

Horgan's Quay Strategic Housing Development

Construction, Environmental & Demolition Management Plan

Prepared For:

SHD

Prepared By:

BAM Building Ltd.

Revision control table

Revision	Date	Issue	Prepared By	Checked By
A	17/08/2017	Issue for Planning	Frank Brennan	Ger Moloney
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Introduction

This Construction Environmental Management Plan, inclusive of the Waste Management Plan and all of the associated appendices have been prepared and are being issued as part of a SHD Application. These Plans are working documents, but clearly outline the arrangements in place to manage the significant construction, demolition, and environmental aspects of this project. These Plans will cover BAM activities and that of its Subcontractors when it comes to Construction Environmental and waste management matters. BAM are aware of the sensitive nature of works and will take diligent precautions relating to contamination, vegetation, safety and environmental concerns relevant to this particular location. All personnel will be made aware of their responsibility to notify site management about potential and obvious environmental hazards.

Our Waste Management Plan will be updated regularly in particular in relation the management of disposal and the waste management on the site.

Site location:

The site is located approximately 800m north-east of Cork City centre (**Figure 1.1**). The site is currently cleared of all the derelict buildings, extending to approximately 2.48 hectares. The site is bounded by Kent Station to the east, with Railway St and the Penrose Wharf commercial properties to the west. South of the site runs Horgan’s Quay and the River Lee, while the north of the site is bounded by Lower Glanmire Rd. The site has approximately 195m of river frontage.

The site hosted a number of buildings of varying sizes. All of these were disused and derelict and are now removed. Three of the buildings are protected structures: The Station Master’s House, the Carriage Shed, and the Goods Shed. Refer to **Figure 1.2**.

There is pedestrian access to the site via a set of stairs from Lower Glanmire Rd, and vehicular access from Railway St which runs adjacent to the western boundary of the site. The parts of the site devoid of buildings are being used as overflow pay-and-display parking bays for Kent Station.

The proposed development will include the construction of a hotel, residential units, retail units and offices, incorporating the conservation of the three protected structures on the site. The original site layout is shown in **Figure 1.2**.

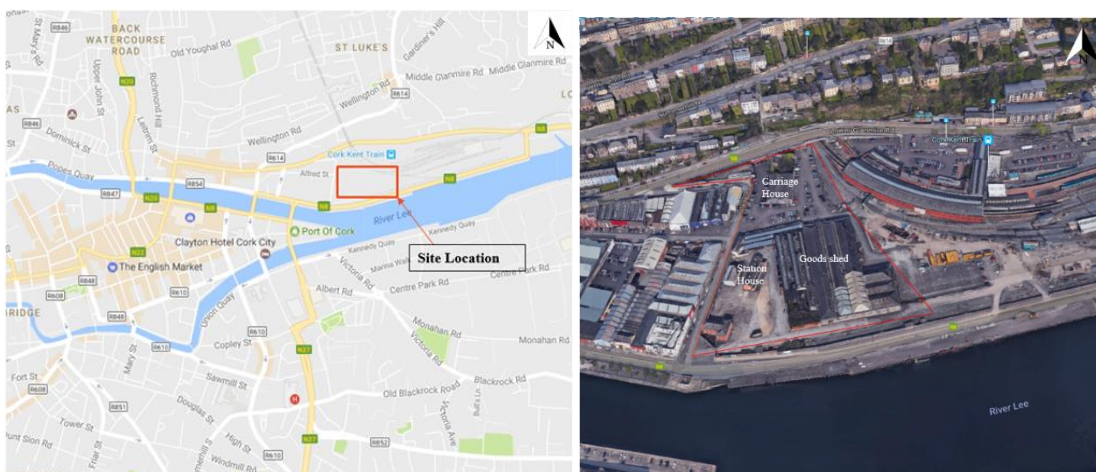


Figure 1.1 & 1.2 Site Location & Existing Layout

Proposed Works

- Demolition of two derelict buildings on the site (Now complete)
- Provision Strategic Housing Development units to the South Western portion of the site
- Retention, refurbishment and re-use of the three major protected structures on the site (the Station Master's Building, the Carriage Shed, and the Goods Depot)
- Development of a hotel and retail outlets with associated car parking facilities in the north-eastern part of the site
- Development of new office buildings to the south-eastern part of the site
- Provision of services including water main, storm water drainage, foul sewer, gas, electricity, telecommunications, etc.
- Development of pathways, open/amenity areas and landscaped areas within the site
- Internal access roads
- Associated infrastructure

Waste Management

Waste Management

Its BAM's goal to ensure that all waste materials arising from the Horgan's Quay Development are managed and disposed of in accordance with the:

- provisions of the Waste Management Acts 1996 – 2013 and associated regulations;
- Waste Management (Hazardous Waste) Regulations;
- Movement of Hazardous Waste Regulations;
- The Carriage of Dangerous Goods by Road Act.
- (Shipment of Waste) Regulations;
- Cork County Council Waste Management Plan;
- Environmental Protection Act 1990: Waste Management, the duty of Care
- Project Specific Construction Requirements (Contract Documents); and
- the Company Environmental Management System

The plan also takes into account the requirements of the

- Best Practice Guidelines on the preparation of waste management plans for construction and demolition waste projects
- "Changing our Ways" Waste Management Policy Statement

Scope of Material which may arise.

Waste will arise from numerous sources from the site. Demolitions, Excavations Works, Piling Arising's, Standard Compound Waste

Waste material from Temporary works, such as timber from formwork for temporary works, such as handrails and hoarding.

Please see Appendix 1 for the Waste Management Procedure and Waste Management Plan
 Please see Appendix 2 for the Waste Management Areas.

Asbestos Management

BAM have completed an asbestos survey of the site to ensure that all of the contaminated waste is dealt with in prior to any demolitions taking place. We commissioned Chris Mee Safety Engineering (CMSE) to complete this survey and report.

The findings of the report are attached.

We now have removed the asbestos from the site in line with the Asbestos management plan.

Please see Appendix 3 for the Asbestos report.

General Construction Works.

Construction sequence

The construction are proposed to commence in August 2018.

Please see Appendix 4 for the Summary Program

Please see Appendix 5 for Public Realm Handover Sequence

The proposed construction sequence is as follows:

Northern Quarter

		Status
• Demolitions / Enabling Works	Aug-18 - Nov-18	Complete
• Hotel (7 Storey)	Sep-18 - Aug-20	Ongoing
• Retail (2 Storey)	Jun-19 - Aug-20	Ongoing
• Associated Public Realm	Apr-20 – Aug-20	Proposed

Strategic Housing Development

• Demolitions	Jul-19 - Sep-19	Ongoing
• Enabling Works	Mar-20- Apr-20	Proposed
• SHD Construction	Mar-19- Feb 22	Proposed
• Associated Public Realm	Feb 21- Feb 22	Proposed

Office Block

• Demolitions / Enabling Works	Jan-19 - Mar-19	Complete
• Office Block A1	Apr-19 - Aug-20	Ongoing
• Associated Public Realm	May-20 – Aug 20	Proposed
• Office Blocks A2 & A3	Jan-20 - Jun-21	Proposed
• Office Block A4	Jun-20 - Dec-21	Proposed

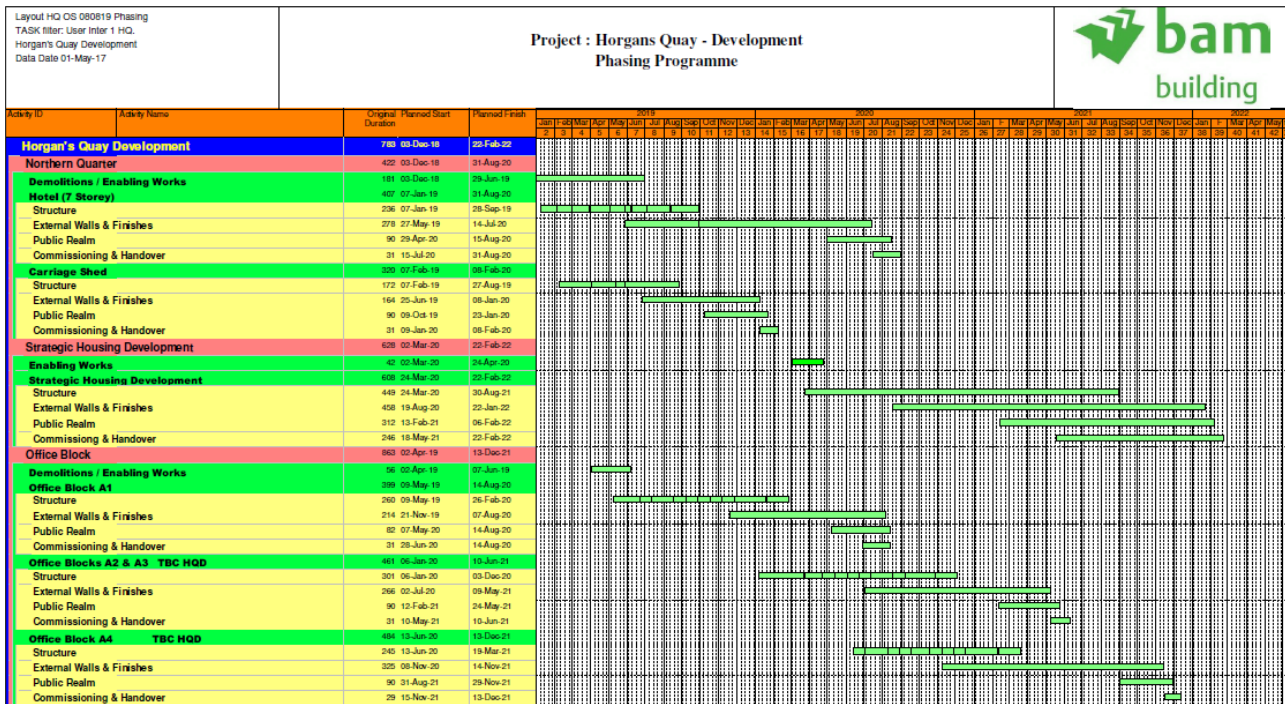


Figure 3.1 Proposed Construction Sequence

Site Office Compound Area & Parking

It is the intention to maintain the site compound within the confines of the construction site. Subject to final agreements with the CIE/Irish Rail to make available some of the lands for construction workers and site staff to park on their ground. Staff will walk from the carpark compound to the site via a Horgan's Quay and use a pedestrian gate

Please see Appendix 6 for Site Office Compound Area

Site Hoarding

A site hoarding will be erected around the full perimeter of the site with pedestrian and vehicular access points provided. Unless there is an existing secure boundary wall present. It is noted that the location of hoarding on the public street will be subject to a separate agreement and or licence between BAM Building and Cork City Council. The following is however envisaged.

- A 2.7 m high hoarding will be provided to the edge of the existing footpaths along all streets.
- Construction access during construction will generally be via Horgan's Quay for the Residential and Office Block developments and from Railway Street for the Northern Quarter Hotel.
- The site will be secured at all times.

Signage will be provided on all hoarding in conjunction with adjoining traders to direct pedestrians and to convey that it's "business as usual" during the construction process. Hoarding will be removed on completion of the various building facades.

The handover of the building will be on a Phased basis.

Please see Appendix 7 Site Entrance Areas.

Tower Crane

It is envisaged that 5 tower cranes will be erected for the construction of the various building superstructures. The tower cranes will be required for the erection of the building frame and superstructure. It is noted that the location and operation of the tower crane will be co-ordinated by BAM Building Ltd. The Tower crane location are dependent on the compound areas and also the site entrances as they need to be within lifting radius of the cranes

Please see attached Appendix 8 for the proposed Tower Crane & Site Compound areas.

Traffic Plan

Construction Access.

During the project, the site delivery traffic will access the site via Hogan's Quay or the South link. Site traffic entering via Hogan's Quay or Railway Street for the Northers section of the site.

Site Traffic leaving site will proceed to along Horgan's Quay and will either go south bound over Michael Collins Bridge and continue along the South Link or turn right onto Ship Street and exit the city via Lower Glanmire Road.

Signage

Signage will be erected in advance to warn other pedestrian and road users of a construction site ahead. These signs will be checked and cleaned regularly so that they are maintained in a good condition.

Please see attached Appendix 9 for Traffic Management Plan.

Plant/ persons Segregation

Any works completed outside site boundary will be fully barriered and work covered by a separate method statement and site specific traffic management plan and agreed in advance with the local authority. All plant driving on the public roads will be accompanied by a vehicle banksman. For works outside the boundary, which may impede the traffic/pedestrians on the public road a separate traffic management plan, will be completed.

Inside the site boundary, a clear pedestrian access will be provided to the areas of work and appropriate signage placed. Pedestrian boundary will be delineated with pedestrian barriers.

Whether inside the site boundary or on the public road all plant will give way to pedestrians and this will be carefully controlled by operatives and site banksman.

Cleaning of Roads

Road cleanliness will be monitored throughout the works and a road sweeper will be employed when required. The contractor will liaise with the local authority and all adjoining owners / residents in respect of the timing and movement of the road sweeper activity.

Deliveries

All deliveries must be notified to the site in advance so that the site will be organised, for the offloading and dictate which crane will be unloading. This is to ensure that delivery trucks, on entering the site, cannot block any of the public roads adjacent to the site. An assigned banks man will control all deliveries.

Main Gate & Pedestrian Gate

Due to the nature and location of the site, the main gates will remain closed at all times. The foreman will have a key and a spare located at the site reception. The gate will be opened for deliveries and it will be closed again once unloaded. If the gate is to remain open for prolonged periods, such as large concrete pours, a flagman will be placed at the gate for the duration it remains open to ensure there are no unauthorised entries.

All pedestrian access will be via the pedestrian entrance to the south of the site. This door will remain closed at all times and will only be opened by the input of a security pin code. This code will be given to staff at inductions.

Under no circumstance will either entrances be left open while unattended. Anyone found in breach of this rule will receive an instant dismissal from the site.

Work on Public Roads

Any works on public roads outside the site will be co-ordinated with Cork City Council and the adjoining businesses and residents.

Secure site hoarding will be erected around any works outside the site, with controlled access points by authorised personnel only.

Hours of work

The site will be operational from 8 am to 6 pm Monday to Friday, 8 am to 4 pm on Saturdays, or as conditioned by Cork City Council. It is proposed that hours of work outside of these times will be by agreement with the local authority.

Environmental

Dust Minimisation

Dust emissions on site will be managed through the implementation of a dust minimisation plan. Prior to construction the contractor will formulate the plan that relates to the type of construction activity and the environmental factors pertaining to the site. The following will be considered.

Construction Factors to be considered.

In order to ensure that no dust nuisance occurs, a series of measures will be implemented. Site access will be regularly cleaned and maintained as appropriate. Hard surface areas will be cleaned to remove mud and aggregate materials from their surface while any un-surfaced areas will be restricted to essential site traffic only. Furthermore, any area that has the potential to give rise to fugitive dust will be regularly watered, as appropriate, during dry and/or windy conditions. Scaffolding will be erected around the site during construction along with hoardings at ground level. Mesh netting will be erected around the scaffolding during construction if necessary as a mitigation measure to minimise dust emissions from the site.

Public roads outside the site will be regularly inspected for cleanliness, and cleaned as necessary.

Monitoring.

At all times, the procedures put in place will be strictly monitored and assessed. In the event of dust nuisance occurring outside the site boundary, significant dust producing activities will be immediately terminated and satisfactory procedures implemented to rectify the problem before the resumption of the operations.

The dust minimisation plan will be reviewed at regular intervals during the construction phase to ensure the effectiveness of the procedures in place and to maintain the goal of minimisation of dust through the use of best practise and procedures.

Any additional information referring to the site during the survey period will be noted. A note will also be made if the site is operational or dormant. In addition the wind direction and weather for the day will be recorded.

Noise Minimisation

Due to the nature of the activities undertaken on a large construction site, there is potential for noise generation. The flow of vehicular traffic to and from a construction site is also a potential source of noise levels. Noise levels will be adhered to as set out by Cork City Council.

Vibration Control

The selected method of demolition and piling will be controlled to ensure there is no likelihood of structural or even cosmetic damage to existing neighbouring properties;

Demolition Works are required to comply with BS5228 (2009): *Code of practice for noise and vibration control on construction and open sites- Part 2: Vibration* : Noise control on construction and open sites, which offers detailed guidance on the control of noise & vibration from demolition and construction activities.

A variety of practicable noise control measures will be employed. These shall include where necessary:

- selection of plant with low inherent potential for generation of noise and/ or vibration;
- erection of barriers as necessary around items such as generators or high duty compressors;
- Situate noisy / vibratory plant as far away from sensitive properties as permitted by site constraints and the use of vibration isolated support structures where necessary.

Invasive Species

It is apparent that there are some invasive species on the Horgan's Quay site in multiple locations.

We have experience in dealing with this weed and do not envisage this being an issue for the project. We have an experienced professional **Fiona Patterson an Ecologist from ARUP Engineering** on board as part of our team. During the site survey, Buddleia (*Buddleia davidii*) was the only non-native plant species identified growing on the site. Strands of Buddleia were recorded throughout the site including within the derelict buildings. Buddleia is identified in the 2010 National Roads Authority guidelines *The Management of Noxious Weeds and Non-native Invasive Plant Species on National Roads* as a non-native invasive plant species. Buddleia is a medium impact invasive species which is frequently found on waste ground in urban environments and is capable of growing on walls. It can potentially cause damage to structures if not treated or removed. Licensing Requirement

BAM have removed any invasive species (as listed in the Third Schedule of the EC (Birds and Natural Habitats) Regulations 2011) and transported it to another site for disposal, under license is required under Part 6 (Protection of Flora and Fauna) and specifically regulation 49 of the European Communities (Birds and Natural Habitats) Regulations 2011 to remove the species.

Please see Appendix 10 for the Invasive Species Management Plan

Appendices

Appendix 1 Waste Management Procedure and Waste Management Plan

Appendix 2 Waste Management Areas Please

Appendix 3 Asbestos report

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Appendix 10 Invasive Species Management Plan