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South Dublin County Council

Traffic and Transport Assessment –

Housing Development at Corkagh Grange



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Contents Amendment Record



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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 Corkagh Grange, Clondalkin, County Dublin. 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.
- South Dublin County Council Development Plan 2016-2022 (CDP).

2 PROPOSED DEVELOPMENT

2.1 Description of Development

The proposed development includes the construction of 109 residential units along with all associated road infrastructure, drainage and other services.

2.2 The Site

The site is located on the western outskirts of Clondalkin Village and is situated within a large area of undeveloped land. The site is located approximately 200m south of the Old Nangor Road. It is proposed to construct a new road which will connect the site to the Old Nangor Road. There is an established residential development located to the east of the site, namely Cherrywood Park. There is significant public open space associated with Corkagh Demesne to the south of the site and the Camac River flows through this area. It is proposed to provide pedestrian access at the southeastern corner of the site, via Cherrywood Crescent.

The proposed residential development will be spread over a site with an approximate area of 3.13 hectares. The inclusion of the proposed access road will result in an overall site area of circa 3.72 hectares, while the inclusion of additional lands for the proposed attenuation ponds results in an overall site area of circa 4.14 hectares. A topographical survey has been conducted which indicates that the site is quite flat with a maximum elevation of +71.0m at the northwest corner of the site and a minimum elevation of +70.0m at the southern boundary.



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 CDP and in particular Objective 4 of Policy 1 which seeks, *“to prioritise new road construction that provides access to new communities and development areas and supports the economic development of the County”*.

In line with the requirements of the Kilcarbery – Grange Preliminary Masterplan, the access to the site will be provided via new distributor road from the Cherrywood Park. It is proposed to relocate the existing in-lane bus stop further to the west and construct new off-lane bus stop bay. The internal distributor road will also provide access to future developments proposed within the wider area masterplan.

The pedestrian access will be provided via footways located along both sides of distributor road.

3 EXISTING CONDITIONS

3.1 Existing Road Network

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

- The Cherrywood Park road is located immediately to the northwest of the proposed site and provides the only access route, serving all 109 no. proposed units. The Cherrywood Park connects directly to the New Nangor Road to the northwest of the proposed development and via Old Nangor Road and Cherrywood Crescent to the northeast.
- The New Nangor Road (R134) accessed via Cherrywood Park road connects Grange Castle with Park West Business Park

3.2 Public Transport

Clondalkin Foothill train station is located approximately 1.8km to the northeast of the site. The station is located on the Dublin Heuston to Limerick train line. Irish Rail timetables indicate that trains to Dublin Heuston station take approximately 15 minutes, departing every 15 to 60 minutes depending on the time of day.

Dublin Bus services 68 and 151 run between Old Nangor Road/New Nangor Road respectively and Dublin City centre. Bus route 68 can be used in conjunction with Luas Red Line with transfer stops located in Rec Cow or on Naas Road. Dublin Bus timetables indicate that bus route 68 departs every 30 to 60 minutes, bus route 151 every 15 to 30 minutes depending of the time of day.

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 have been two minor collisions on the New Nangor Road/Cherrywood Park junction, the most recent of these occurred in 2009. There do not appear to be any particularly dangerous junctions in the immediate vicinity of the site.

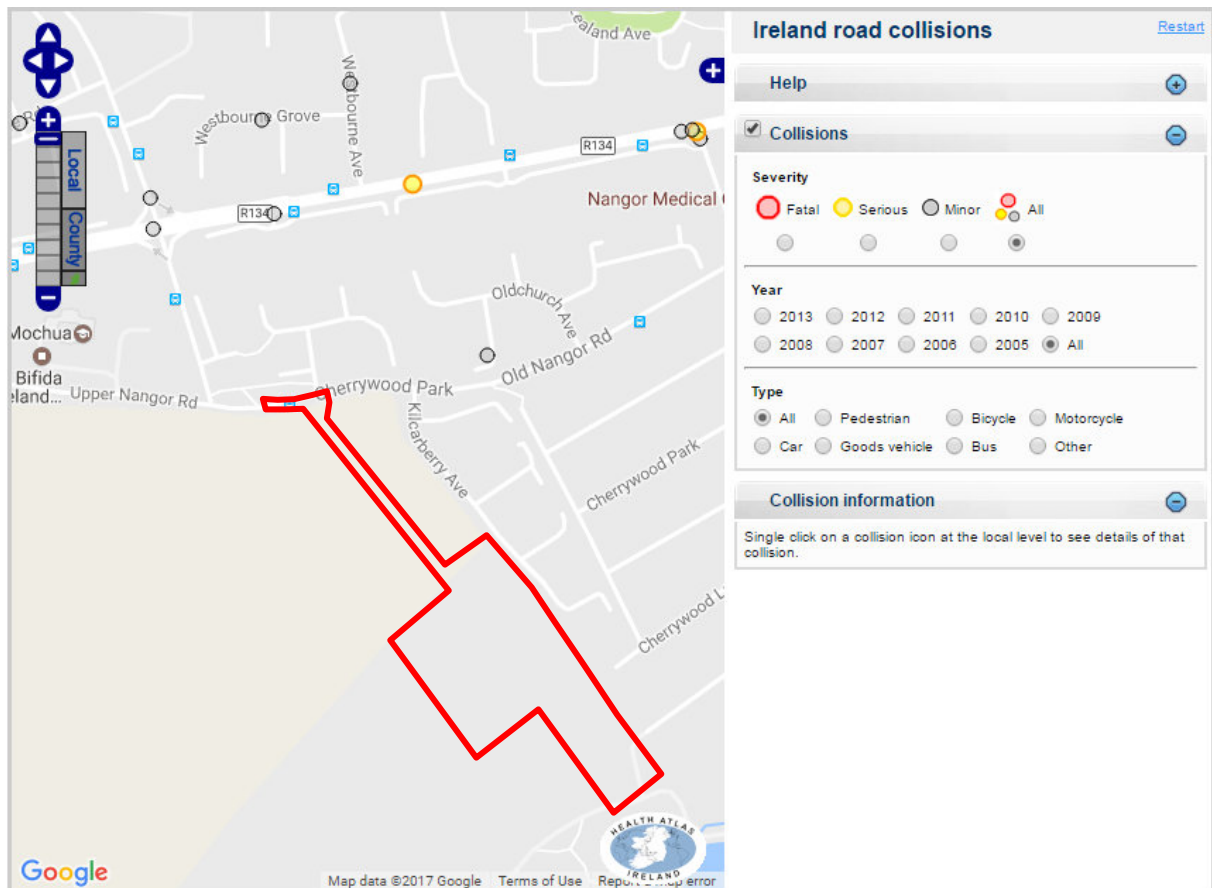


Figure 3.1 Road Collision Data (Source: Road Safety Authority)

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
Proposed Development	13	30	31	22

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 28 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 Cherrywood Park 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.

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 SHB1-COR-CS-MOR-DR-101 which also shows the proposed road levels. The proposed layout includes for a vehicular entrance off Cherrywood Park. All proposed roads have been designed in accordance with the Design Manual for Urban Roads and Streets (DMURS).

6.2 *Visibility*

Drawing SHB1-COR-CS-MOR-DR-110 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 SHB1-COR-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. It is also proposed to provide a pedestrian access to Corkagh Park at the southern boundary of site. This will help to promote walking and cycling as sustainable alternatives to car use.

6.5 *Parking Arrangements*

A total of 192 no. car parking spaces are provided on site at a rate of 1 no. space per one bed unit, 1.25 no. spaces per two bed unit and 2 no. spaces per three bed unit, in accordance with Table 11.24 of the CDP.

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.