



Ref: 26.118r01v04

8/05/2026

Mirvac
c/- Beveridge Williams
Level 4, LPC House, Suite 4.05
3 Fordham Way
Oran Park NSW 2570

Attention: Jerome Guinto

**RE: 2 & 2A BULLECOURT AVENUE, MILPERRA
STATE SIGNIFICANT DEVELOPMENT 97092958
INDEPENDENT RISK ASSESSMENT**

Dear Jerome,

PDC Consultants has been commissioned to prepare an Independent Risk Assessment for the State Significant Development Application (SSDA) 97092958 lodged for the site at 2 and 2A Bullecourt Avenue, Milperra. The scope of the SSDA should be read in conjunction with the Environmental Impact Statement (EIS) however generally consists of a residential subdivision with some 430 dwellings, new roads and supporting infrastructure.

The focus of the Independent Risk Assessment is isolated to the proposed intersection arrangement at Horsley Road / Road 2B. The Independent Risk Assessment has been prepared in response to the Department of Planning, Housing and Infrastructure (DPHI) request for information as outlined below:

“Horsley Road intersection

Retention of the existing road alignment and roundabout, with amendments to the footpath location to reduce impacts on the C2 zoned land is noted.

- *This design requires the introduction of multiple turning restrictions, including limiting access to the opposite property, and forces pedestrians to deviate from their natural desire lines. While individual design elements may technically comply with relevant standards, the scheme does not deliver a coherent and effective overall design outcome.*
- *Additional details, or modification of the design to ensure the arrangement results in a safe and effective outcome for vehicles and pedestrians is required.”*

The subject intersection, as originally proposed in the SSDA, is shown in **Figure 1**. An amended design in response to Agency comments, is provided in **Figure 2**. Larger scaled drawings are provided in **Attachment 1** and **Attachment 2** for reference.

The findings of this Independent Risk Assessment detailed in the following sections, shows that whilst Design 1 and Design 2 share common risk findings, the difference that result in Design 2, removes risk items 2, 3, 4, and 5 identified in **Table 2** with residual risks being low. Design 2 provides an improved outcome for pedestrians, by minimising the number of conflict points when walking north – south on Horsley Road.

[illegible]

2

DEVELOPMENT DESCRIPTION

The development site is located on the former Western Sydney University site in Milperra, within the Local Government Area of Canterbury Bankstown Council. The site is identified as Lot 2 in DP1291984 and Lot 1 in DP101147 with a residential address of 2 and 2A Bullecourt Avenue, Milperra.

The proposed SSDA is for an initial 62 dwellings with associated infrastructure and super lots for the potential further 368 dwellings, resulting in a total of 430 dwellings. The overall concept for the site proposed vehicular access to Ashford Avenue, Bullecourt Avenue and Horsley Road. The concept is shown in **Figure 3**.



Figure 3: Masterplan

HORSLEY ROAD INTERSECTION

The existing Horsley Road intersection is a three-way arrangement, with the WSU Milperra Site Driveway forming the western approach. The pedestrian footpath adjacent to Horsley Road is located within the verge with varying offset of 0.6 to 1.8 metres from the Horsley Road kerb.

As shown in **Figure 1** and **Figure 2**, the proposal generally relies upon the existing roundabout intersection on Horsley Road, with the following modifications:

- Restriction of the western leg of the roundabout to an approach only connection to Horsley Road.
- Introduction of a left turn entry only driveway from Horsley Road onto Road 2B, south of the existing roundabout. A concrete median is proposed on Horsley Road to enforce the left turn entry only movement.
- Proposed changes to the existing refuge located on Horsley Road, north of the roundabout, to increase the storage area for pedestrians.
- Kerb extensions to the south of the roundabout to reduce pedestrian crossing distances on Horsley Road.
- Under **Figure 1**, the pedestrian footpath on the western side of Horsley Road is located in its existing location, with exception to the central island created on Road 2B.
- Under **Figure 2**, the pedestrian footpath on the western side of Horsley Road is located on Road 2B and through the conservation area, and not located abutting Horsley Road as it currently does under **Figure 1** or the existing conditions.

Horsley Road is currently sign posted as 60 km/h and this is not proposed to be altered. There are no other proposed changes north or south of the roundabout location. Based on the Transport Impact Assessment (TTPP, 21 November 2025), there will be 13 to 31 peak hour vehicles turning left into Road 2B, via the left turn entry only lane, and 30 to 71 peak hour vehicles turning right or left from Road 2B at the Horsley Road roundabout.

RISK ASSESSMENT

The level of risk with each location has been determined using **Table 1** and **Figure 4** which are extracted from the Austroads Guide to Road Safety Part 6: Road Safety Audit 2022 (Austroads 2022).

Due to the deflection on approach and through the roundabout, it is reasonable to assume that if a crash were to occur, it would be below the sign posted speed limit of 60 km/h.

The focus of this assessment is the differences between the two designs presented in **Figure 1** and **Figure 2**, and the Road 2B connection to Horsley Road.

Table 1: Road Safety Audit Risk Matrix

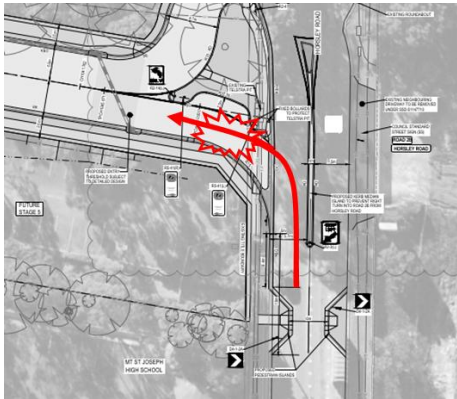
Road Safety Audit Risk Matrix			Severity				
			Insignificant	Minor	Moderate	Serious	Fatal
			Property damage	Minor first aid	Major first aid and/or presents to hospital (not admitted)	Admitted to hospital	Death within 30 days of the crash
Likelihood	Almost certain	Once per quarter	Medium	High	High	Extreme (FSI)	Extreme (FSI)
	Likely	Every quarter to 1 year	Medium	Medium	High	Extreme (FSI)	Extreme (FSI)
	Possible	Every 1 to 3 years	Low	Medium	High	High (FSI)	Extreme (FSI)
	Unlikely	Every 3 to 7 years	Negligible	Low	Medium	High (FSI)	Extreme (FSI)
	Rare	7 years+	Negligible	Negligible	Low	Medium (FSI)	High (FSI)

		Crash Speed (km/h)										
		< 10	10	20	30	40	50	60	70	80	90	100
Crash Type	Pedestrian (vs HV)	Minor Injury Moderate Injury Serious Injury Fatal										
	Cyclist (vs HV)											
	Motorcyclists (vs HV)											
	Pedestrian (vs car)											
	Cyclist (vs car)											
	Pole/Tree Impact (car)											
	Motorcyclists (vs car)											
	Side Impact (HV vs car)											
	Side Impact (car vs car)											
	Head On (HV vs car)											
	Head On (car vs car)											

Figure 4: Severity Guidance Sheet

Table 2 provides a summary of the risk assessment findings for the SSDA design as lodged.

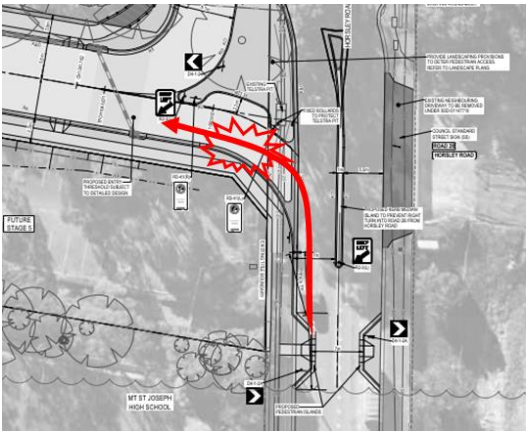
Table 2: Risk Table – Design 1

ITEM	LOCATION	ROAD SAFETY FINDING	LIKELIHOOD	SEVERITY	LEVEL OF RISK
1	Left turn entry	The design of the left turn entry lane from Horsley Road appears to enable a relatively high entry speed when entering Road 2B. The higher speed upon entry has potential to increase the severity of a crash in this location. There are a number of potential crashes in this location, including: - Rear-end or side-swipe crashes with vehicles in what appear to be an indented parking bay for vehicles. - The pedestrian movements at the pram ramp between the southern kerb of Road 2B and the central island area between the entry and exit lanes on Road 2B. 	Unlikely	Minor	Low
2	Vehicle queuing	The location of the pram ramp on Road 2B, approaching the roundabout, is located in close proximity to the roundabout. In the event of vehicle queuing, a pedestrian will need to walk within Road 2B to go around the queued vehicle and may even step within Horsley Road to pass the queued vehicle. There is a risk of vehicle to pedestrian crashes based on the pedestrian movements in this location, and the need for the pedestrian to walk within the roadway around vehicles. It is noted that under existing conditions, the western approach to the roundabout is a driveway where vehicles are legally required to give-way to pedestrians.	Rare	Moderate	Low

ITEM	LOCATION	ROAD SAFETY FINDING	LIKELIHOOD	SEVERITY	LEVEL OF RISK
		- There is reduced sight lines to queuing at the Road 2B approach to the roundabout. There is a risk of rear-end crashes.			

Table 3 provides a summary of the risk assessment findings for the amended SSDA design.

Table 3: Risk Table – Design 2

ITEM	LOCATION	ROAD SAFETY FINDING	LIKELIHOOD	SEVERITY	LEVEL OF RISK
1	Left turn entry	The design of the left turn entry lane from Horsley Road appears to enable a relatively higher entry speed when entering Road 2B. The higher speed upon entry has potential to increase the severity of a crash in this location particularly rear-end or side-swipe crashes with vehicles in what appear to be an indented parking bay for vehicles. 	Unlikely	Minor	Low
2	Vehicle Queuing	The risk item identified under Design 1 has been addressed in Design 2, removing the conflict point and removes or reduces this risk.			
3	Footpath Intersection	The risk item identified under Design 1 has been addressed in Design 2, removing the conflict point and removes or reduces this risk.			
4	Share path design	The risk item identified under Design 1 has been addressed in Design 2, removing the conflict point and removes or reduces this risk.			
5	Road 2B approach speeds	The risk item identified under Design 1 has been addressed in Design 2, with improved signage and messaging to the motorist. This removes or reduces this risk.			
6	Footpath Fencing	It is unclear what fencing treatment is proposed for the shared path through the conservation area. There is a risk of cyclist snagging on the fencing, or toppling over the fence when traversing through the conservation area <i>It is understood that the boardwalk design through the conservation area will be further developed as part of detailed design and include bicycle compliant fencing, significantly reducing the potential for snagging and falls.</i>	Unlikely	Minor	Low

CONCLUSION

The roundabout intersection on Horsley Road is an existing condition, with three approaches. There are a number of crash risks, generally associate with any intersection, that are consistent between the two design options and the existing conditions.

The focus of this Independent Risk Assessment is changes to the intersection and the introduction of Road 2B. The notable difference between Design 1 (**Figure 1**) and Design 2 (**Figure 2**) is the pedestrian footpath design and alignment. Design 2 routes the footpath away from the Horsley Road frontage.

Whilst Design 1 and Design 2 share some common risk findings, the design changes that result in Design 2, removes risk items 2, 3, 4, and 5 identified in **Table 2** with residual risks being low. Design 2 provides an improved outcome for pedestrians, by minimising the number of conflict points when walking north – south on Horsley Road.

Yours sincerely,



Hayden Calvey

Principal Transport Engineer, PDC Consultants

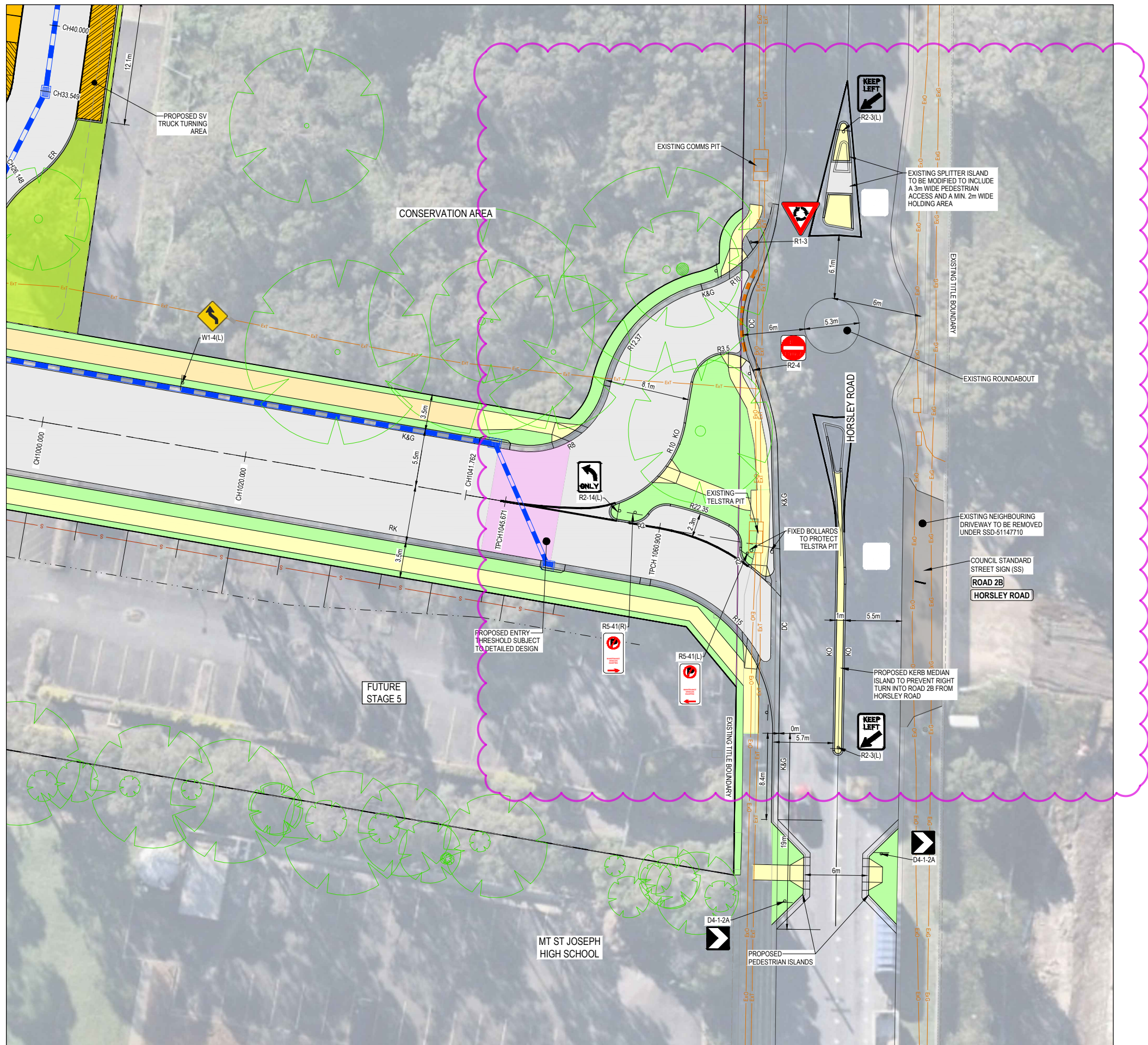
Email: hayden@pdcconsultants.com.au

Attachments:

- 1) *SSDA Design 1*
- 2) *Amended Design 2*



Attachment 1



LEGEND

- STORMWATER PIPE & PIT
- SEWER & MAINTENANCE STRUCTURES
- EXISTING ELECTRICITY (UNDERGROUND)
- EXISTING ELECTRICITY (OVERHEAD)
- EXISTING GAS
- EXISTING OPTIC FIBRE
- EXISTING TELECOMMUNICATIONS
- EXISTING WATER
- EXISTING RECYCLED WATER
- EXISTING TREE TO BE REMOVED AND REPLACED AS PER ARBORIST ADVICE DUE TO IMPACTS BY UNDERGROUND ELECTRICAL WORKS
- EXISTING TREE
- PROPOSED FOOTPATH (1.5m)
- PROPOSED SHARED PATH (2.0m)
- PROPOSED NATURE STRIP
- ALTERNATIVE PAVEMENT DESIGN

LEGEND:

- INDICATIVE RESIDENTIAL LOT BOUNDARY. SUBJECT TO FURTHER DA APPROVAL

WARNING
BEWARE OF UNDERGROUND SERVICES
The locations of underground services are approximate only and their exact position should be proven on site. No guarantee is given that all existing services are shown. Locate all underground services before commencement of works
BEFORE YOU DIG
www.byda.com.au

PRELIMINARY PRINT
NOT FOR CONSTRUCTION

© COPYRIGHT All rights reserved Beveridge Williams & Co. Pty Ltd has granted a licence to the principle to use this document for its intended purpose. No unauthorised copying is permitted									
C	RESPONSE TO SUBMISSIONS	19.03.26	GN	SG					
B	FINAL ISSUE FOR SSDA	07.11.25	GN	SG					
A	PRELIMINARY ISSUE FOR SSDA	17.10.25	RG	SG					
REV	DESCRIPTION	DATE	DRN.	APP.	REV	DESCRIPTION	DATE	DRN.	APP.



Designed R. GOVENDER
Date 23.06.2025
Drawn D. RAFTER
Checked S. FERGUSON
Date 07.11.25
Approved S. FERGUSON
Reg. No. PE0008347
Date 07.11.25
DA Number

BW Beveridge Williams
Development & Infrastructure Consultants
Level 4, LPC House, Suite 4.05, 3 Fordham way
Oran Park NSW 2570
ph: 02 46255055
www.beveridgewilliams.com.au

Project Details
WSU MILPERRA, LOT 1 IN DP101147 AND
LOT 2 IN DP1291984
2A BULLECOURT AVENUE, MILPERRA

Drawing Title
INTERSECTION DETAILS
SHEET 3 OF 3

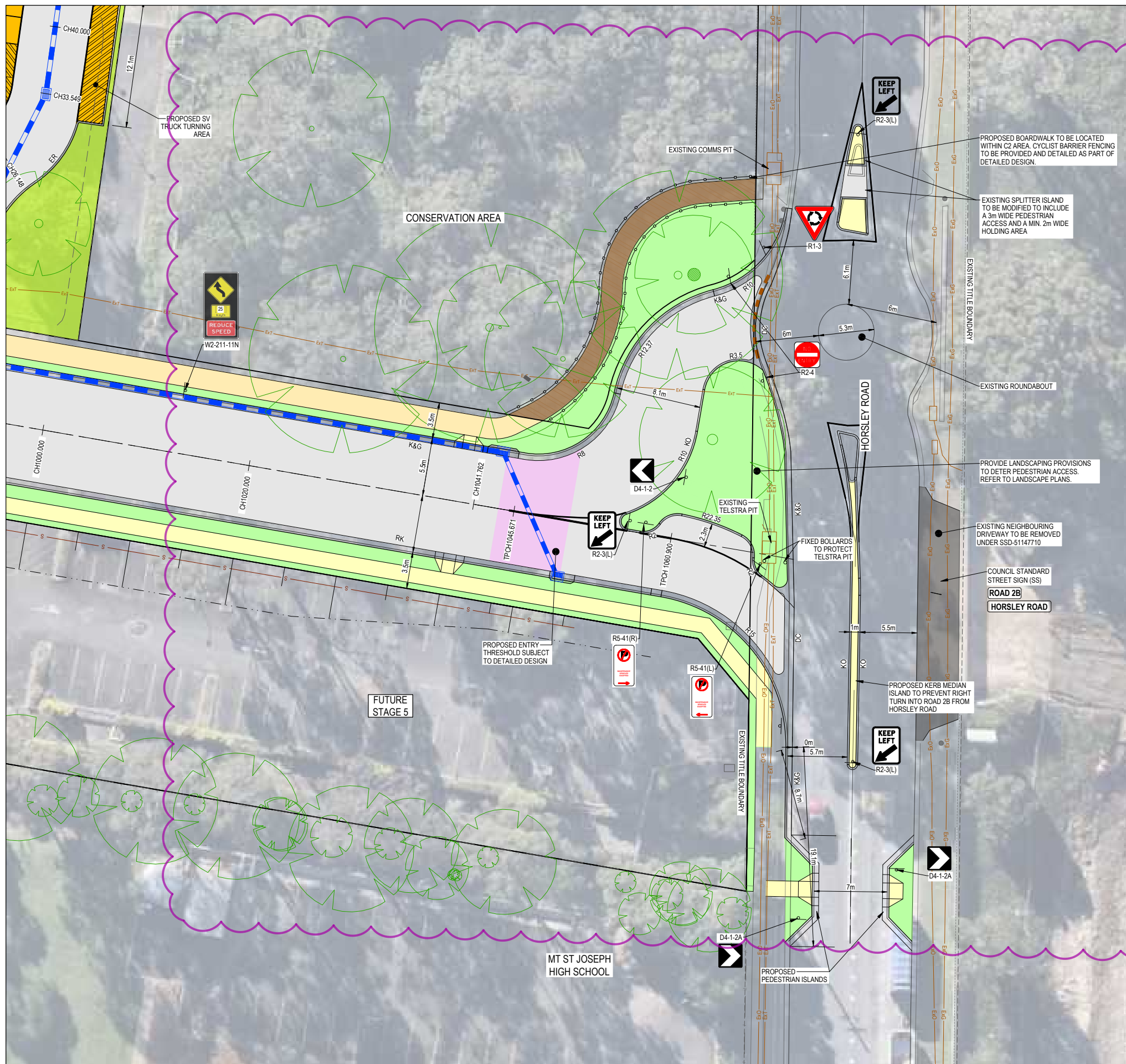
Sheet 93 of 162

Scale
1:200 @ A1

Project Ref	Stage No	Drawing No	Rev
2301879	321	302	C



Attachment 2



LEGEND

- STORMWATER PIPE & PIT
- SEWER & MAINTENANCE STRUCTURES
- EXISTING ELECTRICITY (UNDERGROUND)
- EXISTING ELECTRICITY (OVERHEAD)
- EXISTING GAS
- EXISTING OPTIC FIBRE
- EXISTING TELECOMMUNICATIONS
- EXISTING WATER
- EXISTING RECYCLED WATER
- EXISTING TREE TO BE REMOVED AND REPLACED AS PER ARBORIST ADVICE DUE TO IMPACTS BY UNDERGROUND ELECTRICAL WORKS
- EXISTING TREE
- PROPOSED FOOTPATH (1.5m)
- PROPOSED SHARED PATH (2.0m)
- PROPOSED NATURE STRIP
- ALTERNATIVE PAVEMENT DESIGN

LEGEND:

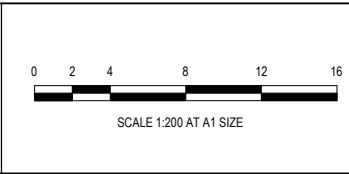
- INDICATIVE RESIDENTIAL LOT BOUNDARY. SUBJECT TO FURTHER DA APPROVAL

C D

WARNING
BEWARE OF UNDERGROUND SERVICES
The locations of underground services are approximate only and their exact position should be proven on site.
No guarantee is given that all existing services are shown.
Locate all underground services before commencement of works
BEFORE YOU DIG
www.byda.com.au

PRELIMINARY PRINT
NOT FOR CONSTRUCTION

© COPYRIGHT All rights reserved Beveridge Williams & Co. Pty Ltd has granted a licence to the principle to use this document for its intended purpose. No unauthorised copying is permitted.						
REV	DESCRIPTION	DATE	DRN.	APP.	REV	DESCRIPTION
D	UPDATED RESPONSE TO SUBMISSIONS	05.05.26	GN	SG		
C	RESPONSE TO SUBMISSIONS	19.03.26	GN	SG		
B	FINAL ISSUE FOR SSDA	07.11.25	GN	SG		
A	PRELIMINARY ISSUE FOR SSDA	17.10.25	RG	SG		



Designed R. GOVENDER
Date 23.06.2025
Drawn D. RAFTER
Checked S. FERGUSON
Date 07.11.25
Approved S. FERGUSON
Reg. No. PE0008347
Date 07.11.25
DA Number -

BW Beveridge Williams
Development & Infrastructure Consultants
Level 4, LPC House, Suite 4.05, 3 Fordham way
Oran Park NSW 2570
ph: 02 46255055
www.beveridgewilliams.com.au

Project Details
WSU MILPERRA, LOT 1 IN DP101147 AND
LOT 2 IN DP1291984
2 & 2A BULLECOURT AVENUE, MILPERRA

Drawing Title
INTERSECTION DETAILS
SHEET 3 OF 3

Sheet 93 of 162

Scale
1:200 @ A1

Project Ref	Stage No	Drawing No	Rev
2301879	321	302	D