

Traffic Review of the Residential Development on Lucan Road, Dublin on behalf of GK Consulting Engineers

PMCE Ref:	P22-026-PSW1-RP-001
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Rev	Prepared By	Reviewed By	Approved By	Issue Date	Reason for Revision
2.0	TAG	AP	TAG	25 th Oct 2022	Draft

1 Introduction

PMCE has been appointed to review South Dublin County Council's refusal on planning application reference SD22A/0324. The development is located near the junction between Lucan Road (the R835) and Chapel Hill (see Figure 1-1). The application was refused on the grounds that the development would lead to the intensification of traffic accessing and egressing the site, which would result in unsafe traffic movements into and out of the site.

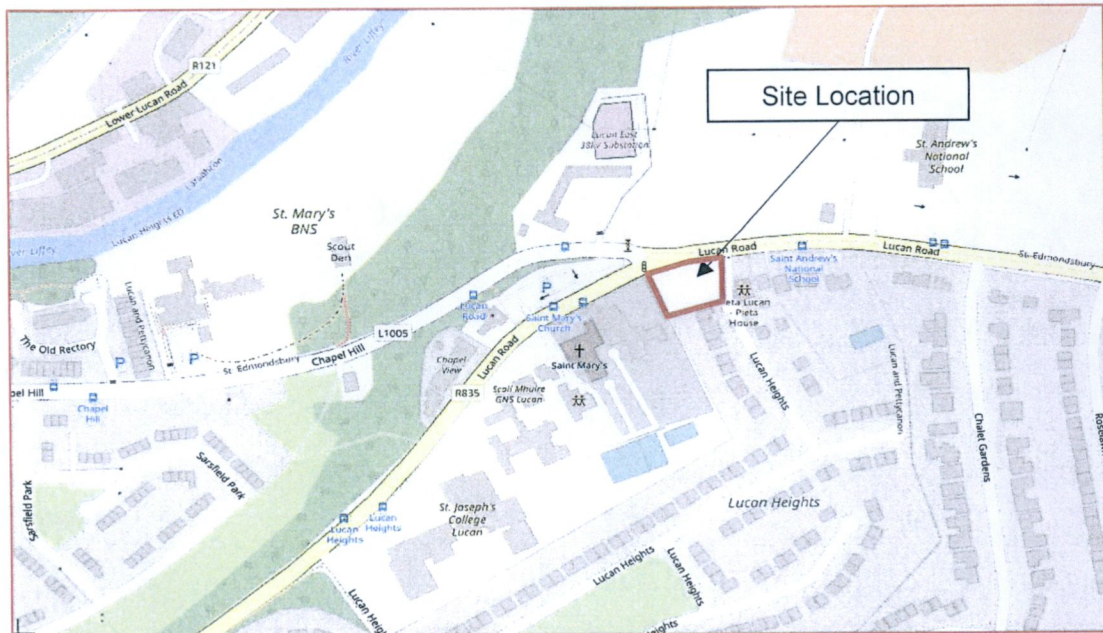


FIGURE 1-1 SITE LOCATION

The proposed development includes the following:

Demolition of an existing house; Ancillary outbuildings and the construction of 1 two to four storey building accommodating 19 apartments comprised of 6 one bedroom apartments and 13 two bedroom apartments; Vehicular access to the proposed development will be via Lucan Road with traffic calming measures onto Lucan Road; 11 car parking spaces and 20 bicycle parking spaces and ancillary services including a detached water storage tank and bin store housing all on a site of 0.1925 hectares.

2 Discussion

The following sections shall outline the key findings of PMCE's Traffic Review.

2.1 Traffic and Transport Assessment

A Traffic and Transport Assessment was not undertaken for the proposed residential development, as the trips generated by the development do not exceed the 5% of background traffic which is the threshold outlined in Transport Infrastructure Ireland's 'Traffic and Transport Assessment Guidelines' (PE-PDV-02045, May 2014). The guidelines indicate that a Traffic and Transport Assessment is typically required where additional trips being generated by a development exceed 5% of the background traffic in a built up urban area.

The additional traffic generated by the proposed development will be no higher than 25 trips per day. The traffic volumes on Lucan Road have been calculated to be approximately 26,000 AADT. The additional development traffic shall therefore be less than 0.1% of the background traffic on the local road network, so well below the threshold typically used to determine if a Traffic and Transport Assessment is required.

As the development traffic is less than 0.1% of the background traffic, the risk of the development leading to intensification within the local road network is imperceptible.

2.2 Road Safety Audit

A Stage 1 Road Safety Audit was undertaken on the proposed carpark design and access in June 2022. The Road Safety Audit was undertaken by an independent audit team, and was completed in compliance with TII's Road Safety Audit standard GE-STY-01024, dated Dec 2017.

All the road safety audit problems have been addressed by the Designer. Additionally, it is noted that the Road Safety Audit team did not identify junction or link capacity issues in their report. Therefore, the Road Safety Audit team did not believe that the proposed development would lead to traffic intensification, or unsafe traffic movements into and out of the site.

2.3 Previous An Bord Pleanála Appeal

A previous application was issued to An Bord Pleanála in 2021, following an appeal against South Dublin County Council's initial grant of approval. In its review of the Inspector's Report, which recommended conditional approval, the Board decided not to accept the Inspector's recommendation to grant permission, stating the following:

"The Board considered that the proposed secondary access over the pedestrian laneway to the east of the site and through the cul-de-sac of Lucan Heights would present an unacceptable risk to pedestrians using this access point to the established estate and would introduce an unacceptable level of additional traffic onto this narrow roadway. Accordingly, in the context of not accepting the viability of the secondary access point to the site, and taking account of the considered nature of the primary access point onto the R835, where right-turning vehicles into and out of the site would cause significant traffic risk under the current road arrangements, the Board considered that the increased traffic accessing the site cannot be accommodated in the absence of the provision of safer and more sustainable road design solutions such as box junctions, traffic lights and/pr pedestrian crossings to facilitate the development."

It should be noted that the development layout has been revised to address these concerns. Key design revisions include the following:

- The secondary access to Lucan Heights has been removed from the development. The development will have one access only, which will be located on Lucan Road.
- A yellow box junction has been proposed on Lucan Road, at the access to the proposed development.
- The footway across the development access shall be continuous, with pedestrians having right of way over drivers entering/exiting the development.

- As noted above, the number of trips generated by the development will be well below the threshold for triggering a Traffic and Transport Assessment, so the increased traffic accessing the site is considered negligible.

It is therefore considered that the current development layout addresses the concerns previously identified by An Bord Pleanála.

2.4 Parking

The proposed development includes 11 parking spaces, which is under the maximum requirement of 17.5 parking spaces identified in the 2022-2028 South Dublin County Council Development Plan. Of these 11 parking spaces, 1 parking space is designated as a Mobility Parking space, and the developer is currently in discussions with GoCar (<https://gocar.ie/developmentinfo/>) to allocate one of the remaining 10 parking spaces to a Car Sharing Club.

The development's location also benefits from high quality Dublin Bus routes, which are less than a 1 minute walk from the access, and a broad range of services within Lucan Village, including schools (creche, national and secondary schools), pharmacies, GP surgeries, churches, and other amenities such as the Liffey Walking Trail, restaurants, café, and bars that are within a 15 minute walk from the development (see Figure 2-1).

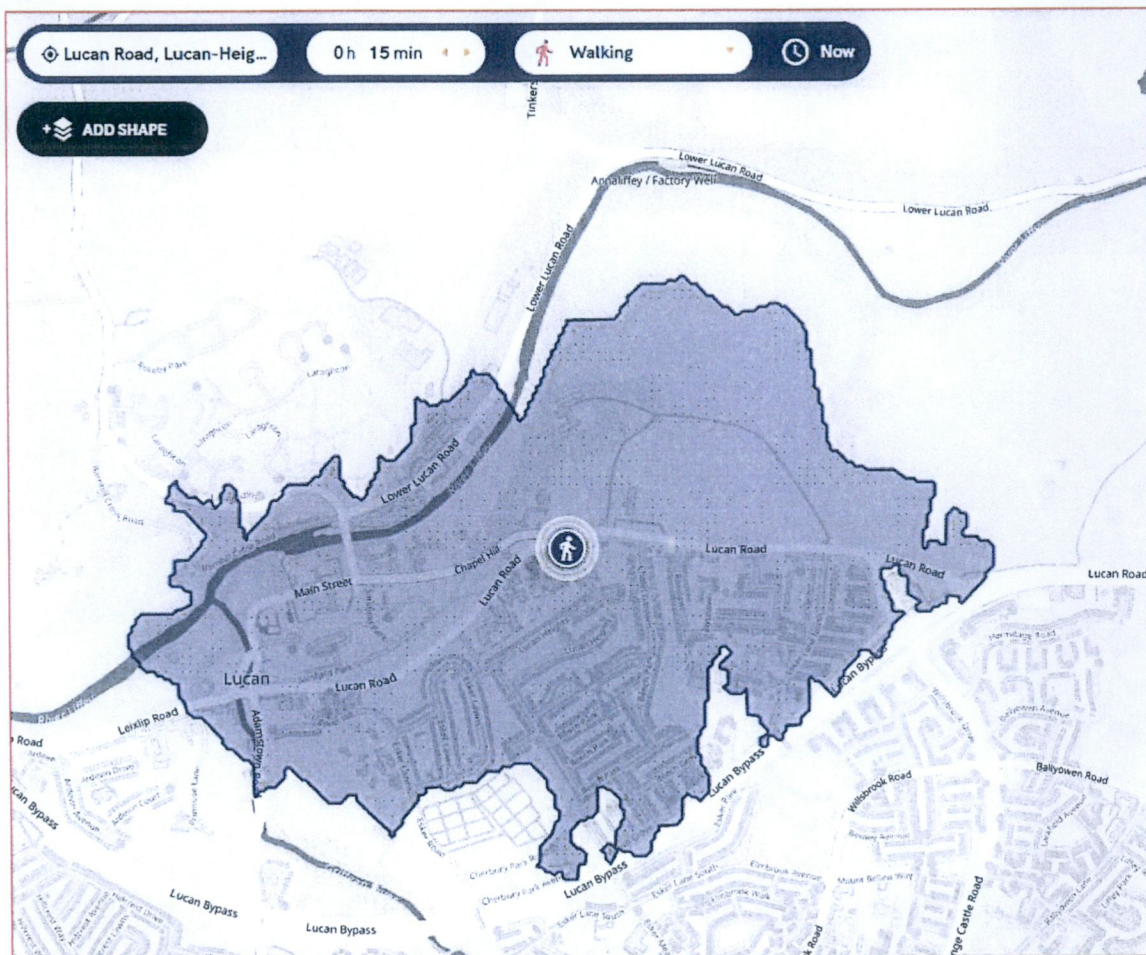


FIGURE 2-1 ISOCHRONE SHOWING 15 MINUTE RANGE (SOURCE: TRAVELTIME.COM)

Given the high quality access to Dublin Bus stops, which are facilitated by a comprehensive network of pedestrian footways and crossings in the local road network, as well as the close proximity of a broad range of amenities in Lucan Village (less than 15 mins walk from the development), and the provision of a future Car Sharing Club within the carpark, the development's parking provision is deemed to be acceptable for the development's scale and location.

3 Conclusions

Following an assessment of the local authority's reason for refusing planning, which focussed on intensification of traffic at the development, this Traffic Review concludes the following:

- 1) The development is expected to generate up to 25 trips per day. This equates to approximately 0.1% of the background traffic on the R835 regional road, which is well below the 5% threshold which would typically trigger the need for a Traffic and Transport Assessment.

Therefore, the additional traffic generated by the development is imperceptible, and is not expected to result in the intensification of traffic accessing and egressing the site, and not expected to result in unsafe traffic movements into and out of the site.

- 2) A Stage 1 Road Safety Audit was undertaken by an independent Road Safety Audit Team, who did not raise junction or link capacity problems as part of their assessment. As such, the proposed scheme is not expected to result in unsafe traffic movements into and out of the site.
- 3) The design has been revised following the An Bord Pleanála refusal in 2021. The development layout has been specifically redesigned to address the issues outlined in An Bord Pleanála's refusal, which includes:
 - Removal of the secondary access to Lucan Heights.
 - A new Yellow Box junction at the access to the proposed development.
 - A continuous footway across the development access, thereby giving pedestrians right of way over drivers entering/exiting the development.
- 4) The development is located within a 15 minute walk to Lucan Village, and less than 1 minute from Dublin Bus services. The development's location, therefore, will support sustainable transport modes, and reduce the reliance on car travel. Additionally, the allocation of parking space to GoCar will support Car Sharing initiatives, and further reduce the reliance on private car ownership and usage.

Based upon the above conclusions, the proposed development is not expected to lead to intensification at the development access, nor to unsafe traffic movements into and out of the site.

It should also be noted that the development's road layout will be subject to a Stage 2 Road Safety Audit following detail design, and a Stage 3 Road Safety Audit following construction. As such, there will be further obligations on the developer to maintain a strict focus on road safety as the development progresses, which will supplement the Stage 1 Road Safety Audit that has already been completed.

Title: STAGE 1 ROAD SAFETY AUDIT

For;

Hillhouse, Lucan, Proposed Residential Development.

Client: PMCE

Date: June 2022

Report reference: 1495R01

VERSION: FINAL (30-7-2022)

Prepared By:

Bruton Consulting Engineers Ltd

Glaspistol

Clogherhead

Drogheda

Co. Louth.

Tel: 041 9881456

Mob: 086 8067075

E: admin@brutonceng.ie

W: www.bruntonceng.ie



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1.0 Introduction

This report was prepared in response to a request from Mr. Aly Gleeson, PMCE Ltd, for a Stage 1 Road Safety Audit of the proposed residential development at Hillhouse, Lucan, Co. Dublin.

The Road Safety Audit Team comprised of;

Team Leader: **Norman Bruton**, BE CEng FIEI, Cert Comp RSA.

TII Auditor Approval no. NB 168446

Team Member: **Owen O'Reilly**, B.SC. Eng Dip Struct. Eng NCEA Civil Dip Civil. Eng CEng MIEI

TII Auditor Approval no. OO1291756

The Road Safety Audit comprised an examination of the drawings provided and a site visit by the Audit Team, together on the 9th of June 2022.

The weather at the time of the daytime site visit was dry and the road surface was wet.

This Stage 1 Road Safety Audit has been carried out in accordance with the requirements of TII Publication Number GE-STY-01024, dated December 2017.

The scheme has been examined and this report compiled in respect of the consideration of those matters that have an adverse effect on road safety. It has not been examined or verified for compliance with any other standards or criteria.

The problems identified in this report are considered to require action in order to improve the safety of the scheme for road users.

If any of the recommendations within this safety audit report are not accepted, a written response is required, stating reasons for non-acceptance. Comments made within the report under the heading of Observation are intended to be for information only. Written responses to Observations are not required.

A location map showing where each problem occurs is provided in **Appendix A**.

A list of the documents provided to the Audit Team is provided in **Appendix B**.

The feedback form completed by the Design Team Leader is provided in **Appendix C**.

**STAGE 1 RSA - HILLHOUSE, LUCAN
PMCE**

2.0 Background

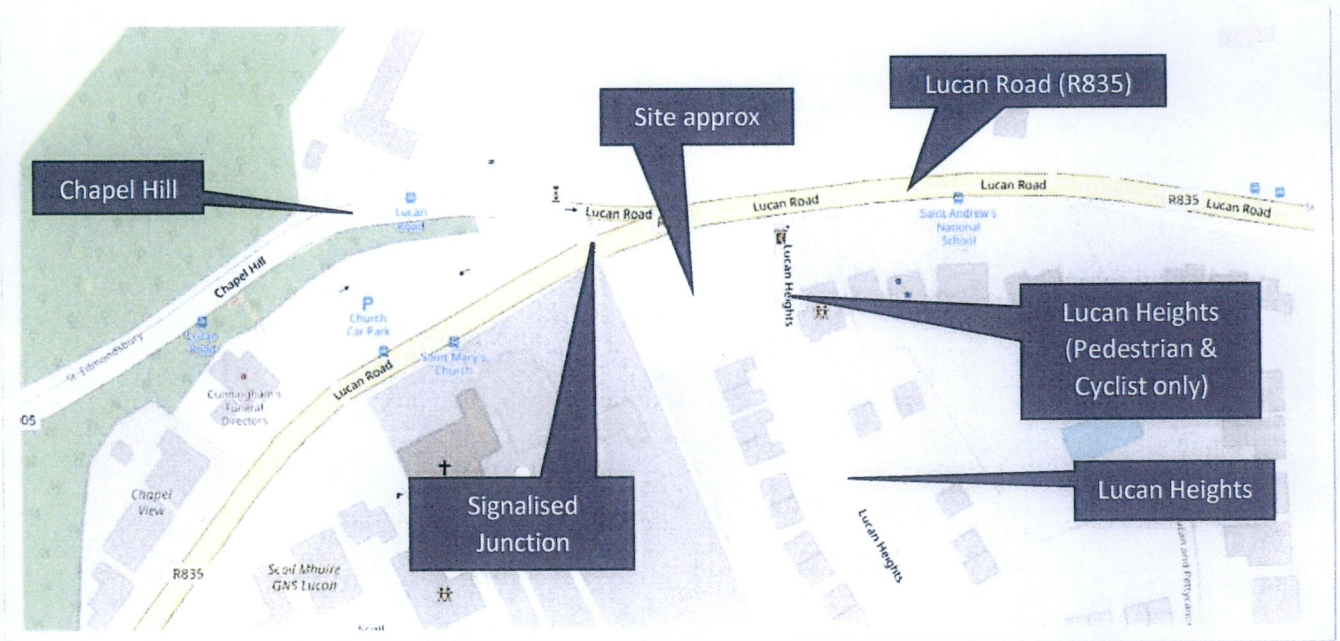
It is proposed to reconstruct a residential development at the existing Hillhouse site off the Lucan Road (R835) in Lucan, Co. Dublin.

Vehicular, pedestrian and cyclists access would be from Lucan Road via an upgraded priority junction which would include yellow box road markings on Lucan Road. It is not proposed to provide vehicular access onto Lucan Heights. Internal parking would be provided which would include 10 no. standard spaces and 1 no. disabled parking space.

A separate pedestrian only access is proposed onto Lucan Road.

The speed limit on Lucan Road is 50km/hr.

The site location is shown below.



Site location Plan. (Image courtesy of openstreetmap.org)

3.0 Issues Raised in This Road Safety Audit.

3.1 Problem

LOCATION

Drawing P22-026-DG-SP-001 S0, Rev 2.0 – Disabled Parking Space.

PROBLEM

It is unclear if there is sufficient space for a user of the disabled parking space to easily enter/exit the parking space given the proximity of the boundary walls. A lack of space could lead to material damage of vehicles.



RECOMMENDATION

It is recommended that a swept path analysis be carried out to ensure that sufficient space is available.

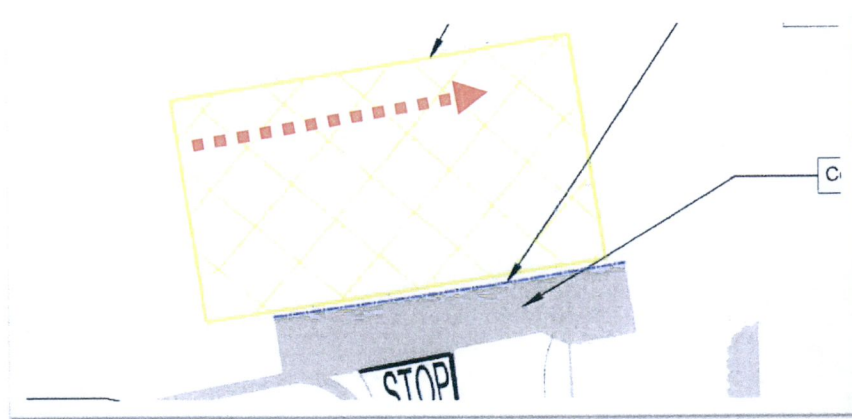
3.2 Problem

LOCATION

Drawing P22-026-DG-GA-001 S0, Rev 2.0 – Yellow Box.

PROBLEM

It is unclear if the proposed yellow box is required on the outbound lane from Lucan on the Lucan Road. If queues of traffic do not form in that direction drivers exiting the development during peak periods of inbound traffic may mistakenly think that they can turn right without checking for oncoming outbound traffic resulting in side-impact or rear-end collisions.



RECOMMENDATION

It is recommended that the Design Team confirms if outbound queuing takes place and if not, that the yellow box only be provided on the two inbound lanes.

3.3 Problem

LOCATION

Drawing P22-026-DG-VE-001 S0, Rev 2.0 – Visibility Splays.

PROBLEM

The proposed visibility splay lines cut through both existing and proposed obstacles (vegetation, walls etc.). These obstacles will obstruct visibility for drivers exiting the development and could lead to side-impact or rear-end collisions.



RECOMMENDATION

It is recommended that the visibility splays be kept clear of obstacles except for those that are momentary obstructions both individually and cumulatively.

STAGE 1 RSA - HILLHOUSE, LUCAN
PMCE

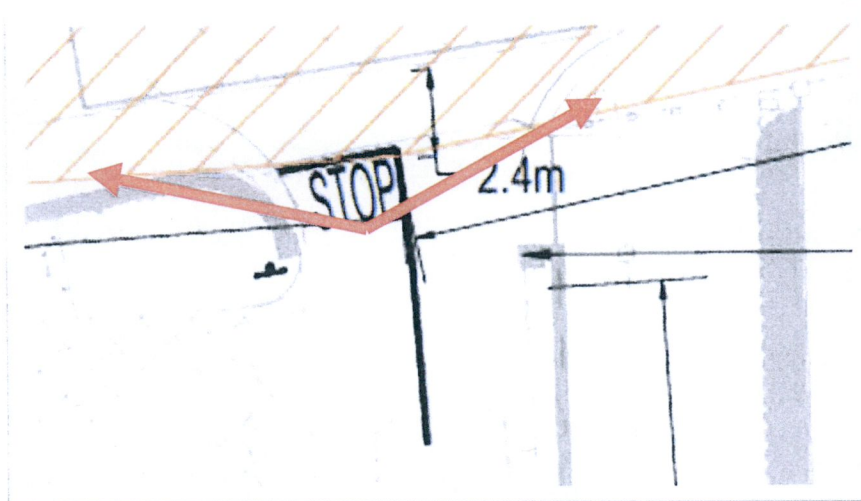
3.4 Problem

LOCATION

Drawing P22-026-DG-VE-001 S0, Rev 2.0 – Visibility Splays.

PROBLEM

The proposed visibility for exiting drivers to crossing pedestrians on the footpath is not clear. The proposed boundary treatment may be high enough to block visibility to crossing children which could result in collisions with those pedestrians.



RECOMMENDATION

It is recommended that low boundary treatment be provided such that suitable inter-visibility is provided between exiting drivers and crossing pedestrians including small children.

3.5 Problem

LOCATION

Drawing P22-026-DG-VE-001 S0, Rev 2.0 – Bin Storage.

PROBLEM

The swept path for the refuse truck has been shown however it is unclear where the bin storage area is to be located. Without a suitable storage area bin left for collection could be hazards for pedestrians especially the mobility impaired.

RECOMMENDATION

It is recommended that bin be located where they are not a hazard for pedestrians.

4.0 Audit Statement

We certify that we have examined the site and information provided. The examination has been carried out with the sole purpose of identifying any aspects of the design which could be added, removed or modified in order to improve the safety of the scheme.

The problems identified have been noted in this report together with associated safety improvement suggestions which we would recommend should be studied for implementation. The audit has been carried out by the persons named below who have not been involved in any design work on this scheme as a member of the Design Team.

Norman Bruton

Signed: *Norman Bruton*

(Audit Team Leader)

Dated: 30/7/2022

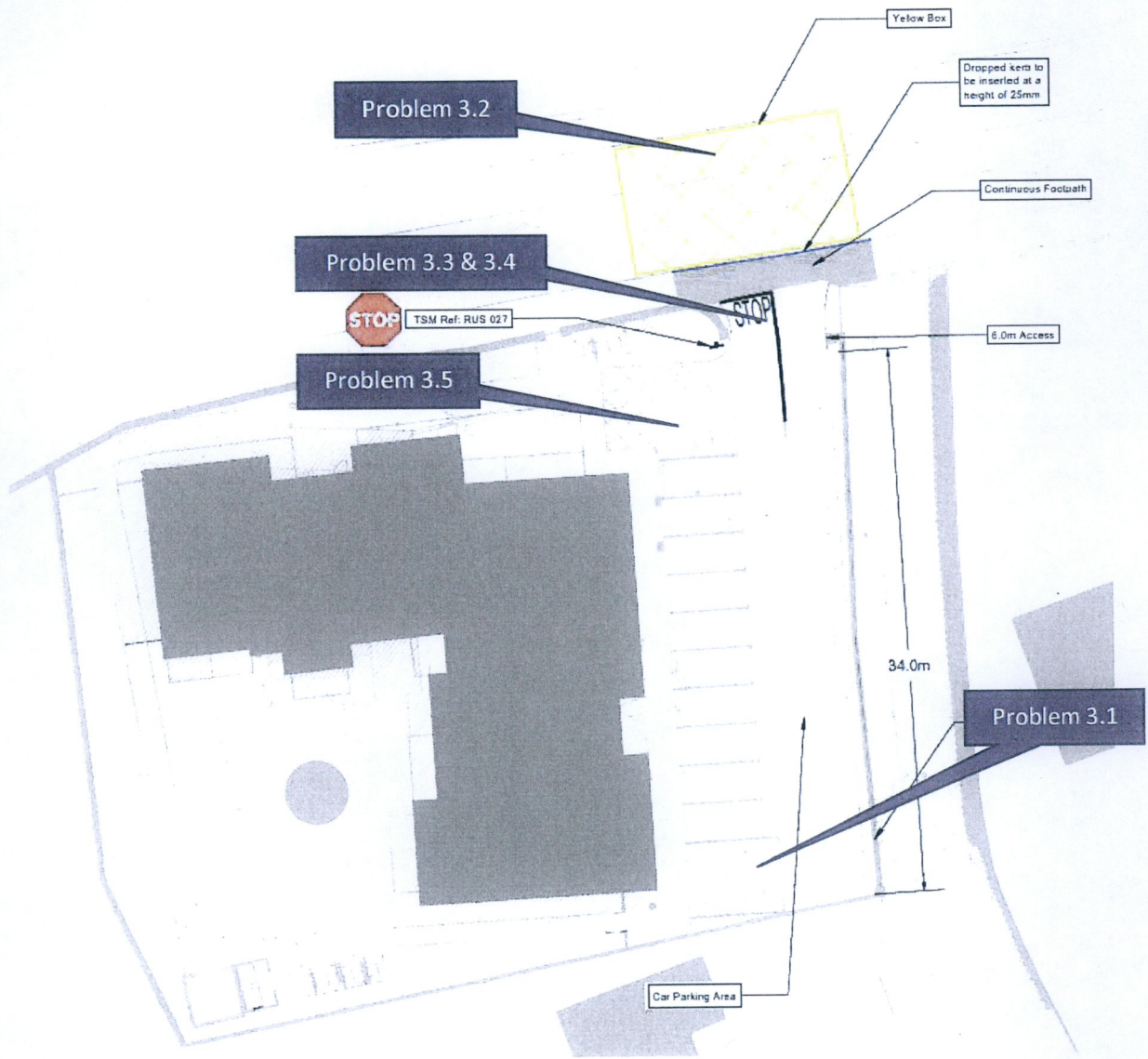
Owen O'Reilly

Signed: *Owen O'Reilly*

(Audit Team Member)

Dated: 30/7/2022

Appendix A – Problem Location Map





Appendix B

Information Supplied to the Audit Team

- Drawing P22-026-DG-GA-001 S0, Rev 2.0
- Drawing P22-026-DG-SP-001 S0, Rev 2.0
- Drawing P22-026-DG-VE-001 S0, Rev 2.0

Background Information Supplied

- Audit Brief.

STAGE 1 RSA - HILLHOUSE, LUCAN
PMCE



Appendix C

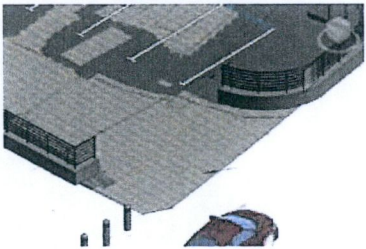
Feedback Form

ROAD SAFETY AUDIT FORM – FEEDBACK ON AUDIT REPORT

Scheme: Hillhouse Lucan

Stage: Stage 1 Road Safety Audit

Date Audit (Site Visit) Completed: 09-06-2022

Paragraph No. in Quality Audit Report	Problem accepted (yes/no)	Recommended measure accepted (yes/no)	Alternative measures (describe)	Alternative measures accepted by Auditors (Yes/No)
3.1	Yes	Yes		
3.2	Yes	Yes		
3.3	Yes	Yes		
3.4	Yes	No	<p>Attached below is an image of the (horizontal) railings proposed at the entrance for increased visibility. The Design team believe this will maintain adequate inter-visibility at the access.</p> 	Yes
3.5	Yes	Yes		

Signed.....
 Highway Design Team Leader

Date: 28th July 2022

Signed.....
 Audit Team Leader

Date 28-7-2022

Signed.....
 Employer/Developer

Date: 28th July 2022

Proposed New Front Pedestrian Entrance Gate

14no. Bicycle Parking Spaces

STOP

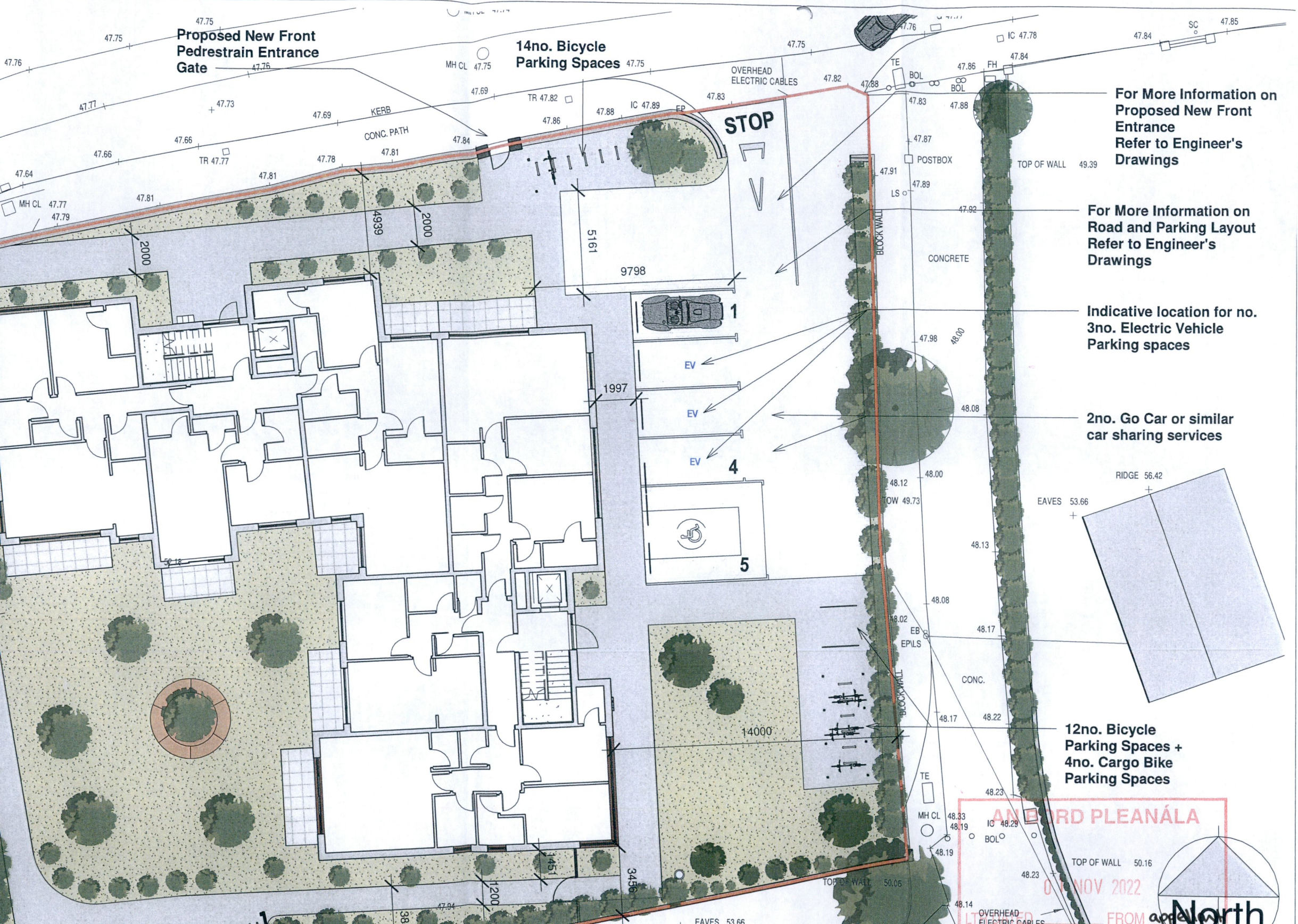
For More Information on Proposed New Front Entrance Refer to Engineer's Drawings

For More Information on Road and Parking Layout Refer to Engineer's Drawings

Indicative location for no. 3no. Electric Vehicle Parking spaces

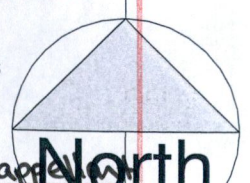
2no. Go Car or similar car sharing services

12no. Bicycle Parking Spaces + 4no. Cargo Bike Parking Spaces



AN BORD PLEANÁLA

01 NOV 2022



FROM app North