

Reference: 21.519r04v03

17 January 2023

Altis Property Partners
C/- Essence Project management Pty Ltd
Level 25, Angel Place, 123 Pitt Street
Sydney NSW 2000

Attention: Mr William Hodge, Assistant Project Manager

Re: **12-20 Berry Road & 11-19 Holdsworth Avenue, St Leonards
Proposed Residential Flat Building Development (DA115/2022)
RFI Traffic Responses**

Dear William,

We refer to the subject property and proposed residential flat building development located at 12-20 Berry Road and 11-19 Holdsworth Avenue, St Leonards. TRAFFIX has been forwarded comments from Lane Cove Council as contained in the letter dated 6 December 2022. TRAFFIX has reviewed all relevant traffic comments and has responded to each item below.

On-site Service Vehicles

- *Provide swept paths on how three Service Vehicles can occupy the proposed Service Area*

TRAFFIX Response

Table 2 of Part R of the Lane Cove DCP requires residential developments to provide 1 service bay per 100 residential units. Application of this rate to the proposed 130 units results in a requirement of 1.3 or a single service bay. As such, the proposed development complies with Council requirement. Nevertheless, the service area has been designed to also accommodate up to three (3) B99 vehicles (vans, utes, couriers etc.), and as such, provides above the minimum DCP requirements. It is noted that a detailed Loading Dock Management Plan could be prepared in response to a suitable condition of consent to manage waste /recycling collection, trades/couriers and removalist vehicles. Swept path analysis presented in Attachment 1, demonstrates satisfactory access three (3) B99 service vehicles.

Car Share

- *Has "Car Share" parking spaces been considered.*

TRAFFIX Response

The applicant has considered off-street car share and no car share spaces are proposed at this stage. The STRAP has identified existing car share vehicles in the surrounding streets which is expected to be sufficient for the proposed development.

Transport Access Guide/Sustainable Travel and Access Plan (STrAP)

- A STrAP is required because the DA is proposing more than 75 dwellings.

TRAFFIX Response

A STrAP (21.519r03v02) has been prepared as part of the DA Documentation and is provided with this RFI Response for Council's review.

Driveways for Commercial Vehicles

- More information on how access to the carpark will be controlled and managed
- The centreline on Holdsworth Ave to be clearly shown on the swept paths to and from the driveway on Berry Rd.

TRAFFIX Response

The Lower Ground level will be publicly accessible during the childcare operational hours to allow for the drop off and pick up of children. An intercom at the top of the ramp to the residential parking will ensure secure access to the basement levels for residents and their visitors. Outside of the childcare operational hours, access to Lower Ground will be restricted by a roller door with an intercom for visitors and service vehicles and swipe card access for residents.

Holdsworth Avenue has a 9.0m carriageway with parallel parking provided on both kerbsides. The 2.3m width required for on-street parallel parking therefore allows for a roadway width of 4.4m, which does not allow for two-way vehicle flow. Therefore, indicating a centreline on Holdsworth Avenue is not considered appropriate to demonstrate vehicle movements as no vehicles can be containing on one side of an imaginary centreline. The vehicular access is located on Holdsworth Avenue with no vehicular access provided on Berry Road.

Width of ramps

- Show that ramp widths conform to 2890.1 :2004 - Table 2.2 for two-way operation.

TRAFFIX Response

Table 2.2 of AS 2890.1 (2004) refers to circular ramps, however the proposed ramp design is a series of straight ramps and as such, is not required to comply with the widths specified in Table 2.2. The ramp provides the minimum width of 5.5m between 300mm wide kerbs as required for straight circulation roadways in Clause 2.5.2.

Mirrors at 90-degree turns in the access ramps

- Mirrors at 90- degree turns in the access ramps - Show location of mirrors at the 90-degree turns in the access ramps

TRAFFIX Response

The architectural plans have been updated to indicate convex mirrors at 90-degree turns and intersection to ensure visibility of opposing vehicles.

Longitudinal Grades

- Provide a longitudinal section along the extreme wheel paths of all ramps, at a scale of 1:20.
- Show elevations and distances between changes of grade and the % grade

Transitional Grades

- Provide a longitudinal section along the extreme wheel paths of all ramps, at a scale of 1:20.
- Show elevations and distances between changes of grade lengths of transitional grades.

TRAFFIX Response

The ramp grades for the proposed driveway, ramps and car parking areas are compliant with AS 2890.1 (2004) and AS 2890.2 (2018) for the driveway and loading area. As such, the detailed drawings are not considered necessary for DA approval and can be provided to Council as part of an appropriate condition of consent during the Construction Certificate stage. This is considered a more appropriate arrangement as the detailed for construction drawings, such as the above requested by Council, will be prepared at this stage.

Swept Path Clearances on ramps

- Conform to 2890.1:2004, Appendix B
- Show swept paths of vehicles travelling in both directions simultaneously on all ramps particularly at the 90 degree pinch points.
- Confirm height clearances.

TRAFFIX Response

The request to accommodate two-way simultaneous traffic movement is considered onerous and is not required under the standards of AS2890.1 (2004). The following reasons are provided below.

- Regular passing opportunities for vehicles in both directions are provided as shown in the swept path analysis provided with the TIA (21.519r01v04; dated 15 June 2022), with the provision of convex mirrors for visibility at the 90-degree turns in the updated plans.
- Residential developments are typically tidal flow during morning and evening critical peak periods, that is, opposing vehicle movements will be an infrequent occurrence and therefore, simultaneous flow is considered an onerous requirement when two-way traffic is infrequent.
- A conflict analysis, provided in **Attachment 2**, between the intercom on Lower Ground and Basement 3 (approximately 150 metres) demonstrates the small chance (0.01%) of vehicle conflict during the critical morning peak period.
- A roadway that accommodates two-way simultaneously traffic movements would encourage drivers to approach at higher speeds, which is considered undesirable and dangerous in a low-speed environment within a car park. This can also be seen in most retail car parks not providing simultaneous passing areas to/from internal circulation roads. Of which, retail developments are much higher generating developments with than that of the proposed development.

For the reasons discussed above, two-way simultaneous traffic movement is considered unnecessary, and the current vehicular ramp arrangement is considered acceptable.

Finally, all trafficable areas provide a minimum height clearance of 2.2m in accordance with Clause 5.3.1 of AS 2890.1 (2004) as stated in Section 7.2 of the TIA (21.519r01v04; dated 15 June 2022).

Swept paths to parking spaces

- *Show swept paths for all parking spaces and for the Garbage collection vehicle*
- *Confirm vertical clearances*

TRAFFIX Response

Clause B4.4 of AS 2890.1 states the following in relation to swept path analysis for car parking spaces:

"Constant radius swept turning paths, based on the design vehicle's minimum turning circle are not suitable for determining the aisle width needed for manoeuvring into and out of parking spaces."

As such, the standard does not require swept path analysis for compliant parking spaces to be provided and therefore this requirement is considered unnecessary. All parking spaces fully comply with the requirements of Figure 2.2 and Figure 5.2 of AS 2890.1 (2004) with regard to parking space dimensions, aisle widths and clearances from structural items.

Swept path analysis of the waste collection vehicle entering and exiting the site and loading dock is provided in Appendix C of the TIA (21.519r01v04; dated 15 June 2022).

All trafficable areas of the basement car park provide a minimum head height clearance of 2.2m in accordance with Clause 5.3.1 of AS 2890.1 (2004). This was addressed in Section 7.2 of the TIA (21.519r01v04; dated 15 June 2022).

Swept path to and from Holdsworth Ave

- *Show left-turning swept paths to and from driveway from the kerb lane*
- *Show if parking restrictions are required on Holdsworth Ave for all vehicles to turn left in and left out from the kerb lane.*

TRAFFIX Response

Holdsworth Avenue is a dead end to the south of site with no turning head and as such vehicles would always turn right into the development. Therefore, the swept path analysis provided in the TIA (21.519r01v04; dated 15 June 2022) showing vehicles turning right into the site is considered sufficient to demonstrate the ability for vehicles to enter the site. As such, no parking restrictions are required to allow vehicles to turn left into the site.

Minimum sight lines for pedestrian safety

- *Confirm sight distance at access driveway exist as per 2890.1:2004 Section 3.2.4 & Fig.3.3*

TRAFFIX Response

The development provides the required pedestrian visual splay at the property boundary as shown in the mark up provided in **Attachment 1** with a maximum height of 600mm for all landscaping and other objects within the splay.

On the basis of the above, the proposed residential development in our view is considered supportable on transport planning grounds. We trust the above is of assistance and please contact the undersigned should you have any queries. In the event that any concerns remain, we request an opportunity to discuss these with Council officers prior to any determination being made.

Yours faithfully,

Traffix

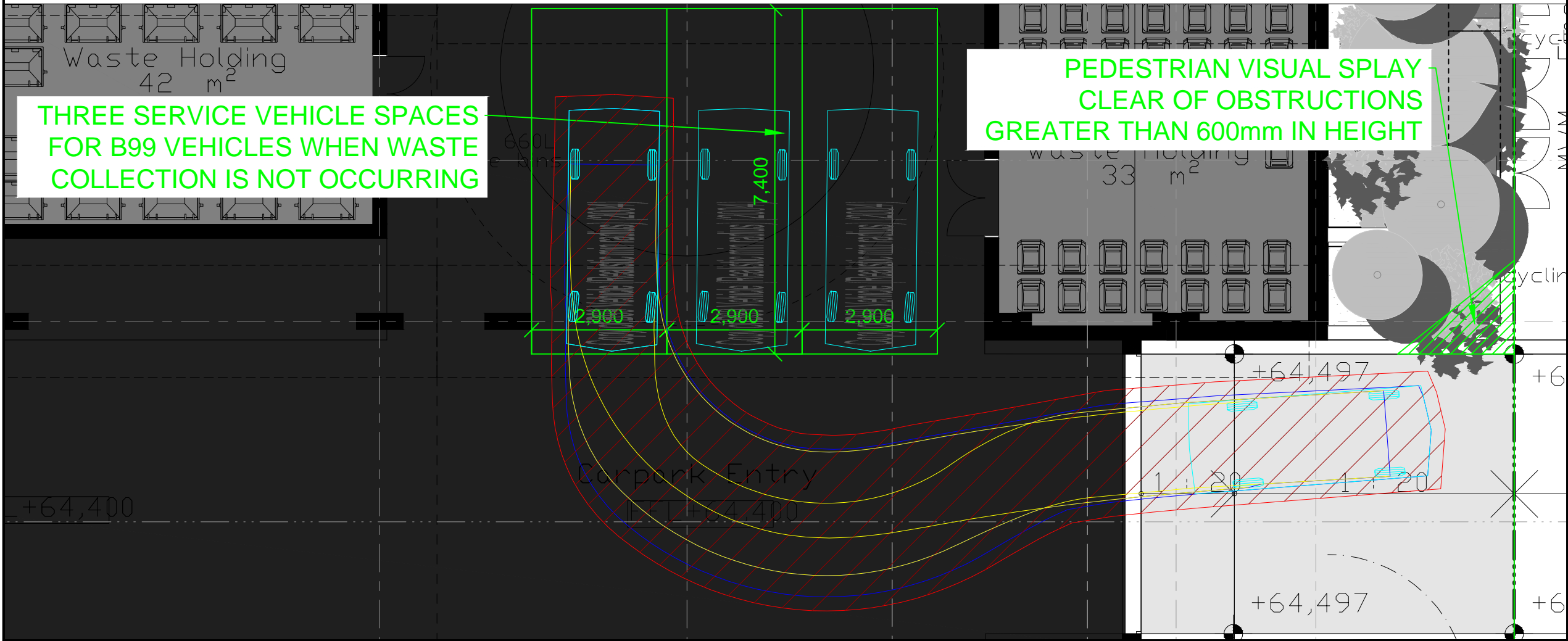
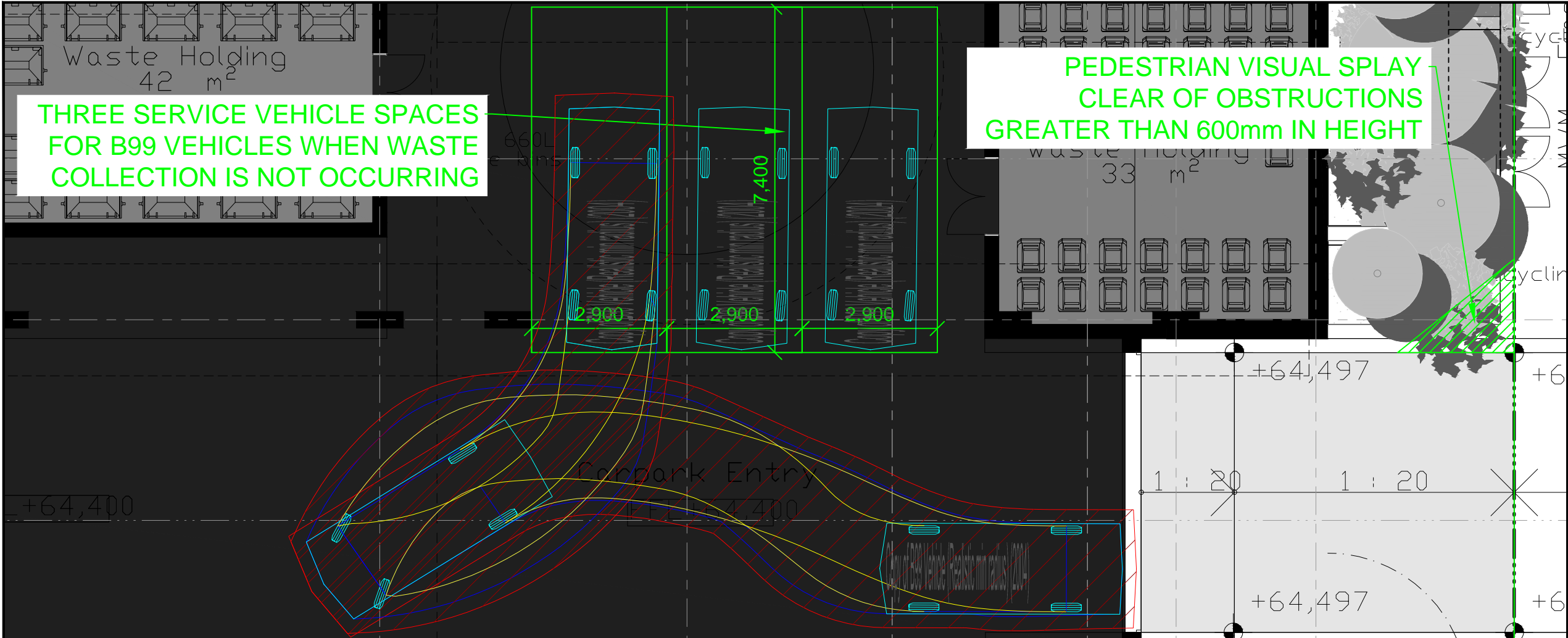


Hayden Dimitrovski
Senior Engineer

Encl. Attachment 1: Swept Path Analysis
 Attachment 2: Conflict Analysis

ATTACHMENT 1

Swept Path Analysis



Notes:

This drawing is prepared for information purposes only. It is not to be used for construction.

TRAFFIX is responsible for vehicle swept path diagrams and/or drawing mark-ups only. Base drawing prepared by others.

Vehicle swept path diagrams prepared using computer generated turning path software and associated CAD drawing platforms. Vehicle data based upon relevant Australian Standards (AS/NZS 2890.1:2004 Parking facilities - Off-street car parking, and/or AS2890.2:2002 Parking facilities - Off-street commercial vehicle facilities). These standards embody a degree of tolerance, however the vehicle characteristics in these standards represent a suitable design vehicle and do not account for all variations in vehicle dimensions / specifications and/or driver ability or behaviour.

Rev.	Revision Note	By.	Date
A	Service Vehicle Mark Up	HD	21-12-22

Swept Path Legend

- Wheel Path
- Vehicle Body Envelope
- Clearance Envelope (300mm)

Architect
Silvester Fuller

Client
Altis

Scale / Plan Orientation


0 2.5 5 7.5 10m

1:250 @ A3

Project Description

Proposed Mixed Use Development
10-20 Berry Rd and 11-19 Holdsworth Ave St Leonards

Drawing Prepared By



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TRAFFIC & TRANSPORT PLANNERS

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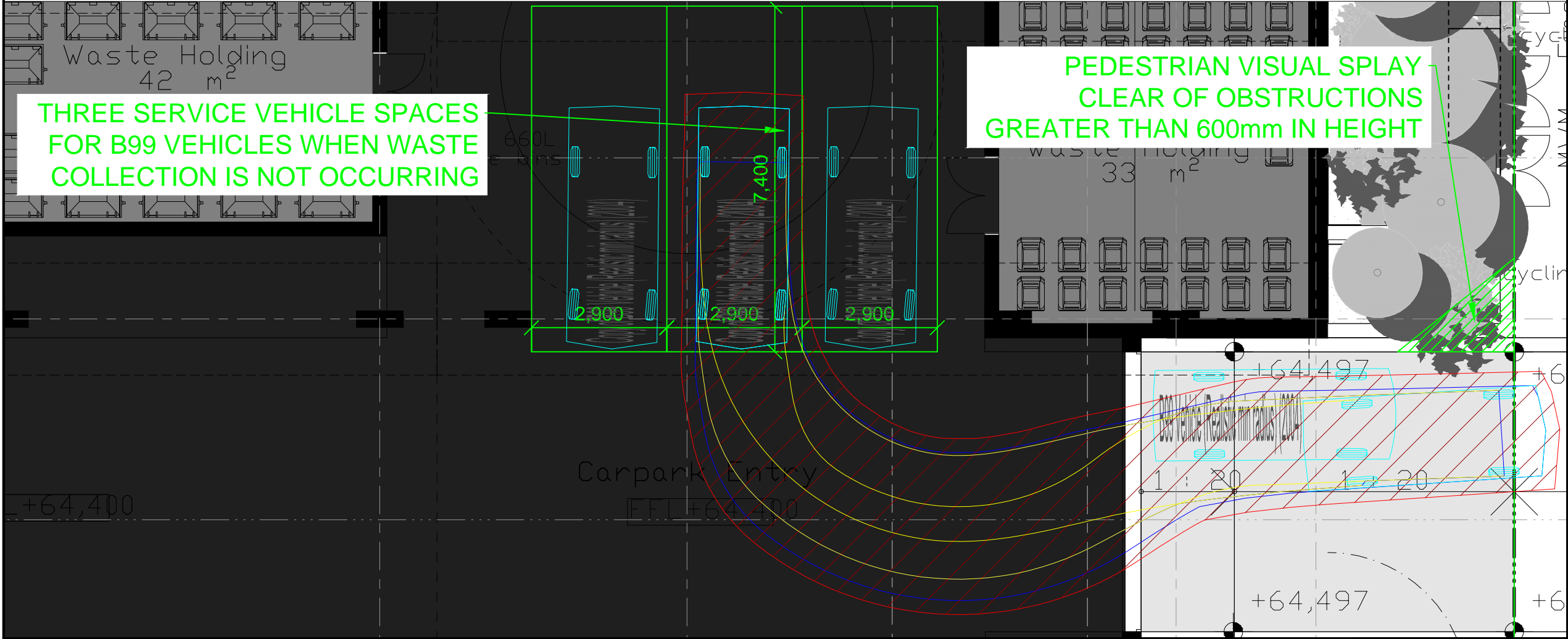
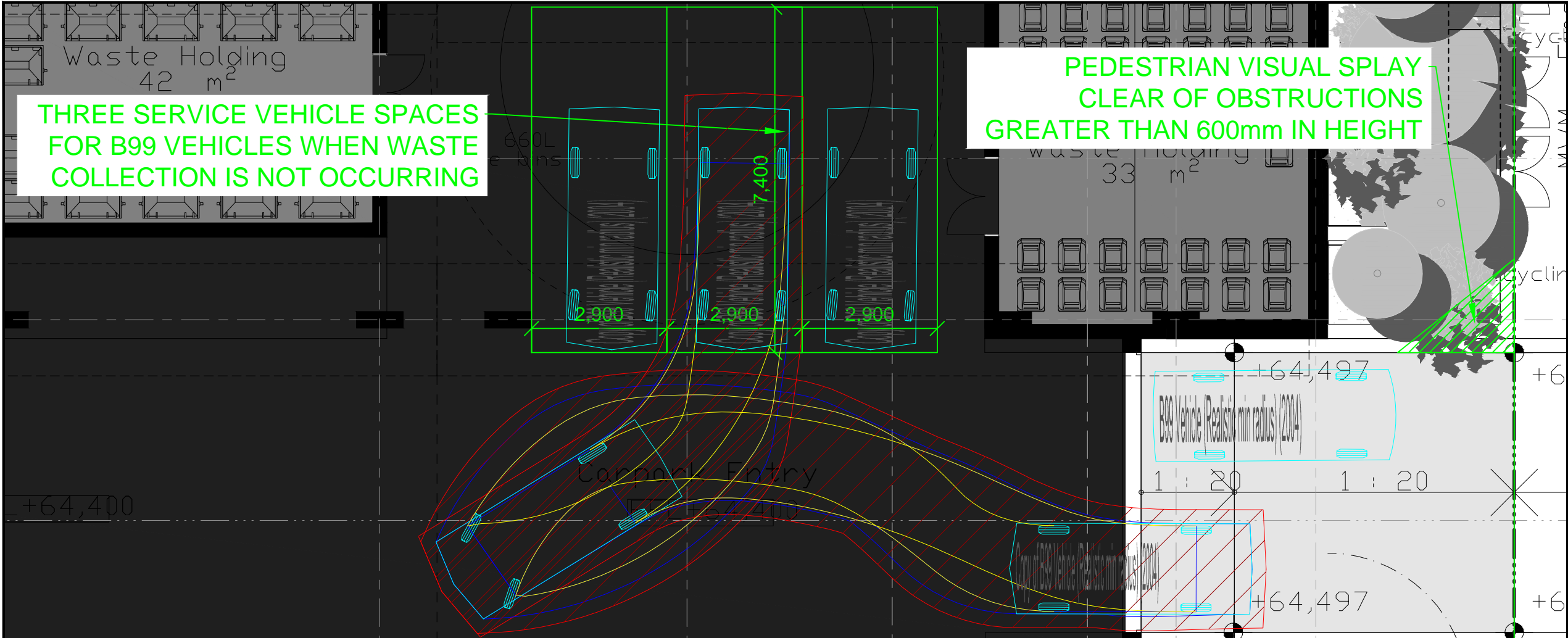
Drawing Title

Swept Path Analysis
Service Vehicle Bays
B99 Vehicle
Left Space

Drawn: HD	Checked: -	Date: 07-12-21
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21.519d05v02 TRAFFIX [220608 Plans] Design Review.dwg

Project No. 21.519	Drawing Phase DA	Drawing No. TX.06	Rev. A
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A	Service Vehicle Mark Up	HD	21-12-22

Swept Path Legend

- Wheel Path
- Vehicle Body Envelope
- Clearance Envelope (300mm)

Architect
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Client
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Scale / Plan Orientation

0 2.5 5 7.5 10m
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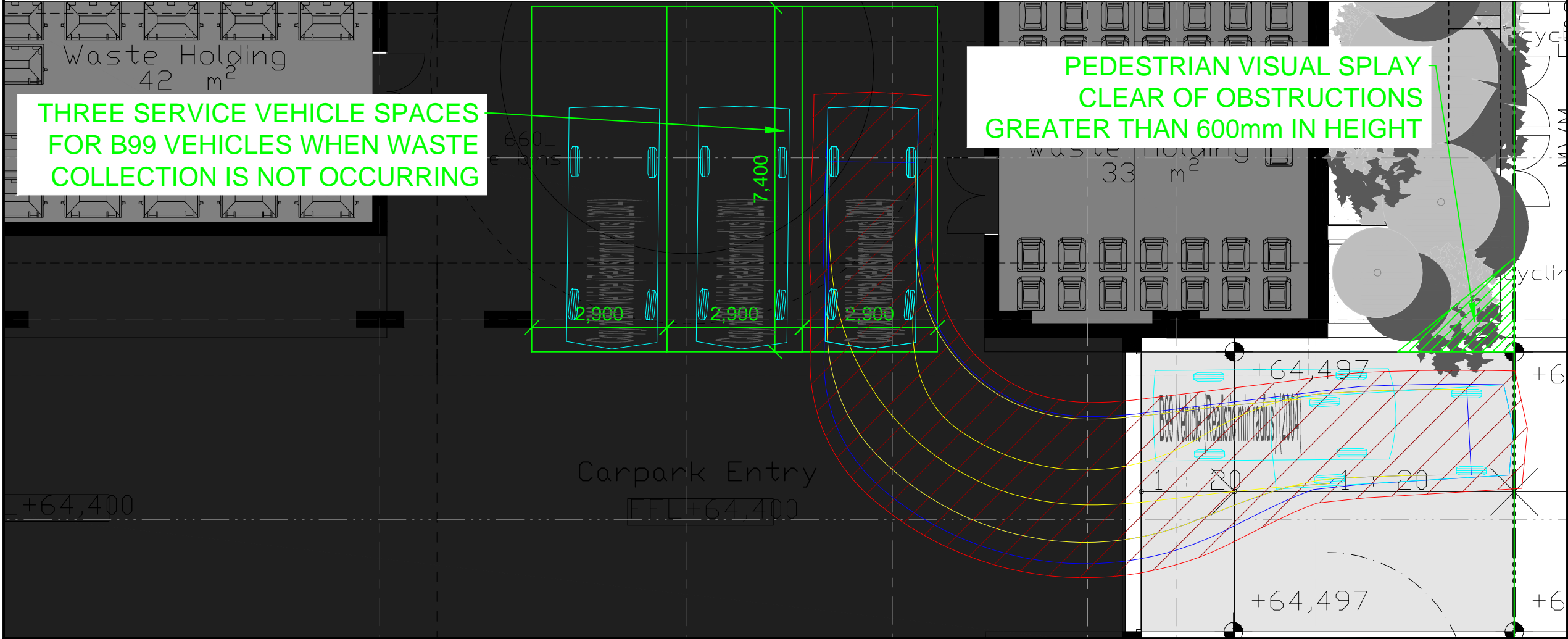
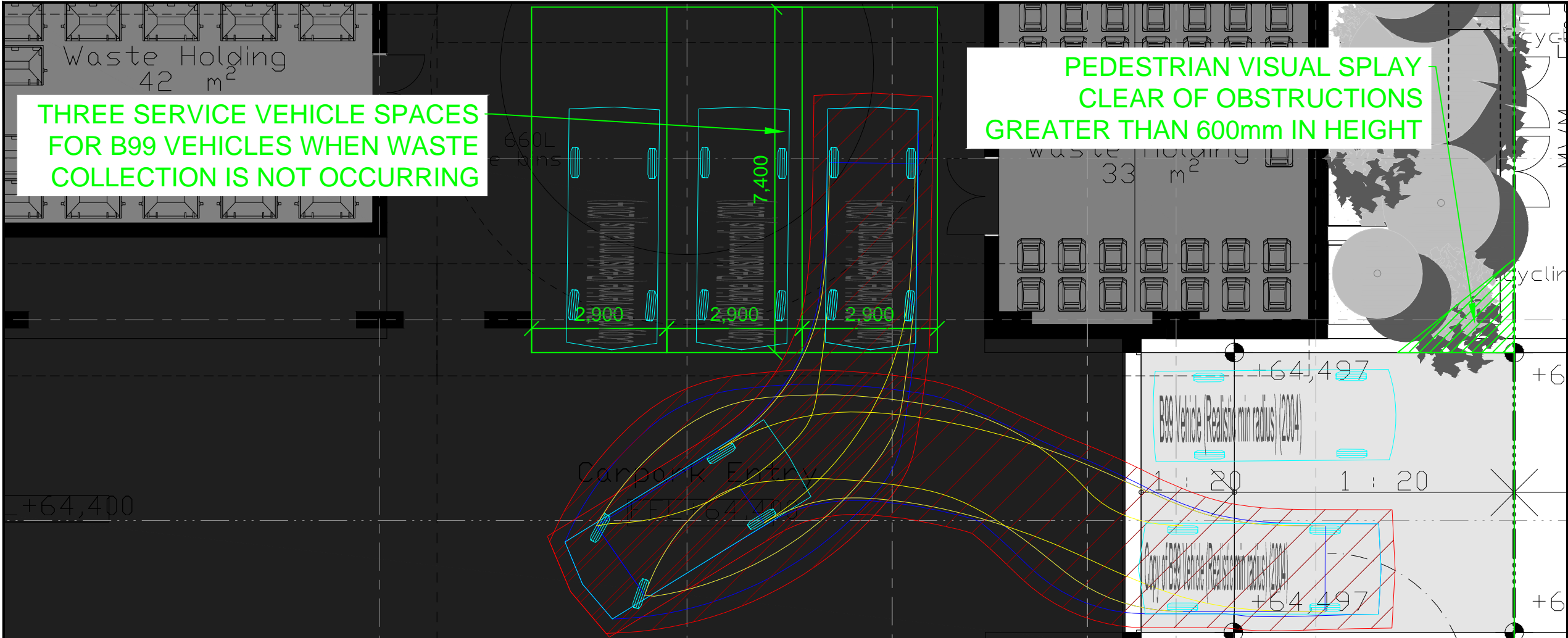
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Drawing Title
Swept Path Analysis
Service Vehicle Bays
B99 Vehicle
Middle Space

Drawn:	Checked:	Date:
HD	-	07-12-21

21.519d05v02 TRAFFIX [220608 Plans] Design Review.dwg

Project No.	Drawing Phase	Drawing No.	Rev.
21.519	DA	TX.07	A



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Rev.	Revision Note	By.	Date
A	Service Vehicle Mark Up	HD	21-12-22

Swept Path Legend

- Wheel Path
- Vehicle Body Envelope
- Clearance Envelope (300mm)

Architect
Silvester Fuller


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Scale / Plan Orientation

0 2.5 5 7.5 10m
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Drawing Title
Swept Path Analysis
Service Vehicle Bays
B99 Vehicle
Right Space

Drawn:	Checked:	Date:
HD	-	07-12-21

21.519d05v02 TRAFFIX [220608 Plans] Design Review.dwg

Project No.	Drawing Phase	Drawing No.	Rev.
21.519	DA	TX.08	A

ATTACHMENT 2

Conflict Analysis

User Input:

Length of Conflict	150		m
	Inbound Vehicle	Outbound Vehicle	
Average Vehicle Speed	10	10	km/h
Other Delay	0	0	sec
Flow Rate	5	20	veh/h

Calculation:

Disclaimer:

The following calculation has been set out in accordance with *Austrroads Guide to Traffic Management, Part 2: Traffic Theory (2008), Section 3.2.2 The Poisson Distribution.*

	Inbound Vehicle	Outbound Vehicle	
Conflict Period	54	54	s
No. of vehicles passing during conflict period	0.075	0.300	veh
Probability of one (1) or more vehicles will pass during the conflict period	0.268%	3.694%	
Probability of Conflict	0.010%		

Summary of Results:

During the peak vehicle flow period:

- the period of conflict is approximately 54s, i.e. the time it takes for a vehicle to travel along the single lane section of the road from one end to the other where there are no passing opportunities.
- The probability of one (1) or more inbound vehicles travelling along the single lane two-way section of the road during the next 54s is 0.268% or 1 in 374 vehicles.
- The probability of one (1) or more outbound vehicles travelling along the single lane two-way section of the road during the next 54s is 3.694% or 1 in 27 vehicles.
- The probability of two vehicles travelling in opposite directions meeting each other along the single lane two-way section of the road during the next 54s is 0.010% or 1 in 10118 vehicles.