
Demolition Method Statement

SHD Development at Newtown, Malahide Road

Doc No. WS-04-A

Prepared by:



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1.0 Introduction

1.1 Background

Joseph O'Reilly Consulting Engineers were commissioned by Claregrove Developments Ltd to input and coordinate a "Demolition Method Statement" to accompany a planning submission for the proposed Strategic Housing Development at Newtown, Malahide Road, Dublin 17. The "Demolition Method Statement" report should be read in conjunction with the "Outline Construction Management Plan" prepared by JOR Consulting Engineers which accompanies this submission.

The proposed development will consist of 331 residential units, built in two blocks (Block A to the southwest and Block B to the north), ranging in height from 8 to 10 storey's. The 331 no. units proposed consist of the following:

- 82 no. 1-bedroom units
- 239 no. 2 bedroom units
- 10 no. 2-bedroom duplex units

Block A contains a double height ground floor level containing two no. commercial units (for Class 1- Shop / Class 2- Office / Restaurant / Café use), a reception area, and an internal / undercroft ground floor car park accessed off Grove Lane incorporating bicycle parking and refuse storage areas. 2 no. duplex units over two levels are located to the rear of Block A; Block B contains a double height ground floor level containing ancillary communal support facilities and amenities, which includes a reception area, a shared work space, a gym and a laundry, a commercial unit (for Class 1- Shop / Class 2- Office / Restaurant / Café use), and a childcare facility, with associated outdoor play area. 8 no. duplex units are located to the rear of Block B over two levels. Block B includes an internal / undercroft car park area over four levels (including partial basement) to be accessed from the Malahide Road and incorporating car, motorcycle, bicycle parking and refuse storage areas;

Block B contains an internal communal amenity space at seventh floor level, lettable storage space from first to eighth floor level and office space from first to sixth floor level and eighth floor level.

2.0 Outline Method Statement for Demolition

This Method Statement is provided for Planning Permission purposes only. The Contractor must develop a Construction and Demolition Waste Management Plan in accordance with the “Best Practice Guidelines on the Preparation of Waste Management Plans for Construction and Demolition Projects” (Department of Environment, Heritage and Local Government, 2006). The Contractor must ensure that all demolition material is managed, stored and disposed of in an appropriate manner in accordance with all relevant waste legislation. Work shall be carried out in accordance with BS EN 6187: 2011 Code of Practice for Full and Partial Demolition.

2.1 Site Specific Information

The application site contains a Topaz filling station and vacant commercial buildings, including a former motor showroom (Crossan Motors) with offices, a tyre centre and a commercial workshop and office. The site is bound by a local residential access road and Clare Village residential apartments to the east and south east, Grove Lane to the south west, a tyre centre (Fast Fit) to the north and Malahide Road (R107) to the west.

The topography of the site slopes from the southwest to the northeast with a slope across the site from the northwest (Malahide Road) to the southeast (rear Access Road). There is approximately 2.4m fall between the highest and lowest parts of the site.



Figure 1

2.2 Building Structure

The existing structures across the site would have previously been used as a mix of a car garage/service station/car showroom. These structures appear primarily to be of structural steel with sheet roofing. In addition to structural steel there are certain elements within of reinforced concrete, masonry and other construction techniques. The warehouse areas appear to have steel trussed roofs to achieve large open spaces.

The following is a high-level method statement for the demolition of the buildings;

- Establish a site set-up and welfare facilities;
- Erect any necessary hoarding around the perimeter of the site;
- Carry out an intrusive asbestos survey to identify the presence of any carcinogenic materials, in particular as possible fire protection to steel work, in plant areas, and ceiling tiles;

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- Carry out a detailed services survey of the site to identify all buried services, determine what services are live, redundant and potentially serve neighbouring properties;
 - Carry out any necessary services diversions and decommissioning works;
 - It may be necessary to remove all ACM (asbestos containing materials) and make the site safe for general demolition prior to any soft strip-out;
 - Carry out a soft strip of the building to remove free-standing units, furniture, floor finishes, ceiling tiles, windows, partitions, doors and door frames, ceiling bulkheads, M&E services, radiators, light fittings, fixtures and fittings, first fix joinery, kitchens and toilet areas;
 - Demolish the various buildings on site. Given the height of the existing structure (one/two stories), it is not envisaged that any high reach equipment will be required.

2.3 Dust

Dust prevention measures shall be included for control of any site airborne particulate pollution. The Contractor shall put in place and monitor dust levels in the vicinity using a Bergerhoff gauge instrument. The minimum criteria to be maintained shall be the limit for Environmental Protection Agency (EPA) specification for licensed facilities in Ireland, which is 350mg/m²/day. The Contractor shall continuously monitor dust over the variation of weather and material disposal to ensure the limits are not breached throughout the project. It is proposed to use a “Dust Boss” spray cannon machine (or similar) in order to contain dust on site. The cannon is capable of spraying a water mist up to 45m and has been used in Dublin city centre recently during the demolition of buildings up to 8 storeys in height. This dust suppression method is very successful in containing dust on-site. The machine has a range of controls and adjustability to accurately target sources of dust generated from demolition works.

2.4 Dirt

Given the volumes of construction traffic generated by the Site Works it shall be a requirement that the Contractor shall ensure that:

- A “Full-Body Self Contained” wheel wash shall be constructed and located within the site confines;

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- All vehicles will be required to pass through the wheel wash before exiting the site to the public road network. The wheel wash must be kept in place and used throughout the construction works. If conditions require it then a manned power washer shall be put in place to assist the wheel wash system.
 - A dedicated road sweeper shall be retained for the duration of the haulage works; and Water supplies shall be recycled for use in the wheel wash. All waters shall be drained through appropriate filter material prior to discharge from the site.

2.5 Noise

The Contractor will be required to monitor base noise levels at the site location before commencement of the project. Noise monitoring will be required throughout the project. Variation of noise levels from those experienced as part of everyday life in an area can result in extreme disruption. The Contractor shall implement measures to eliminate where possible and reduce noise levels where not. The proposed development shall comply with BS 5228 “Noise Control on Construction and open sites Part 1: Code of practice for basic information and procedures for noise control (or such further limits as imposed by Dublin City Council).”

Construction equipment for use outdoors shall comply with the European Communities Regulations– Noise Emission by Equipment for Use Outdoors – SI 241 - 2006.

2.6 Vibration

The Contractor shall provide and maintain vibration-monitoring equipment for the duration of the works. Condition surveys of adjacent buildings will be required before excavations commence. Vibrations shall be monitored in accordance with BS 7385-1:1990 “Evaluation and Measurement for Vibration in Buildings”, with a limit of 5mm/s ppv.

2.7 Proximity to Public Roads

The demolition works will occur in close proximity to the adjoining public roads. The Contractor will need to develop a Construction Management Plan and agree with Dublin City Council. The Construction Management Plan is to be formulated in the style as specified in the Dublin City Council publication “Directions for the Control and Management

of Roadwork's in Dublin City" March 2005 with reference to the DTO publications "Traffic Management Guidelines" manual and the "Traffic Signs Manual".

2.8 Content of Contractors Construction Management Plan

The Construction Phase Traffic Management Plan shall identify:

- Primary contact name;
- Primary contact mobile phone number;
- Secondary contact name; and
- Secondary contact name mobile phone number.

The primary contact shall act as a Liaison Officer with the Local Authority, Gardaí, local residents and businesses. Construction Management Plans shall be drawing based with additional information in text format as supporting information only.

In accordance with Section 3.5 of the "Directions for the Control and Management of Roadworks in Dublin City", a Construction Management Plan shall contain information on the following issues, where relevant:

- Temporary signage: Type and location;
- Temporary road markings: Type and location;
- Temporary changes to existing signage and markings required to enable a road closure;
- Operation of a contra flow traffic lane;
- Location of proposed Temporary Traffic Signals;
- Arrangements for local access and pedestrian access;
- Proposed Lighting Arrangements;
- Proposals for the use of Flag Men;
- Proposals to erect barriers;
- Proposals to change street infrastructure to enable road works e.g. bus stops and taxi ranks;
- Provisions for pedestrian movements including those of mobility impaired;
- Proposed changes to on-street parking; and

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- Arrangements made to make owners and residents aware of the traffic management arrangements that will apply during the road works.

These items are discussed individually hereafter.

2.8.1 Temporary Signage

The Contractor is required to provide appropriate signage which must conform to the requirements of Chapter 8 of the Traffic Signs Manual.

2.8.2 Temporary Road Markings

The Construction Management Plan shall include proposals for any proposed Temporary Road Markings. These markings must conform to the requirements of Chapter 8 of the Traffic Signs Manual.

2.8.3 Operation of a Contra Flow

There are no proposals to operate a Contra Flow system.

2.8.4 Temporary Road Closure

There may be requirements to introduce temporary road closures to facilitate a vehicle pick up and a drop off zone. Any proposals should conform to the requirements of Chapter 8 of the Traffic Signs Manual. Any road closure can only be operated under agreement with the Local Authority.

2.8.5 Temporary Traffic Signals

There are no proposals to operate Temporary Traffic Light Signals. Any proposals should conform to the requirements of Chapter 8 of the Traffic Signs Manual.

2.8.6 Arrangements for Local Access, Pedestrian and Cyclist Access

The temporary hoarding along the site perimeter may necessitate the erection of temporary footways. Covered footways to be built in accordance with Traffic Management Guidelines.

2.8.7 Proposed Lighting Arrangements

There are no proposals to alter the existing lighting arrangements in the area. Any proposals to alter existing lighting arrangements can only be carried out under agreement with the Local Authority. Adequate lighting should be provided within the temporary hoarded walkway.

2.8.8 Proposed use of Flag men

The use of Flag Men/Banks Men is to be incorporated into the Construction Management Plan to direct vehicles accessing/egressing the site will be agreed with DCC in the Construction Management Plan. There will be a requirement for a Flag man/Banks man at each point of entry and point of exit at all times. This requirement will be on a permanent basis during site opening times regardless of traffic movements. The method of control for access/egress traffic will be by means of a “stop/go” board.

2.8.9 Proposed Use of Barriers

The use of barriers is to be referred to in the Traffic Management Plan and the details of which are laid out in accordance with Chapter 8 of the Traffic Signs manual.

3.0 Provisions for works in Proximity to Existing Buildings

Carrying out demolition works in close proximity to adjoining buildings poses its own set of risks. Therefore the following measures will be implemented as part of any demolition works on the development site:

3.1.1 Monitoring

Monitoring regime of settlement, vibration and noise will be agreed with DCC prior to commencing works on site. Specialist contractors will be appointed to provide monitoring throughout demolition and construction works either continuously or periodically as agreed with DCC. Settlement, vibration and noise will be monitored for a period of at least 2 weeks prior to any works commencing, in order to establish a baseline, and communicating the results to DCC in the form of baseline reports. Ongoing monitoring results will be communicated to DCC on a continuous basis or through periodic reports.

3.1.2 Safety Measures during Demolition Stage

Safety of members of the public is a primary concern while carrying out demolition works. Various safety measures will be taken to mitigate the risks during all stages of construction.

3.1.3 Installation of Hoarding

Solid timber hoarding 3.2m in height will be provided along the perimeter of the site to protect members of the public from machines and materials on site. Standard 2.4m high hoarding will be provided in other areas. Hoarding can be established outside the site boundary line with the permission of the local authority. Hoarding will be erected off a vertical frame which will either consist of uprights encased in concrete 'Kelly' blocks or else using bolted steel shoes which will be placed in the ground. The Kelly blocks will be carefully lifted into place with a teleporter whose movement will be controlled, sequenced and managed by qualified banksmen.

For additional protection of pedestrians either a fully enclosed roof to the hoarding or an additional 500mm fluted section can be provided to the hoarding on the road side as well as along the public footpaths. Hoarding will be designed by a competent temporary works engineer.

3.2 Removal of Services

Prior to demolition works services survey will be carried out to identify existing services. All services on site will be disconnected, diverted or removed as agreed with service providers as part of the enabling works.

3.3 Demolition of existing building

Prior to demolition works a full structural review of the existing structure will be carried out to review the stability of the existing structure and to assess the temporary measures such as propping that will be required during the demolition stage. These measures will be provided to insure the structure is demolished in a controlled manner and there is no change of an unplanned structural collapse. After completion of the site hoarding, a full height scaffolding will be erected around the existing buildings. It is proposed that this will be enclosed for dust and noise protection for adjacent buildings. Where it is not enclosed, a safety netting will be provided at each level of the scaffolding. This will have access platforms at each 2m level to provide access to the covered safety netting which will be installed along the elevation. The scaffolding will not be used for demolition but for access to the safety netting to prevent dust and debris from falling on footpaths.

Prior to demolition works a soft strip of the building will be completed to remove any loose fixtures and fittings. Once the property has been cleared back to its base shell demolition will commence. Demolition will take place from the top down starting with removal of the roof slab. Any temporary propping or crash decks required will be designed by suitably experienced chartered design engineers with a proven record in temporary works design. The section of the building adjoining third party structure will be carefully demolished using hand tools cutting the structure into manageable sections using road saws or other suitable equipment rather than using mechanical breakers from the inside of the building. Concrete munchers will be used for the remaining sections of the building in order to minimise the noise and dust being generated by the works. The safety netting and noise blankets installed along the scaffolding to control noise, dust and debris will be taken down in a progressive fashion with each floor level, with always leaving a minimum of 5m extended scaffolding height above the demolition works. Similarly, to the slabs the use of concrete munchers as opposed to hammering etc. will be utilised. It will not be possible to use munching equipment on the ground floor slab or on the foundations. The ground floor slab

will be cut into manageable sections using road saws or other suitable equipment and the material excavated rather than using mechanical breakers. Similarly, the foundations will be removed in sections after being cut. Whilst it is envisaged that the demolition will follow this low impact/low noise type approach certain parts of the foundation slabs will no doubt need to be removed using more aggressive techniques. These will be kept to an absolute minimum and strict noise and vibration protocols will be kept in place during these works.

3.4 Minimising risk of collapse

Following on from the soft strip out of the building a more thorough assessment of the structure will be completed by the demolition engineers. This will confirm the assumptions made heretofore and will inform on any particular risk that needs to be accounted for. Once the assessment has been made fully detailed demolition methodology will be submitted to all relevant parties for approval. This submission will outline the sequence of works and identify any hazards which may affect the demolition.

4.0 Conclusion

This document outlines an approach to demolition of the existing building and the measures to be implemented during the demolition process. The Contractor must also develop a Construction and Demolition Waste Management Plan in accordance with the “Best Practice Guidelines on the Preparation of Waste Management Plans for Construction and Demolition Projects” (Department of Environment, Heritage and Local Government, 2006) along with liaison with the local authority in advance of any works commencing on site.