



Date: Wednesday, 11 November 2020

To: Mr Josh Sondergeld, Stockland Development Pty Ltd

From: Mr Andrew McPhail, Calibre Professional Services Pty Ltd

Pages: 7

Ref: 17-000934.3015TM02.AM.rl

Subject: AURA Precinct 11 to 14 – Additional Engineering Information

Calibre Professional Services has been engaged by Stockland Development Pty Ltd to provide engineering support for the submission of the Development Application over the subject site known as Aura Precincts 11 (Part), 12 (Part), 13 (Part), and 14 (DEV2018/987). The PDA Development Application is for a Development Permit for Reconfiguring a Lot, Material Change of Use and Operational Works (Advertising Devices) in accordance with a Plan of Development and Context Plan at 167 Bells Creek Road, Bells Creek. Previously Calibre has issued the Engineering Services Report 17-000934.3015ESR01 dated 28 July 2020.

This Technical Memorandum is to provide additional information following the EDQ Engineering Comments dated October 2020 and subsequent layout change.

ROL Sheet 02 Item 1.

The former "innovation precinct" is now a precinct of terrace homes. EDQ does not support the laneways coming out onto the external Trunk Connector roads to the west and south. This precinct should be redesigned so that access to the laneways is gained from the adjacent Neighbourhood Connector Roads. Swept paths for an RCV are to be provided so as to demonstrate that appropriate access is available through the terrace precinct for the design vehicle.

Response

Following the EDQ Engineering Comments the layout in this precinct has been revised. There are no longer laneway connections to the west or south.

Calibre has prepared swept path movement sketches indicating trafficability in this area suitable for an RCV. The sketch plan **17-000934.3015-SK2010** demonstrates:

- The laneway reserve (minimum width 8m) configuration and 5.5m carriageway width are sufficient to enable direct frontage refuse collection for each lot,
- A 12.5m refuse collection vehicle can negotiate the laneway network in the forward gear,
- widening of the laneway carriageway maybe be required at some significant bends in the rear access lanes, subject to detailed design.
- Some vehicular crossovers from adjacent road network may need to be widened, subject to detailed design.
- Bin Pads are located near lots where refuse collection is restricted.

As per the POD all rear loaded Terrace Lots have a 0.5m setback beyond the 8m road reserve, effectively creating a wider verge of 1.0 and 2.5m. Therefore, garbage bins can be located beyond the carriageway.

These details are also relevant to other swept path movement sketch plans and laneway discussions presented in this package.

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ROL Sheet 02 Item 3.

Reduced road reserves and carparking bays are proposed along the west boundary of Aura Brook in Stage 1141. Please provide cross sections to identify any level differences or retaining structures to demonstrate appropriate access to parked vehicles

Response

Calibre Sketch plan **17-000934.3015-SK2001** provides concept details of the interface between Aura Brook and the adjacent carparking bays at Stage 1141. Details indicate there is a verge around the edge of the carparking bays before sloping down into Aura Brook channel. During the detailed design phase further details will be provided to ensure safe access is provided to the carparking bays.

ROL Sheet 02 Item 10.

Alignment of intersection of laneway entrance and 17.5m road in Stage 1133 needs to be reviewed

Response

A layout change has been undertaken and the laneway has been removed near the intersection between the Neighbourhood Connector Street and Access Street. Calibre Sketch plan **17-000934.3015-SK2010** indicates the updated layout.

ROL Sheet 04 Item 1.

Stage 1447 features a number of 4 way intersections between laneways and streets that are considered undesirable. A traffic engineer needs to provide a statement of compliance with accepted current road design standards

Response

Stage 1447 does have several so called “4 way intersections” between laneways and streets. The layout proposed is considered consistent with EDQ PDA Guideline No. 06 (dated Feb 2019) “Street and Movement network” Figure 2, reproduced on the next page, which also has “4 way intersections” between laneways and streets.

These laneways in Stage 1447 have:

- Good sight distance with parking bays restricted adjacent to laneway entrance
- Laneway alignments are perpendicular to the higher order Road, as per Figure 2 EDQ PDA Guideline No. 06.
- Laneway connections to a roadway is considered more like a driveway than an intersection and is located a lot depth away from the adjoining road intersection, as per Figure 2 EDQ PDA Guideline No. 06.

Calibre Sketch plan **17-000934.3015-SK2002** demonstrates the driveway nature of the laneway entrances. The sketch plan demonstrates:

- Delineation of the higher order road with continuation of the kerb alignment and vehicle crossing
- Delineation of the higher order road with different surfacing texture and colour
- The cross section indicates the changes in elevation
- As such there is great clarity regarding the higher order roadway and priorities between turning movements.

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Figure 2 Neighbourhood street network diagram



Calibre Sketch plan **17-000934.3015-SK2012** provides details on another so called “4 way intersections” between laneway and streets in Stage 1443. This Laneway entrance is designed to demonstrate:

- Delineation of the higher order road with continuation of the kerb alignment and vehicle crossing
- Delineation of the higher order road with different surfacing texture and colour
- The cross section indicates the changes in elevation
- Good sight distances with no parking bays immediately adjacent
- Refuge Collection Vehicle can enter via left hand turn without entering other traffic lanes.
- The Laneway entrance, or fourth leg of the intersection, is more like a driveway than an additional road in the intersection
- As such there is great clarity for pedestrian and vehicular traffic regarding the higher order roadway and priorities between turning movements.

The laneway is estimated to have a traffic volume of about 150 vehicles per day connects to a road with traffic volume of has less than 1000 vehicles per day. For a Neighbourhood Lane EDQ PDA Guideline No. 06 indicates a maximum 500 vehicles per day. This laneway has significantly lower traffic volume.

All laneways are designed to have a low speed environment, as per Sunshine Coast Planning Scheme Schedule SC6.17 the design speed is 20km/hr. A low speed environment reduces stopping distance and improves viewing time as approaching the higher order road.

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Therefore, at this development approval phase it is determined that the layout presented is suitable for safe and effective movements. Details will be refined as required at detailed design phase.

ROL Sheet 4 Item 5

Provide swept paths for design vehicles to navigate network of pathways/ acute angles etc

Response

Calibre Sketch plan **17-000934.3015-SK2002** which shows the swept paths movements for the most acute laneway scenario. As indicated later in this technical memo sketch plans have been prepared demonstrating manoeuvrability can be provided in the most constrained laneway route and therefore suitable throughout the Precinct 11 to 14 area. Refer to Calibre Sketch Plan **17-000934.3015-SK2009, SK2010, SK2011, SK2012 and SK2013**. See also responses above concerning vehicle swept path movements.

ROL Sheet 05 Item 6.

It is noted that sub precincts 6.4 and 6.5 are serviced by only two access points. Please confirm that two access points is suitable with regard to the number of lots in these precincts. Further, all "traffic catchments" are to be reviewed with regard to the above issue

Response

Calibre Sketch plan **17-000934.3015-SK2003** demonstrating the vehicular catchment to each access point (Precinct 6.4 and Precinct 6.5). The total lots in these precincts is 216 lots. The likely catchment to the eastern access point is 111 lots or approximately 850 vehicles per day. This is significantly lower than the EDQ PDA Guideline No. 06 maximum vehicles per day (<3000) for a Neighbourhood access street.

ROL Sheet 06 Item 1.

Laneways in Stages 1430 and 1431 feature 90 degree turns and other various horizontal geometry (as do many other terrace product precincts throughout the other Stages). Swept paths for an RCV for all laneways should be provided to demonstrate manoeuvrability for the design vehicle (RCV) to all terrace housing precincts

Response

As per the Engineering Services Report July 2020 Report No. 17-000934.3015ESR.AM.rl Issue F turning paths on selective routes as examples were investigated. Sweep paths were prepared for a refuse collection vehicle assumed as a 12.5m Heavy Rigid Vehicle (HRV). "Figure 13: - Rear access lane layout and refuse collection paths Precinct 14 North of Aura Brook" (reproduced as **17-000934.3015-SK2002**) and "Figure 14: - Rear access lane layout and refuse collection paths Precinct 14 West of upstream end of Aura Brook" (reproduced as **17-000934.3015-SK2013**) indicated two rear access lane layouts with sweep paths superimposed. These rear access lanes are within Precinct 14. These figures indicate:

- The laneway reserve configuration and width are sufficient to enable direct frontage refuse collection for each lot,
- A refuse collection vehicle can negotiate the road network in the forward gear,
- widening of carriageway maybe be required at some significant bends in the rear access lanes – in particular 90 degree bends, and
- Some vehicular crossovers from adjacent road network may need to be widened.

These matters will be further refined as the detailed design is completed.

For Stage 1431 we have not prepared the swept path movements but have prepared Sketch Plan **17-000934.3015-SK2013** for Stage 1430 as this lane way route has tighter bends and considered more critical.

This demonstrates manoeuvrability can be provided in these laneways.

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ROL Sheet 07 Item 1 and Sheet 08 Item 2.

Traffic calming devices and/ or intersection priority to be established on long stretches of road to control vehicle speed in accordance with LGIA/ Austroads

Response

Urbis Overall ROL layout Plan has been revised to incorporate a traffic calming device. Refer to Calibre Sketch Plan **17-000934.3015-SK2006** for an example traffic calming device.

ROL Sheet 07 Item 2. Provide preliminary design of roundabout in Stage 1433 to demonstrate compliance with relevant standards in relation to vehicle deflection, provision of pedestrian and cyclist infrastructure, and accessibility for RCV and busses

Response

Design review of the roundabout has been undertaken and the Urbis Overall Layout Plan road reserve widths has been changed to achieve suitable verge widths. Refer to Calibre Sketch Plan **17-000934.3015-SK2005** for the preliminary design roundabout layout.

ROL Sheet 08 Item 3.

Proposed turn movements to all intersections with Trunk Connector C are to be confirmed so that accessibility to neighbourhoods can be better understood

Response

Calibre Sketch Plan **17-000934.3015-SK2008** addresses turning movements on the Trunk Connector C roadway. For some turning movements the RCV path encroaches into the opposite lane. This is to be reviewed at detailed design and to address all constraints associated with intersection, such as cycle and pedestrian movements. There is sufficient road reserve to address all these matters.

ROL Sheet 9 Item 1.

District Recreation Parks (Stages 1456 and 1457) including provision for turn lanes/ deceleration lanes etc

Response

PWC Reporting and subsequent Sidra modelling does not identify the need for turn lanes or deceleration lanes at intersection 94, Calibre Concept Design Plan **17-000934.3015-DA654**, issued with the Engineering Services Report 17-000934.3015ESR01. If required, future carparks for the district recreation parks may provide specific turn lanes, however this will be subject to detailed design of the park and adjacent road network. The carparking areas may not be connected to the trunk Connector Road. The current plans show two (2) indented bus stops adjacent to the District Recreation Park.

ROL Sheet 10 Item 4.

Provide swept paths for RCV to laneway servicing terrace lots 8401-8414 to demonstrate appropriate access for design vehicle (general comment for ALL laneway precincts)

Response

As per the Engineering Services Report July 2020 Report No. 17-000934.3015ESR.AM.r1 Issue F turning paths on selective routes as examples were investigated. Sweep paths were prepared for a refuse collection vehicle assumed as a 12.5m Heavy Rigid Vehicle (HRV). These figures indicate:

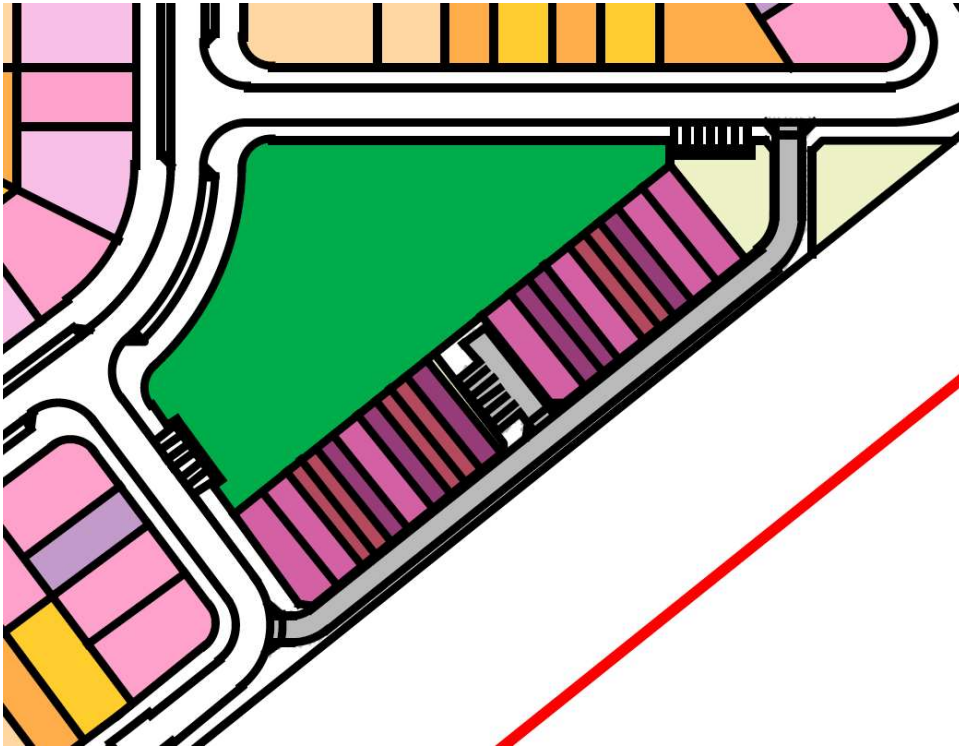
- The laneway reserve configuration and width are sufficient to enable direct frontage refuse collection for each lot,
- A refuse collection vehicle can negotiate the road network in the forward gear,
- widening of carriageway maybe be required at some significant bends in the rear access lanes – in particular 90 degree bends, and
- Some vehicular crossovers from adjacent road network may need to be widened.

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These matters will be further refined as the detailed design is completed.

For Terrace Lots 8401 to 8414 we have not prepared the specific swept path movements for this laneway. The layout has changed in the vicinity of these lots (refer to image below) and other laneway routes with tighter bends have been presented in this submission, refer to Calibre Sketch Plan **17-000934.3015-SK2002, SK2009, SK2010, SK2011, SK2012 and SK2013**. These sketch plans demonstrate manoeuvrability can be provided in the most constrained laneway route and therefore suitable throughout the Precinct 11 to 14 area.



We trust that this information is acceptable to demonstrate that the ROL layout has addressed these matters raised on the EDQ Engineering Comments.

Aura Brook and Banya Ave pedestrian connections

During discussions with EDQ Officers detailed were requested concerning pedestrian connections between Aura Brook and Banya Avenue. Overall connectivity plans for Precinct 11 to 14 have been prepared by Urbis. Calibre have prepared a more detailed plans indicating the concept design of paths along the lower portion of Aura Brook. Refer to Calibre Sketch Plan **17-000934.3015-SK2015 and SK2001**.

Intersection Spacing along Neighbourhood Connector Streets

During discussions with EDQ Officers intersection spacing along Neighbourhood Connector Streets was raised. For all roads with movements less than 3000 vehicles per day we have adopted the Sunshine Coast Planning Scheme. The 60/40m rule for intersection spacing has been applied for neighbourhood and local streets. Refer to the extract from

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Planning Scheme Schedule SC6.17 Table SC6.17B.

Criteria		Arterial Roads			Sub-arterial Roads			District Streets		Neighbourhood Streets		Local Streets				
		Highway / Motorway	Arterial Road	Arterial Main Street	Distributor	Controlled Distributor	Sub-Arterial Main Street	District Collector Street	District Main Street	Neighbourhood Collector Street	Mixed Use Collector Street	Access Street	Mixed Use Access Street	Access Place	Access Laneway	
Median		●	●	desirable	●	desirable	desirable	localised where required, if not entire street								
May intersect with usually a corridor one classification higher or lower. Other intersections only where there is no alternative, subject to other design requirements.	access laneway											●	●	●		
	access street							○	○	●	●	●	●	●	●	
	neighbourhood collector					○	○	●	●	●	●	●	●	●	●	
	mixed use collector					○	○	●	●	●	●	●	●	●	●	
	district collector				●	●	●	●	●	●	●	●	●			
	sub-arterials		●	●	●	●	●	●	●	●	●					
	arterials	●		●	●	●	●	●	●	●	●					
	highways		●													
Minimum intersection spacing (metres) + 150 if constrained by existing development * same side, # opposite side		1.5-2km	0.5-1km	>150	300	300+	150	100* 80# 100 if median	100	60* 40#	60	60* 40#	40	40	40	
Stopping distance (metres)		Austroads guidelines									42	30	20	20	20	10
General minimum sight distance (metres)		Austroads guidelines									84	60	40	40	40	20
Street leg length (metres)	Desirable			150		150	100	150	100	100	100	75	75	75		
	Maximum			180		180	155	180	120	≤140	120	75	75	75		
End conditions (km/h)								≤25		≤25						
Desirable maximum grade (%)		specific consideration	5	5	8	8	8	8	8	12	6	12	6	12	12	
Absolute maximum grade (%) + up to 20% for ≤100m over the entire street, if constrained and limited heavy vehicle use		6	7	10	10	10	10	12 (10 if >5,000vpd)	12 (10 if >5,000vpd)	15 (12 if rear lane access)	12	15+	12	15+	15+	
Freight route		primary (except through populated areas)	yes	yes	yes	selected routes		restricted access		no	restricted access	no				
Dangerous goods route			restricted access		restricted access			restricted access		no	restricted access	no				
Longitudinal drainage	kerb & channel			●		●	●	●	●	●	●	●	●	●	●	
	swale	●	●		●			●								
Street lighting		Refer AS1158.3.1: 2005														

Note ○ Optional at discretion of Council.

Note—DTMR current guidelines or standards apply to planning and design of State-controlled roads.

Note—DTMR approval is required where any additional access is sought or existing access is modified to a State-controlled road.

Sunshine Coast Planning Scheme 2014

Amended 3 August 2015

Page SC6-597

Schedule 6

Narrower intersection spacings, in some locations, for Laneways entrances (vehicle crossings) are discussed earlier in this technical memo.

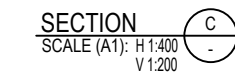
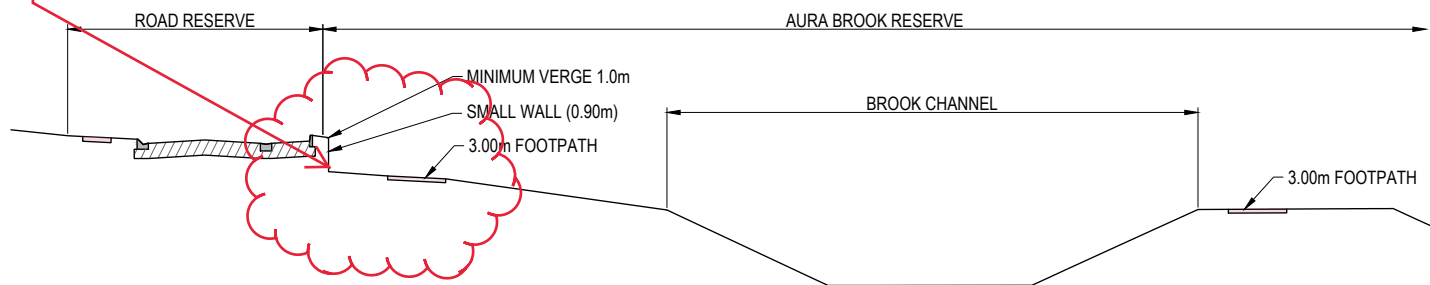
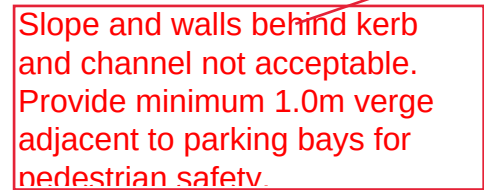
If you have any queries regarding these investigations, please do not hesitate to contact Mark Wyer or the undersigned.

Yours sincerely

Calibre Professional Services Pty Ltd

Andrew McPhail
Principal Engineer

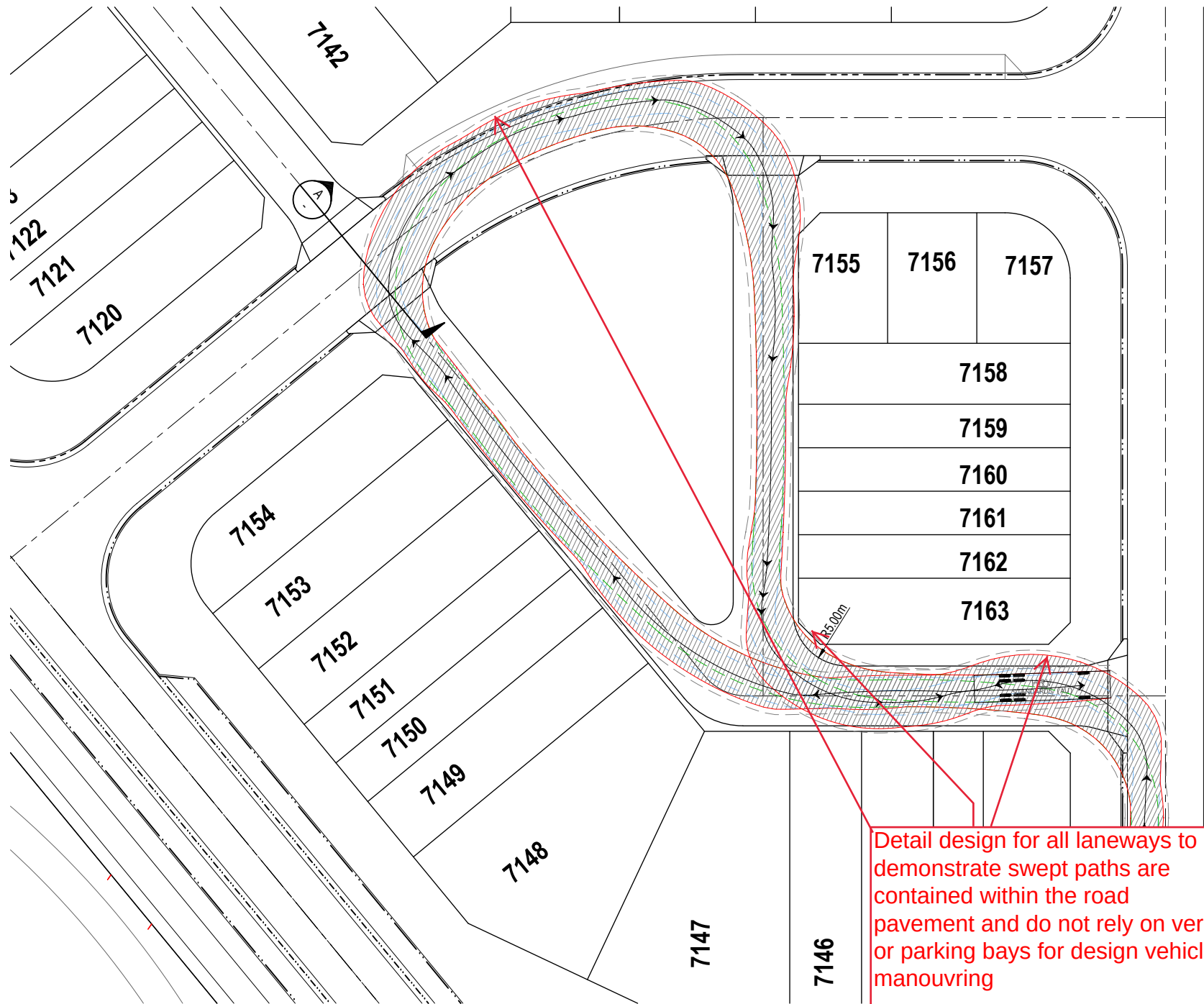
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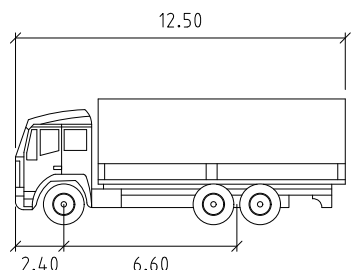
- FLOOD MODELLING PRESENTED IN CALIBRE REPORT 18-000340_FIR.01C DATED JUNE 2020
- BANYA AVE CULVERT CONCEPT PLAN REFER TO 17-000934-3015-DA23
- CAMCOS CROSSING DETAILS REFER TO 17-000934-3015-SK123
- REFER TO DESIGNFLOW SMP FOR STORMWATER QUALITY MANAGEMENT DETAILS.
- CONCEPT DESIGN PRESENTED IN CAMCOS CORRIDOR IS FUTURE (ULTIMATE) CAMCOS WORKS, BY OTHERS

ALL INFORMATION PRESENTED IS CONCEPTUAL ONLY AND
TO BE CONFIRMED IN SUBSEQUENT DETAILED DESIGN

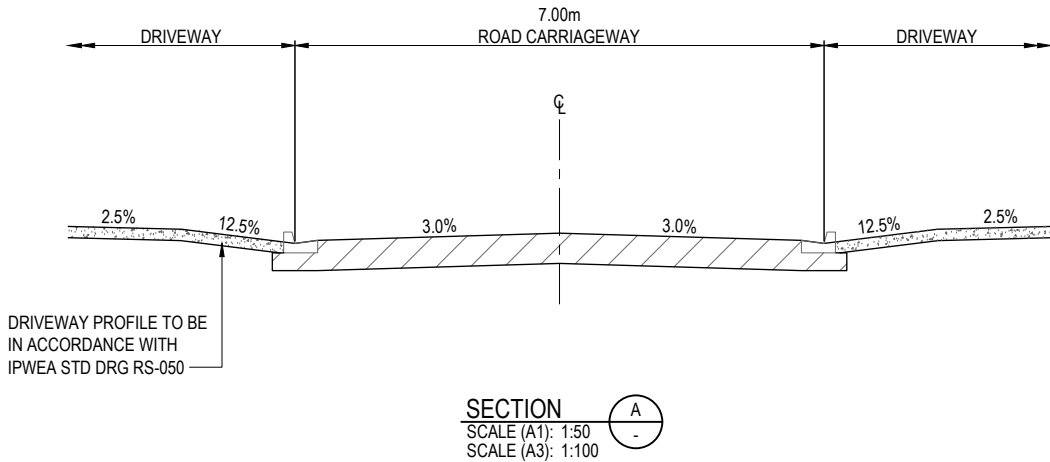
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Detail design for all laneways to demonstrate swept paths are contained within the road pavement and do not rely on verge or parking bays for design vehicle manouvring



HRV
Width : 2.50 meters
Track : 2.50
Lock to Lock Time : 6.0
Steering Angle : 35.2



- NOTES:**
- LANEWAY ENTRANCES TO BE DESIGNED TO DEMONSTRATE:
 - DELINEATION OF THE HIGHER ORDER ROAD WITH CONTINUATION OF THE KERB ALIGNMENT AND VEHICLE CROSSING
 - DELINEATION OF THE HIGHER ORDER ROAD WITH DIFFERENT SURFACING TEXTURE AND COLOUR
 - THE LANEWAY TO BE AT A HIGHER LEVEL THAN THE HIGHER ORDER ROAD, THAT IS AT FOOTPATH VERGE LEVEL
 - GOOD SIGHT DISTANCE WITH NO PARKING BAYS IMMEDIATELY ADJACENT
 - LANEWAY ALIGNMENTS ARE PERPENDICULAR TO THE HIGHER ORDER ROAD, AS PER FIGURE 2 ABOVE.
 - LANEWAY CONNECTIONS TO A ROADWAY IS CONSIDERED MORE LIKE A DRIVEWAY THAN AN INTERSECTION AND IS LOCATED A LOT DEPTH AWAY FROM THE ADJOINING ROAD INTERSECTION
 - FOR ACCESS STREET (OR NEIGHBORHOOD CONNECTOR) WITH LOW VEHICLES PER DAY (VPD <3000) EDQ PDA GUIDELINE NO. 6 HAS NO MINIMUM INTERSECTION SPACING.
- SWEPT PATH MOVEMENTS DEMONSTRATE:**
- THE LANEWAY RESERVE CONFIGURATION AND WIDTH ARE SUFFICIENT TO ENABLE DIRECT FRONTAGE REFUSE COLLECTION FOR EACH LOT, ONE PATH DIRECTION ONLY SHOWN.
 - A REFUSE COLLECTION VEHICLE CAN NEGOTIATE THE LANEWAY NETWORK IN THE FORWARD GEAR,
 - WIDENING OF THE LANEWAY CARRIAGEWAY MAYBE BE REQUIRED AT SOME SIGNIFICANT BENDS IN THE REAR ACCESS LANES, SUBJECT TO DETAILED DESIGN.
 - SOME VEHICULAR CROSSOVERS FROM ADJACENT ROAD NETWORK MAY NEED TO BE WIDENED, SUBJECT TO DETAILED DESIGN.
 - BIN PADS ARE LOCATED NEAR LOTS WERE REFUSE COLLECTION IS RESTRICTED.

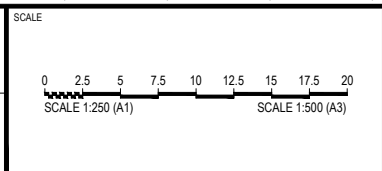
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FIRST ISSUE	DESIGN	DRAWN	CHECK	APPROVED	DATE
	NV	NV	MW	MW	10.11.20
AMENDMENT DETAILS					

STATUS
ISSUED FOR APPROVAL

APPROVED BY:
SIGN: DATE:



CLIENT
STOCKLAND DEVELOPMENTS PTY LTD

Calibre Consulting (QLD) Pty Ltd
Level 3, 16 Innovation Parkway
Birtinya QLD Australia 4575
Telephone 07 5314 2520
Facsimile 07 5314 2522

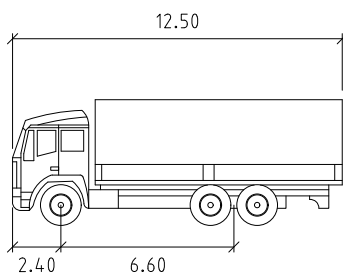
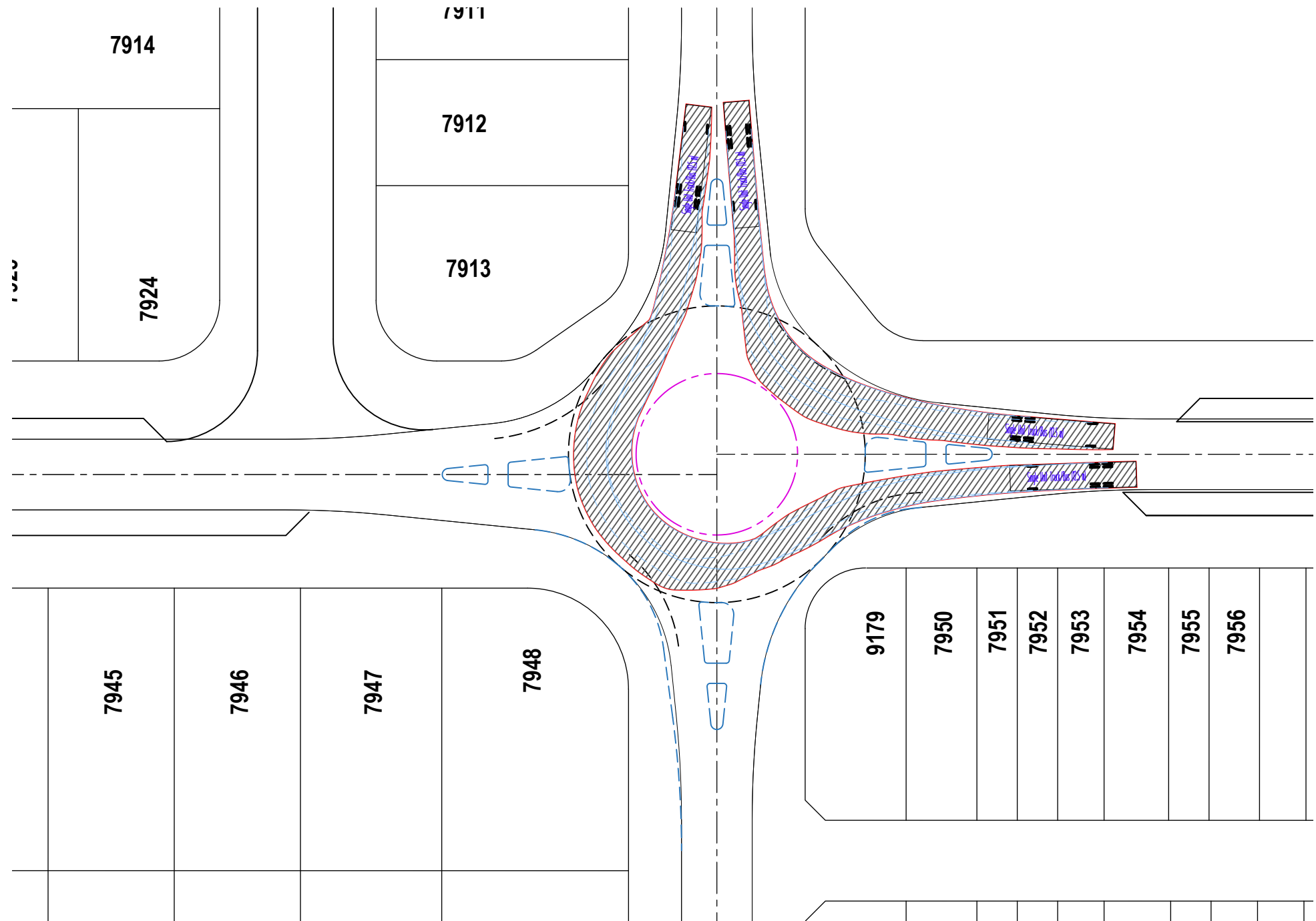
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PROJECT
**AURA
PRECINCT 11 (PART), 12 (PART)
13 (PART) AND 14 ROL**

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

DRAWING TITLE
**LANEWAY CONNECTION &
SWEPT PATH MOVEMENT
STAGE 1447 & 1449**

PROJECT No. 17-000934
DRAWING No. 3015-SK2002
REVISION -



HRV

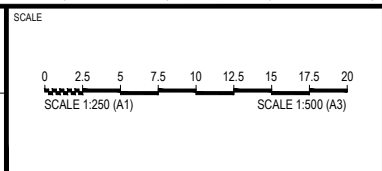
Width : 2.50
Track : 2.50
Lock to Lock Time : 6.0
Steering Angle : 35.2

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ISSUED FOR APPROVAL	
APPROVED BY:	
SIGN:	DATE:



CLIENT

STOCKLAND
DEVELOPMENTS PTY LTD

Calibre Consulting (QLD) Pty Ltd
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Birtinya QLD Australia 4575
Telephone 07 5314 2520
Facsimile 07 5314 2522

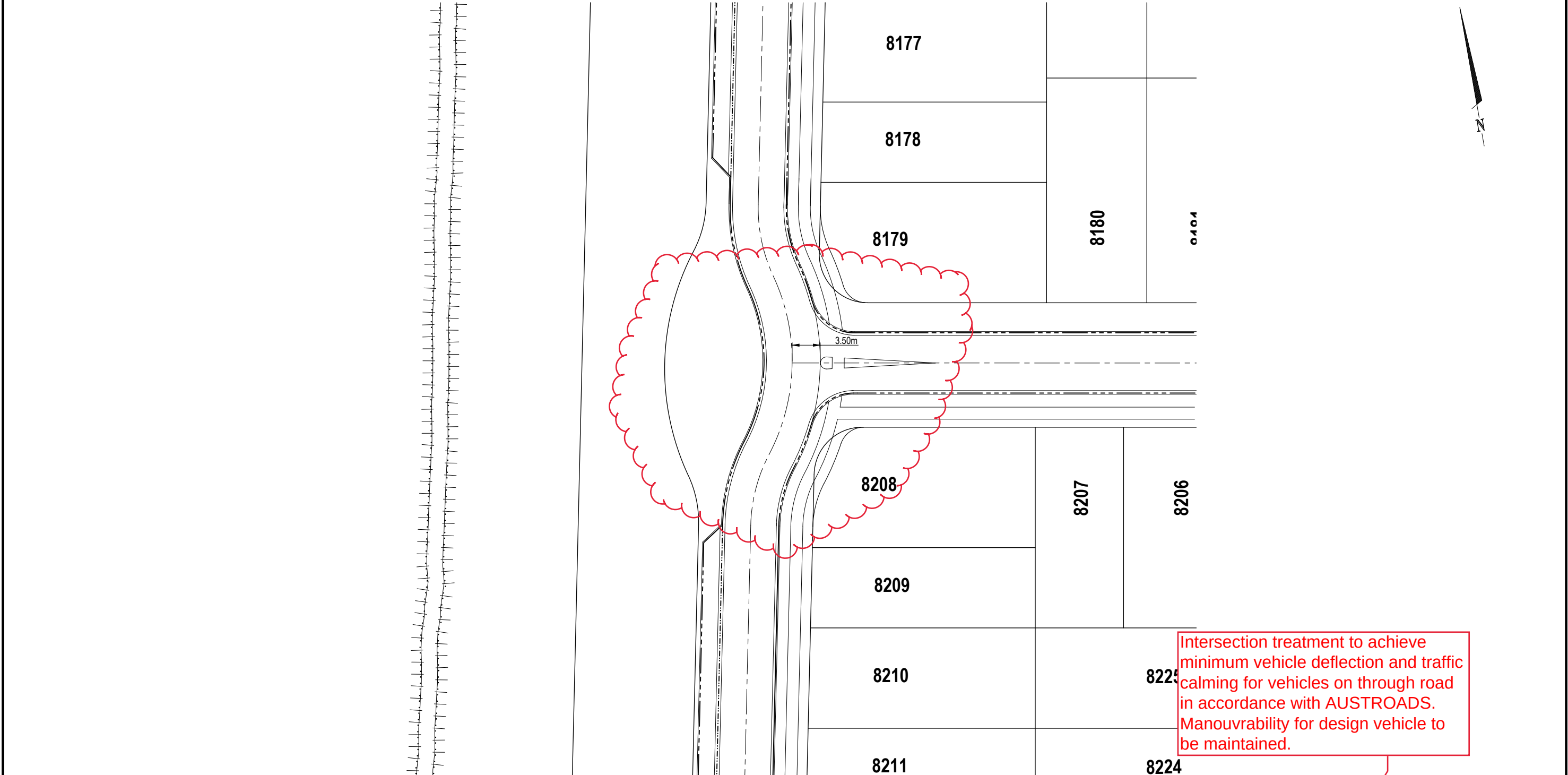
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PROJECT

AURA
PRECINCT 11 (PART), 12 (PART)
13 (PART) AND 14 ROL

DISCLAIMER
ALL DIMENSIONS TO BE CHECKED ON SITE BY CONTRACTOR PRIOR TO
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DRAWING TITLE	PROJECT No.	DRAWING No.	REVISION
ROUNDAABOUT	17-000934	3015-SK2005	-

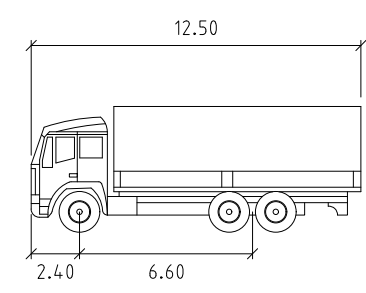
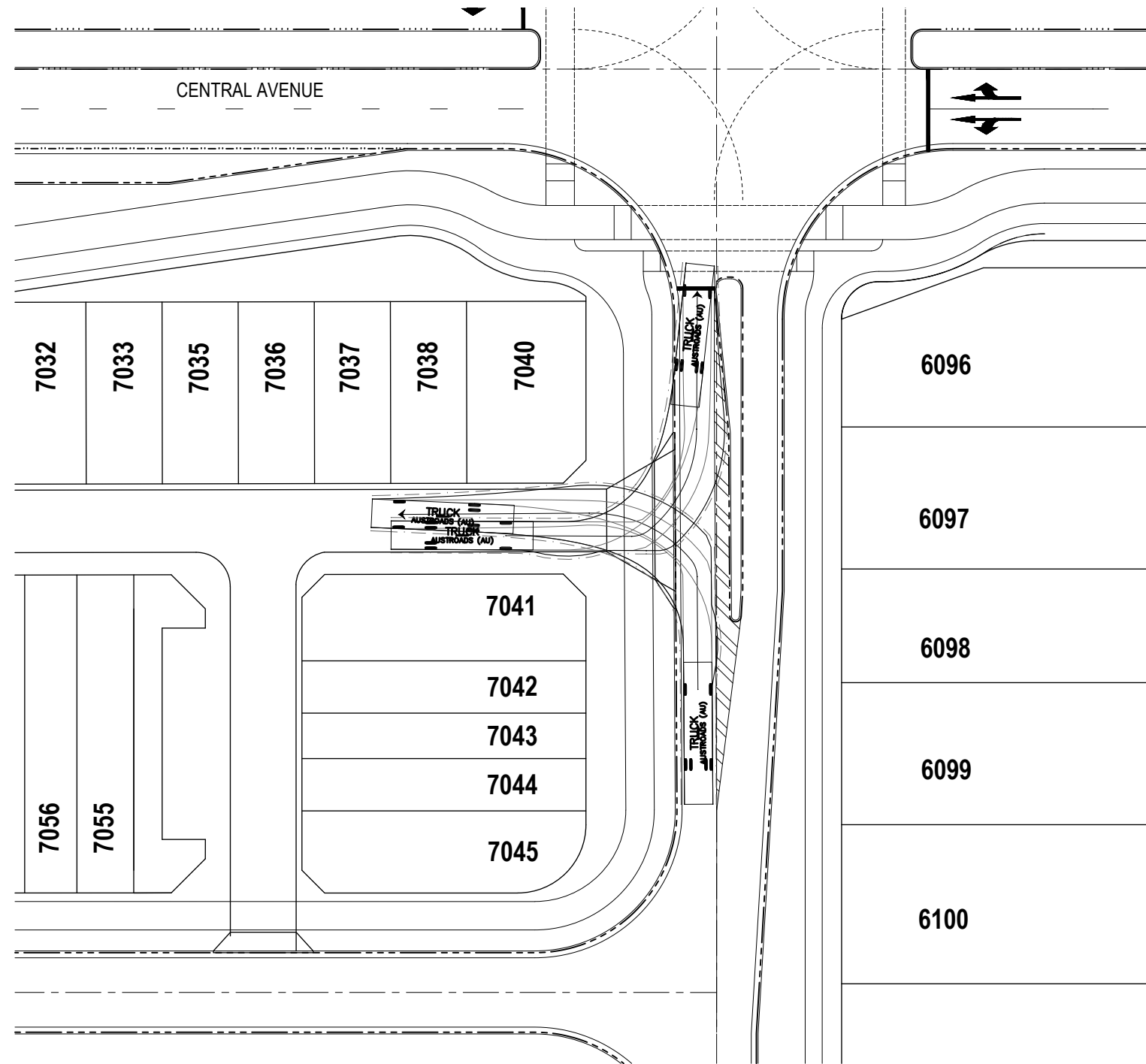


Intersection treatment to achieve minimum vehicle deflection and traffic calming for vehicles on through road in accordance with AUSTROADS. Manouvrability for design vehicle to be maintained.

NOTES:

- THIS INTERSECTION REQUIRES A TRAFFIC CALMING DEVICE DUE TO THE STRAIGHT RUN OF THE ADJACENT ROADWAY. A SLOW POINT IS PROPOSED. THE SLOW POINT IS TO BE DESIGNED TO ACHIEVE THE AUSTROADS DESIGN OBJECTIVES

ALL INFORMATION PRESENTED IS CONCEPTUAL ONLY AND TO BE CONFIRMED IN SUBSEQUENT DETAILED DESIGN



HRV

Width	: 2.50
Track	: 2.50
Lock to Lock Time	: 6.0
Steering Angle	: 35.2

ALL INFORMATION PRESENTED IS CONCEPTUAL ONLY AND TO BE CONFIRMED IN SUBSEQUENT DETAILED DESIGN

FILE: 3015-SK2000.dwg DATE: 19-03-2019 USER: DANIEL CULLING
XREFS: X-17-000934.3015_SK2000_20201016_Aura P11-14_Southern Re-Design, X-17-000934.3015 - BASE, 2020_0423_Aura - MASTER PLAN - kw, X-17-000934 - LOTS, 20201110_Aura P11-14 APPLICATION MASTER PLAN - Redesigns, 3015-DA650, X-20-000315.1015-BASE, X-17-000934.2008-BASE, X-17-000934.1012-BASE, X-17-000934.1017-BASE, X-17-000934.2007-BASE, X-17-000934.2004-BASE, X-17-000934.1013-BASE

FIRST ISSUE	DESIGN	DRAWN	CHECK	APPROVED	DATE	AMENDMENT DETAILS
	NV	NV	MW	MW	10.11.20	
AMENDMENTS						

STATUS

ISSUED FOR APPROVAL

APPROVED BY:

SIGN: DATE:

SCALE

0 2.5 5 7.5 10 12.5 15 17.5 20

SCALE 1:250 (A1) SCALE 1:500 (A3)

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Facsimile 07 5314 2522

PROJECT

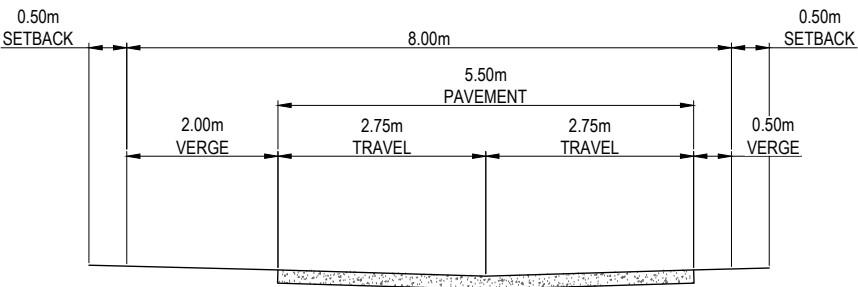
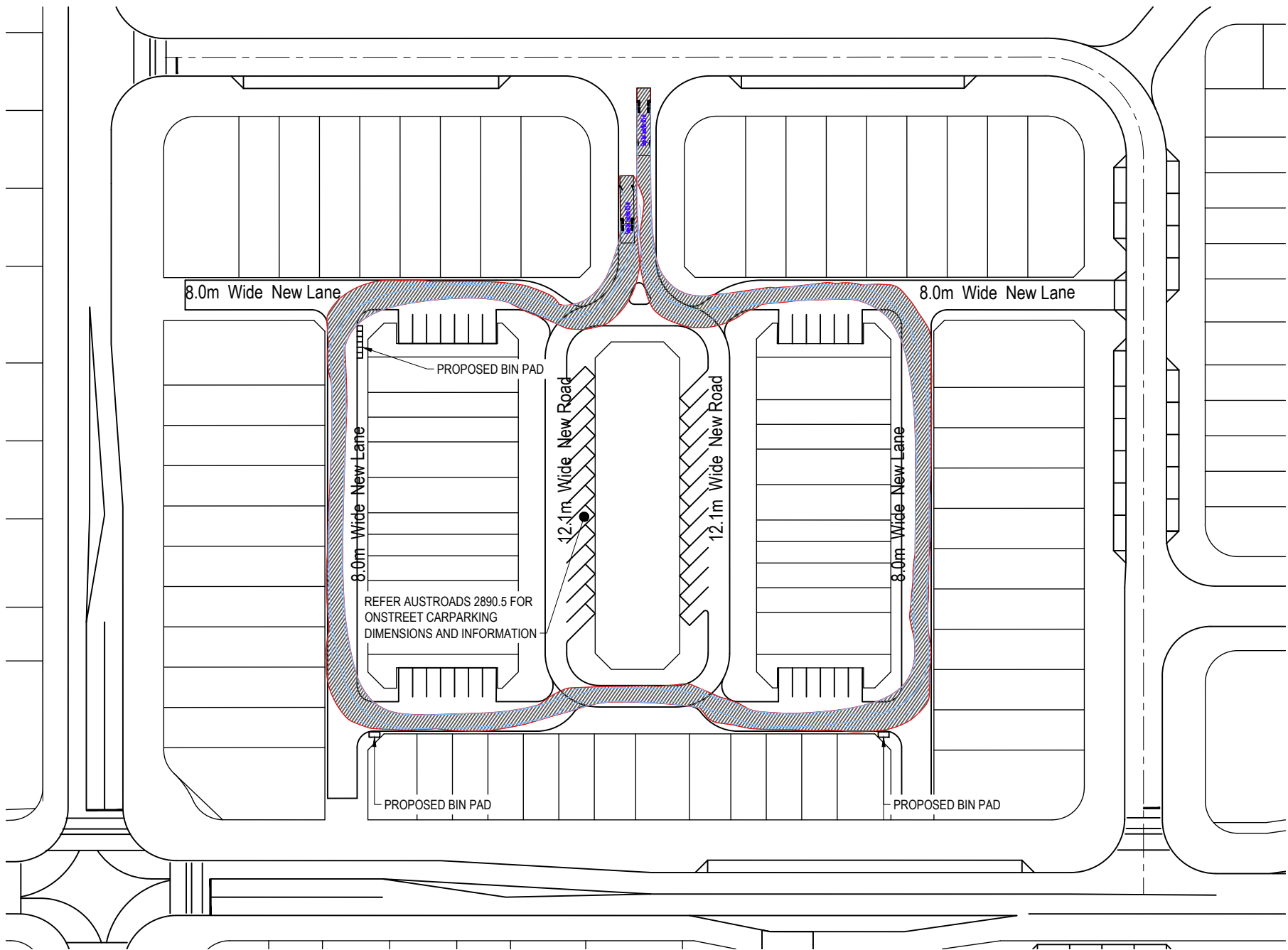
AURA PRECINCT 11 (PART), 12 (PART) 13 (PART) AND 14 ROL

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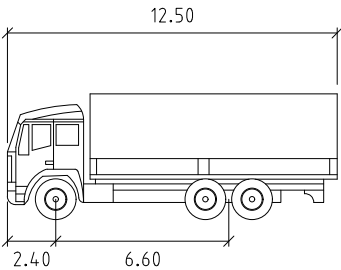
DRAWING TITLE

TURNING MOVEMENTS LANWAY ENTRY STAGE 1452

PROJECT No. 17-000934 DRAWING No. 3015-SK2009 REVISION -



TYPICAL 8.0m LANEWAY
1:50 @ A1 | 1:100 @ A3



HRV

Width	: 2.50
Track	: 2.50
Lock to Lock Time	: 6.0
Steering Angle	: 35.2

NOTES:

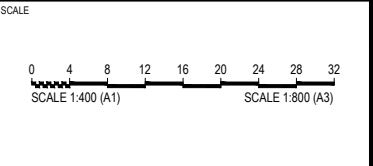
- THE LANEWAY RESERVE CONFIGURATION AND WIDTH ARE SUFFICIENT TO ENABLE DIRECT FRONTAGE REFUSE COLLECTION FOR EACH LOT, ONE PATH DIRECTION ONLY SHOWN.
- A REFUSE COLLECTION VEHICLE CAN NEGOTIATE THE LANEWAY NETWORK IN THE FORWARD GEAR
- WIDENING OF THE LANEWAY CARRIAGEWAY MAYBE BE REQUIRED AT SOME SIGNIFICANT BENDS IN THE REAR ACCESS LANES, SUBJECT TO DETAILED DESIGN
- SOME VEHICULAR CROSSOVERS FROM ADJACENT ROAD NETWORK MAY NEED TO BE WIDENED, SUBJECT TO DETAILED DESIGN
- BIN PADS ARE LOCATED NEAR LOTS WHERE REFUSE COLLECTION IS RESTRICTED
- AS PER POD ALL REAR LOADED TERRACE LOTS HAVE A 0.50m SETBACK BEYOND THE STANDARD VERGE OF 0.50m OR 2.0m. THEREFORE ADEQUATE SPACE IS AVAILABLE FOR BINS OFF CARRIAGEWAY

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FILE: 3015-SK2010.dwg DATE: 19-03-2019 USER: DANIEL CULLING
XREFS: X-17-000934.3015_SK2010_20201016_Aura P11-14_Southern Re-Design, X-17-000934.3015 - BASE, 2020_0423_Aura - MASTER PLAN - kw, X-17-000934 - LOTS, 20201110_Aura P11-14 APPLICATION MASTER PLAN - Redesigns, 3015-DA650, X-20-000315.1015-BASE, X-17-000934.2008-BASE, X-17-000934.1012-BASE, X-17-000934.1017-BASE, X-17-000934.2007-BASE, X-17-000934.2004-BASE, X-17-000934.1013-BASE

FIRST ISSUE	DESIGN	DRAWN	CHECK	APPROVED	DATE	AMENDMENT DETAILS
	NV	NV	MW	MW	10.11.20	
A						
M						
E						
N						
D						
S						

STATUS	ISSUED FOR APPROVAL
APPROVED BY:	
SIGN:	DATE:



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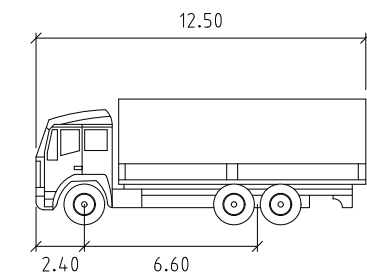
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PROJECT

AURA
PRECINCT 11 (PART), 12 (PART)
13 (PART) AND 14 ROL

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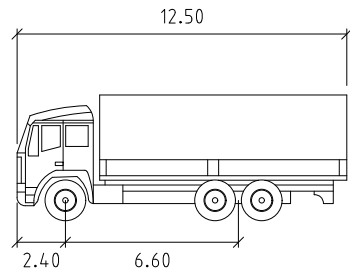
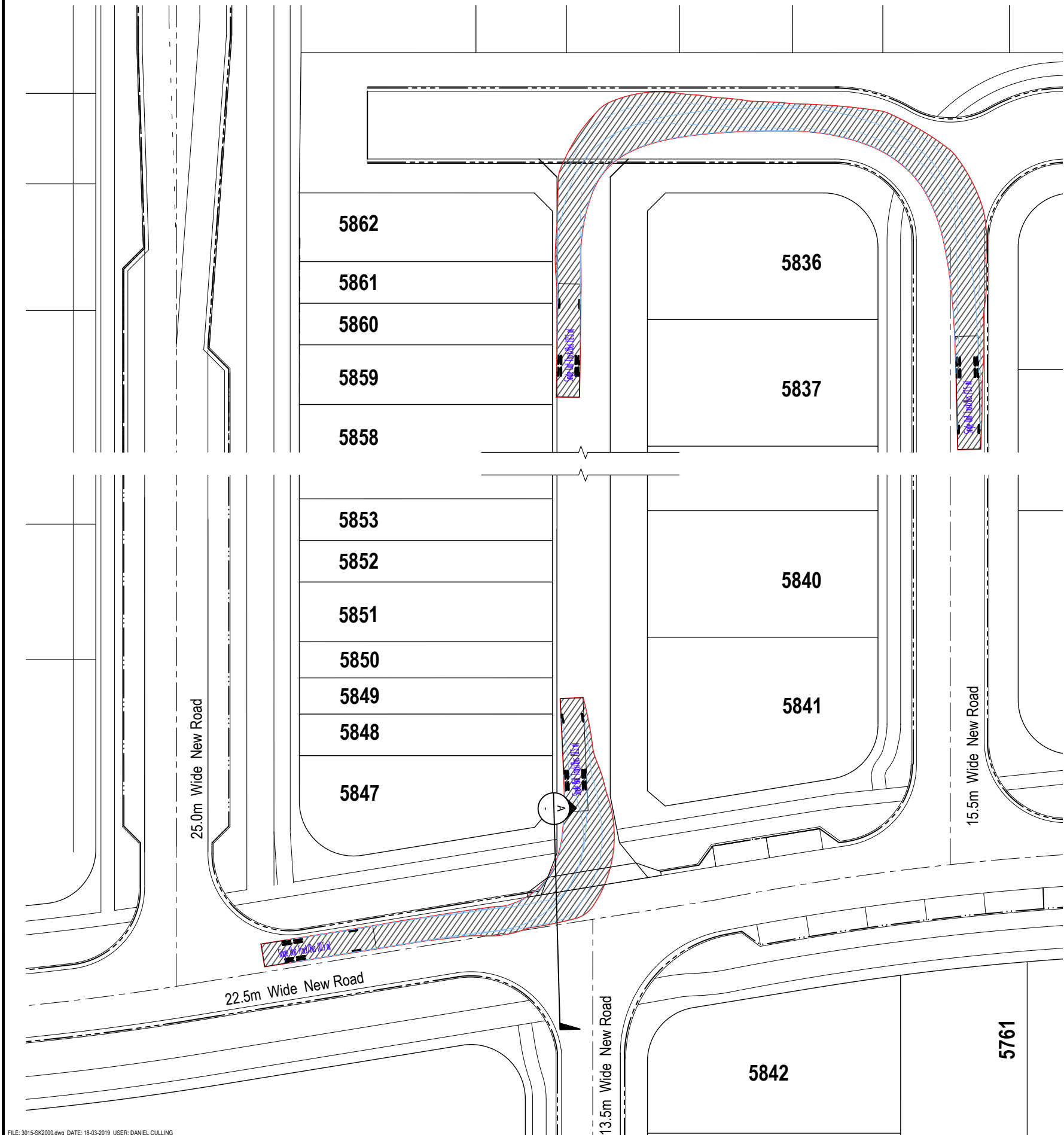
DRAWING TITLE	PROJECT No.	DRAWING No.	REVISION
SWEPT PATH MOVEMENTS	17-000934	3015-SK2010	-



	meters
Width	: 2.50
Track	: 2.50
Lock to Lock Time	: 6.0
Steering Angle	: 35.2

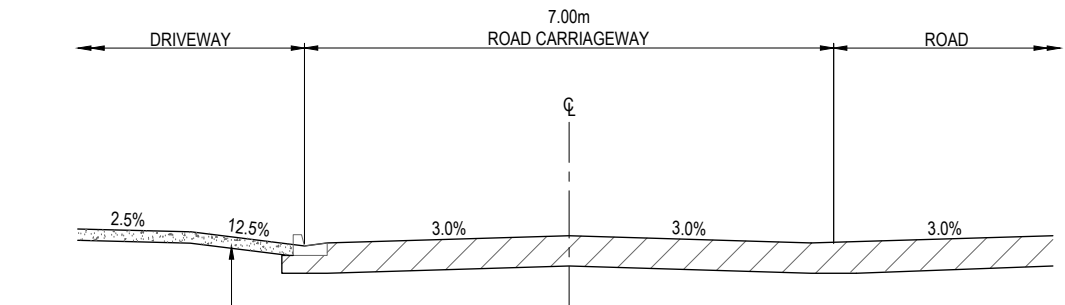
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- BIN PADS ARE LOCATED NEAR LOTS WHERE REFUSE COLLECTION IS RESTRICTED
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DRAWING TITLE		
SWEPT PATH MOVEMENTS		
PROJECT No.	DRAWING No.	REVISION
17-000934	3015-SK2011	-



HRV

Width : 12.50 meters
Track : 6.60
Lock to Lock Time : 2.40
Steering Angle : 35.2



DRIVEWAY PROFILE TO BE IN ACCORDANCE WITH IPWEA STD DRG RS-050

SECTION A
SCALE (A1): 1:50
SCALE (A3): 1:100

NOTES:

- LANEWAY ENTRANCES TO BE DESIGNED TO DEMONSTRATE:
 - DELINEATION OF THE HIGHER ORDER ROAD WITH CONTINUATION OF THE KERB ALIGNMENT AND VEHICLE CROSSING
 - DELINEATION OF THE HIGHER ORDER ROAD WITH DIFFERENT SURFACING TEXTURE AND COLOUR
 - THE LANEWAY TO BE AT A HIGHER LEVEL THAN THE HIGHER ORDER ROAD, THAT IS AT FOOTPATH VERGE LEVEL
 - GOOD SIGHT DISTANCE WITH NO PARKING BAYS IMMEDIATELY ADJACENT
 - LANEWAY ALIGNMENTS ARE PERPENDICULAR TO THE HIGHER ORDER ROAD,
 - LANEWAY CONNECTIONS TO A ROADWAY IS CONSIDERED MORE LIKE A DRIVEWAY THAN AN INTERSECTION AND IS LOCATED A LOT DEPTH AWAY FROM THE ADJOINING ROAD INTERSECTION
 - FOR ACCESS STREET (OR NEIGHBORHOOD CONNECTOR) WITH LOW VEHICLES PER DAY (VPD <3000) EDQ PDA GUIDELINE NO. 6 HAS NO MINIMUM INTERSECTION SPACING.
- SWEPT PATH MOVEMENTS DEMONSTRATE:
- THE LANEWAY RESERVE CONFIGURATION AND WIDTH ARE SUFFICIENT TO ENABLE DIRECT FRONTAGE REFUSE COLLECTION FOR EACH LOT, ONE PATH DIRECTION ONLY SHOWN.
 - A REFUSE COLLECTION VEHICLE CAN NEGOTIATE THE LANEWAY NETWORK IN THE FORWARD GEAR,
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 - SOME VEHICULAR CROSSOVERS FROM ADJACENT ROAD NETWORK MAY NEED TO BE WIDENED, SUBJECT TO DETAILED DESIGN.
 - BIN PADS ARE LOCATED NEAR LOTS WHERE REFUSE COLLECTION IS RESTRICTED.

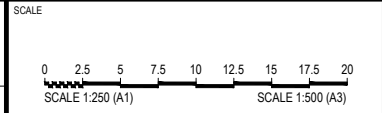
ALL INFORMATION PRESENTED IS CONCEPTUAL ONLY AND TO BE CONFIRMED IN SUBSEQUENT DETAILED DESIGN

FILE: 3015-SK2012.dwg DATE: 19-03-2019 USER: DANIEL CULLING
XREFS: X-17-000934.3015_SK2012.dwg, X-17-000934.3015 - BASE, 2020_0423_Aura - MASTER PLAN - kw, X-17-000934 - LOTS, 20201110_Aura P11-14 APPLICATION MASTER PLAN - Redesigns, 3015-D-0650, X-20-000315.1015-BASE, X-17-000934.2008-BASE, X-17-000934.1012-BASE, X-17-000934.1017-BASE, X-17-000934.2007-BASE, X-17-000934.2004-BASE, X-17-000934.1013-BASE

FIRST ISSUE	DESIGN	DRAWN	CHECK	APPROVED	DATE
NV	NV	MW	MW		10.11.20
AMENDMENT DETAILS					
AMENDMENTS					

STATUS
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APPROVED BY:
SIGN: DATE:



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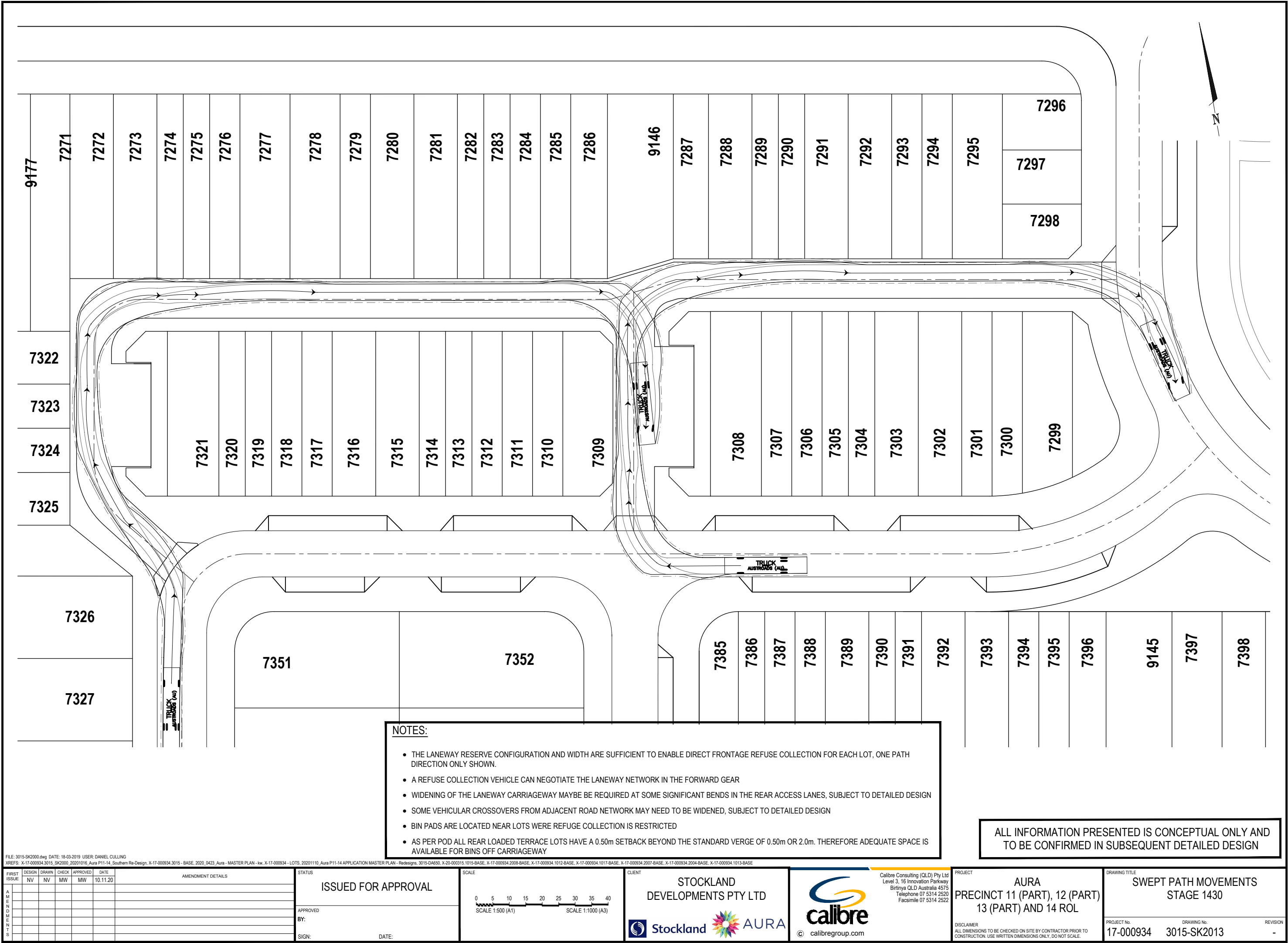
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PROJECT
**AURA
PRECINCT 11 (PART), 12 (PART)
13 (PART) AND 14 ROL**

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DRAWING TITLE
**LANEWAY CONNECTION
STAGE 1143**

PROJECT No. 17-000934
DRAWING No. 3015-SK2012
REVISION -



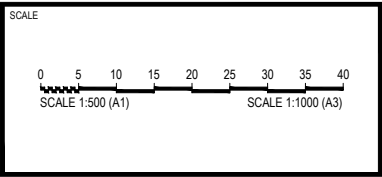
- NOTES:
- THE LANEWAY RESERVE CONFIGURATION AND WIDTH ARE SUFFICIENT TO ENABLE DIRECT FRONTAGE REFUSE COLLECTION FOR EACH LOT, ONE PATH DIRECTION ONLY SHOWN.
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ALL INFORMATION PRESENTED IS CONCEPTUAL ONLY AND TO BE CONFIRMED IN SUBSEQUENT DETAILED DESIGN

FILE: 3015-SK2000.dwg DATE: 19-03-2019 USER: DANIEL CULLING
XREFS: X-17-000934.3015_SK2000_20201016_Aura P11-14_Southern Re-Design, X-17-000934.3015 - BASE, 2020_0423_Aura - MASTER PLAN - kw, X-17-000934 - LOTS, 20201110_Aura P11-14 APPLICATION MASTER PLAN - Redesigns, 3015-DA650, X-20-000315.1015-BASE, X-17-000934.2009-BASE, X-17-000934.1012-BASE, X-17-000934.1017-BASE, X-17-000934.2007-BASE, X-17-000934.2004-BASE, X-17-000934.1013-BASE

FIRST ISSUE	DESIGN	DRAWN	CHECK	APPROVED	DATE	AMENDMENT DETAILS
	NV	NV	MW	MW	10.11.20	
AMENDMENTS						

STATUS	
ISSUED FOR APPROVAL	
APPROVED BY:	
SIGN:	DATE:



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Birtinya QLD Australia 4575
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PROJECT

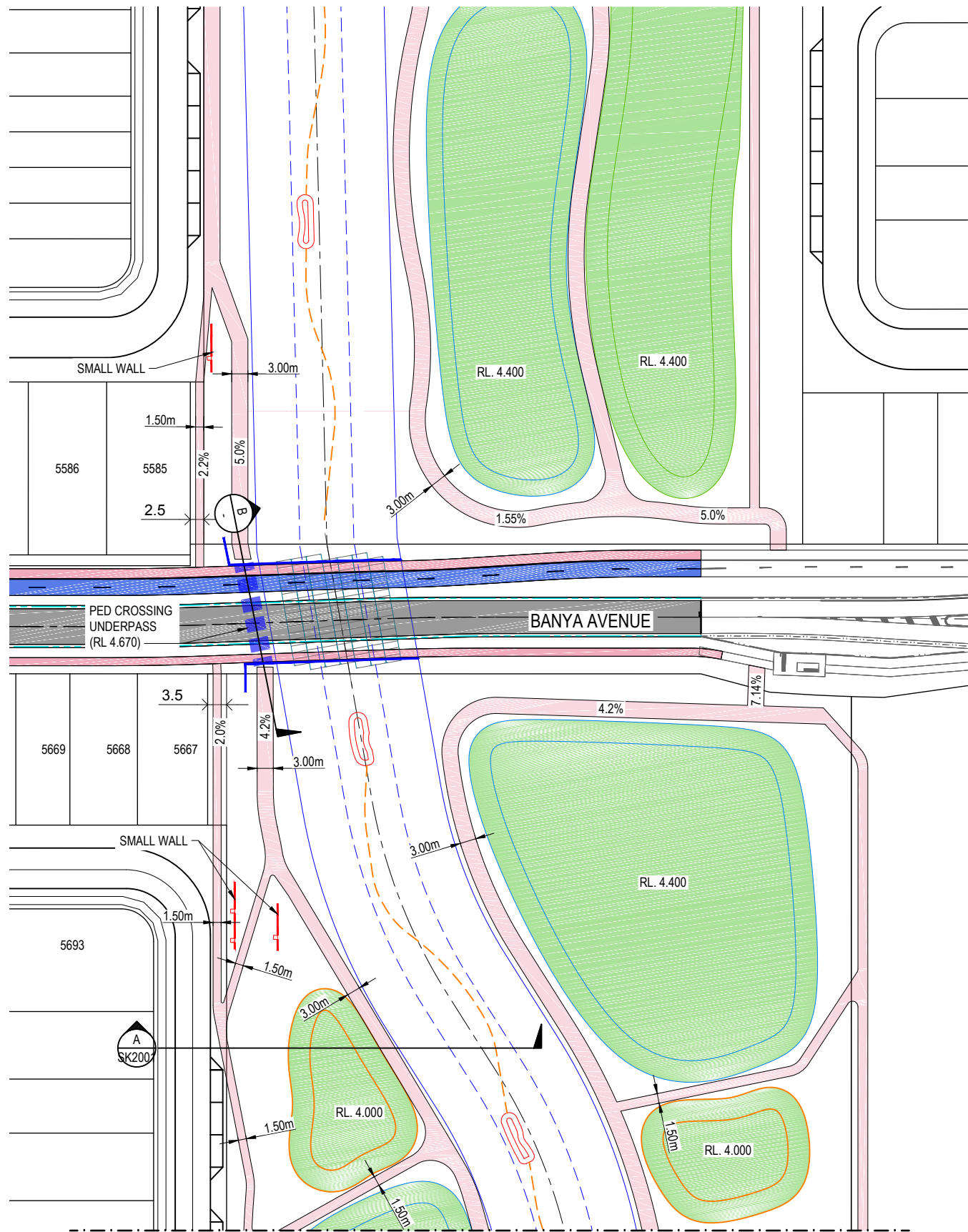
AURA
PRECINCT 11 (PART), 12 (PART)
13 (PART) AND 14 ROL

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DRAWING TITLE

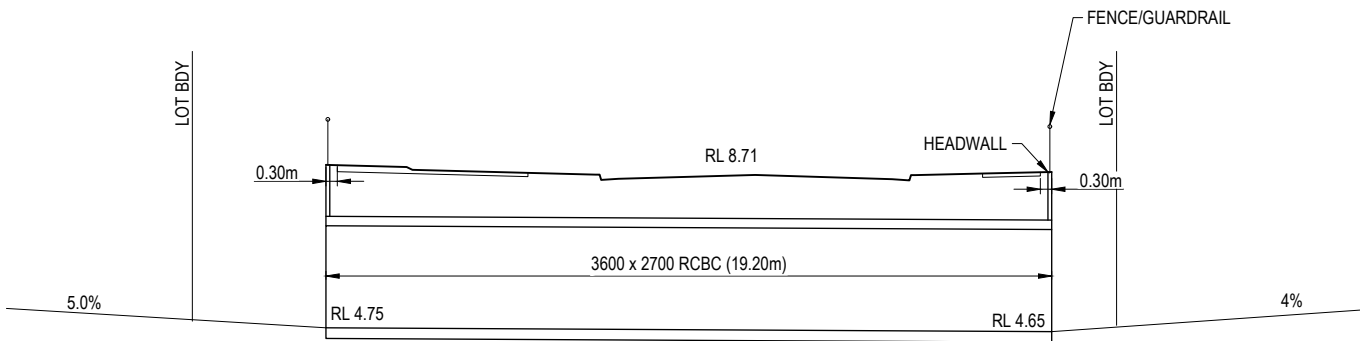
SWEPT PATH MOVEMENTS
STAGE 1430

PROJECT No. 17-000934
DRAWING No. 3015-SK2013
REVISION -



- LEGEND**
- PROPOSED FOOTPATH
 - FINISHED SURFACE LEVEL
 - PROPOSED WETLAND
 - PROPOSED BIO BASIN
 - PROPOSED SEDIMENT BASIN

- NOTES:**
- FLOOD MODELLING PRESENTED IN CALIBRE REPORT 18-000340_FIR.01C DATED JUNE 2020
 - BANYA AVE CULVERT CONCEPT PLAN REFER TO 17-000934-3015DA23
 - REFER TO DESIGNFLOW SMP FOR STORMWATER QUALITY MANAGEMENT DETAILS.



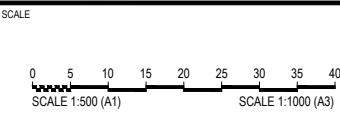
SECTION
SCALE (A1): 1:100
SCALE (A3): 1:200

ALL INFORMATION PRESENTED IS CONCEPTUAL ONLY AND
TO BE CONFIRMED IN SUBSEQUENT DETAILED DESIGN

FILE: 3015-SK2014.dwg DATE: 19-03-2019 USER: DANIEL CULLING
XREFS: X-17-000934 - LOTS, X-17-000934.1022-BASE, X-17-000934.1013-BASE, X-20-000315.1015-BASE, 20201104_Aura P11-14 APPLICATION MASTER PLAN - Redesigns

FIRST ISSUE	DESIGN	DRAWN	CHECK	APPROVED	DATE
AT	AT	AM	MW		11.11.20
AMENDMENTS					

STATUS	ISSUED FOR APPROVAL
APPROVED BY:	
SIGN:	DATE:



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Stockland AURA

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PROJECT

AURA
PRECINCT 11 (PART), 12 (PART)
13 (PART) AND 14 ROL

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DRAWING TITLE

FOOTPATH
TRANSITION
SHEET 2 OF 2

PROJECT No. 17-000934
DRAWING No. 3015-SK2014
REVISION -