

WALMAC DEMOLITION E.C. LIMITED

Construction Management Plan for Demolition Works Contract



## Millwood Court Tonlegee Road Dublin 5



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**CONSTRUCTION MANAGEMENT PLAN  
for  
DEMOLITION WORKS CONTRACT**

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## 1. General Information

<b>Location of Site</b>	<b>The project is located in Millwood Court, Woodbine rd Dublin15</b>
<b>Work Description</b>	<b>The project consists of the demolition of three number 2-storey apartment buildings (known as Millwood court) and the removal of a number of existing trees. This will be followed by the construction of Sheltered housing units for senior citizens.</b>
<b>Programme</b>	<b>Our Draft Programme which includes the erection of the perimeter hoarding full demolition of the existing building and clearance of the site will take 8 weeks</b>

## 2. Site Access / Set up

1. A Construction Management Plan (CMP) and a detailed Traffic Management Plan (TMP) accounting for (i) Local residents, (ii) site personnel car parking, and (iii) proposed deliveries etc. for local residents and construction will be issued for discussion in advance of the main demolition works commencing. Following approval, both the CMP and TMP will be strictly implemented, and traffic flag men will be deployed to control all traffic into and from the site.
2. On project commencement it is proposed to initially set up the site welfare facility on the right-hand side of Millwood Court within the boundary of the site.
3. The vehicular access points to the site will be as follows below.
  - For Demolition works – site entry - Tonlegee Road/Millwood Villas/Woodbine Road/Millwood Court
  - For Demolition works – site exit - directly onto Tonlegee Road (left turn only. No right turn is permitted)
  - Main Construction Traffic will entre & exit via Tonlegee Road/Millwood Villas/Woodbine Road/Millwood Court
  - Construction traffic must access via Tonglegee Road westbound, and then left onto Millwood Villas, left turn onto Woodbine Road and left turn into the site at Millwood Court.
4. Proposed demolition waste skip set down area will be in the courtyard area on Millwood Court.
5. Painted timber hoardings and localized heras fencing will be erected to form the perimeter fencing to the site.
6. All persons coming to work on site will, prior to commencement of work, be inducted with an induction talk and will be required to sign in and out of the works site on a daily basis.
7. Appropriate signage to alert people, including members of the public, of demolition activities, walkways and excluded areas will be erected.

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## **3. Scope / Sequencing of Works**

A photographic condition survey of the surrounding properties and all existing services and drainage connections will be carried out in advance of demolition works commencing. A meeting will be organised with the design consultants, prior to commencement to identify all existing services

Method Statements and Risk Assessment for all works will be provided and approved in advance of works commencing.

A protective timber hoarding will be erected around the external perimeter of the site as licenced by DCC; the access and egress points will be from Woodbine road and Millwood Court.

Scaffolding will be erected to the external perimeter of the existing buildings where they adjoin the neighbouring properties and Tonlegee Road. The buildings will then be demolished in compliance with RAMS for the demolition works. The scaffolding will be clad with debris netting and Monarflex; all to be maintained in accordance with statutory requirements.

Before the strip out phase of work commences a noise, vibration and dust monitoring network will be in place as per Environmental specifications and if at any stage the red limits are breached third party complaints are recorded and then the offending works will be immediately stopped and an alternative method for undertaking the required works will be considered.

A full Asbestos survey will be carried out prior to any works commencing on site. If Asbestos is detected the start of the soft strip stage the specialist asbestos removal subcontractor will commence on site. ACM removal works shall be undertaken in accordance with the RAMS from the specialist subcontractor. Both soft strip and asbestos removal teams will be working concurrently on each floor. The ACM removal process will be isolated off from the general work areas using local negative pressurised (5Pa) enclosures. As the ACM removal work is untaken, independent air sampling will be carried out. Method statements will be in place and approved before the ACM removal works commence and a toolbox talk will be given to all site operatives making them fully aware of their environment and the locations where ACM's are present and work areas for ACM removal prior to commencing with the soft stripping works on each floor.

Co-ordination meetings will be held on a regular basis with appointed principal subcontractors in the early stages of the works to ensure that the approved RAMS for these works are being correctly implemented and works are proceedings satisfactorily.

Mechanical and Electrical sub-contractors will be on site at an early stage to discuss and undertake the diversion of live services within the site in advance of the demolition

Before the mechanical demolition is to commence each floor will be signed-off ensuring all asbestos containing materials (ACM's) have been removed. The demolition of the roof will commence once the floors below have been fully stripped and signed off.

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The mechanical and electrical contractors will isolate all live services on each floor at the services riser, prior to the commencement the soft strip works.

Following isolation or diversion of live services, soft strip can be carried out floor by floor, which will include the removal of redundant services within the building. Most of these works will be undertaken using manual labour. Heavy mechanical demolition works will then follow.

The building will be soft stripped from the top down, as the materials are being removed from the building waste will be segregated into different skips as per the Waste Management Plan (Appendix 4).

A teleporter will be on the ground floor controlling the segregation of material into the different skips as the material is removed from the building. Photographic logs will be kept throughout the contact and will be included in the fortnightly contractor's progress report which will be presented to the client and Design Team at fortnightly site meetings.

As the material is being removed from the building, dust will be minimised by damping down at the scaffolding shoots.



## **4. Demolition Works – Superstructure Phase 1**

It is proposed to demolish the middle of the three blocks first. The following sequence of demolition will be followed.

- The trees that are to be retained will be protected with timber hoarding and the tree roots will be protected with cell web root protection all in accordance with the requirement as set out by the arborist.
- Scaffolding with debris netting and monarflex will be erected to the East elevation adjoining the neighbouring property.
- All existing services to the building will be disconnected and made safe.
- Any and all Asbestos will be removed by specialist contractors.
- A soft strip of the building will be carried out with materials segregated and put into skips.
- The roof will be stripped, and the materials segregated.
- The main superstructure will then be demolished using heavy mechanical equipment. The rubble will be removed off site and the footprint of the building slab and foundations will be grubbed up and removed off site. As the superstructure is being demolished the concrete will be removed from the site to a quarry where the spoil material will be crushed and reused. Certification will be issued for the recycled concrete.
- As the superstructure is being demolished the scaffolding will be dismantled in stages which will follow the demolition sequence, the max free-standing scaffolding at any time will be a maximum 5m high.

## **5. Demolition Works – Superstructure Phase 2**

It is proposed to demolish the block on the north of the site adjacent to Tonlegee road as phase 2 of the works. The following sequence of demolition will then be followed.

- The trees that are to be retained will be protected with timber hoarding and the tree roots will be protected with cell web root protection all in accordance with the requirement as set out by the arborist.
- Scaffolding with debris netting and monarflex will be erected to the East elevation adjoining the neighbouring property, and to the south elevation adjoining Tonlegee Road.
- All existing services to the building will be disconnected and made safe.
- Any and all Asbestos will be identified on an asbestos survey and will then be removed by specialist contractors.
- A soft strip of the building will be carried out with materials segregated and put into skips.
- The roof will be stripped, and the materials segregated and put into skips.
- The main superstructure will then be demolished using heavy mechanical equipment. The rubble will be removed off site and the footprint of the building slab and foundations will also be grubbed up and removed off site. As the superstructure is being demolished the concrete will be removed from the site to a quarry where the spoil material will be crushed and reused. Certification will be issued for the recycled concrete.
- As the superstructure is being demolished the scaffolding will be dismantled in stages which will follow the demolition sequence, the max free-standing scaffolding at any time will be a maximum 5m



## **6. Demolition Works – Superstructure Phase 3**

It is proposed to demolish the last block on the south of the site as phase 3 of the works. The following sequence of demolition will then be followed.

- The trees that are to be retained will be protected with timber hoarding surrounds and the tree roots will be protected with cell web root protection all in accordance with the requirement as set out by the arborist.
- Scaffolding with debris netting and monarflex will be erected to the East elevation adjoining the neighbouring property, and to the south elevation adjoining Tonlegee Road.
- All existing services to the building will be disconnected and made safe.
- Any and all Asbestos will be identified on an asbestos survey prior to works commencing and will then be removed by specialist contractors.
- A soft strip of the building will be carried out with materials segregated and put into skips.
- The roof will be stripped, and the materials segregated and put into skips.
- The main superstructure will then be demolished using heavy mechanical equipment. The rubble will be removed off site and the footprint of the building slab and foundations will also be grubbed up and removed off site. As the superstructure is being demolished the concrete will be removed from the site to a quarry where the spoil material will be crushed and reused. Certification will be issued for the recycled concrete.
- As the superstructure is being demolished the scaffolding will be dismantled in stages which will follow the demolition sequence, the max free-standing scaffolding at any time will be a maximum 5m.



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## **7. Persons undertaking Works and Training Requirements**

1. All persons involved in the works shall understand and sign the relevant RAMS in advance of their works.
2. All persons involved in the works shall be required to attend a site safety induction briefing prior to commencing on site, this induction talk will include the Traffic Management Plan and the procedures for access and egress to and from the site along with the Site Rules and procedures and the Project Safety Plan. Special attention will be given to inform the personnel of the centre Management Rules.
3. All subcontractors will produce their own safety statements and site-specific method statements and their personnel involved in the works will have read and signed these prior to commencing on site.
4. All personnel will have attended a safe pass training course prior to working on site and present their cards at the induction talk prior to commencing on site
5. All plant operators will have the necessary training in the use of the item of plant they are operating. Only dependable and experienced operators will be used on this project.
6. Weekly toolbox talks will be carried out with all staff on site on appropriate current activities on site.

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## **8. Hazards / Considerations**

1. Existing services – Persons coming into contact with existing live services.
2. Interference with existing fire escapes routes – Life saving access routes.
3. Fire – Damage to Persons or the Building.
4. Demolitions – Persons being struck by falling materials, dust inhalation, cuts, scrapes and noise& Aspergillus.
5. Slips, trips and falls.
6. Work at height – falls of person or materials from height, Collapse of working platforms, structure or unsecure ladders.
7. Vehicles & Machinery & lifting equipment – Vehicle contact with persons or existing structures.
8. Manual handling of materials and equipment.

## **9. Safety Precautions and Controls**

1. Existing services will be decommissioned and verified by suitably qualified persons prior to any demolition or construction works proceeding.
2. Services will only be decommissioned under prior agreement and permit from existing building authorities.
3. All operatives will access the works through designated routes only.
4. All existing fire escape routes will always be kept clear from materials or debris.
5. Strict No Smoking policy will be implemented with all people working or visiting on site.
6. Hot works permit system will be put in place for all hot works on site and fire watch procedures accompany this permit prior to daily sign off.
7. Appropriate firefighting equipment will be in place to protect the work areas from start to finish of the project.
8. All areas will always be kept clean and tidy.
9. Adoption of best practice to minimise generation of noise, vibration or dust will be implemented.
10. All skips will always be covered and areas around skips kept clean and tidy, when skips are removed trafficked areas to be thoroughly cleaned and any dust removed.
11. All skips and materials to be securely fenced off and kept clear of access roadways and members of the public.

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12. Full PPE must always be worn by all construction workers, 5-point PPE – Hard hat/ Glasses/ Hi-Viz/ Gloves/ Steel toe safety boots.
13. All scaffolds or working platforms to be erected by suitably trained and competent person. All scaffolding will be signed off in line with statutory requirements, upon erection and weekly thereafter or after modification or poor weather conditions.
14. Scaffolding handrails not to be modified and suitable scaffoldings and platforms to be used for all works at heights.
15. Agreed procedures with existing site security & authorities must always be strictly adhered too.
16. All work areas will always be appropriately hoarded off to avoid any contact with members of the public, staff, students or security personnel.
17. Works to occupied areas or existing building to be carried out at a suitable prearranged time to avoid contact with members of the public, students or staff.
18. All site tools will be 110V power supply.
19. All vehicles to maintain an 8KPH speed limit when travelling within the site roadways, Vehicle banksman to assist drivers when making deliveries and collecting waste at all times. Local traffic rules to be obeyed and access routes to be as per prearranged agreement with building authority.
20. A detailed traffic management plan will be drawn up to the approval of the existing site authorities and this will be relayed to all personnel on site during the site induction talk.(Appendix 8)
21. Prior to any activity taken place the site manager will carry out a specific risk assessment for that specific activity and provide the control measures laid out in our risk assessments in our Company safety statement for each activity. Site specific method statements will be developed for each activity upon completion of the risk assessment.
22. Toolbox talks will be held with all personnel on site weekly.
23. Walmac Demolition E.C are aware of the Aspergillus risk when working in hospital environments and have previous experience in successfully working in a live hospital environment on previous projects. To this end, dust suppression and containment will be carried out during demolitions and while carrying out dusty works.

## **10. People at risk:**

1. Operatives and contractors staff carrying out the works.
2. Tenants staff/subcontractors/delivery men/service providers.
3. Tenants patrons.
4. Members of the public and local residents.
5. Existing Staff, Students and Security personnel.
6. Members of the design team.

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## **11. PPE Required:**

1. Hard Hats.
2. Gloves.
3. Steel Toe Boots.
4. Ear and Eye protection.
5. Dust masks.
6. High Visibility vests/coats.

## **12. Plant & Equipment Required:**

1. Brokk 170.
2. 360-degree Manitou Telescopic Fork lift.
3. Mobile Cranes.
4. 6m Manitou Telescopic Forklift.
5. Air Compressor & Breaking Hammers.
6. Generator / Transformers & Leads.
7. Task lighting 110V.
8. Core Drill.
9. Kango Hammer.
10. Con Saw.
11. Temporary fencing, hoardings and barriers.
12. Dust screens.
13. Scaffolding and safe stand working platforms.
14. Oxy-Acetylene Plant.
15. 110v Grinder.

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16. Welder.
17. Fire extinguishers.
18. Fire blankets.
19. Various small tools & Equipment.

## **13. On Site Communication**

For the project of this nature to proceed safely and as planned we recognise that daily communication is essential between the contractor's site management and the Employer's representative. Continuous liaison will ensure that all agreed systems are being implemented to the client's satisfaction and where necessary corrective action can be put in place to the satisfaction of all involved. All our site managers will be approachable and proactive in meeting the client's needs and will at all times work to minimise any disruption to the operation of the existing facilities.

Walmac Demolition E.C will hold weekly co-ordination meetings with all sub-contractors to ensure that all works are line with our contract programme, materials are approved and ordered to meet the programme and adequate resources are planned to complete the works in a timely manner. These meetings will be held on site and site managers, contract managers and subcontractors' managers will be in attendance. Health & Safety will also form part of this meeting and co-ordination of ongoing tasks, monthly and bi-weekly detailed programmes will be produced and agreed with all present.

A separate Health and safety meeting will be held with all staff on site on a weekly basis and toolbox talks will be carried out on ongoing tasks on site at the time. The requirements of ongoing tasks, access routes and exclusion zones will also be discussed to ensure everyone is aware of the changing surroundings as the works progress.

## **14. Design Team Communication**

Fortnightly site meetings will be held on site with all members of the design team and the client's representatives. At these meetings Walmac Demolition E.C will issue a detailed progress report on the project under the following headings;

## **15. Health & Safety**

This section we would document any accidents, incidents or Health & Safety Authority visits. We would record ongoing works with any risk to health or safety, confirm method statements received and implemented along with possible changes to access, egress to areas of the site. Details of any ongoing temporary works, design requirements or sign offs will also be recorded. We would also record any changes or updates to our ongoing project safety plan.

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## **16. Monitoring**

Monitoring regime of settlement, vibration, noise and dust will be implemented on site and will be in accordance with the relevant levels as set out in the planning permission.

Specialist contractors will be appointed to provide monitoring throughout the demolition works either continuously or periodically .

Vibration, noise and dust will be monitored for a period of at least 2 weeks prior to any works commencing in order to establish a baseline.

Ongoing monitoring will be communicated on a continuous basis.

## **17. Dust Monitoring**

Dust prevention measures shall be included for control of any site airborne particulate pollution.

Walmac Demolition E.C will put in place and monitor dust levels in the vicinity using a Bergerhoff gauge instrument. The minimum criteria to be maintained shall be the limits for EPA specification for licensed facilities in Ireland which is 350mg/M2/day. Walmac Demolition E.C shall continuously monitor dust over the variation of weather and materials used to ensure the limits are not breached through the project. Water mist spray will be used as far as possible to contain the dust.

## **18. Noise**

Walmac Demolition E.C will establish a baseline level for noise levels in the area about 2-3 weeks prior work on site commence. Noise monitoring will be carried out for the duration of the contract.

Walmac Demolition E.C will implement measures to reduce or eliminate noise levels where possible. 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 AWN)".

Construction equipment for use outdoors shall comply with the European Communities Regulations- Noise Emission by Equipment for Use Outdoors-S1 241-2006.

## **19. Subcontractors Appointment Log**

This List will be updated at each meeting noting progress on subcontract tenders and appointments.

## **20. Meetings / Consultants / Design Development**

This section will record any subsequent design or co-ordination meetings that were held over the previous period and detail any critical design issues to be resolved.

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## **21. Current Progress**

Details of all works carried out over the previous fortnight will be recorded here.

## **22. Expected Schedule**

Planned works for the following period will be recorded.

## **23. BCAR & Quality Control**

A list of all Ancillary certs, BCar inspections, sign off and test certificates will be recorded here. We will also confirm any materials that have been uploaded to the BCar Sharefile over the period.

A list of upcoming works that will require inspections will also be recorded here.

## **24. Materials Submissions, Approval & Procurement**

A materials procurement status sheet listing all materials required for the project will be provide here and updated to reflect critical items, date approval required, lead time, date ordered, proposed delivery date will all be noted to ensure all materials are ordered in a timely manner to meet the programme requirements.

## **25. Human Resources**

List of current labour resources on site.

## **26. Plant Resources**

List of current labour resources on site.

## **27. Weather Report**

Details of previous period's weather.

## **28. Information required**

A detailed RFI List will be provided with details of specific information required, date of request, date required, and dates received will be recorded. Information will be requested in a timely manner to ensure the design team have adequate notice of critical information to be provided to avoid any programme delays. This list will be updated at each meeting reflecting information received and outstanding.

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## **29. Programme / Progress Report**

At the outset of the contract a detailed programme will be issued. The programme will be created in Microsoft project format. At each site meeting a progress report will be provided on this programme with a line tracking the current date and the planned progress percentage reflected against the actual percentage complete on each task. This will clearly illustrate the performance of the works against the planned programme and highlight any potential programme delays or gains on a fortnightly basis.

## **30. Workshop meetings**

Separate workshop meetings will be held with critical subcontractors and relevant members of the design team on alternate weeks where required to complete co-ordination of critical elements, such as Piling, Bulk Excavation, Mechanical and electrical services.

## **31. Quality Control**

Walmac Demolition E.C have developed an approved Quality Management System and are accredited to ISO 9001:2015 and Environmental Management System accredited to ISO 45001:2015.

The Company Policy is to Construct to the highest possible quality and standards at all times and to ensure that the project is constructed in line with the correct drawings and specifications and using the correctly specified and approved materials. The works are constantly inspected to ensure that the work is being produced to the design and quality standards required at all times. Weekly meetings are held on site with all Site Management, the Company Health & Safety officer, the project Quantity Surveyor and the Project Contracts Manager to review the previous week's works and to plan ahead for the following week's works. Materials procurement, Sub-Contractor procurement and performance, Health and Safety, Programme and Progress are all discussed and reviewed in detail with regards to quality control to ensure that all correct procedures are being followed and the project is progressing to the standards required, using the correct materials and that site conditions are suitable for the works to proceed.

To assist the site management the company has developed a quality control system which involves sign off procedures by site management and section supervision at all stages of construction from site set up to final cleaning and handover. For each construction activity and sub task a Work Inspection Sheet has been developed to ensure that the works are inspected at each stage, firstly by the person executing the works, followed by their trade foreman, then by the section Engineer / Foreman and finally the Site Agent / Manager. In some cases, e.g. for structural elements the project structural engineer will inspect the works and sign off also. When these sheets are fully signed off, they are kept in the site quality control file and presented to the Contracts Manager at the weekly site management meetings.

In addition to the Management meetings weekly sub-contractor co-ordination meetings are held to ensure that all activities are co-ordinated and that the correct sequences are being followed to achieve the high-quality product that the client deserves. Stage sign offs and confirmation of testing and witnessing procedures are again checked at these meetings to ensure that works are completed to standards expected.

All meetings start and finish with an inspection walk through the works to ensure that what is being recorded on paper is actually being followed robustly on site.

For the purposes of Mechanical, Electrical co-ordinations and inspections our co-ordinator will attend these meetings and inspect the works in line with the previous week sign-off. In addition to this the co-ordinator will carry out routine audits of the works as the progress.



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For the purposes of structural elements and the design and inspection of temporary works our consultant will make routine inspections to review all installations and temporary works to ensure that they are installed to the required standards as an additional checking mechanism.

Since the introduction of the Building Control (Amendments) Regulations 2014, the company have developed a recording system, which is set up at the start of this project on a DFM format. As the project progress all Ancillary certificates, inspection reports, testing certificates, progress photographs, material markings, delivery receipts and specification verifications are added to this file on a weekly basis to ensure the inspections that are carried out are recorded.

