

## Outline Construction Traffic Management Plan

Clonburris SDZ

April 2022

Prepared for:




Kelland Homes Ltd.



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# **1 INTRODUCTION**

## **1.1 Introduction**

This Outline Construction Traffic Management Plan (CTMP) has been prepared in consultation with Applicants and their contractors. It is as a key construction contract document, the implementation of which aims to reduce possible impacts which may occur during the construction of the proposed development.

The applicant is responsible for ensuring construction activities are managed in accordance with the final CTMP. This Outline CTMP will shape the final plan but is subject to change/revision.

Objectives and measures are also included for the management, design and construction of the project to control the traffic impacts of construction insofar as it may affect the environment, local residents and the public in the vicinity of the construction works.

## **1.2 Implementation**

Key to the implementation of this CTMP is the dedication of the on-site construction manager who will regularly liaise with and update the Client's resident representative and associated team on all environmental and construction programming issues relating to the site. All site personnel are charged with following good practice and encouraged to provide feedback and suggestions for improvements. All site personnel are also required to ensure compliance with the requirements of the site's CTMP.

## **1.3 Scope**

The objective of this CTMP is to ensure that the residual impacts to the public road network during the construction phase of the project which have been identified in the application documentation are minimised and that transport related activities are carried out as safely as possible and with minimum disruption to other road users.

The CTMP has also been prepared for the purpose of identifying appropriate and safe methods of access for construction traffic to the proposed development. This CTMP describes the traffic management for the transportation of construction materials, equipment and personnel along the public road network to facilitate the construction of the proposed development. Light vehicles, such as cars and vans, will be used by site operatives travelling to and from the site. Heavy Construction Vehicles (HCV) will be required to deliver general construction materials, such as concrete, to the site.

This CTMP remains a live document that will be reviewed by the contractor and expanded upon, where necessary, throughout the construction phase of the project. However, this version is considered to be wholly relevant for the expected works.

## **1.4 Consultation**

Kelland Homes will act as the Main Contractor for this development. Kelland Home has a number of active construction sites and as a result. It has engaged in detail consultation with their incumbent contractors to review and sense check the measures contained in this outline CTMP.

While the measures contained in this CTMP are subject to detailed design and the appointment of a main contractor, all the pertinent issues have been reviewed by a number of contractors to ensure holistic approach has been taken with regard to the proposed CTMP measures.



## 2 PROJECT DESCRIPTION

### 2.1 General

Kelland Homes Ltd seeks permission for development on a site area of 6.3Ha, on lands within the townland of Cappagh, Dublin 22. The proposed development is located west of the Ninth Lock Road, south of the Dublin-Cork railway line, north of Cappaghmore housing estate and Whitton Avenue, and east of an existing carpark / park & ride facility at the Clondalkin Fonthill train station and the R113 (Fonthill Road). The proposed development is located within the Clonburris Strategic Development Zone (SDZ), within part of the development areas of Clonburris Urban Centre (i.e., CUC-S4) and Clonburris South East (i.e. CSE-S1 & CSE-S2), as identified in the Clonburris SDZ Planning Scheme 2019.

The proposed development consists of the construction of 294 no. dwellings, crèche and retail / commercial unit, comprised of:

- 118 no. 2, 3 & 4 bed, 2 storey semi-detached and terraced houses.
- 104 no. 2 & 3 bed duplex units accommodated in 10 no. 3 storey buildings.
- 72 no. 1 & 2-bedroom apartments in 2 no. 4 & 6 storey buildings;
- 1 no. 2 storey creche (c.520.2m<sup>2</sup>).
- 1 no. 2 storey retail /commercial unit (c.152.1m<sup>2</sup>).

Access to the development will be via the permitted road network (under Ref. SDZ20A/0021) which provides access from the Ninth Lock Road to the east and the R113 (Fonthill Road) to the west. The proposed development will connect into the permitted infrastructural works as approved under the Clonburris Strategic Development Zone Planning Scheme (2019) and permitted under Ref. SDZ20A/0021, with the proposed development connecting into the permitted surface water drainage attenuation systems i.e., 1 no. pond, 3 no. modular underground storage systems and 1 no. detention basin combined with modular underground storage systems. The proposed wastewater infrastructure will connect into a permitted foul pumping station and pipe network within proposed road corridors to facilitate drainage connections to future wastewater drainage infrastructure within the adjoining SDZ lands (including future Irish Water pumping station permitted under SDZ21A/0006).

The proposed development also provides for all associated site development works above and below ground, public & communal open spaces, hard & soft landscaping and boundary treatments, surface car parking, bicycle parking, bin & bicycle storage, public lighting, plant (M&E), utility services & 4 no. ESB sub-stations.

This application is being made in accordance with the Clonburris Strategic Development Zone Planning Scheme 2019 and relates to a proposed development within the Clonburris Strategic Development Planning Scheme Area, as defined by Statutory Instrument No. 604 of 2015.

The site has an area of 6.3 Ha.

It is proposed to develop this site based on the following schedule of accommodation:

Proposed Land Uses	
Land Use	Size
Houses	118
Duplex	104
Apartments	72
<b>Total</b>	<b>294</b>

**Table 1 Proposed Land Uses**

### 2.2 Site Access

The proposed site access points are illustrated in Figure 1 below.



**Figure 1 Proposed Access (Source: Davey Smith Architecture)**

Construction traffic will access the site via the R113 roundabout. Access to the site for staff who chose to walk or cycle to work will be co located with the vehicular access.

### 2.3 Overview

The construction site will be organised so that, where possible, vehicles and pedestrians accessing the site are segregated and can move around safely. The access routes need to be suitable for the persons or vehicles using them, in suitable positions and sufficient in number and size, this is so that incidents can be prevented by the effective management of transport operations throughout the construction process.

Pedestrians and vehicles can be kept apart by management of the following:

- **Entrances and exits** - provide separate entry and exit gateways for pedestrians and vehicles.
- **Walkways** - provide firm, level, well-drained pedestrian walkways that take a direct route where possible.
- **Crossings** - where walkways cross roadways, provide a clearly signed and lit crossing point where drivers and pedestrians can see each other clearly.
- **Visibility** - make sure drivers driving out onto public roads can see both ways along the footway before they move on to it; the existing entrance has a visibility splay to enable this
- **Obstructions** – do not block walkways so that pedestrians have to step onto the vehicle route; and
- **Barriers** - Where needed, a barrier between the road and walkway.

Vehicle movement will need to be minimised on site due to the restricted areas in which the contractor will have to work. This can be minimised by management of the following:

- Provide car and van parking for the workforce and visitors away from the work area.
- Control entry to the work area.
- Plan storage areas so that delivery vehicles do not have to cross the site.
- People who direct vehicle movements (banksmen) must be trained and authorised to do so.

- Make sure that all drivers and pedestrians know and understand the routes and traffic rules on site.
- Use standard road signs where appropriate.
- Provide induction training for drivers, workers and visitors and send instructions out to visitors before their visit.

This management will be greatly assisted by utilising the following:

- **Banksmen** - who can be appointed to control manoeuvres and who are trained in the task.
- **Clothing** - pedestrians on site should wear high-visibility clothing as well as other relevant P.P.E.
- **Gatekeeper**- The site compound will be self-contained, and it is unlikely that a gate keeper be required. A site operative will be appointed to direct/summon banksmen should one be required.
- **Speed limits**- speed limits to be restricted on site for all vehicles.

### **3 ENVISAGED CONSTRUCTION TRAFFIC GENERATION**

#### **3.1 Introduction**

There are multiple factors that influence the traffic generation as a result of construction activities. These factors include, but are not limited to:

- Market conditions
- Detailed design/final cut and fill models
- Program
- Availability of materials
- Availability of staff
- Improvements in construction methodologies i.e., the use of soil stabilisation rather than the importation of suitable material.

An estimate of the construction traffic generation is outlined in Section 3.10 of this report. In the final CTMP, the traffic generation will be calculated based upon final scheme design and construction program. Staffing levels, material deliveries and envisaged plant requirements, and the associated access and traffic and transport impacts, will be calculated based on similar project activities.

Automatic Traffic Counts were carried out to ascertain the typical existing traffic volumes currently using the roads which will be potentially impacted by the construction of the proposed development. Refer to Appendix A for details of the Automatic Traffic Counts are detailed in Traffic & Transport Assessment.

#### **3.2 Days and Hours of Construction/Delivers**

All deliveries will be notified to the Contractor's Project Manager/Traffic Management Co-ordinator in advance with specific times identified. These will be collated and held in a diary by the Co-ordinator who will manage the deliveries daily. The Co-ordinator will highlight any clashes and anticipated busy periods to streamline the processing of deliveries.

On arrival at the agreed locations, drivers must wait and ring for attention in accordance with the relevant site signage. They will then be escorted to the appropriate location for unloading by the contractor's Banksmen. No waiting will be permitted on the public road network.

Unloading will be carried out at one of the material storage areas. All deliveries will be unloaded by forklift or mechanical means.

Based on Condition 18 of Reg. Ref. SDZ22A0010, deliveries of materials to site will only be permitted between the hours of 07:00 and 19:00 Monday to Friday, and 09:00 to 13:00 on Saturdays. No deliveries will be scheduled for Sundays or Bank Holidays.

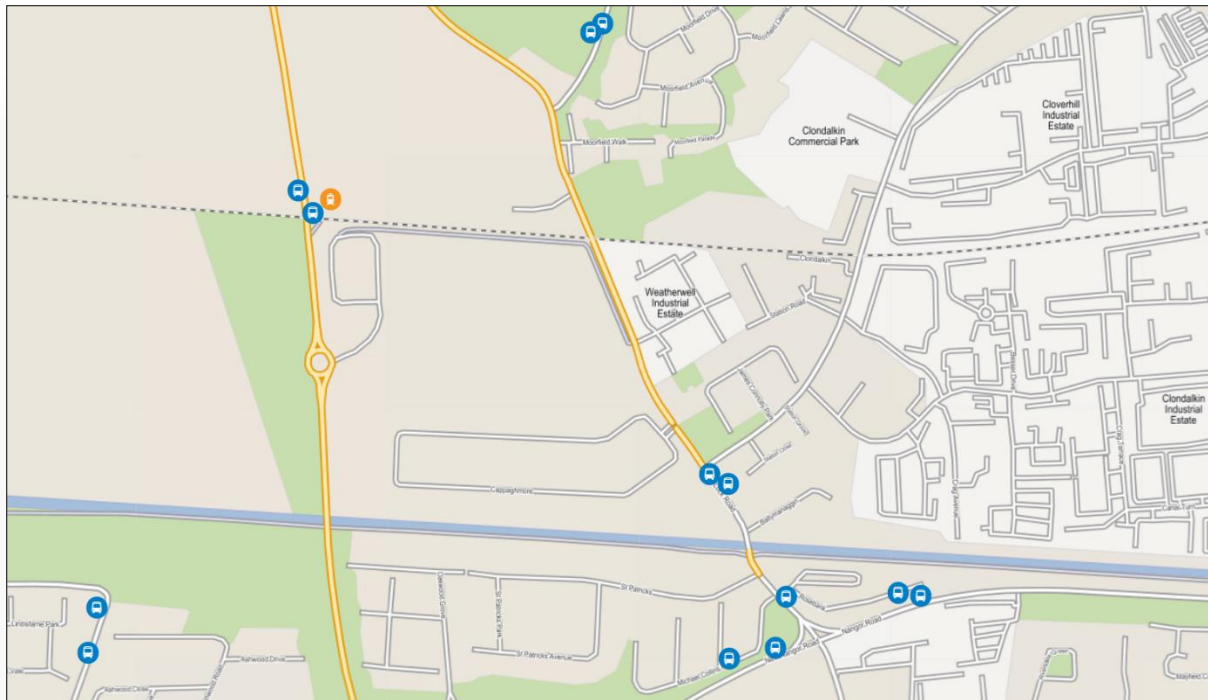
There may be occasions where it is necessary to make certain deliveries outside these times, for example, where large loads are limited to road usage outside peak times. This will only be undertaken in exceptional circumstances. Kelland Homes will advise South Dublin County Council in advance if deliveries are to take place outside of the standard condition hours.

All access roads used by contractors will be monitored for mud and any construction materials and cleared using a shovel/broom and if required a mechanical road sweeper.

#### **3.3 Public Transport**

##### **3.3.1 Background**

Local public transport services are illustrated in Figure 2 below.



**Figure 2 Local public transport nodes**

**3.3.2 Bus**

There are numerous bus operators providing a bus service locally and within walking distance to the site, with further details shown in Table 2 below.

No.	Route	Service	Mon-Fri	Sat	Sun	
L54	River Forest - Red Cow Luas	River Forest	First	06:07	06:07	08:07
			Last	23:37	23:37	23:37
		Red Cow Luas	First	05:52	06:07	08:07
			Last	23:37	23:37	23:37
Frequency		Up to 35/day	Up to 42/day	Up to 36/day		
68	Hawkins St. - Newcastle / Greenogue Business Park	Hawkins St.	First	06:25	06:40	09:00
			Last	23:30	23:30	23:30
		Newcastle / Greenogue Business Park	First	06:00	06@35	10:15
			Last	00:15	00:15	00:15
76/76A Frequency		Up to 22/day	Up to 19/day	Up to 13/day		
76/76A	Tallaght	First	05:50	06:45	08:15	

	Tallaght – Chapelizod/ - Blanchardstown	Chapelizod	Last	23:50	23:50	23:15
			First	06:25	06:30	08:30
			Last	23:25	23:25	23:25
Frequency			Up to 14/day	Up to 17/day	Up to 3/day	
151	Docklands (East Rd.) - Foxborough (Balgaddy Rd.)	Docklands (East Rd.)	First	06:30	07:10	08:30
			Last	23:20	23:20	23:20
		Foxborough (Balgaddy Rd.)	First	06:00	06:30	07:30
			Last	23:30	23:30	23:30
		Frequency			Up to 48/day	Up to 46/day

**Table 2 Local Bus Services**

Measured from the centre of the site, the nearest stop is located approximately 450m / c. 5 mins walk time as illustrate in the Figure below.



**Figure 3 Walk Routes (Source: Google Maps)**

### 3.3.3 Rail

Clondalkin Fonthill Train Stations is 1100, c. 10mins walking distance from the proposed development.

The following services stop at the station

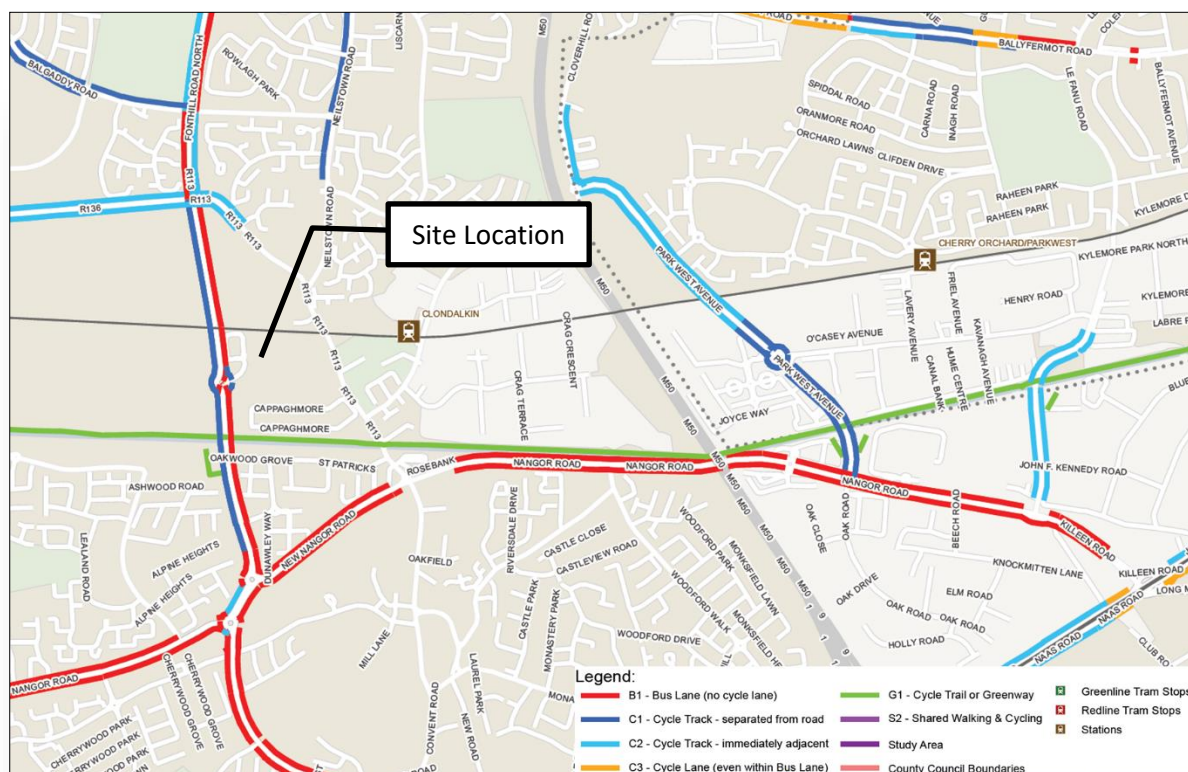
- Dublin Heuston - Cork (all intermediate stations)
- Dublin Heuston - Waterford
- Grand Canal Dock and Dublin Heuston - Portlaoise

Up to 150 car parking and 45 cycle parking spaces are offered onsite.

### 3.3.4 Walking and Cycling

The site is a green field site.

Existing cycle routes identified by the National Transport Authority (NTA) in the vicinity of the site are indicated in Figure 6 below.



**Figure 4 Existing Cycle Routes (Source: NTA)**

### 3.3.5 Summary

It is reasonable to conclude that with such direct pedestrian linkage to public transport surrounding the development, there is the opportunity to cultivate increased bus, and train patronage by those travelling to/from the site.

### 3.4 Car pooling

It is well recognised that construction workers tend to make greater use of carpooling than traditional '9-5' workers, possibly due to shared accommodation and travelling from further afield/lower levels of car ownership, which results in a greater level of sharing journeys.

Notwithstanding this, it is proposed that within the site offices or on the staff welfare notice board there will be information on car sharing and a contact number for the main contractor welfare officer who will have a list of site operatives and their willingness to share journeys so that opportunities for car sharing can be maximised. In the event that a lift to work or home becomes unavailable a registered member of the scheme will be offered an alternative lift home or failing that a taxi/public transport ticket will be provided.

For staff that chooses to travel to site using cars or other motorised vehicle a vehicle a pooling system will be put in operation by the contractor. Such measures shall be adopted in order to reduce traffic levels on the local road networks.

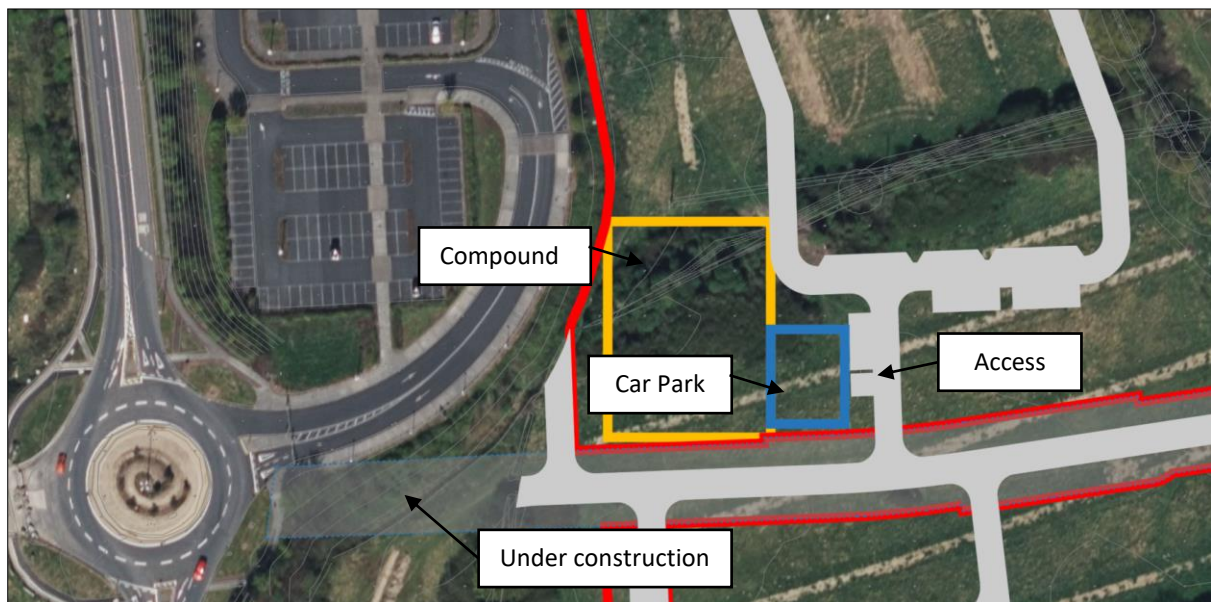
Car-pooling will only be encouraged/advised where it is in line with Government guidance and/or where all public health measures are adhered.

### 3.5 Construction Parking

Parking of construction staff vehicles on the public road network will not be permitted.

All construction traffic will access the site via the proposed access off the Southern Link Road. Car parking will be provided for all workers who travel to site using a car in or adjacent to the site compounds, as determined by the construction program.

This car park will be temporary in nature and will be created by laying of a temporary surface for vehicles.



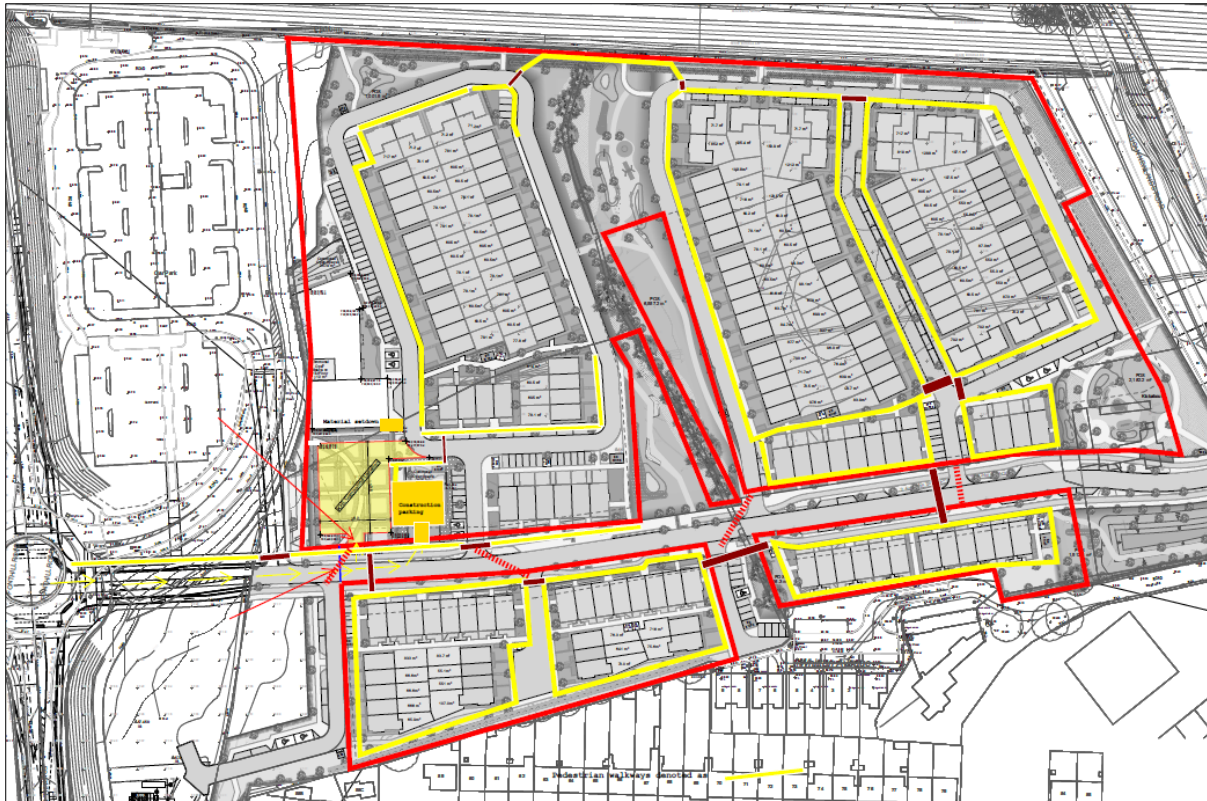
**Figure 5 Car Park Location**

This number of construction vehicle movements is considered to be relatively low compared to the wider road network and operational traffic.

### 3.6 Walking

The contractor will ensure construction staff are provided access from a footpath on to the Southern Link Road.





**Figure 6 Pedestrian Walking Routes**

Yellow indicates pedestrian walkways. The dashed purple line denotes pedestrian crossing points.

### **3.7 Cycling**

Cycle parking spaces will be provided on the site for construction staff, in addition lockers will be provided to allow cyclists store their cycling clothes.

### **3.8 Haul Route**

#### **3.8.1 Background**

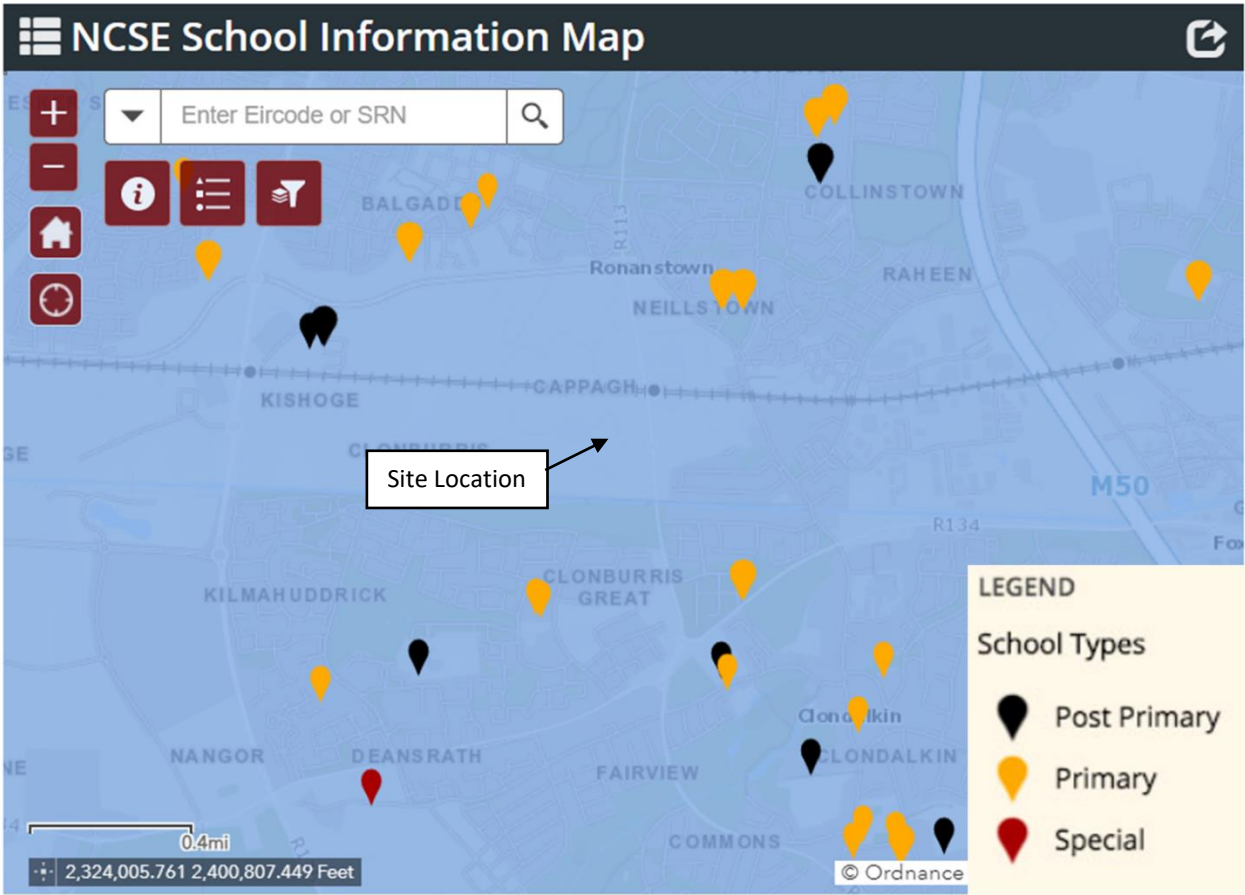
Materials such as steel and concrete required in the construction of the proposed development are likely to be sourced from manufacturers that are not situated within the immediate vicinity of the proposed development.

The total number of vehicular traffic movements between site location will be determined by the contractor based on the phasing of the proposed development. The use of local roads will be minimised as much as possible, particularly to avoid / minimise the encountering of narrow road widths, poor visibility and unsuitable bearing capacities.

#### **3.8.2 Route Selection**

The proposed development is located on The Southern Link Road. The haul route will be designed to ensure demolition waste, construction materials and construction waste is brought to the M50 in the shortest route. Routes that include schools will not be considered. The final haul route will be agreed with South Dublin County Council.

This will ensure that HGVs and other larger construction and delivery vehicles will spend a minimum amount of time on regional roads and local streets whilst avoiding schools.

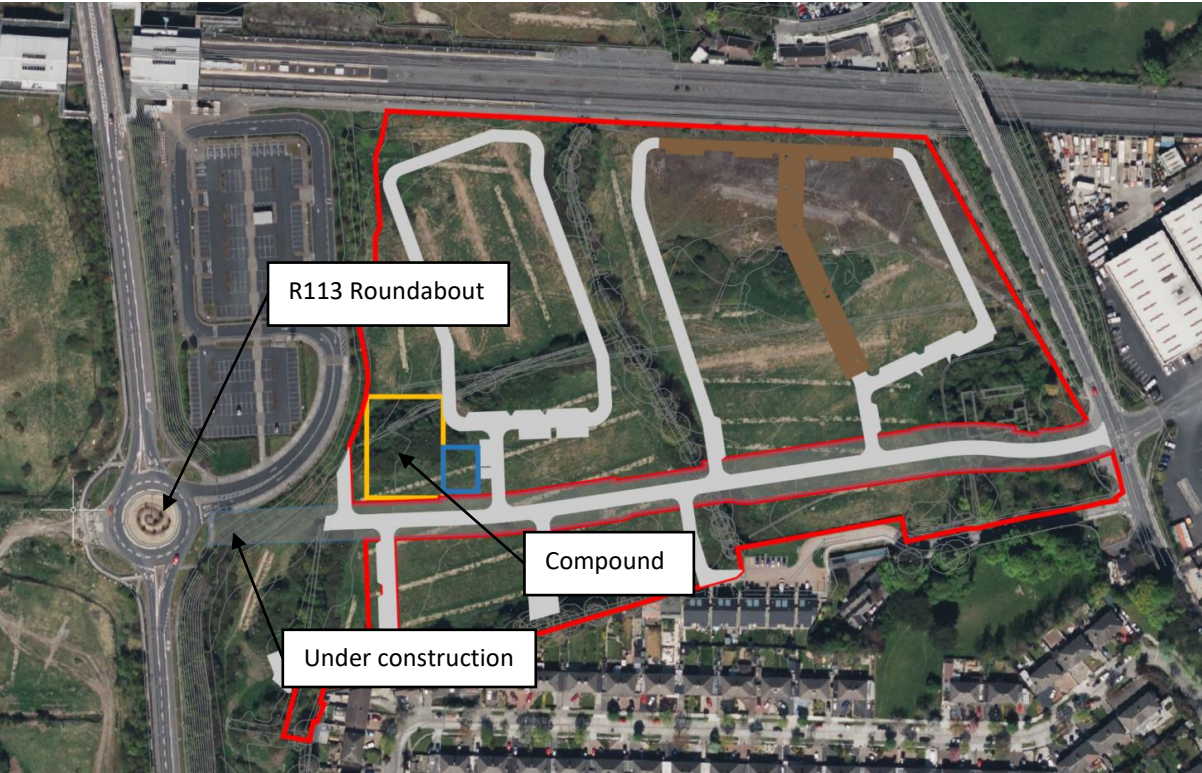


**Figure 7 School Locations**

Based on the most direct route to the M50 the haul route will use the N7. This route will avoid schools.

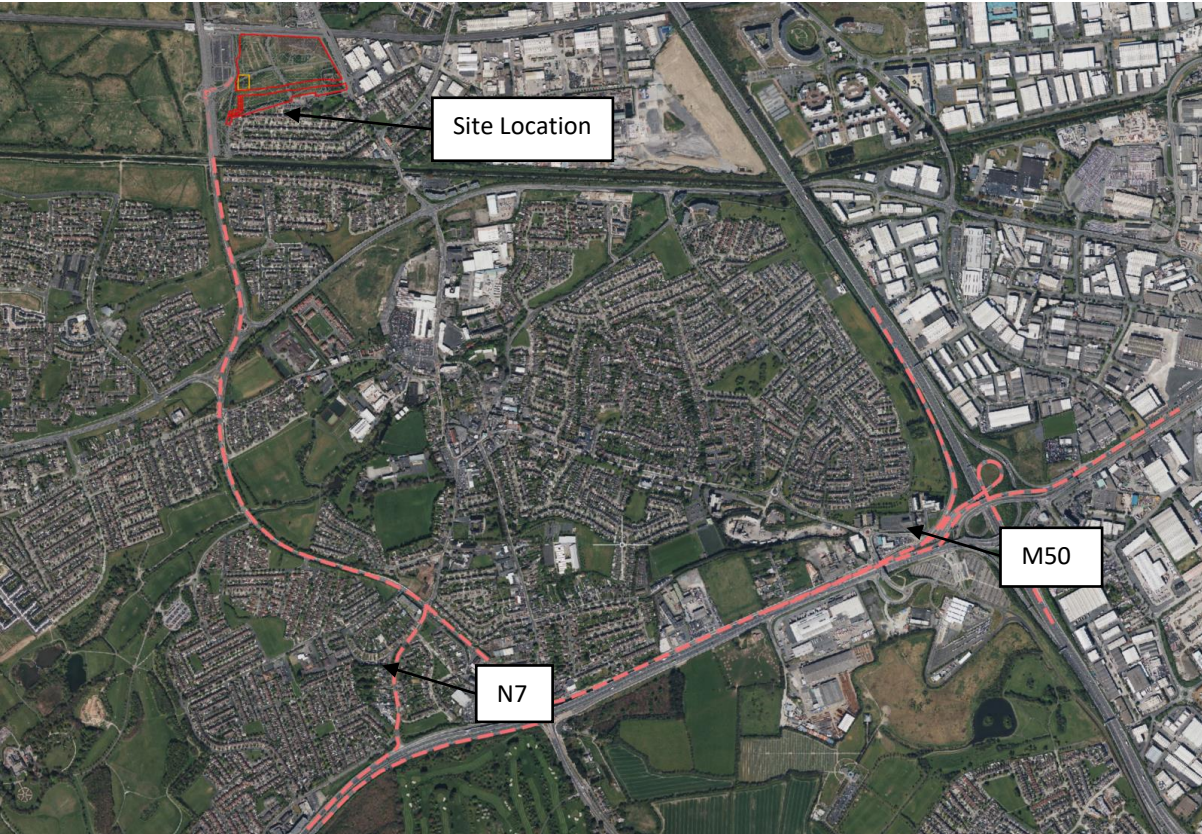
**3.8.3 Haul Routes**

The site compound / materials storage area will be located adjacent to the R113 roundabout. This will be the destination of all deliveries to site.



**Figure 8 Compound/Materials Storage Area Location**

The proposed haul route to/from the site compound is shown in the image below. These haul routes provide the shortest route to/from the M50 and N7.



**Figure 9 Haul Route to Site**

### **3.9 Traffic Generation**

#### **3.9.1 General**

It should be noted that the majority of such vehicle movements would be undertaken outside of the traditional peak hours between 08:00-09:00 and 17:00-18:00, and it is not considered this level of traffic would result in any operational problems on the local road network.

Care will be taken to ensure existing pedestrian and cycling routes are suitably maintained or appropriately diverted as necessary during the construction period, and temporary car parking is provided within the site for contractor's vehicles. Based on the estimated number of construction related trips, the construction traffic will have a negligible impact on pedestrian and cycle infrastructure.

The envisaged traffic generated during the construction period will depend on the phasing of the construction which will be determined by the Client. Based on the estimated number of construction related trips, the construction phase will not have a significant effect on the local road network as a result of the construction of the development when compared to the operational traffic volumes.

The majority of traffic generated by delivering materials during the project are envisaged to occur during the following construction elements:

- Site clearance
- Laying of internal road
- Concrete, steel, and other material deliveries to site during the construction of structures

For the construction of the proposed development, it will be necessary to transport the construction materials, equipment, and personnel to and from the work sites.

This includes (but is not limited to):

- Establishing the construction site compounds.
- The removal of surplus soil material, suitable surplus excavated material for reuse and unsuitable excavated material, which will be taken offsite to a site permitted for deposition.
- The importation of suitable soil material where required.
- The importation of relevant construction materials and equipment.
- The exportation of C&D Waste and C&D Waste Demolition.
- Transportation of workers to and from the site.

The estimated start date on site is outlined in Section 3.2.

Several construction traffic movements will be undertaken by heavy goods vehicles, though there will also be vehicle movements associated with the appointed contractors and their staff.

#### **3.9.2 Site Excavation**

Based on a 3d terrain model, up to 4,761 cu. m of soil will be imported on to site.



**Figure 10 Cut and Fill Model**

The rate at which fill will be required on site will depend on phasing. At c. 30 cu. m per load, the importation of fill on to the site will generate c. 160 HGV movements. This will be spread out over a 3–5-year period with minimal impact on the local road network.

During ground works, various spoil heaps will be created on site. Refer to Figure 12 for details. Suitable material will be mounded to create a berm and in turn will allow for the material to be deposited onto the HGVs by excavator when needed.

The road marshal appointed will be responsible to ensure that there is no disruption to traffic or pedestrians and that roadways and paths are kept clean and free of debris.

### **3.9.3 Demolition & Construction Waste**

Whilst it is not possible at this stage to accurately identify the day-to-day traffic movements associated with the construction waste, based on experience of similar sites it is considered that the number of constructions related heavy goods vehicle movements to and from the application site will be on average 2 arrivals/departures per day over a 5-year construction period.

### **3.9.4 Construction Workers**

At the peak of construction, it is anticipated that there will be a requirement for approximately c.75-100 construction workers, which with an allowance for shared journeys could equate to a maximum of around 45-65 arrivals and departures per day. This will vary over the lifetime of the project.

### 3.9.5 Material handling

The development will be served by craneage, given the construction method and site confines. Lifting capacities will be predicated on the maximum loading requirements. A material and plant loading schedule will be undertaken to evaluate these needs.

All material scheduling and ordering will be communicated to the necessary personnel on site at the end of every day for the following day. It is imperative that deliveries are timely and executed efficiently to avoid unnecessary waiting.

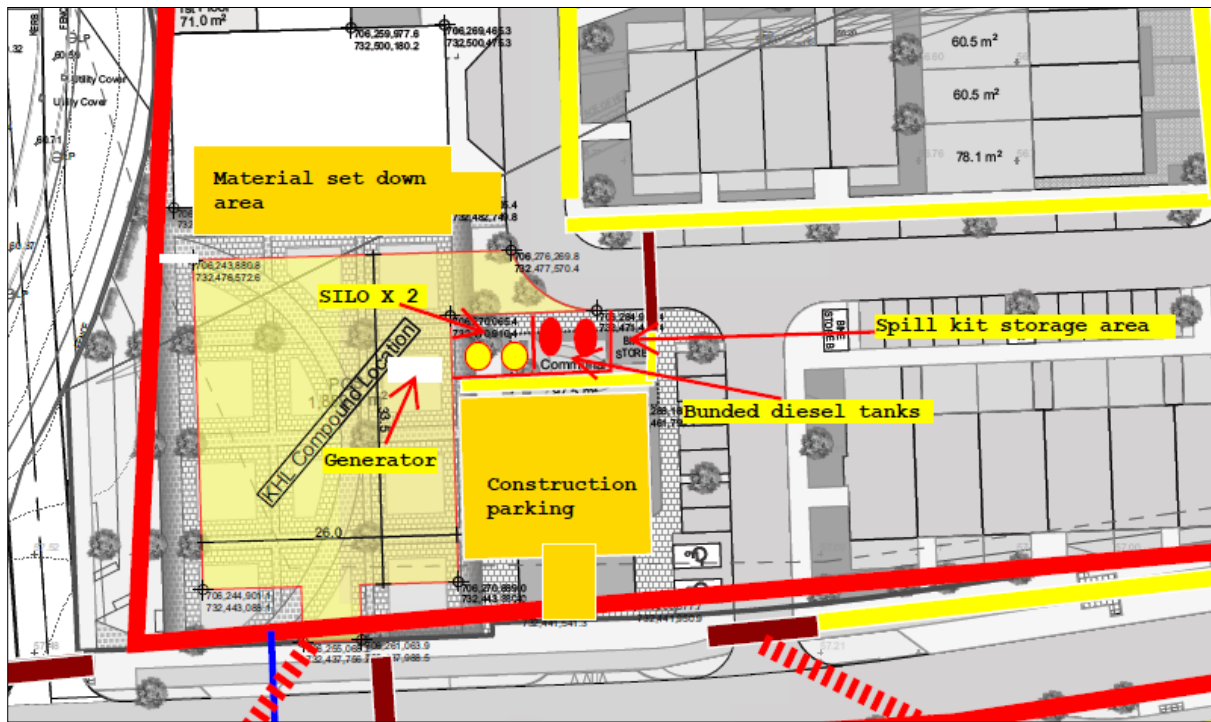


Figure 11 Material Set Down Area

### 3.9.6 Development Impact

The likely impact of the construction works will be short-term in nature and less the operational phase impact.

### 3.9.7 Summary

Arrivals and departures to the sites are to be carried out in as few vehicle movements as possible to minimise parking requirements and potential impacts on the local road network.

The proposed development will have a dedicated loading and unloading area within the curtilage of the proposed development. This will be accessed via the proposed access on Southern Link Road. Construction traffic will not be permitted to use estate roads to access the site.

Construction traffic will be restricted to the primary routes and will not be permitted to use residential routes. Material scheduling will dictate the timely delivery of supplies to site during off peak periods when traffic flow has eased, and pedestrian numbers are lower.

All offloading of deliveries to site will occur within the curtilage of the site boundaries and no roadside offloading will be permitted.

All scheduled deliveries will be supplied with the appropriate site location details in advance to prevent wandering in the locality. A dedicated site marshal will be appointed to ensure that delivery vehicles securely access and vacate the site. The site marshal shall also be responsible to ensure that clean road and pathway conditions are maintained for the public users.

## **4 CONSTRUCTION TRAFFIC MANAGEMENT PLAN**

### **4.1 Introduction**

This section outlines the content of the final Construction Traffic Management Plan (CTMP) which shall be prepared prior to construction of the proposed development. It shall be a requirement of the contract that, prior to construction, the appointed contractor shall liaise with the relevant authorities including the Transport Infrastructure Ireland (TII), Local Authorities and Emergency Services for the purpose of finalising the CTMP, which will encompass all aspects of this outline Construction Traffic Management Plan.

The CTMP shall be termed a 'Live Document', such that any changes to construction programme or operations can be incorporated into the CTMP.

The contractor will be contractually required to ensure that the elements of this outline CTMP shall be incorporated into the final CTMP. The contractor shall also agree and implement monitoring measures to confirm the effectiveness of the mitigation measures outlined in the CTMP. On finalisation of the CTMP, the contractor shall adopt the plan and associated monitoring measures. The final CTMP shall address the following issues (including all aspects identified in this outline CTMP):

- Site Access & Egress.
- Traffic Management Signage.
- Routing of Construction Traffic / Road Closures.
- Timings of Material Deliveries to Site.
- Traffic Management Speed Limits.
- Road Cleaning.
- Road Condition.
- Road Closures.
- Enforcement of Construction Traffic Management Plan
- Details of Working Hours and Days.
- Details of Emergency plan.
- Communication.
- Construction Methodologies; and
- Particular Construction Impacts

These items are explained in detail in the remainder of this section of the report.

### **4.2 Site Access and Egress**

Access to the site will be via a newly formed access off the Southern Link Road. This will be accessed via the R113 Roundabout as both the Southern Link Road and the development are constructed. The

Southern Link Road will be a communal road with access allowed for by multiple contractors. Kelland Homes will provide security fencing where their site is accessed off the Southern Link Road. Access to the site will be gated. The gate will be set back off the external road network to ensure that vehicles entering the site can do so without causing an obstruction on the main carriageway.

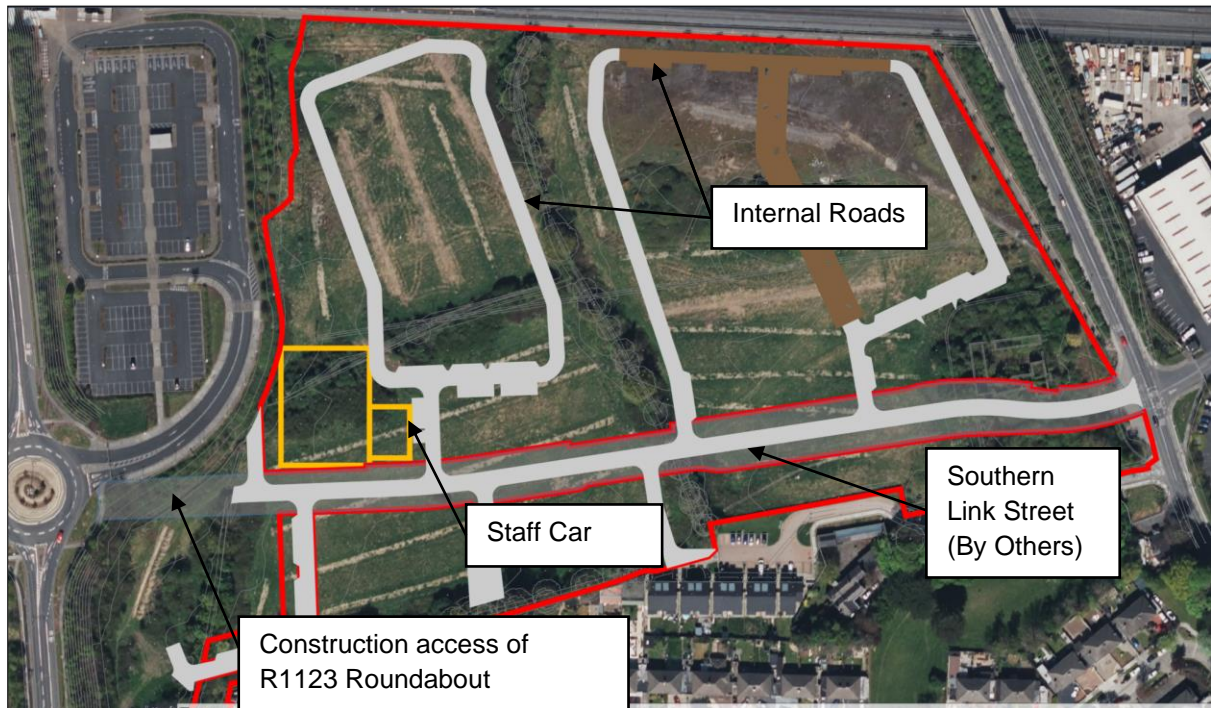
The contractor shall provide advanced warning signs, in accordance with Chapter 8 of the Department of the Environment's Traffic Signs Manual 2019, on the approach to proposed site access locations a minimum of one week prior to construction works commencing at the site.

There will be heras fencing secured to a minimum height of 2 metres surrounding the construction site or solid panel hoarding in areas with high/low viewing panels to help reduce unauthorised access to the construction compound.

This fence will be checked daily and maintained as necessary, and it will be the responsibility of the Site Manager to open and lock the gates each working day to ensure the site is not left open and unattended at any time.

Access to the construction site will only be to authorised persons. During afterhours, security will be employed by the main contractors to ensure no unauthorised access.

Where possible, construction traffic and non-construction traffic will be separated for all modes of transport. Where the construction programme requires mixing of traffic, additional temporary traffic management measures will be put in place.



**Figure 12 Road network to be constructed**

#### **4.2.1 National Road Network**

Access to the site along the National Road Network will be via the M50/N7. It is anticipated that the majority of construction related traffic will travel along the M50/N7 at which point construction traffic will enter the regional/local road network.

#### **4.2.2 Regional & Local Road Network**

The majority of access / egress to proposed sites shall be facilitated from the local road networks i.e., New Nangor Road, Fonthill Road, Ninth Lock Road, Southern Link Road, etc.

To mitigate against possible restrictions in visibility requirements, it is proposed that the contractor shall use a safe system of permanent flag men for the control of traffic during all access / egress operations at each site location, if required.

The proposed access from Southern Link Road will be used for works traveling via public transport.

### **4.3 Traffic Management**

#### **4.3.1 Signage**

The contractor shall undertake consultation with the relevant authorities for the purpose of identifying and agreeing signage requirements. Such signage shall be installed prior to works commencing on site.

Proposed signage may include warning signs to provide warning to road users of the works access / egress locations and the presence of construction traffic. All signage shall be provided in accordance with the Department of Transport's Traffic Signs Manual, Chapter 8 – Temporary Traffic Measures and Signs for Roadworks.

In summary, the contractor will be required to ensure that the following elements are implemented:

- Consultation with the relevant authorities for the purpose of identifying and agreeing signage requirements.



- Provision of temporary signage indicating site access route and locations for contractors and associated suppliers; and
- Provision of general information signage to inform road users and local communities of the nature and locations of the works, including project contact details.

#### **4.3.2 Traffic management for road works.**

In accordance with plans and drawings submitted to the planning authority, and subject to the necessary approval of Irish Water and in agreement with the Roads and Transport Department of the Local Authority (SDCC), road works are required to facilitate the proposed development.

A specific Traffic Management Plan (TMP) will be required by the Local authority in conjunction with the application for a road opening licence, in advance of carrying out these road works. The TMP design and service will be provided by an independent specialist and will deal with the efficient management of traffic and pedestrians, mitigating all potential safety risks to users, whilst maintaining effective operation of the carriage way.

#### **4.4 Programming**

In order to reduce impacts on local communities and residents adjacent to the proposed sites, it is proposed that:

- The contractor will be required to liaise with the management of other construction projects and the Local Authorities to co-ordinate deliveries.
- The contractor will be required to schedule deliveries in such a way that construction activities and deliveries activities do not run concurrently e.g., avoiding pouring of concrete on the same day as material deliveries in order to reduce the possibility of numbers of construction delivery vehicles arriving on site simultaneously, resulting in build-up of traffic on road network.
- The contractor will be required to schedule deliveries to and from the proposed materials storage yard such that traffic volumes on the surrounding road network are kept to a minimum.
- HGV deliveries to the development site will be suspended on the days of any major event in the area that have the potential to cause larger than normal traffic volumes.
- The contractor will be required to interact with members of the local community to ensure that deliveries will not conflict with sensitive events such as funerals.
- HGV deliveries will avoid passing schools at opening and closing times where it is reasonably practicable.
- Based on Condition 18 of Reg. Ref. SDZ22A0010, deliveries of materials to site will only be permitted between the hours of 07:00 and 19:00 Monday to Friday, and 09:00 to 13:00 on Saturdays. No deliveries will be scheduled for Sundays or Bank Holidays.
- There may be occasions where it is necessary to make certain deliveries outside these times, for example, where large loads are limited to road usage outside peak times. This will only be undertaken in exceptional circumstances. Kelland Homes will advise South Dublin County Council in advance if deliveries are to take place outside of the standard condition hours.

The construction period for the proposed development is anticipated to be approximately 5 years from the commencement of the site works. This is subject to change and dependent on market conditions.

#### **4.5 Recommended Traffic Management Speed Limits**

Adherence to posted / legal speed limits will be emphasised to all staff / suppliers and contractors during induction training.

Drivers of construction vehicles / HGVs will be advised that vehicular movements in locations, such as local community areas, shall be restricted to 50 km/h. Special speed limits of 30 km/h shall be implemented for construction traffic in sensitive areas such as school locations. Such recommended speed limits will only apply to construction traffic and shall not apply to general traffic. It is not proposed to signpost such speed limits in the interest of clarity for local road users.

#### **4.6 Spoil**

Spoil will be removed from site using 8-wheeler muck away lorries. The lorries will arrive at site and will be marshalled onto the site by the traffic marshals. The lorries will be loaded with an excavator.

The lorry will be covered prior to leaving site. The traffic marshal will escort the vehicle off site and once the vehicle is on its way, the next vehicle will be called in.

On site spoil storage is shown in the figure below.



**Figure 13 Spoil location**

#### **4.7 Road Cleaning**

It shall be a requirement of the works contract that the contractor will be required to carry out road sweeping operations to remove any project related dirt and material deposited on the road network by construction / delivery vehicles. All material collected will be disposed to a licensed waste facility.

#### **4.8 Road Condition**

The extent of the heavy vehicle traffic movements and the nature of the payload may create problems of:

- Fugitive losses from wheels, trailers or tailgates; and
- Localised areas of subgrade and wearing surface failure.

The contractors shall ensure that:

- Loads of materials leaving each site will be evaluated and covered if considered necessary to minimise potential dust impacts during transportation.
- The transportation contractor shall take all reasonable measures while transporting waste or any other materials likely to cause fugitive losses from a vehicle during transportation to and from site, including but not limited to:
  - Covering of all waste or material with suitably secured tarpaulin/ covers to prevent loss; and

- Utilisation of enclosed units to prevent loss.
- The roads forming part of the haul routes will be monitored visually throughout the construction period and a truck mounted vacuum mechanical sweeper will be assigned to roads along the haul route as required.

In addition, the contractor shall, in conjunction with the local authority:

- Undertake additional inspections and reviews of the roads forming the haul routes one month prior to the construction phase to record the condition of these roads at that particular time.
- Such surveys shall comprise, as a minimum, a review of video footage taken at that time, which shall confirm the condition of the road corridor immediately prior to commencement of construction. This shall include video footage of the road wearing course, the appearance and condition of boundary treatments and the condition of any overhead services that will be crossed. Visual inspections and photographic surveys will be undertaken of bridges and culverts that are along the haul roads.
- Where requested by the local authority prior to the commencement of construction operations, pavement condition surveys will also be carried along roads forming part of the haul route. These will record the baseline structural condition of the road being surveyed immediately prior to construction.
- Throughout the course of the construction of the proposed development, on-going visual inspections and monitoring of the haul roads will be undertaken to ensure any damage caused by construction traffic is recorded and that the relevant local authority is notified. Arrangements will be made to repair any such damage to an appropriate standard in a timely manner such that any disruption is minimised.
- Upon completion of the construction of the proposed development, the surveys carried out at preconstruction phase shall be repeated and a comparison of the pre and post construction surveys carried out.

#### **4.9 Vehicles**

The following is a non-exhaustive list of possible vehicles that will be used:

- HGV
- Rigid Truck
- Box Van
- Panel Van
- Concrete Truck
- Concrete Pump Truck
- Mobile Crane (various sizes)
- JCB (various sizes)
- Excavators (various sizes)
- Dump Truck
- Specialist vehicles maybe required on occasion.

#### **4.10 Road Closures**

During the course of the works, it is not envisaged that road closures will be required for any extended period of time. Temporary or partial road closures maybe required to facilitate utility connections such as watermain, foul water, surface water etc.

Should works be required on the external road network, road opening licences will be sought from the Local Authority via the Road Management Office.

In areas where existing carriageways are narrow, it is envisaged that Traffic Management measures such as temporary traffic lights will be utilised to facilitate traffic.

#### **4.11 Enforcement of Construction Traffic Management Plan**

All project staff and material suppliers will be required to adhere to the final CTMP. As outlined above, the contractor shall agree and implement monitoring measures to confirm the effectiveness of the CTMP.

#### **4.12 Details of Working Hours and Days**

Based on Condition 18 of Reg. Ref. SDZ22A0010, deliveries of materials to site will only be permitted between the hours of 07:00 and 19:00 Monday to Friday, and 09:00 to 13:00 on Saturdays. No deliveries will be scheduled for Sundays or Bank Holidays.

There may be occasions where it is necessary to make certain deliveries outside these times, for example, where large loads are limited to road usage outside peak times. This will only be undertaken in exceptional circumstances. Kelland Homes will advise South Dublin County Council in advance if deliveries are to take place outside of the standard condition hours.

All access roads used by contractors will be monitored for mud and any construction materials and cleared using a shovel and broom and if required a mechanical road sweeper.

#### **4.13 Emergency Procedures During Construction**

The contractor shall ensure that unobstructed access is provided to all emergency vehicles along all routes and site accesses. The contractor shall provide to the local authorities and emergency services, contact details of the contractor's personnel responsible for construction traffic management. In the case of an emergency the following procedure shall be followed:

- Emergency Services will be contacted immediately by dialling 112.
- Exact details of the emergency / incident will be given by the caller to the emergency line operator to allow them to assess the situation and respond in an adequate manner.
- The emergency will then be reported to the Site Team Supervisors and the Safety Officer.
- All construction traffic shall be notified of the incident (where such occurs off site).
- Where required, appointed site first aiders will attend the emergency immediately; and
- The Safety Officer will ensure that the emergency services are en-route.

#### **4.14 Communication**

The contractor shall ensure that close communication with the relevant local authorities and the emergency services shall be maintained throughout the construction phase. Such communications shall include:

- Submissions of proposed traffic management measures for comment and approval.
- On-going reporting relating to the condition of the road network and updates to construction programming; and
- Information relating to local and community events that could conflict with proposed traffic management measures and construction traffic in order to implement alternative measures to avoid such conflicts.

The contractor shall also ensure that the local community is informed of proposed traffic management measures in advance of their implementation. Such information shall be disseminated by posting advertisements in local newspapers and delivering leaflets to houses in the affected areas. Such information shall contain contact information for members of the public to obtain additional information and to provide additional knowledge such as local events, sports fixtures etc. which may conflict with proposed traffic management measures.

#### **4.15 Dust and Dirt Control**

Nuisance dust emissions from construction activities are a common and well recognised problem. Fine particles from these sources are recognised as a potential significant cause of pollution.

The main contractor will be required to demonstrate that both nuisance dust and fine particle emissions from the site are adequately controlled and are within acceptable limits.

Dust and fine particle generation from construction and demolition activities on the site can be substantially reduced through carefully selected mitigation techniques and effective management. Once particles are airborne it is very difficult to prevent them from dispersing into the surrounding

area. The most effective technique is to control dust at source and prevent it from becoming air borne, since suppression is virtually impossible once it has become air borne.

The following are techniques and methods which are widely used currently throughout the construction industry, and which may be used in the proposed development.

- The roads around the site are all surfaced, and no dust is anticipated arising from unsealed surfaces.
- Vehicles travelling on any unsurfaced site roads should have their speed restricted to 20 kph.
- A regime of 'wet' road sweeping can be set up to ensure the roads around the immediate site are as clean and free from dirt / dust arising from the site, as is reasonably practicable. This cleaning will be carried out by approved mechanical sweepers.
- Footpaths immediately around the site can be cleaned by hand regularly, with damping as necessary.
- High level walkways and surfaces such as scaffolding can be cleaned regularly using safe 'wet' methods, as opposed to dry methods.
- Vehicle waiting areas or hard standings can be regularly inspected and kept clean by brushing or vacuum sweeping and will be regularly sprayed to keep moist, if necessary.
- Netting can be provided to enclose scaffolding in order to mitigate escape of air borne dust from the existing and new buildings.
- Vehicles and equipment shall not emit black smoke from exhaust system, except during ignition at start up.
- Engines and exhaust systems should be maintained so that exhaust emissions do not breach stationary emission limits set for the vehicle / equipment type and mode of operation.
- Servicing of vehicles and plant should be carried out regularly, rather than just following breakdowns.
- Internal combustion plant should not be left running unnecessarily.
- Exhaust direction and heights should be such as not to disturb dust on the ground and to ensure adequate local dispersal of emissions.
- Where possible fixed plant such as generators should be located away from residential areas.
- The number of handling operations for materials will be kept to a minimum in order to ensure that dusty material is not moved or handled unnecessarily.
- The transport of dusty materials and aggregates should be carried out using covered / sheeted lorries.
- Material handling areas should be clean, tidy and free from dust.
- Vehicle loading should be dampened down and drop heights for material to be kept to a minimum.
- Drop heights for chutes / skips should be kept to a minimum.
- Dust dispersal over the site boundary should be minimised using static sprinklers or other watering methods as necessary.
- Stockpiles of materials should be kept to a minimum and if necessary, they should be kept away from sensitive receptors such as residential areas etc.
- Stockpiles where necessary, should be sheeted or watered down.
- Methods and equipment should be in place for immediate clean-up of spillages of dusty material.
- No burning of materials will be permitted on site.
- Earthworks excavations should be kept damp where necessary and where reasonably practicable.
- Cutting on site should be avoided where possible by using pre-fabrication methods.
- Equipment and techniques for cutting / grinding / drilling / sawing / sanding etc, which minimise dust emissions and which have the best available dust suppression measures, should be employed.
- Where scabbling is to be employed, tools should be fitted with dust bags, residual dust should be vacuumed up rather than swept away, and areas to be scabbled should be screened off.
- Wet processes should be used to clean building facades if possible. If dry grit blasting is unavoidable then ensure areas of work are sealed off and dust extraction systems used.
- Where possible pre-mixed plasters and masonry compounds should be used to minimise dust arising from on site mixing.

- Prior to commencement, the main contractor should identify the construction operations which are likely to generate dust and to draw up action plans to minimise emissions, utilising the methods highlighted above. Furthermore, the main contractor should prepare environmental risk assessments for all dust generating processes, which are envisaged.
- The main contractor should allocate suitably qualified personnel to be responsible for ensuring the generation of dust is minimised and effectively controlled.
- The name and contact details of a person to contact regarding air quality and dust issues should be displayed on the site boundary, this notice board should also include head/regional office contact details.

The contractor will be obliged to implement the mitigation measures outlined in the EIAR in respect of dust / dirt control.

#### **4.16 Noise Control**

The main contractor will deal with the immediate dangers to hearing etc. associated with high noise levels and the impact of same on construction operatives, by means of risk assessment and mitigation / precautionary measures and equipment, all pursuant to the current health and safety legislation.

The main contractor should carry out a noise assessment in relation to the proposed works at construction stage. This noise assessment should be carried out by a competent person (or specialist firm) with specialist training in this area.

The noise assessment should include the following steps: -

- Identify and list all construction work activities where there is likely to be a significant noise hazard.
- Determine the hazards / nuisance.
- Identify all third parties likely to be exposed to the nuisance.
- Measuring the risk: The level of noise in dBs
- Considering and Implementing Control Measures.
- Control exposure to noise.
- Record the findings of the noise assessment.
- Review and revise.

#### **4.17 Protection of Surface Waters**

If applicable, the Main Contractor will appoint a suitably qualified person to oversee the implementation of measures for the prevention of pollution to the receiving surface water environment.

Where required, settlement pond / silt trap will be installed. Straw bales will be placed at the outfall of the settlement ponds to the overflow. These measures will be implemented and maintained during the construction phase to prevent surface water runoff from discharging directly into the local water course.

Settlement ponds / silt traps as outlined above will be provided to prevent silt runoff into the existing ditches / watercourses during the drainage works.

Regular testing of surface water discharges will be undertaken at the outfall from the subject lands.

Where silt control measures are noted to be failing or not working adequately, works will cease in the relevant area.

All fuels and chemicals will be bunded, and where applicable, stored within double skinned tanks / containers with the capacity to hold 110% of the volume of chemicals and fuels contents. Bunds will be located on flat ground a minimum distance of 50 m from any watercourse or other water conducting features.

All existing services will be located using service records, GPR surveys and slit pumps to ensure that their position accurately identified before excavation works commence.

Temporary traffic management will be implemented as appropriate during the construction of the outfalls on the R113 Roundabout

#### **4.18 Co Ordination**

The Main Contractor will establish a holding area on the onsite that could accommodate up to 2 concrete trucks, the Main Contractor will also provide a traffic marshal at the site. The holding area will be utilised to prevent congestion of R113 Roundabout from construction traffic.

All vehicles will be tracked by the traffic marshals who will report back to the logistics manager. The logistics manager will control the deliveries with help from the traffic marshals and the gateman. Unscheduled vehicles will be turned away. If deliveries are taking longer to offload, then the following deliveries will be notified of any timing issues.

A copy of the delivery schedule will be issued to the traffic marshals, gateman and contractors' supervisors every morning so everyone is aware and can make provision for when their delivery arrives.

The traffic marshals will be trained and competent and they will undergo ongoing assessments by the logistics manager to ensure they are carrying out their duties with due care diligence.

#### **4.19 Refuelling**

Construction plant and equipment will only be parked over-night within the site compound. Construction plant and equipment will be checked daily for any visual signs of oil or fuel leakage, as well as wear and tear.

Fuel will not be stored on site for the duration of the construction phase. Fuel will only be brought to site via mobile fuel bowser. For any liquid other than water, this will include storage in suitable tanks and containers which will be housed in the designated area surrounded by bund wall of sufficient height and construction so as to contain 110 percent (110%) of the total contents of all containers and associated pipework. The floor and walls of the bunded areas will be impervious of all containers and associated pipework. The floor and walls of the bunded area will be impervious to both water and oil. The pipes will vent downwards into the bund.

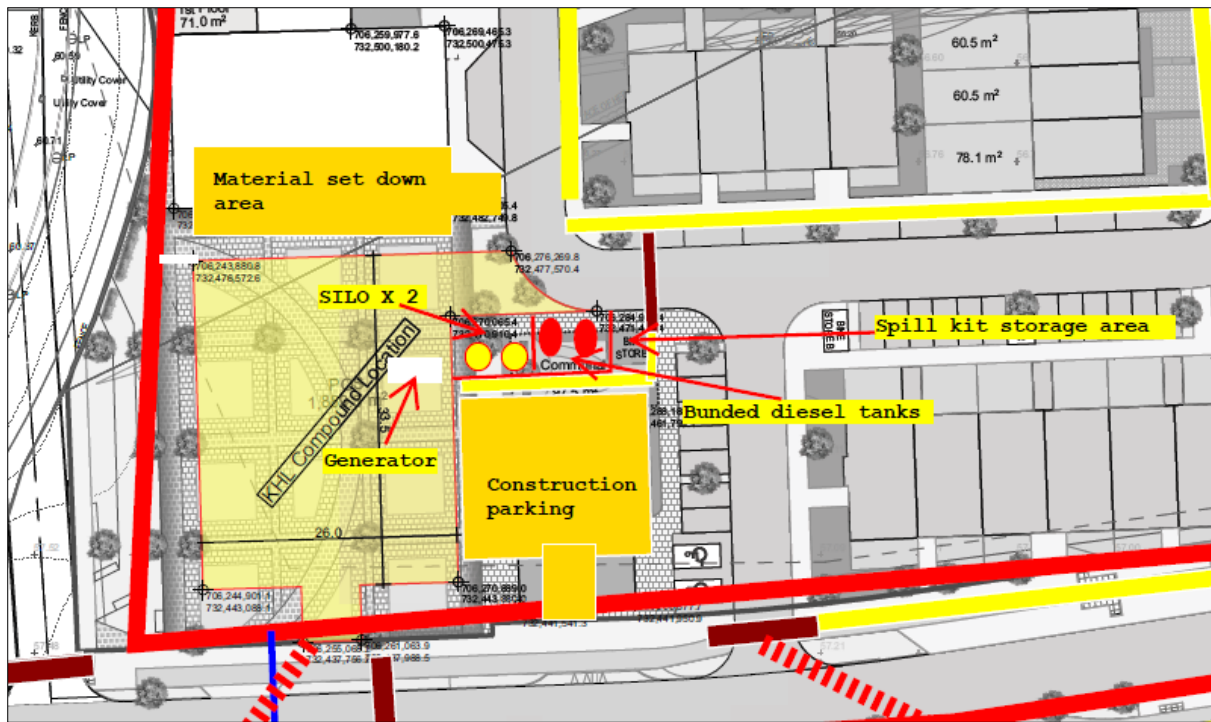
Where Contractors are required to refuel vehicles, this will only be carried out at the designated refuelling location within the site storage compound, which must employ pollution control mechanisms to prevent escape of fluids to the river. No refuelling is permitted on site, i.e., within the river or adjacent due to risk of spillage.

The local authority will be informed immediately of any spillage or pollution incident that may occur on-site during the construction phase.

All small plant such as generators and pumps bunded and stood in drip trays capable of holding 110% of their tank contents,

All small plant will be positioned on the bridge itself (within the designated works area – refer to Preliminary Traffic Management Plan), on the secured scaffolding/work platforms, or within the dewatered, 'dry' sections of the dammed river during the works.

Waste oils, empty oil containers and other hazardous wastes will be disposed of in accordance with the requirements of the Waste Management Act, 1996.



**Figure 14 Fuel Refill Area**

#### **4.20 Site Tidiness and Housekeeping**

Construction works will be carried out according to a defined schedule agreed with the client and the relevant contractors, with regard to the hours of work outlined above. Any delays or extensions required will be notified at the earliest opportunity to the client and Contractors.

Contractors will ensure that road edges and footpaths are swept on a regular basis.

Any and all waste materials arising during the works will either be immediately taken to a location from which discharge to local water courses cannot take place, or temporarily stored/covered to prevent washout.

All Contractors will be responsible for the clearance of their plant, equipment and any temporary buildings upon completion of construction. The site will be left in a safe condition.

#### **4.21 Monitoring, Inspection and Record Keeping**

The Main Contractor will supervise the sampling of suspended solids downstream prior to commencement of works, and weekly during remediation works. Samples will be analysed on site. Should results show a 10% increase in suspended solids downstream of the site, suitable contingency measures will be instigated.

Routine inspections of construction activities will be carried out on a daily basis by the contractor staff to ensure all controls to prevent environmental impact, relevant to the construction activities taking place at the time, are in place. Environmental inspections will ensure that the works are undertaken in compliance with the Project CEMP and that the requirements of the Conditions of Planning, the NIS and associated documentation are being adhered to during construction.

The Contractor will develop their own site inspection programme, which will include an inspection procedure and relevant forms to record any issues.

Only suitably trained staff will undertake environmental site inspections.

The Main Contractor will keep records of works undertaken.



## 4.22 Particular Construction Impacts

### 4.22.1 Concrete Pours

It is anticipated that the foundation and apartment elements of the development will be constructed using concrete. This will require concrete pours. Given the size and nature of the development this may require large pours and require a continuous stream of concrete trucks to/from the development.

The majority of concrete used on this project will be supplied by ready mix concrete lorries.

The deliveries will be booked in with the logistics manager, but the frequency of deliveries will be controlled by the supervisor of the RC frame contractor. The concrete batch plant will be notified when the current load is almost completely discharged and then the following delivery will be loaded and sent to site.

The same applies for pump pours when frequency is quicker. The flow of concrete lorries will be managed to avoid any queuing.

The offloading areas will be managed by the Logistics Manager. Every delivery that enters the site will have previously issued an offloading procedure for each load. The loads will have been assigned an offloading area.

It is the applicant's intension to develop, in conjunction with the Main Contractor, a 'Considerate Constructors Policy' whose aim is to keep the site clean and clear at all times. The Main Contractor will conduct regular toolbox talks with the contractors to ensure they are fully aware of the requirements.

The offloading procedures will be highlighted in the induction training. Disciplinary action will be taken with any contractor who does not comply with the procedures. This may result in a yellow card being issued and possibly a red card depending on the severity of the offence. A red card meaning that they will no longer be able to deliver to the site in future.

The delivery drivers will be given strict instructions by the logistics manager prior to offloading. The offloading area will be a no-go area for pedestrians and the area will be fenced off to segregate the vehicle access and the pedestrian access. The offloading zone will be inspected regularly throughout the day to ensure the area is clean and clear at all times.



**Figure 15 Holding Area**

## **5 CONCLUSION**

### **5.1 Conclusion**

This Construction Traffic Management Plan will form part of the construction contract and is designed to reduce possible impacts which may occur during the construction of the proposed development.

Kelland Homes shall be responsible for ensuring that the contractor manages the construction activities in accordance with this Construction Traffic Management Plan and shall ensure that any conditions of planning are incorporated into the final Construction Traffic Management Plan prepared by the appointed works contractor.

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