Reference: 0534l05v5

13 May 2020

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Heworth Holdings Group
Level 21, The Zenith Tower A, 821 Pacific Highway
Chatswood NSW 2067

Attention: Christopher Walsh – Manager of Development

Re: Proposed Mixed-Use Development, 138-156 Victoria Rd, Rozelle – Response to Transport for New South Wales RFI, Victoria Road Evening Access Strategy

Dear Christopher,

The below provides Ason Group's response to the request for information (RFI) from Transport for New South Wales (TfNSW), following the teleconference meeting held on Thursday 23 April 2020. The purpose of the meeting was to discuss the proposed changes to late night access arrangements in relation to the proposed mixed-use development (the Proposal) at 138-156 Victoria Road, Rozelle (the Site).

To mitigate concerns raised by Inner West Council (Council) over residential impacts to Waterloo Street, it is proposed that an alternative light vehicle egress be provided through the loading dock to Victoria Road during the evening / night-time period. TfNSW provided in principle support for this strategy during the meeting, subject to the provision of additional information.

In this regard, TfNSW has requested:

1. The forecasted number of vehicles leaving the Site between 8.00PM and 9.00PM, by land use type.

2. Noting that vehicles exiting via the loading dock would need to give-way to traffic on Victoria Road, a SIDRA assessment of the proposed egress from 8.00 – 9.00PM so that the performance of the egress (queue lengths within the Site, average delays, etc) can be assessed.

3. Arrangements within the car park and loading dock to manage vehicle movements, including measures to ensure enforcement of access restrictions.

Revised Access Strategy

It is noted that Ason Group has provided transport planning and traffic engineering consultancy services for the Proposal, the key recent traffic and transport document submitted is titled *Proposed Mixed-Use Development, 138-156 Victoria Road, Rozelle – Transport Assessment*, ref:0534r07v2, dated 20 December 2019 (the 2019 TA).

As part of the 2019 TA, it was proposed that all vehicle access, with the exception of service vehicles, would be via Waterloo Street. Service vehicle access to the loading dock was to remain via an access on Victoria Road, consistent with earlier evolutions of the Proposal. Following the 2019 DA submission, it was agreed with TfNSW that this service vehicle access was acceptable, subject to access to the dock being prohibited during the morning (7.00 –10.00AM) and evening (4.00 – 7.00PM) peak periods.

The latest access strategy seeks to permit light vehicle egress through the loading dock to Victoria Road during the late evening hours from 8.00PM to 3.00AM the following morning. This strategy would divert all egress traffic away from the Waterloo Street access onto Victoria Road during this period.

This egress route would be facilitated by a curved vehicle ramp that permits light vehicles to access the loading dock area, as shown in **Figure 1**, detailed basement and loading dock plans are appended at **Attachment 1**. The ramp would be controlled via roller shutter doors, with the access into the loading dock

outside of the 8.00PM to 3.00AM completely restricted, and the Waterloo Street access remaining open. From 8.00PM – 3.00AM the egress onto Waterloo Street would be closed off and the ramp into the loading dock (and thus the Victoria Road access) would be opened. This would apply to all vehicles exiting the basement (including residential traffic), as our analysis indicates that the Victoria Road access would operate satisfactorily with all development traffic exiting the Site at this time.

Heavy vehicle access into the loading dock would be restricted during these hours to remove any interaction between light and service vehicles. Cars driving through the loading dock would be guided by directional lighting, signs and pavement markers towards Victoria Road. Management of this arrangement would be part of the Plan of Management (POM) that is to be implemented as part of the development and this egress arrangement will be outlined in a detailed loading dock management plan prior to the opening of the development in line with the recommended TfNSW condition of consent.

Figure 1: Preliminarily Proposed Car Park Ramp Egress

Assessment Methodology

Acknowledging that our work to date has focussed on an evening peak period of 5.00 – 7.00PM, in order to respond to the TfNSW RFI, the following exercises have been undertaken:

1. Determination of the likely westbound traffic volumes on Victoria Road between 8.00 – 9.00PM.

2. Calculation of the likely development traffic egressing the Site between 8.00 – 9.00PM.

3. SIDRA analysis based on the input traffic volumes above.

Victoria Road Evening Traffic Volumes

The TfNSW Traffic Volume Viewer indicates that a 'Permanent Classifier' counter station is located on Victoria Road, 60 metres north of Byrnes Street in Rozelle, prior to Iron Cove Bridge. Importantly, this counter station – which records westbound traffic volumes – is located approximately 500 metres from the Site and therefore would provide an acceptable representation of the westbound traffic conditions adjacent to the Site.

Figure 2 presents a graph of the 2019 average weekday volumes of westbound traffic at the count station. These counts are between 23 July 2019 to 27 September 2019, which were selected as they represent the typical non-school holiday weekday volumes.

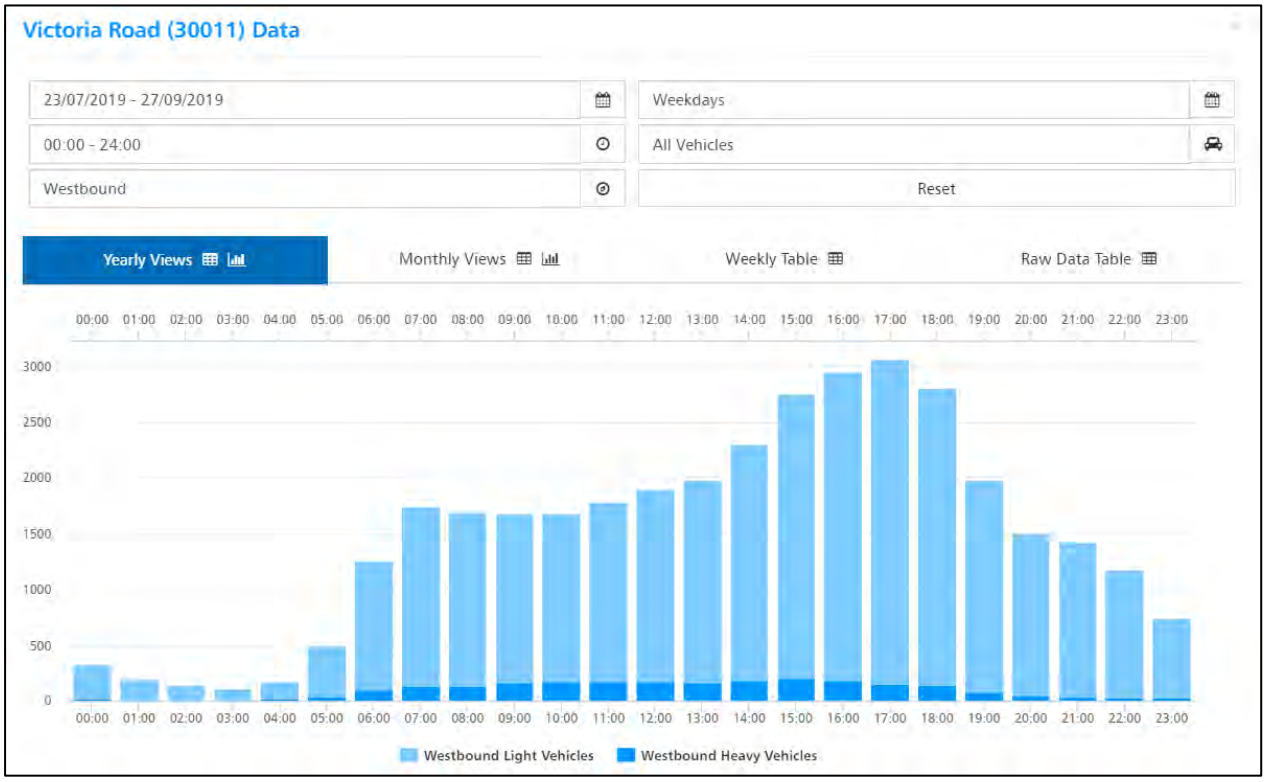


Figure 2: Victoria Road 2019 Westbound Weekday Traffic

The graph in **Figure 2** confirms that the westbound weekday traffic volume at 8.00PM decreases significantly from the peak traffic volumes recorded between 3.00 – 7:00PM (note, PM peak hour is from 5.00 – 6.00PM). At 8.00PM there is an average weekday total of 1,502 vehicles per hour (vph) which is substantially lower than the traffic volume of 3,067 vph at 5.00PM and noticeably lower than the morning road network peak hour traffic of 1,688 vph during the 8.00 – 9.00AM peak.

Therefore, it is clear that the alternative Victoria Road egress would operate during a period of lower traffic volumes on Victoria Road.

Forecast Evening Development Traffic Generation

As mentioned, the traffic analysis to date has focussed the standard evening peak period of 5.00 – 7.00PM and specifically the peak hour of 5.00 – 6.00PM. In order to determine the traffic generation between 8.00 – 9.00PM, the methodology employed consists of:

1. Establish the PM peak hour traffic generation of the Site between 5.00 – 6.00PM.

2. Obtain daily (24-hour) traffic profiles for the land use types of the Proposal (Club, Retail, Commercial and Residential).

3. Apply the profiles to the PM peak hour traffic volumes to determine the likely traffic generation by land use type between 8.00 – 9.00PM.

PM Peak Hour Traffic Generation

Based on the 2019 TA traffic generation rates and assumptions, the Proposal would generate a total of 166 vehicle trips per hour during the 5.00 – 6.00PM peak hour based on the latest parking and GFA yields. The following table details the total two-way traffic generation during 5.00 – 6.00PM.

Table 1: 5.00-6.00PM Two-way Traffic Generation

User Group	Vehicles per hour
Club & Restaurant	40
Residential	28
Commercial	12
Retail & Supermarket	86
Total	**166**

24-hour Traffic Profiles

24-hour traffic profiles have been developed for each of the land uses proposed. The following summarises the details of the survey data used for each land use profile:

- Club & Restaurant: Patron Surveys of Royal Exchange Hotel, Gymea Hotel, PJ Gallaghers Pub and Castle Hill Tavern between 10.00AM – 2.00AM.
- Residential: 7-day, 24-hour traffic surveys of the residential estate at Governor Drive, Cobbitty.
- Commercial: 7-day, 24-hour traffic surveys of 97 Waterloo Road, Macquarie Park.
- Retail & Supermarket: 7-day, 24-hour traffic surveys of a small suburban shopping centre at Glenwood Park Shopping Village.

It is noted that there is limited available data and data sources when it comes to development traffic generation assumptions for time periods after 7.00PM in the evening. The above surveys essentially represent the data sources available to us that cover this evening time period and whilst the Sites surveyed are consistent with the land use types proposed, it is accepted that (strictly speaking) ideally Sites that were more 'comparable' could be used for the purpose of this assessment.

However, it should be noted that these profiles are being used to establish a 'relationship' between traffic generation volumes from 5.00 – 6.00PM and 8.00 – 9.00PM, not to calculate traffic generation volumes. Within this context, the surveys used are considered suitable for the function required.

Figure 3 presents the adopted traffic generation profiles. In addition, these profiles have been applied to the PM peak hour development traffic generation volumes presented in Table 1 and therefore present the potential traffic generation of the Proposal across the 24-hour period and (in particular) the likely traffic generation at 8.00 – 9.00PM.

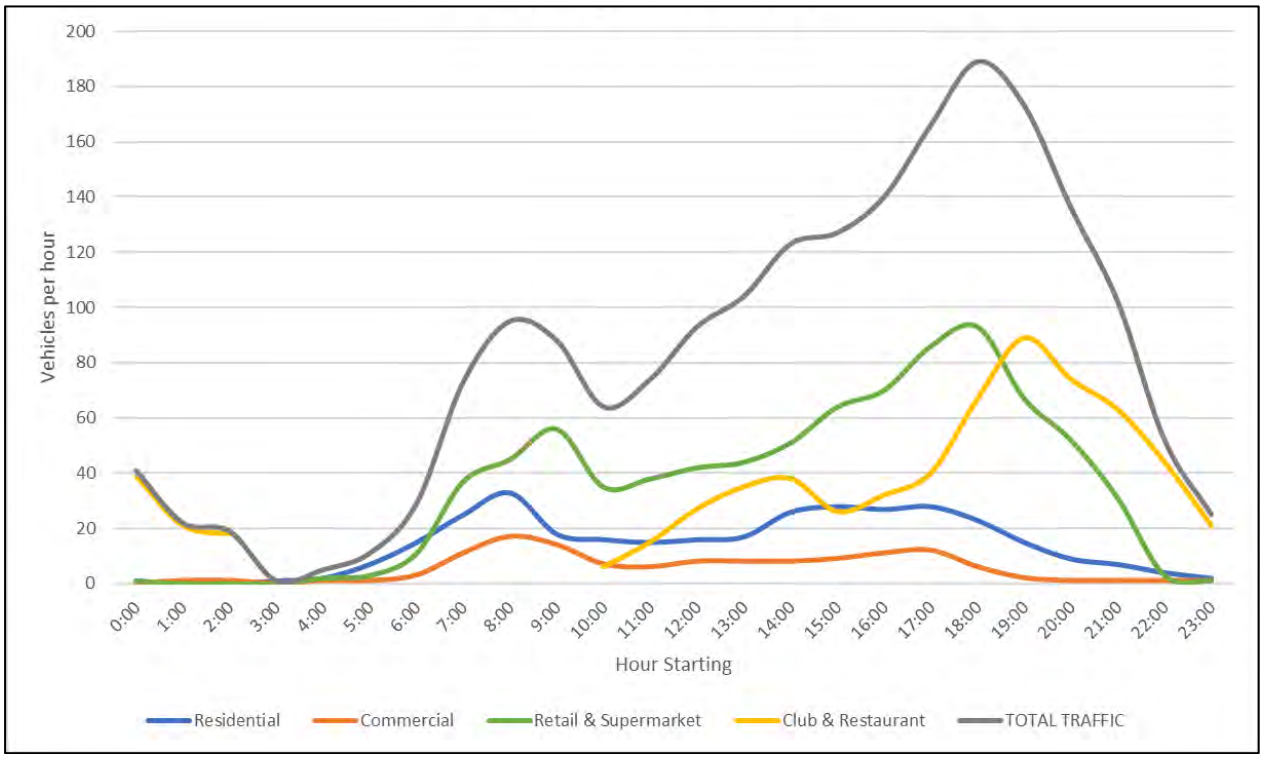


Figure 3: Adopted Traffic Profiles by Land Use

The relevant results of the profile analysis are presented in **Table 2:** by land use type. In summary, the results indicate that:

- The forecast traffic generation between 8.00 – 9.00PM would be 136 total (inbound and outbound) trips.
- Using the inbound and outbound proportions from the survey data, it is anticipated that the 136 trips would consist of:
  - 68 inbound trips, which would continue to use the Waterloo Street access, and
  - 68 outbound trips, which are proposed to use the loading dock egress to Victoria Road.

Table 2: Profile Analysis Results

User Group	5.00-6.00PM Traffic (two-way)	Proportion of 5.00-6.00PM Traffic at 8.00-9.00PM	8.00-9.00PM Traffic (two-way)	8.00-9.00PM Traffic (outbound)
Club & Restaurant	40	186%	74	37
Residential	28	33%	9	3
Commercial	12	10%	1	1
Retail & Supermarket	86	60%	52	27
Total	**166**	**-**	**136**	**68**

SIDRA Modelling of Victoria Road Egress

SIDRA modelling has been undertaken at the proposed egress onto Victoria Road between 8:00PM – 9:00PM. As established above, there would be a total of 68 vehicles exiting the Site during this time period. The SIDRA modelling indicates that if this volume of traffic was to egress the Site via the proposed loading dock access, the access would operate at a Level of Service (LOS) of B with an average delay of 11.8 seconds per exiting vehicle resulting in a 95% Back of Queue length of 2.4 metres, which is less than 1 car. Relevant SIDRA modelling outputs are appended at **Attachment 2**.

An additional sensitivity assessment has been undertaken that assumes 136 vehicles would be exiting via the loading dock egress across the subject hour, which equates to a 100% increase from the 68 vehicles of the standard assessment. Under this scenario, the access would continue to operate at an LOS B with an average delay of 12.1 seconds and a 95% Back of Queue length of 5.0 metres, which is still less than 1 car. In summary, the resultant impacts would be limited to an increase of just 0.3 seconds of delay and little to no increases in queue length.

The following table summarises the results of the SIDRA analysis.

Table 3: 8.00-9.00PM SIDRA Assessment of Victoria Road Access

Scenario	Delay (s)	Queue Length (m)	Level of Service
Standard Assessment	11.8	2.4	B
Sensitivity Assessment	12.1	5.0	B

As is evident from the data above, traffic volumes on Victoria Road (refer to Figure 2) and Site development traffic volumes (refer to Figure 3) are forecast to decrease from 9.00PM onwards through to the morning of the following day. Accordingly, the results above for the 8.00 – 9.00PM hour reflect the 'worst case' hour and at all other hours that the alternative access is proposed, the egress would operate at performance levels above those presented in Table 3.

Conclusion

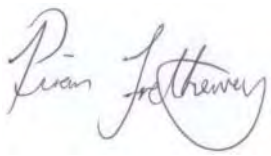
The following summarises the conclusions of our analysis undertaken to respond to the TfNSW RFI:

- The Proposal is forecast to generate 136 trips during the 8.00 – 9.00PM hour, including 68 outbound movements that are proposed to use the loading dock egress to Victoria Road.
- 94% of these 68 outbound trips would be associated with the Club and Retail uses, with only 3 trips (4%) associated with the Resident use,
- The Standard and Sensitivity SIDRA analysis indicates that the egress would perform at a 'Good level with Acceptable delays' with a level of service of B and queues at below 1 car in length.

In summary, the analysis demonstrates that the proposed egress via the loading dock to Victoria Road for all vehicles would operate satisfactorily for all departing Site traffic including that associated with the residential component of the development.

We trust the above adequately responds to TfNSW's RFI. Should you have any queries, please contact the undersigned.

Yours sincerely,



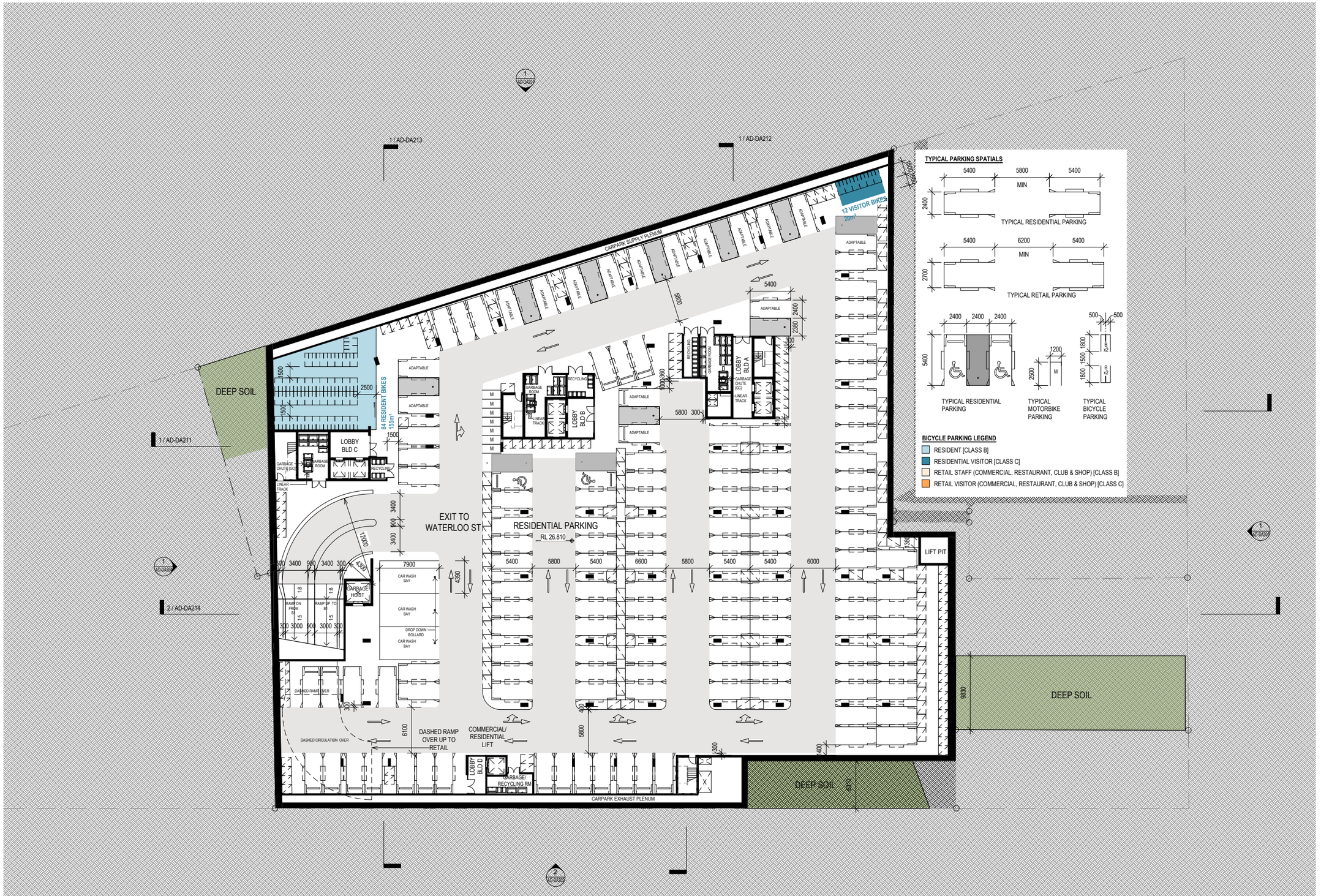
Piran Trethewey
Director – Ason Group
Email: piran.trethewey@asongroup.com.au

Attachment 1: Relevant Plans

Attachment 2: SIDRA Outputs

Attachment 1

Relevant Plans (at A3)



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[Nom. Architect] Doug Southwell /

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2	DEVELOPMENT APPLICATION	12.0

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[Project] Rozelle Mixed Use Development - Tigers Leagues Club

[Client] HEWORTH

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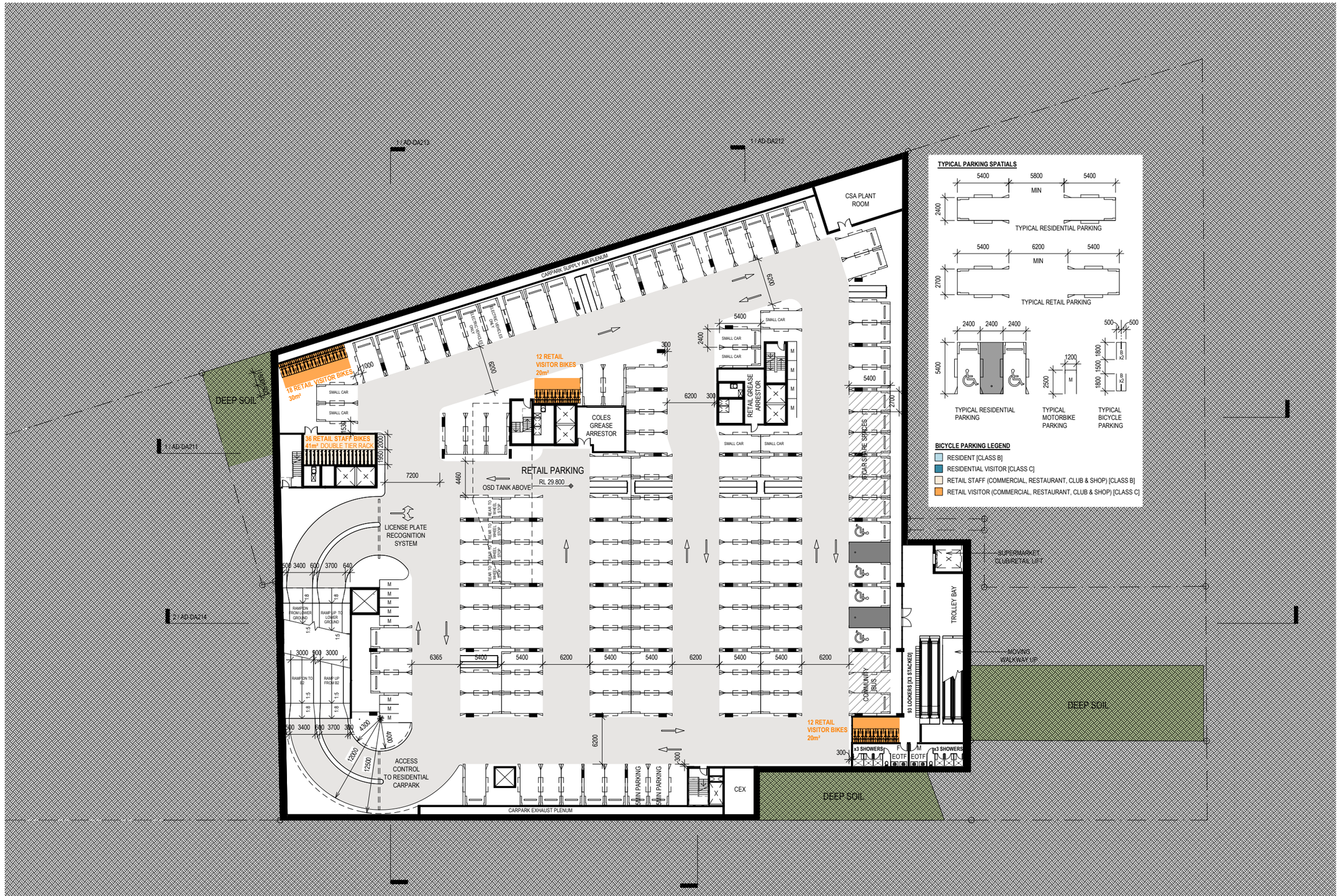
[Scale] As indicated @ A1

BASEMENT LEVEL 2 - RESIDENTIAL PARKIN

[Ref] 20170127 [Dwg No] AD-DA100 [Rev]



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[Scale] As indicated @ A1

BASEMENT LEVEL 1 - RETAIL PARKIN

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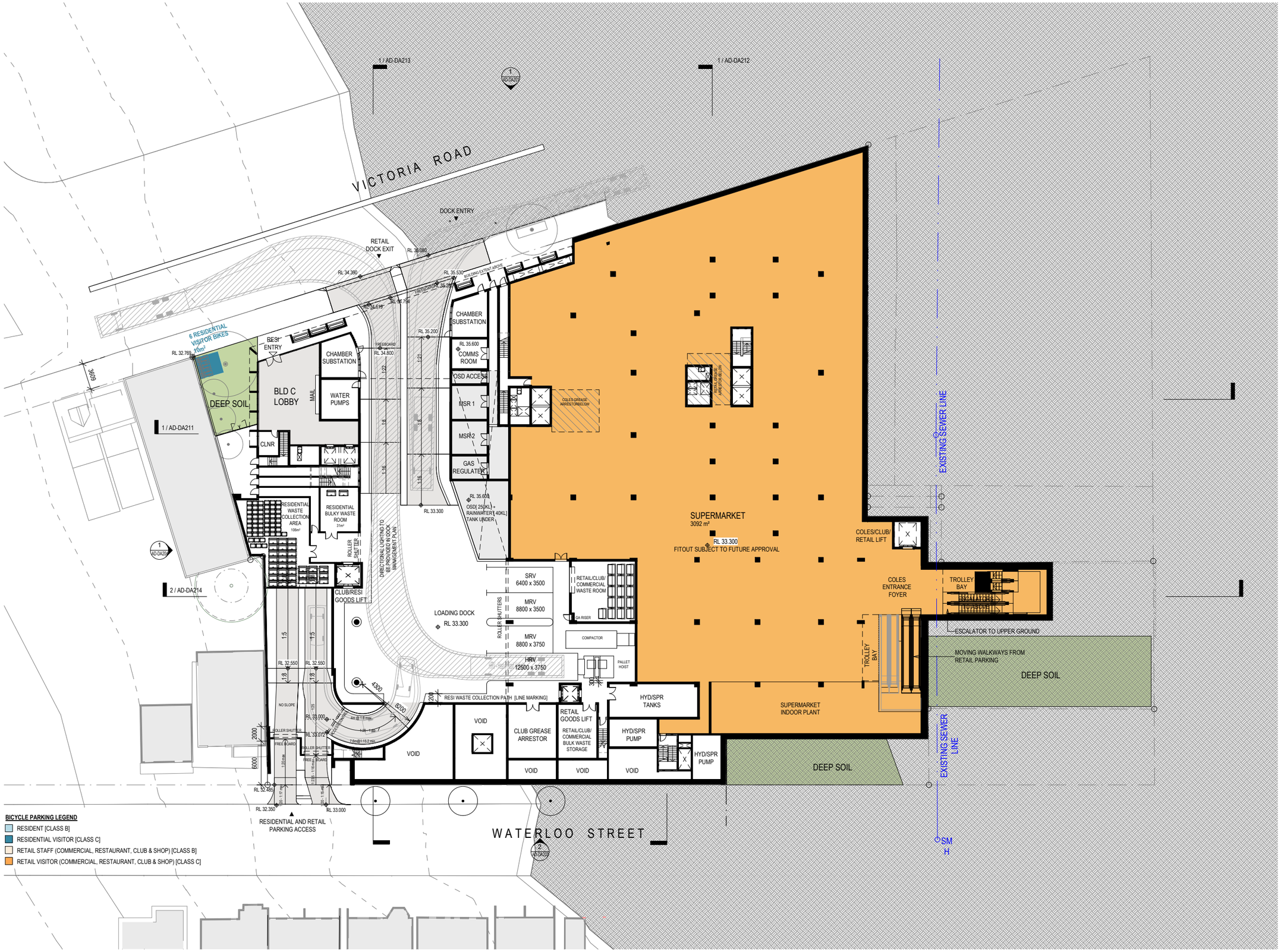

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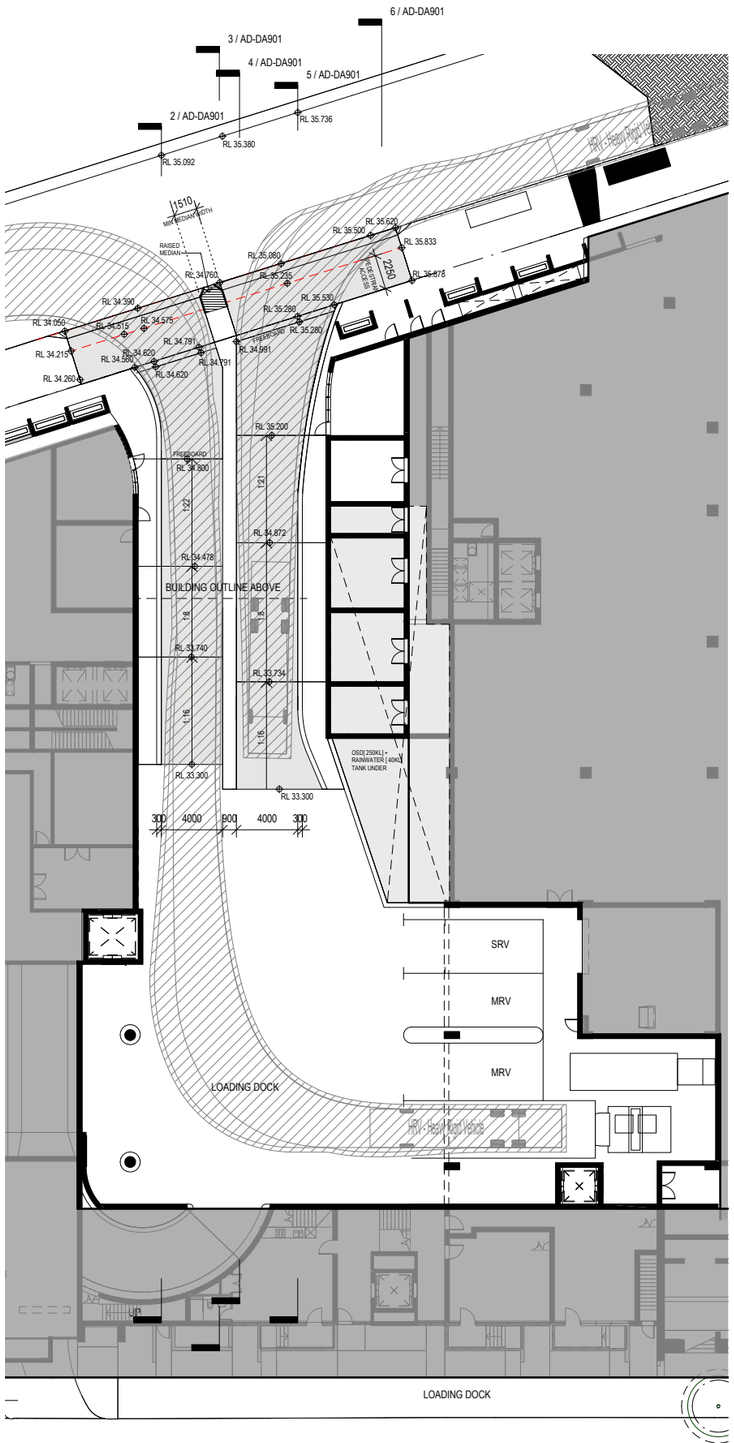
FLOOR PLAN - LOWER GROUN

[Ref] 20170127 [Dwg No] AD-DA102 [Rev]



/ Victoria Rd Loading Dock Entry Ramp
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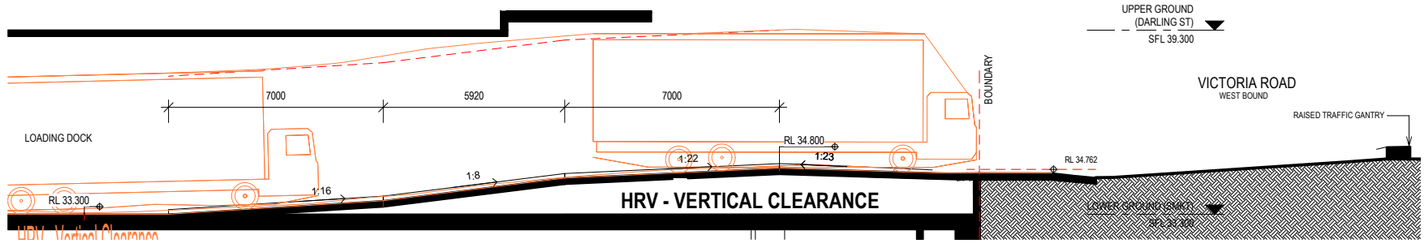

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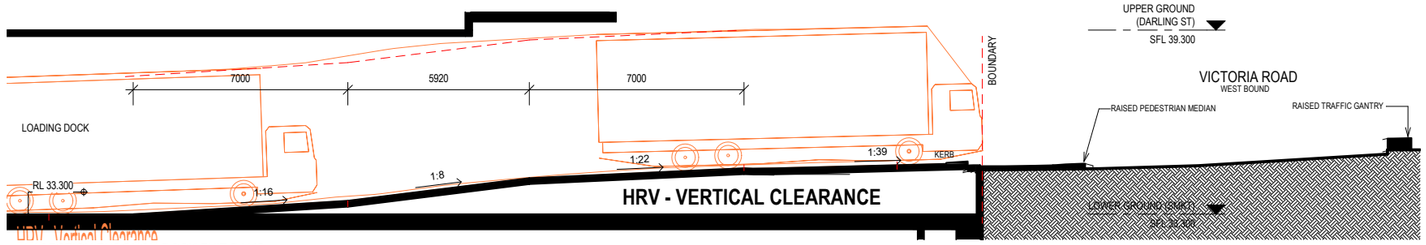

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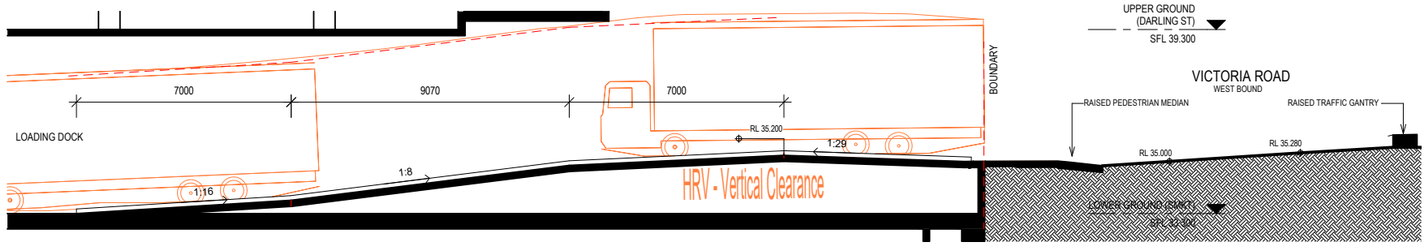

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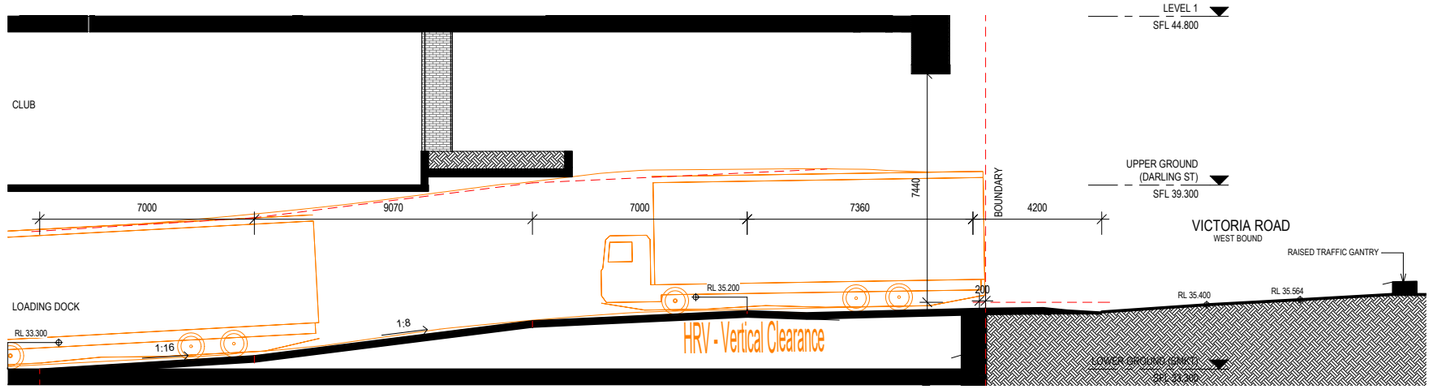

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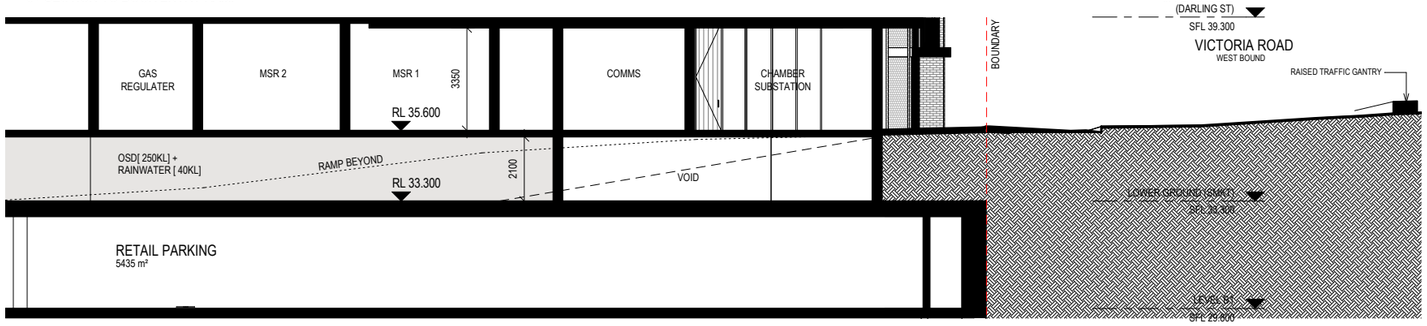

6 / SECTION THROUGH OSD - ALL SECTIONS 1:100

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[Nom. Architect] Doug Southwell /

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[Project] Rozelle Mixed Use Development - Tigers Leagues Club

[Client] HEWORTH

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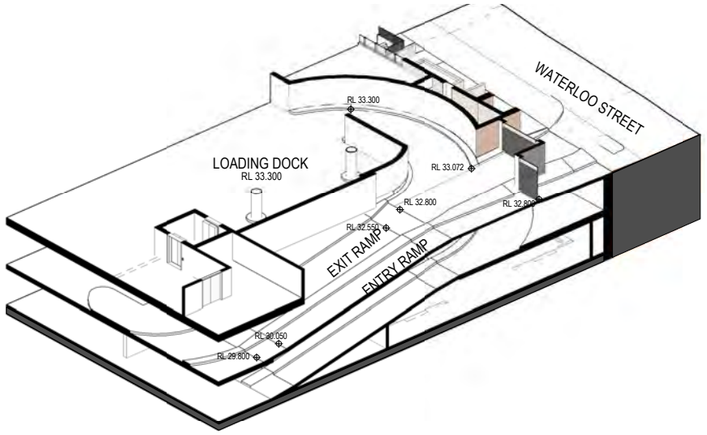
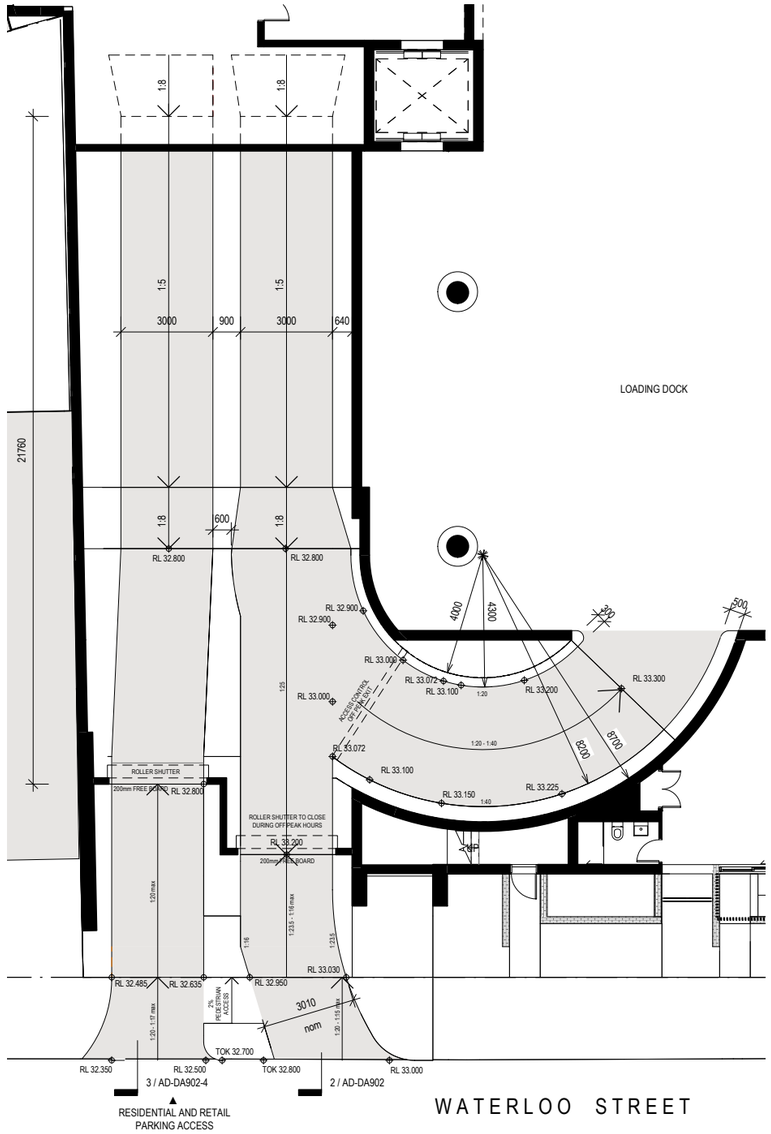
As indicated @ A1

VEHICLE ENTRY RAMP - VICTORIA F

[Ref] 20170127 [Dwg No] AD-DA901 [Rev]





Waterloo Street Vehicle Entry Ramp
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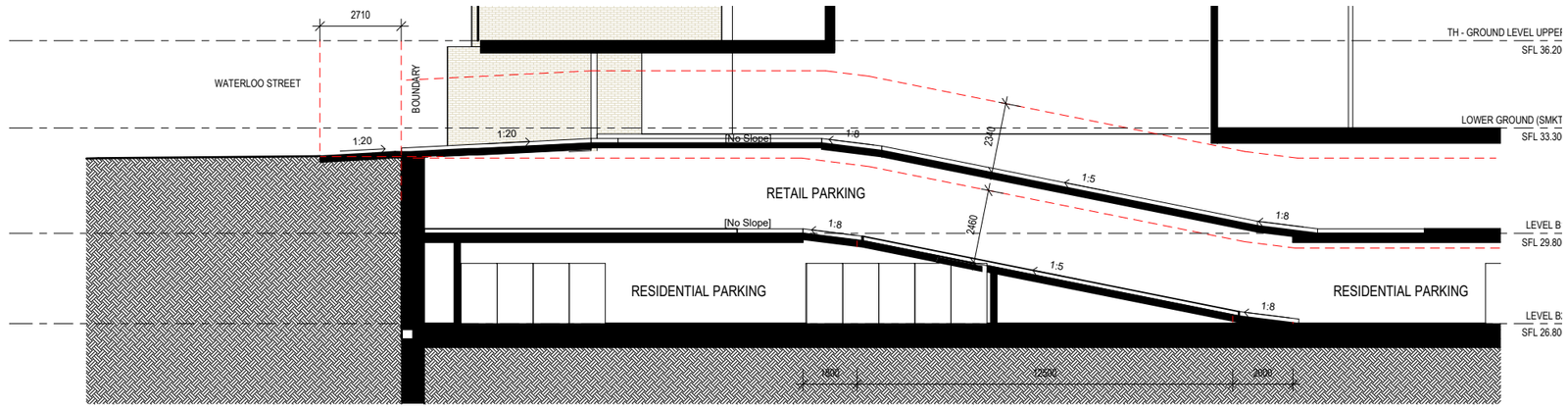
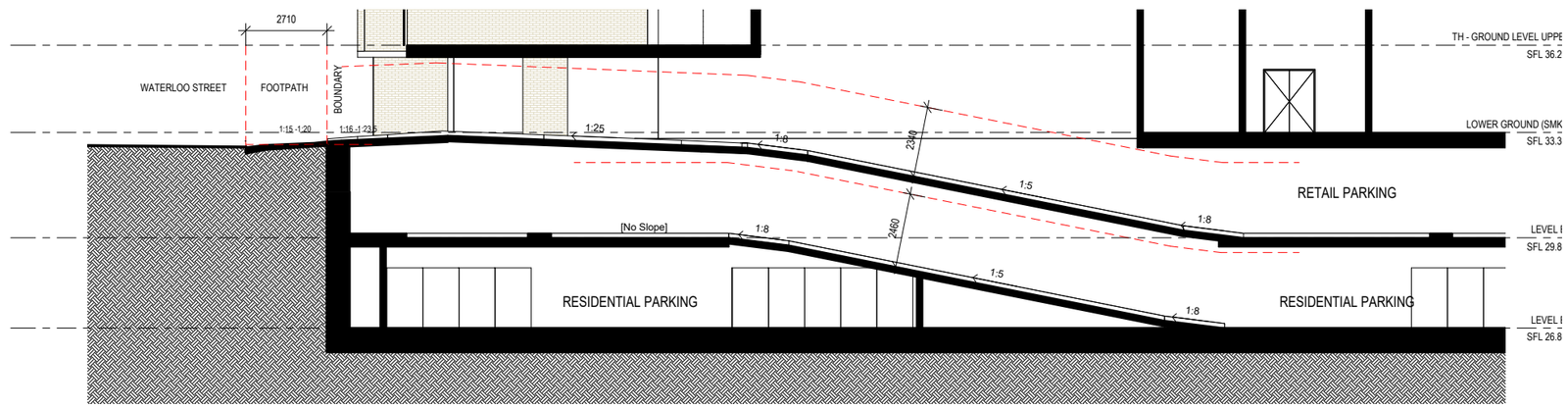


ENTRY RAMP RETAIL/ RESIDENTIAL CAR PARK



EXIT RAMP RETAIL/ RESIDENTIAL CAR PARK - ALL SECTIONS 1:100

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[Project] Rozelle Mixed Use Development - Tigers Leagues Club

[Client] HEWORTH

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[Scale] As indicated @ A1

VEHICLE ENTRY RAMP - WATERLOO STRE

[Ref] 20170127 [Dwg No] AD-DA902 [Rev]

Attachment 2

SIDRA Outputs

MOVEMENT SUMMARY

Site: 101 [Victoria Road Site Access 8-9pm [Standard Assessment]]

Site: Victoria Road x Site Access
Scenario: 8pm - 9pm
Site Category: (None)
Giveway / Yield (Two-Way)

Movement Performance - Vehicles												
Mov ID	Turn	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
South: Site Access												
1	L2	72	0.0	0.097	11.8	LOS B	0.3	2.4	0.51	0.85	0.51	17.8
Approach		72	0.0	0.097	11.8	LOS B	0.3	2.4	0.51	0.85	0.51	17.8
East: Victoria Road (95m)												
5	T1	1581	3.7	0.277	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	59.9
Approach		1581	3.7	0.277	0.0	NA	0.0	0.0	0.00	0.00	0.00	59.9
West: Victoria Road (30m)												
11	T1	1173	4.8	0.124	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	60.0
Approach		1173	4.8	0.124	0.0	NA	0.0	0.0	0.00	0.00	0.00	60.0
All Vehicles		2825	4.1	0.277	0.3	NA	0.3	2.4	0.01	0.02	0.01	56.3

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Vehicle movement LOS values are based on average delay per movement.
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

Site: 101 [Victoria Road Site Access 8-9pm [Sensitivity Assessment]]

Site: Victoria Road x Site Access
Scenario: 8pm - 9pm
Site Category: (None)
Giveway / Yield (Two-Way)

Movement Performance - Vehicles

Mov ID	Turn	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
South: Site Access												
1	L2	143	0.0	0.193	12.1	LOS B	0.7	5.0	0.53	0.89	0.53	17.6
Approach		143	0.0	0.193	12.1	LOS B	0.7	5.0	0.53	0.89	0.53	17.6
East: Victoria Road (95m)												
5	T1	1581	3.7	0.277	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	59.9
Approach		1581	3.7	0.277	0.0	NA	0.0	0.0	0.00	0.00	0.00	59.9
West: Victoria Road (30m)												
11	T1	1173	4.8	0.124	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	60.0
Approach		1173	4.8	0.124	0.0	NA	0.0	0.0	0.00	0.00	0.00	60.0
All Vehicles		2897	4.0	0.277	0.6	NA	0.7	5.0	0.03	0.04	0.03	53.2

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Vehicle movement LOS values are based on average delay per movement.
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.