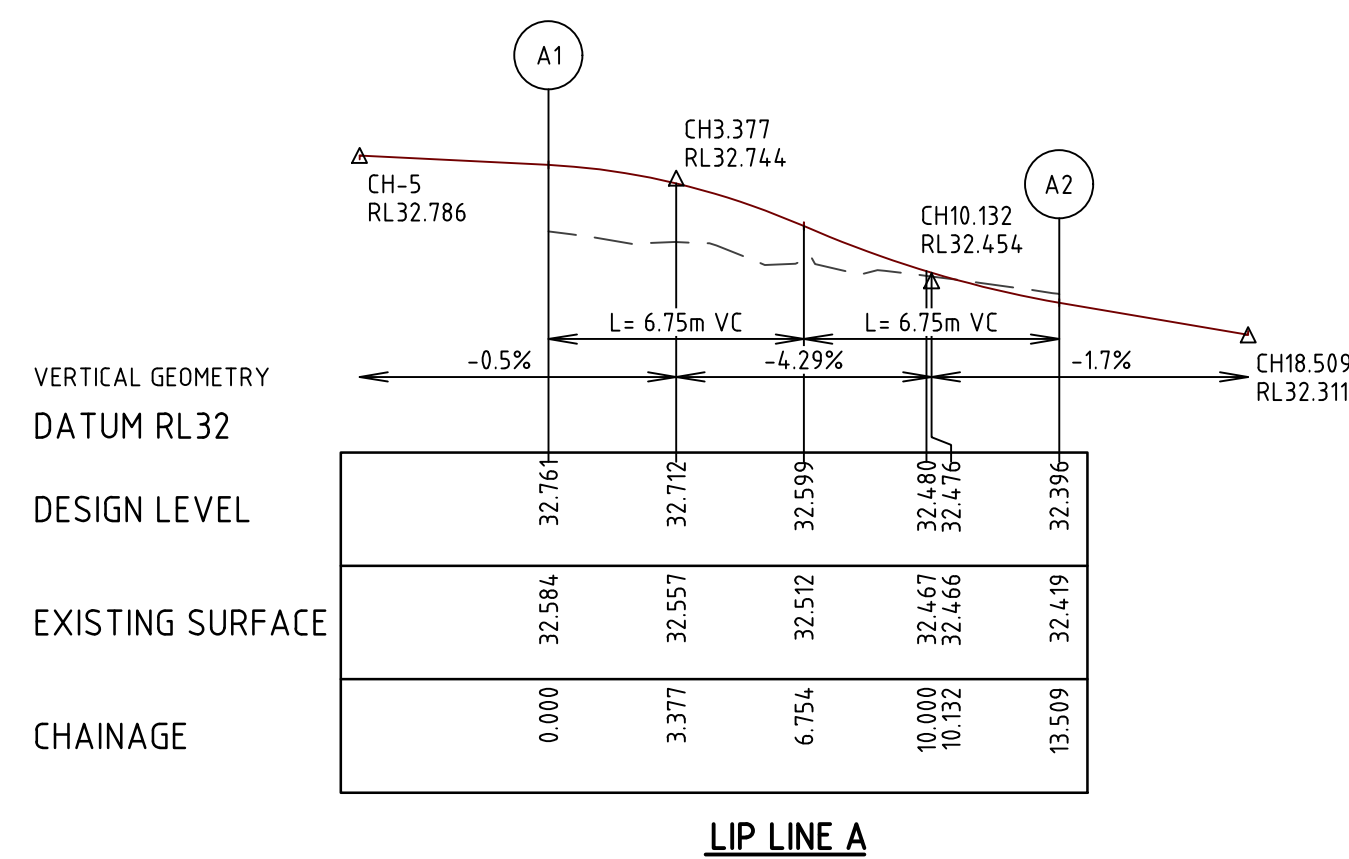
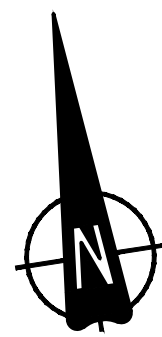
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A1

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INTERSECTION OF KALAMATA BOULEVARD &  
TAPAS STREET

INTERSECTION OF KALAMATA BOULEVARD &  
BELLADI ROAD



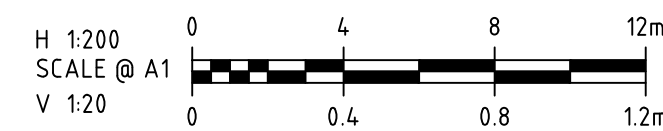
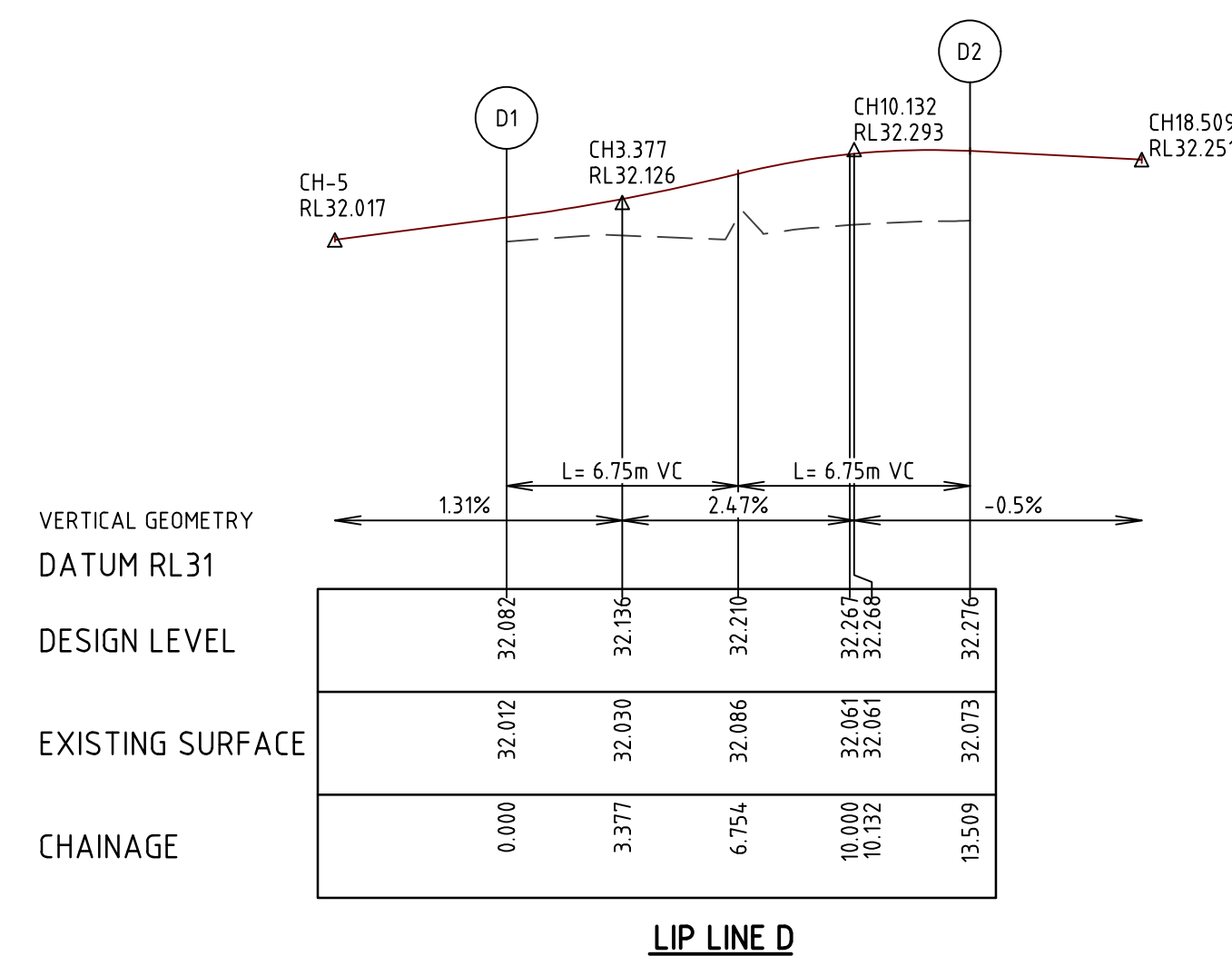
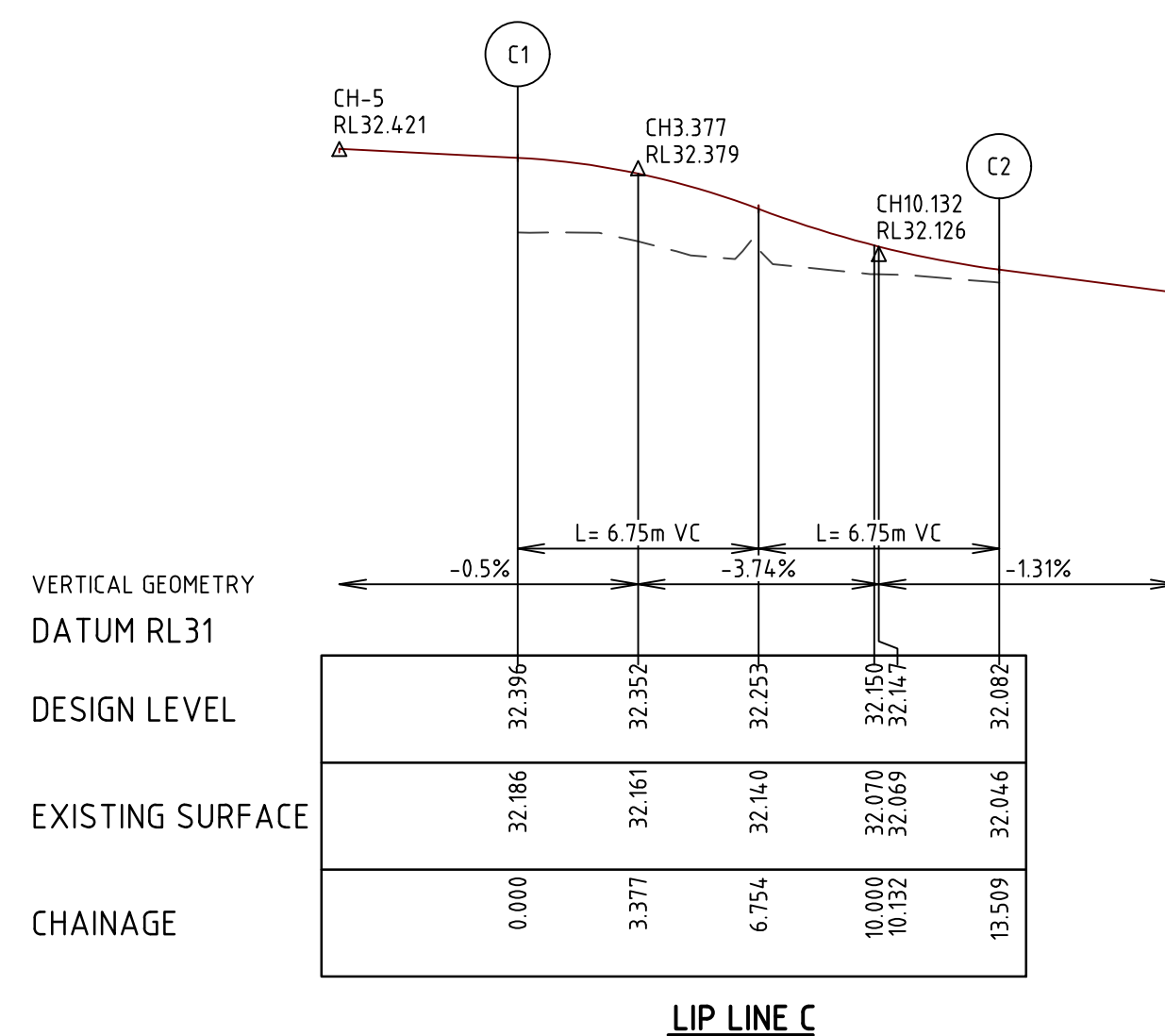
SETOUT DETAIL

N.T.S.

CARDINIA SHIRE COUNCIL

Ref No.: S25-006, T220227

Sheet: 14 of 22  
Approved by: Vithu Vijeyakumar  
CARDINIA SHIRE COUNCIL  
Date: Monday, 28 July 2025



ALIGNMENT A

Point no	Easting		Northing		RL	
A1	372120.240		5785188.053		32.761	
A2	372110.442		5785180.848		32.396	

Curve no	l	Radius	Arc	A	B	X	Y	l	Mid point	RL
A1 - A2	90.000	8.600	13.509	2.519	1.864	3.291	2.790	3.377	32.599	

### ALIGNMENT B

Point no	Easting		Northing		RL	
B1	372103.818	5785181.859	32.396			
B2	372096.614	5785191.658	32.641			

Curve no	l	Radius	Arc	A	B	X	Y	l	Mid point RL
B1 - B2	90.000	8.600	13.509	2.519	1.864	3.291	2.790	3.377	32.556

### ALIGNMENT C

Point no	Easting		Northing		RL	
C1	372048.076		5785199.064		32.396	
C2	372038.277		5785191.859		32.082	

Curve no	I	Radius	Arc	A	B	X	Y	l	Mid point	RL
C1 - C2	90.000	8.600	13.509	2.519	1.864	3.291	2.790	3.377	32.253	

ALIGNMENT D

Point no	Easting		Northing		RL					
D1	372031.653		5785192.870		32.082					
D2	372024.449		5785202.669		32.276					
Curve no		l	Radius	Arc	A	B	X	Y	l	Mid point RL
D1 - D2	90.000		8.600	13.509	2.519	1.864	3.291	2.790	3.377	32.210

B	06.02.25	AT	<i>Attello</i>	<i>Allen</i>	ISSUED FOR COUNCIL SUBMISSION
A	14.11.24	NT	MA	K. LORRIMAR	INITIAL ISSUE
REV	DATE	DRN	OKD	APP	AMENDMENT

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	CLIENT
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APPROVED PE 0005927

DESIGNED
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SCALE	AS SHOWN
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PROJECT	KALA ESTATE - STAGE 02
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TITLE	INTERSECTION DETAILS
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MUNICIPALITY CARDINIA SHIRE COUNCIL

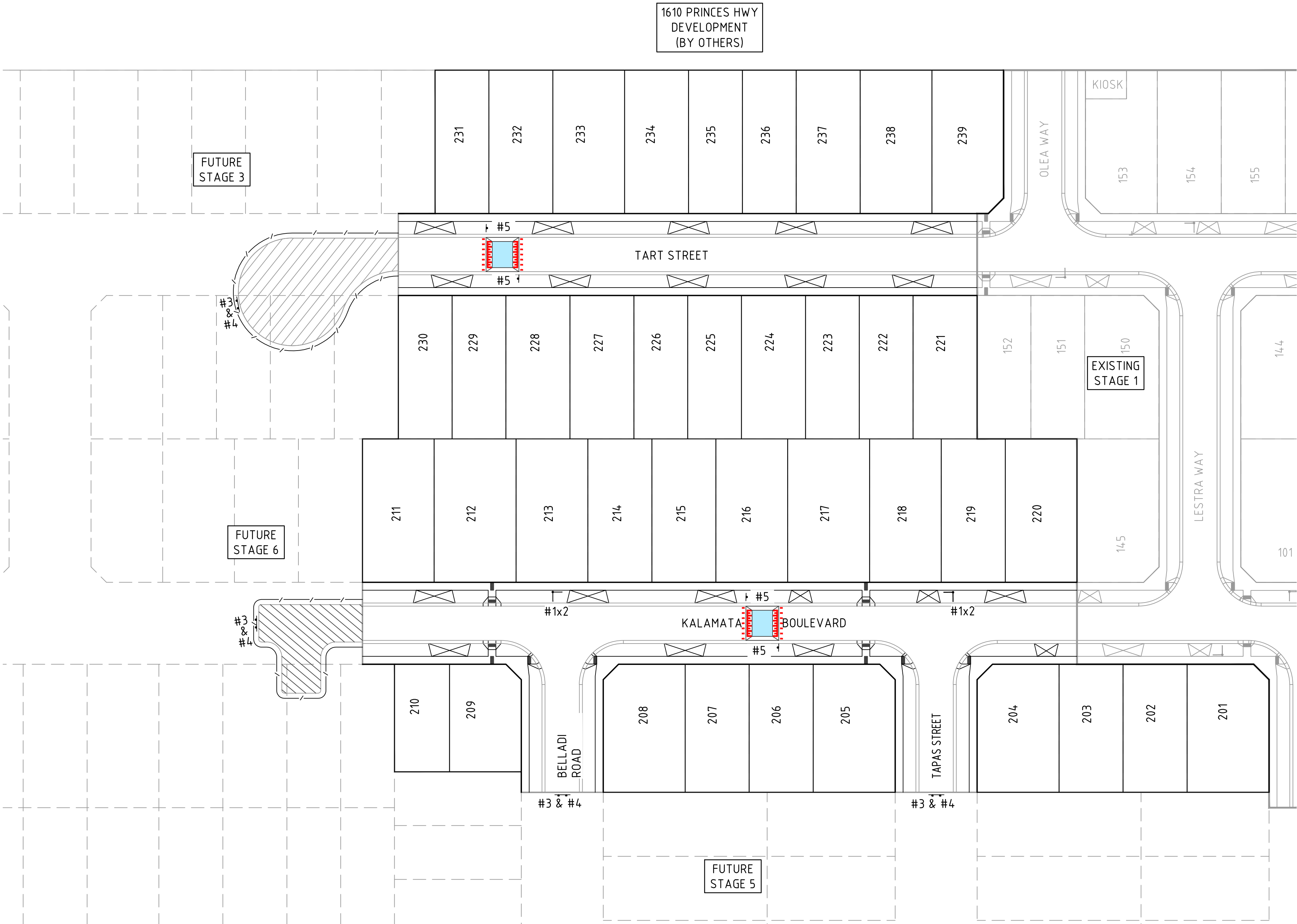
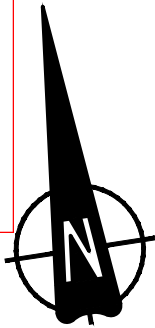
PP No.	T220227
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DRAWING No.	3086-02-300
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	ORIGINAL SIZE	A1
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APPROVED FOR CONSTRUCTION  
CARDINIA SHIRE COUNCIL  
Ref No.: S25-006, T220227  
Sheet: 15 of 22  
Approved by: Vithu Vijeyakumar  
CARDINIA SHIRE COUNCIL  
Date: Monday, 28 July 2025



SIGNAGE SCHEDULE		
NO.	SIGN CODE	SIGN
#1	STREET NAME	
#3	D4-5	
#4	G9-20	
#5	W5 -10	
	W8 - 2	

- NOTES
- RRPM'S IN INSTALLED IN ACCORDANCE WITH AS1742.2 CLAUSE 5.6.
  - LINEMARKING TO BE EXTENDED AT LEAST 6m FROM THE TANGENT POINT
  - LINEMARKING IN ACCORDANCE WITH AS1742.
  - TGSI TO BE INSTALLED IN ACCORDANCE WITH AS1428.4:2002 & MPA STANDARD DWG EDCM 403.
  - ALL STREET NAME SIGNS AT INTERSECTIONS TO INCLUDE RELEVANT STREET NUMBERING.
  - ALL LINE MARKING PAINT SHALL BE LONG LIFE TYPE. LATERAL WORKS AND ARROWS BEING COLD APPLIED PLASTIC TROWELLED INTO PLACE (MATERIAL DEGADUR PLASTELINE) AND LONGITUDINAL LINES BEING EXTRUDED THERMOPLASTIC MATERIAL.

E	17.07.25	DN			UPDATED RPM AND SIGNS
D	30.05.25	EK	MA	K. LORRIMAR	SPEED BUMP ADDED IN TART STREET AND TEMPORARY TURN AREA ON KALAMATA BOULEVARD UPDATED
C	05.05.25	MA	MA	K. LORRIMAR	NOTE 4 AMENDED
B	05.02.25	AT	MA	K. LORRIMAR	ISSUED FOR COUNCIL SUBMISSION
A	14.11.24	NT	MA	K. LORRIMAR	INITIAL ISSUE
REV	DATE	DRN	CKD	APP	AMENDMENT

H 1:500  
SCALE @ A1



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CLIENT



APPROVED PE 0005927

*K. Lorrimar*

DESIGNED

M. ALI

SCALE  
1:500 @ A1

PROJECT

KALA ESTATE - STAGE 02

TITLE

SIGNAGE AND LINEMARKING PLAN

MUNICIPALITY

CARDINIA SHIRE COUNCIL

PP No.

T220227

DRAWING No.

3086-02-350

REVISION

E

ORIGINAL  
SIZE  
A1

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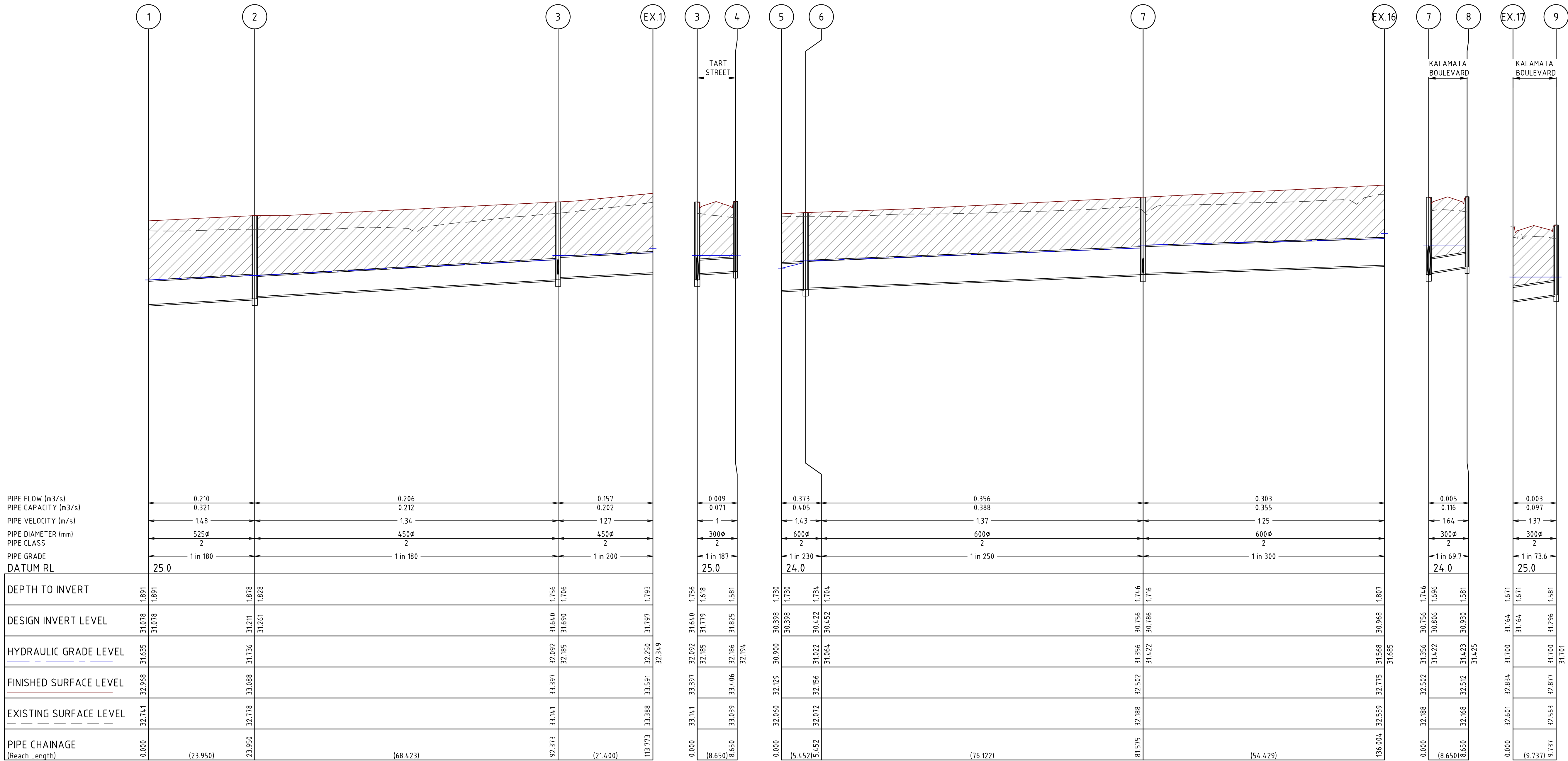
DENOTES 20mm CLASS 3  
FCR BACKFILL.

NOTES:  
ALL STORMWATER DRAINS UP TO AND  
INCLUDING 750mm DIA. ARE TO BE CLASS 2  
R.R.J. PIPES UNLESS NOTED OTHERWISE.

APPROVED FOR CONSTRUCTION

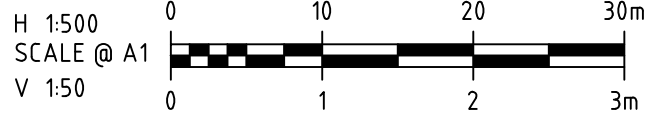
CARDINIA SHIRE COUNCIL

Ref No.: S25-008, T220227  
Sheet: 16 of 22  
Approved by: Vithu Vijeyakumar  
CARDINIA SHIRE COUNCIL  
Date: Monday, 28 July 2025



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C	06.05.25	MA			DRAINAGE LONG SECTIONS UPDATED
B	05.02.25	AT	MA	K. LORRIMAR	ISSUED FOR COUNCIL SUBMISSION
A	14.11.24	NT	MA	K. LORRIMAR	INITIAL ISSUE
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APPROVED PE 0005927		DESIGNED M. ALI	
		SCALE H 1:500 V 1:50	

PROJECT		KALA ESTATE - STAGE 02	
TITLE		DRAINAGE LONGITUDINAL SECTIONS (SHEET 1 OF 2)	
MUNICIPALITY		CARDINIA SHIRE COUNCIL	
PP No.	T220227	DRAWING No.	3086-02-400
REVISION	C		

ORIGINAL  
SIZE  
A1



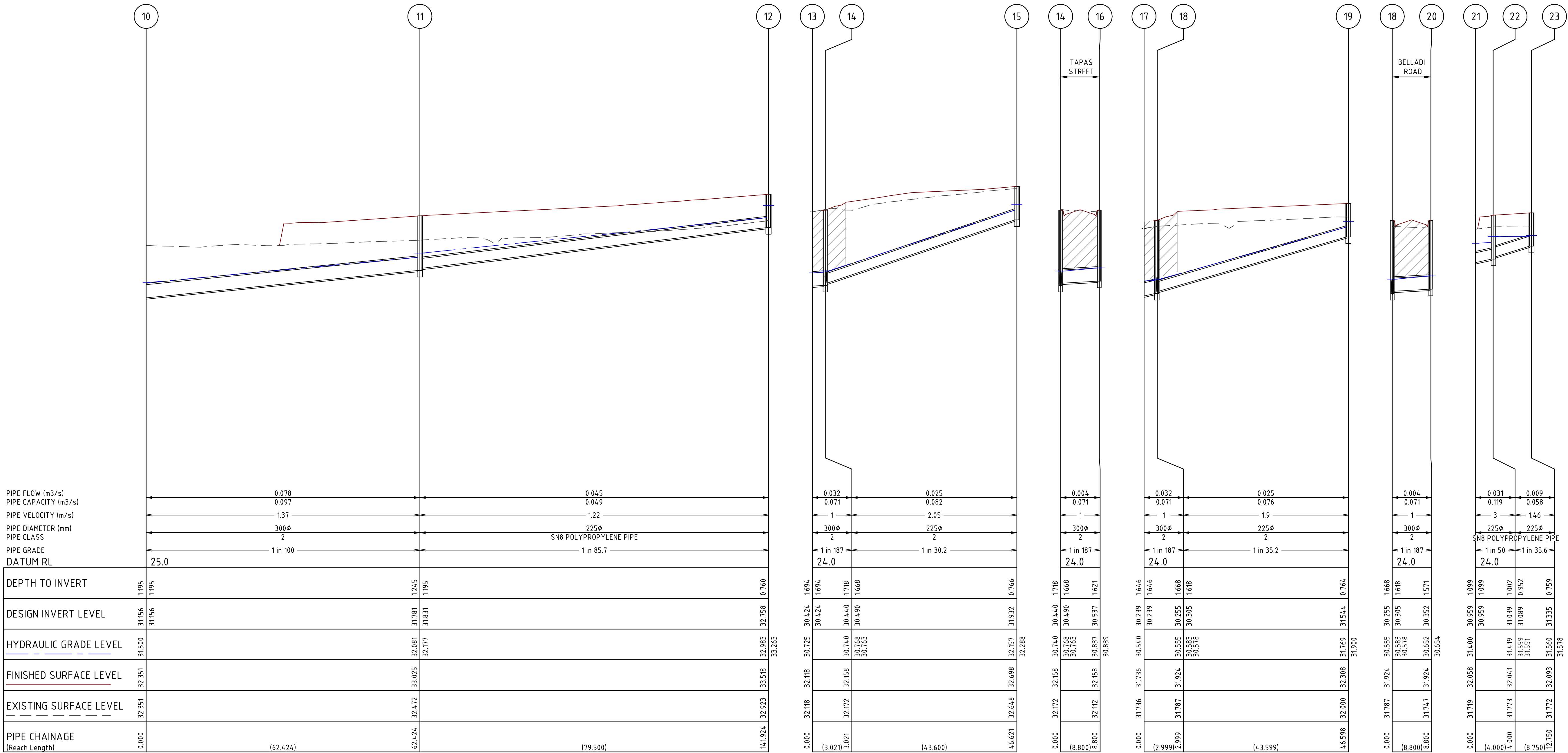
DENOTES 20mm CLASS 3  
FCR BACKFILL.

NOTES:  
ALL STORMWATER DRAINS UP TO AND  
INCLUDING 750mm DIA. ARE TO BE CLASS 2  
R.R.J. PIPES UNLESS NOTED OTHERWISE.

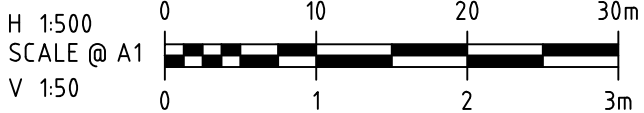
APPROVED FOR CONSTRUCTION

CARDINIA SHIRE COUNCIL

Ref No.: S25-006, T220227  
Sheet: 17 of 22  
Approved by: Vithu Vijeyakumar  
CARDINIA SHIRE COUNCIL  
Date: Monday, 28 July 2025



B	06.02.25	AT	<i>[Signature]</i>	<i>[Signature]</i>	ISSUED FOR COUNCIL SUBMISSION
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CLIENT	<b>SIG GROUP</b>
APPROVED PE 0005927	DESIGNED M. ALI
<i>[Signature]</i>	SCALE H 1:500 V 1:50

PROJECT	KALA ESTATE - STAGE 02
TITLE	DRAINAGE LONGITUDINAL SECTIONS (SHEET 2 OF 2)
MUNICIPALITY	CARDINIA SHIRE COUNCIL
PP No.	T220227
DRAWING No.	3086-02-401
REVISION	B

ORIGINAL  
SIZE  
A1

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PIT NAME	TYPE	EASTING	NORTHING	INTERNAL WIDTH	INTERNAL LENGTH	INLET DIA	INLET IL	OUTLET DIA	OUTLET IL	PIT SETOUT RL	PIT DEPTH	REMARKS
1	ENDWALL	371986.978	5785288.908			525	31.078			32.968	1.891	
2	SIDE ENTRY PIT	372010.654	5785285.295	900	900	450	31.261	525	31.211	33.088	1.878	HAUNCHED PIT (HAUNCHED TOWARDS ROAD)
						300	31.323					PROVIDE STUB (SOUTH WALL) FOR FUTURE CONNECTION
3	SIDE ENTRY PIT	372078.295	5785274.974	900	900	450	31.690	450	31.640	33.397	1.756	HAUNCHED PIT (HAUNCHED TOWARDS ROAD)
						300	31.779					
Ex.1	Ex ENDDPIPE	372099.450	5785271.746					450	31.797	33.591	1.793	
4	SIDE ENTRY PIT GRATED	372077.064	5785266.412	600	900			300	31.825	33.406	1.581	
5	ENDWALL	371969.198	5785218.788			600	30.398			32.129	1.73	
6	SIDE ENTRY PIT	371974.589	5785217.970	900	900	600	30.452	600	30.422	32.156	1.734	HAUNCHED PIT (HAUNCHED TOWARDS ROAD)
						300	30.452					PROVIDE STUB (SOUTH WALL) FOR FUTURE CONNECTION
7	SIDE ENTRY PIT	372049.840	5785206.483	900	900	600	30.786	600	30.756	32.502	1.746	HAUNCHED PIT (HAUNCHED TOWARDS ROAD)
						300	30.806					
Ex.16	Ex ENDDPIPE	372103.646	5785198.273					600	30.968	32.775	1.807	
8	SIDE ENTRY PIT GRATED	372048.510	5785197.935	600	900			300	30.930	32.512	1.581	
Ex.17	Ex ENDDPIPE	372117.262	5785196.043			300	31.164			32.834	1.671	
9	SIDE ENTRY PIT GRATED	372120.675	5785186.924	600	900			300	31.296	32.877	1.581	
10	END PIPE	371970.452	5785249.702			300	31.156			32.654	1.498	
11	JUNCTION PIT	372032.161	5785240.286	600	900	225	31.831	300	31.781	33.025	1.245	
12	JUNCTION PIT	372110.752	5785228.294	600	900			225	32.758	33.518	0.760	
13	ENDWALL	372108.026	5785157.879			300	30.424			32.036	1.613	
14	SIDE ENTRY PIT GRATED	372108.455	5785160.869	600	900	225	30.490	300	30.440	32.158	1.718	
						300	30.490					
15	JUNCTION PIT	372151.556	5785154.291	600	900			225	31.932	32.698	0.766	
16	SIDE ENTRY PIT GRATED	372099.756	5785162.197	600	900			300	30.537	32.158	1.621	
17	ENDWALL	372035.865	5785168.912			300	30.239			31.928	1.689	
18	SIDE ENTRY PIT GRATED	372036.291	5785171.880	600	900	225	30.305	300	30.255	31.924	1.668	
						300	30.305					
19	JUNCTION PIT	372079.392	5785165.304	600	900			225	31.544	32.308	0.764	
20	SIDE ENTRY PIT GRATED	372027.592	5785173.208	600	900			300	30.352	31.924	1.571	
21	ENDWALL	372000.554	5785177.333			225	30.959			32.058	1.099	
22	JUNCTION PIT	372001.157	5785181.288	600	900	225	31.089	225	31.039	32.041	1.002	
23	JUNCTION PIT	372009.807	5785179.968	600	900			225	31.335	32.093	0.759	

**NOTES:**

**Date:** \_\_\_\_\_ **Monday,** \_\_\_\_\_

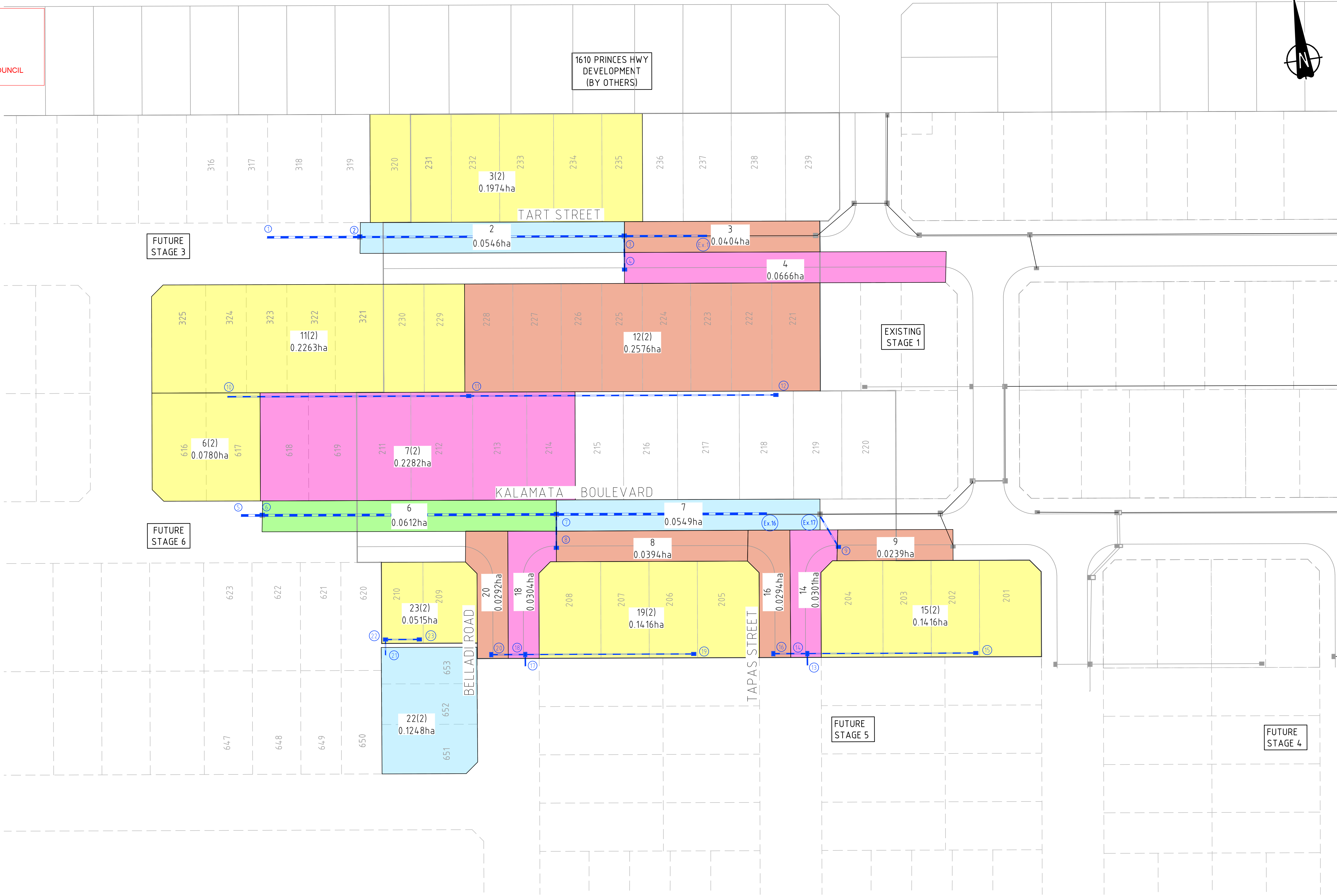
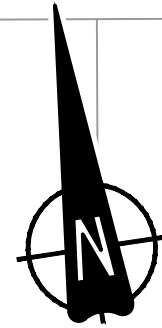
1. ALL PITS ARE TO BE TO VPA STANDARDS UNLESS NOTED OTHERWISE.
2. PITS DEEPER THAN 100mm SHALL BE FITTED WITH STEPIRONS, FIRST STEPIRON TO BE 300mm FROM THE BOTTOM OF THE PIT.
3. COVER LEVELS TO BE SET TO MATCH THE FINISHED SURFACE PROFILES AND ADJACENT CONSTRUCTION.
4. UNLESS OTHERWISE SPECIFIED, PIT TYPES REFER TO VICTORIAN PLANNING AUTHORITY STANDARD DRAWINGS
  - FIGURE EDCM 601 SIDE ENTRY PIT GRATED B2 KERB AND CHANNEL
  - FIGURE EDCM 602 DOUBLE SIDE ENTRY PIT GRATED B2 KERB AND CHANNEL
  - FIGURE EDCM 603 SIDE ENTRY PIT GRATED SM2 KERB AND CHANNEL
  - FIGURE EDCM 605 JUNCTION PIT
6. FOR HAUNCHED PITS REFER VPA STANDARD DRAWING FIGURE EDCM 607 & EDCM 608. PITS TO BE HAUNCHED TO COUNCIL STANDARD OPENINGS.
7. STUBS AND PIPE ENDS TO BE BLOCKED OFF TO COUNCIL'S SATISFACTION.
8. ALL GRATED PITS TO HAVE BICYCLE SAFE LOCKDOWN GRATES.
9. ALL GRATED SIDE-ENTRY PITS TO HAVE MIN 100mm THICK CONCRETE APRON BETWEEN GRATE AND ASPHALT. REFER VPA STANDARD DRAWINGS.
10. PIT LIDS TO BE IN ACCORDANCE WITH VPA STANDARD DRAWING EDCM 605.
11. PITS WITHIN ROAD PAVEMENT, VEHICLE CROSSINGS OR WITHIN 0.75m OF A VEHICLE CROSSING, TO HAVE CLASS D CAST IRON LOCK DOWN LIDS.
12. ALL PITS WITHIN ROAD TO BE CONSTRUCTED WITH 32 MPa CONCRETE WITH S192 MESH IN WALLS AND BASE.
13. CONTRACTOR TO VERIFY EXISTING SERVICES CONNECTION LEVELS PRIOR TO CONSTRUCTION. ANY DISCREPANCIES MUST BE IMMEDIATELY IDENTIFIED AND THE SUPERINTENDENT NOTIFIED PRIOR TO CONSTRUCTION COMMENCING.
14. REFER TO RELEVANT AUTHORITY STANDARDS FOR PIT INTERFACE WITH KERB & CHANNEL.



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APPROVED FOR CONSTRUCTION  
CARDINIA SHIRE COUNCIL  
Ref No.: S25-006, T220227  
Sheet: 19 of 22  
Approved by: Vithu Vijeyakumar  
CARDINIA SHIRE COUNCIL  
Date: Monday, 28 July 2025



B	09.05.25	MA			RE-ISSUED FOR APPROVAL
A	05.02.25	AT	MA	K. LORRIMAR	ISSUED FOR COUNCIL SUBMISSION
REV	DATE	DRN	CKD	APP	AMENDMENT

H 1500  
SCALE @ A1  
0 10 20 30m

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CLIENT			
APPROVED PE 0005927 		DESIGNED M. ALI	SCALE 1:500 @ A1

PROJECT KALA ESTATE - STAGE 02		ORIGINAL SIZE A1
TITLE 5 YEAR ARI CATCHMENT		
MUNICIPALITY CARDINIA SHIRE COUNCIL	PP No. T220227	
DRAWING No. 3086-02-430		REVISION B

KALA ESTATE - STAGE 02

MINOR DRAINAGE COMPUTATIONS

AEP 20%

DESIGNED BY M. ALI

DATE 2/05/2025



Pit Number	D/S Structure	CATCHMENT								Pipe	Pipe	Pipe	Tc	Intensity	Pipe	Pipe	Pipe	Q/Qf	Pit	Pipe	HGL	Pipe	Freeboard
		Area 1	CofR1	Area 2	CofR2	Area 3	CofR3	Ae	Sum Ae	Size	Length	Grade			Flow	Velocity	Capacity		K	Vel Head	Grade	Total Loss	
		(ha)		(ha)		(ha)		(ha)	(ha)	(mm)	(m)	(1 in)	(min)	(mm/hr)	(l/s)	(m/s)	(l/s)			(m)	(1 in)	(m)	
2	1	0.0550	0.56					0.0300	0.2290	525	23.950	180.2	9.40	68.32	210.20	1.48	320.50	0.66	0.00	0.0480	237.7	0.101	1.353
3	2	0.0400	0.56	0.197	0.71			0.1620	0.1990	450	68.423	180.2	8.55	71.41	205.90	1.34	212.50	0.97	1.08	0.0860	191.9	0.357	1.212
Ex.1	3	0.0000	0.56					0.0000	0.0000	450	21.400	200.0	8.27	72.47	157.00	1.27	201.70	0.78	2.00	0.0500	330.0	0.065	1.242
4	3	0.0670	0.56					0.0370	0.0370	300	8.650	187.2	5.00	88.90	9.20	1.00	70.70	0.13	9.70	0.0010	11136.9	0.001	1.212
6	5	0.0610	0.56	0.078	0.71			0.0890	0.3030	600	5.452	229.9	9.75	67.16	373.00	1.43	405.10	0.92	0.48	0.0890	44.7	0.099	1.092
7	6	0.0550	0.56	0.228	0.71			0.1920	0.2140	600	76.122	250.0	8.82	70.37	355.70	1.37	388.50	0.92	0.82	0.0810	260.6	0.292	1.080
Ex.16	7		0.56					0.0000	0.0000	600	54.429	299.9	8.10	73.12	303.00	1.25	354.70	0.85	2.00	0.0590	373.9	0.146	1.090
8	7	0.0390	0.56					0.0220	0.0220	300	8.650	69.7	5.00	88.90	5.40	1.64	115.80	0.05	8.89	0.0010	31819.1	0.000	1.086
9	Ex.17	0.0240	0.56					0.0130	0.0130	300	9.737	73.6	5.00	88.90	3.30	1.37	96.70	0.03	9.70	0.0010	86319.2	0.000	1.175
11	10			0.226	0.71			0.1600	0.3420	300	62.424	100.0	6.09	82.47	78.30	1.37	96.70	0.81	1.53	0.0630	107.5	0.581	0.849
12	11			0.258	0.71			0.1820	0.1820	225	79.500	85.7	5.00	88.90	44.90	1.22	48.50	0.93	4.29	0.0650	98.5	0.807	0.255
14	13	0.0300	0.56					0.0170	0.1330	300	3.021	187.2	5.35	86.78	32.10	1.00	70.70	0.45	2.15	0.0110	202.5	0.015	1.391
15	14			0.142	0.71			0.1000	0.1000	225	43.600	30.2	5.00	88.90	24.70	2.05	81.70	0.30	6.64	0.0200	31.3	1.395	0.410
16	14	0.0290	0.56					0.0160	0.0160	300	8.800	187.2	5.00	88.90	4.00	1.00	70.70	0.06	9.70	0.0010	118.3	0.074	1.320
18	17	0.0300	0.56					0.0170	0.1330	300	2.999	187.2	5.38	86.61	32.00	1.00	70.70	0.45	2.15	0.0100	196.5	0.015	1.341
19	18			0.142	0.71			0.1000	0.1000	225	43.599	35.2	5.00	88.90	24.70	1.90	75.70	0.33	6.64	0.0200	36.6	1.192	0.408
20	18	0.0290	0.56					0.0160	0.0160	300	8.800	187.2	5.00	88.90	4.00	1.00	70.70	0.06	9.70	0.0000	118.2	0.074	1.270
22	21			0.125	0.71			0.0880	0.1240	225	4.000	50.0	5.08	88.44	30.60	1.60	63.50	0.48	3.62	0.0300	215.5	0.019	0.505
23	22			0.052	0.71			0.0360	0.0360	225	8.750	35.6	5.00	88.90	9.00	1.89	75.20	0.12	7.00	0.0030	275.4	0.032	0.515

B	06.05.25	MA			SYR DRAINAGE COMPUTATIONS UPDATED
A	05.02.25	AT	MA	K. LORRIMAR	ISSUED FOR COUNCIL SUBMISSION
REV	DATE	DRN	CKD	APP	AMENDMENT

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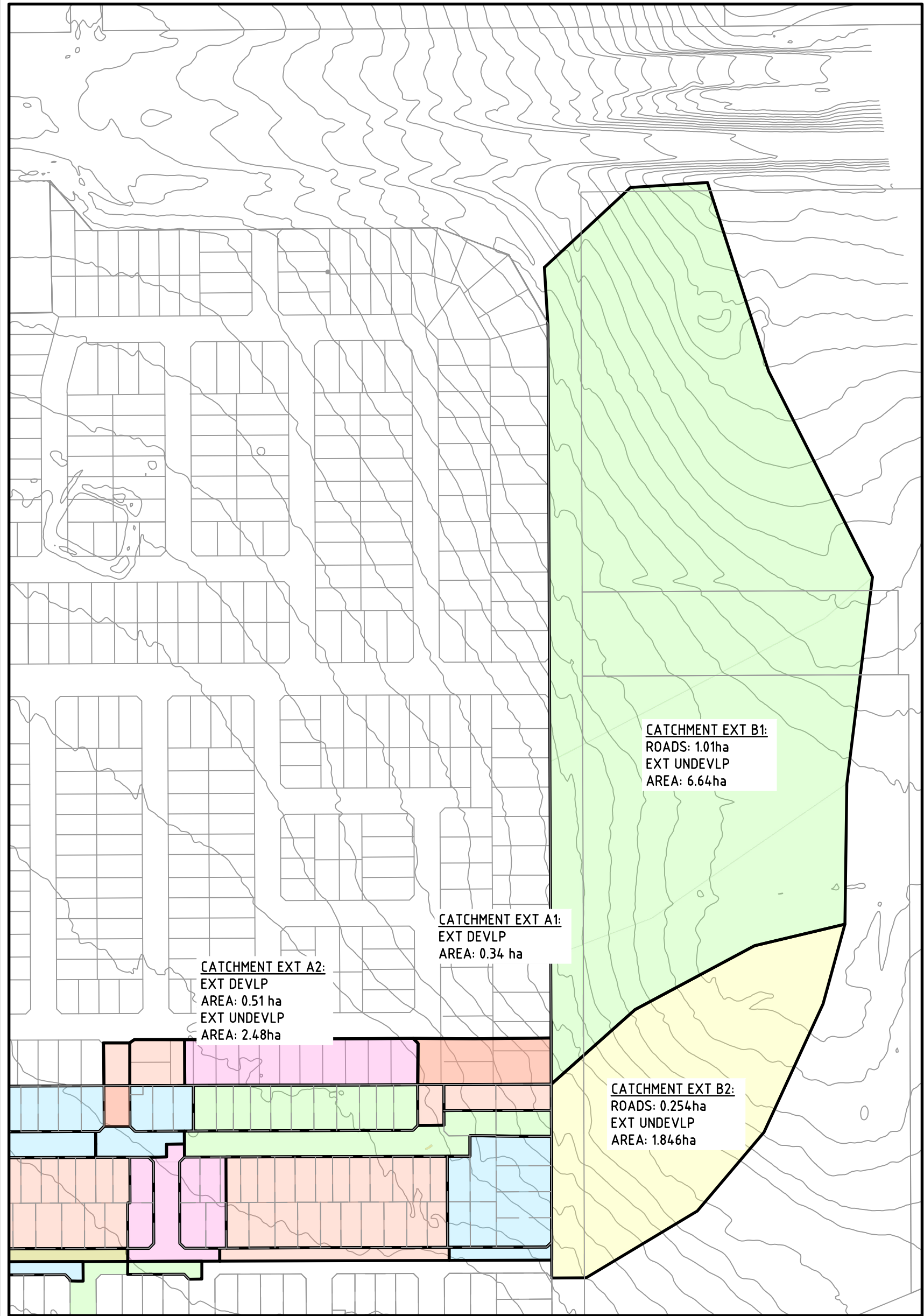
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		SCALE	AS SHOWN

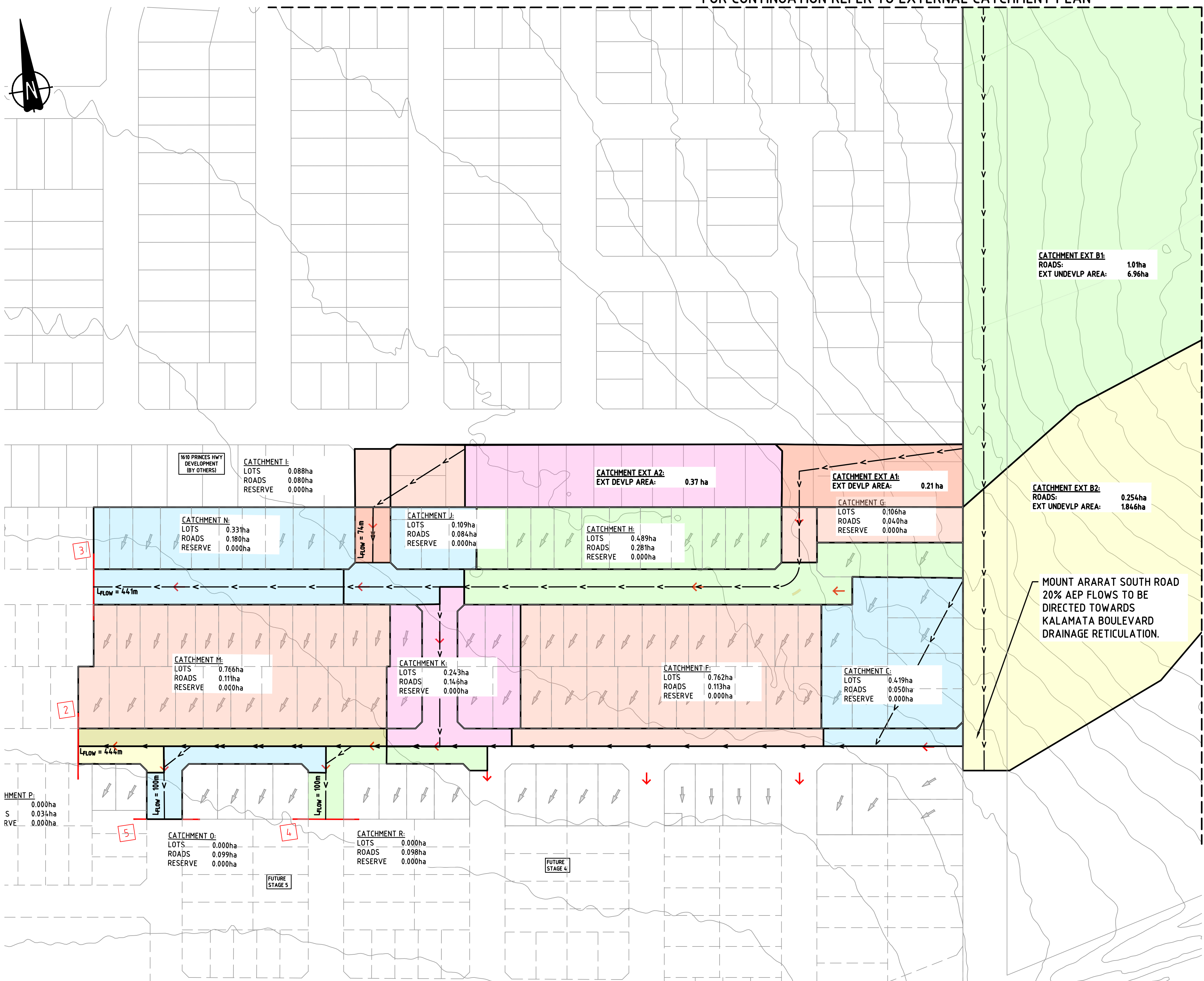
PROJECT KALA ESTATE - STAGE 02			
TITLE 5 YEAR DRAINAGE CALCULATIONS			
MUNICIPALITY CARDINIA SHIRE COUNCIL			
PP No.	T220227	DRAWING No.	3086-02-440
		REVISION	B

ORIGINAL SIZE  
A1





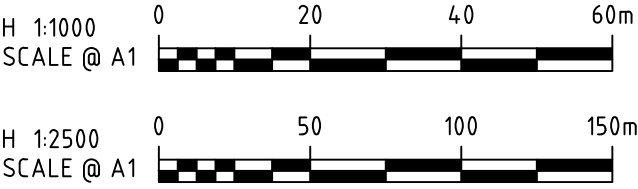
EXTERNAL CATCHMENT PLAN  
SCALE 1:2500 @ A1



MAJOR DRAINAGE CATCHMENT PLAN  
SCALE 1:1000 @ A1

APPROVED FOR CONSTRUCTION  
CARDINIA SHIRE COUNCIL  
Ref No.: S25-006, T220227  
Sheet: 21 of 22  
Approved by: Vithu Vijayakumar  
CARDINIA SHIRE COUNCIL  
Date: Monday, 28 July 2025

B	09.05.25	MA	<i>[Signature]</i>	<i>[Signature]</i>	RE-ISSUED TO COUNCIL FOR APPROVAL
A	05.02.25	AT	MA	K. LORRIMAR	ISSUED FOR COUNCIL SUBMISSION
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DESIGNED M. ALI  
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PROJECT  
KALA ESTATE - STAGE 02  
TITLE  
100 YEAR ARI CATCHMENT  
MUNICIPALITY  
CARDINIA SHIRE COUNCIL  
PP No. T220227  
DRAWING No. 3086-02-450  
REVISION B

ORIGINAL SIZE  
A1



Project:	KALA ESTATE, STAGE 2
Project No.	3086-02

APPROVED FOR CONSTRUCTION

CARDINIA SHIRE COUNCIL

Ref No.: S25-006, T220227

Sheet: 22 of 22

Approved by: Vithu Vijeyakumar

Date: CARDINIA SHIRE COUNCIL  
Monday, 28 July 2025



Location	CATCHMENT AREAS						MINOR FLOW (20% AEP)					MAJOR FLOW (1% AEP)					Q <sub>GAP</sub>
	NAME	Lots	Road	Reserve	Ext Devlp	Ext Undevlp	A <sub>e</sub>	t <sub>c</sub>	I	Q	0.8xQ Total	A <sub>e</sub>	t <sub>c</sub>	I	Q	Q diversion	Q Total
		ha	ha	ha	ha	ha	ha	min	mm/hr	m <sup>3</sup> /s	m <sup>3</sup> /s	ha	min	mm/hr	m <sup>3</sup> /s	m <sup>3</sup> /s	m <sup>3</sup> /s
MT ARARAT STH ROAD	B1, B2	0.000	1.264	0.000	0.000	8.806	2.351	16.7	50.928	0.333	0.266	2.967	16.7	98.840	0.815	0.000	0.815
(2) KALAMATA BOULEVARD	A1,C,F,G,H,K,M	2.296	0.556	0.000	0.105	0.000	2.005	12.4	59.632	0.332	0.266	2.532	12.4	115.613	0.813	0.000	0.813
(3) TART STREET	A1, A2, G,H,I,J,N	1.123	0.505	0.000	0.475	0.000	1.409	14.5	55.068	0.216	0.172	1.780	14.5	106.948	0.529	0.000	0.529
OLEA WAY	A2, J	0.088	0.080	0.000	0.370	0.000	0.368	6.2	81.693	0.083	0.067	0.465	6.2	152.333	0.197	0.000	0.197
(4) TAPAS STREET	R	0.000	0.098	0.000			0.055	6.7	79.480	0.012	0.010	0.069	6.7	149.080	0.029	0.000	0.029
(5) BELLADI ROAD	O	0.000	0.099	0.000			0.055	6.7	79.480	0.012	0.010	0.070	6.7	149.080	0.029	0.000	0.029

Flow Length
m
See tc below
444.000
441.000
74.000
100.000
100.000

COEFFIECIENT OF RUNOFF

		Lots	Road Reserve	Reserve	Ext Devlp	Ext Undevlp
STORM EVENT	20% AEP	0.706	0.557	0.333	0.706	0.187
	1% AEP	0.892	0.703	0.420	0.892	0.236

CATCHMENT AREAS						
NAME	Lots	Road	Reserve	Ext Devlp	Ext Undevlp	TOTAL
	ha	ha	ha	ha	ha	ha
EXT A1				0.210		0.210
EXT A2				0.370		0.370
EXT B1		1.010			6.960	7.970
EXT B2		0.254			1.846	2.100
C	0.419	0.050				0.469
F	0.762	0.113				0.875
G	0.106	0.040				0.146
H	0.489	0.281				0.770
I	0.088	0.080				0.168
J	0.109	0.084				0.193
K	0.243	0.146				0.389
R	0.000	0.098				0.098
M	0.766	0.111				0.877
N	0.331	0.180				0.511
O		0.099				
P		0.034				


B	09.05.25	MA			RE-ISSUED FOR COUNCIL APPROVAL
A	05.02.25	AT	MA	K. LORRIMAR	ISSUED FOR COUNCIL SUBMISSION
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PROJECT KALA ESTATE - STAGE 02			
TITLE 100 YEAR DRAINAGE CALCULATIONS			
MUNICIPALITY CARDINIA SHIRE COUNCIL			
PP No. T220227	DRAWING No. 3086-02-460		REVISION B

ORIGINAL  
SIZE  
A1

C:\Users\mali\Documents\3086-02\_20A\Design\Acad\3086-02-460 100YR.dwg 5/10/2025 4:07 PM MOHAMMAD ALI