



Ref: 0417r01v02

5/08/2021

McKees Legal Solutions
Suite G18 / 25 Solent Circuit
Baulkham Hills NSW 2153

Attention: Graham McKee

**RE: 225 BUNGARRIBEE ROAD, BLACKTOWN (DA-21-00558)
KRISHATHI PTY LIMITED -V- BLACKTOWN CITY COUNCIL (LEC CASE NO. 2021 / 146814)
LETTER OF RESPONSE TO TRAFFIC CONTENTIONS**

Dear Graham,

We refer to recent correspondence concerning the abovementioned Court proceedings and the Statement of Facts and Contentions (SOFC) issued by Blacktown City Council (Council) dated 14/07/2021, relating to the deemed refusal of Development Application, DA-21-00558.

We note that following the issue of the SOFC, amendments to the architectural drawings have been incorporated, including amendments to the vehicle access, circulation, traffic and parking aspects of the development to address Contentions 6 and 13(d). Relevant amended architectural drawings are provided as **Attachment 1**.

We have reproduced the relevant contentions from the SOFC below which are shown **highlighted**. Our response is provided underneath each particular of the contention.

6. Access and parking

The DA is not satisfactory with respect to impact to Bungarribee Road, vehicle access, sight lines, safety, car park design, car parking and on-site waste collection if deemed to be required.

Particulars:

a) Sufficient provision for adequate sight distance needs to be made for both pedestrian and vehicular movement in accordance with Section 3.2.4 AS 2890.1, Figure 3.2 of AS2890.1 and Figure 3.3 of AS2890.1 to ensure safety of pedestrians on the footpath system and motor vehicles along the new driveway.

Sight Distance along Bungarribee Road

Figure 3.2 of AS 2890.1 specifies sight distance requirements along frontage roads for motorists exiting a site. Bungarribee Road has a signposted speed limit of 60 km/h and therefore a sight distance of 65 metres is required to the west along Bungarribee Road for motorists exiting from the subject development.

There is no sight distance requirement to the east of the site as Bungarribee Road has a separated carriageway and right turn exit movements from the site are not possible.

PDC Consultants

ABN: 70 615 064 670

info@pdcconsultants.com.au | www.pdcconsultants.com.au

+61 2 7900 6514 | Level 14, 100 William Street, Woolloomooloo NSW 2011

A sight distance of approximately 165 metres is available to the west of the site for motorists exiting from the site and accordingly, the site access arrangements comply with Figure 3.2 of AS 2890.1.

Pedestrian Sight Triangles at Access

The amended drawings included in **Attachment 1** demonstrate the development will provide a compliant 2.5 metre x 2.0 metre visual splay on the egress side of the driveway in accordance with Figure 3.3 of AS 2890.1. The existing fence along the eastern boundary will be demolished and replaced with a new fence having a maximum height of 600 mm ensuring that compliant sight distances are achieved between exiting motorists and any pedestrians that may be walking along the northern footpath of Bungarribee Road.

b) Insufficient turning circles have been provided in accordance with Section 2.5.2 of AS2890.1 for passing at the site driveway and within the basement. Turning paths are to be provided for the B99 design vehicle turning left into the site driveway from the public road and passing a B85 design vehicle exiting the site in addition to swept paths for the B99 design vehicle within areas designed for use by one vehicle at a time.

Updated swept path analysis has been undertaken of the vehicle access with the results provided as **Attachment 2**. The results demonstrate satisfactory turn movements for a:

- B99 Design Vehicle turning left-in and left-out of the access driveway from the public road and passing a B85 Design Vehicle.
- B99 Design Vehicle entering the basement car park and passing a B85 Design Vehicle situated within the waiting bay.
- B99 Design Vehicle exiting the basement car park.
- B85 Design Vehicle entering / exiting all car spaces.

The results demonstrate satisfactory operation of the car park and compliance with Appendix B of AS 2890.1.

c) There are no mitigation measures proposed to manage two-way passing along the single width ramp and within the basement car park. Vehicles entering the site will be unable to see a vehicle leaving the Site and will not know to enter the passing bay upon entry. This will result in reverse movements back out onto Bungarribee Road, contrary to the design requirements within AS2890.1. Any proposed mitigation measures to manage two-way passing conflicts will need to be assessed to ensure vehicle queuing does not occur on the public road or verge.

Management of One-Lane, Two-Way Ramp

The amended drawings included in **Attachment 1** indicate that a traffic signal system will be provided to manage two-way traffic flow along the one-lane ramp. The traffic signal system will ensure that only one vehicle travels along the ramp at any one time and result in a safe design outcome.

The traffic signal system will involve the provision of red / green traffic signals at the following locations:

- A traffic signal at the vehicle access facing Bungarribee Road for inbound motorists; and
- A traffic signal within the basement facing the waiting bay for outbound motorists.

The signal provided at the vehicle access would be configured in a 'passive green' state such that vehicles entering the site would always be given a green signal on arrival. This will ensure that entering drivers would (generally) not experience any delays, minimising the potential for any on-street queuing to occur. The only exception to this would be if a driver were to enter the site while a driver was exiting the site (being a low probability event as is discussed separately below). In this instance, the following would occur:

- The exiting driver would manoeuvre from their car parking space into the basement waiting bay. This would trigger the traffic signal at the vehicle access to a 'red' state, such that both signals are now 'red'.
- After a safety delay period of approximately 10 seconds, the traffic signal in the basement would change to 'green' and remain in this state for a period of approximately 20 seconds whilst the driver exits the site. During this period, the signal at the access would remain 'red'.
- The signal in the basement would then revert to 'red'.
- After a safety delay period of approximately 10 seconds, the signals would revert to their passive state whereby the signal at the access would remain 'green' and the signal in the basement would remain 'red'.

It is noted that the timings provided above are indicative only and would be confirmed with a traffic signal specialist at CC stage.

An induction loop will be provided within the basement waiting bay. This would link the basement waiting bay to the traffic signals for automatic operation of the traffic signal system.

The proposed traffic signal system is considered acceptable for the management of the vehicle access and one-lane, two-way ramp and is common practice for small scale developments such as that proposed boarding house which generates minimal traffic volumes during peak periods and are tidal in nature (i.e. most motorists depart the site in the morning and arrive at the site in the evening).

Queuing Assessment

A vehicle queuing assessment has been undertaken of the proposed development to confirm if the proposed waiting bay at the access, which allows for queuing of one (1) vehicle, is adequate and compliant with AS 2890.1. The assessment considered Clause 3.5 of AS 2890.1 which stipulates that developments are required to accommodate the 98th percentile queue on-site, ensuring that there is a negligible probability for any vehicle queuing to extend onto a public roadway. The assessment considered the operational aspects of the development including the expected peak hour traffic generation, travel times between Bungarabee Road and the basement, and estimated vehicle speeds when entering/exiting the site.

The results of the queuing assessment are provided as **Attachment 3** and confirm that a waiting area for one (1) vehicle is required at the access driveway in order to accommodate the 98th percentile queue generated by the proposed development. The development provides a waiting bay for one (1) vehicle at the access and therefore satisfies the requirements of Clause 3.5 of AS 2890.1.

d) Turning circles in the basement are not practical or workable for cars. The results show the required 0.3m vehicle clearance overlapping with high obstructions (walls, columns, motorcycle spaces, kerbs and car parking spaces) which is contrary to the requirements of AS2890.1. It appears 'turn on spot' has been used for swept paths (basement and along the driveway) which is a design flaw not representing realistic vehicle manoeuvres. The dwg files for the swept paths are to be provided.

As per our respond to Contention 6(b), updated swept path analysis has been undertaken of the basement, including for entry / exit to all car spaces with the results provided in **Attachment 2**.

The 'turn from stop' function has only been used where a vehicle has changed from a forward-movement to a reverse-movement or from a reverse-movement to a forward-movement as is standard practice in the traffic engineering profession. The updated swept path results also show that 0.3m clearances are now clear of all vehicle obstructions including walls, columns, motorcycle spaces, kerbs and car parking spaces.

e) The design of the car park is highly constrained as a result of the narrow access and limited basement manoeuvring area. Whilst some elements of the design of the car park comply with the requirements of AS2890.1, it is not practical or workable for cars to enter and exit the Site. Consideration should be made to designing the basement in excess of the minimum requirements of AS2890.1 due to the constraints of the Site to achieve a workable car parking layout.

Firstly, we note that AS 2890.1 specifies minimum design criteria, which if met, demonstrates that car parking facilities are compliant. There is no requirement to provide car parking facilities *"in excess of the minimum requirements of AS 2890.1"* as stipulated above.

Nevertheless, we note that the amended drawings included in **Attachment 1**, demonstrate that the 7.7 metre aisle width within the basement substantially exceeds the minimum 5.8 metre aisle width required under AS 2890.1. The increased aisle width, in combination with the compliant car parking layout, provides ample space for vehicle manoeuvring as demonstrated by the updated swept path results included in **Attachment 2**.

f) In line with the safety conscious planning approach, the vehicle access points for both developments (225 Bungarribee Road Blacktown and 227 Bungarribee Road Blacktown) are required to be consolidated into one vehicle access point to reduce the number of vehicle access points on Bungarribee Road, a sub-arterial road.

Separate access driveways are maintained for both the 225 Bungarribee Road and 227 Bungarribee Road boarding house developments. The access driveways are compliant with AS 2890.1 and will operate safely and efficiently.

g) The requirement for an on-site boarding house manager and car parking for this manager means that the DA in its current form is short of providing the car parking spaces for the Site that the Respondent would ordinarily be satisfied with.

The boarding house does not propose an on-site manager or manager's room.

Clause 29(2)(e)(iii) of the SEPP ARH 2009 states:

(iii) in the case of any development— not more than 1 parking space is provided for each person employed in connection with the development and who is resident on site.

The words "not more than" are taken to mean that the development can provide either nil (0) spaces for the manager or a maximum of one (1) space for the manager as per the findings of Commissioner Dickson in *Arxidia Pty Ltd v Randwick City Council*; *Arthur Wong Pty Ltd v Randwick City Council* [2017] NSWLEC 1463.

Accordingly, even if the development did provide an on-site manager's room, additional car parking for the manager is not required.

The development provides six (6) car spaces which complies with Clause 29(2)(e)(iia) of the SEPP ARH 2009.

h) Access to a limited area for cars to queue will cause traffic flow interference on Bungarribee Road.

The proposed vehicle access, waiting bay and car parking arrangements comply with AS 2890.1, and there will be no traffic flow interference on Bungarribee Road.

i) The DA in its current form fails to satisfy Clause 7.9 of the BLEP 2015, particularly Clause 7.9 (3). Development consent must not be granted to development on land to which this clause applies unless the consent authority has considered the following— *(b) whether the safety, efficiency and ongoing operation of the road will be adversely affected by the development as a result of— (i) the design of the vehicular access to the land, or... (iii) the nature, volume or frequency of vehicles using the road to gain access to the land.*

The proposed vehicle access, waiting bay and car parking arrangements comply with AS 2890.1 and the development will generate minimal traffic volumes with all vehicles entering / exiting the site in a forward direction. The development will have no adverse impact in terms of the safety, efficiency and ongoing operation of Bungarribee Road.

j) The DA is inconsistent with the objectives of Clause 7.9 of the BLEP 2015:

- (a) to ensure that new development does not compromise the effective and ongoing operation and function of roads to which this clause relates,*
- (b) to prevent or reduce the potential impact of traffic noise and vehicle emission on development adjacent to roads to which this clause relates.*

See response to Contention 6(i).

k) As indicated in the Waste Management Plan (WMP), the DA intends to have its waste serviced by kerbside collection. However, there is no stopping on the frontage and there will be issues with truck collection from the kerbside. The increase in bins proposed for kerbside will likely create issues with traffic flow.

l) If kerbside collection cannot be achieved and on-site collection is to be relied upon as the waste collection solution for the Site, there is insufficient information to determine the adequacy of the alternative on-site waste collection solution.

m) With potential need for change to basement to accommodate a waste truck there will be further issues for traffic movement and swept paths in the basement that will not be able to be sufficiently accommodated in its current form. The Applicant must ensure there is no conflict with entry and exit for cars and trucks. The Applicant would need to adjust clearances and ramp grades for trucks, provide a loading bay and revised turning circles for further assessment.

Contentions 6(k)-(m) have been addressed by the waste consultant.

13. State Environmental Planning Policy (Affordable Rental Housing) 2009 requirements

The DA does not comply with the requirements under the ARHSEPP.

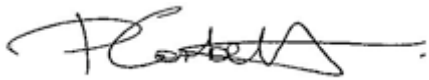
Particulars:

d) No provision has been made for car parking for the on-site manager in addition to car parking for boarders in accordance with clause 29(2)(e) of the ARHSEPP. One car parking space is to be provided for the on-site manager.

See response to Contention 6(g).

We trust the above satisfactorily addresses Contentions 6 and 13(d) of the SOFC. Please contact the undersigned should you have any queries or require anything further.

Yours sincerely,



Paul Corbett

Director, PDC Consultants

Email: pcorbett@pdcconsultants.com.au

Attachments:

- 1) Relevant Amended Architectural Drawings*
- 2) Swept Path Analysis Drawings*
- 3) Vehicle Queuing Assessment*



Attachment 1

Issue	Description	Date
A	DA Lodgement	02/2021
B	DA Amendments	03/2021
C	LEC Amendments	08/2021
	As per latest issued	
	Bin storage room indicated to ground level	
	Driveway opening area noted	

Client
Krishnathi Pty Ltd

Project
Proposed Boarding House
Development at 225 Bungarribee
Road Blacktown Pursuant to
ARHSEPP 2009

Ground Level Plan

FOR DA ONLY

Project number 2020-19

Date Feb-2021

Drawn by SL/GF

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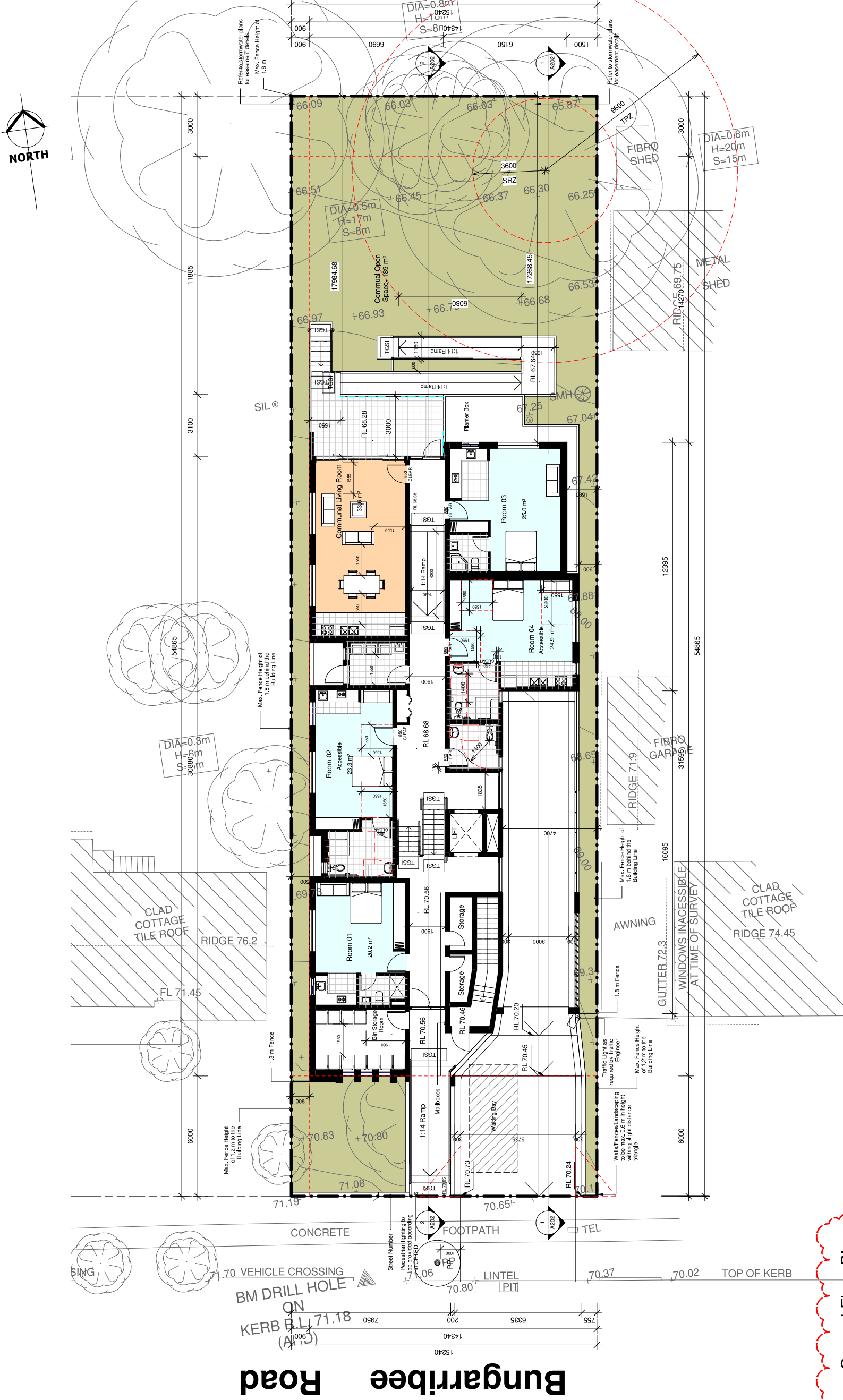
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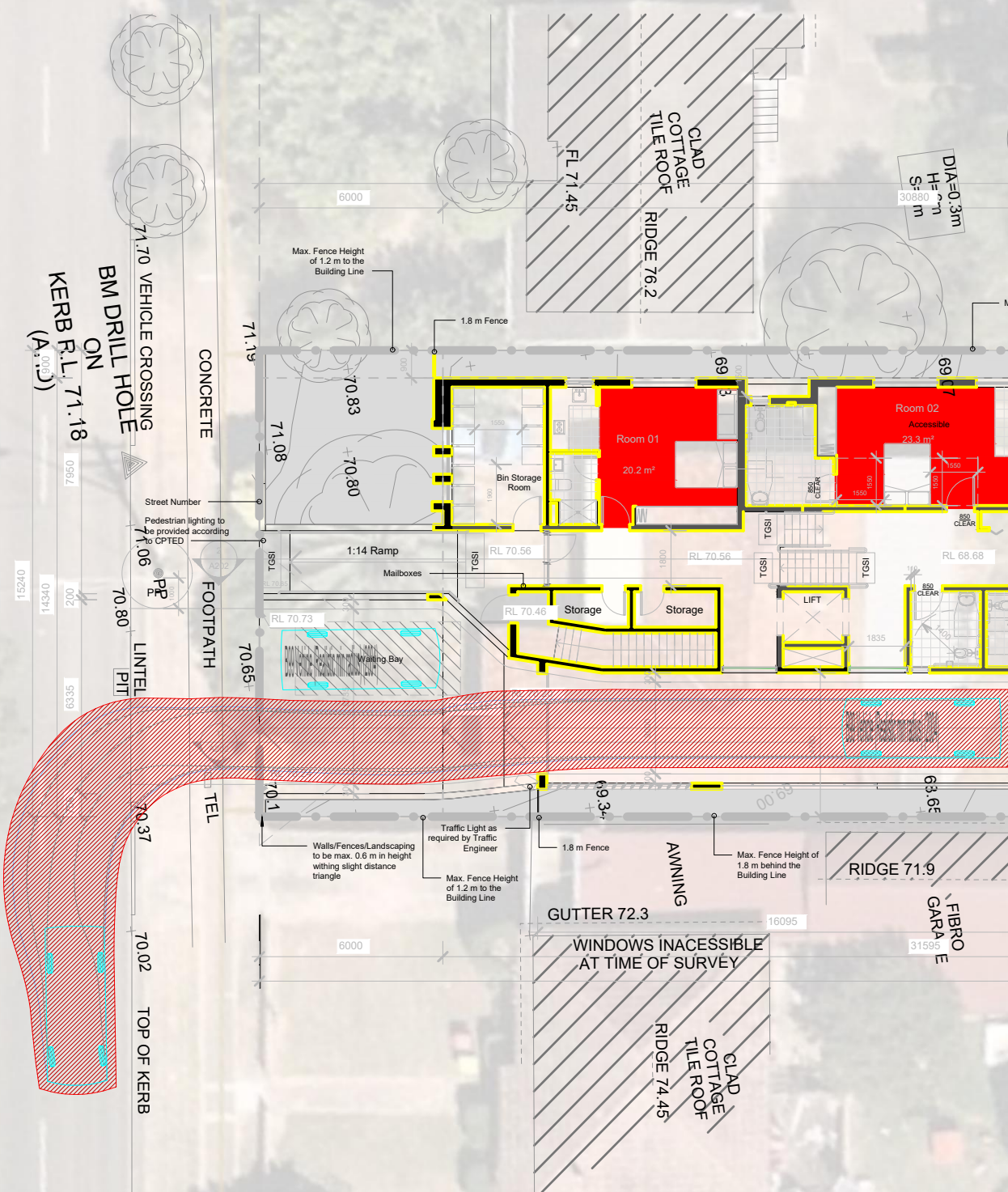
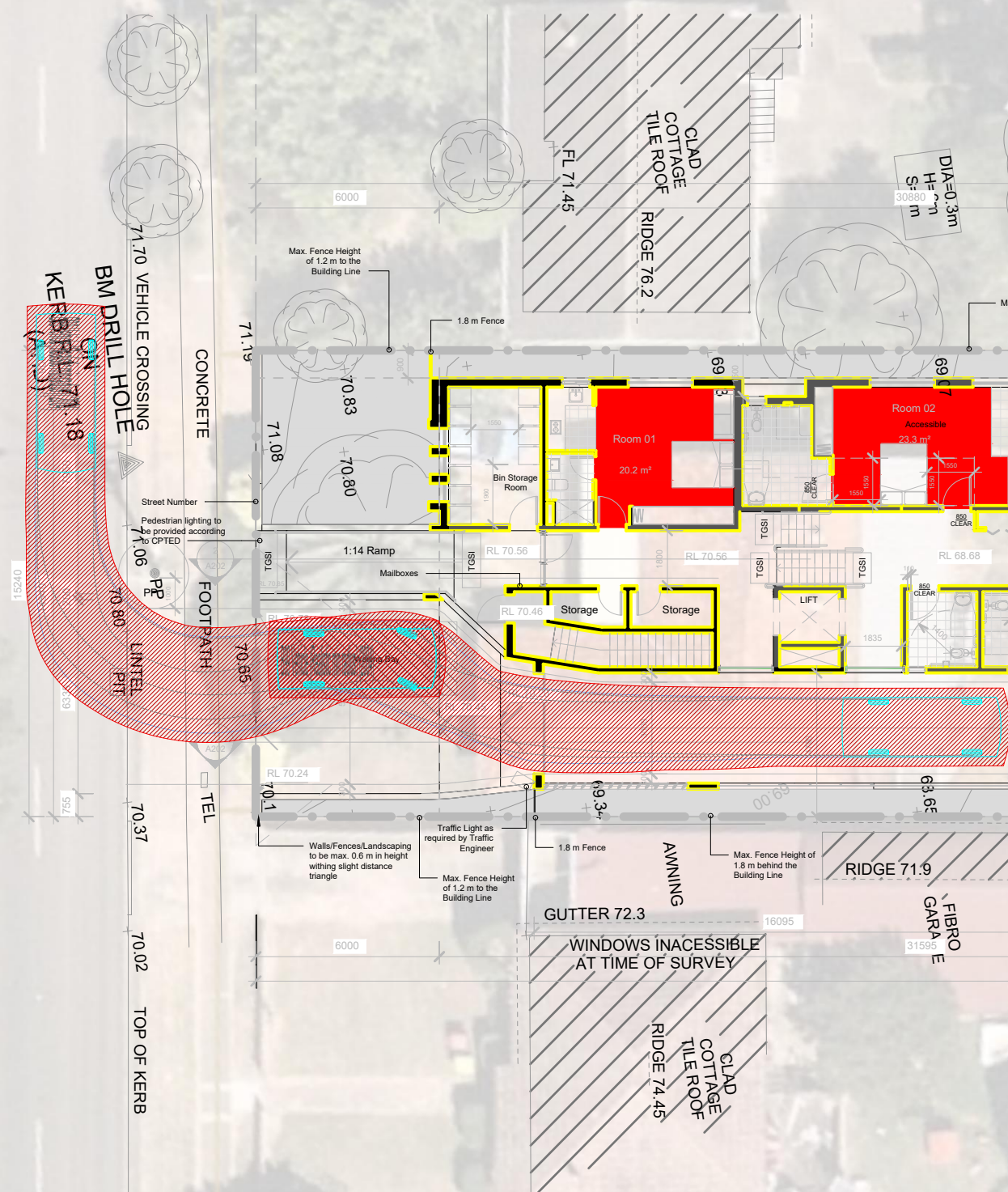
Drawing : DA

Issue C





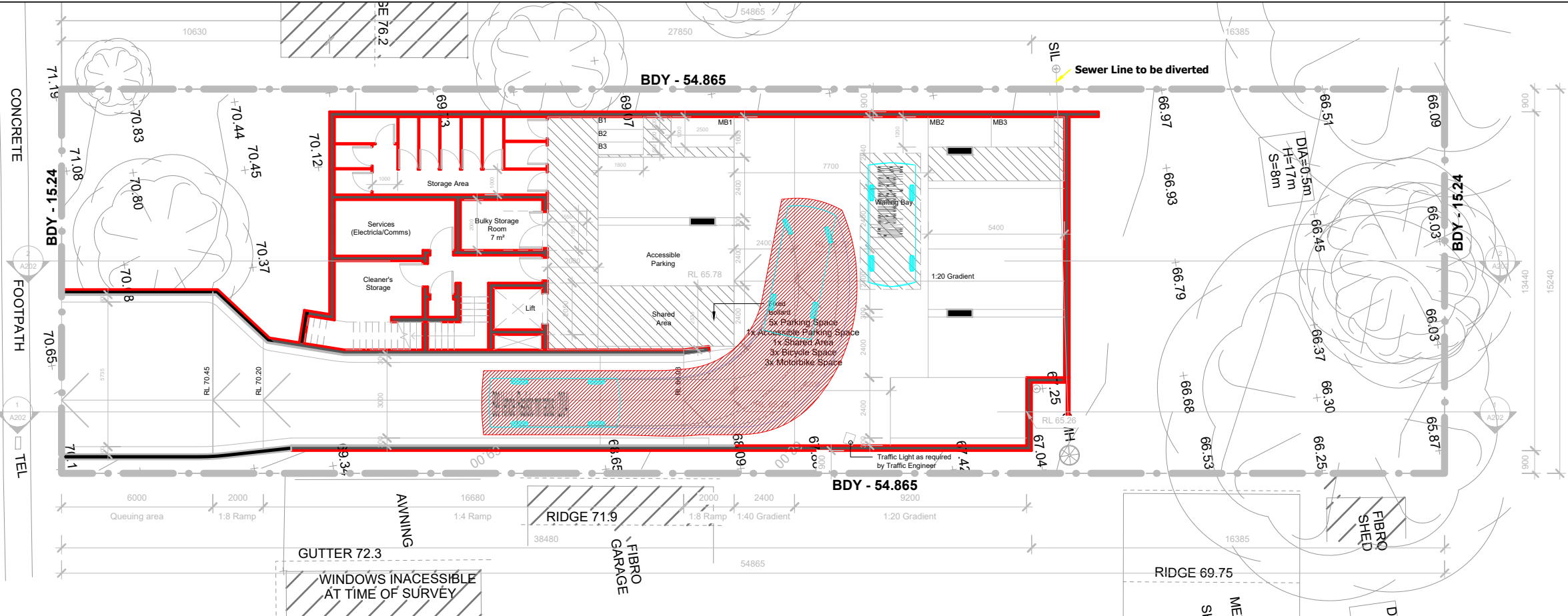
Attachment 2



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						Client Krishathi Pty Ltd	Project No 0417	Sheet Status NOT FOR CONSTRUCTION	Scale 1:200 @ A3 0m 2 4 6 8		

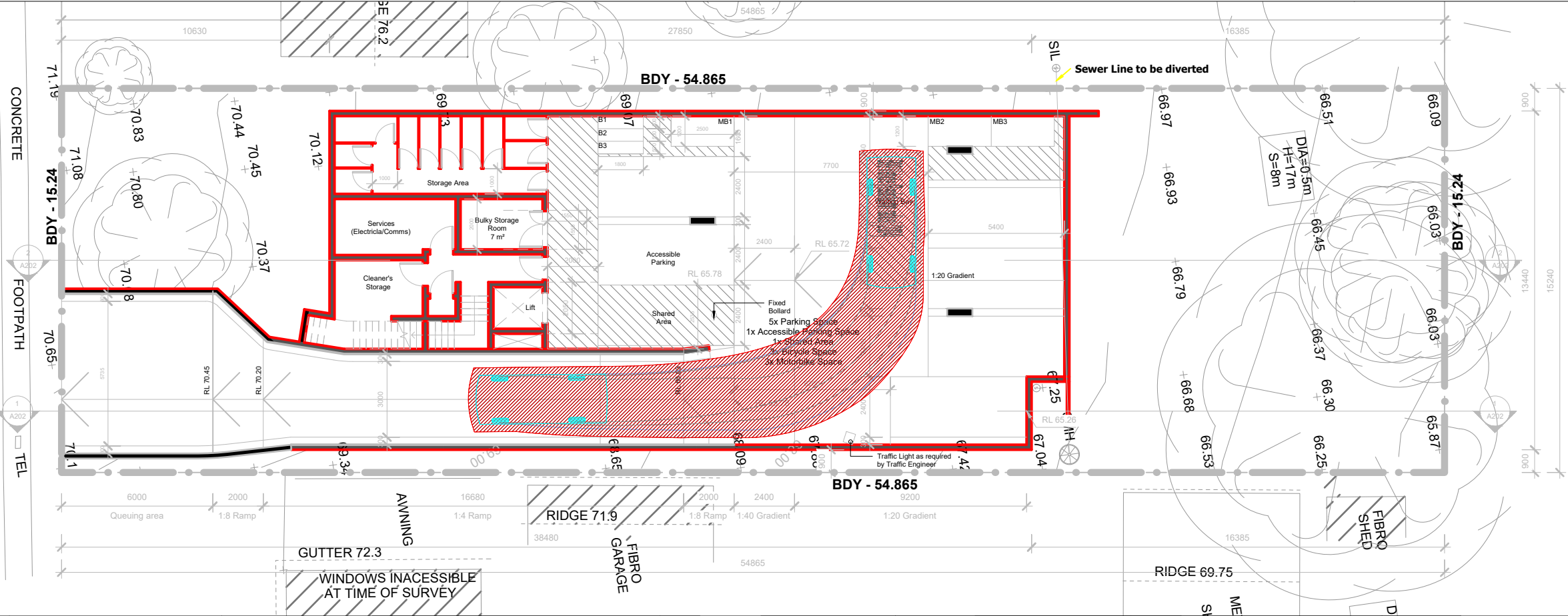
BUNGARRIBEE ROAD

BM VEHICLE CROSSING
ON
KERB R.L. 71.18
(AHD)



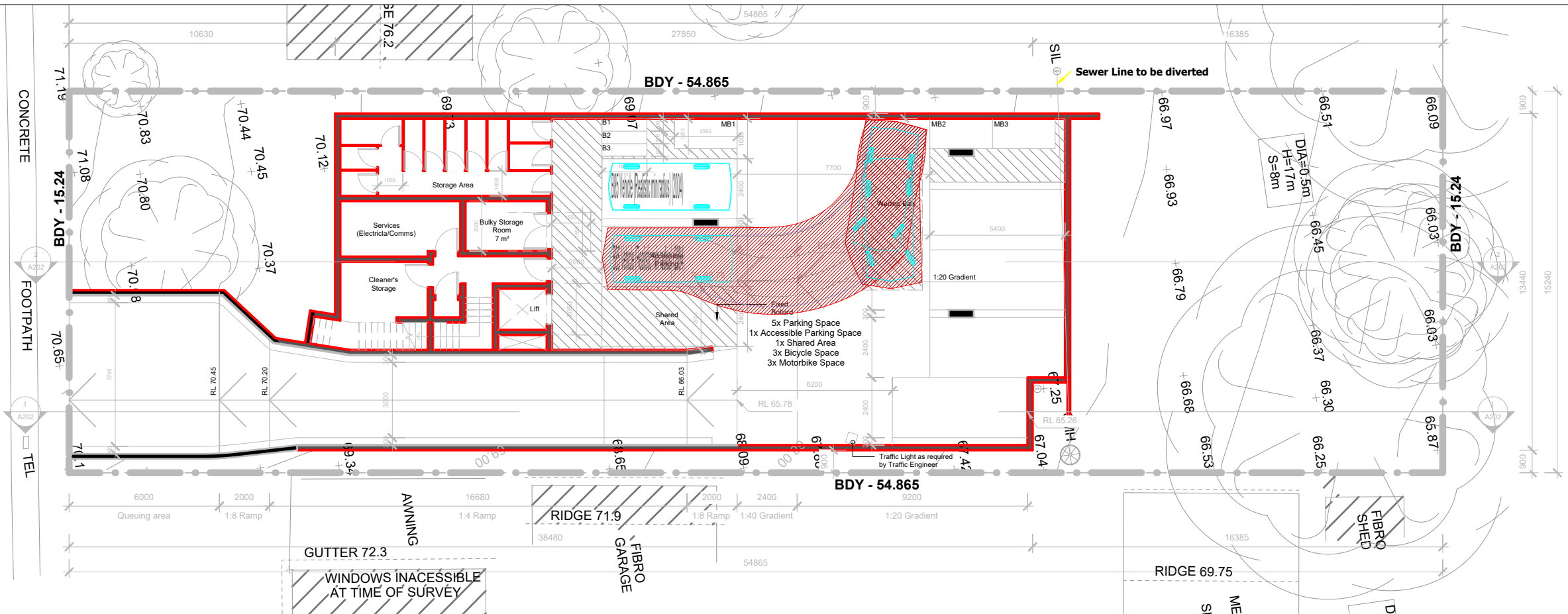
BUNGARRIBEE ROAD

BM VEHICLE CROSSING
ON
KERB R.L. 71.18
(AHD)



No.	Date	Description	Swept Path Key	North	Drawing Prepared By	Architect	Project	Drawing Title	Drawing No.	Revision No.
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						Client Krishathi Pty Ltd	Project No 0417	Sheet Status NOT FOR CONSTRUCTION	Drawn By PC	Date 05/08/2021
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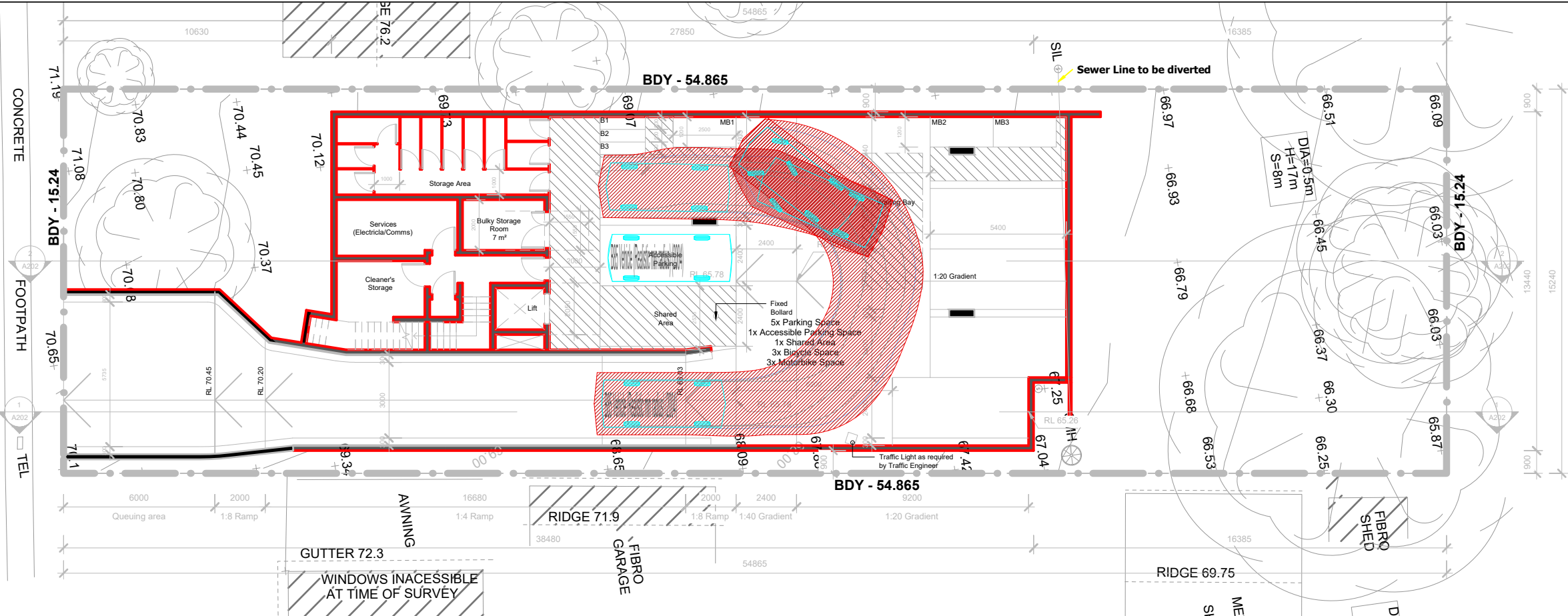
BUNGARRIBEE ROAD



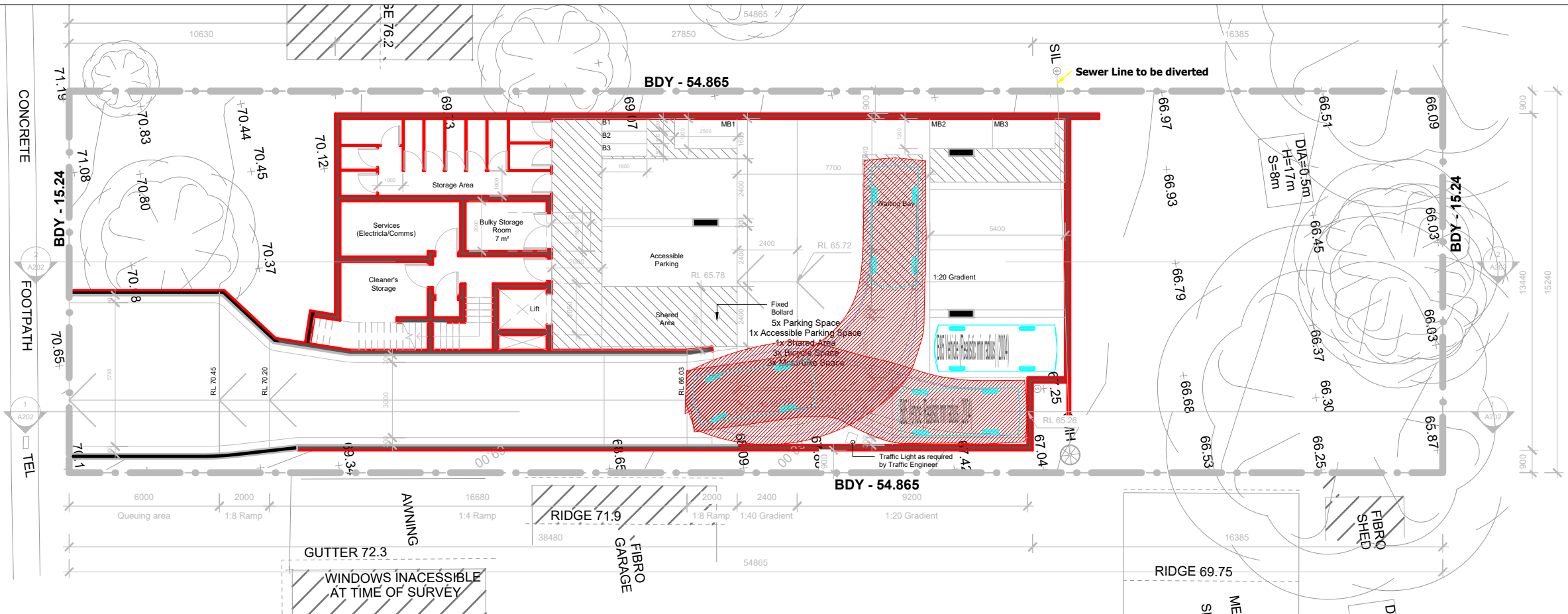
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BUNGARRIBEE ROAD

BM VEHICLE CROSSING
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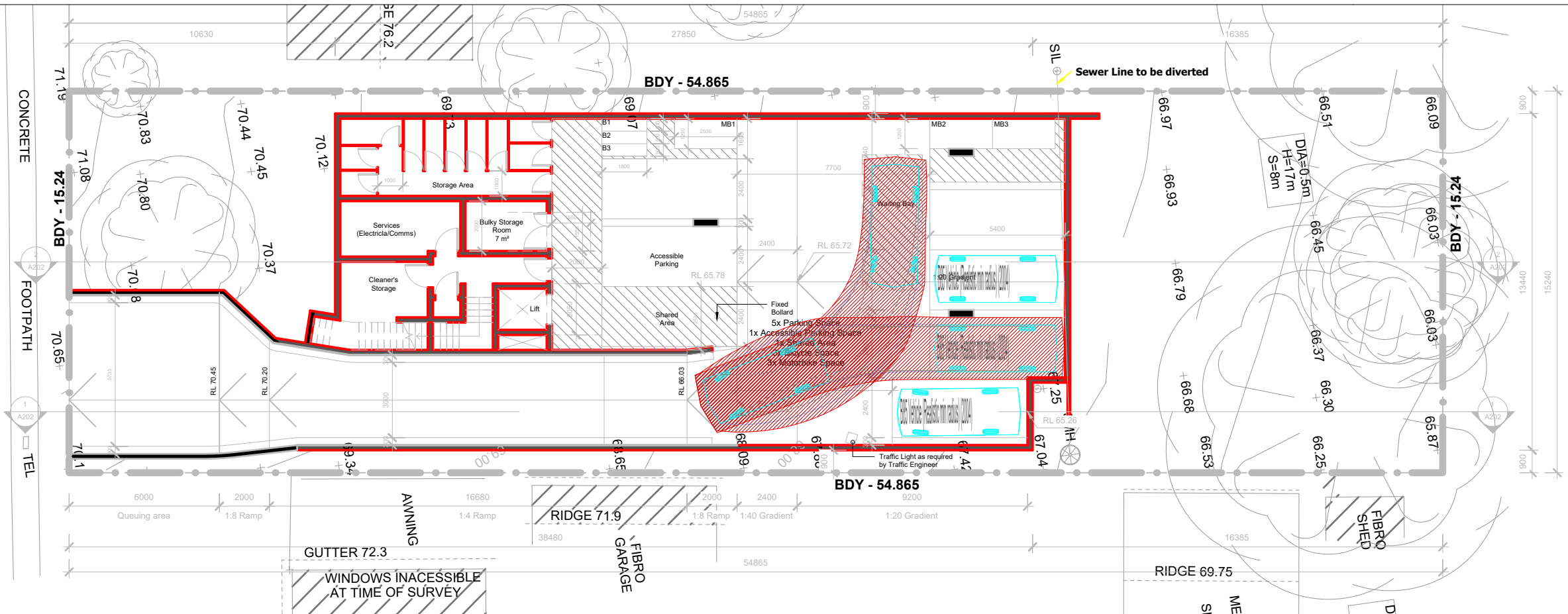


BUNGARRIBEE ROAD



No.	Date	Description	Swept Path Key ----- Vehicle Wheel Path ----- Vehicle Body Envelope ----- 300mm Vehicle Clearance	North N 	Drawing Prepared By  PDC Consultants Level 14, 100 William Street Woolloomooloo NSW 2011 t: +61 2 7900 6514 w: www.pdcconsultants.com.au ABN: 70 615 064 670	Architect Gus Fares Architects	Project 225 Bungarribee Road Blacktown	Drawing Title Basement Level Plan B85 Design Vehicle Swept Path Analysis Entry to Space and Exit to Waiting Bay	Drawing No. 005 Revision No. -	Drawn By PC Date 05/08/2021
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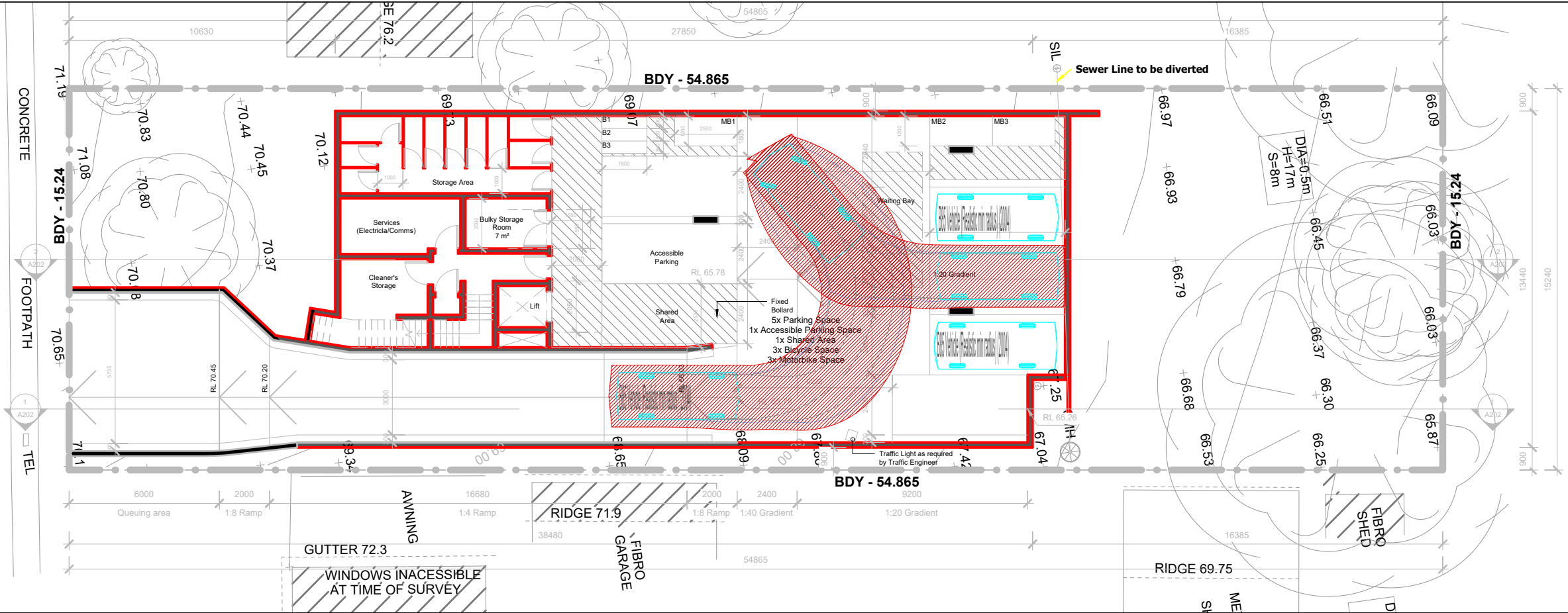
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No.	Date	Description	Swept Path Key ----- Vehicle Wheel Path ----- Vehicle Body Envelope ----- 300mm Vehicle Clearance	North N 	Drawing Prepared By  PDC Consultants Level 14, 100 William Street Woolloomooloo NSW 2011 t: +61 2 7900 6514 w: www.pdcconsultants.com.au ABN: 70 615 064 670	Architect Gus Fares Architects	Project 225 Bungarribee Road Blacktown	Drawing Title Basement Level Plan B85 Design Vehicle Swept Path Analysis Entry to Space and Exit to Waiting Bay	Drawing No. 006 Revision No. -	Drawn By PC Date 05/08/2021
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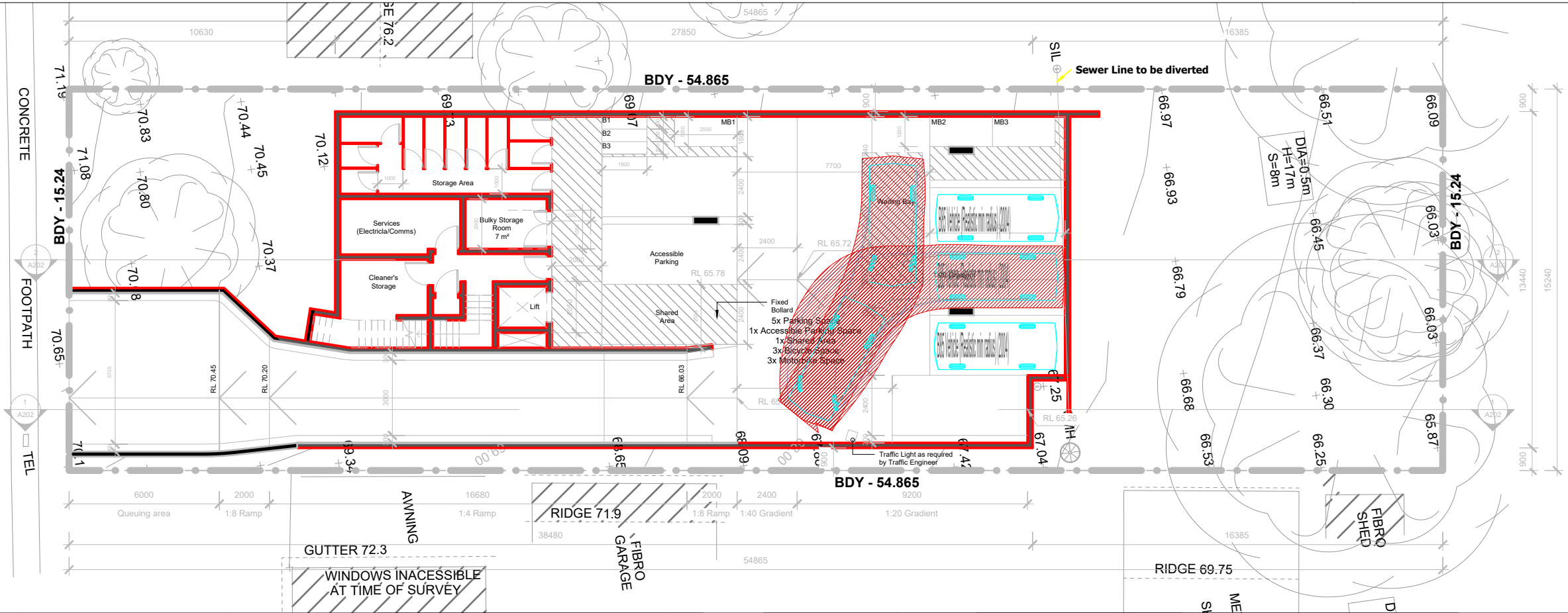
BUNGARRIBEE ROAD

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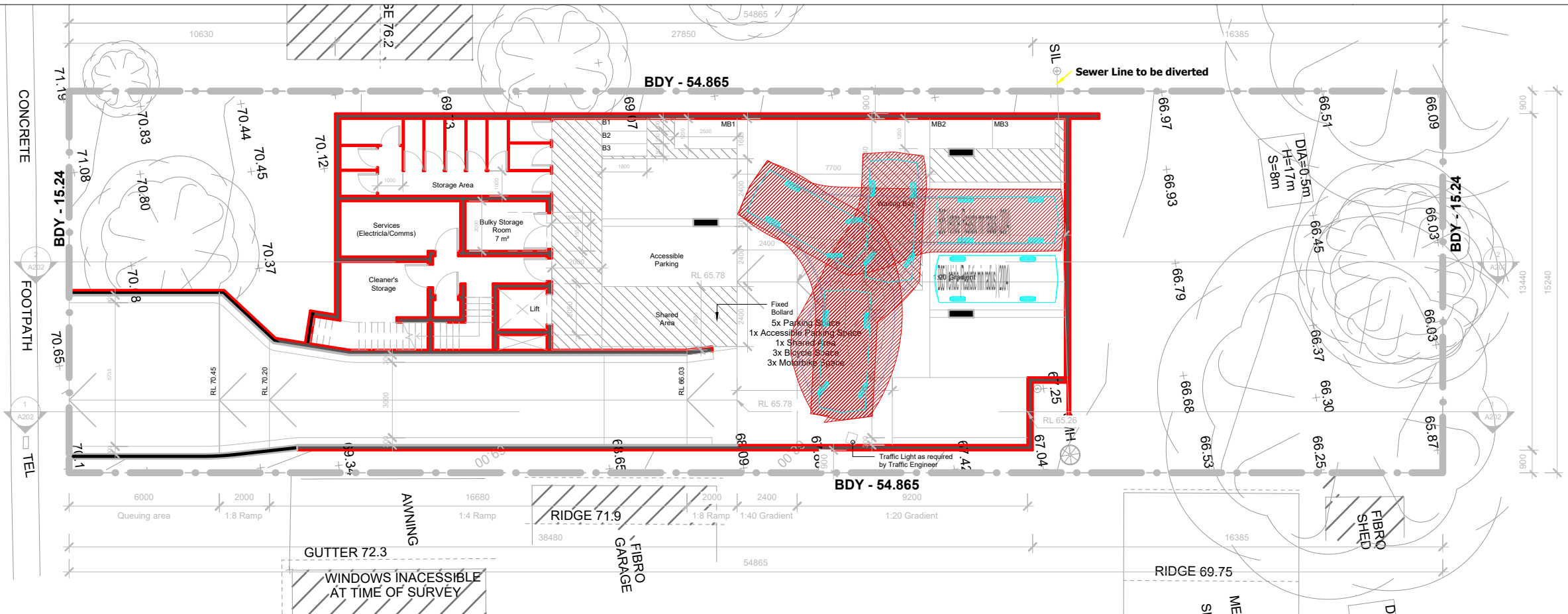
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No.	Date	Description	Swept Path Key	North	Drawing Prepared By	Architect	Project	Drawing Title	Drawing No.	Revision No.
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BUNGARRIBEE ROAD



No.	Date	Description	Swept Path Key ----- Vehicle Wheel Path ----- Vehicle Body Envelope ----- 300mm Vehicle Clearance	North N 	Drawing Prepared By  PDC Consultants Level 14, 100 William Street Woolloomooloo NSW 2011 t: +61 2 7900 6514 w: www.pdcconsultants.com.au ABN: 70 615 064 670	Architect Gus Fares Architects	Project 225 Bungarribee Road Blacktown	Drawing Title Basement Level Plan B85 Design Vehicle Swept Path Analysis Entry to Space and Exit to Waiting Bay	Drawing No. 008 Revision No. -	Drawn By PC Date 05/08/2021	
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Attachment 3

225 BUNGARRIBEE ROAD, BLACKTOWN
QUEUING ANALYSIS OF VEHICLE ACCESS

INPUT DATA	
Travel Distance (d) between Ground Floor and Basement (m)	35
Travel Speed (km/hr)	5
Vehicle Arrivals as per DA Traffic Report (veh/hr)	5
Start Delay (t _{sd}) (sec)	10
Signal Safety Margin (t _{sm}) (sec)	30

PROBABILITY OF MORE THAN 'n' VEHICLES IN THE SYSTEM	
No. Vehicles in System, including Queued Vehicle (n)	Probability of Exceeding No. Vehicles in System (P) (SEE NOTE 1) (%)
0	10.6%
1	1.11%
2	0.12%
3	0.01%
4	0.00%
5	0.00%

1 = No. Waiting Bays Required

CALCULATED TIMINGS	
Travel Speed (v) (m/s)	1.39
Travel Time Between Passing (t _{passing}) (sec)	25.20
Adopted 'Green Time' (t _{gt}) (sec)	20
Adopted 'Clearance Time' (t _{ct}) (sec)	56
Total Average Time (t _t) (sec)	76

QUEUING THEORY FACTORS	
Average Arrival Rate (r)	5.00
Average Service Rate (s)	47.37
Utilisation Factor (p)	0.11

FORMULAS	
Travel Speed	$v = \text{Travel Speed (km/h)} / 3.6$
Travel Time Between Passing	$t_{\text{passing}} = d / v$
Adopted Green Time	$t_{\text{gt}} = t_{\text{sd}} + t_{\text{sm}}$
Adopted Clearance Time	$t_{\text{ct}} = t_{\text{passing}} + t_{\text{sm}}$ (rounded up)
Total Average System Time	$t_{\text{t}} = t_{\text{gt}} + t_{\text{ct}}$
Average Arrival Rate	$r = \text{Vehicle Arrivals (veh/hr)}$
Average Service Rate	$s = 3600 / \text{Total Average Time}$
Utilisation Factor	$p = r / s$
Probability of More than 'n' Vehicles in the System	$P(>n) = p^{(n+1)}$

NOTES

1. Design queue length should accommodate 98% of queues, in accordance with Clause 3.5 of AS 2890.1-2004. i.e. Probability of exceedance should be <2.0%. No. of 'waiting bays' required is No. Vehicles in System
2. Analysis assumes all vehicles arrive to a red signal. Passive green signal display, as is proposed, will reduce queue beyond that shown. In this regard, this is a conservative analysis.