Stantec

Memorandum

Project:	Beveridge North West PSP	**Office:**	Melbourne, Swanston St
Project №:	304200129	**Status:**	Draft
Client:	Victorian Planning Authority	**Prepared by:**	Samuel Beckham
Date:	15 September 2023		
Subject:	**Western Arterial - Alignment RD-03A Design Report**		

1.1 Introduction

The VPA instructed Stantec in July 2023 to prepare concept designs of the two alignments of the Western Arterial Road in the Beveridge North West PSP, being Option 3A and 3B.

The revised 3A alignment will travel “through the saddle” and tie into the existing Wallan South RD-01a design at the PSP boundary. The design seeks to:

- avoid any hillocks/stony rises,
- have an alignment that avoids Kalkallo Creek and any tributaries to the west of Intersection IN-06,
- be designed with an alignment as straight as possible, and
- have minimal impact on the Wallan South PSP.
- enable the Wallan South PSP to tie alignment 3A within Wallan South at intersection IN-13, and
- allow for land take (inclusive of required batters and safety barriers) should option 3B not proceed.

The work has also involved updates to intersections IN-06A and IN-07A.

1.2 Purpose of this memorandum

This memorandum documents the design inputs, parameters, standards and compliance for alignment for RD-03A. The work builds on work completed by Stantec (formerly Cardno) for the VPA as a result of previous feedback from the Department of Transport and Planning (DTP) which sought to investigate options to improve the alignment, safety and greater adherences to Greenfield PSP guidelines.

The detail of the alignment of RD-03B will be provided in a separate memorandum.

Full design plans are located in Appendix A and the costings provided in Appendix B.

1.3 Design inputs, parameters & standards used

Table 1.1 summarises the design inputs for the alignment of 3A. The road alignment maintains compliance to all the design parameters listed below.

Table 1.1 – Design inputs used for 3A variation

Input	Reference	Date
Design v14.12daz	Beveridge Northwest PSP civil model	14.08.2023
Existing v14.12daz	Existing survey PSP civil model	14.08.2023
BurrungBuluk (HannahSwamp)_VicMapWetlands	VPA – GIS Hanna Swamp	08.08.2022

The following guidelines have been used in the preparation of this design:

- Austroads Guide to Road Design Part 3: Geometric Design
- Austroads Guide to Road Design Part 4A: Unsignalised and Signalised Intersections
- VicRoads Supplement to Austroads Guide to Road Design (AGRD) Part 3: Geometric design (2021)
- VicRoads Supplement to the Austroads Guide to Road Design Part 4A - Signalised & Unsignalised Intersections
- Road Design Note 04-01 - Heavy Vehicle Network Access Considerations

Table 1.2 summarises the design parameters adopted for the horizontal alignment.

Table 1.2 – Horizontal alignment specifications for a design and operating speed of 80km/hr

Description	Specification	Criteria 1	Criteria 2	Criteria 3
Minimum curve length	AGRD part 3 Table 7.7	V80	180m	
Frictional Factor (Cars)	AGRD Part 3 Table 7.5	V80	Des max 0.16	Abs max 0.26
Minimum curve radius (3% super, Trucks)	As specified in Scope of Works	V80	400m	
Minimum Radii 3% adverse cross fall (New roads)	AGRD Part 3 Table 7.12	V80	660m	Max side friction 0.11
Minimum straight between reverse curves (0.7V) (Design speed based)	AGRD Part 3 Section 7.5.3	V80	56m	
Minimum straight between broken back curves (V) (Design speed based)	AGRD Part 3 Section 7.5.2	V80	80m	
Maximum deflection angle, no curve	AGRD Part 3 Table 7.7	V80	0.5deg	

Table 1.3 details the vertical alignment specifications adopted for the design.

Table 1.3 – Vertical alignment specifications for a design and operating speed of 80km/hr

Description	Specification	Criteria 1	Criteria 2	Criteria 3
Maximum grades	AGRD part 3 Table 8.3	Flat	6%	Road section
	VicRoads Supplement AGRD Pt 3: 8.5.3	Desirable	2.5%	Intersection
	VicRoads Supplement AGRD Pt 4A: 2.2.4	Maximum	5% (vector sum in any direction)	Intersection
Minimum grade	AGRD Part 3 Table 8.5	Minimum	0.5%	
	AGRD Part 3 Table 8.5	Desirable	1%	
Minimum vertical curve length (New construction)	AGRD Part 3 Table 8.10	V80	60m	Single carriageway
Minimum straight between broken back curves (0.4V)	AGRD Part 3 Section 8.6.6	V80	32m	
Maximum grade change without vertical curve	AGRD Part 3 Table 8.12	V80	0.6%	
Minimum Sag K value	AGRD Part 3 Figure 8.9	V80	10 – 17	
Desirable minimum crest K value (Design speed based)	AGRD Part 3 Table 8.7	V80	Rt=2.0s	29.3

Table 1.4 details the sight distance specifications adopted for the design.

Table 1.4 – Sight distance specifications for a design and operating speed of 80km/hr

Description	Specification	Criteria 1	Criteria 2	Criteria 3
Driver Reaction time (Rt)	AGRD part 3 5.2.2	2.0 sec		
Coefficient of Deceleration (Car)	AGRD Part 3 Table 5.5	0.36		
Car Stopping Sight Distance (SSD) – no grade correction	VicRoads Supplement AGRD Pt 3: 5.2.2	V80	Rt=2.0s	115m
Eye Height	AGRD Part 3 Table 5.1	1.1m Cars	2.4m Truck	
Eye location	AGRD Part 3 Table 5.1	Centre of lane		
Object height	AGRD Part 3 Table 5.1	0.0m ASD		
	AGRD Part 3 Table 5.1	0.2m SSD		
	AGRD Part 3 Table 5.1	0.65m MGSD		
	AGRD Part 3 Table 5.1	1.25m SISD		

Finally, Table 1.5 details the general design criteria adopted for the design.

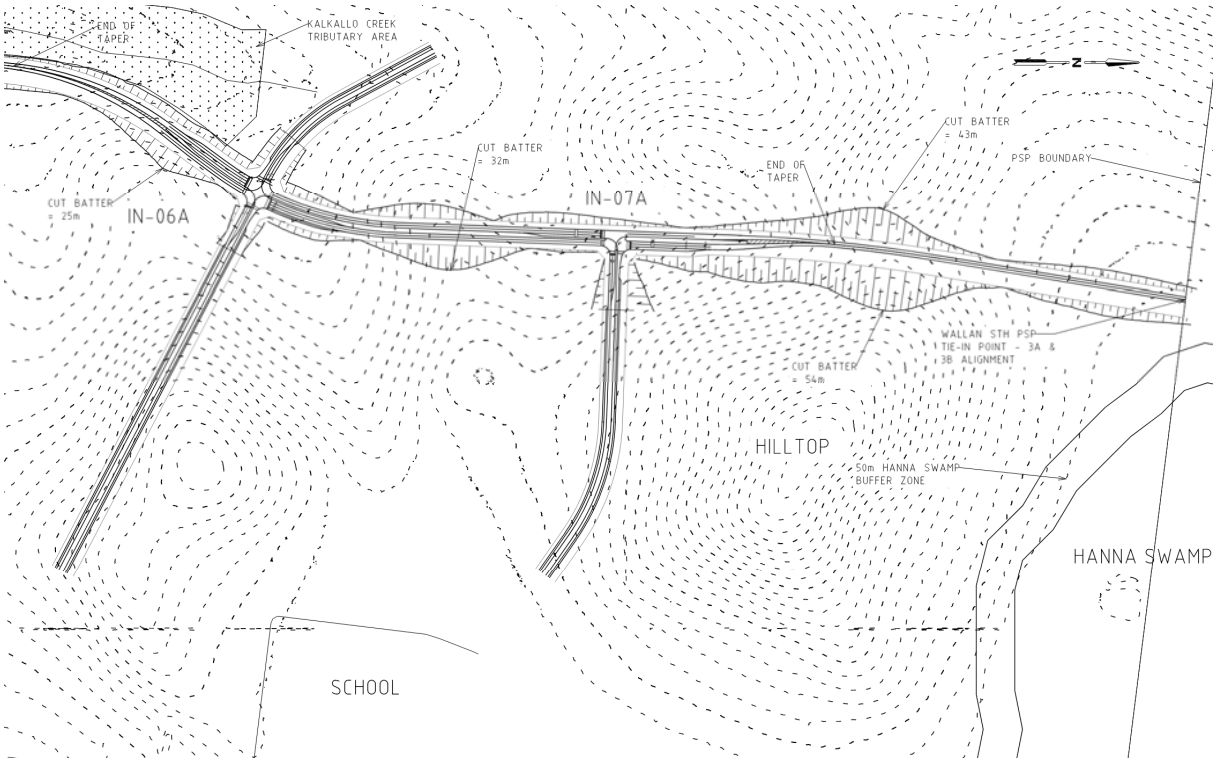
Table 1.5 – General design criteria

Description	Specification	Criteria 1	Criteria 2	Criteria 3
Interim road cross fall	PSP specification	3%		
Verge and SUP cross fall	PSP specification	2%		
Road width	PSP specification	3.5m		
Ultimate land reserve	PSP specification	34m (Adjusted as appropriate depending on the existing surface grade)		
Batters	As per Jacobs report recommendations	Cut	Earth	Max. 4:1
	AGRD	Fill	Earth	Max. 4:1

1.4 Design development

Figure 1.1 provides an overview of the revised alignment for 3A.

Figure 1.1 – Alignment of RD-03A (north to the right of page)



The alignment moves through the hilltops, minimising horizontal curves and providing a straight arterial to connect into Wallan South PSP. The changes to the alignment resulted in modifications to IN-06A and IN-07A as the revised arterial has shifted west from its original location.

IN-07A has been positioned as far from IN-06A as possible to increase the functionality of the road network grid. Due to the proximity of IN-06A and IN-07A, the ultimate dual carriageway has been specified in the interim case, due to the lack of space to provide an interim mid-block road. Moving IN-07A north would significantly impact earthworks to an unacceptable level and moving IN-06A further south would infringe into the Kalkallo Creek tributary zone.

The maximum vertical grade through the alignment is 6%, in accordance to the Austroads Guidelines. The acceptability of any future transport link that is proposed to carry buses and requires a departure from the standard maximum 6% grade should be confirmed with the Department of Transport and Planning at the earliest opportunity.

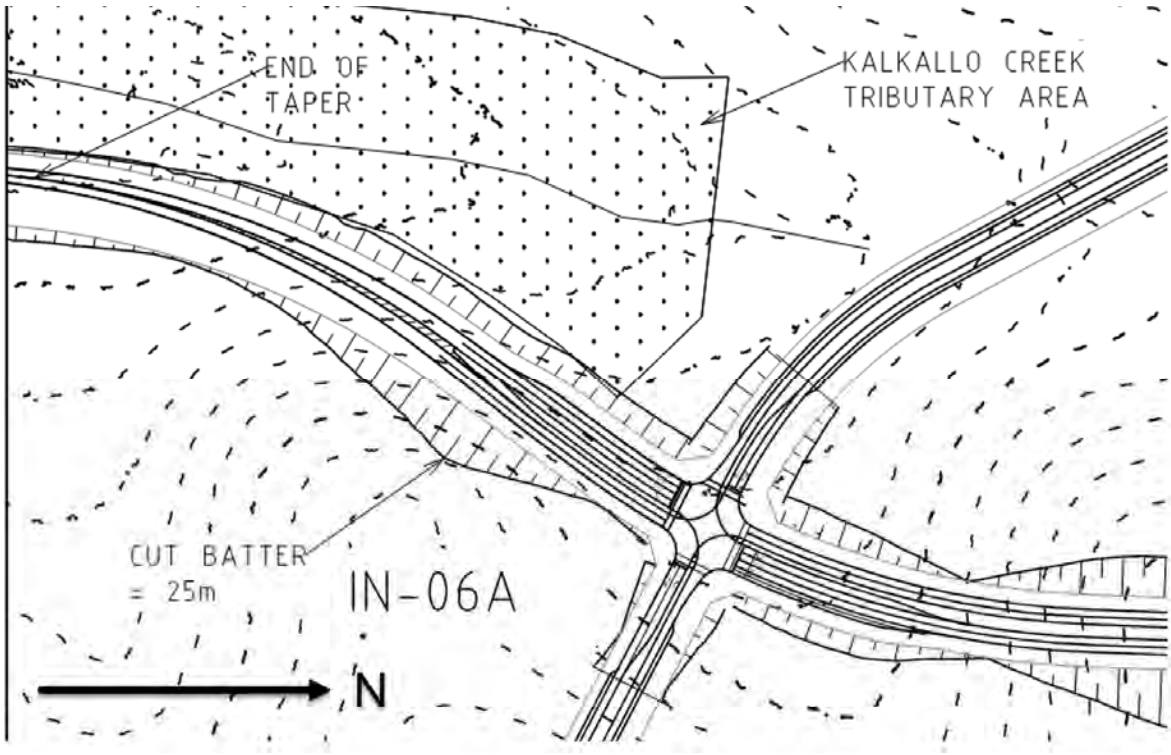
Key changes to the alignment (from the previous issue) included a curve radius of 400m (increased from 240m), as instructed by DTP, and to limit the adverse crossfall to be 3%. These changes result in a shift in the alignment to encroach more into the hilltop and therefore an increased degree of earthworks when compared to the previous alignment. The horizontal curves of the alignment were kept to as close as 400m as possible to maximise the efficiency while avoiding the indicative Kalkallo Creek tributary area west of IN-06A.

The Western Arterial has been identified as a traffic and freight route in the corridor plan and it is expected to form a key link for localized movement of freight and commercial vehicles. With this in mind, we have adopted a conservative approach for the grade on the approaches to the intersection. A maximum 2.5% absolute vertical grade has been applied throughout the approaches to the intersections. The approach of the intersections has been defined as the total required length to allow for a deceleration of a vehicle to a stop, plus a nominal queue length contingency of approx. 15m (AGRD Standard 4A, Clause 5.2.1).

North of IN-07A, we have adopted a vertical curve at 117m from the stop line top the maximum allowable grade of 6% through the hilltops. Moving the vertical curve closer than this would impact the approach to the intersections on a freight route, which Stantec does not recommend.

Figure 1.2 shows the alignment of RD-03A and the avoidance of the Kalkallo creek tributary area (shown in grey).

Figure 1.2 – Alignment of RD-03A avoidance Kalkallo creek tributary area



Full extents of the design can be found in drawing set in Appendix A.

1.5 Design compliance

The horizontal and vertical geometry of the RD-03B alignment was designed according to AGRD guidelines and VicRoads supplements. Compliance with key design requirements is summarised as follows:

- Vertical grades were designed to be no greater than 6.0% throughout the length of the design alignment. Approach grades to intersections were no greater than 2.5%.
- Intersections maintained a 90-degree intersection between the major and minor arterials.
- Approach, stopping and safe intersection sight distance was checked along the control line of the alignment with the 3D surface modelled to check the extents of sight distance at 10m intervals at intersections IN-06A and IN-07A.

- A 4:1 batter slope rather than 6:1 was adopted due to the recommendations of the sodic soil investigation, which specified steeper slopes to reduce erosion potential. The steeper batter slopes have a decreased effect on land take in the PSP.
- The design has used the benchmark VPA cross section as a basis and offsets from the shared user path to kerb have been taken from this section. The clearance from back of kerb is listed as 1.7 metres which is desirable as per VR Supplement to AGRD Pt 6A Section 5.5.1.
- The interim carriageway placement was maintained on the western portion of the ultimate road reserve to maintain consistency with the MAC alignment submitted in June 2022.
- Safety in design principles detailed in the memorandum dated 28th March 2023 have also been adopted in the revised design.

1.6 Costings

Updated cost estimates of the updated design have been prepared by sub consultants Currie and Brown, and are summarised in Table 1.6.

Table 1.6 – 3D Infrastructure cost comparisons

Project	Benchmark Item No.	MAC Cost (June 2022) ($P90)	Remediated Cost ($P90)	Departures
RD-03 Sec.2A	Item 1	2,508,000	2,710,000	Increase in works area of IN-06b due to realignment of radius curve. Significant increase of earthworks throughout the alignment to maintain compliance with DTP criteria. Ultimate alignment road design between IN-06A and IN-07A
RD-03 Sec.3A	Item 1	134,000	-	
RD-03 Sec.4A	Item 1	7,592,000	15,432,000	
IN-06A	Item 7	8,928,000	14,639,000	
IN-07A	Item 13	7,947,000	16,334,000	
IN-08	Item 8	7,866,000	7,866,000	
IN-08 (BNW Apportioned)	Item 8	3,933,000	3,933,000	

The revised costings capture the changes in pavement area, earthworks, and sodic soil items from the new design. Sodic soils items were quantified and costed to the same methodology as the MAC Beveridge Northwest PSP Costings report. Refer to Appendix B for the costing sheets from Currie and Brown.

Appendix A. Design Drawings

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VICTORIAN PLANNING AUTHORITY

BEVERIDGE NORTHWEST PSP
INFRASTRUCTURE DESIGNS AND COSTINGS
BEVERIDGE 3753 VIC.

CONCEPT HIGH LEVEL DESIGNS
COVER SHEET

Rev	Date	Description	Drawn	Appr.
6	13.09.23	FINAL CONCEPT DESIGN	IM	SP
5	22.04.22	FINAL CONCEPT DESIGN	SB	SP
4	07.03.22	ISSUED FOR INFORMATION	SE	MOK
3	31.10.21	ADDRESSING STAKEHOLDER COMMENTS	SE	PC
2	23.07.19	ADDRESSING STAKEHOLDER COMMENTS	VA	FH
1	02.05.19	ISSUED FOR INFORMATION	NV	EA

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Project: BEVERIDGE NORTHWEST PSP
INFRASTRUCTURE DESIGNS AND COSTINGS
PROJECT ADDRESS 2
Title: DRAWING TITLE LINE 1
COVER SHEET

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Date: 13.09.23
Scale:
Size: A3
Drawing Number: V181662-CI-DG-1000
Sheet No.:
Revision: 6

LOCALITY PLAN - RD03B

SCALE 1:20000

Rev	Date	Description	Drawn	Appr.
7	13.09.23	FINAL CONCEPT DESIGN	IM	FA
6	13.10.22	REMEDIATED ALIGNMENT 3B	SB	DY
5	22.04.22	FINAL CONCEPT DESIGN	SB	SP
4	07.03.22	ISSUED FOR INFORMATION	SE	MOK
3	31.10.21	ADDRESSING STAKEHOLDER COMMENTS	SE	PC
2	27.07.19	SHEET NUMBERS UPDATED	VA	FH
1	02.05.19	ISSUED FOR INFORMATION	NV	EA

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Title: LOCALITY PLAN - RD03B
SHEET 1 OF 2

Status: PRELIMINARY
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LOCALITY PLAN - RD03A

SCALE 1:20000

Rev	Date	Description	Drawn	Appr.
3	13.09.23	FINAL CONCEPT DESIGN	IM	FA
2	22.04.22	FINAL CONCEPT DESIGN	SB	SP
1	07.03.22	NEW ALIGNMENT RD03A ADDED	SE	MOK

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Scale: 1:20000
Size: A3
Drawing Number: V181662-CI-DG-1002
Sheet No.:
Revision: 3

SCHEDULE OF DRAWINGS

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V181662-CI-DG-1000	COVER SHEET
V181662-CI-DG-1001	LOCALITY PLAN - RD03B - SHEET 1 OF 2
V181662-CI-DG-1002	LOCALITY PLAN - RD03A - SHEET 2 OF 2
V181662-CI-DG-1003	INDEX SHEET
V181544-CI-DG-2002	TYPICAL SECONDARY ARTERIAL ROAD
V181544-CI-DG-2003	TYPICAL CONNECTOR BOULEVARD ROAD
V181544-CI-DG-2009	TYPICAL PRIMARY TO CONNECTOR BLVD INTERSECTION
V181544-CI-DG-2010	TYPICAL PRIMARY TO CONNECTOR BLVD INTERSECTION
V181544-CI-DG-2011	TYPICAL SECONDARY TO SECONDARY INTERSECTION
V181544-CI-DG-2012	TYPICAL SECONDARY TO SECONDARY INTERSECTION
V181544-CI-DG-2013	TYPICAL SECONDARY TO CONNECTOR BLVD INTERSECTION
V181544-CI-DG-2014	TYPICAL SECONDARY TO CONNECTOR BLVD INTERSECTION
V181544-CI-DG-2032	TYPICAL INTERIM SECONDARY ARTEIAL BRIDGE
V181544-CI-DG-2034	TYPICAL ULTIMATE CONNECTOR ROAD BRIDGE
V181544-CI-DG-2040	TYPICAL BOX CULVERT 1800X3000
V181544-CI-DG-2043	TYPICAL CULVERT DN1200 SECONDARY
V181662-CI-DG-1701	CH 0 - CH 2200 - RD03 - GEOMETRIC PLAN
V181662-CI-DG-1702	CH 2200 - CH 4935.714- RD03&04 - GEOMETRIC PLAN
V181662-CI-DG-1711	CH 0 - CH 2200 - RD03 - GEOMETRIC PLAN
V181662-CI-DG-1712	CH 2200 - CH 3378.695- RD03A - GEOMETRIC PLAN
V181662-CI-DG-2000	ALIGNMENT KEY PLAN - RD03, RD03A, RD03B & RD04
V181662-CI-DG-2001	RD03 CH 0 - CH 250 - ALIGNMENT PLAN
V181662-CI-DG-2002	RD03 CH 250 - CH 497 - ALIGNMENT PLAN
V181662-CI-DG-2003	RD03 INTERSECTION 05 CH 497 - CH 873 - ALIGNMENT PLAN
V181662-CI-DG-2004	RD03 CH 873 - CH 1205 - ALIGNMENT PLAN
V181662-CI-DG-2005	RD03 CH 1205 - CH 1484 - ALIGNMENT PLAN
V181662-CI-DG-2006	RD03 INTERSECTION 06 CH 1484 - CH 1840 - ALIGNMENT PLAN
V181662-CI-DG-2007	RD03 CH 1840 - CH 2090 - ALIGNMENT PLAN
V181662-CI-DG-2008	RD03 INTERSECTION 07 CH 2090 - CH 2500 - ALIGNMENT PLAN
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V181662-CI-DG-2010	RD03B CH 2750 - CH 3070 - ALIGNMENT PLAN
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~~V181662-CI-DG-2014~~	~~RD03B CH 4080 - CH 4283 - ALIGNMENT PLAN~~
~~V181662-CI-DG-2022~~	~~RD04 INTERSECTION 12 CH 5078 - CH 5448 - ALIGNMENT PLAN~~
V181662-CI-DG-2023	RD04 CH 14000 - CH 14330 - ALIGNMENT PLAN
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V181662-CI-DG-2050	ALIGNMENT KEY PLAN - RD03 & RD03A
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V181662-CI-DG-2049	RD03A CH 1540 - CH 1890 - ALIGNMENT PLAN
V181662-CI-DG-2051	RD03A CH 1890 - CH 2260 - ALIGNMENT PLAN
V181662-CI-DG-2052	RD03A CH 2260 - CH 2640 - ALIGNMENT PLAN
V181662-CI-DG-2053	RD03A CH 2640 - CH 2876.300 - ALIGNMENT PLAN
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V181662-CI-DG-3003	RD03 - CH 680 - 1020 - LONGITUDINAL SECTION
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~~V181662-CI-DG-3007~~	~~RD03 - CH 2020 - 2360 - LONGITUDINAL SECTION~~
~~V181662-CI-DG-3008~~	~~RD03 - CH 2360 - CH 2700 - LONGITUDINAL SECTION~~
V181662-CI-DG-3011	RD03A - CH 1020 - CH 1360 - LONGITUDINAL SECTION
V181662-CI-DG-3012	RD03A - CH 1360 - CH 1700 - LONGITUDINAL SECTION
V181662-CI-DG-3013	RD03A - CH 1700 - 2040 - LONGITUDINAL SECTION
V181662-CI-DG-3014	RD03A - CH 2040 - 2380 - LONGITUDINAL SECTION
V181662-CI-DG-3015	RD03A - CH 2380 - 2720 - LONGITUDINAL SECTION
V181662-CI-DG-3016	RD03A - CH 2720 - CH 2876.192 - LONGITUDINAL SECTION
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V181662-CI-DG-3024	RD03B - CH 2720 - CH 3060 - LONGITUDINAL SECTION
V181662-CI-DG-3025	RD03B - CH 3060 - CH 3306.149 - LONGITUDINAL SECTION
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V181662-CI-DG-3034	RD04 - CH 5340 - CH 5630 - LONGITUDINAL SECTION
V181662-CI-DG-3035	RD04 - CH 14000 - CH 14340 - LONGITUDINAL SECTION
V181662-CI-DG-3036	RD04 - CH 14340 - CH 14617.206 - LONGITUDINAL SECTION
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V181662-CI-DG-4002	RD03 - CROSS SECTIONS - SHEET 2 OF 3
V181662-CI-DG-4003	RD03 - CROSS SECTIONS - SHEET 3 OF 3
V181662-CI-DG-4011	RD03A - CROSS SECTIONS - SHEET 1 OF 2
V181662-CI-DG-4012	RD03A - CROSS SECTIONS - SHEET 2 OF 2
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V181662-CI-DG-4022	RD03B - CROSS SECTION - SHEET 2 OF 3
V181662-CI-DG-4023	RD03B - CROSS SECTION - SHEET 3 OF 3
V181662-CI-DG-4031	RD04 - CROSS SECTIONS - SHEET 1 OF 3
V181662-CI-DG-4032	RD04 - CROSS SECTIONS - SHEET 2 OF 3
V181662-CI-DG-4033	RD04 - CROSS SECTIONS - SHEET 3 OF 3
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V181662-CI-SK-9000	RD03 - STRIP PLAN
V181662-CI-SK-9001	RD04 - STRIP PLAN

Rev	Date	Description	Drawn	Appr.
4	13.09.23	FINAL CONCEPT DESIGN	AP	FA
3	13.10.22	REMEDIATED ALIGNMENT 3B	SB	DY
2	22.04.22	FINAL CONCEPT DESIGN	SB	SP
1	07.03.22	NEW ALIGNMENT RD03A ADDED	SE	MOK

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INFRASTRUCTURE DESIGNS AND COSTINGS
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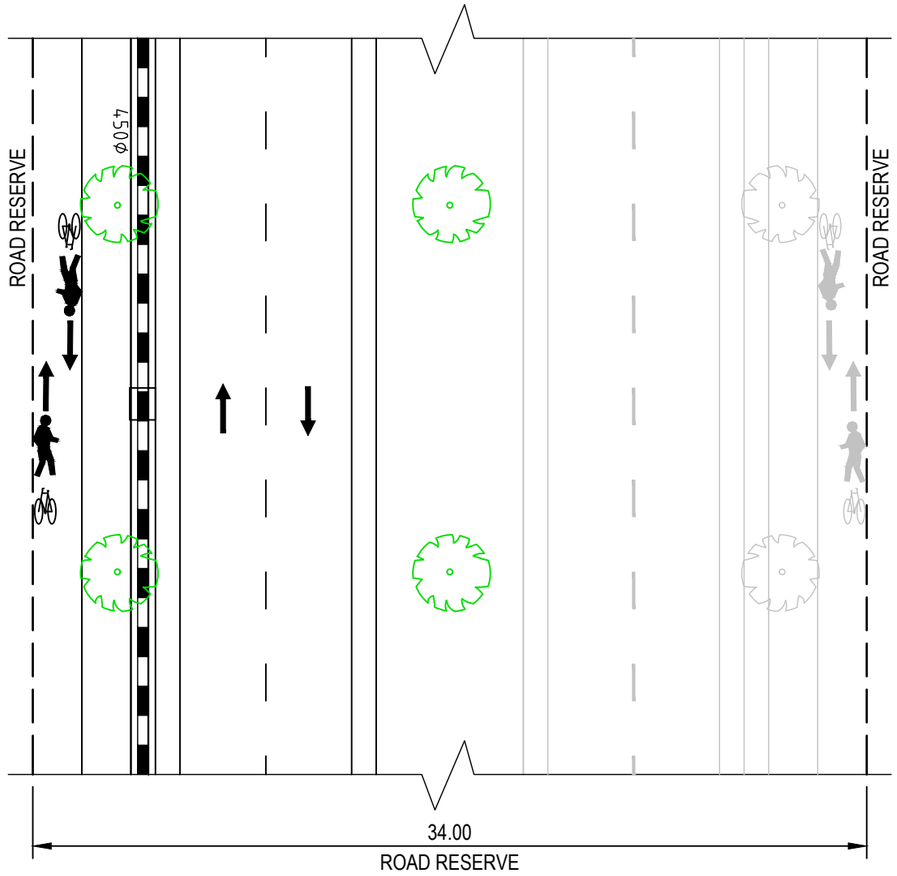

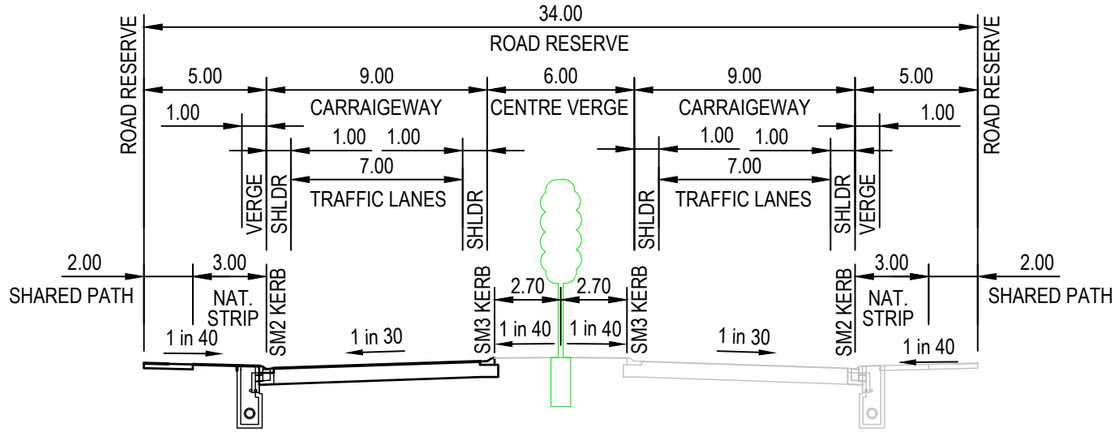

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6	4/02/2019	ADDRESS STAKEHOLDER COMMENTS	CM		
5	23/07/2018	ADDRESS VPA COMMENTS	CM		
4	05/07/2018	ADDRESS VPA COMMENTS	CM		
3	29/06/2018	ADDRESS VPA COMMENTS	CM		
2	19/03/2018	ADDRESS VPA COMMENTS	VA		
1	14/12/2017	PRELIMINARY ISSUE	RVR		

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Drawn	RVR	Date 27/09/2017
Checked	MEA	Date 28/09/2017
Designed	RVR	Date
Verified		Date
Approved		Date

Client: VICTORIAN PLANNING AUTHORITY

Project: BENCH MARK INFRASTRUCTURE COSTING

Title: ITEM 2
SECONDARY ARTERIAL ROAD
INTERIM

Status: CONCEPT
NOT TO BE USED FOR CONSTRUCTION PURPOSES

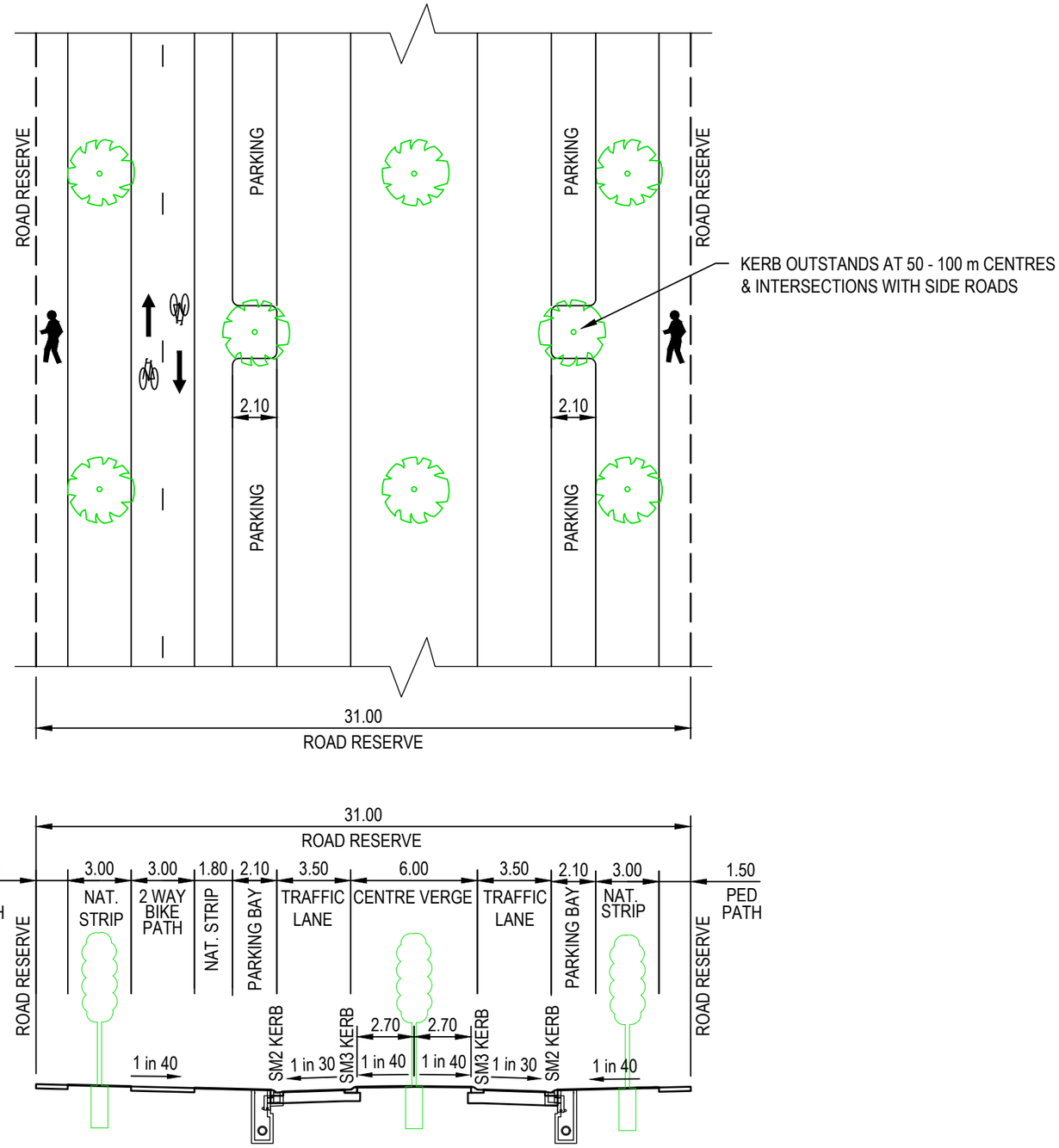
Scale: 1:250

Size: A3

Drawing Number: V181544-CI-DG-2002

Revision: 6

XREFs:
CAD File: M:\2018\181501_2000\V181544_VPA_ICP_Program_Implementation\Civil\Drafting\Benchmark Project\V181544-CI-DG-2000-2028.dwg



0 5 10m

SCALE 1:250 @A3

Rev	Date	Description	Des.	Verif.	Appd.
5	4/02/2019	ADDRESS STAKEHOLDER COMMENTS	CM		
4	05/07/2018	ADDRESS VPA COMMENTS	CM		
3	29/06/2018	ADDRESS VPA COMMENTS	CM		
2	19/03/2018	ADDRESS VPA COMMENTS	VA		
1	14/12/2017	PRELIMINARY ISSUE	RVR		

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Drawn	RVR	Date	27/09/2017
Checked	MEA	Date	28/09/2017
Designed	RVR	Date	
Verified		Date	
Approved		Date	

Client: VICTORIAN PLANNING AUTHORITY

Project: BENCH MARK INFRASTRUCTURE COSTING

Title: ITEM 3
CONNECTOR BOULEVARD
ULTIMATE

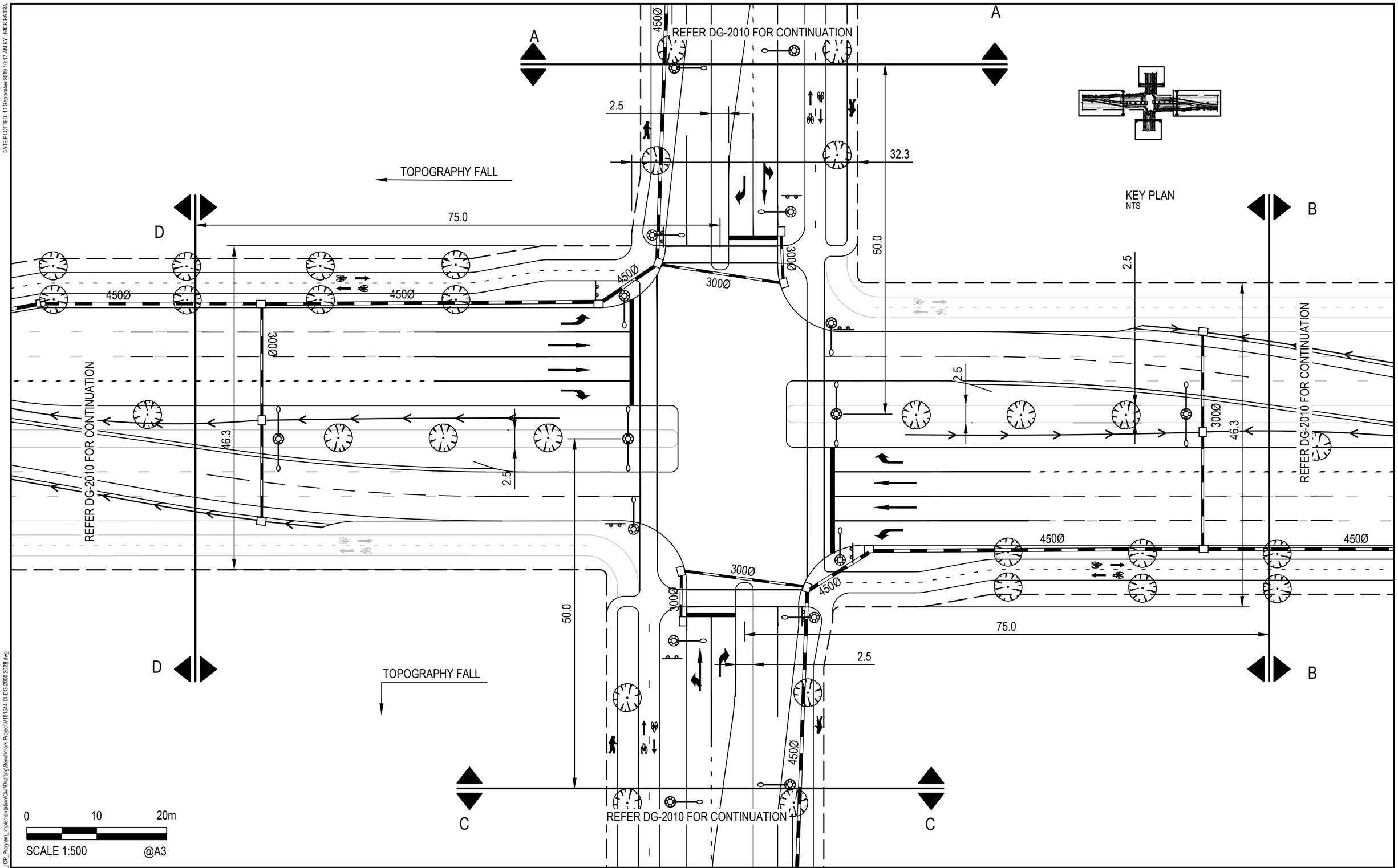
Status: CONCEPT
NOT TO BE USED FOR CONSTRUCTION PURPOSES

Scale: 1:250

Size: A3

Drawing Number: V181544-CI-DG-2003

Revision: 5



Rev	Date	Description	Des.	Verif.	Appd.
7	12/03/2019	ADDRESS STAKEHOLDER COMMENTS	CM		
6	28/02/2019	ADDRESS STAKEHOLDER COMMENTS V.2.	CM		
5	4/02/2019	ADDRESS STAKEHOLDER COMMENTS	CM		
4	05/07/2018	ADDRESS VPA COMMENTS	CM		
3	29/06/2018	ADDRESS VPA COMMENTS	CM		
2	19/03/2018	ADDRESS VPA COMMENTS	VA		
1	14/12/2017	PRELIMINARY ISSUE	RVR		

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Drawn	NPV	Date 14/12/2017
Checked	MEA	Date 14/12/2017
Designed	RVR	Date
Verified		Date
Approved		Date

Client: VICTORIAN PLANNING AUTHORITY

Project: BENCH MARK INFRASTRUCTURE COSTING

Title: ITEM 7
PRIMARY TO CONNECTOR BLVD INTERSECTION
INTERIM

Status: CONCEPT
NOT TO BE USED FOR CONSTRUCTION PURPOSES

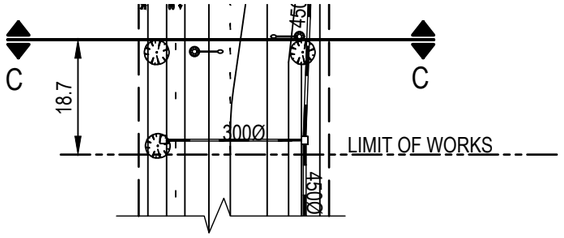
Scale: 1:500

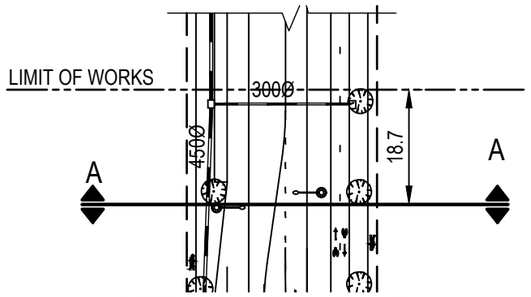
Size: A3

Drawing Number: V181544-CI-DG-2009

Revision: 7

REFER DG-2009 FOR CONTINUATION





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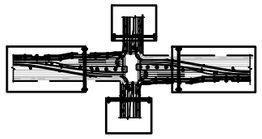
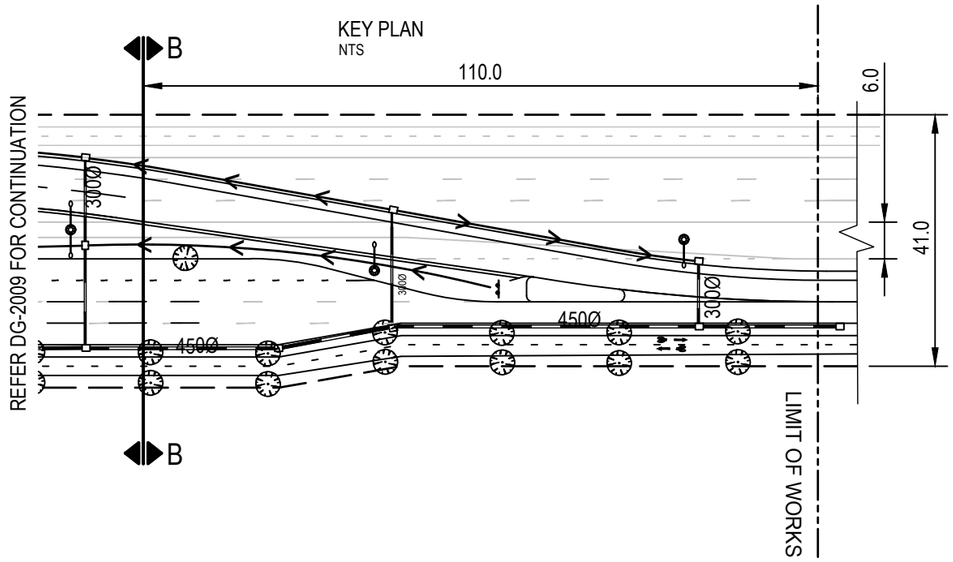
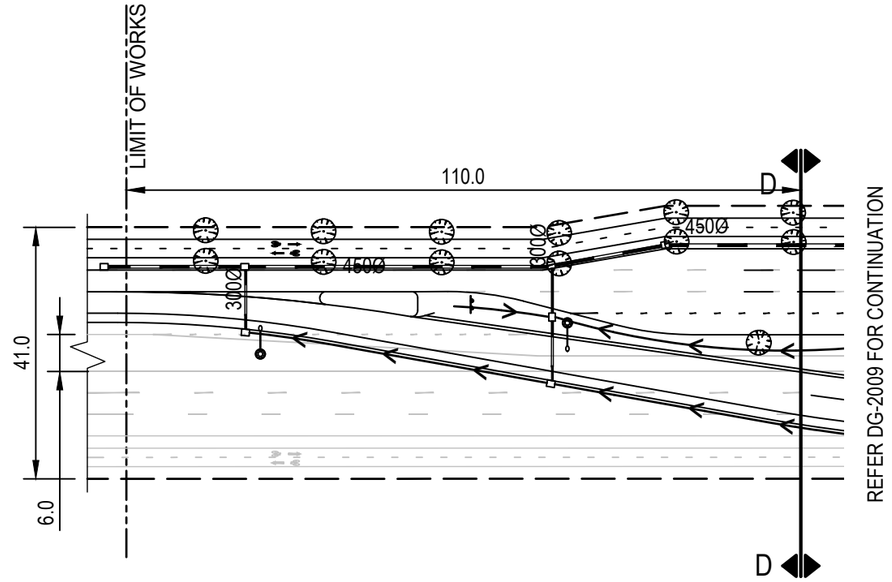


KEY PLAN
NTS





0 20 40m

SCALE 1:1000 @A3

Rev	Date	Description	Des.	Verif.	Appd.
7	12/03/2019	ADDRESS STAKEHOLDER COMMENTS	CM		
6	28/02/2019	ADDRESS STAKEHOLDER COMMENTS V.2.	CM		
5	4/02/2019	ADDRESS STAKEHOLDER COMMENTS	CM		
4	05/07/2018	ADDRESS VPA COMMENTS	CM		
3	29/06/2018	ADDRESS VPA COMMENTS	CM		
2	19/03/2018	ADDRESS VPA COMMENTS	VA		
1	14/12/2017	PRELIMINARY ISSUE	RVR		

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Checked	MEA	Date 14/12/2017
Designed	RVR	Date
Verified		Date
Approved		Date

Client: VICTORIAN PLANNING AUTHORITY

Project: BENCH MARK INFRASTRUCTURE COSTING

Title: ITEM 7
PRIMARY TO CONNECTOR BLVD INTERSECTION
INTERIM

Status: CONCEPT
NOT TO BE USED FOR CONSTRUCTION PURPOSES

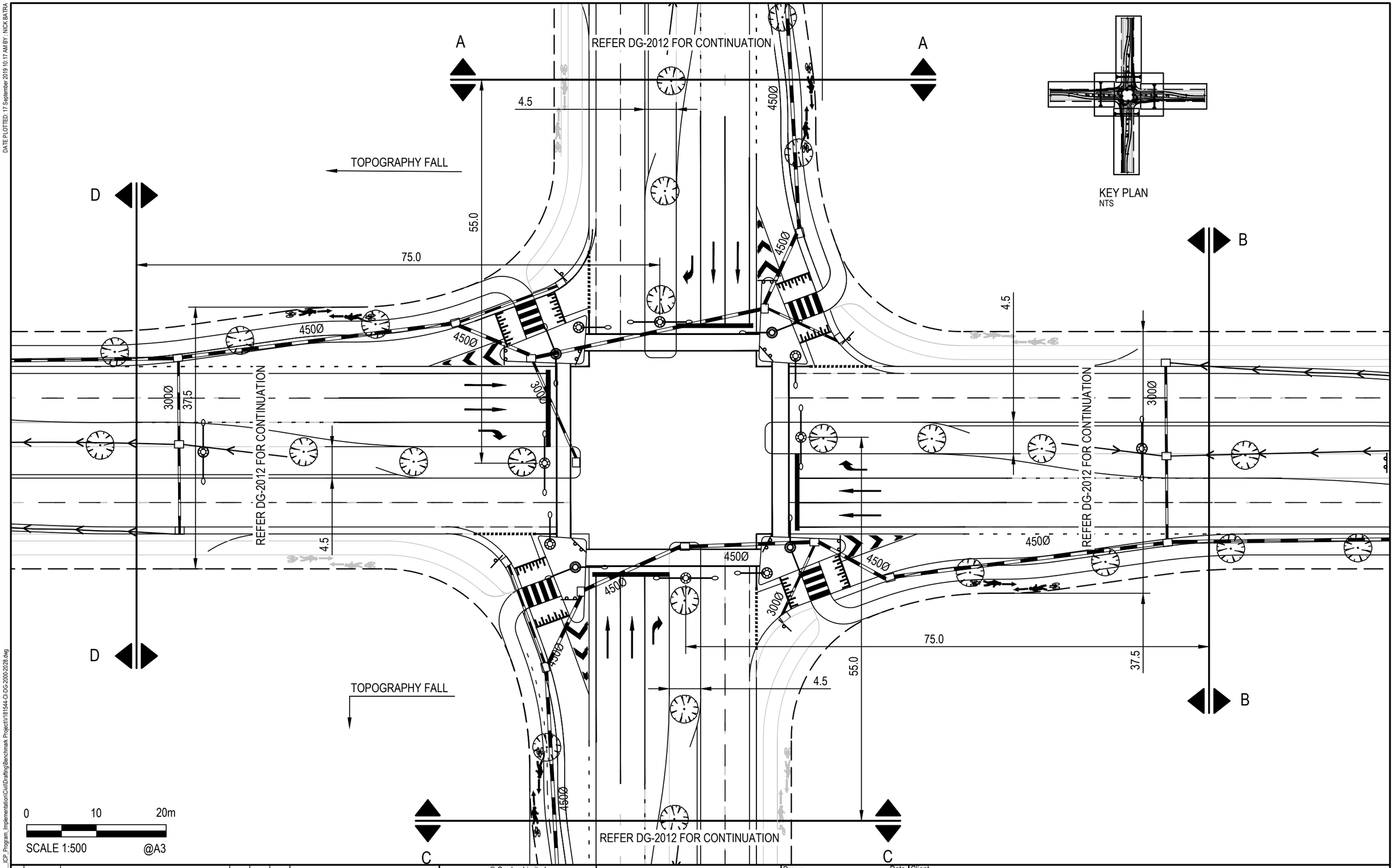
Scale: 1:1000

Size: A3

Drawing Number: V181544-CI-DG-2010

Revision: 7

DATE PLOTTED: 17 September 2019 10:17 AM BY: NICK BATRA



KEY PLAN
NTS

Rev	Date	Description	Des.	Verif.	Appd.
5	4/02/2019	ADDRESS STAKEHOLDER COMMENTS	CM		
4	05/07/2018	ADDRESS VPA COMMENTS	CM		
3	29/06/2018	ADDRESS VPA COMMENTS	CM		
2	19/03/2018	ADDRESS VPA COMMENTS	VA		
1	14/12/2017	PRELIMINARY ISSUE	RVR		

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Drawn	NPV	Date 14/12/2017
Checked	MEA	Date 14/12/2017
Designed	RVR	Date
Verified		Date
Approved		Date

Client: VICTORIAN PLANNING AUTHORITY

Project: BENCH MARK INFRASTRUCTURE COSTING

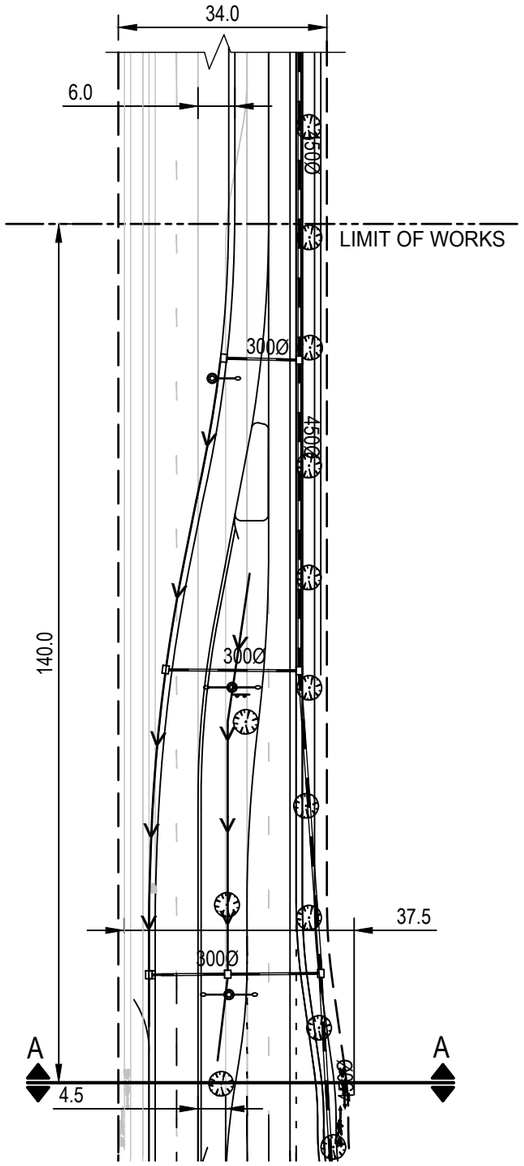
Title: ITEM 8
SECONDARY TO SECONDARY INTERSECTION
INTERIM

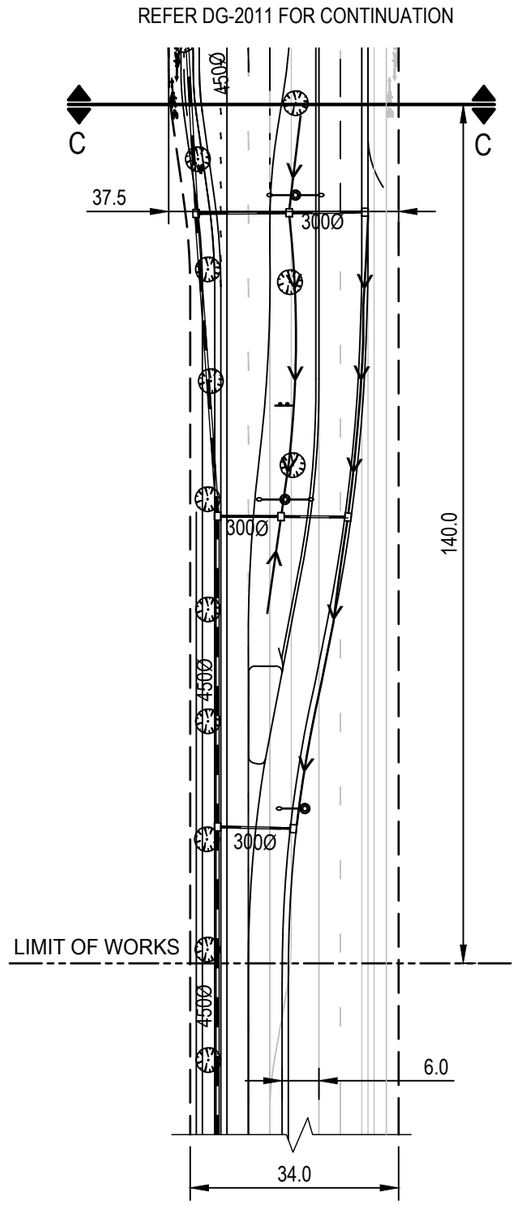
Status: CONCEPT
NOT TO BE USED FOR CONSTRUCTION PURPOSES

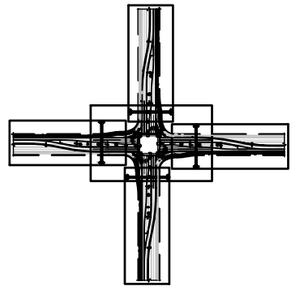
Scale: 1:500
Size: A3

Drawing Number: V181544-CI-DG-2011
Revision: 5

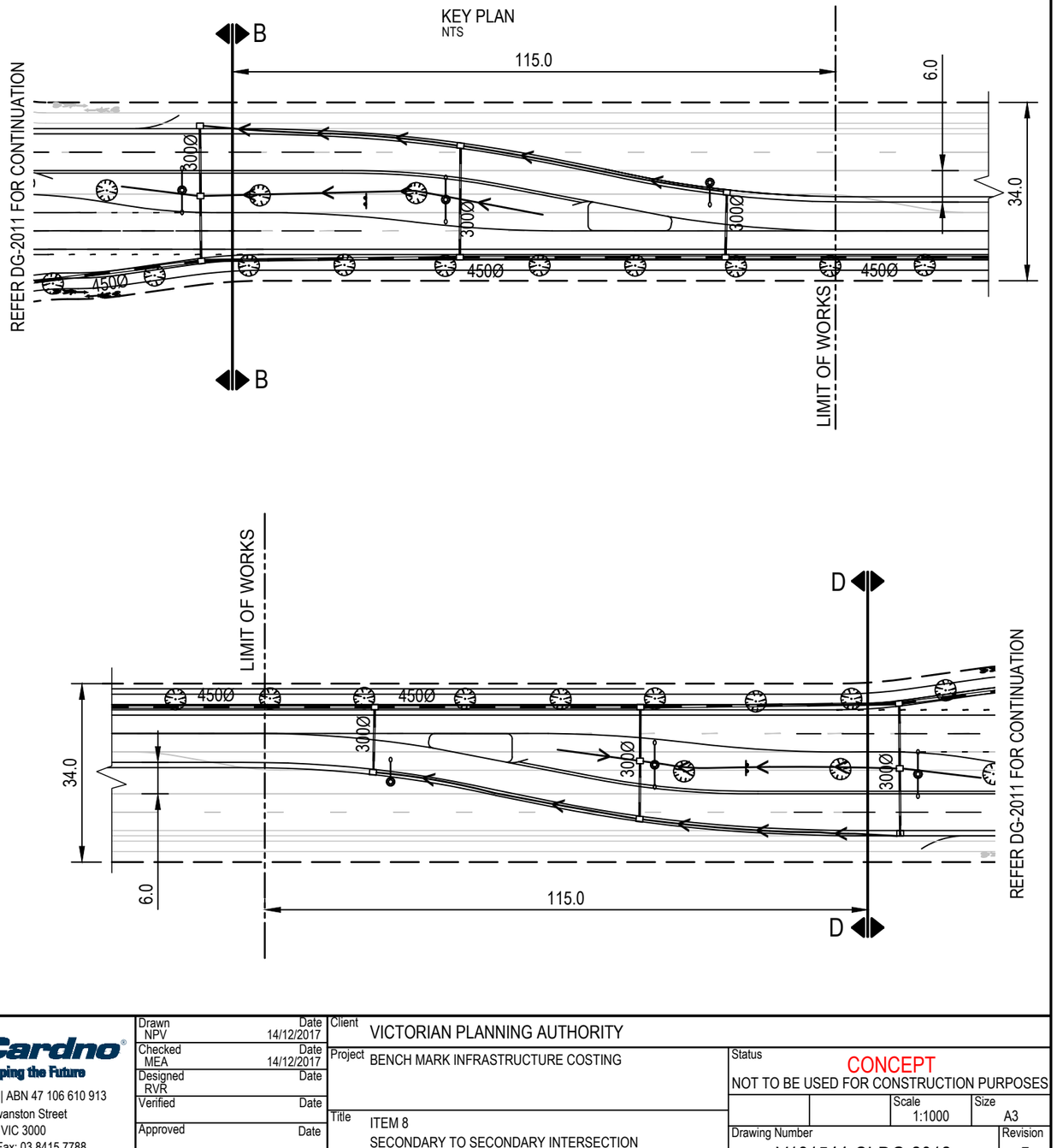
XREFs:
CAD File: H:\2018\51501_2000\V181544_VPA_ICP_Program_Implementation\Civil\Drafting\Benchmark Project\V181544-CI-DG-2000-2028.dwg







KEY PLAN
NTS



0 20 40m

SCALE 1:1000 @A3

Rev	Date	Description	Des.	Verif.	Appd.
5	4/02/2019	ADDRESS STAKEHOLDER COMMENTS	CM		
4	05/07/2018	ADDRESS VPA COMMENTS	CM		
3	29/06/2018	ADDRESS VPA COMMENTS	CM		
2	19/03/2018	ADDRESS VPA COMMENTS	VA		
1	14/12/2017	PRELIMINARY ISSUE	RVR		

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Checked	MEA	Date 14/12/2017
Designed	RVR	Date
Verified		Date
Approved		Date

Client: VICTORIAN PLANNING AUTHORITY

Project: BENCH MARK INFRASTRUCTURE COSTING

Title: ITEM 8
SECONDARY TO SECONDARY INTERSECTION
INTERIM

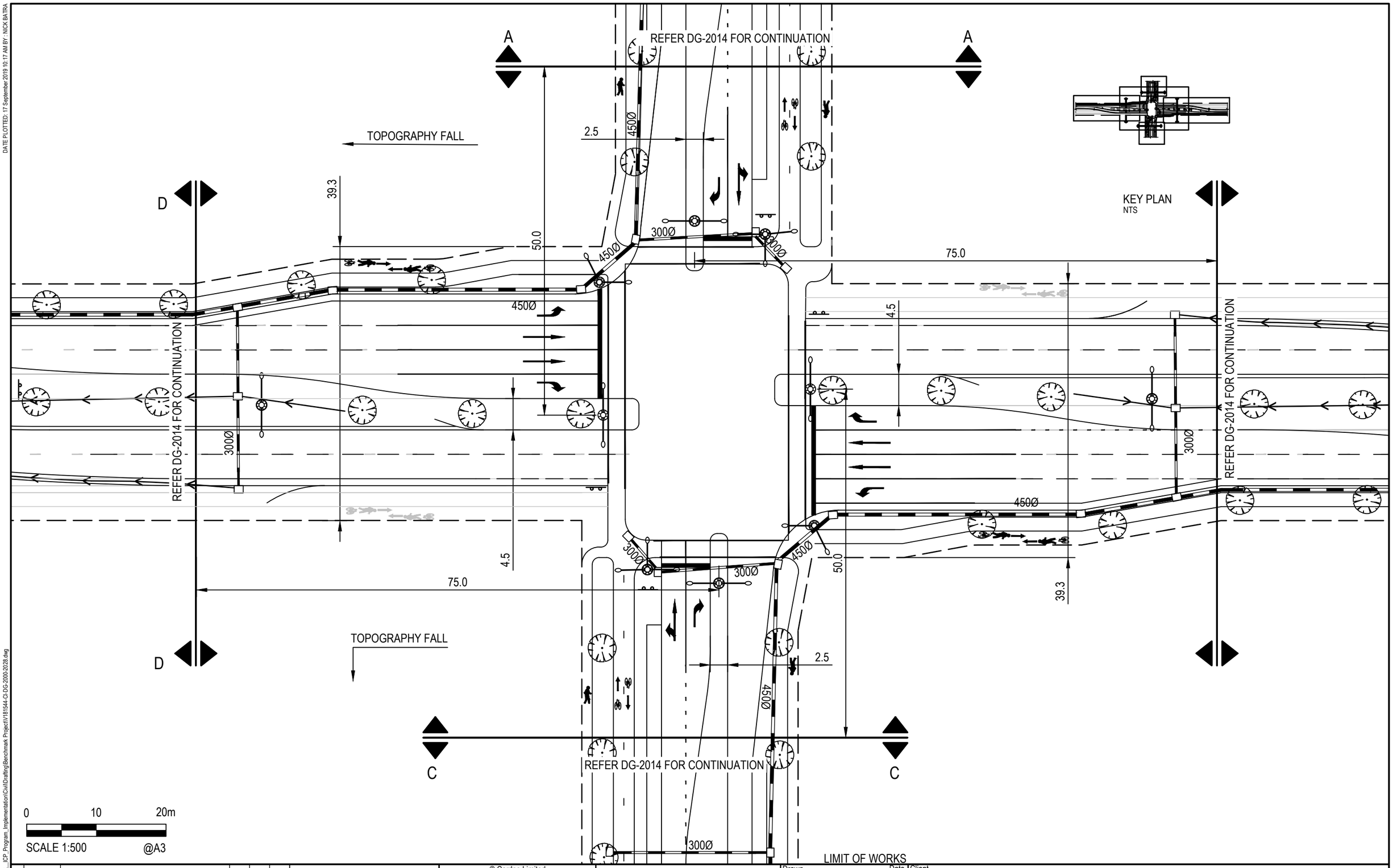
Status: CONCEPT
NOT TO BE USED FOR CONSTRUCTION PURPOSES

Scale: 1:1000 | Size: A3

Drawing Number: V181544-CI-DG-2012 | Revision: 5

XREF's:
CAD File: M:\2018\1501_2000\V181544_VPA_ICP_Program_Implementation\Civil\Drafting\Benchmark Project\V181544-CI-DG-2000-2028.dwg

DATE PLOTTED: 17 September 2019 10:17 AM BY: NICK BATRA



Rev	Date	Description	Des.	Verif.	Appd.
7	12/03/2019	ADDRESS STAKEHOLDER COMMENTS	CM		
6	28/02/2019	ADDRESS STAKEHOLDER COMMENTS V.2.	CM		
5	4/02/2019	ADDRESS STAKEHOLDER COMMENTS	CM		
4	05/07/2018	ADDRESS VPA COMMENTS	CM		
3	29/06/2018	ADDRESS VPA COMMENTS	CM		
2	19/03/2018	ADDRESS VPA COMMENTS	VA		
1	14/12/2017	PRELIMINARY ISSUE	RVR		

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Checked	MEA	Date 14/12/2017
Designed	RVR	Date
Verified		Date
Approved		Date

Client: VICTORIAN PLANNING AUTHORITY

Project: BENCH MARK INFRASTRUCTURE COSTING

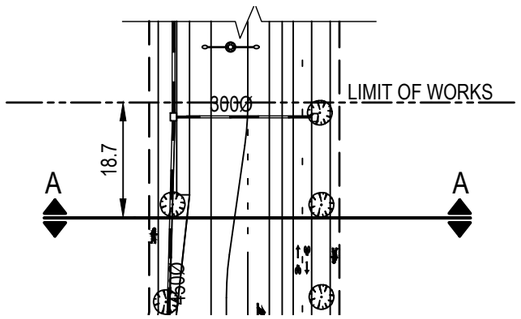
Title: ITEM 9
SECONDARY TO CONNECTOR BLVD INTERSECTION
INTERIM

Status: CONCEPT
NOT TO BE USED FOR CONSTRUCTION PURPOSES

Scale: 1:500 | Size: A3

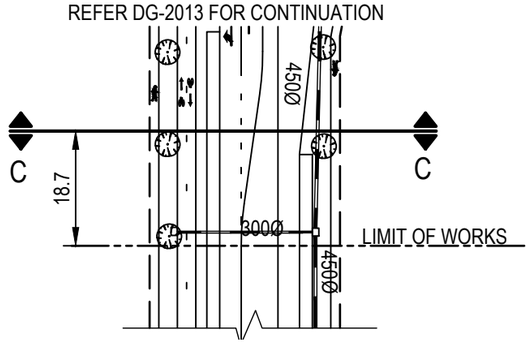
Drawing Number: V181544-CI-DG-2013 | Revision: 7

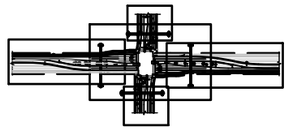
XREF's
CAD File: M:\2018\1501_2000\V181544_VPA_ICP_Program_Implementation\Civil\Drafting\Benchmark Project\V181544-CI-DG-2000-2028.dwg



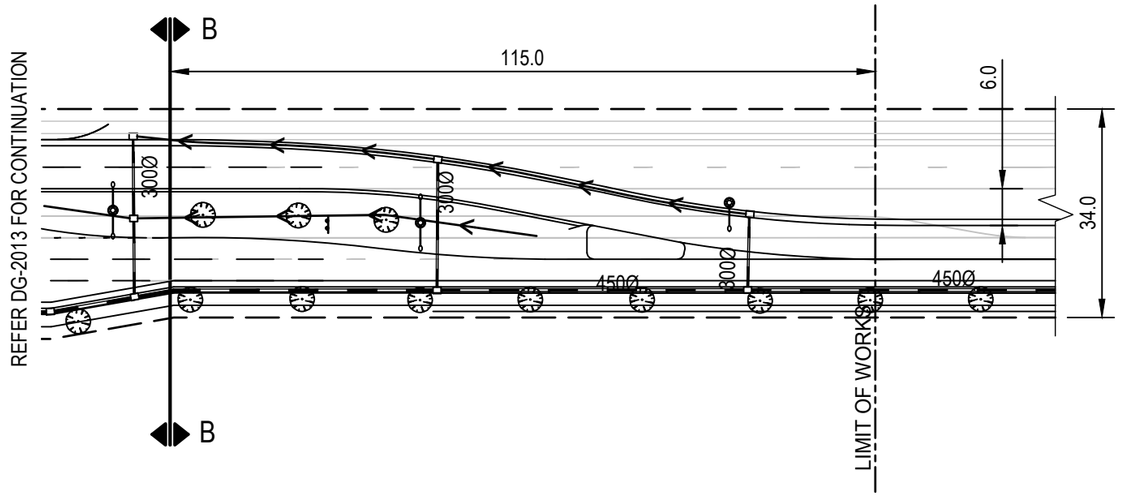
REFER DG-2013 FOR CONTINUATION

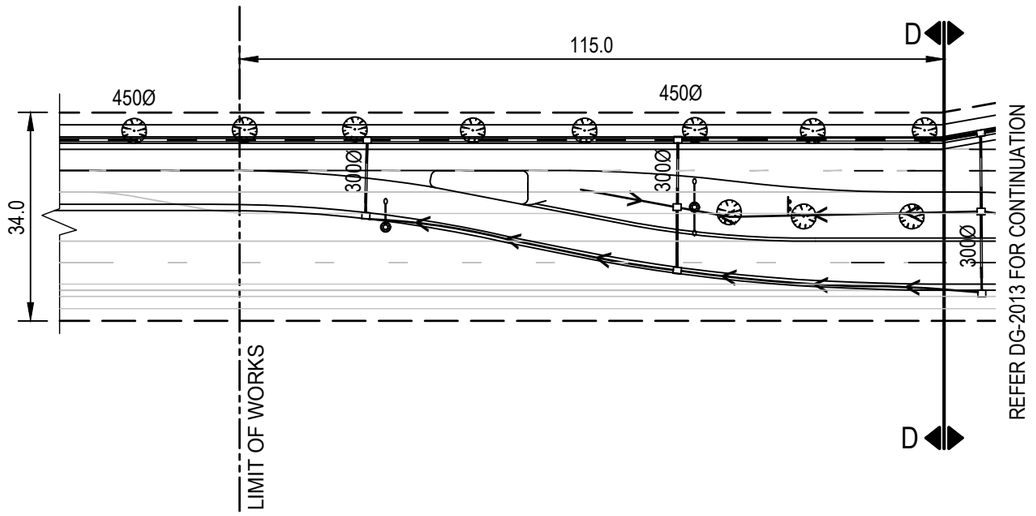
REFER DG-2013 FOR CONTINUATION





KEY PLAN
NTS





0 20 40m

SCALE 1:1000 @A3

Rev	Date	Description	Des.	Verif.	Appd.
7	12/03/2019	ADDRESS STAKEHOLDER COMMENTS	CM		
6	28/02/2019	ADDRESS STAKEHOLDER COMMENTS V.2.	CM		
5	4/02/2019	ADDRESS STAKEHOLDER COMMENTS	CM		
4	05/07/2018	ADDRESS VPA COMMENTS	CM		
3	29/06/2018	ADDRESS VPA COMMENTS	CM		
2	19/03/2018	ADDRESS VPA COMMENTS	VA		
1	14/12/2017	PRELIMINARY ISSUE	RVR		

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Drawn	NPV	Date 14/12/2017
Checked	MEA	Date 14/12/2017
Designed	RVR	Date
Verified		Date
Approved		Date

Client: VICTORIAN PLANNING AUTHORITY

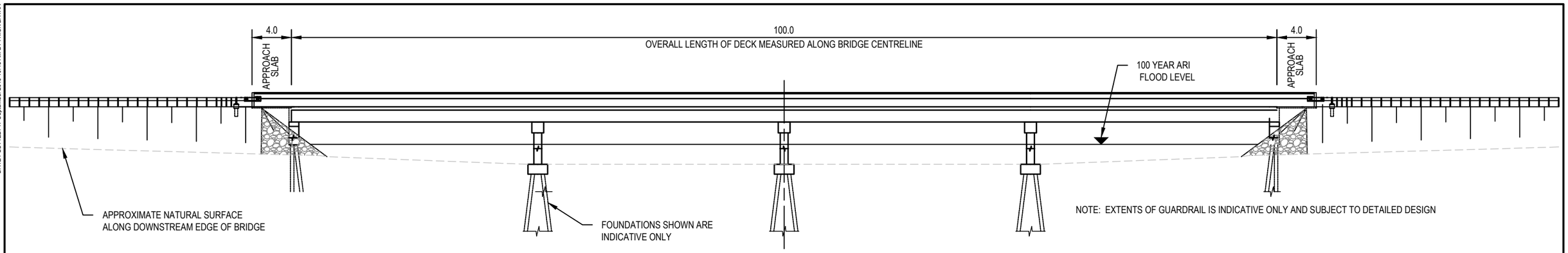
Project: BENCH MARK INFRASTRUCTURE COSTING

Title: ITEM 9
SECONDARY TO CONNECTOR BLVD INTERSECTION
INTERIM

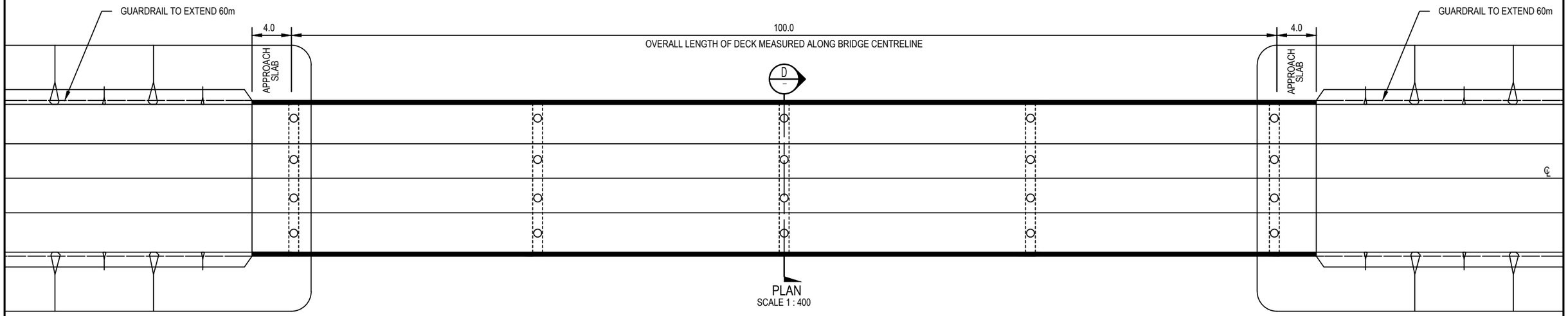
Status: CONCEPT
NOT TO BE USED FOR CONSTRUCTION PURPOSES

Scale: 1:1000 | Size: A3

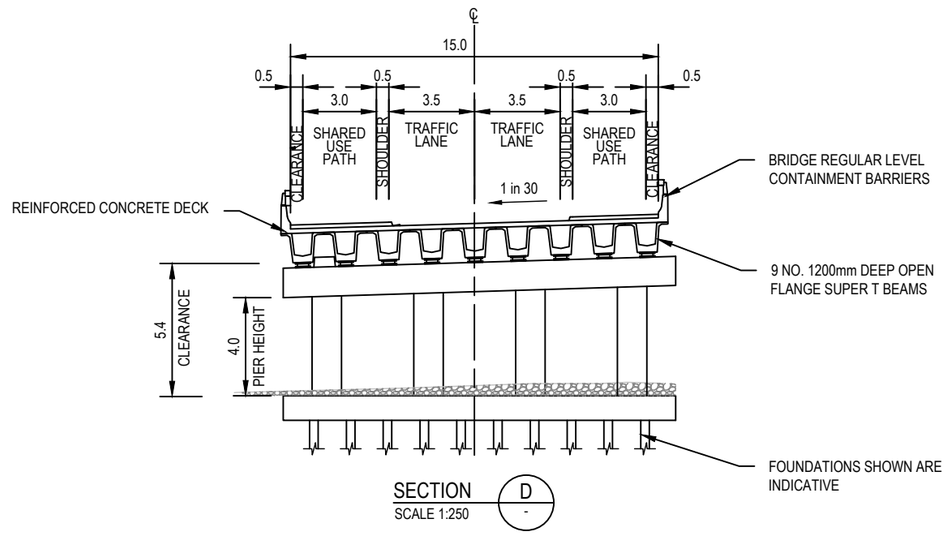
Drawing Number: V181544-CI-DG-2014 | Revision: 7



ELEVATION
SCALE 1 : 400



PLAN
SCALE 1 : 400



SECTION D
SCALE 1:250

0 10 16m
SCALE 1:400 @A3

0 5 10m
SCALE 1:250 @A3

Rev	Date	Description	Des.	Verif.	Appd.
3	4/02/2019	ADDRESS STAKEHOLDER COMMENTS	CM		
2	19/03/2018	ADDRESS VPA COMMENTS	VA		
1	14/12/2017	PRELIMINARY ISSUE	VA		

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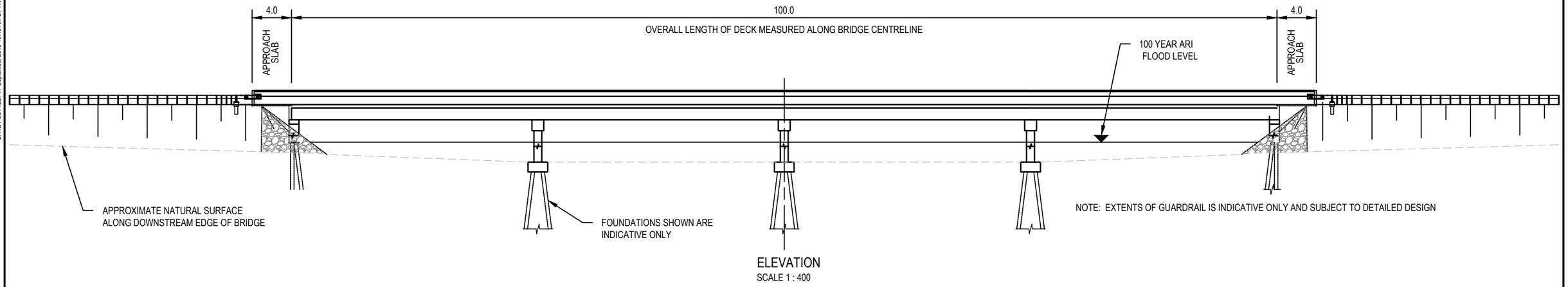
Drawn	NPV	Date 14/12/2017
Checked	MEA	Date 14/12/2017
Designed	RVR	Date
Verified		Date
Approved		Date

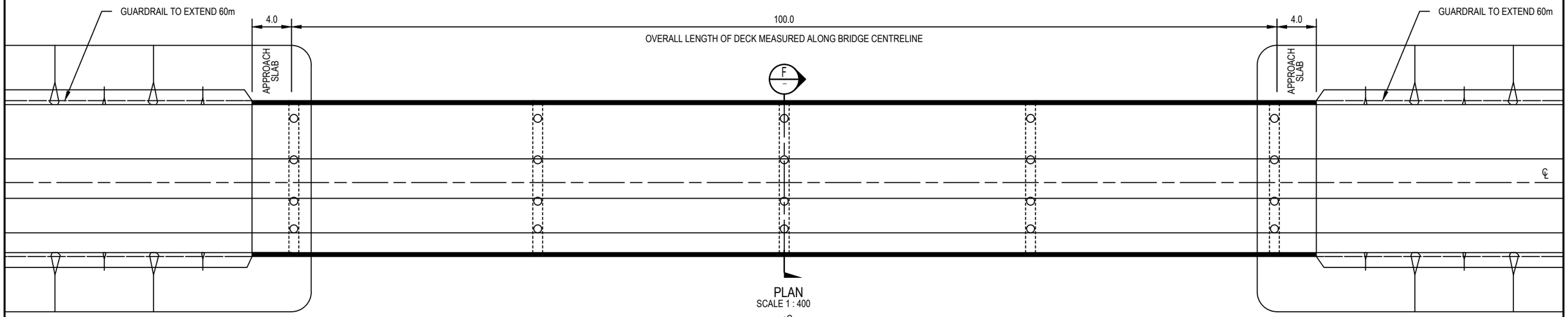
Client: VICTORIAN PLANNING AUTHORITY
Project: BENCH MARK INFRASTRUCTURE COSTING
Title: ITEM 20
SECONDARY ARTERIAL 100m LONG SUPER T BRIDGE
INTERIM

Status: CONCEPT
NOT TO BE USED FOR CONSTRUCTION PURPOSES
Scale: AS SHOWN
Size: A3
Drawing Number: V181544-CI-DG-2032
Revision: 3

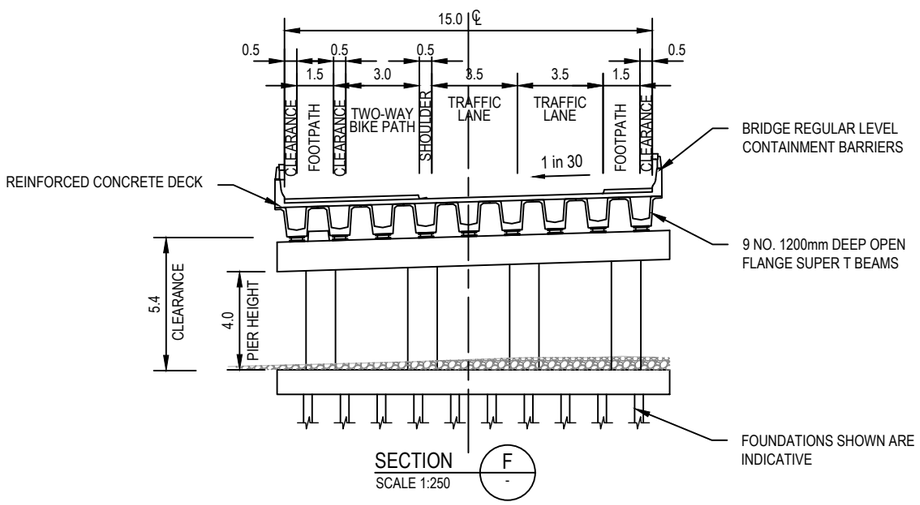
DATE PLOTTED: 17 September 2019 10:18 AM BY: NICK BATRA
XREFs: V170524-CI-DG-2000-2010
CAD File: M:\2018\181501_2000\V181544_VPA_ICP_Program_Implementation\Civil\Drafting\Benchmark Project\V181544-CI-DG-2029-2036.dwg



ELEVATION
SCALE 1 : 400



PLAN
SCALE 1 : 400



SECTION F
SCALE 1:250

0 10 16m
SCALE 1:400 @A3

0 5 10m
SCALE 1:250 @A3

Rev	Date	Description	Des.	Verif.	Appd.
4	4/02/2019	ADDRESS STAKEHOLDER COMMENTS	CM		
3	05/07/2018	ADDRESS VPA COMMENTS	CM		
2	19/03/2018	ADDRESS VPA COMMENTS	VA		
1	14/12/2017	PRELIMINARY ISSUE	VA		

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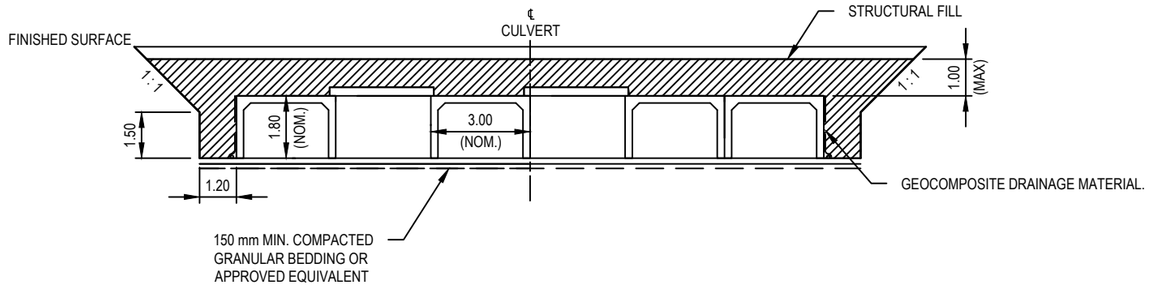
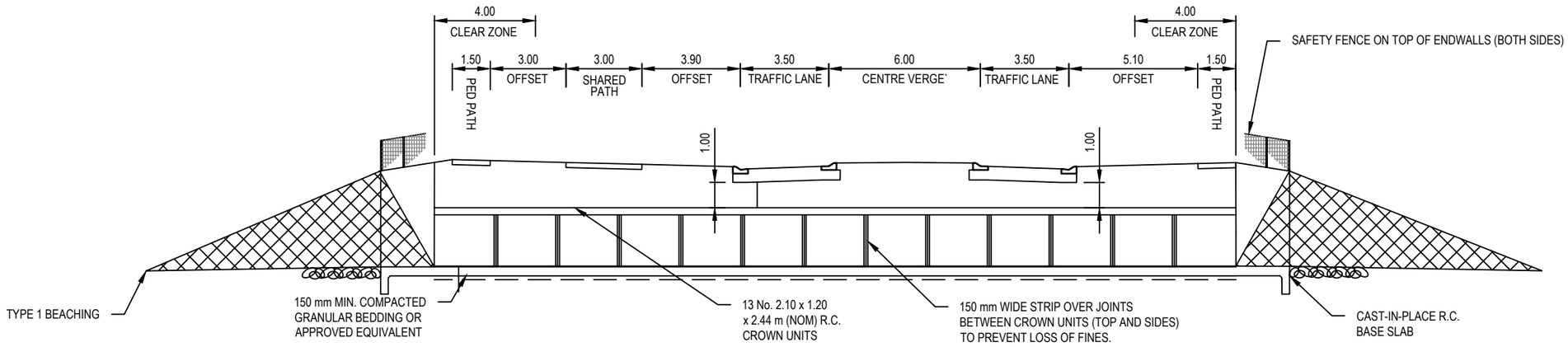
Drawn	NPV	Date 14/12/2017
Checked	MEA	Date 14/12/2017
Designed	RVR	Date
Verified		Date
Approved		Date

Client: VICTORIAN PLANNING AUTHORITY
Project: BENCH MARK INFRASTRUCTURE COSTING
Title: ITEM 22
CONNECTOR 100m LONG SUPER T BRIDGE
INTERIM

Status: CONCEPT
NOT TO BE USED FOR CONSTRUCTION PURPOSES
Scale: AS SHOWN
Size: A3
Drawing Number: V181544-CI-DG-2034
Revision: 4



SECTION ELEVATION
SCALE 1:200



NOTE: REFER TO DRAWING NO.V170524-CI-DG-2003 FOR SECTION DETAILS

SIDE ELEVATION
SCALE 1:200

0 5 8m

SCALE 1:200 @A3

Rev	Date	Description	Des.	Verif.	Appd.
5	28/02/2019	ADDRESS STAKEHOLDER COMMENTS V.2.	CM		
4	4/02/2019	ADDRESS STAKEHOLDER COMMENTS	CM		
3	05/07/2018	ADDRESS VPA COMMENTS	CM		
2	19/03/2018	ADDRESS VPA COMMENTS	VA		
1	14/12/2017	PRELIMINARY ISSUE	RVR		

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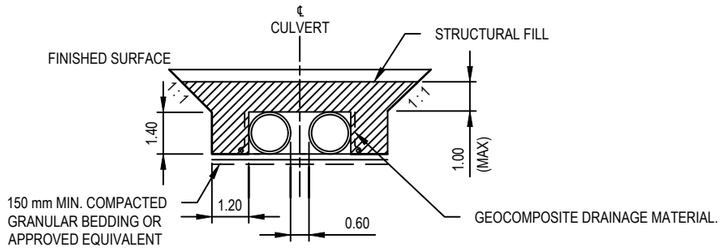
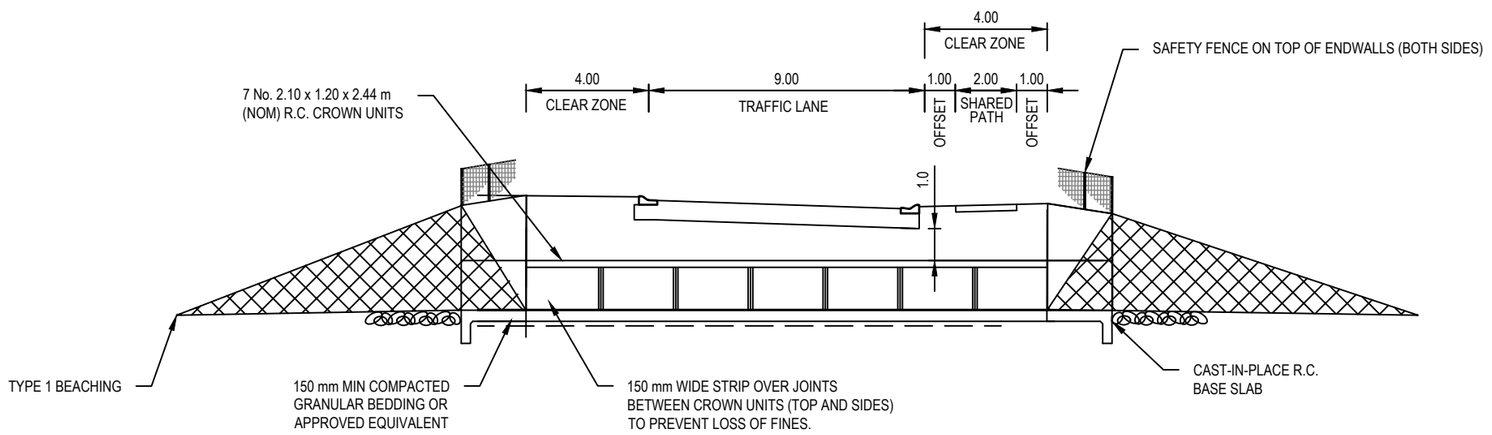
Drawn	NPV	Date 14/12/2017
Checked	MEA	Date 14/12/2017
Designed	RVR	Date
Verified		Date
Approved		Date

Client: VICTORIAN PLANNING AUTHORITY
Project: BENCH MARK INFRASTRUCTURE COSTING
Title: ITEM 28
BOX CULVERT 1800X3000 CONNECTOR BOULEVARD
ULTIMATE

Status: PRELIMINARY
NOT TO BE USED FOR CONSTRUCTION PURPOSES
Scale: 1:200
Size: A3
Drawing Number: V181544-CI-DG-2040
Revision: 5



SECTION ELEVATION
SCALE 1:200



SIDE ELEVATION
SCALE 1:200

NOTE: REFER TO DRAWING NO.V170524-CI-DG-2002 FOR SECTION DETAILS

0 5 8m
SCALE 1:200 @A3

Rev	Date	Description	Des.	Verif.	Appd.
5	28/02/2019	ADDRESS STAKEHOLDER COMMENTS V.2.	CM		
4	4/02/2019	ADDRESS STAKEHOLDER COMMENTS	CM		
3	05/07/2018	ADDRESS VPA COMMENTS	CM		
2	19/03/2018	ADDRESS VPA COMMENTS	VA		
1	14/12/2017	PRELIMINARY ISSUE	RVR		

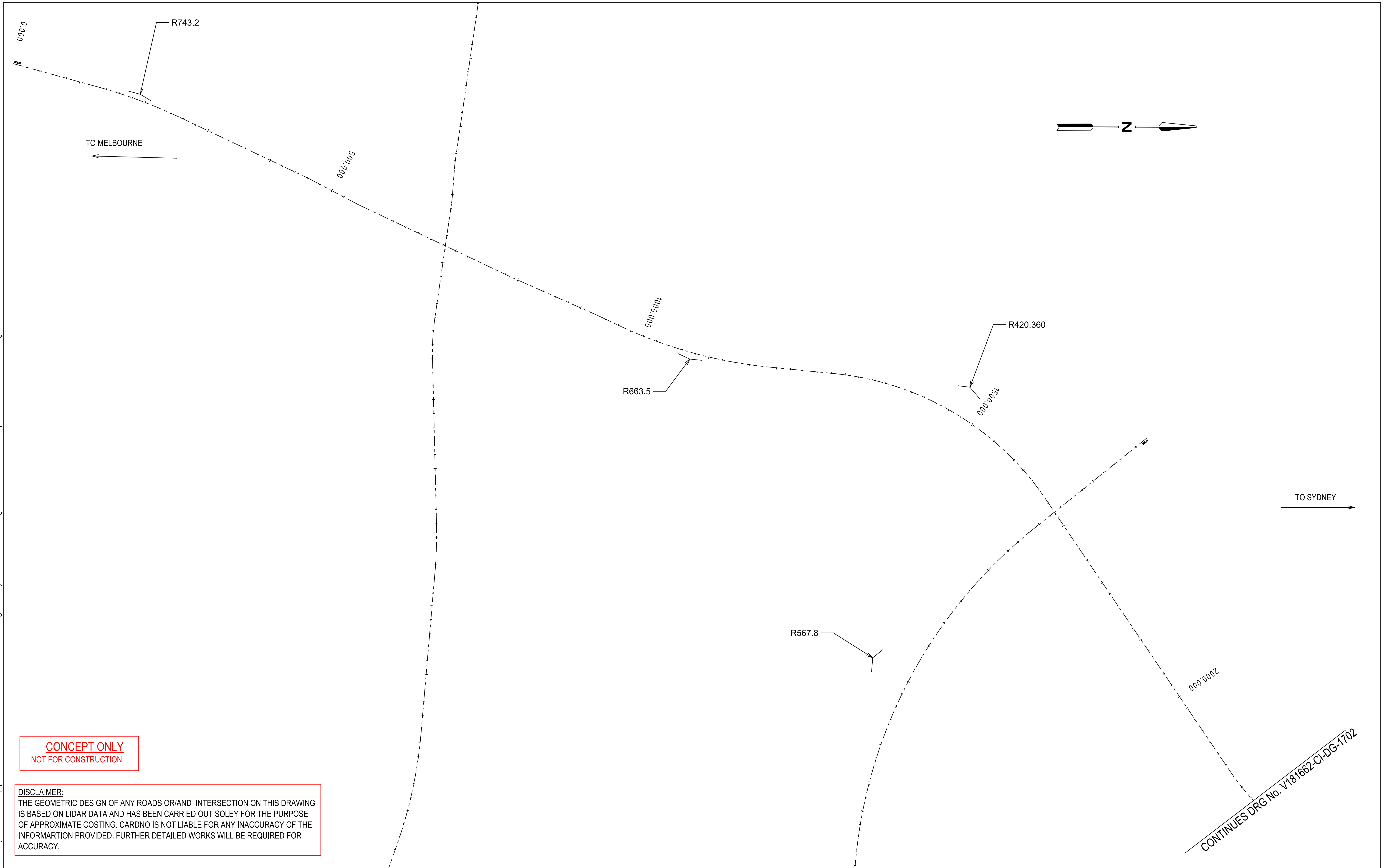
Cardno Shaping the Future
Cardno Victoria Pty Ltd | ABN 47 106 610 913
Level 4, 501 Swanston Street
Melbourne VIC 3000
Tel: 03 8415 7777 Fax: 03 8415 7788
Web: www.cardno.com.au

Drawn	NPV	Date 14/12/2017
Checked	MEA	Date 14/12/2017
Designed	RVR	Date
Verified		Date
Approved		Date

Client: VICTORIAN PLANNING AUTHORITY
Project: BENCH MARK INFRASTRUCTURE COSTING
Title: ITEM 31
RCP 1200DN SECONDARY ARTERIAL
INTERIM

Status: PRELIMINARY
NOT TO BE USED FOR CONSTRUCTION PURPOSES
Scale: 1:200
Size: A3
Drawing Number: V181544-CI-DG-2043
Revision: 5

CAD File: pw://stantec-ap-pw.bentley.com:stantec-ap-pw-01/Documents/Australian Clients/Victorian Planning Authority/304200129 - Beveridge Northwest PSP/01/Transport/V181662-CI-DG-1701.dgn DATE PLOTTED: 13/09/2023 4:07:40 PM BY: _USER_



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Rev	Date	Description	Drawn	Appr.
7	13.09.23	FINAL CONCEPT DESIGN	IM	FA
6	16.02.23	ALIGNMENT 3B REVISION	SB	FA
5	22.04.22	FINAL CONCEPT DESIGN	SB	SP
4	07.03.22	ISSUED FOR INFORMATION	SE	MOK
3	31.10.21	ADDRESSING STAKEHOLDER COMMENTS	SE	PC
2	23.07.19	ADDRESSING STAKEHOLDER COMMENTS	YG	FH
1	02.05.19	ISSUED FOR INFORMATION	NV	EA

0 25 50 100
1:5000 @ A3

WARNING
BEWARE OF UNDERGROUND SERVICES
THE LOCATIONS OF UNDERGROUND SERVICES SHOWN ARE APPROXIMATE ONLY AND THEIR EXACT POSITION SHOULD BE PROVEN ON SITE.

Victorian Planning Authority

Stantec

Drawn: S.ELIAS
Designed: S.BECKHAM
Checked: C.MENDOZA
Authorised: M.O.KHAN

Client: VICTORIAN PLANNING AUTHORITY
Project: BEVERIDGE NORTHWEST PSP
INFRASTRUCTURE DESIGNS AND COSTINGS
Title: CH 0 - CH 2200
RD03 - GEOMETRIC PLAN

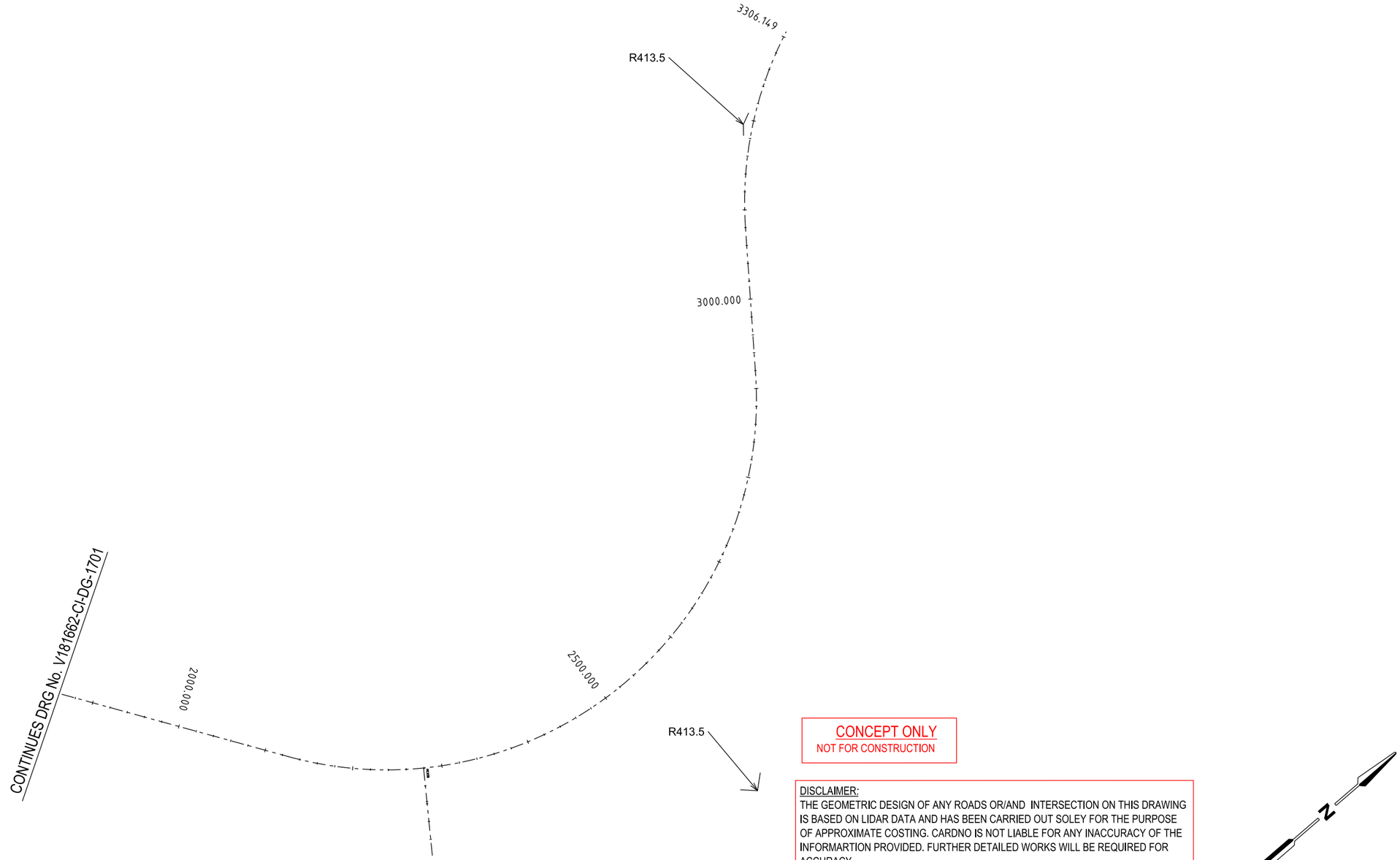
Status: PRELIMINARY
NOT TO BE USED FOR CONSTRUCTION PURPOSES

Date	Scale	Size
13.09.23	1:5000	A3

Drawing Number: V181662-CI-DG-1701
Sheet No.:
Revision: 7

TO MELBOURNE

TO SYDNEY



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N

CAD File: pw://stantec-ap-pw.bentley.com:stantec-ap-pw-01/Documents/Australian Clients/Victorian Planning Authority/304200129 - Beveridge Northwest PSP/01/Transport/V181662-CI-DG-1702.dgn DATE PLOTTED: 13/09/2023 4:07:41 PM BY: _USER_

Rev	Date	Description	Drawn	Appr.
7	13.09.23	FINAL CONCEPT DESIGN	IM	FA
6	16.02.23	ALIGNMENT 3B REVISION	SB	FA
5	22.04.22	FINAL CONCEPT DESIGN	SB	SP
4	07.03.22	ISSUED FOR INFORMATION	SE	MOK
3	31.10.21	ADDRESSING STAKEHOLDER COMMENTS	SE	PC
2	23.07.19	ADDRESSING STAKEHOLDER COMMENTS	YG	FH
1	02.05.19	ISSUED FOR INFORMATION	NV	EA

0 25 50 100
1:5000 @ A3

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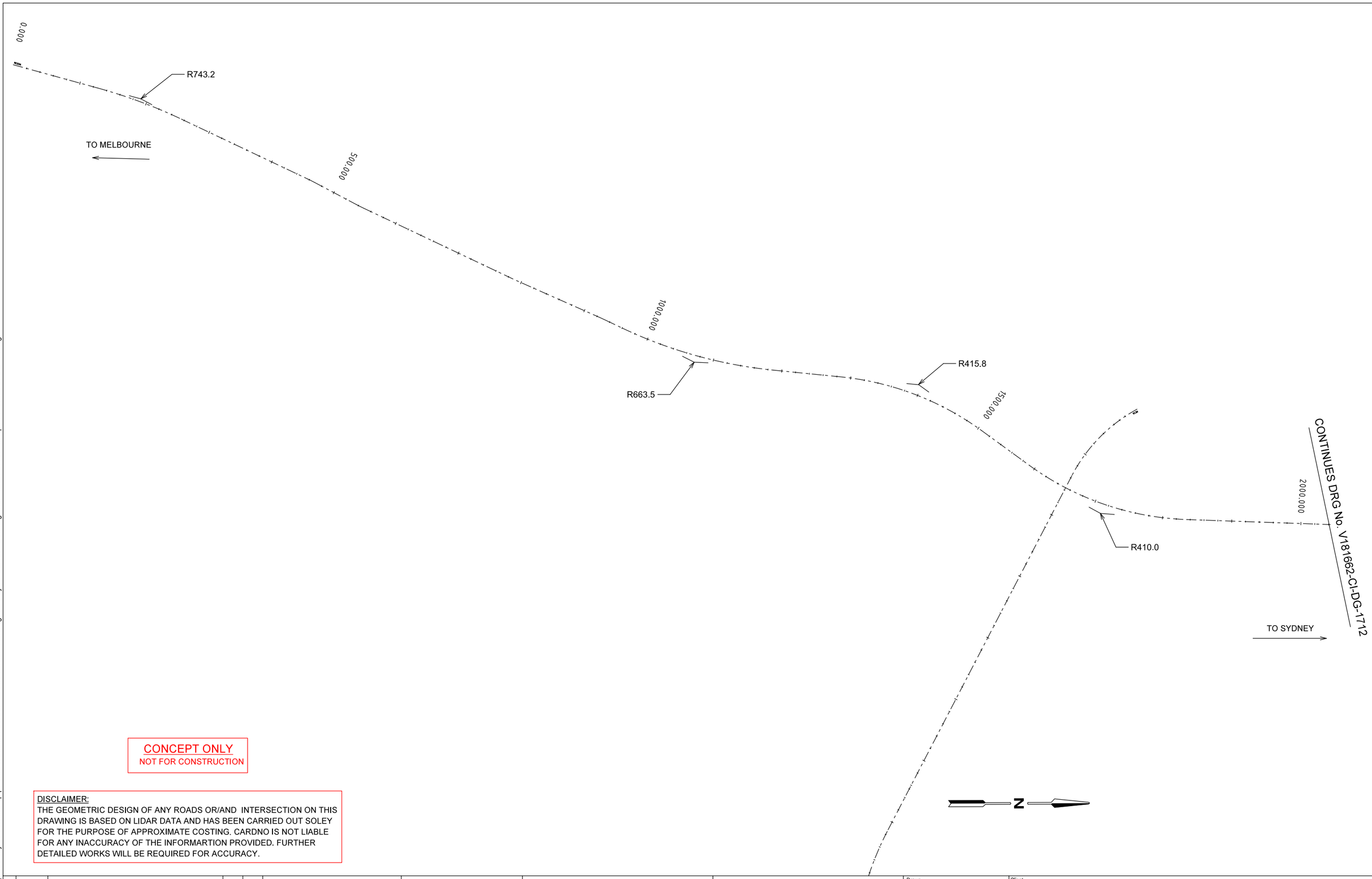
Drawn: S.ELIAS
Designed: S.BECKHAM
Checked: C.MENDOZA
Authorised: M.O.KHAN

Client: VICTORIAN PLANNING AUTHORITY
Project: BEVERIDGE NORTHWEST PSP
INFRASTRUCTURE DESIGNS AND COSTINGS
Title: CH 2200 - CH 4935.714
RD03B - GEOMETRIC PLAN

Status: PRELIMINARY
NOT TO BE USED FOR CONSTRUCTION PURPOSES
Date: 13.09.23
Scale: 1:5000
Size: A3
Drawing Number: V181662-CI-DG-1702
Sheet No.: 7
Revision



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Rev	Date	Description	Drawn	Appr.
3	13.09.23	FINAL CONCEPT DESIGN	IM	FA
2	22.04.22	FINAL CONCEPT DESIGN	SB	SP
1	19.02.22	NEW ALIGNMENT RD03A ADDED	SE	MOK

0 25 50 100
1:5000 @ A3

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Designed	S.BECKHAM
Checked	C.MENDOZA
Authorised	M.O.KHAN

Client: VICTORIAN PLANNING AUTHORITY
Project: BEVERIDGE NORTHWEST PSP
INFRASTRUCTURE DESIGNS AND COSTINGS
Title: CH 0 - CH 2200
RD03 - GEOMETRIC PLAN

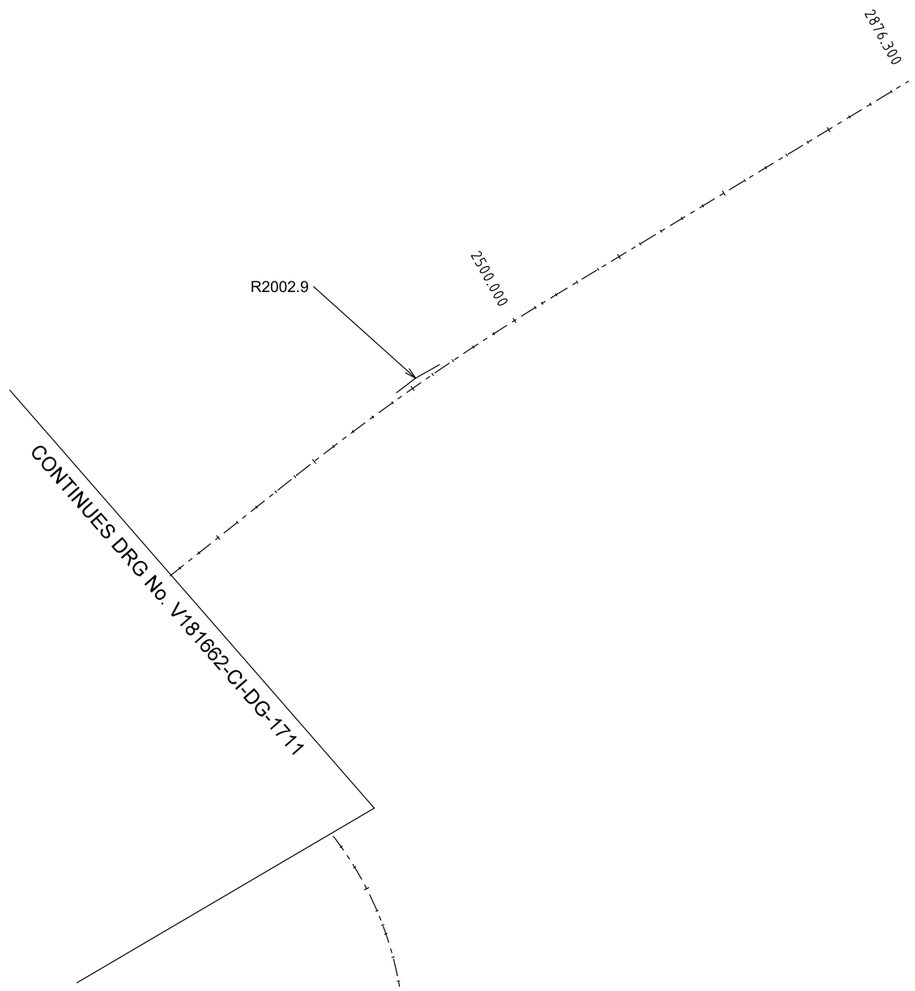
Status: PRELIMINARY
NOT TO BE USED FOR CONSTRUCTION PURPOSES

Date	Scale	Size
13.09.23	1:5000	A3

Drawing Number: V181662-CI-DG-1711
Sheet No.:
Revision: 3

TO MELBOURNE

TO SYDNEY



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N

Rev	Date	Description	Drawn	Appr.
3	13.09.23	FINAL CONCEPT DESIGN	IM	FA
2	22.04.22	FINAL CONCEPT DESIGN	SB	SP
1	19.02.22	NEW ALIGNMENT RD03A ADDED	SE	MOK

0 25 50 100
1:5000 @ A3

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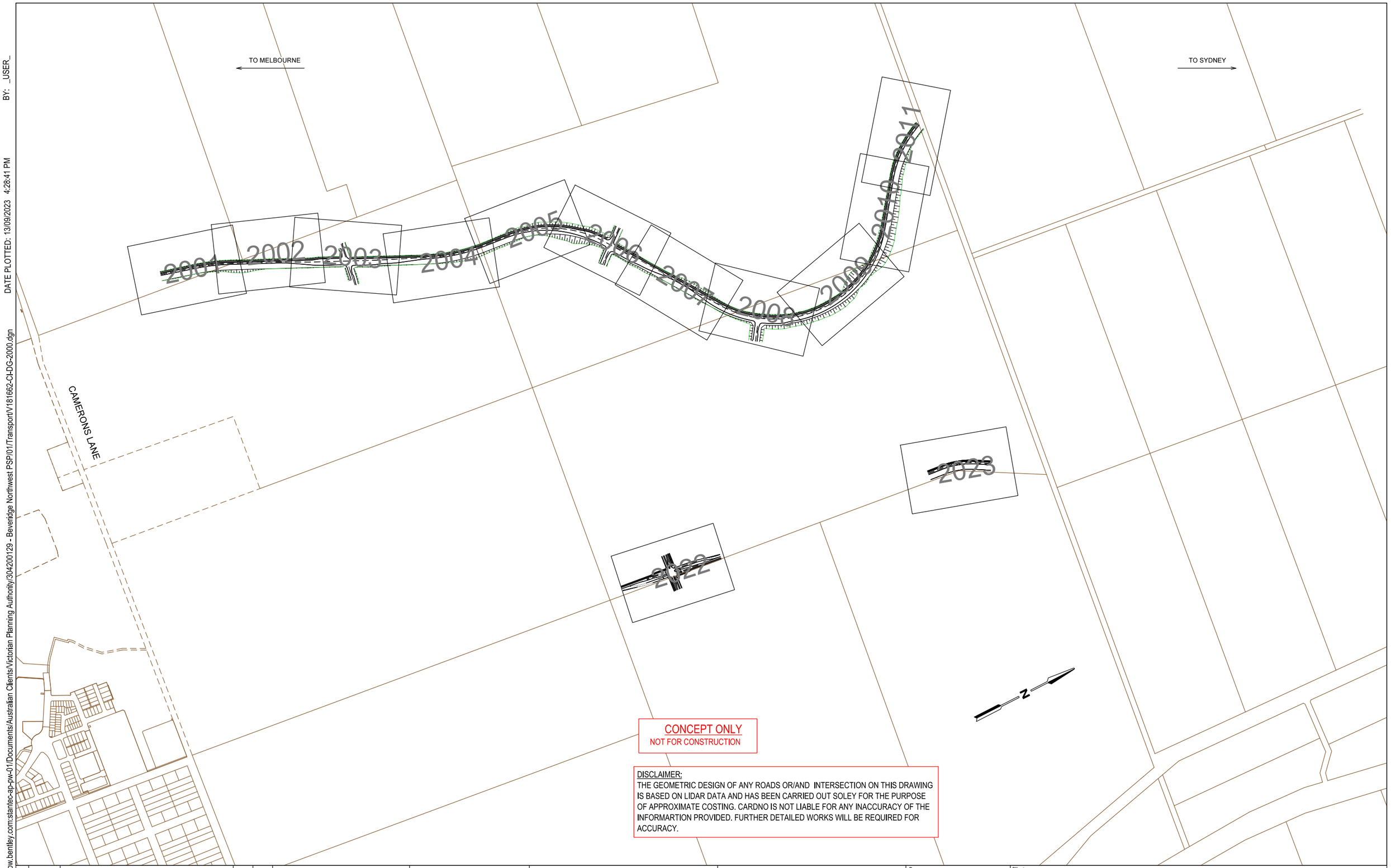
Designed: S.BECKHAM
Checked: C.MENDOZA
Authorised: M.O.KHAN

Client: VICTORIAN PLANNING AUTHORITY
Project: BEVERIDGE NORTHWEST PSP
INFRASTRUCTURE DESIGNS AND COSTINGS
Title: CH 2200 - CH 3378.695
RD03A - GEOMETRIC PLAN

Status: PRELIMINARY
NOT TO BE USED FOR CONSTRUCTION PURPOSES
Date: 13.09.23
Scale: 1:5000
Size: A3
Drawing Number: V181662-CI-DG-1712
Sheet No.: 3
Revision:



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Rev	Date	Description	Drawn	Appr.
7	13.09.23	FINAL CONCEPT DESIGN	IM	FA
6	13.10.22	REMEDIATED ALIGNMENT 3B	SB	DY
5	22.04.22	FINAL CONCEPT DESIGN	SB	SP
4	07.03.22	ISSUED FOR INFORMATION	SE	MOK
3	31.10.21	ADDRESSING STAKEHOLDER COMMENTS	SE	PC
2	23.07.19	ADDRESSING STAKEHOLDER COMMENTS	YG	FH
1	02.05.19	ISSUED FOR INFORMATION	NV	EA

0 62.5 125 252
1:12500 @ A3

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Designed	S.BECKHAM
Checked	C.MENDOZA
Authorised	M.O.KHAN

Client: VICTORIAN PLANNING AUTHORITY
Project: BEVERIDGE NORTHWEST PSP
INFRASTRUCTURE DESIGNS AND COSTINGS
Title: ALIGNMENT KEY PLAN
RD03B & RD04

Status: PRELIMINARY
NOT TO BE USED FOR CONSTRUCTION PURPOSES

Date	Scale	Size
13.09.23	1:2500	A3

Drawing Number: V181662-CI-DG-2000
Sheet No.:
Revision: 7

LEGEND

- EARTHWORKS BATTER
- PAVEMENT MARKING
- KERB/CONCRETE PATH
- NEW ROW BOUNDARY
- EXISTING SURFACE CONTOUR - MINOR
- 40.00 EXISTING SURFACE CONTOUR - MAJOR
- CADASTRAL BOUNDARY
- PREVIOUS ALIGNMENT 3B
- HANNA SWAMP - 50m BUFFER ZONE LINE
- HANNA SWAMP EXTENTS

TO MELBOURNE

TO SYDNEY

LIMIT OF WORKS

INTERSECTION - 04 NORTHERN EXTENT

FOR CONTINUATION - DRG No. V181662-CI-DG-2002

FUTURE ROAD RESERVE

43.9

133.3

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NOTES:

1. PRELIMINARY 3D DESIGN TO IDENTIFY SUITABLE ROAD GEOMETRY AND EARTHWORKS REQUIREMENTS ONLY.
2. DETAILED DESIGN WORK NOT UNDERTAKEN.

Rev	Date	Description	Drawn	Appr.
7	13.09.23	FINAL CONCEPT DESIGN	IM	FA
6	15.11.22	ALIGNMENT 3B REVISION	SB	FA
5	22.04.22	FINAL CONCEPT DESIGN	SB	SP
4	07.03.22	ISSUED FOR INFORMATION	SE	MOK
3	31.10.21	ADDRESSING STAKEHOLDER COMMENTS	SE	PC
2	23.07.19	ADDRESSING STAKEHOLDER COMMENTS	YG	FH
1	02.05.19	ISSUED FOR INFORMATION	NV	EA

0 5 10 20
1:1000 @ A3

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Designed	S.BECKHAM
Checked	C.MENDOZA
Authorised	M.O.KHAN

Client: VICTORIAN PLANNING AUTHORITY
Project: BEVERIDGE NORTHWEST PSP
INFRASTRUCTURE DESIGNS AND COSTINGS
Title: RD03 - CH 0 - CH 250
ALIGNMENT PLAN

Status: PRELIMINARY
NOT TO BE USED FOR CONSTRUCTION PURPOSES

Date	Scale	Size
13.09.23	1:1000	A3

Drawing Number: V181662-CI-DG-2001
Sheet No.: 7
Revision:

TO MELBOURNE

TO SYDNEY

LEGEND

- EARTHWORKS BATTER
- PAVEMENT MARKING
- KERB/CONCRETE PATH
- NEW ROW BOUNDARY
- EXISTING SURFACE CONTOUR - MINOR
- 40.00 EXISTING SURFACE CONTOUR - MAJOR
- CADASTRAL BOUNDARY
- PREVIOUS ALIGNMENT 3B
- HANNA SWAMP - 50m BUFFER ZONE LINE
- HANNA SWAMP EXTENTS

FOR CONTINUATION-DRG No. V181662-CI-DG-2001

FOR CONTINUATION-DRG No. V181662-CI-DG-2003

FUTURE ROAD RESERVE

46.1

35.8

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NOTES:

1. PRELIMINARY 3D DESIGN TO IDENTIFY SUITABLE ROAD GEOMETRY AND EARTHWORKS REQUIREMENTS ONLY.
2. DETAILED DESIGN WORK NOT UNDERTAKEN.

Rev	Date	Description	Drawn	Appr.
7	13.09.23	FINAL CONCEPT DESIGN	IM	FA
6	15.11.22	ALIGNMENT 3B REVISION	SB	FA
5	22.04.22	FINAL CONCEPT DESIGN	SB	SP
4	07.03.22	ISSUED FOR INFORMATION	SE	MOK
3	31.10.21	ADDRESSING STAKEHOLDER COMMENTS	SE	PC
2	23.07.19	ADDRESSING STAKEHOLDER COMMENTS	YG	FH
1	02.05.19	ISSUED FOR INFORMATION	NV	EA

0 5 10 20
1:1000 @ A3

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Victorian Planning Authority

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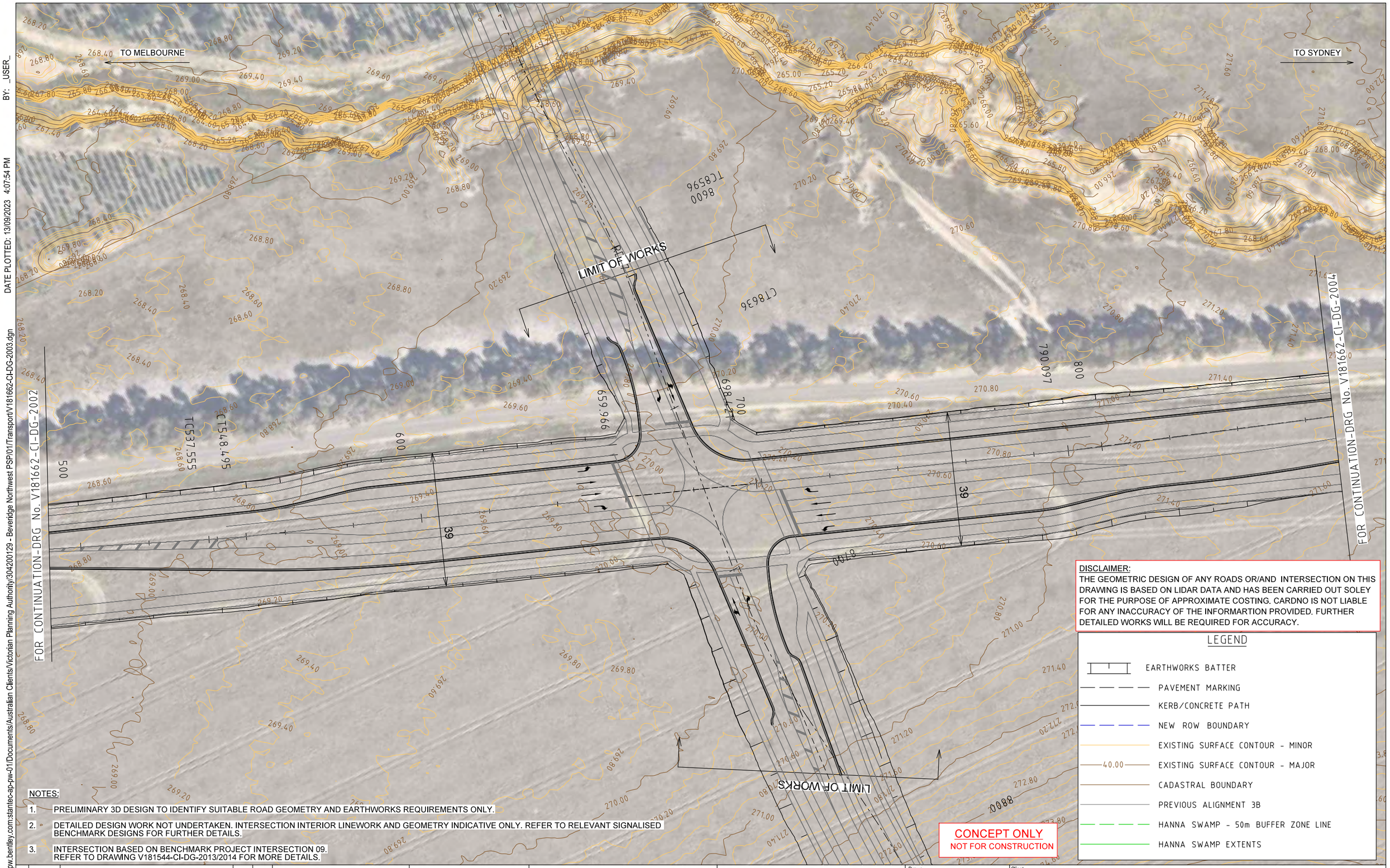
Drawn	S.ELIAS
Designed	S.BECKHAM
Checked	C.MENDOZA
Authorised	M.O.KHAN

Client: VICTORIAN PLANNING AUTHORITY
Project: BEVERIDGE NORTHWEST PSP
INFRASTRUCTURE DESIGNS AND COSTINGS
Title: RD03 - CH 250 - CH 497
ALIGNMENT PLAN

Status: PRELIMINARY
NOT TO BE USED FOR CONSTRUCTION PURPOSES

Date	Scale	Size
13.09.23	0.736111	A3

Drawing Number	Sheet No.	Revision
V181662-CI-DG-2002	23	7



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LEGEND

- EARTHWORKS BATTER
- PAVEMENT MARKING
- KERB/CONCRETE PATH
- NEW ROW BOUNDARY
- EXISTING SURFACE CONTOUR - MINOR
- 40.00 EXISTING SURFACE CONTOUR - MAJOR
- CADASTRAL BOUNDARY
- PREVIOUS ALIGNMENT 3B
- HANNA SWAMP - 50m BUFFER ZONE LINE
- HANNA SWAMP EXTENTS

CONCEPT ONLY
NOT FOR CONSTRUCTION

NOTES:

1. PRELIMINARY 3D DESIGN TO IDENTIFY SUITABLE ROAD GEOMETRY AND EARTHWORKS REQUIREMENTS ONLY.
2. DETAILED DESIGN WORK NOT UNDERTAKEN. INTERSECTION INTERIOR LINEWORK AND GEOMETRY INDICATIVE ONLY. REFER TO RELEVANT SIGNALISED BENCHMARK DESIGNS FOR FURTHER DETAILS.
3. INTERSECTION BASED ON BENCHMARK PROJECT INTERSECTION 09. REFER TO DRAWING V181544-CI-DG-2013/2014 FOR MORE DETAILS.

Rev	Date	Description	Drawn	Appr.
7	13.09.23	FINAL CONCEPT DESIGN	IM	FA
6	15.11.22	ALIGNMENT 3B REVISION	SB	FA
5	22.04.22	FINAL CONCEPT DESIGN	SB	SP
4	07.03.22	ISSUED FOR INFORMATION	SE	MOK
3	31.10.21	ADDRESSING STAKEHOLDER COMMENTS	SE	PC
2	23.07.19	ADDRESSING STAKEHOLDER COMMENTS	YG	FH
1	02.05.19	ISSUED FOR INFORMATION	NV	EA

0 5 10 20
1:1000 @ A3

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Stantec

Drawn	S.ELIAS
Designed	S.BECKHAM
Checked	C.MENDOZA
Authorised	M.O.KHAN

Client: VICTORIAN PLANNING AUTHORITY
Project: BEVERIDGE NORTHWEST PSP
INFRASTRUCTURE DESIGNS AND COSTINGS
Title: INTERSECTION - 05
RD03 - CH 497 - CH 873
ALIGNMENT PLAN

Status: PRELIMINARY
NOT TO BE USED FOR CONSTRUCTION PURPOSES
Date: 13.09.23
Scale: 0.736111
Size: A3
Drawing Number: V181662-CI-DG-2003
Sheet No.: 24
Revision: 7

TO MELBOURNE

TO SYDNEY

FOR CONTINUATION-DRG No. V181662-CI-DG-2003

FOR CONTINUATION-DRG No. V181662-CI-DG-2005

339

46

FUTURE ROAD RESERVE

LEGEND

- EARTHWORKS BATTER
- PAVEMENT MARKING
- KERB/CONCRETE PATH
- NEW ROW BOUNDARY
- EXISTING SURFACE CONTOUR - MINOR
- 40.00 EXISTING SURFACE CONTOUR - MAJOR
- CADASTRAL BOUNDARY
- PREVIOUS ALIGNMENT 3B
- HANNA SWAMP - 50m BUFFER ZONE LINE
- HANNA SWAMP EXTENTS

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NOTES:

1. PRELIMINARY 3D DESIGN TO IDENTIFY SUITABLE ROAD GEOMETRY AND EARTHWORKS REQUIREMENTS ONLY.
2. DETAILED DESIGN WORK NOT UNDERTAKEN.

N

Rev	Date	Description	Drawn	Appr.
7	13.09.23	FINAL CONCEPT DESIGN	IM	FA
6	15.11.22	ALIGNMENT 3B REVISION	SB	FA
5	22.04.22	FINAL CONCEPT DESIGN	SB	SP
4	07.03.22	ISSUED FOR INFORMATION	SE	MOK
3	31.10.21	ADDRESSING STAKEHOLDER COMMENTS	SE	PC
2	23.07.19	ADDRESSING STAKEHOLDER COMMENTS	YG	FH
1	02.05.19	ISSUED FOR INFORMATION	NV	EA

0 5 10 20
1:1000 @ A3

WARNING
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Victorian Planning Authority

Stantec

Drawn	S.ELIAS
Designed	S.BECKHAM
Checked	C.MENDOZA
Authorised	M.O.KHAN

Client: VICTORIAN PLANNING AUTHORITY
Project: BEVERIDGE NORTHWEST PSP
INFRASTRUCTURE DESIGNS AND COSTINGS
Title: RD03 - CH 873 - CH 1205
ALIGNMENT PLAN

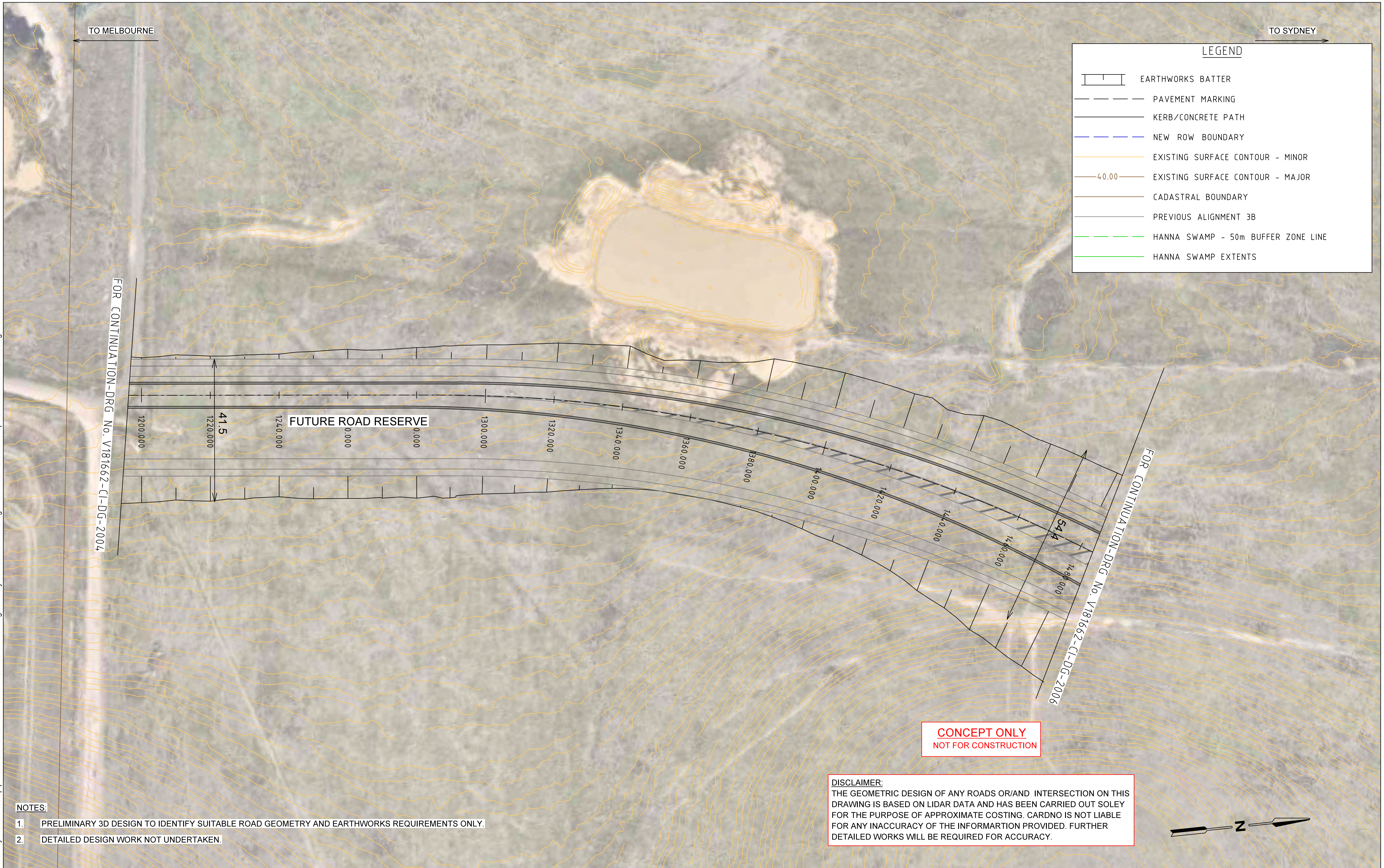
Status: PRELIMINARY
NOT TO BE USED FOR CONSTRUCTION PURPOSES

Date	Scale	Size
13.09.23	0.736111	A3

Drawing Number: V181662-CI-DG-2004
Sheet No.: 25
Revision: 7

CAD File: pw://stantec-ap-pw.bentley.com:stantec-ap-pw-01/Documents/Australian Clients/Victorian Planning Authority/304200129 - Beveridge Northwest PSP/01/Transport/V181662-CI-DG-2004.dgn
DATE PLOTTED: 13/09/2023 4:07:57 PM
BY: _USER_

CAD File: pw://stantec-ap-pw.bentley.com:stantec-ap-pw-01/Documents/Australian Clients/Victorian Planning Authority/304200129 - Beveridge Northwest PSP/01/Transport/V181662-CI-DG-2005.dgn DATE PLOTTED: 13/09/2023 4:07:59 PM BY: _USER_



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NOTES:
1. PRELIMINARY 3D DESIGN TO IDENTIFY SUITABLE ROAD GEOMETRY AND EARTHWORKS REQUIREMENTS ONLY.
2. DETAILED DESIGN WORK NOT UNDERTAKEN.

Rev	Date	Description	Drawn	Appr.
8	13.09.23	FINAL CONCEPT DESIGN	IM	FA
7	16.02.23	ALIGNMENT 3B REVISION	SB	FA
6	15.11.22	ALIGNMENT 3B REVISION	SB	FA
5	22.04.22	FINAL CONCEPT DESIGN	SB	SP
4	07.03.22	ISSUED FOR INFORMATION	SE	MOK
3	31.10.21	ADDRESSING STAKEHOLDER COMMENTS	SE	PC
2	23.07.19	ADDRESSING STAKEHOLDER COMMENTS	YG	FH
1	02.05.19	ISSUED FOR INFORMATION	NV	EA

0 5 10 20
1:1000 @ A3

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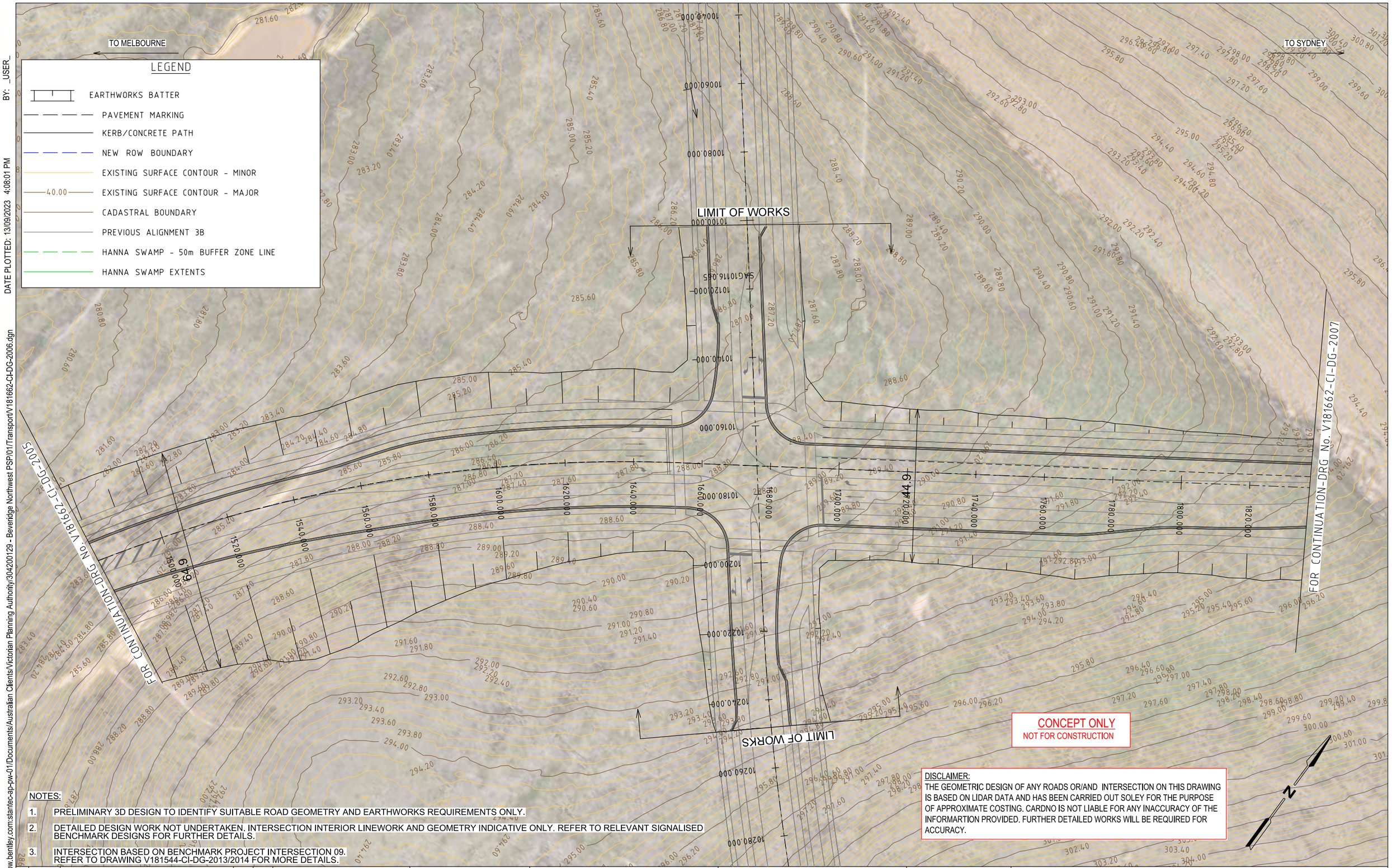
Drawn	S.ELIAS
Designed	S.BECKHAM
Checked	C.MENDOZA
Authorised	M.O.KHAN
Client	VICTORIAN PLANNING AUTHORITY
Project	BEVERIDGE NORTHWEST PSP INFRASTRUCTURE DESIGNS AND COSTINGS
Title	RD03 - CH 1205 - CH 1484 ALIGNMENT PLAN
Status	PRELIMINARY NOT TO BE USED FOR CONSTRUCTION PURPOSES
Date	13.09.23
Scale	0.736111
Size	A3
Drawing Number	V181662-CI-DG-2005
Sheet No.	26
Revision	8



NOTES:

1. PRELIMINARY 3D DESIGN TO IDENTIFY SUITABLE ROAD GEOMETRY AND EARTHWORKS REQUIREMENTS ONLY.
2. DETAILED DESIGN WORK NOT UNDERTAKEN. INTERSECTION INTERIOR LINEWORK AND GEOMETRY INDICATIVE ONLY. REFER TO RELEVANT SIGNALISED BENCHMARK DESIGNS FOR FURTHER DETAILS.
3. INTERSECTION BASED ON BENCHMARK PROJECT INTERSECTION 09. REFER TO DRAWING V181544-CI-DG-2013/2014 FOR MORE DETAILS.

DISCLAIMER:
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Rev	Date	Description	Drawn	Appr.
8	13.09.23	FINAL CONCEPT DESIGN	IM	FA
7	16.02.23	ALIGNMENT 3B REVISION	SB	FA
6	15.11.22	ALIGNMENT 3B REVISION	SB	FA
5	22.04.22	FINAL CONCEPT DESIGN	SB	SP
4	07.03.22	ISSUED FOR INFORMATION	SE	MOK
3	31.10.21	ADDRESSING STAKEHOLDER COMMENTS	SE	PC
2	23.07.19	ADDRESSING STAKEHOLDER COMMENTS	YG	FH
1	02.05.19	ISSUED FOR INFORMATION	NV	EA

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WARNING
BEWARE OF UNDERGROUND SERVICES
THE LOCATIONS OF UNDERGROUND SERVICES SHOWN ARE APPROXIMATE ONLY AND THEIR EXACT POSITION SHOULD BE PROVEN ON SITE.

Victorian Planning Authority

Stantec

Drawn	S.ELIAS
Designed	S.BECKHAM
Checked	C.MENDOZA
Authorised	M.O.KHAN

Client: VICTORIAN PLANNING AUTHORITY
Project: BEVERIDGE NORTHWEST PSP
INFRASTRUCTURE DESIGNS AND COSTINGS
Title: INTERSECTION - 06B
RD03B - CH 1484 - CH 1860
ALIGNMENT PLAN

Status: PRELIMINARY
NOT TO BE USED FOR CONSTRUCTION PURPOSES

Date	Scale	Size
13.09.23	0.736111	A3

Drawing Number: V181662-CI-DG-2006
Sheet No.: 27
Revision: 8

CAD File: pw://stantec-ap-pw.bentley.com:stantec-ap-pw-01/Documents/Australian Clients/Victorian Planning Authority/304200129 - Beveridge Northwest PSP/01/Transport/V181662-CI-DG-2006.dgn
DATE PLOTTED: 13/09/2023 4:08:01 PM
BY: _USER_

TO MELBOURNE

TO SYDNEY

N

FOR CONTINUATION-DRG No. V181662-CI-DG-2006

FOR CONTINUATION-DRG No. V181662-CI-DG-2008

137

FUTURE ROAD RESERVE

1840.000 1860.000 1880.000 1900.000 1920.000 1940.000 1960.000 1980.000 2000.000 2020.000 2040.000 2060.000 2080.000

LEGEND

- EARTHWORKS BATTER
- PAVEMENT MARKING
- KERB/CONCRETE PATH
- NEW ROW BOUNDARY
- EXISTING SURFACE CONTOUR - MINOR
- 40.00 EXISTING SURFACE CONTOUR - MAJOR
- CADASTRAL BOUNDARY
- PREVIOUS ALIGNMENT 3B
- HANNA SWAMP - 50m BUFFER ZONE LINE
- HANNA SWAMP EXTENTS

CONCEPT ONLY
NOT FOR CONSTRUCTION

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NOTES:

1. PRELIMINARY 3D DESIGN TO IDENTIFY SUITABLE ROAD GEOMETRY AND EARTHWORKS REQUIREMENTS ONLY.
2. DETAILED DESIGN WORK NOT UNDERTAKEN.

Rev	Date	Description	Drawn	Appr.
9	13.09.23	FINAL CONCEPT DESIGN	IM	FA
8	28.03.23	IN-07 REVISION	SB	FA
7	16.02.23	ALIGNMENT 3B REVISION	SB	FA
6	15.11.22	ALIGNMENT 3B REVISION	SB	FA
5	22.04.22	FINAL CONCEPT DESIGN	SB	SP
4	07.03.22	ISSUED FOR INFORMATION	SE	MOK
3	31.10.21	ADDRESSING STAKEHOLDER COMMENTS	SE	PC
2	23.07.19	ADDRESSING STAKEHOLDER COMMENTS	YG	FH
1	02.05.19	ISSUED FOR INFORMATION	NV	EA

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Victorian Planning Authority

Stantec

Drawn	S.ELIAS
Designed	S.BECKHAM
Checked	C.MENDOZA
Authorised	M.O.KHAN

Client: VICTORIAN PLANNING AUTHORITY
Project: BEVERIDGE NORTHWEST PSP
INFRASTRUCTURE DESIGNS AND COSTINGS
Title: RD03B - CH 1860 - CH 2110
ALIGNMENT PLAN

Status: PRELIMINARY
NOT TO BE USED FOR CONSTRUCTION PURPOSES

Date	Scale	Size
13.09.23	0.736111	A3

Drawing Number: V181662-CI-DG-2007
Sheet No.: 28
Revision: 9

TO MELBOURNE

TO SYDNEY

LEGEND

- EARTHWORKS BATTER
- PAVEMENT MARKING
- KERB/CONCRETE PATH
- NEW ROW BOUNDARY
- EXISTING SURFACE CONTOUR - MINOR
- 40.00 EXISTING SURFACE CONTOUR - MAJOR
- CADASTRAL BOUNDARY
- PREVIOUS ALIGNMENT 3B
- HANNA SWAMP - 50m BUFFER ZONE LINE
- HANNA SWAMP EXTENTS

FOR CONTINUATION-DRG No. V181662-CI-DG-2007

FOR CONTINUATION-DRG No. V181662-CI-DG-2009

MC05B

36.5

48.9

LIMIT OF WORKS

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NOTES:

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3. INTERSECTION BASED ON BENCHMARK PROJECT INTERSECTION 09. REFER TO DRAWING V181544-CI-DG-2025/2026 FOR MORE DETAILS.

Rev	Date	Description	Drawn	Appr.
10	13.09.23	FINAL CONCEPT DESIGN	IM	FA
9	28.03.23	IN-07 REVISION	SB	FA
8	16.02.23	ALIGNMENT 3B REVISION	SB	FA
7	15.11.22	ALIGNMENT 3B REVISION	SB	FA
6	22.04.22	FINAL CONCEPT DESIGN	SB	SP
5	07.03.22	ISSUED FOR INFORMATION	SE	MOK
4	31.10.21	ADDRESSING STAKEHOLDER COMMENTS	SE	PC
3	25.07.19	ADJUSTING EARTHWORKS GRADE	VA	FH
2	23.07.19	ADDRESSING STAKEHOLDER COMMENTS	YG	FH
1	02.05.19	ISSUED FOR INFORMATION	NV	EA

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1:1000 @ A3

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Victorian Planning Authority

Stantec

Drawn: S.ELIAS
Designed: S.BECKHAM
Checked: C.MENDOZA
Authorised: M.O.KHAN

Client: VICTORIAN PLANNING AUTHORITY
Project: BEVERIDGE NORTHWEST PSP
INFRASTRUCTURE DESIGNS AND COSTINGS
Title: INTERSECTION - 07B
RD03B - CH 2110 - CH 2500
ALIGNMENT PLAN

Status: PRELIMINARY
NOT TO BE USED FOR CONSTRUCTION PURPOSES
Date: 13.09.23
Scale: 0.736111
Size: A3
Drawing Number: V181662-CI-DG-2008
Sheet No.: 29
Revision: 10