

MARSHMAN O'NEILL CONSULTING STRUCTURAL & CIVIL ENGINEERS

ANDREW MARSHMAN & ASSOCIATES PTY LTD ABN 86 064 689 694

ANDREW MARSHMAN
BE (CIV) MIE Aust CPEng NER APEC Engineer Int PE (Aust)

35A MAIN STREET MERIMBULA NSW
PO BOX 768 MERIMBULA NSW 2548
PHONE (02) 6495 1670

CRAIG O'NEILL
BE MIE Aust CPEng NER

24 March 2025 update

Ref: *AC21056TIS4a 24.03.2025*

*Update in Red italics – Section 7.2 Table 6 Page 20 and
Section 7.3 Page 21.*

TRAFFIC IMPACT and PARKING ASSESSMENT (stand-alone document)

PROPOSED NEW DEVELOPMENT APPLICATION
for the
AMENDED REDEVELOPMENT OF SAPPHIRE BUSINESS PARK
(INDUSTRIAL ESTATE)

at

LOT 22 DP812587

148 MOUNT DARRAGH ROAD

SOUTH PAMBULA

NSW

for

MR STEVE PINCINI

25th March 2025

TABLE OF CONTENTS

	Page
1. INTRODUCTION	3
2. SITE DETAILS	4
2.1 Site Location	4
2.2 Site Description (existing)	4
2.3 Adjoining Land Use	4
2.4 Site Zoning	4
2.5 Existing Site Access	4
3. PROPOSED DEVELOPMENT	6
3.1 General	6
3.2 Vehicular Access	6
4. EXISTING TRAFFIC CONDITIONS	9
4.1 Existing Traffic Mount Darragh Road	9
4.2 Projected Traffic Mount Darragh Road	10
5. TRAFFIC GENERATION - PROPOSED DEVELOPMENT	11
5.1 Traffic Generation	11
6. INTERSECTION ANALYSIS	12
6.1 General	12
6.2 Western (main) Intersection and Eastern exit of site with Mount Darragh Road.	13
7. INTERNAL ACCESS and CAR PARKING	15
7.1 Internal Access	15
7.2 Car Parking Requirements	18
7.3 Car Parking Credits	20
7.4 Car Parking – Accessibility	21
8. CONCLUSIONS	22
 APPENDIX A - REFERENCES	 23

1. INTRODUCTION

This report is a 3rd amendment to the original Traffic Impact and Parking Assessment previously issued by this office dated 10 June 2021. The original report and 2 subsequent amendments were submitted to Bega Valley Shire Council (BVSC) as part of Development Application 2021.1271, determination dated 14 June 2022. The site development is now to be varied and will represent as a new Development Application to BVSC, relating to a reduced quantity of proposed buildings and renovations to the existing buildings.

As such, this report has been presented as a stand-alone document.

The report has been prepared upon the request of Mr Steve Pincini. It represents an update to all vehicular movements and car parking requirements in response to a Bega Valley Shire Council (BVSC) request, due to the reduction to the overall development site plan issued as Rev 9, 25.11.2024 'BUILDING 4 & 6 REMOVED' JPD-P78-MDR-05 (sheet 5) prepared by Brian Johnston Plan Design P/L (refer Fig 3).

The original development proposed 31 business units to the existing developed site. The new site plan represents as 19 business units included within Buildings 1, 2, 3 and 5 as existing building replacement, renovations and additions.

The report discusses the existing traffic flows on Mount Darragh Road and calculated peak traffic flows generated by the proposed reduced development, relative to the year 2025. Proposed intersection types relative to the AUSTRROADS Road Design Guides are again included.

Car parking arrangements and commercial vehicle manoeuvrability within the site in relation to various business uses have been assessed. This was completed with reference to BVSC Development Control Plan (DCP) 2013 (2020), AS2890 Off Street Parking Code and consideration from BVSC that AV access into and within the site may be approved as 'occasional use' (less than 1 visit per day as defined in AS2890.2 Cl 1.4.13 & 3.2.2) with an appropriate Traffic Management Plan.

2. SITE DETAILS

2.1 Site Location

The site is described as Lot 22 DP812587, 148 Mount Darragh Road (MR91) South Pambula NSW. The site is accessed via the sealed Mount Darragh Road fronting the site. Please refer Figure 1.

The site of the development is located on an existing industrial site previously occupied as a commercial timber storage yard for Mitre10 Pambula and prior a timber supply and manufacturing business.

2.2 Site Description (existing)

The total site occupies approximately 1.7 Ha in area. The site contains an eastern large structural steel portal framed storage shed, a central frontage timber framed office structure and north-western timber and steel framed structure.

2.3 Adjoining Land Use

The land use of adjacent allotments consists of Bobbins Transport industrial site to the west, rural grassed paddocks used for farming to the north and east, and Mount Darragh Road to the south.

Predominant in this area are several industrial subdivisions containing industrial businesses. These are located both east and west of the site and mainly on the southern side of Mount Darragh Road.

2.4 Site Zoning

The 2025 zoning of the site is Zone E4 - General Industrial - BVSC.

2.5 Existing Site Access

The site fronts Mount Darragh Road to the south with existing entrances in the eastern and western ends. Mount Darragh Road in this vicinity is reasonably straight in alignment and flat in terrain, with adequate sight distances in each direction for the existing posted speed limit of 80 km/hr.



Disclaimer: This report has been generated by various sources and is provided for information purposes only. Spatial Services does not warrant or represent that the information is free from errors or omission, or that it is exhaustive. Spatial Services gives no warranty in relation to the information, especially material supplied by third parties. Spatial Services accepts no liability for loss, damage, or costs that you may incur relating to any use or reliance upon the information in this report.

Figure 1 – Site Location Plan (NTS)

3. PROPOSED DEVELOPMENT

3.1 General

Please refer to Figure 2 - Existing Site Plan and Proposed Works. This figure shows the buildings present on the site and notes the proposed works for each of these buildings.

As previously mentioned in Section 2.2, the existing site contains an eastern large structural steel portal framed storage shed, a central frontage timber framed office structure and north-western timber and steel framed structure.

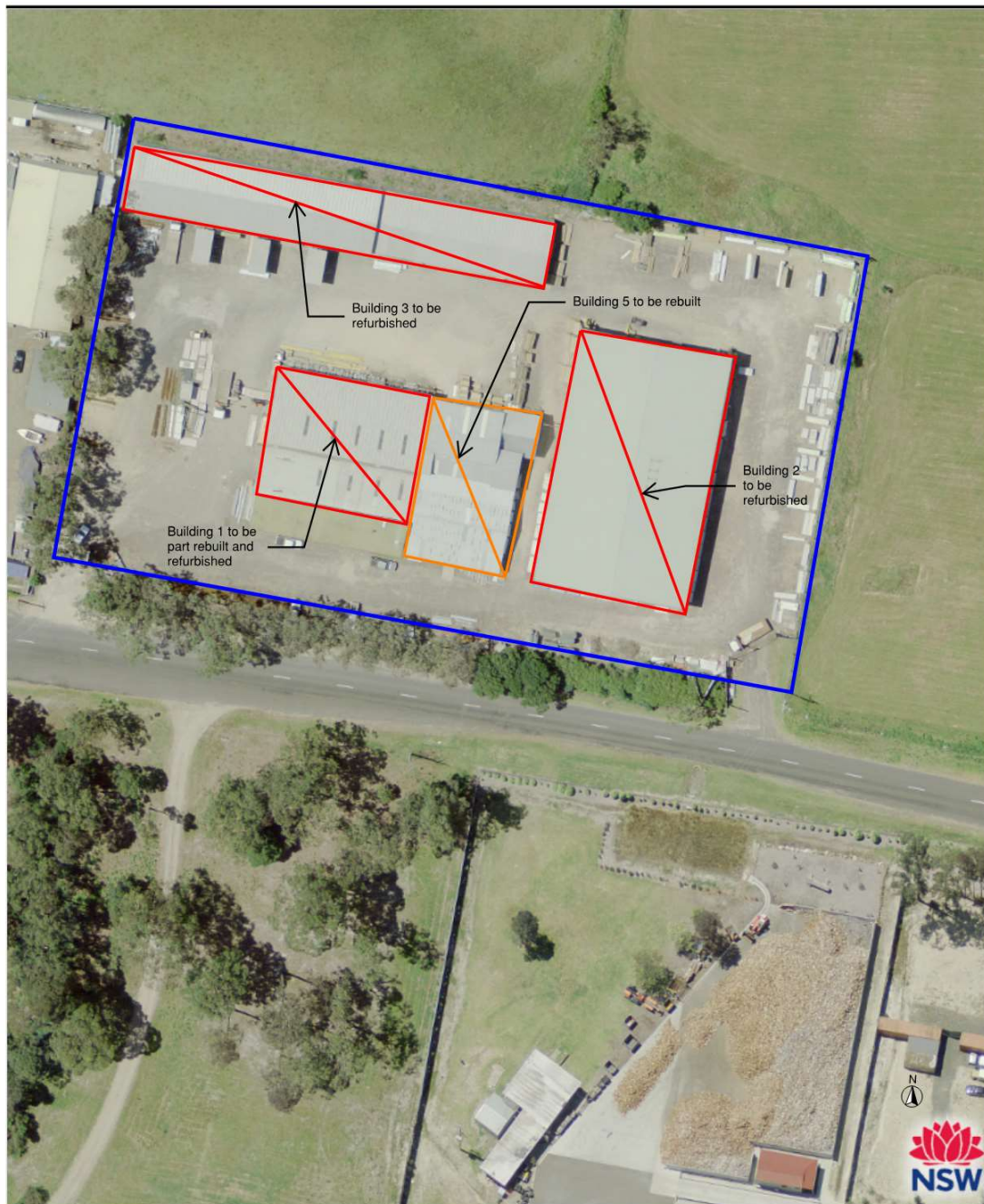
Please refer to Figure 3 – Adjusted Proposed Development Site Plan JPD-MDR-CP-05 Rev 9 25-11-24. According to this plan, the proposed adjusted development is described as follows:

- Redevelop building 1 as units 18 and 19,
- Refurbish building 2 as units 8, 9, 12-15,
- Refurbish building 3 as units 1 – 7,
- Replace the central building 5 as units 10, 11, 16 & 17.
- Units are generally at ground level with Units 8, 14 and 16 also having first floor offices.
- In total, 19 business units will be provided at a proposed area of 4765 square metres.

The development has been described as a Business Park. A Business Park development has been defined in the RMS (now TfNSW) - 'Guide To Traffic Generating Developments' October 2002 Issue 2.2 Section 3.10.4 (Reference 4). The description includes industrial, manufacturing, warehousing, office space, commercial and retail activities. Table 3.7 in Reference 4 also lists peak vehicle trip rates appropriate to each activity. The BCA, Part A6 (Reference 8) indicates the Building Class for Business Park development can include Class 5, 6, 7(b), 8(2) and 9(b).

3.2 Vehicular Access

The proposed development will formalise a main Entrance / Exit with Mount Darragh Road at the western end of the site with an Exit only at the eastern end.



Disclaimer: This report has been generated by various sources and is provided for information purposes only. Spatial Services does not warrant or represent that the information is free from errors or omission, or that it is exhaustive. Spatial Services gives no warranty in relation to the information, especially material supplied by third parties. Spatial Services accepts no liability for loss, damage, or costs that you may incur relating to any use or reliance upon the information in this report.

Figure 2 - Existing Site Plan and Proposed Works (NTS)

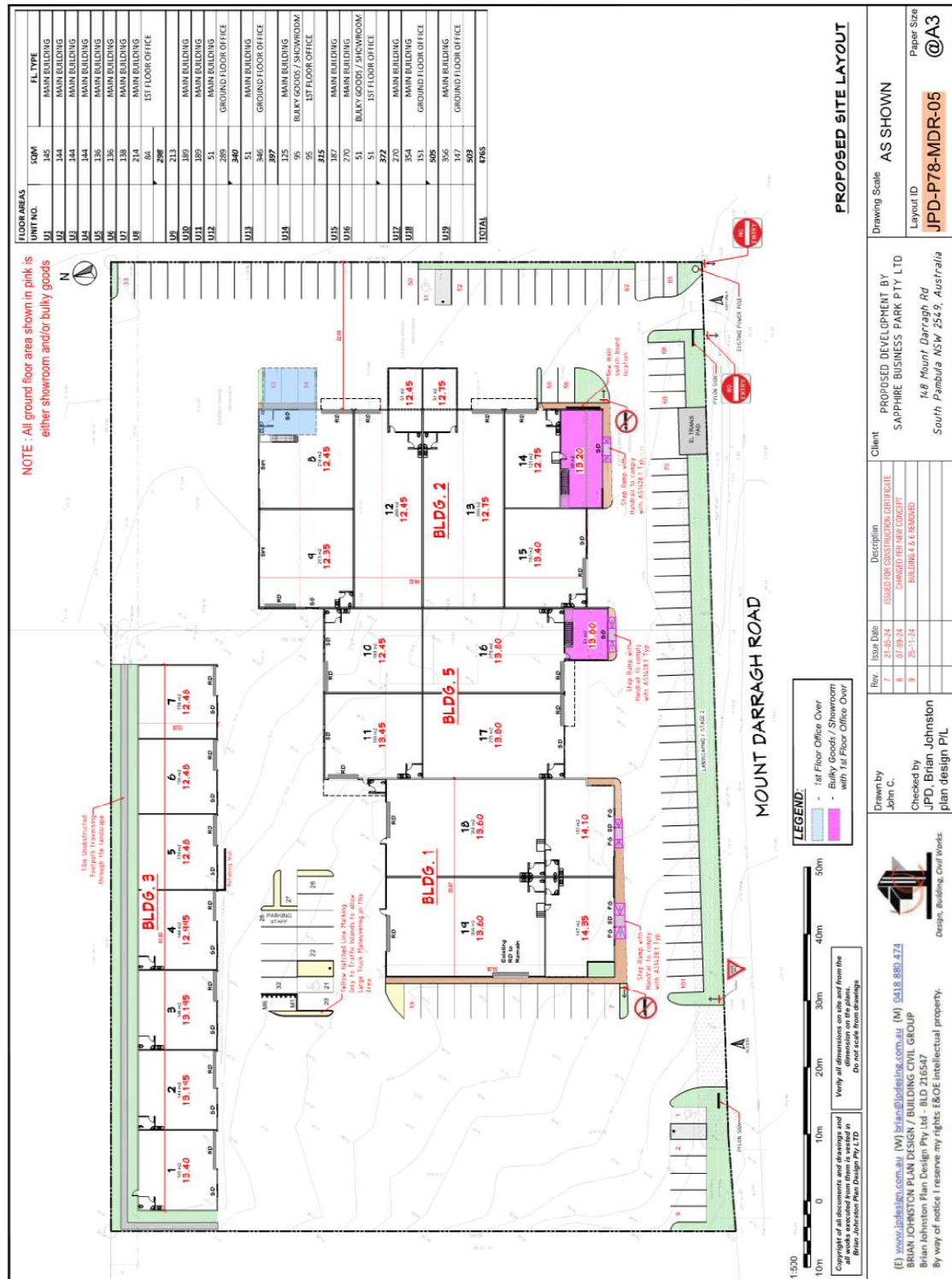


Figure 3 - Proposed Adjusted Development Site Plan 25.11.2024 (NTS)

4. EXISTING TRAFFIC CONDITIONS

4.1 Existing Traffic Mount Darragh Road

Mount Darragh Road is classified as a state Main Road - MR91. It provides a direct sealed link from the Princes Highway at South Pambula, via Mount Darragh, to Bombala. MR91 provides formal access to many commercial and industrial sites, distributed within the local vicinity of the proposed development.

Mount Darragh Road traffic counts received from BVSC were dated Oct 2022 (east of Lloyd St) and Nov 2017 (located near the site). The Oct 2022 figures, although more recent, are considered volatile due to much of the traffic being contributed from the Lloyd St subdivision of 70 lots. If 10% of the Lloyd St traffic turned west towards the development, the count indicates less vehicles, once yearly adjusted for population growth than Nov 2017 figures. Thus, the Nov 2017 figures were utilised as listed in Figure 4:

Road No.	0091 e6,w6
Road Name	Mount Darragh Rd
Site Description	200m West of Lloyd St
Nom Days	7
Year Month	2017-11
ADT N or E Bound	1103
ADT S or W Bound	1125
ADT Combined Directions	2228
85th% Speed N or E Bound	65
85th% Speed S or W Bound	69
Entered XL Register	22-11-17
Entered MapInfo Layer	22-11-17
Σ Vol Light Class 1-2	12605
Σ Vol Med Class Deleted 2-2013	-
Σ Vol Heavy Class 3-12	2991
Σ Vol Only Class 13	11
Σ Vol All Class 1-13	15607
% Class 13 of 1-13	0.1%
No of Effctv Days	7.0
DAV (Daily Av Vol)	2230
% Heavy Class 3-12	19.2%

Figure 4: Mount Darragh Road BVSC Traffic Counts Nov 2017

The November 2017 traffic data provided by the BVSC, indicates the Mount Darragh Road daily traffic volume is approximately 2228 vehicles per day (vpd) in both directions or approximately 1114 vpd average each way, based on an average 7 day weekly.

The traffic survey indicates that 85th percentile vehicle speed is ~69km/hr. In accordance with standard industry practise, 10% of daily traffic volume occurs in the peak hour period. Thus, peak hour traffic is represented as $10\% \times 1114 = 111$ vehicles per hour (vph) each way.

4.2 Projected Traffic Mount Darragh Road

Projected traffic for Mount Darragh Road has been updated to the year 2025 relative to the original report and DA submission date of the year 2021. In accordance with Austroads Guide to Traffic Management – Part 3 (AGTM-3) (Reference 1), the existing BVSC traffic count figures require adjustment for weekly / seasonal consideration. Population growth projection expected should also be considered for 20 years beyond current year (2025).

AGTM-3 Figure A.6 – Days of the Week variation, has already been accounted for with the 7-day average of the count. AGTM-3 Figure A.7 – Seasonal adjustment indicates a 10% peak of AADT occurs in January compared to 8.8% in November. Therefore, January vpd peak figures represent $(10/8.8 - 1)$ or 14% increase in January compared to November count of 1114 vpd = 1270 vpd each way.

Population growth factor is calculated in accordance with the BVSC Residential Land Strategy 2040 (May 2020) (Reference 10). The 'Growth Scenarios' table (Ref 10 Page 13) lists an expected 10.4% increase in population shire wide from 2019 to 2036. This equates to an average annual growth rate shire wide of 0.58%. Thus, adjustment for population growth to 2045 over future 20 years +8 years to present since 2017 count = $1.0058^{28} = 1.176$ (or 17.6% increase). This equates to an adjusted peak traffic vpd figure of $1270 \times 1.176 = 1494$ vpd each way in the year 2045. This has been summarised in Table 1 below:

Mount Darragh Rd	Two Way	One Way
• BVSC Nov 2017 Traffic count ADT	2228	1114
• Jan/Nov peak adjustment (+14%) vpd	2540	1270
• 20-year pop incr 2025 - 2045(+17.6%) vpd	2988	1494
• 10% vph peak	299	150

Table 1 - Mount Darragh Rd Existing/Projected Traffic Volumes

5. TRAFFIC GENERATION - PROPOSED DEVELOPMENT

5.1 Traffic Generation

The anticipated traffic rates generated by the development are included in Reference 4 - RMS - 'Guide To Traffic Generating Developments' October 2002 Issue 2.2.

The proposed development comprises 19 units of varying uses and square metreage. The traffic generation rates defined in Reference (Ref) 4 Section 3.10.4 includes industrial, manufacturing, warehousing, office space, commercial and retail activities. This section also lists peak vehicle trip rates in Ref 4 Table 3.7 appropriate to each activity.

Section 3.10.4 lists rates as follows:

$$\begin{aligned} \text{Equation (a): Peak vph} &= 1.1 \text{ vph (2 way) / 100 sq m gross area} \\ &= 1.1 \times 4765 / 100 \\ &= 53 \text{ vph (2 way)} \\ &= 27 \text{ vph (1 way)} \\ \text{Equation (b): Peak vph} &= 1.2 \text{ vph (2 way) / 100 sq m area office/showroom} \\ &+ 1.0 \text{ vph (2 way) / 100 sq m area factory(Industry)} \end{aligned}$$

The proposed peak traffic volumes generated by equation (b) are listed in Table 2:

NEW BUILDINGS	UNITS	AREA m sq	vph RATE	TOTAL vph
OFFICE	8, 12-14, 16, 19, 19	630	1.2/100	7.6
BULK GDS/SHOWRM	14, 16	146	1.2/100	1.8
INDUSTRY (GFL)	1-19	<u>3989</u>	1.0/100	39.9
TOTALS		4765		50 -2way
<u>Equation (b)</u>				25 -1way

Table 2 - Proposed Equation (b) peak traffic volumes per hour

(Note these figures have been represented in each unit detail in Table 5 Section 7.2).

In our previous reports we considered possible commercial use for all business units (with 2 storeys) and storage only for the rear single storage units. The traffic volumes generated represented in Table 3 were higher than those defined in Table 2. However, the adjusted Site Plan defines the usage of each unit area more accurately and hence Table 3 is now considered not relevant. Thus equation (a) figures (27 vph) will dominate from equation (b) Table 2 figures (25 vph).

Table 3 - Proposed peak traffic volumes per hour - DELETED

6. INTERSECTION ANALYSIS

6.1 General

Mount Darragh Road at the site frontage is a sealed, two-lane roadway with gravel shoulders. There is adequate road reserve width to provide an additional slip / storage lane without affecting adjacent land uses.

Analysis of the intersection types required on Mount Darragh Road should be in accordance with Austroads Guide to Traffic Management. Proposed access to the site is for 1 (western) entrance/exit and 1 (eastern) exit only.

Assessment of the traffic volumes, as described previously in Sections 4 and 5, indicate that for peak hourly traffic flow 27 vph will enter or exit the site with an opposing 150 vph on Mount Darragh Road. The majority of entering traffic is expected to be arriving from the east from the major population areas of South Pambula, Pambula, Eden, Merimbula and Bega.

Mount Darragh Road (MDR) in this vicinity is reasonably straight in alignment and flat in terrain, with adequate sight distances in each direction for the existing posted speed limit of 80 km/hr.

With reference to the Austroads Guide to Road Design Part 4A: Unsignalised and Signalised Intersections (Reference 2), page 20, Table 3.2: Safe intersection sight distance (SISD) and corresponding minimum crest vertical curve size for sealed roads ($S < L$), lists the SISD = 181m (for 80 km/hr approach). Assessment of the site shows that these distances are achievable for the two new intersections proposed.

Intersection design plans prepared by AF Legler & Associates Pty Ltd engineers (DWG No S604/T298 12.04.2023 Rev 0) show a CHR/AUL intersection design. These plans indicate SISD and ASD site distances will comply with the CHR/AUL intersection design.

6.2 Western (main) Intersection and Eastern exit of site with Mount Darragh Road (MDR).

Based on the figures represented in Section 5, the intersection peak traffic figures anticipated are as follows in Table 4:

MDR western approach:	
LHT into complex:	2 vph.
Trailing normal traffic:	150 vph travelling west.
MDR eastern approach:	
RHT into complex:	25 vph.
Opposing MDR peak traffic:	150+2 = 152 vph approaching from west.
Site exit to east:	
LHT exit out of complex:	25 vph (distribute evenly over 2 exits).
Opposing MDR normal traffic:	150 vph approaching from west.
Site exit to west:	
RHT exit out of complex:	2 vph (either exit).
Opposing MDR normal traffic:	150 + 150 + 25 = 325 vph approaching from both directions.

Table 4 - Proposed intersection peak traffic volumes per hour

Austroads Guide to Traffic Management Part 6: Intersections, Interchanges and Crossings Management (2020) (Reference 3), *Clause 3.3.6 Warrants for BA, AU and CH Turn Treatments*, includes Figure 3.25, which indicates traffic volumes and corresponding intersection types recommended. An extract of this Figure is included below with the subject site traffic figures indicated. This indicates that only Basic Intersection Type treatments are required (BAL / BAR).

However, usual BVSC standard is for the BAR slip lane to be sealed, or a CHR and/or AUL to be utilised.

Configurations of these Basic - BA, Auxiliary - AU and Channelised - CH(s) type intersection treatments may be obtained from Sections 3.2.2 - 3.2.4 of Reference 3 and Sections 7 and 8 of Austroads Guide to Road Design Part 4A: Unsignalised and Signalised Intersections (2023) (Reference 2).

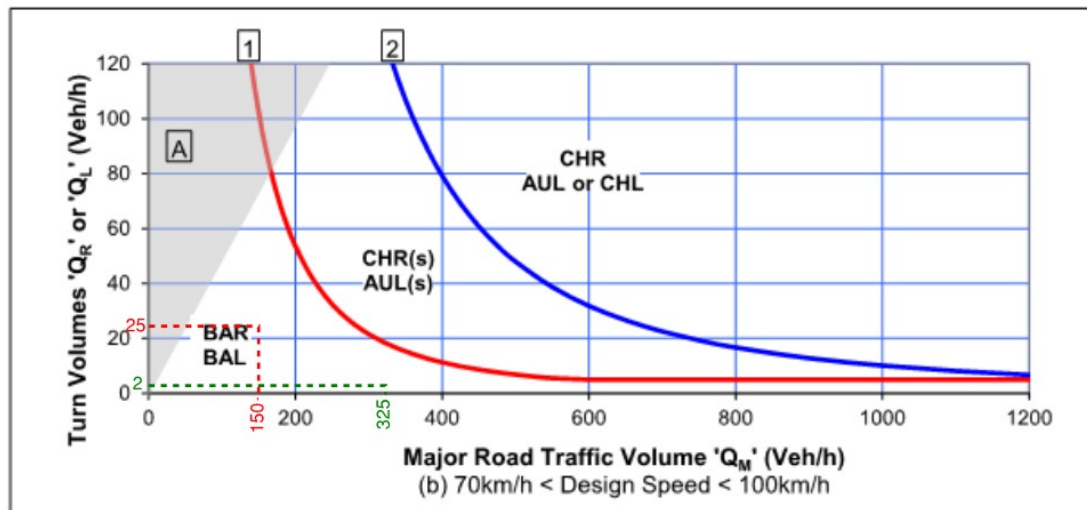


Figure 3.25: Warrants for turn treatments on major roads at unsignalised intersections

In 2021 we had previously been informed by BVSC that the adjoining Bobbins Transport development was referred to the then RMS (now TfNSW) for intersection requirements due to MDR being a NSW state jurisdiction Main Road (MR91). RMS dictated that a CHR(s) was required as entry to the site; it should therefore also be considered for the subject development.

With the previous DA submission, Bega Valley Shire Council (BVSC) DA2021.1271, Condition 24 had prescribed a CHR/AUL type intersection requirement. This is the subject of the intersection design plans prepared by AF Legler & Associates Pty Ltd engineers (DWG No S604/T298 12.04.2023 Rev 0).

Given that BVSC does not accept type BAR/BAL intersections and that Austroads no longer include AUR type intersections in Figure 3.25, we continue to recommend the CHR/AUL intersection types be adopted and the corresponding Legler plans be checked and approved for compliance and then updated to a For Construction issue/status if this has not already been completed.

7. INTERNAL ACCESS and CAR PARKING

7.1 Internal Access

For the previous DA2021.1271, the referenced BVSC DAP meeting notes (11 March 2021) indicated on Page 2 of 8, dot point 3, that articulated vehicle (AV) access was to be required on site. A subsequent referenced email from Will Nichols (BVSC) dated 08.11.2023 had indicated in principle that:

- AV access can be permitted as 'occasional use' (less than 1 visit per day as defined in AS2890.2 Cl 1.4.13 & 3.2.2) with an appropriate Traffic Management Plan.
- Council is ok for the development to lose some car parking/ landscaping to facilitate this.
- AVs to enter from the western entry, travel clockwise, and exit via the eastern exit.

It is considered that similar articulated vehicle delivery type be adopted for this new development proposal.

Updated AV and RV sweep curves had been provided by AF Legler & Associates Pty Ltd engineers (DWG No S604/T298 14.11.2023 Rev 0) for '19m semi & 8.8m service vehicle'. These plans reflect the above dot points and are part represented in the amended Figures 5.1b and 5.2 below, with the new development proposed site layout overlaid.

Figure 5.1b shows an AV design vehicle can enter from the western CHR entrance and exit from the eastern AUL exit with some tracking over proposed car / motor bike parking spaces. The affected 13 car and 7 motor bike parks are shown highlighted in yellow. It is proposed to provide a Traffic Management Plan describing the process to take place for such AV access events, as excerpted in Figure 5.1a and described on the Figure 5.1b plan as 'DRAFT PROCESS FOR OCCASIONAL AV ACCESS PROCEDURE'.

The 8.8m RV sweep path shown on Figure 5.2 does not affect any proposed car parks.

The adjusted site plan shows 101 car spaces being provided (including 3 accessible parks). Circulation road widths are determined by the AV sweep paths as mentioned above, and AS2890. As shown in Figure 5.1, it is recommended that all AV's be restricted to a clockwise rotation around the development loop road and to exit only from the eastern exit. Internal roadway widths are recommended as minimum 6.0m.

Draft Process for Occasional AV access procedure

All Tenants

Carparking spaces highlighted yellow will be blocked off from 6am on the day of a Semi Trailer delivery to site, in accordance with the Lease Agreement. Traffic cones, bunting & signage will restrict access to the car parking spaces until the delivery is complete & semi trailer has left site. Written notice will be provided by email & text to affected tenants as early as practicable but a minimum of 48hrs?? prior to access being required. Any vehicles not complying with the request may be towed with associated costs passed on to the vehicle owner.

Tenants that require Deliveries by Semi Trailer

Tenants that require semi trailer deliveries to site will have to arrange deliveries on days/times nominated in the relevant section of the Lease Agreement.(to be determined by Development Manager), and provide the required notice to all affected tenants.

Figure 5.1a - DRAFT PROCESS FOR OCCASIONAL AV ACCESS PROCEDURE.

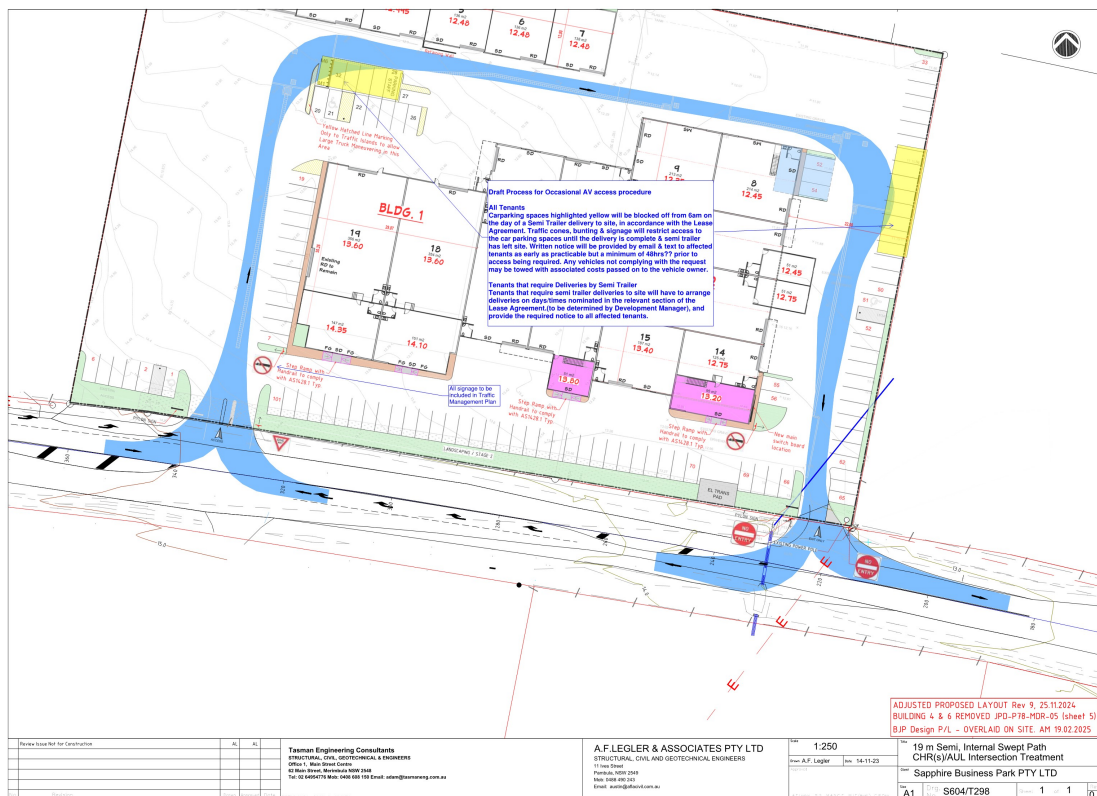


Figure 5.1b – Updated AV sweep paths by AF Legler & Associates Pty Ltd Engineers over adjusted site plan (AV's to circle clockwise and exit from eastern exit point only).

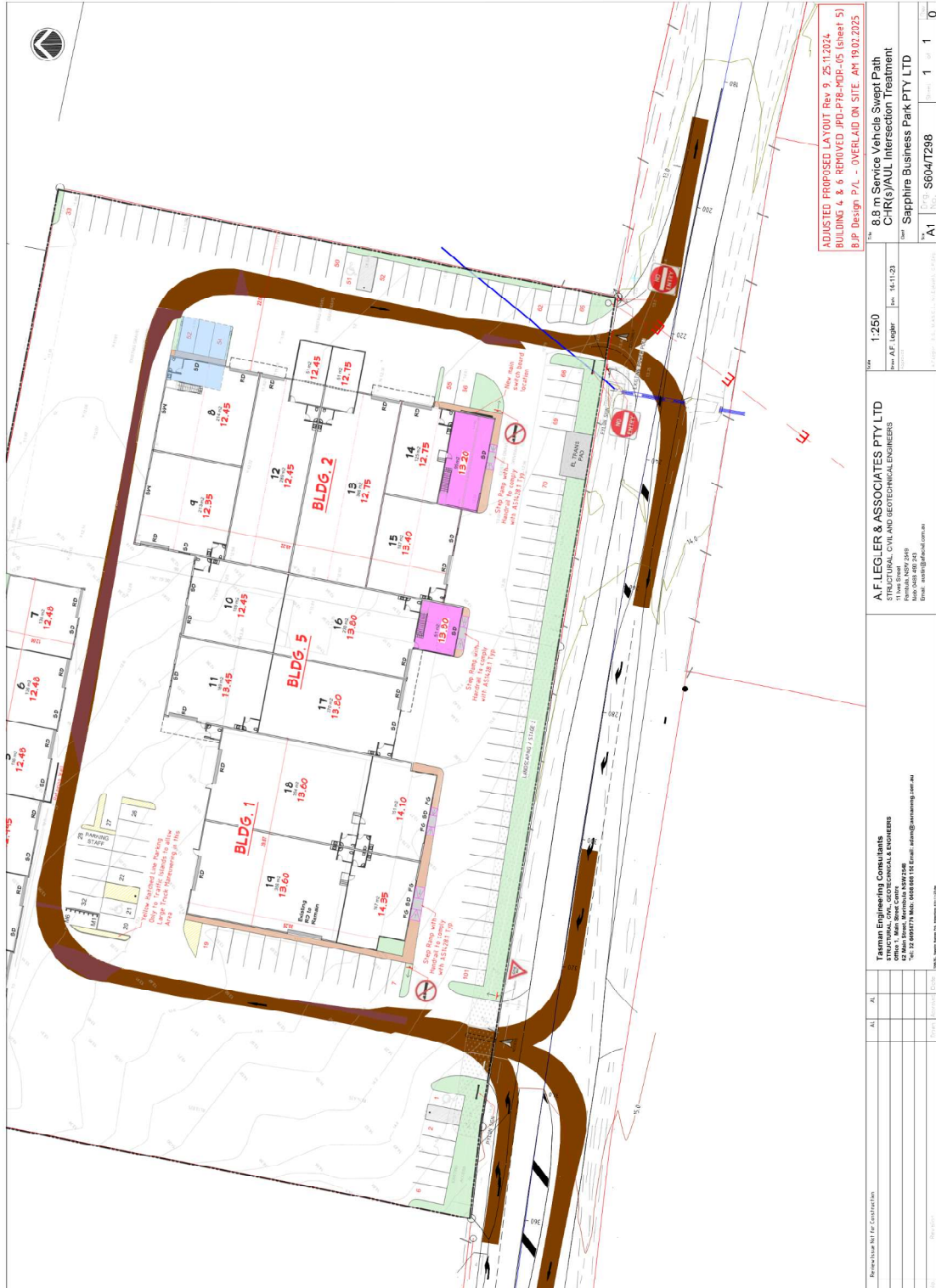


Figure 5.2 – Updated RV sweep paths by AF Legler & Associates Pty Ltd Engineers over adjusted site plan.

7.2 Car Parking Requirements

Car parking spaces shown on Figure 3 Site Plan issued as Rev 9, 25.11.2024 'BUILDING 4 & 6 REMOVED' JPD-P78-MDR-05 (sheet 5) prepared by Brian Johnston Plan Design P/L, should also indicate a proposed car parking length of 5.4m and width of 2.5m. The proposal provides for 101 car parks with the temporary loss of 13 parks due to occasional AV access by a proposed traffic management procedure.

AS2890.1 table 1.1 indicates for varying User Classes, carpark lengths and widths are required as follows:

User Class 1	-	Employee parking – Length 5.4m width 2.4m.
User Class 2	-	Medium term parking – Length 5.4m width 2.5m.
User Class 3 & 3A	-	Short term parking – Length 5.4m width 2.6m.

Given the mixed use proposed is to be mainly industry, the proposed car parking space length of 5.4m and width of 2.5m is satisfactory for Medium term parking.

The mixed business use of the proposed development indicates a varied number of car parking depending on the square metre area of each proposed use. BVSC DCP2013 (2020) (Reference 5) Table 5.5 lists prescribed rates as follows:

• Commercial (business, office and retail)	1/25 sq m
• First Floor (office)	1/40 sq m
• Industry	1/100 sq m
• Storage (not listed)	1/100 sq m suggested.

Upon previous discussion with BVSC, we had been advised to consider the equivalent use of Industry for business storage car parking rates (1/100 sq m with minimum 3 spaces per premise). We suggest however, that whilst the minimum 3 spaces per unit should apply for Industry use, for storage purposes with limited visitation expected by patrons, only 1 car park per unit may be relevant.

Based on the reduced proposed layout, there is to be 19 units defined as:

• OFFICE (1 ST FL)	Units 8, 14 and 16
• OFFICE (GFL)	Units 12, 13, 18 and 19
• BULK GDS/SHOWRM	Units 14 and 16
• MAIN BLD (GFL)	Units 1-19

The square metre area of the proposed units is summarised in the following Table 5:

FLOOR AREAS							
UNITS	AREA m sq GFL	AREA m sq 1ST FL	TYPE INDUSTRY	BLKY GDS COMM	STORAGE	TOTALS	
B01	0	0		0		0	OFFICE
	145		145			145	MAIN BLD
	145	0	145	0		145	
B02	0	0		0		0	OFFICE
	144		144			144	MAIN BLD
	144	0	144	0		144	
B03	0	0				0	OFFICE
	144		144			144	MAIN BLD
	144	0	144	0		144	
B04	0	0				0	OFFICE
	144		144			144	MAIN BLD
	144	0	144	0		144	
B05	0	0		0		0	OFFICE
	136		136			136	MAIN BLD
	136	0	136	0		136	
B06	0	0				0	OFFICE
	136		136			136	MAIN BLD
	136	0	136	0		136	
B07	0					0	OFFICE
	138		138			138	MAIN BLD
	138	0	138	0		138	
B08	0	84				84	OFFICE
	214		214			214	MAIN BLD
	214	84	214	0		298	
B09	0	0				0	OFFICE
	213		213			213	MAIN BLD
	213	0	213	0		213	
B10	0	0				0	OFFICE
	189		189			189	MAIN BLD
	189	0	189	0		189	
B11	0	0				0	OFFICE
	189		189			189	MAIN BLD
	189	0	189	0		189	
B12	51	0				51	OFFICE
	289		289			289	MAIN BLD
	340	0	289	0		340	
B13	51	0				51	OFFICE
	346		346			346	MAIN BLD
	397	0	346	0		397	
B14	95	95				95	OFFICE
	125		125	95		125	MAIN BLD
	220	95	125	95		315	
B15	0	0				0	OFFICE
	187		187			187	MAIN BLD
	187	0	187	0		187	
B16	51	51				51	OFFICE
	270		270	51		270	MAIN BLD
	321	51	270	51		372	
B17	0	0				0	OFFICE
	270		270			270	MAIN BLD
	270	0	270	0		270	
B18	151					151	OFFICE
	354		354			354	MAIN BLD
	505	0	354	0		505	
B19	147					147	OFFICE
	356		356			356	MAIN BLD
	503	0	356	0		503	
TOTALS	4535	230	3989	146	0	4765	

Table 5 – Units sq metre area U1 – U19.

Table 6 below shows the car parking requirements relative to the above rates and areas for Business Park type use:

NEW BUILDINGS	UNITS	AREA m sq	RATE/m sq	TOTAL CPKS
OFFICE (1 ST FL)	8, 14, 16	230	1/40	5.8
OFFICE (GFL)	12, 13, 18, 19	400	1/25	16
MAIN BLD (IND GFL)	1-19	3989	1/100	39.9
BULK GDS/SHOWRM	14, 16	146	1/25	5.8
TOTALS		4765	(round up)	68

Table 6 - Car Parking required for mixed Business Park type use.

As indicated previously in Section 7.1, the adjusted site plan shows 101 car spaces being provided (including 3 accessible parks) and 7 motor bike parks. Of these parks, the occasional AV access will temporarily affect 13 car and 7 motor bike parks.

This report does not require previous exploration of options for varied use to enable the car parking quantities to comply, thus Table 7 and 8 have been deleted.

Table 7 - Car Parking required for 2 storey commercial and storage use - DELETED

Table 8 - Car Parking required for 1st floor commercial and storage use - DELETED

7.3 Car Parking Credits

Section 5.9.3.1 and Table 5.4 of BVSC DCP 2013(2020) (Reference 5) discusses car parking credits that may apply to existing land uses.

Table 9 following, shows that the area of existing buildings pertaining to the site totals 3869 sq metres. At a listed credit rate of 1/100 sq metres, up to 39 car parking credits may pertain to the site.

Should this be approved by council, then the total number of car parks provided would be equivalent to 107+39=146, which would be greater than the required 52.

EXISTING BUILDINGS	UNITS	AREA m sq	RATE/m sq	CPK CREDITS
TOTALS		3869	1/100	39

Table 9 – Existing Buildings sq metre area / car parking credits.

7.4 Car Parking - Accessibility.

BVSC DCP 2013(2020) Clause 5.9.2.4 dot point two indicates that for a medium sized development such as that proposed, a minimum of 2 per 50 car parking spaces is to be designated for people using wheelchairs, 3 per 50 for Seniors and 2 per 50 for parents with prams. This could be open for discussion with council considering the remoteness and mainly industrial type use proposed, however the spaces indicated for people using wheelchairs should apply.

101 spaces are proposed, which would indicate that 4 car parking spaces for people using wheelchairs be provided in accordance with AS2890.6 and BVSC DCP 2013 (2020). This could readily be included within the adjusted Site Plan if need be. However, Table 6 indicates only **68** car parks are required for the development, which would indicate that the proposed 3 carparks for people using wheelchairs would be adequate.

8. CONCLUSIONS

Peak hourly traffic volumes have been calculated from traffic counts provided by BVSC. These traffic volumes have been compared to the anticipated traffic generated by the proposed adjusted development.

When compared with the recommended traffic volumes of the Austroads Guide to Traffic Management Part 6, Basic Intersection Type treatments are required (BAL / BAR) on Mount Darragh Road. We however recommend that CHR/AUL type intersection for the main entrance be considered. This was included within the referenced BVSC DA2021.1271 Determination 14 June 2022 Condition 24 as a CHR/AUL requirement and we recommend this remain.

The proposed adjusted Site Plan provides for 101 car parks and 7 motor bike parks including 3 car parks for people using wheelchairs .

Car parking options and internal traffic circulation have been explored. For the inclusion of 'occasional use' articulated vehicles within the development, relating to a recommended Traffic Management plan, 13 of the proposed car parking spaces and 7 motor bike spaces will be temporarily excluded.

Current council DCP2013 (2020) car parking rates determine that for the proposed adjusted site plan and usage, 52 car parks are required, including 1 accessible car park.

Car parking credits pertaining to the existing site use may apply and are to be adjudicated by council. These have been listed as 39 credits based on a 1/100 park/sq m of existing building space.

If the calculated 39 existing use car parking credits are deemed acceptable by council, the total number of car parks provided would be equivalent to $101+39=140$, which would be greater than the required 52.

APPENDIX A

References:

1. Austroads - Guide to Traffic Management - Part 3 (2020 AGTM-3).
2. Austroads - Guide to Road Design - Part 4A: Un-signalised and Signalised Intersections (2023).
3. Austroads - Guide to Traffic Management - Part 6: Intersections, Interchanges and Crossings Management, Clause 3.3.6 Warrants for BA, AU and CH Turn Treatments (2020).
4. RMS Publication - 'Guide To Traffic Generating Developments' October 2002 Issue 2.2.
5. BVSC - DCP 2013 (2020).
6. BVSC DAP - Formal notes of key issues 11 March 2021.
7. AS2890 (2004)- Off Street Parking Code.
8. BCA - Building Code of Australia.
9. BVSC - Traffic Count Data from for Mount Darragh Road.
10. BVSC - Residential Land Strategy 2040 (May 2020).
11. BVSC - DA2021.1271 Determination 14 June 2022
12. BVSC - BVSC officer Will Nichols email to Paul Pincini 08 November 2023