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## Outline Construction and Waste Management Plan

**For Proposed Development  
 at 'Old Schoolhouse Site (former Clonsilla School,  
 Protected Structure RPS No. 700), Porterstown Road,  
 Kellystown, Clonsilla, Dublin 15.**

### Report DFK/19160-03

December 2020

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## 1.0 INTRODUCTION

- 1.1 Doherty Finegan Kelly in conjunction with the applicant has prepared the following preliminary Construction and Waste Management Plan for the implementation of the construction phase of 8 no. apartment blocks and rejuvenation of the 'Old School House' into a community building at Porterstown Road, Clonsilla, Dublin 15.
- 1.2 The plan sets out typical arrangements and measures which may be undertaken during the construction phase of the project in order to mitigate and minimise disruption / disturbance to the area around the site. The purpose of this report is to summarise the possible impacts and measures to be implemented and to guide the Contractor who will be required to develop and implement the Construction and Waste Management Plan on site.
- 1.3 This preliminary Construction and Waste Management Plan is indicative only and should not be construed as representing the exact method or sequence in which the construction works shall be carried out.

As is normal practice, the Main Contractor for the project is responsible for the method in which the demolition and construction works are carried out and to ensure that best practices and all legal obligations including Local Authority requirements and Health and Safety legislation are complied with. The main contractor is also responsible for the design and installation of all temporary works required to complete the permanent works. The plan can be used by the Main Contractor to develop their final construction management plan. The applicant reserves the right to deviate from the contents of this Report, while still complying with all relevant Local Authority requirements and legislation.

## 2.0 THE SITE AND SURROUNDING ENVIRONS

- 2.1 The site is located at the Old Schoolhouse Site (former Clonsilla School, Protected Structure RPS No. 700), Porterstown Road, Kellystown, Clonsilla, Dublin 15. The existing site is a Greenfield site. The 'Old School House', located on the site is a protected structure. The site is bounded to the north by housing estates and to the south by the Royal Canal. The exact location is shown on the architect's site location plan included in this application.
- 2.2 The land is currently a greenfield site and not in use. The lands are zoned for the proposed usage as per this application. The existing Porterstown Road is quite narrow at the proposed site access but road improvement works are proposed as part of this application. Beyond this road, there is a good road network within a good quality environment adjoining this development, suitable for the proposed development.
- 2.3 The existing road network to the site is as follows:
- There is an existing entrance to the proposed site along the east boundary off the Porterstown Road. The proposed works involve the upgrading of this access road. Please refer to the site plan & Fairhust Consulting Engineers drawings for further details on this.
- 2.4 The existing uses adjoining / adjacent the site include:-
- Residential / Retail to the North
  - Canal Tow Path / The Royal Canal / Train Line / Agricultural Lands to the South

### 3.0 THE PROPOSED DEVELOPMENT

3.1 The proposed development for the site includes, in broad terms, the following:-

- Site clearance and infrastructure.
- Upgrade of site access off the Porterstown Road.
- Construction of 8 no. apartment blocks consisting of approximately 221 residential units.
- Rejuvenation of the 'Old School House' into a community building.
- 111 car parking spaces, ESB substation, bin storage areas, boundary treatments, Greenway Cycle Path, landscaping and all associated site works.

## 4.0 GENERAL SITE SET UP AND PRE-CONSTRUCTION MEASURES

- 4.1 Detailed condition surveys (including photographs) may be carried out on certain adjacent / adjoining third party buildings prior to work being carried out on the site, existing boundary walls/fences as well as the existing canal bank. The purpose of these surveys would be to record the condition of the properties before the works commence. Copies of these survey reports would be provided to the third party owners.
- 4.2 A detailed condition survey (including photographs) may be carried out on roads and footpaths surrounding the site. The purpose of the survey would be to record the condition of the streets and footpaths around the site prior to the works commencing.
- 4.3 A site compound including offices and welfare facilities will be set up by the main contractor in a location to be decided.
- 4.4 Prior to any site works commencing, the main contractor will investigate / identify the exact location of and tag all existing services and utilities around and through the site with the assistance of the relevant Local Authority technical divisions and utility companies.
- 4.5 Typical working hours for the site would be 08.00 to 19.00 Monday to Friday and 08.00 to 13.00 Saturday. No Sunday / Public Holiday work will generally be permitted. The above working hours are typical, however, special construction operations may need to be carried out outside these hours in order to minimise disruption to the surrounding area.
- 4.6 Prior to any site works commencing, any trees or hedgerows identified to be retained will be protected in accordance with the recommendations of the project landscape architect.

## 5.0 SITE SECURITY AND HOARDING LINES

- 5.1 Hoarding lines and site security will be set up within the development site as required.

Hoarding and security fencing will be required on the public roads during the construction works and for upgrading works to the access off the Porterstown Road. A detailed traffic management plan will be prepared by the Contractor and agreed with Fingal County Council and the Road Authority prior to commencing works on the public road.

- 5.2 Access gates will be operated by a flagman who will divert incoming / outgoing vehicles / pedestrians and general traffic as necessary.

## 6.0 CONSTRUCTION WASTE MANAGEMENT

6.1 These preliminary Construction Waste Management guidelines will be incorporated into the requirements for the Contractor and the Plan will be developed by the Contractor as the construction progresses.

### 6.2 Policy and Legislation

The principles and objectives to deliver sustainable waste management for this project have been incorporated in the preparation of this report and are based on the following strategic objectives:-

- National Policy: The Waste Management Acts 1996 to 2005
- Local Policy: Connacht Ulster Regional Waste Management Plan 2015 – 2021, May 2015.

This Waste Management Plan is also in accordance with the following guidance note published by the Department of the Environment, Heritage and Local Government in July 2006:-

- Best Practice Guidelines on the Preparation of Waste Management Plans for Construction and Demolition (C&D) Projects.

The hierarchy of waste management sets out the guiding principles in order of importance as follows:-

1. Reduction of the amount of waste generated by the construction process.
2. Segregation of waste is a key concept that will be implemented during the course of the construction phase of the development to enable ease in re-use and recycling, wherever appropriate.
3. Recycle waste material where feasible, including the use of excess excavations as fill material, recycling of various waste fractions such as metals, packaging etc.

6.3 Typical construction waste which will be generated by the development is as follows:-

- General site clearance waste
- Excavated material
- Surface water runoff
- Packaging and waste construction materials generated during the course of the construction activities.

### 6.4 On site Waste Management

An estimate of the quantities of surplus construction waste and materials which will arise during the course of the construction phase is not confirmed at the time of writing. Construction waste will be categorised as outlined in Table 6.1 below and this table is used to assist the main contractor.

The Purchasing Manager shall ensure that materials are ordered so that the quantity delivered, the timing of the delivery and the storage is not conducive to the creation of unnecessary waste.

**Table 6.1:** Estimated C&D Waste Arising on Site

<b>C&amp;D Waste Material</b>	<b>Quantity (tonnes)</b>
Clay and stones	TBC
Concrete	TBC
Masonry	TBC
Wood	TBC
Packaging	TBC
Hazardous Materials	TBC
Other Waste Materials	TBC
<b>TOTAL ARISING</b>	TBC

### 6.5 Off Site Waste Management Licencing/Permitting

All waste materials (where necessary, after in-situ re-use and recycling options have been fully considered) shall be disposed of offsite, under the appropriate Duty of Care and subject to approvals/consents from the relevant statutory bodies. It is the responsibility of the Main Contractor to ensure that any company to whom waste is transferred is legally permitted to do so and that the facility they bring the waste to is licensed to handle that type of waste as outlined in the Waste Management Acts 1996-2005. The Waste Collection Permit Register, in accordance with the Waste Management (Collection Permit) Regulations 2001 will be consulted to ensure that waste carriers hold the appropriate permit.

It is anticipated that there is the possibility that waste materials will have to be moved off site. It is the intention to engage specialist waste service contractors, who will possess the requisite authorisations, for the collection and movement of waste off-site, and to transport the material to a facility which currently holds a Waste Licence, Waste Permit, or Certificate of Registration. Details of waste service contractors and demolitions are not confirmed at the time of writing. The following waste authorisations will be arranged specifically for the project:

**Table 6.2:** Specific Waste Authorisations Necessary for the Scheme

<b>Authorisation Type</b>	<b>Specific Need for Project (Yes / No?)</b>
Waste Licence	Yes
Waste Permit	Yes
Waste Collection Permit	Yes
Transfrontier Shipment Notification	No
Movement of Hazardous Waste Form	No

Any wastes that have to be disposed/recycled off site will be transported to the nearest appropriate facility in order to comply with the proximity principle, and reduce the associated emissions from the transportation of waste. The Environmental Protection Agency holds details of waste facilities; which will be consulted where necessary.

An inspection of the site shall be made by the Main Contractor for hazardous substances, gas cylinders and the like. If such substances are encountered during the course of construction, then works must be halted. The project supervisor for the construction stage (PSCS) and the responsible Statutory Authority shall be informed immediately.

The Main Contractor shall prepare a detailed inventory of construction based hazardous waste generated, such as tars, adhesives, sealants and other dangerous substances, and these will be kept segregated from other non-hazardous waste to prevent possible contamination. Arrangements shall be made for such substances for disposal in a safe manner to an authorised disposal site or by means acceptable to the relevant Authority.

The Contractor shall ensure that the excavation works are carried out in accordance with best standard practice and excavation materials are well segregated to minimise any potential cross-contamination.

The Contractor shall carry out appropriate environmental chemistry testing in order to determine the waste classification of the soils that are to be excavated from areas where contamination is likely and that shall include Waste Acceptance Criteria testing. The test regime shall be agreed with the receiving landfill operator and the testing shall be carried out by an accredited laboratory.

Should excavation materials be assessed to be hazardous, the Contractor shall carry out pre-treatment of the waste soils to a methodology that is agreed with the receiving landfill operator and in accordance with Environmental Protection Agency guidance.

The Main Contractor is encouraged to reuse and recycle any waste materials as far as is reasonably practicable.

In respect of any liquid Disposal including underground water, The Contractor shall carry out appropriate environmental chemistry testing in order to determine whether the liquid is contaminated or not. The test regime shall be agreed with the receiving disposal facility and the testing shall be carried out by an accredited laboratory.

The Main Contractor shall manage and carry out the works in accordance with best environmental practice and in accordance with the requirements of Local Authority, EPA and all requirements as specified in this document.

## 6.6 Appointment of Construction Waste Manager

A Construction Waste Manager shall be appointed from the Contractor's Staff and has overall responsibility for the implementation of the project Waste Management Plan (WMP) during the construction phase. The Construction Waste Manager will be appropriately trained, and assigned the authority to instruct all site personnel to comply with the specific provisions of the WMP. At the operational level, a designated person from the main contractor and from the operations stated in the WMP are performed on an on-going basis.

Copies of the Waste Management Plan will be made available to all relevant personnel on site. All site personnel and sub-contractors will be instructed about the objectives of the Waste Management Plan and informed of the responsibilities which fall upon them as a consequence of its provisions. Where source segregation, selective demolition and material reuse techniques apply, each member of staff will be given instructions on how to comply with the Waste Management Plan. Posters will be designed to reinforce the key messages within

the Waste Management Plan and will be displayed prominently for the benefit of site staff.

#### 6.7 Construction Record Keeping

Details of all arising's, movement and treatment of construction waste shall be recorded as part of the Waste Auditing regime.

It is the duty of the Construction Waste Manager to ensure that necessary licences have been obtained as needed. Each consignment of construction waste taken from the site will be subject to documentation which will conform with Table 6.3 along with Transportation Dockets to ensure full traceability of the material to its final destination.

**Table 6.3:** Details of materials taken from site

<b>Detail</b>	<b>Particulars</b>
Project of Origin	Development at 'Old School House' Clonsilla, Dublin 15.
Material being Transported	Soil, Construction waste etc.
Quantity of Material	TBC
Date of Material Movement	TBC
Name of Carrier	TBC
Destination of Material	TBC
Proposed Use	TBC

#### 6.8 Topsoil

In the case of topsoil careful planning and on-site storage can ensure that this resource is reused on the various sites as much as possible. Any surplus of soil not reused on site can be sold. However, topsoil is quite sensitive and can be rendered useless if not stored and cared for properly.

- It is important that topsoil is kept completely separate from all other construction waste as any cross-contamination of the topsoil can render it useless for reuse.
- It is important to ensure that topsoil is protected from all kinds of vehicle damage and kept away from site-track, delivery vehicle turning areas and site plant and vehicle storage areas.

If topsoil is stored in piles of greater than two meters in height the soil matrix (internal structure) can be damaged beyond repair. It should also be kept as dry as possible and used as soon as possible to reduce any deterioration through lengthy storage and excess moving around the site.

Records of topsoil storage, movements and transfer from site should be kept by the Construction Waste Manager.

#### 6.9 Earthworks – Cut and Fill Policy

Earthworks for road and structures foundation forms a major part of the quantity of waste that will be generated by the construction phase of this project. In order to optimise the impact of the generation of surplus material due to excavation the

following principles will be considered during the detailed design and construction phase:-

- The quantity of excavated materials to be removed from or imported in to the site can be greatly reduced, by establishing levels of the proposed building which optimise the volume of cut and fill using Engineering/Soil Stabilisation techniques.
- Careful separation of builder's rubble packaging and contaminated waste from reusable material will result in the minimisation of the disposal of material to landfill.
- Surplus subsoil excavated from the site will be reviewed for possible reuse as engineering fill on adjoining or other construction sites within the region.
- Surplus unsuitable sub-soils generated by excavation on site will be reviewed for reuse as landscaping or non-engineering fills on adjoining or other construction sites within the region.

## 7.0 DELIVERIES AND ACCESS

- 7.1 Deliveries and access to the construction site will typically be made via the existing distribution road network where a construction access roadway to the site off the road network will be provided. This roadway will be 6.0m wide and will be constructed using 300mm min. capping layer material (clean broken stone) and will ultimately serve as the permanent site access.
- 7.2 The site is large enough to provide off-street access on site in event that large concrete pours are required where site deliveries will be organised such that concrete trucks will queue at a pre-determined staging point within the site in question and will then be called in by radio as appropriate to the site, via a predetermined route and to the required access gate.
- Set procedures and designated wash-out areas will be provided on site, or alternatively vehicle wash-out will be prohibited if a suitable wash-out area is not identified.
- 7.3 All delivery vehicles will be co-ordinated as required by a flagman on duty at the relevant access point.

## 8.0 PARKING AND STORAGE

- 8.1 There is adequate space to accommodate parking on site during the full construction programme.
- 8.2 The main contractor will be required to schedule delivery of materials on a daily basis. If necessary the main contractor will be required to provide a secure materials staging compound on the site.

## 9.0 DUST AND DIRT CONTROL

- 9.1 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.

- 9.2 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 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 had become air borne.

- 9.3 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.
- 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.
- Vehicle and wheel washing facilities can be provided at site exits(s) where practicable. If necessary vehicles can be washed down before exiting the site.
- 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 to 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 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.

## 10.0 WATER

- 10.1 The excavations for the drainage pipes, water supply, utilities and foundations are anticipated as being relatively shallow and will have minimal impact on the ground water in the site.
- 10.2 Following completion of any required initial dewatering, it is expected that flows of water into the excavation will be minimal based on site investigations works carried out. These flows will be managed by sump pumping on an as-required basis.
- 10.3 During any discharge of surface water from the excavations, the quality of the water will be regularly monitored visually for hydrocarbon sheen and suspended solids. Periodic laboratory testing of discharge water samples will be carried out in accordance with the requirements of Fingal County Council.

## 11.0 NOISE CONTROL

- 11.1 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.
- 11.2 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.
- 11.3 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 dBA.
  - Considering and Implementing Control Measures.
  - Control exposure to noise.
  - Record the findings of the noise assessment.
  - Review and revise.

## **12.0 PROPOSED CONSTRUCTION PHASING AND PROGRAMME**

- 12.1 It is proposed that the residential development with associated roads, open spaces and car parking will be constructed depending on the condition of the market and demand.
- 12.2 A detailed construction programme has not been developed at this stage and will be market dependant. However, it is anticipated that the total construction period of the development once it commences will be approximately 24-42 months.

## 13.0 TRAFFIC AND TRANSPORTATION DURING CONSTRUCTION

### 13.1 Environmental Impact

The proposed development will not generate a significant volume of additional vehicular traffic. The level of increase is not likely to have any adverse transport-related environmental impact in terms of noise, air quality, vibrations, etc. The minor impact of the construction period will be temporary in nature.

### 13.2 Road Safety

#### Internal Traffic

The internal layout of the site has been designed to give clear, legible routes for pedestrians, cyclists and motorists to enter and exit the development.

#### External Traffic

As stated above, the proposed development will not add a significant amount of additional traffic to the surrounding road network during operation. Design of the proposed construction and main street access junctions will ensure adequate sightlines for all road users.

### 13.3 Construction Traffic

It is likely that construction of the proposed development would take place over a period of approximately 24-42 months from the commencement of construction for site development works, albeit will be market dependant. In general, the impact of the construction period traffic would be temporary in nature.

Construction traffic would consist of the following:

- Private vehicles belonging to site construction staff,
- Private vehicles belonging to site security staff,
- Occasional Private vehicles belonging to professional staff (i.e. design team, utility companies),
- Excavation plant and dumper trucks used for site development works.
- Delivery trucks for construction materials.

Construction traffic has been estimated using data obtained from a similar residential development, of similar scale, that used a similar construction methodology to the current development. The following construction data has been used to estimate peak daily construction traffic:

- Average construction staff: 50
- Peak construction staff: 100
- Average cars / day: 50
- Peak cars /day:  $(100/50)*50=100$
- Peak HGVs / day: 20
- Peak LGVs / day: 15

Peak hour flows corresponding to peak construction periods were then calculated assuming the following:

1. Of the 50 cars (LVs) entering and exiting the site during peak construction, it is assumed:
  - 20% enter the site in the AM peak hour,
  - 4% exit the site in the AM peak hour,
  - 4% enter the site in the PM peak hour, and
  - 20% exit the site in the PM peak hour.
  
2. Of the 20 HGVs entering and exiting the site during peak construction, it is assumed:
  - 10% enter the site in the AM peak hour,
  - 5% exit the site in the AM peak hour,
  - 5% enter the site in the PM peak hour, and
  - 10% exit the site in the PM peak hour.
  
3. Of the 15 LGVs entering and exiting the site during peak construction, it is assumed:
  - 10% enter the site in the AM peak hour,
  - 5% exit the site in the AM peak hour,
  - 5% enter the site in the PM peak hour, and
  - 10% exit the site in the PM peak hour.

It is anticipated that the worst case scenario during construction would occur following the completion of the proposed development, when the development is operational and construction movements associated with future development (should the masterplan be developed) are at peak levels. It is anticipated that the low level labour resources required for such development would have a negligible impact on traffic and the existing road network during construction.

The impact of the development during the construction period will be temporary and manageable and related to the actual construction period of approximately 24-42 months from the commencement of construction for site development works. As outlined above, the average construction trip generated by the development during the construction period will be significantly lower than peak construction traffic. The addition of the proposed development has a much lower impact than the impact associated with growth into the future.

#### 13.4 Routing and Management of Construction Traffic

Construction material will be most likely be sourced from Huntstown Quarry, Finglas, which is currently operated by Roadstone, albeit subject to agreement with relevant contractors. During peak construction, daily construction traffic may comprise up to 100 light vehicles (LVs), 15 Light Goods Vehicles (LGVs) and 12 Heavy Goods Vehicles (HGVs).

HGVs will travel to the site from Huntstown Quarry via the N2 & R135, travelling to the M50, exiting onto the N3 then taking the R121 towards Porterstown Road, as indicated using blue arrows on Fig. 3.1 to the development site.

LVs and LGVs will travel to the site from the N2, R121 or M50, with associated route options based on origin.

LV and LGV routes are indicated by red arrows on Fig. 3.1. Construction vehicle routes would be the same (in the opposite direction of travel) for vehicles exiting the site

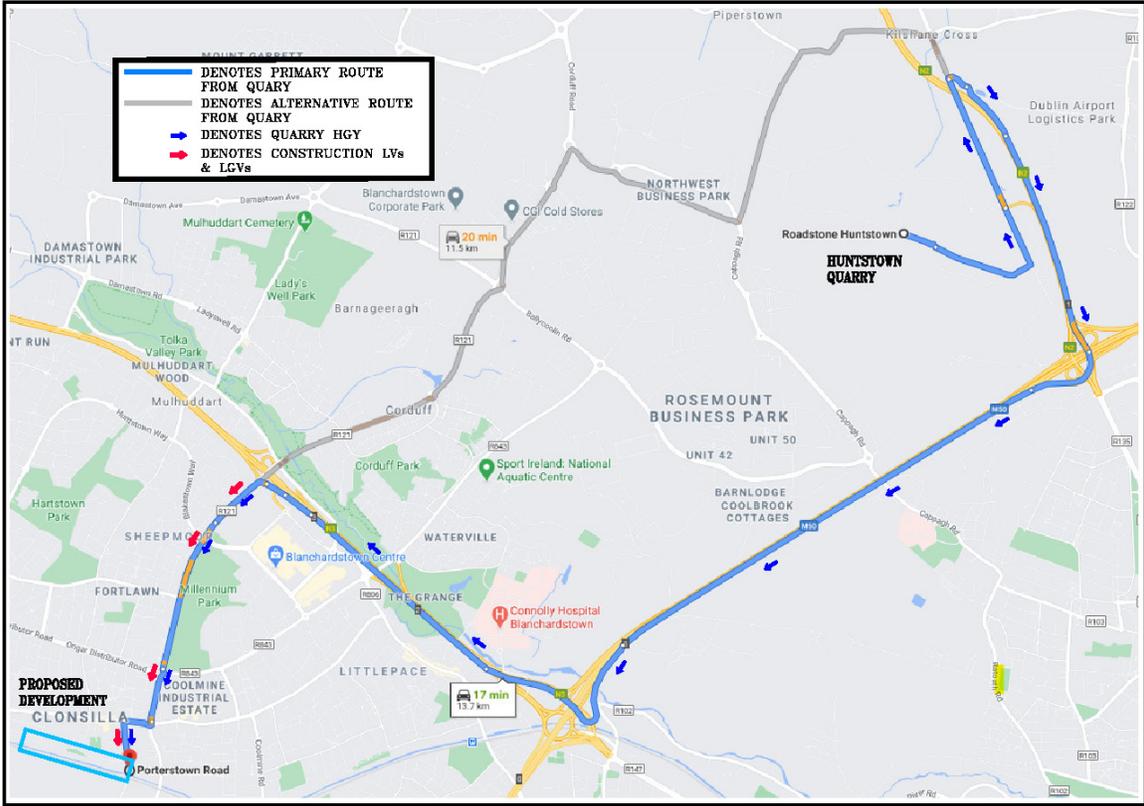


Fig 13.1 – Construction Vehicle Route