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**Proposed Development of
77 no. Residential Units at
College Wood Manor,
Ballingappa Road, Clane,
Co. Kildare.**

**Traffic and Transport
Assessment**



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Contents Amendment Record



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Title: Proposed Development of 77 no. Residential Units at College Wood Manor, Ballingappa Road, Clane, Co. Kildare. - Traffic and Transport Assessment

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1 INTRODUCTION

1.1 Introduction

Malone O'Regan have been commissioned to undertake a Traffic and Transport Assessment in relation to a proposed residential development at College Wood Manor, Ballingappa Road, Clane, County Kildare.. This report has been prepared to outline the findings of the assessment and to support a Part VIII planning application for the development.

This assessment aims to quantify the volume of traffic which will be generated by the proposed development. It also seeks to identify measures which have been implemented in order to minimise the effect of this traffic on the surrounding road network.

The following publications have been referred to in the preparation of this report:

- Department of Transport '*Design Manual for Urban Roads and Streets*' (2013).
- The National Roads Authority (NRA) Traffic and Transport Assessment Guidelines (2014).
- The TRICS database managed by JMP Consultants Limited on behalf of the TRICS® Consortium.
- The DoEHLG's National Spatial Strategy for integrating sustainable approaches to transport and land use.
- Kildare County Council Development Plan 2017-2023.

2 PROPOSED DEVELOPMENT

2.1 Description of Development

The proposed development includes the construction of 77 residential properties as well as access roads, car parking bays and other ancillary utility services. Details of the proposed development are indicated on Malone O'Regan drawing SHB2-CLA-CS-MOR-DR-101.

2.2 The Site

The proposed site is located along the College Wood Manor, which is off Ballinagappa Road (L1023). The site is approximately 1.0km to the west of Clane town centre. The site is located at the southern edge of an established residential area. Scoil Mhuire Community School and Scoil Phadraig Boys' National School are located immediately to the south of the site. To the north of the site is an established crèche. Clane Rugby Club is located to the east of the site.

The lands to the east and west are currently undeveloped greenfields. Lands to the west are zoned as residential use, and lands to the east are zoned for education and community

The site has an overall area of 3.7 hectares. A topographical survey has been conducted which indicates that site generally slopes towards the existing ditchline. The existing ground level falls from a highest elevation of +80.50m at the northwest corner of the site to a lowest elevation of +75.82 in the southern point of the existing ditchline.



Figure 2.1 – Site Location

2.3 Site Access

The access strategy for the site has been influenced and designed in accordance with the requirements of the KCDP and in particular Objective MT5 which seeks, “*Prioritise the development of new urban distributor/link/arterial roads to provide access to new communities and employment development to support the economic development of the county*”.

The access strategy for the site has been influenced and designed in accordance with the requirements of the Design Manual for Urban Roads and Streets (DMURS) and seeks to deliver the first phase of the Butterstream Link Road as identified in the LAP, extending from Collegewood Manor to Prosperous Road. This link road extends westwards along the northern site boundary before turning south and extending the full length of the western site boundary, providing access to the remaining undeveloped zoned lands to the south and west.

Enhanced pedestrian connectivity is provided between the development and Nancy’s Lane, with internal pedestrian connections throughout.

3 EXISTING CONDITIONS

3.1 Existing Road Network

The main vehicle routes surrounding the site of the proposed development are as follows:

- The College Wood Park road is located immediately to the north of the proposed site and provides the only access route, serving all 116 no. existing units. The College

Wood Park road connects directly to the Ballinagappa Road (L1023) to the east of the proposed development.

- The Prosperous Road (R134) is located to the south of the site and is accessed via pedestrian links only by Nancy's Lane and a small network of local roads.

3.2 *Public Transport*

The nearest train station to the proposed development is the Sallins / Naas station which is located 8.6 km to the south of the proposed development location. The services that operate out of the station include the Dublin – Portlaoise service, the Dublin – Galway service and the Dublin - Limerick service. The Dublin - Waterford and Dublin - Carlow services also utilise the station. A number of services are available daily to and from Dublin.

Bus Eireann service 120 runs between Clane and Dublin City centre via Straffan, Celbridge, Lucan Spa Hotel, Liffey Vally, Connolly LUAS stop, and Dublin City centre. The nearest bus stop is located on the R403 opposite the ESSO garage. Private operators such as JJ Kavanagh and Glen Whelan (K Coach) also provide a number of services daily to and from Dublin and also services Clane. Dublin Coach also provide Naas to Dublin services which run on a daily basis.

3.3 *Road Safety Records*

Records of historical traffic collisions are available on the Road Safety Authority website. Figure 3.1 shows accident data in the vicinity of the proposed site. It can be seen there has been one serious collisions on College Wood Manor Road, which occurred in 2010. It can be seen that there was one minor collision on the Ballinagappa Road, approximately 120m south of the College Wood Manor/Ballinagappa Road junction. There do not appear to be any particularly dangerous junctions in the immediate vicinity of the site.

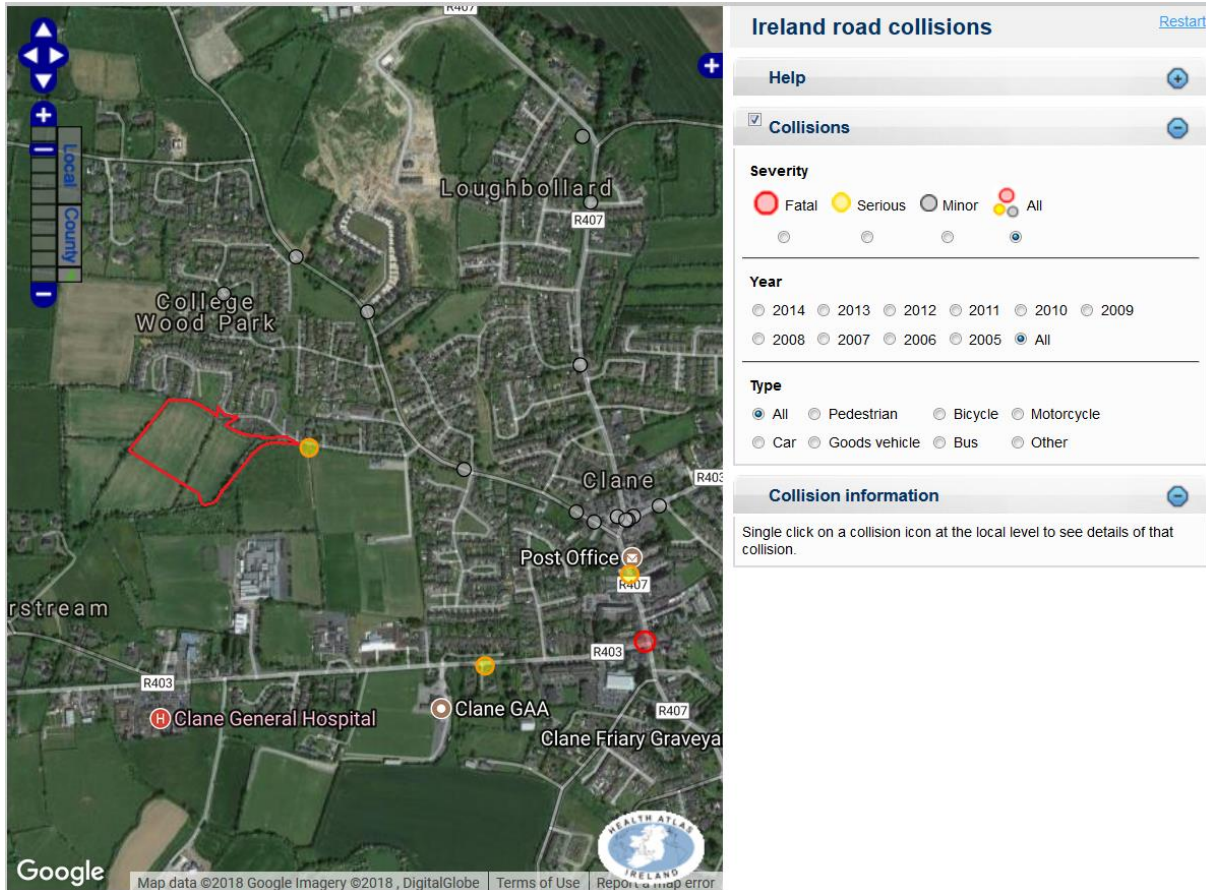


Figure 3.1 Road Collision Data (Source: Road Safety Authority)

4 TRAFFIC GENERATION

4.1 Development Traffic Generation

The number of trips which are expected to be generated by the proposed development have been estimated using the TRICS database. The output from the database for the peak AM and PM hours is shown in table 4.1 below.

Land Use	AM Peak Hr		PM Peak Hr	
	Arrive	Depart	Arrive	Depart
03 Residential / L: Mixed Affordable Housing (Flats & Houses)	0.120	0.272	0.285	0.204

Table 4.1 Proposed Development Trip Rates (calculated from TRICS Database)

These trip rates were then used to calculate the estimated trips generated by the proposed development. Table 4.2 presents the trips for the peak AM and PM hours.

Component	AM Peak Hr		PM Peak Hr	
	Arrive	Depart	Arrive	Depart
03 Residential / L: Mixed Affordable Housing (Flats & Houses)	0.085	0.441	0.508	0.339

Table 4.2 Proposed Trips (AM/PM Peak Hour)

It can be seen from the figures above that the additional number of vehicles using the surrounding road network as a result of the proposed development is relatively low.

4.2 Construction Traffic

The target programme for the construction of the development is 16 months. It is estimated that construction labour on site could peak at 60 persons although this will vary depending on the period of construction works, with the peak occurring in the middle of the construction phase. Allowing for 1.5 persons per vehicle, this equates to 40 vehicles arriving at the site during the AM peak and leaving the site between 4:00PM and 6:00PM.

All suitable excavated material will be reused for construction and fill activities where possible and appropriate. All surplus excavated materials, including tarmacadam will be sent for offsite recycling or disposal in accordance with all relevant waste legislation. In addition to the traffic generated by the disposal of surplus subsoil from the site, there will be traffic generated from deliveries of construction materials and equipment. In overall terms, it is estimated that there will be a maximum of 35 – 40 truck movements in and out of the site per day during the earthworks phase of the works.

In general, most of the construction traffic generated during the development works will be in off-peak hours. Such trips will generally be spread out over the full working day. Based on an assumed 6-day week and 8-hour day, it is estimated that works will generate a maximum of 80 construction vehicle trips to the site per day. Assuming a constant arrival rate this would equate to a total of 10 trips in and out during the peak hours.

5 MITIGATION MEASURES

5.1 Operational Traffic

The figures contained in Section 4 of this report have identified that the impact of the proposed development on the surrounding road network is relatively low. However, in order to further reduce the impact on the surrounding road network the following measures have been implemented in the design of the development.

- A pedestrian route has been included to link the College Wood Manor road and northern portions of the site. This will provide a convenient pedestrian route to and from the Dublin Bus stop described in Section 3.2 above.
- By providing footpaths alongside all internal roads and by ensuring that the site is attractively landscaped and well lit, it is hoped to promote walking as an alternative to car use.
- Enhanced pedestrian connectivity is provided between the development and Nancy's Lane, with internal pedestrian connections throughout.

5.2 Construction Traffic

The works Contractor will be required to provide a detailed Construction Traffic Management Plan prior to work commencement. This report will propose measures to minimise construction vehicles and construction vehicle movements on site as well as personnel parking and movement.

Typically Construction Management Plans would include the following measures:

- Construction fencing and hoarding will be erected as required with defined vehicular access points for the site.
- The surrounding road network will be signed to define the access and egress routes for construction vehicles
- The arrival of delivery vehicles will be locally managed in order to minimise the impact of this traffic on the surrounding road network
- A dust minimisation plan will be developed incorporating truck wheel washes at the construction site entrance and / or a programme of road sweeping.

6 ROAD NETWORK

6.1 Internal Road Network

The internal road layout is indicated on drawing SHB2-CLA-CS-MOR-DR-101 which also shows the proposed road levels. The proposed layout includes for a vehicular entrance off College Wood MANOR road to the north of the site. All proposed roads have been designed in accordance with the Design Manual for Urban Roads and Streets (DMURS).

6.2 *Visibility*

Drawing SHB2-CLA-CS-MOR-DR-105 has been produced in order to demonstrate that cars exiting the site will have adequate lines of visibility. In accordance with the Design Manual for Urban Roads and Streets, a 45m sightline has been indicated with a set-back distance from the carriageway edge of 2.4m.

6.3 *Manoeuvrability*

A swept path analysis has been conducted and is shown on drawing SHB2-CLA-CS-MOR-DR-107. When completing the analysis it was assumed that the largest vehicle which would realistically require access to the site was a refuse truck. It is noted that both ambulances and fire tenders have tighter turning circles and the refuse truck is therefore considered to be representative of the “worst case”. It can be seen that the refuse truck, and consequently emergency vehicles such as ambulances and fire tenders, are able to safely manoeuvre around the proposed site layout.

6.4 *Facilities for Pedestrians*

It is proposed to provide footpaths throughout the development. Dropped kerbs and tactile paving will be provided at all pedestrian road crossing points. This will help to promote walking and cycling as sustainable alternatives to car use.

6.5 *Parking Arrangements*

In accordance with the requirements of Table 17.9 in the County Development Plan (CDP), the proposed development provides for a total of 161 no. car parking spaces, and therefore provides an additional 11 car parking spaces to the required minimum of 150, as advised by the CDP. This results in a minimum provision of 2 no. spaces per house and 1.5 no. space per apartment with 1 visitor space per 4 apartments.

7 CONCLUSIONS

- The estimated volume of additional traffic generated by the proposed development is relatively small.
- The maximum volume of construction traffic associated with the proposed development is expected to be in the order of 10 trucks per hour. This level of traffic will only be experienced during the busiest construction periods.
- The proposed site layout has been designed in order to promote walking as a sustainable alternative to driving.
- The vehicular entrances to both car parks have been located in such a way that the impact of increased traffic to and from the proposed site is minimised.