

Preliminary Safety & Health Plan

Project:	<i>NOHC – Canopy Entrance</i>
Client:	National Orthopaedic Hospital Cappagh
Date:	June 2026

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Document Certification & History

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Introduction

This Preliminary Health & Safety Plan has been prepared in accordance with the Safety, Health and Welfare at Work (Construction) Regulations 2013 and the Guidelines to the Safety, Health and Welfare at Work (Construction) Regulations 2013, published by the Health & Safety Authority.

The Project Supervisor for the Construction Stage must develop this document into the Health & Safety Plan prior to commencing work on this project. It is the intention of the Client that the project be constructed in such a way that the risk to health and safety of all persons engaged in its construction, future use and maintenance are eliminated or reduced to an acceptable level under current health and safety legislation.

1. General Description

1.1 Summary & Objectives

The Safety Health & Welfare at Work (Construction) Regulations 2013 places duties on clients, designers and contractors with respect to safety, health and welfare provisions, so as to ensure that they are coordinated and managed effectively throughout all stages of the construction project.

This Preliminary Safety & Health Plan sets out to ensure that the project is managed and constructed in a safe manner and complies with current legislation. The Project Supervisor for the Construction Stage is under a legal duty to implement and update, as required by changes in design or circumstances, the Safety & Health Plan throughout the project lifetime.

1.2 Risk Identification, Assessment & Control

Risk Identification (Section 2)

This Safety & Health Plan is based, in the first instance, on identifying the risks involved- See Section 2 Particular Risks. This is followed by a process of risk assessment in two stages;

Preliminary Risk Assessment (Design) – Particular Risks

This Preliminary Health & Safety Plan is based on a review of ‘Particular Risks’ only, as defined by SI291 of 2013, likely to be encountered in this project. In order to assess these ‘Particular Risks’, reference is made to a review of statutory definitions of such risks.

Risk Assessments received from designers are contained within Appendix A of the file.

In addition, any health and safety implications during the project (and in respect of the life of the structure) relevant to its design, have already been catered for in the relevant design drawings and specifications.

Further Risk Assessment (Construction Stage) – All Risks are contained within Appendix B.

Certain additional risks may arise during the construction phases which were not foreseen at this preliminary stage, specific to the particular work methods and weather/ other conditions at the time. Control measures for such risks will be determined by the Project Supervisor for the Construction Stage in consultation with the relevant contractors responsible for the specific work and the Safety & health Plan will be further developed (beyond the preliminary stage) accordingly.

This will be achieved in practice by requiring such contractors to submit tenders based on the Project Supervisor for the Construction Stages safety requirements. Such contractors will be required, in turn, to submit their own specific Safety & Health Plan on the particular works concerned. Further development of the Safety & Health Plan will be based on the identification of hazards applicable to the construction phase of this project.

1.3 Organisational Structure & Responsibilities

The parties responsible for the completion and implementation of the Safety & Health Plan are as follows;

Project Supervisor for the Design Process

The Project Supervisor for the Design Process is the person appointed by the Client to co-ordinate the health and safety aspects of the projects design at the planning stages, including the preparation of the Preliminary Safety & Health Plan. This appointment shall be made and accepted in writing. The client will be responsible for sending notification, AF1 Form, to the Health & Safety Authority prior to design work beginning.

During the design process, the Project Supervisor for the Design Process is required to take account of the General Principles of Prevention, outlined below, when deciding technical and organisational aspects of the project. This will help in the planning and phasing of the project and when estimating the timeframe for the safe completion of the project and, where appropriate, for phases of the project.

In addition, the Project Supervisor for the Design Process must take account of any existing Safety & Health Plan or Safety File. The Safety File may contain information which will alert the Project Supervisor for the Design Process and Designers of significant safety & health risks that will need to be addressed in the Construction Stage Health & Safety Plan.

When the Project Supervisor for the Design Process is estimating time schedules for the project or phases of the project, consideration must be given to how the timing of the progression of the construction work is calculated as to ensure worker safety & health is taken into account. The Project Supervisor for the Design Process should consult with the Client and Designers when establishing the timeframe. Both are obliged to co-operate with the Project Supervisor for the Design Process so that work be completed within reasonable time frames. While the Project Supervisor for the Construction Stage also has a responsibility under Regulation 17(1) concerning the estimation of time, both the Project Supervisors have independent roles in this regard.

The General Principle of Prevention, contained in Schedule 1 of the Safety, Health & Welfare at Work Act 2005, sets out a key hierarchy with regard to the prevention of accidents and ill-health. In the context of the Construction Regulations 2013, the Principles of Prevention apply to construction work and its associated preparation.

The General Principles of Prevention are as follows;

- 1) The avoidance of risks, e.g. where appropriate by selecting non-fragile roofing materials or by avoiding the disturbance of contaminated land where practicable.
- 2) The evaluation of unavoidable risks, e.g. evaluating the likely consequences of such risks.
- 3) The combating of risks at source. If risks cannot be avoided they should be combated at source so far as practicable, e.g. by specifying brush application of a treatment rather than spraying to reduce solvent exposure or specifying finishing materials containing less harmful constituents.
- 4) The adaptation of work to the individual, especially as regards the design of places of work, the choice of work equipment and the choice of work equipment and the choice of systems of work, with a view, in particular, to alleviating monotonous work and work at a predetermined work rate, and to reducing their effect on health. This will make work less monotonous and improve concentration and reduce the temptation to take short cuts or to improvise equipment and materials.
- 5) The adaptation of the place of work to technical progress, taking advantage of technical progress often offers opportunities for safe and more efficient working methods.
- 6) Replacement of dangerous articles, substances or systems of work by non-dangerous or less dangerous articles, substances or systems of work, e.g. replacing solvent-based paints with water-based ones where practicable.
- 7) The giving priority to collective protective measures over individual protective measures. Measures which protect everyone should be given priority over those which protect only an individual, e.g. the provision of fixed guard rails on a maintenance walkway rather than safety harnesses, the installation of safety nets rather than relying on individual safety harnesses, the provision of local exhaust ventilation in preference to personal protective equipment.
- 8) The development of an adequate prevention policy in relation to safety, health and welfare at work, which takes account of technology, organization of work, working conditions, social factors and the influence of factors related to the working environment. The Safety & Health Plan for the site should act as the focus for the bringing together and co-ordination of the preventive policies of the various contractors involved in the project. Where a Safety & Health Plan is not required under the Construction Regulations 2013, the Safety Statement, as required by the 2005 Act, must contain an adequate prevention policy.
- 9) The giving of appropriate training and instruction to employees.

In coordinating the application of the above principles, the Project Supervisor for the Design Process must consider how risks during the construction process can be proactively eliminated or mitigated by designers during the design process. If it is apparent that certain risks cannot be reasonably eliminated, then the second principle of prevention suggests that risks must be evaluated. One method of evaluating the risks as required is by carrying out a written risk assessment of the integral elements of the design process. This is commonly referred to as a design risk assessment. The Project Supervisor for the Design Process has a key role in coordinating the carrying out of these risk assessments and to assess if any gaps have been left in the assessment process.

Project Supervisor for the Construction Stage

The Project Supervisor for the Construction Stage is the person appointed by the Client to manage the construction work, control, coordinate and implement the health and safety requirements during the construction phase. This appointment shall be made and accepted in writing. Notification shall be sent, on the AF2 Form, to the Health and Safety Authority prior to construction work beginning.

Contractor/Sub-Contractor

Any person engaged by the main contractor to carry out construction works under the direction of the main contractor/Project Supervisor for the Construction Stage.

Designers

Any person who carries on a trade, business or other undertaking in connection with:

- preparing the design,
- Arranging for any person under the designer's control to prepare a design, relating to a structure to be erected by a competent contractor.

Safety Officer

The person(s) appointed, in accordance with Regulation 18 & 26 of the Safety, Health & Welfare at Work (Construction) Regulations 2013, to advise the contractor(s) as to the observance of statutory requirements, exercise a general supervision of the observance of the statutory requirements, and the promotion of the safe conduct of work generally.

Site Safety Representative

The person appointed/ elected in accordance with Regulation 23 of the Safety, Health & Welfare at Work (Construction) Regulations 2013, who may obtain safety information from the Project Supervisor for the Construction Stage, make representations to the Project Supervisor for the Construction Stage or contractor(s) on site, investigate accidents and dangerous occurrences, make representations to the H.S.A. inspectors, carry out safety inspections, investigate potential hazards and complaints and accompany H.S.A. inspectors whilst they are on site.

1.4 Project Supervisor for the Construction Stage/Safety & Health Plan/Safety File

The Project Supervisor for the Construction Stage must comply with Regulations 16-23 of the Safety, Health & Welfare at Work (Construction) Regulations 2013.

It is the responsibility of the Project Supervisor for the Construction Stage to develop the Safety & Health Plan for the Construction Stage. This involves the implementation of the Safety & Health Plan and any other required amendments.

All contractors must make available to the Project Supervisor for the Construction Stage any information that will have implications to the safe maintenance of the structure for the inclusion in the Safety File, as work progresses. This information will then be passed to the Project Supervisor for the Design Process who shall compile the Safety File for the client.

1.5 Project Directory

Title	Company	Contact	Email Address	Phone
Client	National Orthopaedic Hospital Cappagh	Ian Cudden Fergal McGahey	ian.cudden@nohc.ie Fergal.mcgahey@nohc.ie	+353 86 1717770 -
PSDP	Ashview Consultants	Neil McKenna Brendan Murphy Katie McArdle	neil@ashviewconsultants.com Brendan.m@ashviewconsultants.com katiem@ashviewconsultants.com	+353 01 619 0247
Architect	Hussey's Architecture	Ciaran Hussey Maria Parraga de la Fuente	Chusseyarchitects.com mparraga@husseyarchitects.com	- + 353 (0)1 524 1480
Mechanical & Electrical Consultant	McCaul's Environmental Consulting Engineers	Kevin Gallagher Claire Johnston Conor Heagney	kevin@pmccaul.com Claire@pmccaul.com conor@pmccaul.com	07856 913949 - -
Civil / Structural Consultant	Molony and Millar	Sean Twomey	stwomey@molonymillar.ie	+353 87 240 3414

1.6 Location of Project

The project is located in Cappagh Rd, Finglas, Dublin 11

The immediate surroundings of National Orthopaedic Hospital Cappagh are quiet and suburban, with the hospital set on large green grounds lined with mature trees, lawns, and internal roads. The campus is surrounded mainly by residential housing estates, local schools, and small neighbourhood shops, while nearby roads like Cappagh Road connect it to the wider Finglas area and the M50.

The hospital grounds themselves act as a significant green space, with walking routes giving the site a park like character. Nearby you also find local playing fields and sports grounds in Finglas West and Ballygall, which are commonly used by schools and clubs in the area. Further south/east, the larger Tolka Valley Park corridor provides a major green recreational route through north Dublin, with walking and cycling paths.

The main bus routes serving the area include the 40D, 40E, N4, and 220/220A services, all of which stop along Cappagh Road within a short walking distance of the hospital entrance. Key nearby stops include Cappagh Hospital, stop 4364 and Avila Park, stop 4793, both located on Cappagh Road adjacent to the campus. These routes provide direct connections to Dublin City Centre, Finglas, Tyrrelstown, DCU, Blanchardstown, and surrounding suburban areas. The buildings around the hospital are mostly low-rise healthcare blocks mixed with older estate-style structures.

The nearest Luas connection is the Red Line at Broombridge, which acts as an interchange between the Luas network, Irish Rail commuter services, and local bus routes. From Broombridge, the 40E bus provides a direct link to the hospital area, with the journey from the Luas stop to Cappagh Road taking only a few minutes.



1.7 Description of Project

This section is included for INFORMATION ONLY and does not form part of the contract. The full scope of works and the obligations of the contractor are to be ascertained by reference to the full set of contract documents.

The demolition of the existing polycarbon conservatory and the refurbishment of the existing reception area serving the main hospital entrance the construction of a new Conservatory Entrance in two phases.

Works relating to this project will consist of;

Phase 1 – Enabling Works and Temporary Access Arrangements

Phase 1 comprises all enabling works required to maintain safe hospital operations and establish temporary access arrangements prior to the main construction works.

- Establish the site boundary
- Contractor mobilisation and establishment of the site, including provision of welfare facilities, storage areas, and site compounds
- Protection and segregation of existing hospital areas remaining operational throughout the works, including erection of hoarding and public safety measures
- Site enabling works, including the safe demolition and removal of the existing polycarbonate building will be undertaken in phase 2
- Proposed drainage to be done as part of the enabling works, this will include installation of storm/foul drainage. Please refer to civil drawings and spec for details
- Erect Infection Control floor to ceiling dust screen to form the propose new entrance through existing window into reception.
- Removal of existing gate and bike racks and existing services on East Elevation wall.
- Remove existing window, form new entrance and install new temporary entrance door.
- Form a new pedestrian/staff walkway into proposed new temporary entrance access door.
- Handover Phase 1 Enabling (Area A) new pedestrian walkway and new entrance door to NOHC Corridor.

Phase 2 – Main Construction and Reception Refurbishment Works

- Retain temporary access into Hospital.
- Infection control Screen to existing Entrance door serving corridor to be maintained during refurbishment works
- Construction of a new conservatory-style entrance structure to the main hospital, including structural frame, glazing system, roof assembly, and external envelope
- The construction site will be closed off with secured fencing and debris netting.
- Associated internal alteration works, including formation of new thresholds, floor finishes, and minor modifications to adjacent internal spaces
- Adjustment to existing cobble block paving to be carried out in phases and reinstated.
- Relocation of UG existing services to facilitate the new canopy entrance.
- Replacing existing LTHW radiator with new electric panel heaters.
- Existing COMMS cabinet to be removed and new data cabling to be wired to the central COMMS cabinet.

- Installation of associated Mechanical & Electrical services, including first fix containment and infrastructure
- Second fix Mechanical & Electrical installation, including lighting, small power, heating, and controls integration
- Reception temporarily relocates to temporary Portacabin Office outside the building at main entrance (next to admission building). The construction site will be closed/secured with temporary plywood hoarding during the construction period.
- Internal finishes and specialist joinery works associated with the new entrance area
- Decoration, sealing, and completion of internal and external finishes
- Testing, commissioning, and full integration of all installed systems
- Final snagging, inspections, and handover of the completed works to the client
- On completion of the works Phase 2 Area B Works, the contractor must remove all timber hoarding around the site and reception personnel to relocate back into the new offices (shown in appendix K).
- Area A-block up temporary access door and make good in area A and reinstalled window (shown in appendix K).
- Site demobilisation, removal of temporary works, and reinstatement of affected areas

1.8 Timescale/Phasing of Project

The timescale of the project is to be carried out in line with the Clients requirements. The Project schedule should in no way affect the safety, health and welfare of those persons involved in the project to meet its requirements.

It is the responsibility of the Project Supervisor for the Construction Stage to advise if this timescale is achievable with respect to safety, health, and welfare considerations.

The programme for the works would be in the region of 16 weeks. This is subject to review of detailed designs when made available and a review of sequencing.

Planned Commencement: End of August/ Early September

Estimated Duration: 16 weeks

1.9 Safety & Health Principles for the Project

- All work must be carried out in accordance with the:
- The Safety, Health and Welfare at Work Act 2005
- The Safety, Health and Welfare at Work (General Application) Regulations 2007 - 2020
- The Safety, Health and Welfare at Work (Construction) Regulations 2013
- Safety in Industry Act 1980
- The Safety, Health and Welfare at Work (Carcinogens) Regulations 2001 - 2019
- The Safety, Health and Welfare at Work (Chemical Agents) Regulations 2001 – 2026
- European Communities (Protection of Workers) (Exposure to Asbestos) Regulations 1989 - 2000
- Safety, Health & Welfare at Work (Exposure to Asbestos) Regulations 2025
- European Communities (Protection of Workers) (Exposure to Lead) Regulations 1989 - 2006
- Safety, Health & Welfare at Work (Biological Agents) Regulations 2013
- European Communities (Classification, Packaging, and Labelling of Dangerous Preparations) (Amendment) Regulations 2008
- European Communities (Classification, Packaging, and Labelling of Dangerous Substances) Regulations 2003
- Safety, Health and Welfare at Work (Confined Spaces) Regulations 2001
- The Chemicals (Asbestos Articles) Regulations 2011
- BS 6187:2011 Code of Practice for Full and Partial Demolition
- ESB Code of Practice for Avoiding Danger from Overhead and Underground Electricity Lines
- Safety, Health and Welfare at Work (Carcinogens, Mutagens and Reprotoxic Substances) Regulations (2024 and 2026)
- HSA Code of Practice for Safety in Roof Work 2016
- HSA Code of Practice for Avoiding Danger from Underground Services 2017
- HSA Code of Practice for the Design and Installation of Anchors 2017
- HSA Code of Practice for Working in Confined Spaces 2017
- HSA Code of Practice for Access and Working Scaffolds 2018
- ESB Code of Practice for Avoiding Danger from Overhead and Underground Electricity Lines 2019
- HSA Biological Agents Code of Practice 2020
- HSA Code of Practice for Employers and Employees on the Prevention and Resolution of Bullying at Work 2021

- HSA Chemical Agents Code of Practice 2024
- National Guidelines for the Prevention of Nosocomial Aspergillosis 2018

1.10 Project Health & Safety Requirements

The Designer(s), Client and the Project Supervisor for the Design Process have identified the restrictions listed below which must be considered by the PSCS. These are not exhaustive; the PSCS must use due diligence to identify, assess and control all other risks for the duration of the project.

The PSCS must ensure that sufficient planning, resources, and controls are in place for the safe setup of the site. This includes secure hoarding, access control, signage, and protection of the public at all times. The PSCS is responsible for establishing logistics, traffic management, fire and emergency arrangements, and ensuring that noise, dust and other impacts are minimised. No works shall begin until these measures are fully in place and agreed with the Client and relevant stakeholders.

The PSCS must ensure:

- A project-specific Construction Stage Health & Safety Plan is developed, approved, and maintained throughout the works.
- As the works are taking place within a live and operational hospital environment, all activities will be carefully planned and managed to ensure minimal disruption to patients, staff, and visitors. Construction operations will be phased and coordinated to maintain safe access to clinical areas at all times, with particular attention given to maintaining clear emergency routes, entrances, and circulation paths. All Ambulance access routes are to be maintained for the duration of the works.
- All Risk Assessments and Method Statements (RAMS) are reviewed and approved before any activities commence.
- All operatives hold valid Safe Pass and CSCS certification for their designated roles.
- Site inductions, daily briefings, and toolbox talks are carried out and recorded.
- A full suite of Permits to Work will be provided by the National Orthopaedic Hospital and will require completion and approval before all works start.
- First aid, fire safety, and welfare facilities are established in accordance with HSA regulations.
- Contractor to follow hospital fire alarm instructions IM-H&S-30 in the event of fire.
- Infection Prevention Control risks (IPC) Revert to aspergillus guidelines for dust mitigation measures to be adopted to contain construction dust as Type B and D have been identified. (Appendix F)
- Floor to ceiling debris screen to be erected when forming new temporary opening into building.
- Secure fencing/hoarding to be erected to prevent patients/staff coming in contact with the construction works.
- Maintain existing services throughout the project.
- Patient / Staff Safety – falling debris, pedestrian and vehicle interface, accessibility risks (lighting, wheelchair access, trip hazards etc.)
- Structural – uncontrolled collapse / damage to existing building during construction of temporary entrance, TW design.

- Ensure segregation between pedestrians and construction vehicle/plant movement, TMP to be issued.
- Noise and vibration – vulnerable patients (i.e. neurodivergent Pts.) contractor will need to engage with facilities dept. re: noisy works that may affect hospital operations.
- Noisy, dusty, or disruptive works will be scheduled and controlled where possible to avoid peak hospital activity periods, and appropriate mitigation measures such as dust suppression, acoustic barriers, and restricted working hours will be implemented as required.
- Fire safety risks – works affecting fire alarm systems, PTW system in place for contractors disabling / covering smoke detector heads. Fire routes to be maintained.
- Service disruptions – electrical outages, ICT interruptions, contractor to ensure services are maintained.
- Working around other contractors and 3rd parties – there are a number of other projects underway in the hospital and there may be an interface among contractors, it is essential that there is a good communication strategy in place between contractors.
- The contractor is required to prepare and submit method statements and risk assessments (RAMS) a minimum of 5 days prior to the commencement of the works for review, specifically for any activities that could potentially affect or interface with hospital operations.
- Emergency escape routes, fire points, and assembly points are clearly identified and maintained.
- NOHC Fire Instruction Plan to be communicated to all operatives and followed in the event of an emergency. (Appendix H)
- Scaffolding, lifting equipment, and plant are inspected and certified using GA1, GA2, and GA3 forms.
- Temporary works are designed, installed, and inspected by competent persons.
- Noise, dust, vibration, and environmental controls are implemented to protect workers and the public.
- Traffic and pedestrian management plans are in place to prevent interface risks.
- Hot works, live electrical, confined space, and high-risk operations are controlled through the permit-to-work system.
- LOTO (Lock-Out/Tag-Out) procedures are applied for all live electrical isolations.
- Fire alarm, suppression, and life safety systems remain active or are isolated in agreement with the Client.
- Clean working practices and contamination controls are maintained where required (e.g. Hospital).
- Daily inspections, audits, and coordination meetings are carried out and recorded.
- Accidents, incidents, and near misses are reported, investigated, and closed out.
- Environmental controls are maintained, including waste segregation and pollution prevention.
- The Safety File and BCAR documentation are updated throughout the project and provided at handover.
- Security clearances and client-specific inductions are completed where required.

- All works remain within the defined site or work zone boundary, and adjoining areas are protected at all times.
- Maintain close liaison with hospital management throughout the duration of the works to ensure any operational constraints or sensitive periods are fully accommodated. Clear signage, and segregation measures will be used to safely separate construction zones from public and clinical areas, ensuring both safety and continuity of hospital operations.
- PSCS Compound will be located in the raised car park on the RHS of the Canopy Entrance Works. Toilet Facilities within the Hospital will be made available to the workers.

1.10.1 High Risk Construction Activities

The PSCS must identify, assess, and control all high-risk construction activities likely to take place during the course of the construction process.

This project is likely to involve the following high-risk activities:

- Working at Heights
- Demolition
- Hazardous Materials
- Working within the confines of a live hospital campus
- Interfacing of patients and members of the public with construction activities and vehicles
- Interfacing with 3rd party contractors on site
- Working in close proximity to live existing services (Appendix G)

1.10.2 Design Risks Identified

Conclusions have been reached through the compilation of Design Team Risk Assessments and the Risk Register compiled by the PSDP. The risks identified represent residual design risks that could not be fully eliminated during the design stage and therefore must be managed and controlled by the PSCS and contractors during construction.

The risks listed below are non-exhaustive and represent key residual risks which have been controlled, so far as is reasonably practicable, prior to commencement of the works.

This register acts as a central repository for both design-originated risks and site-specific hazards that may arise during construction.

- Underground and overhead utilities
- Traffic management challenges
- Environmental constraints
- Working at height considerations
- Structural stability and temporary works
- Works within or adjacent to occupied areas
- Confined or restricted spaces
- Manual handling and ergonomics
- Electrical and mechanical hazards
- Inhalation of Silica Dust

- Aspergillus – the risk of Aspergillus particles becoming airborne during construction/demolition works (Type B and D)

The PSCS must:

- Review all DRAs provided by the PSDP and design team.
- Incorporate all residual design risks into the Construction Stage Health & Safety Plan.
- Communicate design risks to all relevant contractors through inductions, toolbox talks, and coordination meetings.
- Ensure that method statements, sequencing, and temporary works designs reflect appropriate control measures.
- Update the Design Risk Register throughout the project to capture any new or emerging design-related risks.
- Confirm that all residual design risks have been mitigated, verified, and recorded prior to handover for inclusion in the Safety File.

1.10.3 Restrictions on Working Hours

The Project Supervisor for the construction stage is to liaise with the design team regarding restrictions on working hours. PSCS to ensure that down time and noisy works can be co-ordinated suitably without impacting the construction work.

Normal working hours are most commonly defined as:

- **Monday - Friday** 07:00am – 06:00pm (TBC by NOH).
- **Saturday** 08:00am – 02:00pm
- **Sunday works and Bank Holidays** will not be permitted unless pre-authorisation has been granted.
- **Working hours on site must be confirmed with the NOHC before commencement.**

1.10.4 Project Access & Security Requirements

Due to nature of the works all access/egress/security must be maintained at the highest level. This will involve a detailed traffic management plan, with logistic plan for the delivery of materials to and from the site.

The PSCS must:

- Maintain secure and safe access and egress for all personnel, visitors, and deliveries throughout the works.
- Patient / Staff Safety – the PSCS must ensure that the risks from all potential falling debris from construction works is mitigated.
- Ensure adequate provision of Pedestrian and vehicle segregation
- All accessibility risks (including poor lighting, obstructed wheelchair access, trip hazards etc.) must be reviewed and mitigated with the provision safe and clear access routes.
- Develop and implement Traffic and Logistics Management Plans covering delivery routes, waste removal, and internal site circulation, and communicate these to all contractors.
- Ensure all deliveries are controlled through a booking system

- Provide the Client with an agreed delivery schedule, coordinating deliveries and collections to avoid disruption to surrounding stakeholders and the public.
- Keep paths, approaches, and adjacent public routes clear of debris, materials, and plant at all times, ensuring dust, noise, and vibration are minimised.
- Place warning signage and traffic control measures at all site entrances and approaches to highlight potential hazards.
- Pre-arrange visitor access, ensuring visitors are inducted or briefed on hazards and that a strict sign-in/out procedure is enforced.
- Confirm and manage car parking arrangements for site staff, subcontractors, and visitors.
- Ensure adjacent access routes and public areas are never used for material storage or waste accumulation.
- Coordinate with stakeholders and building management to minimise disruption, scheduling noisy or disruptive works at agreed times.
- Ensure site security is maintained at all times; doors, hoarding gates, and emergency exits must not be propped open or left unattended.
- Provide appropriate security fencing or hoarding around the full site perimeter, with lockable gates and controlled access points.
- Install lighting and CCTV where necessary to maintain safety and deter unauthorised access.
- Provide amenities within site boundaries and enforce professional conduct at all times (foul or abusive language will not be tolerated).
- Secure the site fully at the end of each shift, ensuring plant, tools, and materials are safely stored and the site is left in a safe condition.

-

AF1 Notification below:



An tÚdarás Sláinte agus Sábháilteachta
Health and Safety Authority

Safety, Health and Welfare at Work (Construction) Regulations 2013

Approved Form (AF 1)

Regulation 10

Particulars to be notified by the Client to the Health and Safety
Authority before the design process begins

NOTE:

This form is to be used to notify of any project covered by the Safety, Health and Welfare (Construction) Regulations 2013, which will last longer than 30 days or 500 person days. It can also be used to provide changes in appointments since initial notification of projects.

Any day on which construction work is carried out (including holidays and weekends) should be counted, even if the work on that day is of short duration. A person day is one individual, including supervisors and specialists, carrying out construction work of one normal working shift.

1 Client: Provide name, full address, telephone number and e-mail address for the Client. If more than one Client, please attach details of all Clients on a separate sheet.

Name: Ian Cudden
Address: National Orthopedic Hospital - Cappagh
Cappagh Road
Cappoge
Finglas
DUBLIN 11
Telephone: 0861717770 E-Mail: Ian.cudden@nohc.ie.

2 Project Supervisor Design Process and Health & Safety Coordinator: Provide name, full address, telephone number and e-mail address for the PSDP and Health & Safety Coordinator for the Design Process.

PSDP Name: Ashview Consultants H&S C. Name:
Address: Buckley Co-Working Address:
27-30 Buckingham Street Lower
Mountjoy
Dublin City
DUBLIN D1
Telephone: 015314448 Telephone:
E-Mail: neil@ashviewconsultants.com E-Mail:

3 Project Supervisor Construction Stage and Health & Safety Coordinator, if know : Provide name, full address, telephone number and e-mail address for the PSCS and Health & Safety Coordinator for the Construction Stage.

PSCS Name: H&S C. Name:
Address: Address:

Telephone: Telephone:
E-Mail: E-Mail:

4 Information on Construction Work: Please provide your details of the following.

Description of Project: The demolition of the existing poly-carbon conservatory serving the main hospital entrance and the construction of a new Conservatory Entrance and associated works.

Exact Address: National Orthopedic Hospital - Cappagh
of Construction Site: Cappagh Rd
Finglas
DUBLIN 11

Signed: Neil McKenna by or on behalf of the Client

Position: Associate Director - Ashview Consultants Date: 02-06-2026

1.10.5 Noise & Vibration

The PSCS shall ensure that noise and vibration levels are kept to a minimum so far as is reasonably practicable. All site noise emissions must comply with the Safety, Health & Welfare at Work (General Application) Regulations 2007 and BS 5228: Noise and Vibration Control on Construction Sites.

A suitable management plan shall be developed to address potential downtime periods and to set clear time restrictions for demolition or other activities that could generate noise above reasonable levels. Works that produce excessive noise (above 85 dB(A)) must only take place at pre-agreed times, and equipment selection must consider sound-dampening performance and emission levels. Such arrangements are to be coordinated with the project team and the local council where required.

As the surrounding areas will remain in use throughout the project, careful and ongoing management of noise and vibration will be essential. Noise arising from the development should not be so loud, continuous, repetitive, or of such character, duration or timing as to cause reasonable annoyance or disturbance to people in nearby premises or public areas.

Vibration generated by construction activities shall be controlled to prevent nuisance to nearby occupants and to avoid potential damage to structures. Vibration levels must be monitored and managed in accordance with BS 5228-2 and BS 7385-2, which are the recognised standards adopted in Ireland for assessing construction-related vibration and building protection. High-vibration works (such as piling, rock breaking or heavy compaction) shall be planned and scheduled to minimise disruption, with appropriate mitigation measures implemented, including the use of low-vibration equipment or alternative working methods where practicable

1.10.6 Dust & Air Quality

The PSCS shall ensure that dust emissions are kept to a minimum, so far as is reasonably practicable. Dust emissions on site must comply with the Safety, Health & Welfare at Work (General Application) Regulations 2007, as well as the Chemical Agents Regulations 2021 and the Chemical Agents Code of Practice 2024.

Suitable dust control measures, such as dampening down suppression methods, local extraction or other appropriate techniques must be implemented during any works that may generate dust.

The PSCS must ensure that chemical risk assessments are prepared, as required, for all activities that may generate hazardous dusts, and that suitable control measures are identified, implemented, and maintained.

Infection Prevention Control risks (IPC) must be reviewed, and all contractors must revert to the Aspergillus guidelines for dust mitigation measures to be implemented to contain construction dust. A Permit will be required from IPC for each phase of the works.

Floor to ceiling debris screen enclosure (Metal/Timber MDF Hoarding) to be erected when forming new temporary opening into building if the contractor decides to install an access door in the debris screen enclosure. Sticky mat also to be placed at the access door and maintained at all times by the PSCS.

1.10.7 Other Contracts Likely to Affect the Project

During the construction activities, the Project Supervisor for the Construction Stage should be aware that other activities may be undertaken by a third party in area, these must be allowed for and coordinated so they do not become a burden to the works and the project. (is a busy area, and it is possible that other contractors will be in the nearby vicinity during the works. This will also include any construction tools that will generate dust during construction works. Such construction tools must be equipped with dust suppression systems. i.e. cutting tools should have water suppression system. hand drills should be equipped with vacuum hoovers. Other works also include excavation works, where excavated material will be generated as part of the works. This material must be wetted down during the demolition/excavation works, when transported excavated material away from site, all excavated material to be wetted down or covered. Note: The Transport route should also be wetted down daily. See table below (extract taken from National Guidelines for the Prevention of Nosocomial aspergillosis 2018 HPSC is the guideline document) for further guidance on types of construction project activity.

Table 3. Details of the type of construction project activity

Type	Description of the activity
TYPE A1	Minor internal containable activities with no/minimal dust generation This includes, but is not limited to, inspection and non-invasive activities and small-scale activities that create minimal dust. These include, but are not limited to, activities that require removal of ceiling tiles for preliminary visual inspection (limited to 1 tile per 5m ²), painting (no sanding), wall covering, electrical trim work, minor plumbing and other maintenance activities that do not generate dust or require cutting of walls or access to ceilings other than for visual inspection.
TYPE A2	Minor internal small-scale works with some dust generation that can be contained This includes, but is not limited to, minor works on a small scale where dust containment is achieved by using dust barriers and a HEPA-filtered vacuum. Activities that require access to conduit spaces, cutting of walls, woodwork or ceilings where dust migration can be controlled, for example installation or repair of minor electrical work, ventilation components, telephone wires or computer cables. It also includes minor plumbing as well as minor drilling to allow for the erection of brackets and shelving.
TYPE B	Major internal containable activities Any work that generates a moderate level of dust or requires demolition or removal of any fixed building components or assemblies (e.g. counter tops, cupboards, sinks). These include, but are not limited to, activities that require sanding of walls for painting or wall covering, removal of floor-covering, ceiling tiles and stud work, new wall construction, minor duct work or electrical work above ceilings, major cabling activities, and any activity that cannot be completed within a single work shift. This type of activity includes extensive plumbing work. It also includes demolition or removal of a complete cabling system or plumbing and new construction that requires consecutive work shifts to complete.
TYPE C	Minor external non-containable activities External construction activities that generate moderate levels of dust or minor excavations. Such activities include, but are not limited to, digging trial pits and minor foundations, trenching, landscaping, minor construction and demolition work.
TYPE D	Major external non-containable activities External construction activities that generate large levels of dust. Such activities would include, but are not limited to, major soil excavation, demolition of buildings and any other construction activity not covered under Type C.

There are a number of other projects underway in the hospital and there maybe be an interface among contractors, it is essential that there is a good communication strategy in place between contractors.

1.11 Selection of the Project Supervisor for the Construction Stage

The Project Supervisor for the Construction Stage will receive a copy of this Preliminary Health & Safety Plan as part of the tender document. The Preliminary Health & Safety Plan details the particular risks involved in the project. It shall be the responsibility of the Project Supervisor for the Construction Stage to develop the Preliminary Health & Safety Plan into the Construction Stage Health & Safety Plan prior to commencing work on the project.

PQQ competency checks must have been completed and reviewed as part of the tender process.

The Project Supervisor for the Construction Stage must forward a copy of the Construction Stage Health & Safety Plan to the Client/ Project Supervisor for the Design Process, for approval, prior to any work commencing on site.

1.12 Monitoring of Health & Safety on Site

The Project Supervisor for the Construction Stage must submit, as part of the Safety & Health Plan, their proposals for the ongoing monitoring of health and safety management during the project.

The Project Supervisor for the Construction Stage must co-operate with the Project Supervisor for the Design Process during the course of the works.

1.13 Safety File

The Project Supervisor for the Design Process is responsible for ensuring that all relevant information relating to the future construction works or future maintenance works within the building is included in the Safety File. This Safety File will be prepared by the PSCS and checked by the PSDP on behalf of the Client, following the agreed content and structure format, agreed with the Client/Design team and PSCS. The PSCS is to commence collating information (O&M's, DOP's/DOC's, etc) for the Safety File as soon as works commence. Access to the PSCS Safety File Platform will need to be provided to the DT, PSDP and Client. (E.G. Zutec Uploader, Procore etc). It is recommended that periodic safety file progress meetings are undertaken throughout the project, and that the PSCS will be required to attend in order to provide an update on progress.

For this purpose, all sub-contractors/ suppliers must make available As - Built Drawings/O&M manuals or product information. This will be independent to the normal O&M manuals made available to the Client.

Copies of all certifications issued prior to the Clients acceptance will also be required. These will include, but not limited to: Fire Certificates, Commissioning Certificates, Electrical or Gas Installation Certificates.

All information required for the Safety File must be forwarded to the Project Supervisor for the Design Process no later than 2 weeks after practical completion of the project.

1.14 Notification to the Health & Safety Authority

In accordance with Regulation 10 of the Construction Regulations 2013, where construction work is planned to last longer than 30 working days or if the volume of work is scheduled to exceed 500-person days, and upon appointment, it is the responsibility of the Client to promptly give notice, in writing, to the Health & Safety Authority in the approved AF1 Form

detailing the appointment of the appointed Project Supervisors. This form has been sent by Ashview Consultants.

The AF2 & notification of the removal of an asbestos containing product (if required) is to be notified by the PSCS.

The area office covering this project is: Health & Safety Authority, Metropolitan Building, James Joyce St., Dublin 1, D01 K0Y8. Telephone: 0818 289 389

1.15 Consultation Amongst Contractors

Under Section 13, of the Safety, Health & Welfare at Work Act 2005, each employer is obliged to make arrangements for effective consultation with his/her employees on matters of safety & health. In addition, employees have the right to select and appoint a safety representative to represent them in consultation on safety & health matters with the contractor.

However, consultation does not just cover the employer/employee relationship. Consultation should be on going between Contractors, Designers, Project Supervisors, Clients and others, as relevant, on site. Decisions should not be unilaterally imposed on other parties, but due consideration should be given to inputs of those who are affected by decisions made in the context of safety, health and welfare.

In addition, the obligation on contractors to consult with their employees, they must also take account of the need for co-ordination of consultation arrangements between the various other contractors on site. The Project Supervisor for the Construction Stage will need to specify in the Safety & Health Plan the arrangements for consultation between different contractors. Contractors are obliged to co-operate with the Project Supervisor in ensuring that there is effective consultation between the various contractors and groups of employees on the site.

The Project Supervisor for the Construction Stage should ascertain the effectiveness of the arrangements made. This can be done simply by requesting feedback from the contractors and their respective employee representatives. If the project is on a large scale with numerous contractors on site, then the Project Supervisor for the Construction Stage should arrange in consultation with the various contractor employee representatives and the site safety representative, implementing structures such as joint safety committee meetings or a rotation of safety representatives attending the site safety meetings. No matter what structure is implemented it is important that consultation arrangements should include balanced participation on the part of both employers and employees.

1.16 Review of Risk Assessments & Written Systems of Work

The Project Supervisor for the Construction Stage must issue RAMS involving a particular risk or interface with the public to Ashview for review at least 2 weeks prior to the activity commencing on site.

RAMS must illustrate the method and sequence of works to be employed and must address all risks associated with the activity.

A RAMS will not be reviewed until a complete submission is received, this may include but is not limited to temporary work designs, logistics plans, material safety data sheets, or any other relevant documentation to the works.

2. Particular Risks

This section details the particular risks the Project Supervisor for the Construction Stage will be required to manage.

The following is the non-exhaustive list of particular risks, as set out in Schedule 1 of the Safety, Health & Welfare at Work (Construction) Regulations 2013:

Description	Yes	No
Work which puts persons at work at risk of burial under earth falls, engulfment in swampland or falling from a height, where the risk is particularly aggravated by the nature of the work or processes used or by the environment at the place of work on site	√	
Work which puts persons at work at risk from chemical or biological substances constituting a particular danger to the safety & health of such persons or involving a legal requirement for health monitoring	√	
Work with ionising radiation requiring the designation of controlled or supervised areas as defined in Directive 96/29/Euratom		√
Work near high voltage power lines		√
Work exposing persons at work to the risk of drowning		√
Work on wells, underground earthworks and tunnels		√
Work carried out by divers at work having a system of air supply		√
Work carried out in a caisson with a compressed air atmosphere		√
Work involving the use of explosives		√
Work involving the assembly or dismantling of heavy prefabricated components	√	

Carried out by: Ashview Consultants Ltd.

Date: May 2026

2.1 “Work which puts persons at work at risk of burial under earth falls, engulfment in swampland or falling from a height, where the risk is particularly aggravated by the nature of the work or processes used or by the environment at the place of work or construction site”

Typically work involving;

- Work at height to allow the removal/installation of existing/new Canopy entrance to the building.
- Installation of high-level services
- Assembly of scaffolding
- Use of lifting equipment (MEWPs, hoists, forklifts)

2.2 “Work which puts persons at work at risk from chemical or biological substances constituting a particular danger to the safety & health of such persons or involving a legal requirement for health monitoring”

Typically work involving;

- Use of adhesives or coatings containing diisocyanates
- Handling of man-made vitreous fibres (insulation, rock wool, fire board)
- Application of joint sealants and fire-stopping products
- Handling of thermoplastics, foams, and epoxies
- Biological hazards uncovered in groundworks or drainage alterations
- Exposure to dusts during cutting, drilling, or demolition
- Use of petroleum products (diesel, petrol, lubricants, greases)

Work involving such substances such as Chemical Agents will require a Chemical Risk Assessment & the relevant training. In line with the Safety, Health and Welfare at Work (Chemical Agents) Regulations 2001 to 2021.

Infection Prevention Control risks (IPC) must be implemented at all times during the project works. Revert to aspergillus guidelines for dust mitigation measures to be adopted to contain construction dust. Floor to ceiling debris screen to be erected when forming new temporary opening into building. Secure fencing/hoarding to be erected to prevent patients/staff coming in contact with the construction works. All existing services through-out the project must be safely maintained throughout the project with no allowances for downtime.

2.3 Work with ionising radiation requiring the designation of controlled or supervised areas as defined in Directive 96/29/Euratom

Typically work involving;

- Work near medical x-ray or radiotherapy equipment
- Work involving radioactive lightning conductors
- Removal of ionisation chamber smoke detectors
- Work near disused radioactive materials or plant

No work of this nature envisaged.

2.4 “Work near high voltage power lines”

Typically work involving;

- Crane or lifting operations near overhead lines
- Commissioning of temporary electrical or mechanical services
- Scaffolding, Crane or MEWP use near live services
- Excavation near underground services

Existing services including Power cabling, Comms cabling among other services are shown on drawings in the attached Appendices (G).

2.5 “Work exposing persons at work to the risk of drowning”

Typically work involving;

- Work adjacent to Rivers, Lakes, Oceans, Canals, Ponds, Swimming Pools
- Work near culverts, ditches, or streams at site boundaries

- Site activities in flood-prone areas
- Installation of temporary works near or in watercourses i.e Coffe Dams

No work of this nature envisaged.

2.6 “Work on wells, underground earthworks and tunnels”

Typically work involving;

- Tunnelling or shaft sinking operations
- Construction of underground chambers
- Installation of drainage systems in deep trenches

No work of this nature envisaged.

2.7 “Work carried out by divers at work having a system of air supply”

Typically work involving;

- Underwater inspections or repairs
- Submersible pump maintenance in confined tanks or basins

No work of this nature envisaged.

2.8 “Work carried out in a caisson with a compressed air atmosphere”

Typically work involving;

- Installation of foundations in compressed air environment
- Maintenance of pressurised caissons

No work of this nature envisaged.

2.9 “Work involving the use of explosives”

Typically work involving;

- Controlled demolition activities
- Rock breaking in excavation

No work of this nature envisaged.

2.10 “Work involving the assembly or dismantling of heavy prefabricated components”

Typically work involving;

- Installation of prefabricated elements of modular construction such as stairs, walls, floors, roof section and bathroom pods
- Delivery and installation of precast concrete elements
- Delivery and installation of structural steel such as balconies and frames
- Delivery and placement of large glazing units
- Installation of heavy roof mounted plant and equipment

The removal of an existing canopy structure and replacement building of a conservatory entrance will involve the movement of heavy prefabricated elements.

2.11 “Demolition involving flame cutting of painted steel where the paint is likely to contain lead and where an assessment reveals any condition referred to in Regulation 4 (7) of the EC (Protection of Workers) (Exposure to Lead) Regulations 1988”

Typically work involving;

- Cutting and removal of structural steel members
- Dismantling of painted steel beams or frames

No works of this nature is envisaged.

2.12 “Work involving asbestos”

Typically work involving;

- Demolition of older structures containing asbestos
- Removal of asbestos-containing insulation or cladding
- Cutting or drilling of ACM boards during refurbishment
- Encapsulation or sealing of ACMs

All works on or affecting asbestos containing materials must be undertaken in accordance with Safety, Health and Welfare at Work (Exposure to Asbestos) Regulations 2025 and the Safety, Health and Welfare at Work (Construction) Regulations 2013.

The regulations aim to protect the health of employees by reducing the level of exposure to asbestos fibres in the workplace and include the requirements for a plan to be prepared in advance of any demolition work involving asbestos. They apply to all work activities and workplaces where there is a risk of people inhaling asbestos dust. The construction regulations are particularly relevant with regards to the renovation, repair and demolition of older buildings where asbestos may have been used.

Note: A recent Refurbishment & Demolition Asbestos Survey was carried out by About Safety Ltd. on 26/05/2026 on the Canopy Entrance Works Project including the reception area and NO Asbestos Containing Materials (ACM) were found. See recent Refurbishment & Demolition Asbestos Report in Appendix I.

About Safety Ltd. have noted that the fixed subflooring and ceramic tiles were not disturbed due to occupancy. Therefore, it is not known if there is previous presence of vinyl floor tiles and bitumen adhesive.

2.13 “The specification or use of substances or preparations that must be labelled with the risk phrase” H350 ‘May cause cancer’

- Application of hazardous coatings or adhesives
- Handling of chemical agents requiring risk assessment
- Removal of insulation and fire-stopping products

No works of this nature is envisaged.

Work involving such substances such as Chemical Agents will require a Chemical Risk Assessment & the relevant training. In line with the Safety, Health and Welfare at Work (Chemical Agents) Regulations 2001 to 2021

2.14 “The presence of Ethylene Oxide or Glutaraldehyde (Sterilising Agents) work in close proximity to exhaust outlets from equipment where the substances are used”

- Maintenance near hospital or laboratory discharge points
- Work in proximity to exhaust outlets from sterilisation equipment

No work of this nature envisaged.

2.15 Safe Systems of Work and Risk Control

The PSCS is responsible for developing this Preliminary Health & Safety Plan into a full Construction Stage Health & Safety Plan. This must be achieved through comprehensive risk assessments and task-specific method statements before works commence.

The PSCS must ensure that:

- Suitable control measures are in place prior to starting site activities.
- Safe systems of work are documented, implemented, and monitored.
- New risks identified during construction are addressed without rushed or unsafe solutions.

A written safe system of work (method statement or equivalent) must be submitted for all significant tasks, including but not limited to:

- Logistics and traffic management, including delivery set-down, waste removal, and public protection (signage, hoarding, barriers).
- Site access and egress arrangements for workers each day.
- Works adjacent to neighbouring properties.
- Work at height, manual handling, dust, noise, and public interface.

For work at height in particular, method statements must clearly detail:

- Fall protection systems (guardrails, safety nets, harnesses).
- Safe scaffolding, ladders, and access equipment (inspected and certified).
- Competent, trained, and certified personnel for work at height and access equipment.
- Guardrails, barriers, and safe access points to elevated areas.
- Regular inspection and maintenance of scaffolding, lifting and fall-arrest systems.
- Emergency response planning for falls and height-related incidents.
- Provision and enforcement of PPE (helmets, harnesses, non-slip footwear).
- Supervision and monitoring by competent site supervisors.
- Safe handling and use of access, lifting, and installation equipment.

This list is not exhaustive. The PSCS must ensure that all foreseeable risks are identified, assessed, and controlled through the Construction Stage Health & Safety Plan, risk assessments, and method statements.

3. Other Recommendations/Information

3.1 Surrounding Land Uses/Existing Structures

The National Orthopaedic Hospital Cappagh is located within a quiet suburban setting in Finglas West, Dublin 11. The hospital occupies extensive landscaped grounds characterised by mature trees, open lawns, internal roads, and low-rise healthcare buildings, creating a calm environment distinct from the surrounding urban area.

The immediate surroundings consist predominantly of established residential neighbourhoods, including Cappagh, Wellmount Estate, Barry Avenue, Dunsoghly, Avila Park, and other housing developments typical of the Finglas area.

Several educational facilities are located nearby, including New Cross College, Coláiste Eoin, St. Fergal's Boys National School, and St. Michael's Holy Faith Secondary School, contributing to the area's community-focused character.

Local amenities are centred around small neighbourhood shopping areas and convenience services such as pharmacies, grocery stores, cafés, and takeaways, while larger retail destinations, including Charlestown Shopping Centre and major supermarkets, are situated a short distance away.

Cappagh Road and the nearby M50 motorway provide convenient connections to the wider Dublin region while maintaining the predominantly residential nature of the locality. The buildings around the hospital are mostly low-rise healthcare blocks mixed with older estate-style structures.

3.2 Existing Services

Prior to commencing works on site, the Project Supervisor for the Construction Stage must satisfy themselves that all services on site have been identified, disconnected and diverted as required by the works. Services which may need to be maintained and monitored throughout the duration of the works to include:

- Electricity
- Wastewater
- Water
- Telecom and data
- Gas

The PSCS must identify which services are in place and a survey of existing services will be required to enable separation and isolation. The PSCS must ensure to isolate the services affected by the new works prior to commencement of work and ensure this is controlled by a permit system, this must be controlled for the duration of the project to include commissioning.

See attached Appendices for Existing Services drawings.

3.3 Existing Traffic Systems & Restrictions

The Project Supervisor for the Construction Stage must ensure that a suitable traffic management plan and pedestrian management plan are put in place and provided for the works. The traffic management plan must take account nearby buildings-residential and commercial in the area, noting the presence of public buildings and the nature of the site's location as being in a densely trafficked area.

The traffic management plan must consider as a minimum:

- Parking
- Deliveries
 - Access availability
 - Deliveries times
 - Parking on public roads
 - Parking in private grounds
 - Road closures
- Storage of materials
- Location of the site compound
- Safe access & egress for vehicular traffic
- Other road users & adjoining residents
- Removal companies collecting waste & debris from the site, including demolition waste
- Signage
- Pedestrian traffic
- The construction site will be accessed utilising the main hospital entrance and a temporary entrance to the right of the main entrance for patients, visitors and staff will be established whilst works are being carried out

3.4 Existing Drawings

Before work commences on site, the Project Supervisor for the Construction Stage/Main Contractor must check the position of all services which may affect the safety, health & welfare during the construction phase.

3.5 Proposed Drawings

Drawings will be provided by Hussey's Architects, Molony & Miller and Mc Cual's Environmental Consulting Engineers.

Before work commences on site, the Project Supervisor for the Construction Stage/Main Contractor must check the position of all services which may affect the safety, health & welfare during the construction phase.

3.6 Existing Safety File

The current safety file for the National Orthopaedic Hospital Cappagh should be sought by The PSCS in advance of works.

There currently no known Safety File information for the building where the works are due to take place.

3.7 Substance Hazardous to Health – During the Construction Stage

The PSCS must analyse the project and ensure that substances hazardous to health are identified and the appropriate control measures identified.

The Project Supervisor for the Construction Stage/ main contractor must ensure that Material Safety Data Sheets are obtained for all substances hazardous to health in use during the project. In addition, the Project Supervisor for the Construction Stage must ensure method statements are prepared for the articles in use.

The Project Supervisor for the Construction Stage should refer to any existing Safety File for the position of any of the existing substance hazardous to health within the existing building.

Infection Prevention Control risks (IPC) Revert to aspergillus guidelines for dust mitigation measures to be adopted to contain construction dust. Floor to ceiling debris screen to be erected when forming new temporary opening into building. Secure fencing/hoarding to be erected to prevent patients/staff coming in contact with the construction works. Maintain existing services through-out the project at all times.

See document Appendices (F) for Aspergillus Guidelines to be strictly implemented at all times during the project works.

3.8 Substances Hazardous to Health – During Use of Building or Future Maintenance/Work

The Project Supervisor for the Construction Stage must ensure that assessments are obtained for all substances hazardous to health which will be installed in the structure of this project and included in the Safety File.

3.9 Liaison with the Client/Project Team

The Client will meet with the Design Team/ Project Supervisor for the Construction Stage/ Main Contractor and other relevant contractors on a basis as agreed between all relevant parties.

Health & Safety shall be an item on the agenda and the implementation of health and safety standards for the project shall be discussed.

3.10 Contractors Reports/Recording

The PSCS must include the following within the contractor's report:

- Total hours worked,
- LTI ratios - (Lost time incidents),
- Date of last Safety Audit-Internally or externally by their competent/designated person
 - Findings and close outs should be acknowledged.
- Date of last Safety Meeting - with site team and sub-contractors.

Notification of all near misses, incidents and accidents must be issued to the Client and PSDP at the earliest opportunity.

As per Construction Regulations, Section 17 (d) organise the implementation of section 21 of the Act, in particular in relation to the provision of information, monitor such implementation and, if information provided is inadequate, take appropriate corrective action as set out in Regulation.

Section 17 (e) coordinate the implementation by contractors of Regulation 24 (d) in relation to any accident or dangerous occurrence and keep available for inspection a record of any information provided to the project supervisor under that Regulation.

3.11 Permanent & Temporary Work Design Certificates

The Project Supervisor for the Design Process has a duty to consider how the activities of each designer impinge on other designers and how risk assessments need modification as a result of this. The Project Supervisor for the Design Process must co-ordinate, so far as is reasonably practicable, activities of the designers in respect of their duties under the Construction Regulations 2013 and together with the Project Supervisor for the Construction

Stage, facilitate co-operation between the permanent works designers and the temporary works designers, as may be necessary.

A system of permanent and temporary works certificates shall be used throughout the project. The Project Supervisor for the Design Process shall ensure co-operation between permanent and temporary works designers, in particular that the designs are compatible and that loading from temporary works will not exceed the loads that can be safely carried by permanent work at a particular stage of their construction. This shall be coordinated and addressed at the design team meetings held on site.

The Project Supervisor for the Design Process will pay particular notice to potentially catastrophic issues such as overall instability of the structure during the various stages of construction and after completion.

In order to fully Co-Ordinate any temporary works submission the Project Supervisor for the Design Process must receive the following items before reviewing any submission 2 weeks in advance:

- A full design submission
- Calculations for the design
- Design Risk Assessment
- Copy of designer's PI insurances
- Designers CV
- 3 Part HSA Temporary Works Design Certificate

A submission will not be reviewed for sign off until all of the above has been submitted.

Note: the PSCS is to maintain a TW design register for the project. Any contractor design elements must be coordinated with the PW designer and PSDP. Where a TWD or PWD Cert is required, No works to be undertaken (Temp or Permanent) until the TWD cert or PWD Cert is signed off and reviewed by relevant parties.

3.12 Use of Anchors

The PSCS must ensure all anchors used on the project are designed, specified, and installed in accordance with the **Code of Practice for the Design and Installation of Anchors (2017)**. Anchors are structural elements and must be treated as safety-critical where applicable.

3.12.1 Roles & Responsibilities

Manufacturer / Supplier

- Provide ETA certification, technical data, and installation instructions.
- Supply only anchors suitable for the intended use.
- Complete FM-02 where technical support is provided.

Anchor Specifier (PWD / TWD Designer)

- Decide if anchors are required and complete a Design Risk Assessment.
- Identify safety-critical applications and apply the correct design method.
- Specify anchors by manufacturer, product, size, and ETA.
- Provide drawings, calculations, and DRAs.

- Coordinate sign-off with PSDP.

Installer

- Install anchors strictly to manufacturer's instructions.
- Use correct tools for drilling, cleaning, and setting.
- Check CE/ETA references prior to installation.
- Complete FM-03 confirming correct installation.

Supervisor (Anchor Installation)

- Directly supervise all anchor installation.
- Verify type, size, embedment, torque, and spacing.
- Inspect anchors before and after loading.
- Certify installation on FM-03.

Contractor

- Ensure installers are trained and competent.
- Procure only specified anchors.
- Nominate a competent supervisor for FM-03 sign-off.

PSCS

- Maintain an Anchor Register and Temporary Works Register.
- Allocate roles (specifier, designer, installer, tester).
- Include anchor details in all TWD submissions.
- Prohibit anchor-dependent works until submissions are approved.
- Retain anchor records for the Safety File.
- Provide the Client with maintenance details for permanent anchors.

PSDP

- Coordinate anchor design across permanent and temporary works.
- Request indicative lists of anchor-reliant temporary works.
- Ensure changes are recorded and re-certified.
- Deliver anchor records within the Safety File to the Client.

3.12.2 Design Methods

- **Global Safety Factor Method** – permitted only for non-safety critical applications where no ETA anchor exists.
- **Partial Safety Factor Method (Concrete Capacity Method)** – mandatory for all safety critical anchors and ETA-approved products.

The anchor specifier must select the correct method. The PSCS must ensure only approved methods are applied on site.

3.12.3 Forms and Records

- **FM-01 – Specifier's Anchor Schedule:** lists anchor type, size, location, loads, safety-critical status, and ETA reference.
- **FM-02 – Supplier's Technical Data & Instructions:** technical data sheets, ETA, installation instructions.

- **FM-03 – Installer's Confirmation of Correct Installation:** records installation details, torque, substrate, and test results.

Testing and inspection records must be appended to the Anchor Register. No anchor-dependent temporary works may be loaded until FM-01, FM-02, and FM-03 are complete, reviewed, and approved.

3.12.4 Anchor Types, Base Materials & Design Classes

Anchor Type	Sub-types / Examples	Base Material	Design Class / Method	Notes & Requirements	Required Form
Torque-controlled expansion	Sleeve, bolt, shield	Cracked / non-cracked concrete	Safety critical → Partial Safety Factor Method	Must have ETA; follow manufacturer's instructions strictly	FM-01 FM-02 FM-03
Undercut anchors	Pre-drilled or self-undercut	Concrete	Safety critical → Partial Safety Factor Method	High load capacity; requires specialist drilling tools	FM-01 FM-02 FM-03
Deformation-controlled expansion	Drop-in, shank-down, sleeve-down	Concrete	Global Safety Factor Method (non-critical)	Lower capacity; not suitable for critical applications	FM-01 FM-02 FM-03
Bonded anchors	Resin capsule, injection resin, grout	Concrete (cracked/ non-cracked)	Safety critical → Partial Safety Factor Method	Correct hole cleaning essential; installer competence critical	FM-01 FM-02 FM-03
Masonry anchors	Various	Masonry	Limited use – no ETA for safety-critical in Ireland	Use with caution; generally, not for safety-critical works	FM-01 FM-02 FM-03

A Register of Temporary works and Anchors must be compiled throughout the project life cycle by the PSCS/Project Temporary Works Co-ordinator. All permanent works anchors will remain within the final safety files as per, Code of Practice for the Design and Installation of Anchors (2017).

4. Disclaimer

This Preliminary Health & Safety Plan has been prepared, as required under Regulation 12 of the Safety Health & Welfare at Work (Construction) Regulations 2013, to identify exceptional features of design and construction affecting safety & health from information provided by the designers, client and by reference to the contract documentation. It is not the intention to identify normal construction activated that a competent contractor would anticipate in a project of this nature.

The information contained in this Preliminary Health & Safety Plan has been prepared prior to the commencement of work on site. It does not take account of any matters or information that may come to light after this time.

A limited inspection has been undertaken of the site. The contractor and the Project Supervisor for the Construction Stage are advised that commencement of excavation or other opening up of works may reveal changes requiring assessment of the construction/ design risks.

At all times, the Project Supervisor for the Construction Stage or main contractor should consult with the Project Supervisor for the Design Process where there are any doubts about design issues or where any issues in relation to the understanding of this Preliminary Plan arise.

The absence of mention of items must not be deemed to be an endorsement by us that such are safe. It is recommended that the contractor always undertakes risk assessments pre-construction to enable him to develop safe systems of work and safe building.

APPENDIX A - IDENTIFIED RISKS

The following is a list of risks, other than those set out in Schedule 1 of the Safety Health & Welfare at Work (Construction) Regulations 2013, which may affect the safety & health of persons. The contractor shall, in the developed Construction Stage Health & Safety Plan, outline specific control measures to deal with the following risks.

- Work on or adjacent to public roads, where there is a risk of road traffic accidents (Traffic management plans should take account of Chapter 8 of the Traffic Signs Manual (DOE))
Traffic Management Plan to be established and implemented before the commencement of works.
- Works within 4.5 linear metres of live petrol lines or vent pipes.
Does not apply.
- Overhead works nearby by others
Numerous other projects are running concurrently in the hospital campus. Co-ordination will be required between all relevant parties throughout the construction stage of the works.
- Protected structure.
Does not apply.
 - Gas mains.
Does not apply
 - Works taking place underneath the slewing arc of a crane on a site adjacent to the works,
Numerous other projects are running concurrently in the hospital campus. Co-ordination will be required between all relevant parties throughout the construction stage of the works where this may apply.
 - Works adjacent to railroads,
Does not apply
 - Storage of materials,
The designated storage/lay down area designated in the project Logistical Plan will be the only area permitted for material storage unless pre-authorisation has been granted by the client.
 - Design risks
Please see attached Design Risk Assessments.

**APPENDIX B - NON-EXHAUSTIVE LIST OF MATTERS TO BE CONSIDERED IN
ARTICULAR AS REGARDS THE APPLICATION OF THE GENERAL PRINCIPLES OF
PREVENTION TO CONSTRUCTION WORK UNDER THE CONSTRUCTION
REGULATIONS 2013**

SCHEDULE 2 – CONSTRUCTION REGULATIONS 2013

1. Keeping the site in good order and in a satisfactory state of cleanliness.
2. Choosing the location of excavations keeping in mind how access to them is obtained and determining routes or areas for the passage and movement of equipment.
3. The conditions under which various materials are handled/stored.
4. Technical maintenance, pre-commissioning checks and regular checks on installations and equipment with a view to correcting any faults which might affect the safety, health and welfare of persons at work.
5. The demarcation and laying out of areas for the storage of various materials, in particular where dangerous materials or substances are concerned.
6. The conditions under which dangerous materials used are removed.
7. The storage and disposal or removal of waste and debris.
8. The adaptation, based on progress made on the construction site, of the actual time to be allocated for the various types of work or work stages.
9. Co-operation between employers and self-employed persons.
10. Interaction with industrial activities at the place within which or in the vicinity of which the site is located.

APPENDIX C - CONSTRUCTION SKILLS CERTIFICATION SCHEME & SAFETY AWARENESS TRAINING

All employees engaged in the following activities on site must hold a valid construction skills card, recognized by Solas & the HSA, or equivalent;

- Scaffolding – basic
- Scaffolding – advanced
- Mobile tower scaffold – where the employee has not been trained in basic or advanced scaffold
- Tower crane operation
- Self-erecting tower crane operation – where the employee has not been trained in tower crane operation
- Mobile crane operation
- Crawler crane operation
- Slings / signalling
- Telescopic handler operation
- Tractor / dozer operation
- Articulated dumper operation
- Site dumper operation
- 180° excavator operation
- 360° excavator operation
- Mini digger operation – where the employee has not been trained in 180° excavator operation
- Roof and wall cladding / sheeting
- Built-up roof felting
- Signing, lighting, and guarding on roads
- Assisting in the implementation of health & safety at roadworks
- Locating underground services
- Shot firing

All persons working on site must hold evidence of completing a safety awareness training course, Safe Pass or other recognized course.

APPENDIX D - SUGGESTED CONTENTS OF THE SAFETY FILE

Content list to be developed by all designers and the PSCS during Construction Stage.

The Safety File shall include the following items (list is non exhaustive):

1. Project Details

- Site location Details provided
- Planning Documentation (Permission, Plans (drawings), Application submissions, conditional approval/limitations/prohibitions included.)
- Fire Safety Certificate
- Consultants, Contractor, Supplier contact details
- Scope of Project Works
- Schedule of accommodation

2. Project Team Information

- Architect – Specifications, Construction Drawings, PC Cert, Opinion of compliance (OoC)
- Electrical Consultant – Electrical Specifications, Construction Drawings, OoC
- Mechanical Consultant- Mech Specifications, Construction Drawings, OoC
- Structural – Structural Specifications, Reports, Construction Drawings, OoC
- Civil – Civil Specifications, Reports, Construction Drawings, OoC
- Disabled Access Design - Specification, Drawings, OoC
- Fire Consultant - Specification, Reports, Drawings, OoC
- Interior Architect – (as applicable) Specification, Reports, Drawings, OoC
- Landscape Architect – (as applicable) Specification, Reports, Drawings, OoC
- PSDP – Preliminary H&S Plan, Design Risk assessment, AF1, Safety File Completion check sheet
- PSCS – OoC
- Specialist Works Consultant – (as applicable) Specification, Reports, Drawings, OoC

3. Life Safety Checklist

- | | |
|--|------------------------------------|
| • Emergency Lighting | • Access and Maintenance Strategy |
| • General Electrical | • Fall Arrest System |
| • Fire Safety Cert (as Above) | • Anchor FM |
| • Fire Alarm | • Asbestos |
| • Fire Stopping | • Chlorination and water treatment |
| • AFSSN (inc. sprinkler system strategy etc) | • BMS |
| • Residual Risk Register | • DAC |

4. Internal Installations

- Ceilings – Compliance, data sheets, warranties, maintenance/cleaning
- Partitions - Compliance, data sheets, warranties, maintenance/cleaning
- Fireproofing - Compliance, data sheets, warranties, maintenance/cleaning, testing, marked up drawing, photo survey
- Flooring - Compliance, data sheets, warranties, maintenance/cleaning and slip test (if required)
- Glazing - Compliance, data sheets, warranties, maintenance/cleaning
- Fire Doors / Ironmongery - Compliance, data sheets, warranties, maintenance/cleaning, testing
- Furniture - Compliance, data sheets, warranties, maintenance/cleaning

5. Electrical Installations

- As Built Drawings as standard – CAD and PDF
- General Installations - Compliance, data sheets, warranties, maintenance, testing cert
- Emergency lighting - Compliance, data sheets, warranties, maintenance, four-part test cert
- Fire Alarms - Compliance, data sheets, warranties, maintenance, four-part test cert
- Additional Electrical installations – as necessary (data/IT/telecoms etc.)

6. Mechanical Installations

- As Built Drawings as standard – CAD and PDF
- AC - Compliance, data sheets, warranties, maintenance, test cert
- Ventilation - Compliance, data sheets, warranties, maintenance, test cert
- LPHW - Compliance, data sheets, warranties, maintenance, test certs, chlorination certification
- Fire Extinguishers- Certification, data sheets, marked up location drawing
- Fire Dampers - Compliance, data sheets, warranties, maintenance, test certs

7. Structural

- As Built Drawings as standard – CAD and PDF
- General Installations - Compliance, data sheets, warranties, maintenance, testing cert
- Residual Hazards - Information on any remaining hazards that could affect future use, maintenance, or demolition, such as asbestos or contaminated land.
- Hazardous Materials - Information on hazardous materials used or found during project.
- (Commonly missed items in handover files: examples include too limited: Load bearing calculations, Cube testing)

- Anchor FM and Access and Maintenance strategies as identified in life safety must be referenced where necessary
- Buried structures

8. Other considerations:

- Planned Preventative Maintenance Strategy
- Reports of any issues encountered during delivery of asset, such as with installs that required redesign or configuration or structural (load bearing issues etc).
- Traffic management plans for serviced/aged care facilities or similar that will experience a lot of traffic to the building besides residential.
- Fire consultant must identify assembly points for site when operational.
- CCTV survey for sewage/drainage

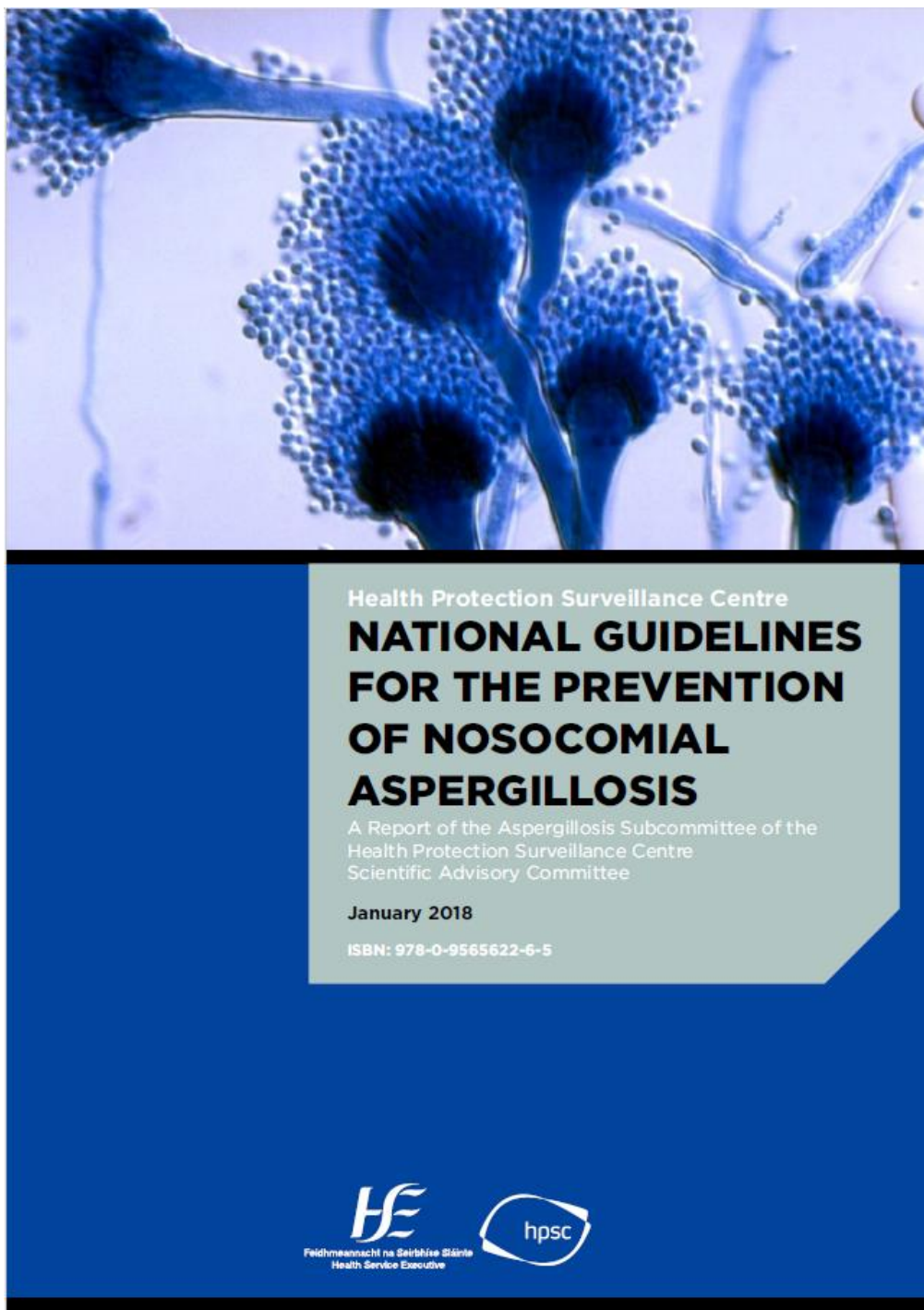
Note - Safety file should include:

- *All As-builts supported by DWGs/CADs*
- *All testing & commissioning reports for installed services*
- *All ancillary certs or OOC must be considered for all works as appropriate.*

APPENDIX E - AF1

See Section 1.10.4

APPENDIX F – ASPERGILLUS GUIDELINES 2018




NATIONAL GUIDELINES FOR THE PREVENTION OF NOSOCOMIAL ASPERGILLOSIS


identified, it may be deemed necessary to convene an emergency meeting of the MDT to consider the required action. This may include cessation of the building works until necessary corrective actions have been implemented. The process and procedures for all such cessation of works must be agreed in advance between the healthcare facility, the design team, and the IPCT, and be specified clearly in the contract documents. The instruction to cease must be implemented strictly in accordance with provisions of the contract. IPCTs and other stakeholders should be aware that all instructions to the contractor on site must be issued by the Employers' Representative under the public works contracts and by the architect under the Royal Institute of the Architects of Ireland (RIAI) contract.

A risk assessment of the patient population risk groups may need to be undertaken in consultation with the patients' primary care team and recommendations regarding further measures e.g. antifungal prophylaxis considered. An adverse incident form should be completed in the event of either a patient developing IA or a serious breach of safety precautions such that vulnerable patients required or were considered for antifungal prophylaxis.

3.4. Invasive Aspergillosis Risk Assessment Process

There are four steps to the risk assessment process.

Step One: Consider patient risk factors and assign to the correct at-risk group, Group 1-4 (see Section 2.2 for the classification of at-risk patients). If more than one risk group is identified within a specific cohort, select the higher risk group (Section 2.2).

Step Two: Detail the construction activity and assign type: A1, A2, B, C or D (Table 3).

Table 3. Details of the type of construction project activity

Type	Description of the activity
TYPE A1	Minor internal containable activities with no/minimal dust generation This includes, but is not limited to, inspection and non-invasive activities and small-scale activities that create minimal dust. These include, but are not limited to, activities that require removal of ceiling tiles for preliminary visual inspection (limited to 1 tile per 5m ²), painting (no sanding), wall covering, electrical trim work, minor plumbing and other maintenance activities that do not generate dust or require cutting of walls or access to ceilings other than for visual inspection.
TYPE A2	Minor internal small-scale works with some dust generation that can be contained This includes, but is not limited to, minor works on a small scale where dust containment is achieved by using dust barriers and a HEPA-filtered vacuum. Activities that require access to conduit spaces, cutting of walls, woodwork or ceilings where dust migration can be controlled, for example installation or repair of minor electrical work, ventilation components, telephone wires or computer cables. It also includes minor plumbing as well as minor drilling to allow for the erection of brackets and shelving.
TYPE B	Major internal containable activities Any work that generates a moderate level of dust or requires demolition or removal of any fixed building components or assemblies (e.g. counter tops, cupboards, sinks). These include, but are not limited to, activities that require sanding of walls for painting or wall covering, removal of floor-covering, ceiling tiles and stud work, new wall construction, minor duct work or electrical work above ceilings, major cabling activities, and any activity that cannot be completed within a single work shift. This type of activity includes extensive plumbing work. It also includes demolition or removal of a complete cabling system or plumbing and new construction that requires consecutive work shifts to complete.
TYPE C	Minor external non-containable activities External construction activities that generate moderate levels of dust or minor excavations. Such activities include, but are not limited to, digging trial pits and minor foundations, trenching, landscaping, minor construction and demolition work.
TYPE D	Major external non-containable activities External construction activities that generate large levels of dust. Such activities would include, but are not limited to, major soil excavation, demolition of buildings and any other construction activity not covered under Type C.



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Step Three: Determine the construction site preventive measures and assign class, 0-III (Table 4).

Table 4. Description of the required infection prevention and control precautions by class
(Please refer to Table 5 for application of relevant Class of Preventive Measures required)

Class 0 Preventive Measures

Dust Control

- Immediately replace ceiling tiles displaced for preliminary visual inspection

Cleaning

- Wet mop and vacuum area as needed and when work is completed
- Wipe horizontal and vertical work surfaces with hot soapy water

Infection Prevention and Control Personnel

- Approval must be sought from IPCT for the construction activity

Patient Risk Reduction

- Minimise exposure of patients in at-risk Group 2 to the construction/renovation area
- Minimise dust and increase cleaning in patient area

Note: Class 0 preventive measures do not apply to Groups 3-4 at-risk patients.
For further details, please see matrix presented in Table 5.

Class I Preventive Measures

Dust Control

- Immediately replace ceiling tiles displaced for visual inspection
- Execute work by methods to minimise dust generation from construction or renovation activities
- Provide active means to minimise dust generation and migration into the atmosphere

Cleaning

- Wet mop and vacuum area as needed and when work is completed
- Wipe horizontal and vertical work surfaces with hot soapy water

Infection Prevention and Control Personnel

- Approval must be sought from IPCT for the construction activity and the permit to be issued
- In collaboration with cleaners and technical services, ensure that the construction zone remains sealed and that the cleaning is adequate at all times

Patient Risk Reduction

- Move at-risk patients (Groups 2-4) away from construction zone. If it is not possible to move, for example ICU patients, an impermeable dust barrier should be erected around the construction zone
- Minimise patients' exposure to the construction/renovation area
- Minimise dust and increase cleaning in patient area



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Class II Preventive Measures

Dust Control

- Execute work by methods to minimise dust generation from construction or renovation activities
- Erect an Impermeable dust barrier from floor to slab/floor
- Ensure windows and doors are sealed
- A separate entrance *away* from patient traffic should be created for use by construction workers
- Protective clothing should be worn by construction workers and removed when leaving the construction site
- Dust barrier should not be removed until the project is complete

Ventilation of Construction Zone

- Seal windows
- Maintain negative pressure within construction zone by using a portable extract fan
- Ensure air is exhausted directly to the outside where feasible and *away* from intake vents or filtered through a minimum of an F9 filter
- Ensure the ventilation system is functioning properly and is cleaned if contaminated by soil or dust after construction or renovation project is complete

Debris Removal and Cleaning

- Contain debris in covered containers or cover with either an Impermeable or moistened sheet before transporting for disposal
- Remove debris at end of the work day
- An external chute will need to be erected if the construction is not taking place at ground level
- Vacuum work area with HEPA-filtered vacuums daily or more frequently if required

Infection Prevention and Control Personnel

- Approval must be sought from IPCT for the construction activity and the permit to be issued
- In collaboration with cleaners and technical services, ensure that the construction zone remains sealed and that the cleaning is adequate at all times

Patient Risk Reduction

- Move all patients from within the construction zone
- If possible move at-risk patients (Groups 2-4) who are adjacent or near to the construction zone
- Ensure that patients do not go near construction zone
- All windows, doors, air intake and exhaust vents should be sealed in areas of the hospital containing patients who are classified as at Increased risk (Groups 2-4). If the construction or demolition work is considered likely to result in *Aspergillus*-contaminated air entering these areas
- High and very high-risk patients (Groups 3-4) should preferably be treated in HEPA-filtered, positive pressure isolation rooms or facilities. Where such facilities are not available, the local IPCT should perform a risk assessment to identify alternative options. This may include neutral pressure isolation rooms (also referred to as a room with positive pressure ventilated lobby (PPVL)) (79, 80). Although these facilities have been validated from an engineering perspective they have not yet been clinically validated for the prevention of nosocomial aspergillosis among at-risk patients, see section 3.5.1 and 3.5.2 for more details.

Traffic Control

- In collaboration with the Technical Services Manager, designate a traffic pattern for construction workers that avoids patient care areas and a traffic pattern for clean or sterile supplies, equipment, patients, staff and visitors that avoids the construction zone
- A traffic path should be designated for the removal of rubble from the construction site which preferably is separate to and *away* from all hospital-related traffic.



NATIONAL GUIDELINES FOR THE PREVENTION OF NOSOCOMIAL ASPERGILLOSIS



Class III Preventive Measures

Dust Control

- Execute work by methods to minimise dust generation from construction or renovation activities
- Provide active means to minimise dust generation and migration into the atmosphere. During dry weather soil must be regularly dampened for the period involving any ground works

Debris Removal and Cleaning

- Contain debris in covered containers or cover with an impermeable or moistened sheet before transporting for disposal
- Ensure no increased dust within hospital, increased cleaning may be necessary

Infection Prevention and Control Personnel

- Approval must be sought from IPCT for the construction activity and the permit to be issued
- In collaboration with technical services ensure that dust is minimised from the construction site and that the construction site measures are being adhered to
- Ensure that cleaning is adequate to minimise dust within the hospital

Patient Risk Reduction

- No specific requirement for Risk Group 1
- If possible move at-risk patients (Groups 2-4) who are adjacent or near to the construction zone
- Ensure that patients do not go near construction zone
- All windows, doors, air intake and exhaust vents should be sealed in areas of the hospital containing at-risk patients (Groups 2-4). If the construction or demolition work is considered likely to result in *Aspergillus*-contaminated air entering these areas
- High and very high-risk patients (Groups 3-4) should be preferably treated in HEPA-filtered, positive pressure isolation rooms or facilities. Where such facilities are not available the local IPCT should perform a risk assessment to identify alternative options. This may include neutral pressure isolation rooms (also referred to as a room with positive pressure ventilated lobby (PPVL)) (79, 80), although these facilities have been validated from an engineering perspective they have not yet been clinically validated for the prevention of nosocomial aspergillosis among at-risk patients, see section 3.5.1 and 3.5.2 for more details.

Traffic Control

- In collaboration with the Technical Services Manager, designate a traffic pattern for construction workers, that avoids patient care areas and a traffic pattern for clean or sterile supplies, equipment, patients, staff and visitors that avoids the construction zone
- A traffic path should be designated for the removal of rubble from the construction site which preferably is separate to and away from all hospital-related traffic.

Step Four: Verify risk assessment by checking the matrix in Table 5.

Table 5. Matrix of construction project activity type, patient risk group and class of required infection prevention and control precautions

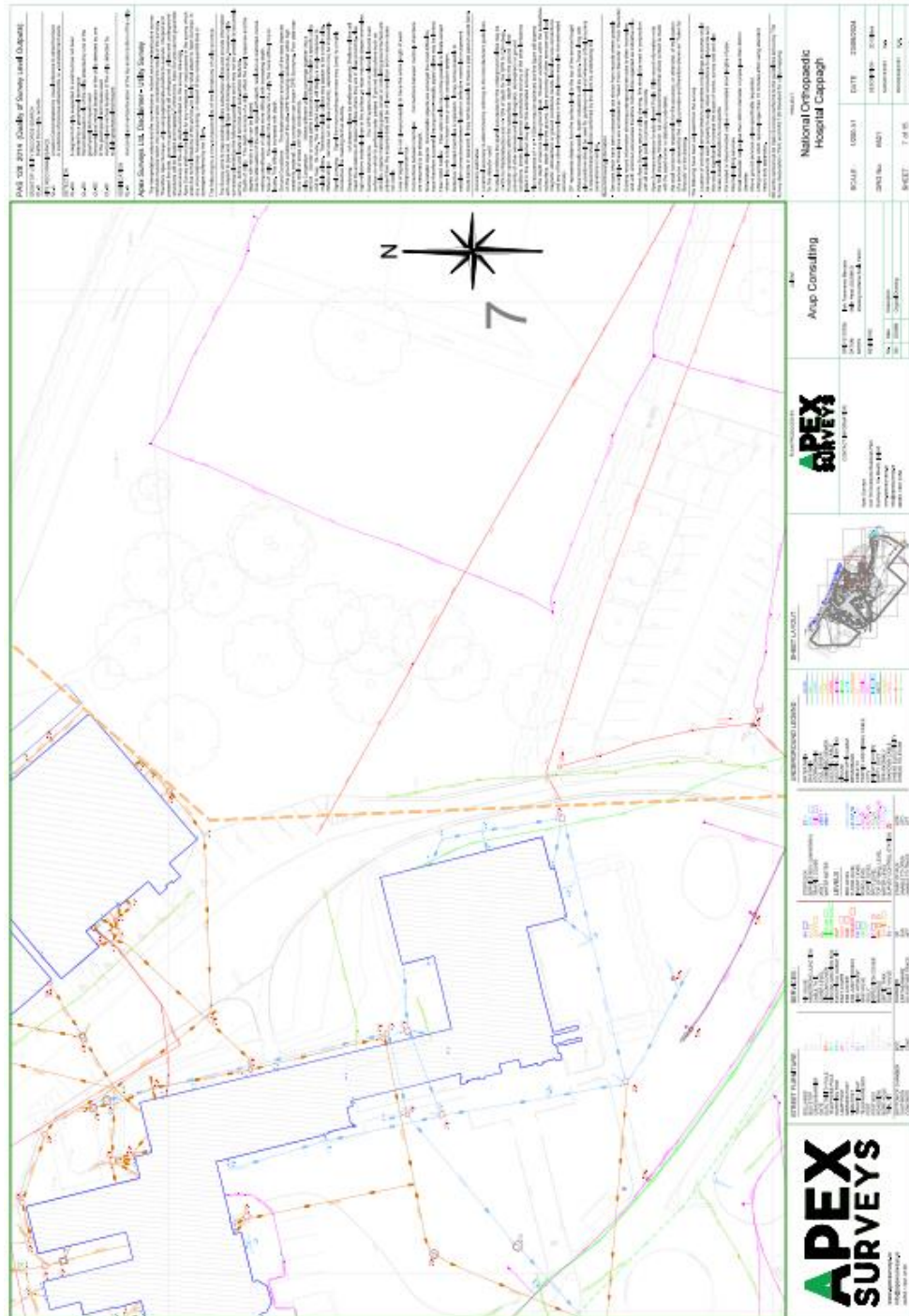
This matrix was adapted from Infection Control Risk Assessment Matrix of Precautions for Construction & Renovation from the Association of Professionals in Infection Control and Epidemiology (APIIC)

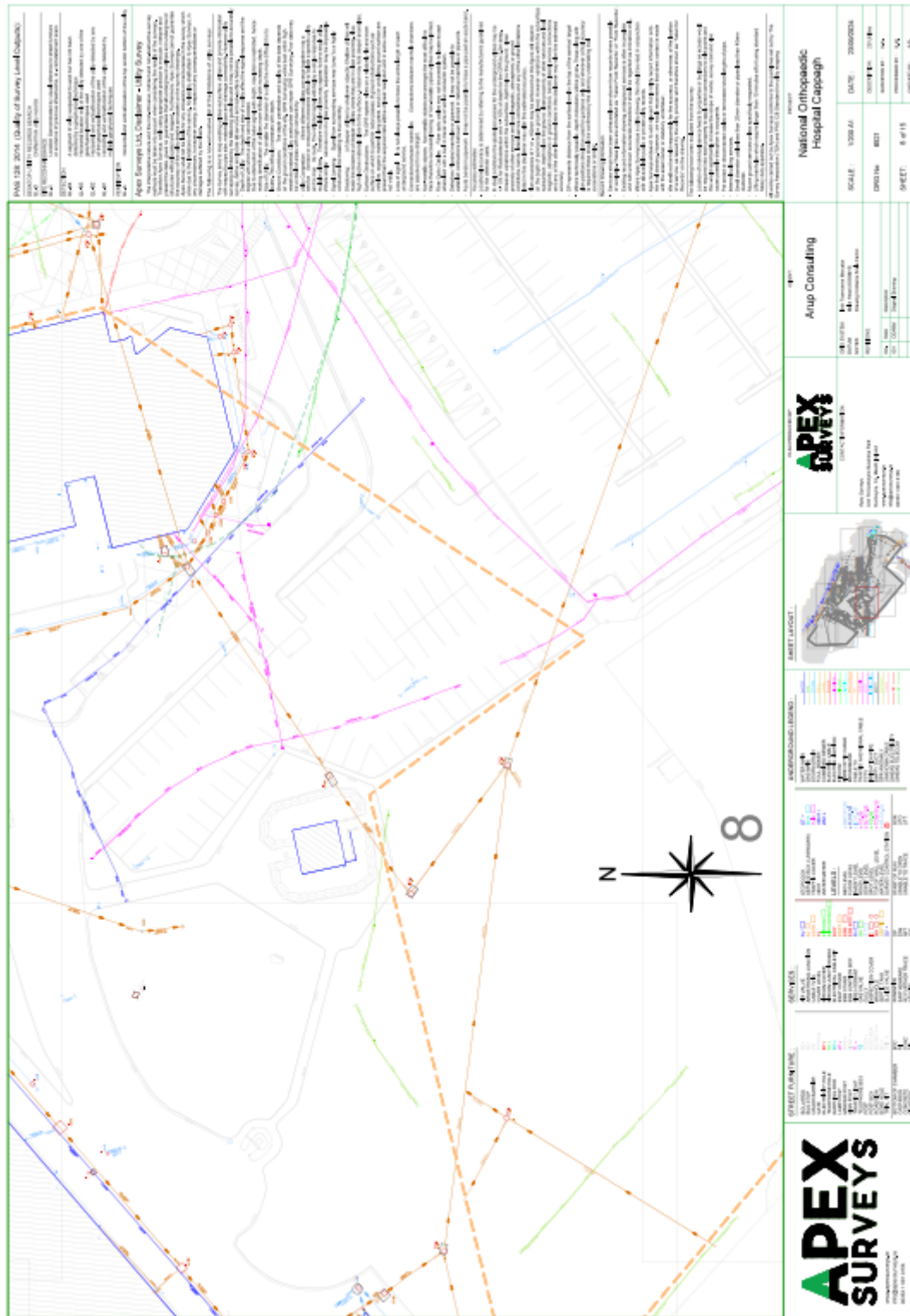
Patient Risk Group	Construction Activity Type				
	TYPE A1	TYPE A2	TYPE B	TYPE C	TYPE D
Group 1 – No evidence of risk	0	I	I	III	III
Group 2 – Increased risk	0	I	II	III	III
Group 3 – High risk	I	I	II	III	III
Group 4 – Very high risk	I	I	II	III	III

Note 1: Engagement with the IPCT is required irrespective of type of construction activity.

Note 2: This is a guide and if specific risk issues are identified, an individual risk assessment of that issue may be required.

APPENDIX G – EXISTING SERVICES RECORDS





APPENDIX H – NOHC FIRE ALARM INSTRUCTIONS**NOHC Fire Alarm Instructions****ALL STAFF:**

- Do not panic.
- Reassure patients and visitors and colleagues.
- Remain in your area until you are instructed otherwise by your Fire Warden.
- Follow the instruction of your Fire Warden:
 - Assist staff with the movement of patients or visitors as requested,
 - Search/Evacuate the area as instructed by Fire Warden.
- Do not re-enter any building until you have been advised to do so by a Fire Warden.

FIRE WARDENS:

- Check your local fire panel for the location of the alarm.
- If it is not your area – advise people to remain in the area.
- If it is your area - contact Reception and commence search of the area.
 - Commence the search for fire (2 people),
 - Advise Reception of "false alarm" if no fire,
 - Direct staff to commence horizontal evacuation if fire found,
 - Ask staff and mobile visitors to assist if an evacuation is required.
- Evacuate to safe area (internally) and contact Reception to update location.

PATIENTS/VISITORS/MEMBERS OF THE PUBLIC

- Follow the instruction of the Fire Warden in the area.
- If you are asked to remain where you are, please calmly stay and remain there.
- If you are to move to another area, quickly and calmly move to that area:
 - If you are mobile, provide assistance if required to others.
- Do not pick-up personal belongings.
- Do not re-enter any building until you have been advised to do so by a Fire Warden.

Refer to PP-H&S-32 Fire Alarm Response Strategy for full details

IM-H&S-30 - Rev1 - Date of Issue: 27/04/2021

APPENDIX I- Asbestos Survey Report



ABOUT SAFETY LTD.

ASBESTOS | LEAD BASED PAINT | MOULD | SILICA DUST | HAZMAT
SURVEYING & TESTING
RISK MANAGEMENT | PROJECT MANAGEMENT

Refurbishment & Demolition Asbestos Survey

Site Address	NOHC Cappagh Co. Dublin	
Site Location		
Client	NOHC Cappagh Co. Dublin Ian Cudden	
Survey Dates	26/05/26	
Issue Date	27/05/26	
Surveyor(s)	John Kelleher, About Safety	

About Safety Limited, 24 Ocean Crest, Arklow, Co. Wicklow Tel: 0402 91186 | E-mail: asbestos@aboutsafety.ie
About Safety Ltd. Registered in Ireland: No. 422820

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Executive Summary

Ref:	Confirmed Asbestos [Requires removal and disposal as asbestos waste by a competent asbestos contractor prior to work likely to cause disturbance.]
	No visible asbestos containing materials identified.

Ref:	Presumed/Strongly Presumed Asbestos [Requires investigation by the competent or specialist asbestos contractor prior to work likely to cause disturbance.]
	Fixed subflooring and ceramic tiles were not disturbed due to occupancy. Therefore it is not known if there is previous presence of vinyl floor tiles and bitumen adhesive.

NB: The extent of asbestos containing materials where identified in this report are only approximate and should not be relied upon as a basis for tendering removal works. Contractors tendering works are expected to satisfy themselves by site visit and measurement the exact nature and extent of any works which is proposed.

Introduction

About Safety Ltd. was instructed to carry out a Refurbishment and Demolition Asbestos Survey of the above property. The survey and sampling was carried out taking cognizance of the requirements of the Health and Safety Executive (UK) document, *HSG 264, Asbestos: The Survey Guide*.

Objectives

The objectives of this survey were to:

- To carry out a survey to ascertain the presence of asbestos based materials.
- To review historical information i.e. renovation histories, and other applicable information for each building to be surveyed, if available.
- To carry out a survey to locate and describe, as far as reasonably practicable, all asbestos containing materials prior to refurbishment/demolition.
- To gain access to all areas, as necessary, to determine the extent of any asbestos that may be present.
- To sample and estimate the extent and volume of any asbestos materials that may be present.
- To generate asbestos material assessments where the period between the survey and event is significant i.e. more than 3 months.
- To produce a report identifying areas containing asbestos to be used as a basis for tendering their removal.
- To instigate asbestos removal works prior to refurbishment/demolition.

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About Safety Ltd. Registered in Ireland: No. 422820

Scope of Works & Site Description

General Information	<i>Scope of Works:</i>	Demolition of conservatory and refurbishment of reception lobby and offices.
	<i>Site Description:</i>	PVC conservatory with mosaic floor tiles. Ceramic tiles in the reception lobby. Timber flooring identified under the existing carpet floors in the office areas. Plasterboard ceilings.

Survey Limitations

All areas accessed for proposed refurbishment works were subjected to a survey taking cognisance of the requirements of HSG 264, Asbestos: The Survey Guide. The investigation consisted of an inspection of each room and area to be impacted by the works.

No report has been made on any concealed spaces, which may exist within the fabric of the building where the extent and presence of these is not evident due to inaccessibility, lack of building drawings or insufficient knowledge of the structure of the building at the time of the survey. Original and permanent finishes or areas of the building subject to protection orders were not disturbed where requested by the client.

Inaccessible Areas: Electrical equipment such as, boiler units, water heaters, storage heaters, fuse or switch boards. Within floor or wall structures, behind wall or ceiling cladding or within blocked up chimneys. Within internal areas of fire doors unless asbestos observed from keyhole or other damaged areas. Care should always be exercised when working on any electrical equipment in particular the older styles as asbestos-containing materials may be present.

Special considerations for old boilers and plant containing asbestos gaskets:

Some old plant may have gaskets and seals which could contain asbestos. During normal maintenance operations these gaskets or seals may have to be opened, which would not normally be notifiable. If, however the gasket was in a friable condition or had to be broken up for removal or examination, the work could become notifiable. An assessment would need to be made and the work notified with the H.S.A. if necessary. Dismantling of boilers and plant is a specialist task requiring specialist tools and is considered demolition.

Asbestos Refurbishment & Demolition Survey: Definition

A refurbishment and demolition survey is needed before any refurbishment or demolition works is carried out. This type of survey is used to locate and describe, as far as reasonably practicable, all ACM's in the area where the refurbishment works will take place or in the whole building if demolition is planned. The survey will be fully intrusive and involve destructive inspection, as necessary, to gain access to all areas, including those that may be difficult to reach. A refurbishment and demolition survey may also be required in other circumstances, e.g. when more intrusive and maintenance and repair work will be carried out or for plant removal and dismantling.

Where the refurbishment or demolition works may not take place for a significant period after the survey (e.g. three months), then the information required for a management survey should be obtained.

Asbestos Contaminated Soils (ACS)

The first point of contact with soil or ground contaminated with asbestos will be during site investigations and exploratory ground works. This may be defined as asbestos operative related work and applies where there is a potential for sporadic or low intensity exposure. People directly involved in these

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preliminary works, geotechnical engineers and ground workers, should receive formal training enabling them to work safely where asbestos could be present in the ground as a consequence of legacy use issues with the land. In principle, the general tiered approach to the assessment and management of potential risks posed by ACS is the same as that for any other contaminant. However, the unique nature of asbestos means that different methods of analysis, exposure estimation and risk estimation are required. Importantly, soil and air analysis methods need to be more detailed than those currently and commonly used to demonstrate compliance with the Asbestos Regulations.

Material Assessment

No condition assessment is normally necessary for refurbishment and demolition surveys but, where the period between survey and the event is significant, e.g. more than 3 months, then a material assessment should be conducted and interim management arrangements put in place.

Material Assessment Algorithm

In the material assessment process, the main factors influencing fiber release are given a score which can then be added together to obtain a material assessment rating. The four main parameters which determine the amount of fiber released from an ACM when subject to disturbance are:

- Product Type
- Extent of damage or deterioration
- Surface Treatment; and
- Asbestos type

Each parameter is scored between 1 and 3. A score of 1 equivalent to a low potential for fiber release, 2 = medium and 3 = high. Two parameters can also be given a nil score (equivalent to a very low potential for fiber release). The value assigned to each of the four parameters is added together to give a total score of between 2 and 12. Presumed or strongly presumed ACM's are scored as Crocidolite (i.e. score = 3) unless there is strong evidence to show otherwise.

Materials with assessment scores of 10 or more are rated as having a high potential to release fibers, if disturbed. Scores of between 7 and 9 are regarded as having a medium potential, and between 5 and 6 a low potential. Scores of 4 or less have a very low potential to release fibers.

Analytical Techniques

Asbestos Bulk Sample Analysis is conducted by using Polarised Light and Dispersion Staining Techniques. Dispersion Staining is used to describe the colour effects produced when a transparent colourless particle or fiber is immersed in a liquid having a refractive index near to that of the particle or fiber, and is viewed under a microscope using transmitted white light (based on HSE Publication, HSG 248).

Samples were returned to About Safety Ltd. Laboratory for Analysis. Photographs were taken at all of the sample locations (unless otherwise stated). The commitment to quality is independently assured through membership of the Asbestos in Materials scheme (AIMS), HSL(UK).

Materials of a similar type were only occasionally sampled and it was assumed that other materials visually inspected to where the sample was taken, were of a similar composition.

Each area was viewed for suspect materials thought or known to contain asbestos and samples taken where it was considered necessary.

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General Caveat

This report is based on a Refurbishment & Demolition survey of an occupied area.

During the course of the survey all reasonable efforts were made to identify the physical presence of materials containing asbestos. It is known that asbestos materials are frequently concealed within the fabric of buildings or within sealed building voids so that it is not possible to regard the findings of any survey as being definite. It must remain a possibility that asbestos containing materials may be found during demolition activities. For reasons set out in this report, the results cannot give an assurance that all asbestos materials have been found and must not be thought to do so. This investigation should not be considered as a "soft strip" exercise as in advance of refurbishment or demolition.

Where floor tiles, linoleum, or other floor materials are found underneath existing flooring in an area inspected, it will be assumed that the entire covered area is underlain with suspect ACM. This area should be re-inspected during demolition/renovation when flooring can be removed to allow visual inspection. Floor leveling compound will also be treated as an "inaccessible material." Subfloors and floor slabs in some cases may conceal asbestos containing materials which may only become evident during their removal.

This report has been written with reference to the various Guidance Notes etc., issued, and current at the date of this report and describes circumstances at the site on the date the survey took place.

Specific Notes

Legislation and Codes of Practice

The Safety, Health and Welfare at Work (Exposure to Asbestos) Regulations 2006 to 2025, apply to work where there is or may be asbestos fibers present. These regulations apply in particular to any person or employer working with or removing asbestos.

In addition, Safety, Health and Welfare at Work (Construction) Regulations 2013 (SI 291 of 2013) also apply to any building, installation, repair, demolition and asbestos removal work.

Information about working with material containing asbestos cement is contained in Health and Safety Authority's document "Asbestos-containing materials (ACM's) in Workplaces – Practical Guidelines on ACM Management and Abatement".

Provision of information

It is recommended that this report is brought to the attention of any person likely to be involved in refurbishment/demolition works.

Once asbestos materials have been identified it is essential that appropriate remedial measures be introduced prior to any structural alterations, refurbishment or demolition works commencing. All the asbestos removal works should be carried out by a competent asbestos removal contractor in accordance with Asbestos at Work Regulations 2006 to 2025. Statutory notification requirements of 10 days are required under the provisions of the Asbestos Regulations for all works involving asbestos, including encapsulation. The contractor appointed for removal works is responsible for the 10-day notification is required and for drawing up a plan of work for any removal works.

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Appendix A – Asbestos Bulk Identification Report

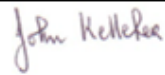
ASBESTOS BULK IDENTIFICATION REPORT

Report on:

Identification of asbestos content of suspected asbestos containing materials (ACM's) sampled from the following location/site:

**Reception
Cappagh Hospital****TEST RESULT**

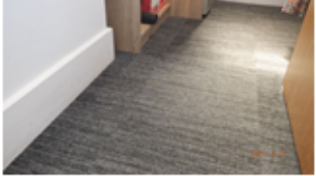
	LAB. REF.	SAMPLE LOCATION	MATERIAL DESCRIPTION	ASBESTOS TYPE IDENTIFIED
		No samples required.		

Analysts Name: Laboratory Ref: Lab1730 (HSL, UK)	John Kelleher	Analysts Signature:	
Glossary Chrysotile (white asbestos) Amosite (brown asbestos) Crocidolite (blue asbestos) NADIS (No Asbestos Detected in Sample) VFT (Vinyl Floor Tile) Methodology. Analysis of samples received was carried out in accordance with HSG (UK) 248 (The Analysts Guide for Sampling, Analysis and Clearance Procedures) and documented in-house methods.			

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Appendix B – Schedule of Survey Sheets

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Ref No.	Building or Area of Site	Location or Functional Space	Sample No.	Material Description , surface treatment and condition	Extent	Asbestos identified (presumed, strongly presumed or identified)	Product type	Condition	Surface treatment	Asbestos type	Material assessment score	Recommendations/ Comments	Photo
9.	Cappagh Hsp. Reception Project.	Reception counter area				NAD							
10.	Cappagh Hsp. Reception Project.	Reception counter area		Timber flooring		NAD							
11.	Cappagh Hsp. Reception Project.	Back office		Timber flooring		NAD							
12.	Cappagh Hsp. Reception Project.	Back office		Plasterboard ceilings.		NAD							

Key NAD = No asbestos detected AIB = Asbestos insulation board AC = Asbestos cement VFT = vinyl floor tile NQ = Not Quantified/Quantifiable SM = Square Meters LM = Linear Meters	Confirmed Asbestos	Material Assessment Score		Risk	
		≤ 4		Very Low	
	Presumed/Strongly presumed ACM Or Non Accessed Area	5 - 6		Low	
		7 - 9		Medium	
		≥ 10		High	
		No condition assessment is normally necessary for refurbishment and demolition surveys but, where the period between survey and the event is significant, e.g. more than 3 months, then a material assessment should be conducted and interim management arrangements put in place.			

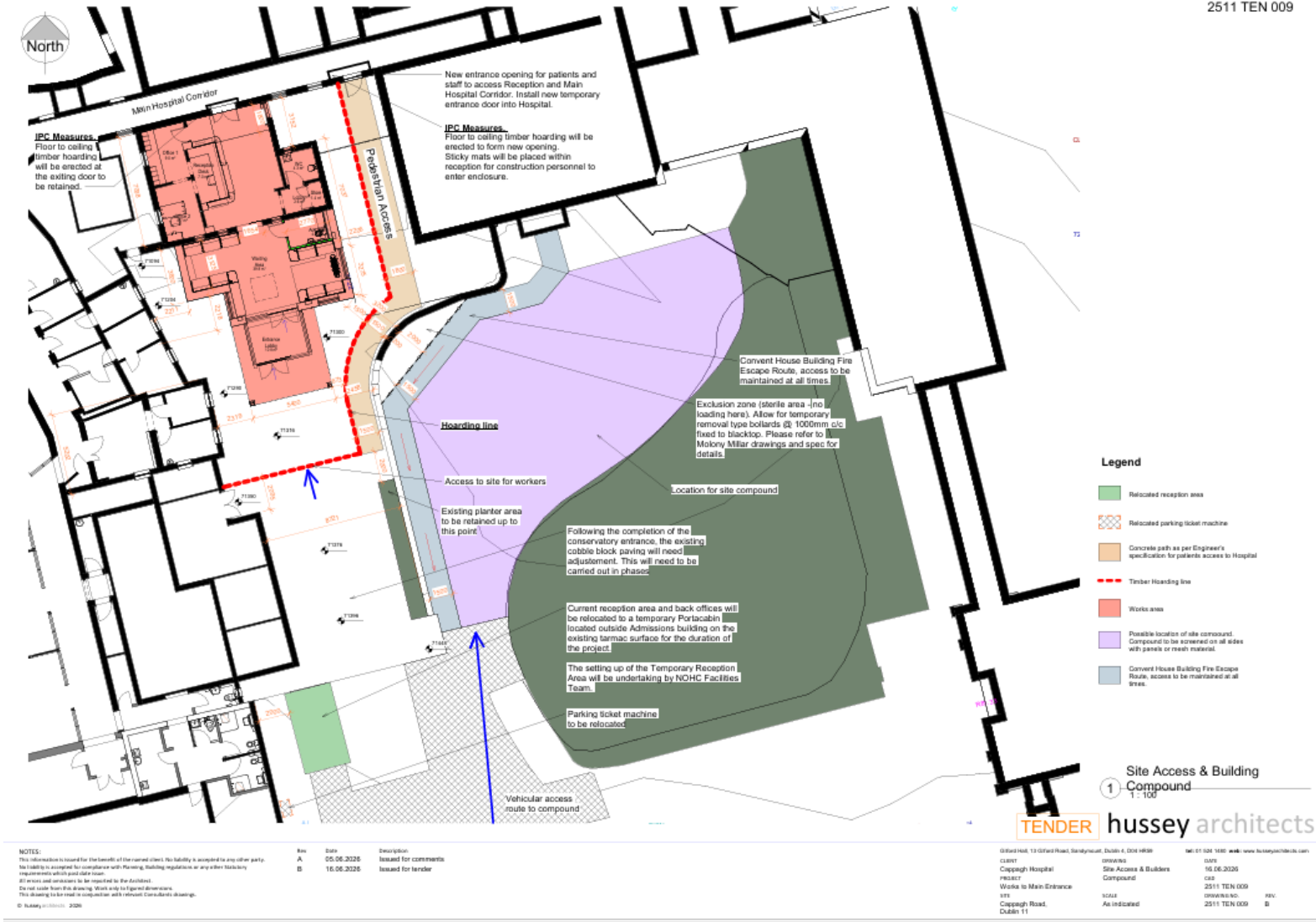
Ashview Consultants

Dublin Office: 01 531 1111
 Newry Office: 028 308 98126
 London Office: +44 (0) 360 319033



APPENDIX J- Site Access and Builders Compound Plan

2511 TEN 009



Ashview Consultants is one of Ireland's leading business risk management consultancies.

Dublin Office: 01 531 4448
Newry Office: 028 308 98126
London Office: +44 (0) 360 319033



APPENDIX L- Design Risk Assessments

Ashview Consultants is one of Ireland's leading business risk management consultancies.

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Newry Office: 028 308 98126
London Office: +44 (0) 360 319033



DESIGNERS RISK ASSESSMENT				DOC REF: 3300/NOK				STAGE - TENDER				PATRICK McCAUL ENVIROMENTAL CONSULTING ENGINEERS LTD				BANKMORE BUSINESS PARK BANKMORE ROAD OMAGH Co. TYRONE BT79 0BE Tel: 028-8225 1155 E-mail: info@pmccaul.com											
				Sheet: 1 of 101																							
REF	HAZARDS		RISK			PERSONS WHO WILL BE AFFECTED				RISK CONTROL MEASURE TO BE UNDERTAKEN IN ORDER TO ELIMINATE HAZARD / REDUCE RISK TO AN ACCEPTABLE LEVEL. COMMENT /DESIGN INTERVENTION				RESIDUAL RISK		Comments											
			Y	N	H M L	Public	Const Person s	Third Parties	Other s					Y/N	H M L												
										Designers Risk Assessment to be completed by:						DESIGN TEAM:											
Project: New Entrance to NOHC, Cappoge, Co. Dublin Client: Cappagh Hospital										Architect ☐ Structural Eng ☐ Civil Eng ☐ Mechanical Eng ☒ Electrical Eng ☒ Landscape Arch ☐						QS ☐ Specialist Des ☐ Specialist Supplier ☐ Temporary Works Designer ☐ Contractor ☐ Client ☐ Other ☐						Architects: Hussey Architects Structural Engineers Malony Millar Civil Engineers Mechanical Engineer Patrick McCaul Environmental Consulting Engineers Electrical Engineer Patrick McCaul Environmental Consulting Engineers Quantity Surveyors Landscape Architects Others:					
PSDP: x Safety Coordinator: x										Stage: Feasibility ☐ Preliminary ☒ Construction ☐ Maintenance ☐																	
Assessment Undertaken By Conor Heagney										Date of assessment 22.05.26								Sheet....1 of ...4									

REF	HAZARDS	RISK			PERSONS WHO WILL BE AFFECTED				RISK CONTROL MEASURE TO BE UNDERTAKEN IN ORDER TO ELIMINATE HAZARD / REDUCE RISK TO AN ACCEPTABLE LEVEL. COMMENT /DESIGN INTERVENTION	RESIDUAL RISK		Comments
		Y	N	H M L	Public	Const Person s	Third Parties	Other s		Y/N	H M L	

A01	Brick/Block Laying											
	1.Manual/repetitive handling of bricks/blocks 7. Inhalation of silica Dust	Y		H		X	X		Information/Instruction/Training: - All staff to be trained in manual handling techniques - All staff to be informed of the health hazards (Silicosis and Dermatitis) associated with inhaling brick dust and from contact with mortar - All staff to be instructed on the safe systems of work Managerial Controls: - Ensure large heavy blocks are not specified - Ensure PPE is made available and used by all operatives - Ensure appropriate welfare and hygiene facilities are made available - Ensure adequate supervision is provided and that control measures remain valid for the duration of the work Physical Controls: - Ensure the workplace is kept clean and tidy with walkways unobstructed - Utilise mechanical handling to move large and heavy loads - Ensure concrete mixers and other plant are regularly checked and inspected Procedural Controls: - Buyers to purchase small (25kg) bags of cement - Purchase blocks within built hand holds HSE & Other Guidance: - Manual Handling Operations Regulations	Y	L	The hazards associated with contaminated land depend largely on the nature of the contaminants

REF	HAZARDS	RISK			PERSONS WHO WILL BE AFFECTED				RISK CONTROL MEASURE TO BE UNDERTAKEN IN ORDER TO ELIMINATE HAZARD / REDUCE RISK TO AN ACCEPTABLE LEVEL. COMMENT /DESIGN INTERVENTION	RESIDUAL RISK		Comments
		Y	N	H M L	Public	Const Person s	Third Parties	Other s		Y/N	H M L	

	2. Crushed/cut fingers 3. Failure/collapse of walls under construction 4. Dermatitis from contact with mortar 5. Slips/trips/falls	Y		M		X	X		Information/Instruction/Training: - All staff to be trained in manual handling techniques - All staff to be informed of the health hazards (Silicosis and Dermatitis) associated with inhaling brick dust and from contact with mortar - All staff to be instructed on the safe systems of work Managerial Controls: - Ensure large heavy blocks are not specified - Ensure PPE is made available and used by all operatives - Ensure appropriate welfare and hygiene facilities are made available - Ensure adequate supervision is provided and that control measures remain valid for the duration of the work Physical Controls: - Ensure the workplace is kept clean and tidy with walkways unobstructed - Utilise mechanical handling to move large and heavy loads - Ensure concrete mixers and other plant are regularly checked and inspected Procedural Controls: - Buyers to purchase small (25kg) bags of cement - Purchase blocks within built hand holds HSE & Other Guidance: - Manual Handling Operations Regulations	Y	L	The hazards associated with contaminated land depend largely on the nature of the contaminants
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REF	HAZARDS	RISK			PERSONS WHO WILL BE AFFECTED				RISK CONTROL MEASURE TO BE UNDERTAKEN IN ORDER TO ELIMINATE HAZARD / REDUCE RISK TO AN ACCEPTABLE LEVEL. COMMENT /DESIGN INTERVENTION	RESIDUAL RISK		Comments
		Y	N	H M L	Public	Const Person s	Third Parties	Other s		Y/N	H M L	

	6. Entanglement with moving parts of concrete mixer	Y		L		X	X		Information/Instruction/Training: - All staff to be trained in manual handling techniques - All staff to be informed of the health hazards (Silicosis and Dermatitis) associated with inhaling brick dust and from contact with mortar - All staff to be instructed on the safe systems of work Managerial Controls: - Ensure large heavy blocks are not specified - Ensure PPE is made available and used by all operatives - Ensure appropriate welfare and hygiene facilities are made available - Ensure adequate supervision is provided and that control measures remain valid for the duration of the work Physical Controls: - Ensure the workplace is kept clean and tidy with walkways unobstructed - Utilise mechanical handling to move large and heavy loads - Ensure concrete mixers and other plant are regularly checked and inspected Procedural Controls: - Buyers to purchase small (25kg) bags of cement - Purchase blocks within built hand holds HSE & Other Guidance: - Manual Handling Operations Regulations	Y	L	The hazards associated with contaminated land depend largely on the nature of the contaminants
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REF	HAZARDS	RISK			PERSONS WHO WILL BE AFFECTED				RISK CONTROL MEASURE TO BE UNDERTAKEN IN ORDER TO ELIMINATE HAZARD / REDUCE RISK TO AN ACCEPTABLE LEVEL. COMMENT /DESIGN INTERVENTION	RESIDUAL RISK		Comments
		Y	N	H M L	Public	Const Person s	Third Parties	Other s		Y/N	H M L	

A02	Cable Pulling											
	1. Manual handling (lifting, pulling, pushing) 3. Contact with live conductors	Y		M		X			Information/Instruction/Training: - Workers to be trained in manual handling techniques - Training in the use of equipment (compressors, winches, lifting equipment etc.) - Instruction on the safe system of work to be provided Managerial Controls: - Ensure a nominated competent person is in control of the works - Survey the area and carefully plan all works prior to the commencement of any works - Ensure adequate supervision is provided and that control measures remain valid for the duration of the work Procedural Controls: - Ensure cables are not over stressed - Operate a permit to work system	Y	L	
	2. Falls from height/into chambers and ducts 4. Slips, trips and falls on same level	Y		L		X			Information/Instruction/Training: - Workers to be trained in manual handling techniques - Training in the use of equipment (compressors, winches, lifting equipment etc.) - Instruction on the safe system of work to be provided Managerial Controls: - Ensure a nominated competent person is in control of the works - Survey the area and carefully plan all works prior to the commencement of any works - Ensure adequate supervision is provided and that control measures remain valid for the duration of the work Procedural Controls: - Ensure cables are not over stressed - Operate a permit to work system	Y	L	

REF	HAZARDS	RISK			PERSONS WHO WILL BE AFFECTED				RISK CONTROL MEASURE TO BE UNDERTAKEN IN ORDER TO ELIMINATE HAZARD / REDUCE RISK TO AN ACCEPTABLE LEVEL. COMMENT /DESIGN INTERVENTION	RESIDUAL RISK		Comments
		Y	N	H M L	Public	Const Person s	Third Parties	Other s		Y/N	H M L	

A03	Carpentry/Joinery											
	1. Entanglement with moving parts (i.e.: Drills, saws, lathes etc.) 2. Contact with sharp blades and other implements 3. High noise levels 4. Hand arm vibration 5. Inhalation of wood dusts 6. Ejection of damaged tools and wood bits 7. Manual handling	Y		M		X	X		Information/Instruction/Training: - All staff to be trained in the use of equipment and the hazards presented by it - All staff to be informed of the finding of COSHH assessments and the precautions required Managerial Controls: - Ensure adequate supervision is provided and that control measures remain valid for the duration of the work Physical Controls: - All power tools to be either cordless or low voltage (110v or less) - Restrict use of tools to trained persons over the age of 18 years - Avoid trailing lead and keep walkways clear Procedural Controls: - Daily checks of all equipment to be made prior to its use - Carry out COSHH assessment on all substances used, wherever possible substitute for less hazardous substance - Clear debris and waste on a regular basis HSE & Other Guidance: - Provision and Use of Work Equipment Regulations - Noise at Work Regulations - Management of Health and Safety at Work Regulations	Y	L	

REF	HAZARDS	RISK			PERSONS WHO WILL BE AFFECTED				RISK CONTROL MEASURE TO BE UNDERTAKEN IN ORDER TO ELIMINATE HAZARD / REDUCE RISK TO AN ACCEPTABLE LEVEL. COMMENT /DESIGN INTERVENTION	RESIDUAL RISK		Comments
		Y	N	H M L	Public	Const Person s	Third Parties	Other s		Y/N	H M L	

	8. Electric shock from damaged/worn equipment 9. Misuse of tools 10. Hazardous materials (stains, glues, lubricants etc.)	Y		L		X	X		Information/Instruction/Training: - All staff to be trained in the use of equipment and the hazards presented by it - All staff to be informed of the finding of COSHH assessments and the precautions required Managerial Controls: - Ensure adequate supervision is provided and that control measures remain valid for the duration of the work Physical Controls: - All power tools to be either cordless or low voltage (110v or less) - Restrict use of tools to trained persons over the age of 18 years - Avoid trailing lead and keep walkways clear Procedural Controls: - Daily checks of all equipment to be made prior to its use - Carry out COSHH assessment on all substances used, wherever possible substitute for less hazardous substance - Clear debris and waste on a regular basis HSE & Other Guidance: - Provision and Use of Work Equipment Regulations - Noise at Work Regulations - Management of Health and Safety at Work Regulations	Y	L	
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DESIGNERS RISK ASSESSMENT					DOC REF: 3300/NOK				STAGE - TENDER			PATRICK McCAUL ENVIROMENTAL CONSULTING ENGINEERS LTD			BANKMORE BUSINESS PARK BANKMORE ROAD OMAGH Co. TYRONE BT79 0BE Tel: 028-8225 1155 E-mail: info@pmccaul.com		
					Sheet: 8 of 101												
REF	HAZARDS		RISK			PERSONS WHO WILL BE AFFECTED				RISK CONTROL MEASURE TO BE UNDERTAKEN IN ORDER TO ELIMINATE HAZARD / REDUCE RISK TO AN ACCEPTABLE LEVEL.			RESIDUAL RISK		Comments		
			Y	N	H M L	Public	Const Person s	Third Parties	Other s				Y/N	H M L			
										COMMENT /DESIGN INTERVENTION							

A04	Concreting Operations											
	1. Concrete causing dermatitis/concrete burns 2. Slips, trips and falls 3. Hand arm vibration 4. Collapse of supporting structure/formwork 5. Failure of concrete pump hoses 6. Noise	Y		M		X			Information/Instruction/Training: - Manual handling training to be provided to all workers - Staff to be informed of the hazards and risks (concrete burns and dermatitis) from contact with concrete Managerial Controls: - Ensure adequate supervision is provided and that control measures remain valid for the duration of the work Physical Controls: - Ensure all PPE is worn - Limit exposure time to vibrating equipment such as concrete pokers - Provide suitable working platforms Procedural Controls: - Plan/sequence works to ensure operatives do not have stand in concrete - Wash all concrete off skin immediately HSE & Other Guidance: - HSG 46 A Guide for Small Contractors: Site Safety and Concrete Construction	Y	L	

REF	HAZARDS	RISK			PERSONS WHO WILL BE AFFECTED				RISK CONTROL MEASURE TO BE UNDERTAKEN IN ORDER TO ELIMINATE HAZARD / REDUCE RISK TO AN ACCEPTABLE LEVEL. COMMENT /DESIGN INTERVENTION	RESIDUAL RISK		Comments
		Y	N	H M L	Public	Const Person s	Third Parties	Other s		Y/N	H M L	

A05	Confined Spaces											
	1.Oxygen deficiency/enhancement 2. Toxic gases 3. Flammable atmosphere/explosion 5. Flooding	Y		H		X			Information/Instruction/Training: - Only workers with full confined spaces and breathing apparatus training to carry out confined spaces work - Staff to be informed of the risks and hazards associated with the proposed activities - Full training to be given on handling and dealing with an emergency situation Managerial Controls: - Ensure adequate supervision is provided and that control measures remain valid for the duration of the work Physical Controls: - Atmospheric monitoring - Intrinsically safe equipment to be used - Exhaust emissions from plant and equipment to be sited away from accesses into the confined space Procedural Controls: - Vent the confined space, purge the air and ensure adequate access/egress arrangements are in place - Ensure full emergency/rescue procedures are in place before entry - Test the atmosphere before and during entry - Top man required to monitor situation - Implement a permit to work system - Ensure the confined space is isolated from incoming flows HSE & Other Guidance - Confined Spaces Regulations - GS5 Entry into Confined Spaces	Y	L	

REF	HAZARDS	RISK			PERSONS WHO WILL BE AFFECTED				RISK CONTROL MEASURE TO BE UNDERTAKEN IN ORDER TO ELIMINATE HAZARD / REDUCE RISK TO AN ACCEPTABLE LEVEL. COMMENT /DESIGN INTERVENTION	RESIDUAL RISK		Comments
		Y	N	H M L	Public	Const Person s	Third Parties	Other s		Y/N	H M L	

	4. Contaminated flows/substances 6. Slips, trips and falls	Y		M		X			Information/Instruction/Training: - Only workers with full confined spaces and breathing apparatus training to carry out confined spaces work - Staff to be informed of the risks and hazards associated with the proposed activities - Full training to be given on handling and dealing with an emergency situation Managerial Controls: - Ensure adequate supervision is provided and that control measures remain valid for the duration of the work Physical Controls: - Atmospheric monitoring - Intrinsically safe equipment to be used - Exhaust emissions from plant and equipment to be sited away from accesses into the confined space Procedural Controls: - Vent the confined space, purge the air and ensure adequate access/egress arrangements are in place - Ensure full emergency/rescue procedures are in place before entry - Test the atmosphere before and during entry - Top man required to monitor situation - Implement a permit to work system - Ensure the confined space is isolated from incoming flows HSE & Other Guidance - Confined Spaces Regulations GS5 Entry into Confined Spaces	Y	L	
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								Sheet: 11 of 101															
REF	HAZARDS		RISK			PERSONS WHO WILL BE AFFECTED				RISK CONTROL MEASURE TO BE UNDERTAKEN IN ORDER TO ELIMINATE HAZARD / REDUCE RISK TO AN ACCEPTABLE LEVEL. COMMENT /DESIGN INTERVENTION				RESIDUAL RISK		Comments							
			Y	N	H M L	Public	Const Person s	Third Parties	Other s					Y/N	H M L								

A06	Contaminated Land												
	1. Inhalation, ingestion or injection of hazardous substances leading to adverse health effects 2. Contact with hazardous substance	Y		H	X	X	X		Information/Instruction/Training: - Ensure operatives are instructed in the correct use and fitting of all protective equipment Managerial Controls: - Ensure adequate supervision is provided and that control measures remain valid for the duration of the work Physical Controls: - Clearly identify and sign all areas of contaminated land - Restrict access to all such areas to authorised persons only - Ensure all persons and vehicles leaving the site do not contaminate adjacent areas, consider use of a wheel wash/decontamination unit Procedural Controls: - Control dust by regularly spraying with water - Ensure all material is disposed at an appropriately licensed site - Determine if health surveillance/monitoring is required HSE& Other Guidance: - HSG 66 Protection of workers and the general public during the development of contaminated land	Y	L	The hazards associated with contaminated land depend largely on the nature of the contaminants	

REF	HAZARDS	RISK			PERSONS WHO WILL BE AFFECTED				RISK CONTROL MEASURE TO BE UNDERTAKEN IN ORDER TO ELIMINATE HAZARD / REDUCE RISK TO AN ACCEPTABLE LEVEL. COMMENT /DESIGN INTERVENTION	RESIDUAL RISK		Comments
		Y	N	H M L	Public	Const Person s	Third Parties	Other s		Y/N	H M L	

	3. Contact with live services 4. Noise and vibration	Y		M	X	X	X		Information/Instruction/Training: - All workers should be competent trained demolition contractors with knowledge of the works in hand - All workers undertaking other works in proximity to the demolition works should be kept at a safe distance Managerial Controls: - Ensure adequate supervision is provided and that control measures remain valid for the duration of the work Physical Controls: - Restrict access to authorised persons - Ensure safe access and egress is provided to all areas - Ensure all hazardous materials are removed prior to the commencement of demolition works Procedural Controls: - Carry out a Type 3 Asbestos survey - Ensure all demolition works are carefully planned and sequenced to prevent premature collapse - Ensure all services are isolated before the start of demolition works - Ensure a pre-demolition survey is undertaken to determine how the structure is built HSE & Other Guidance: - GS 29 Health and Safety in demolition - BS 6187 Code of Practice for Demolition	Y	L	
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DESIGNERS RISK ASSESSMENT								DOC REF: 3300/NOK				STAGE - TENDER				PATRICK McCAUL ENVIROMENTAL CONSULTING ENGINEERS LTD				BANKMORE BUSINESS PARK BANKMORE ROAD OMAGH Co. TYRONE BT79 0BE Tel: 028-8225 1155 E-mail: info@pmccaul.com			
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REF	HAZARDS		RISK			PERSONS WHO WILL BE AFFECTED				RISK CONTROL MEASURE TO BE UNDERTAKEN IN ORDER TO ELIMINATE HAZARD / REDUCE RISK TO AN ACCEPTABLE LEVEL. COMMENT /DESIGN INTERVENTION				RESIDUAL RISK		Comments							
			Y	N	H M L	Public	Const Person s	Third Parties	Other s					Y/N	H M L								

A08	Dry Lining/Stud Partitions											
	1. Falls at height 2. Manual handling 3. Inhalation of dusts	Y		M		X			Information/Instruction/Training: - All staff to be trained in the use and importance of PPE such as hard hats, eye protection, respirators and gloves - All staff to be made aware of the hazards and risks associated with the works Managerial Controls: - Ensure adequate supervision is provided and that control measures remain valid for the duration of the work - Supervisors to inspect and check scaffolds, ladders and other working platforms - Supervisors to ensure PPE is available and used Physical Controls: - All power/hand tools to be checked prior to use - Adequate ventilation to be provided - Provide mechanisms to assist with the handling of materials and to reduce the level of manual handling required Procedural Controls: - Clean drinking water and washing facilities to be made available	Y	L	
	4. Slips, trips and falls 5. Dermatitis 6. Use of hand tools	Y		L		X			Information/Instruction/Training: - All staff to be trained in the use and importance of PPE such as hard hats, eye protection, respirators and gloves - All staff to be made aware of the hazards and risks associated with the works Managerial Controls: - Ensure adequate supervision is provided and that control measures remain valid for the duration of the work - Supervisors to inspect and check scaffolds, ladders and other working platforms - Supervisors to ensure PPE is available and used Physical Controls: - All power/hand tools to be checked prior to use - Adequate ventilation to be provided - Provide mechanisms to assist with the handling of materials and to reduce the level of manual handling required Procedural Controls: - Clean drinking water and washing facilities to be made available	Y	L	

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			Y	N	H M L	Public	Const Person s	Third Parties	Other s				Y/N	H M L		

A09	Electrical Installations (Temporary supplies)											
	1. Contact with live conductors – Electrocution	Y		H		X	X		Information/Instruction/Training - Only competent experienced electricians to carry out electrical installations - Manual handling training to be provided to all staff - Staff to be trained and conversant with the requirements of the permit to work system Managerial Controls - Ensure adequate supervision is provided and that control measures remain valid for the duration of the work - Check the qualifications and competence of all electricians Physical Controls - Isolate all power supplies - Ensure the system is appropriately designed and will not become overloaded - Ensure all PPE including rubber mats and insulated tools are used - Ensure all exposed metalwork is earthed - Ensure all switchgear and distribution panels are securely locked and signed - Route cables so that they cannot be easily damaged, where appropriate use armoured cables - Ensure cables are securely fixed and do not create a trip hazard Procedural Controls - Permit to work system required for all work involving live electrical installations - Lockout procedures required for the isolation of incoming electrical supplies - Test all equipment before installing/modifying to ensure that it has been isolated and is not live - All installations should be formally inspected and tested before first use and a new certificate issued every three months HSE & Other Guidance - HSG 141 Electrical Safety on Construction Sites - HSG 85 Electricity at Work: Safe Working Practices - BS7671 Requirements for Electrical Installations – IEE Wiring Regulations (16th Edition)	Y	L	Carbon Dioxide fire extinguishers to be available throughout the works

REF	HAZARDS	RISK			PERSONS WHO WILL BE AFFECTED				RISK CONTROL MEASURE TO BE UNDERTAKEN IN ORDER TO ELIMINATE HAZARD / REDUCE RISK TO AN ACCEPTABLE LEVEL. COMMENT /DESIGN INTERVENTION	RESIDUAL RISK		Comments
		Y	N	H M L	Public	Const Person s	Third Parties	Other s		Y/N	H M L	

	2. Fire	Y		M		X	X		Information/Instruction/Training - Only competent experienced electricians to carry out electrical installations - Manual handling training to be provided to all staff - Staff to be trained and conversant with the requirements of the permit to work system Managerial Controls - Ensure adequate supervision is provided and that control measures remain valid for the duration of the work - Check the qualifications and competence of all electricians Physical Controls - Isolate all power supplies - Ensure the system is appropriately designed and will not become overloaded - Ensure all PPE including rubber mats and insulated tools are used - Ensure all exposed metalwork is earthed - Ensure all switchgear and distribution panels are securely locked and signed - Route cables so that they cannot be easily damaged, where appropriate use armoured cables - Ensure cables are securely fixed and do not create a trip hazard Procedural Controls - Permit to work system required for all work involving live electrical installations - Lockout procedures required for the isolation of incoming electrical supplies - Test all equipment before installing/modifying to ensure that it has been isolated and is not live - All installations should be formally inspected and tested before first use and a new certificate issued every three months HSE & Other Guidance - HSG 141 Electrical Safety on Construction Sites - HSG 85 Electricity at Work: Safe Working Practices - BS7671 Requirements for Electrical Installations – IEE Wiring Regulations (16th Edition)	Y	L	Carbon Dioxide fire extinguishers to be available throughout the works
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		Y	N	H M L	Public	Const Person s	Third Parties	Other s		Y/N	H M L	

	3. Manual handling	Y		L		X	X		Information/Instruction/Training - Only competent experienced electricians to carry out electrical installations - Manual handling training to be provided to all staff - Staff to be trained and conversant with the requirements of the permit to work system Managerial Controls - Ensure adequate supervision is provided and that control measures remain valid for the duration of the work - Check the qualifications and competence of all electricians Physical Controls - Isolate all power supplies - Ensure the system is appropriately designed and will not become overloaded - Ensure all PPE including rubber mats and insulated tools are used - Ensure all exposed metalwork is earthed - Ensure all switchgear and distribution panels are securely locked and signed - Route cables so that they cannot be easily damaged, where appropriate use armoured cables - Ensure cables are securely fixed and do not create a trip hazard Procedural Controls - Permit to work system required for all work involving live electrical installations - Lockout procedures required for the isolation of incoming electrical supplies - Test all equipment before installing/modifying to ensure that it has been isolated and is not live - All installations should be formally inspected and tested before first use and a new certificate issued every three months HSE & Other Guidance - HSG 141 Electrical Safety on Construction Sites - HSG 85 Electricity at Work: Safe Working Practices - BS7671 Requirements for Electrical Installations – IEE Wiring Regulations (16th Edition)	Y	L	Carbon Dioxide fire extinguishers to be available throughout the works
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			Y	N	H M L	Public	Const Person s	Third Parties	Other s			Y/N	H M L		

A10	Excavations											
	2. Underground/buried services 3. Confined spaces 7. Noise/vibration 10. Persons /Plant/Materials falling into the excavation	Y		H	X	X	X	X	Information/Instruction/Training: - Staff should be trained in the use of cable location tools - Staff should be informed of when and how to use support equipment for excavations/trenches - Staff to be trained in safe excavation procedures - All Plant operators should be CPCS (or equivalent) qualified Managerial Controls: - Ensure adequate supervision is provided and that control measures remain valid for the duration of the work - Physical Controls: - Ensure sufficient and appropriate equipment is available to support excavations and prevent collapse - Use a cable detection tool and obtain copies of the service plans from the statutory authorities prior to proceeding with the excavations - Carefully hand dig around buried services - Do not stockpile excavated or other materials adjacent to the excavation - Ensure safe access and egress is provided into the excavation - Provide a handrail/barrier around the edge of all excavations to prevent persons falling into the excavation - Where there is a risk of flooding from sewers, groundwater or surface runoff, a suitably sized pump should be provided to dewater the excavation - Provide stop logs at the edge of the excavation to stop plant and machinery falling into the excavation or overloading the edges Procedural Controls: - Excavation to be inspected each shift before the commencement of work – record of inspections to be maintained - Implement a permit to work system for all excavations - Where there is a considered risk of potential ventilation problems, a gas monitor should be utilised before entry and during the works HSE & Other Guidance: - HSG 47 Avoiding Danger from Underground Services - Construction Information Sheet No. 8 Safety in Excavations - HSG185 Health and Safety in Excavations: Be Safe and Shore	Y	L	

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		Y	N	H M L	Public	Const Person s	Third Parties	Other s		Y/N	H M L						
	1. Contaminated ground 4. Collapse of the excavation 6. Water ingress/flooding 8. Toxic/flammable gases 9. Oxygen deficiency	Y		M	X	X	X	X	Information/Instruction/Training: - Staff should be trained in the use of cable location tools - Staff should be informed of when and how to use support equipment for excavations/trenches - Staff to be trained in safe excavation procedures - All Plant operators should be CPCS (or equivalent) qualified Managerial Controls: - Ensure adequate supervision is provided and that control measures remain valid for the duration of the work - Physical Controls: - Ensure sufficient and appropriate equipment is available to support excavations and prevent collapse - Use a cable detection tool and obtain copies of the service plans from the statutory authorities prior to proceeding with the excavations - Carefully hand dig around buried services - Do not stockpile excavated or other materials adjacent to the excavation - Ensure safe access and egress is provided into the excavation - Provide a handrail/barrier around the edge of all excavations to prevent persons falling into the excavation - Where there is a risk of flooding from sewers, groundwater or surface runoff, a suitably sized pump should be provided to dewater the excavation - Provide stop logs at the edge of the excavation to stop plant and machinery falling into the excavation or overloading the edges Procedural Controls: - Excavation to be inspected each shift before the commencement of work – record of inspections to be maintained - Implement a permit to work system for all excavations - Where there is a considered risk of potential ventilation problems, a gas monitor should be utilised before entry and during the works HSE & Other Guidance: - HSG 47 Avoiding Danger from Underground Services - Construction Information Sheet No. 8 Safety in Excavations HSG185 Health and Safety in Excavations: Be Safe and Shore	Y	L						

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		Y	N	H M L	Public	Const Person s	Third Parties	Other s		Y/N	H M L						
	5. Undermining of adjacent structures	Y		L	X	X	X	X	Information/Instruction/Training: - Staff should be trained in the use of cable location tools - Staff should be informed of when and how to use support equipment for excavations/trenches - Staff to be trained in safe excavation procedures - All Plant operators should be CPCS (or equivalent) qualified Managerial Controls: - Ensure adequate supervision is provided and that control measures remain valid for the duration of the work - Physical Controls: - Ensure sufficient and appropriate equipment is available to support excavations and prevent collapse - Use a cable detection tool and obtain copies of the service plans from the statutory authorities prior to proceeding with the excavations - Carefully hand dig around buried services - Do not stockpile excavated or other materials adjacent to the excavation - Ensure safe access and egress is provided into the excavation - Provide a handrail/barrier around the edge of all excavations to prevent persons falling into the excavation - Where there is a risk of flooding from sewers, groundwater or surface runoff, a suitably sized pump should be provided to dewater the excavation - Provide stop logs at the edge of the excavation to stop plant and machinery falling into the excavation or overloading the edges Procedural Controls: - Excavation to be inspected each shift before the commencement of work – record of inspections to be maintained - Implement a permit to work system for all excavations - Where there is a considered risk of potential ventilation problems, a gas monitor should be utilised before entry and during the works HSE & Other Guidance: - HSG 47 Avoiding Danger from Underground Services - Construction Information Sheet No. 8 Safety in Excavations HSG185 Health and Safety in Excavations: Be Safe and Shore	Y	L						

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		Y	N	H M L	Public	Const Person s	Third Parties	Other s		Y/N	H M L	

A11	Fire Safety											
	3. Hot works – Welding and Cutting (inc. disc cutters)	Y		H	X	X	X		Information/Instruction/Training: - All persons to be trained in emergency fire procedures including what to do if the alarm is raised, how to raise the alarm and general evacuation procedures - All staff to be informed of the risks from fire and the precautions taken to control and reduce the risk of fire, including the safe storage of flammable materials, site tidiness and the requirement for hot work permits - Key operatives to be trained in the selection and use of fire extinguishers Managerial Controls: - Ensure adequate supervision is provided and that control measures remain valid for the duration of the work - Ensure a suitable and sufficient fire plan is established and that adequate means of escape are provided. - Ensure a suitable means of raising the alarm is provided and that appropriate fire extinguishers are located around the site. - Ensure that adequate access is provided to all areas of the site for the fire and other emergency services - Ensure all electrical installations comply with BS7671 Physical Controls: - All hot works to be strictly controlled with a Hot Works Permit - No hot Works to be undertaken within 1 hour of the site closing - Fire extinguishers to be provided whenever hot works are undertaken Procedural Controls: - Restrict smoking to designated areas - Do not allow waste to build up on site - Ensure all machinery and electrical equipment is inspected and regularly checked to avoid the risk of fire from faulty equipment HSE & Other Guidance: - HSG 168 Fire Safety in Construction	Y	L	

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		Y	N	H M L	Public	Const Person s	Third Parties	Other s		Y/N	H M L	

	2. Discarded cigarettes/matches 4. Use of LPG (Space heaters/cookers)	Y		M	X	X	X		Information/Instruction/Training: - All persons to be trained in emergency fire procedures including what to do if the alarm is raised, how to raise the alarm and general evacuation procedures - All staff to be informed of the risks from fire and the precautions taken to control and reduce the risk of fire, including the safe storage of flammable materials, site tidiness and the requirement for hot work permits - Key operatives to be trained in the selection and use of fire extinguishers Managerial Controls: - Ensure adequate supervision is provided and that control measures remain valid for the duration of the work - Ensure a suitable and sufficient fire plan is established and that adequate means of escape are provided. - Ensure a suitable means of raising the alarm is provided and that appropriate fire extinguishers are located around the site. - Ensure that adequate access is provided to all areas of the site for the fire and other emergency services - Ensure all electrical installations comply with BS7671 Physical Controls: - All hot works to be strictly controlled with a Hot Works Permit - No hot Works to be undertaken within 1 hour of the site closing - Fire extinguishers to be provided whenever hot works are undertaken Procedural Controls: - Restrict smoking to designated areas - Do not allow waste to build up on site - Ensure all machinery and electrical equipment is inspected and regularly checked to avoid the risk of fire from faulty equipment HSE & Other Guidance: - HSG 168 Fire Safety in Construction	Y	L	
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		Y	N	H M L	Public	Const Person s	Third Parties	Other s		Y/N	H M L	

	1. Arson 5. Electrical short circuits/overloaded sockets 6. Contact with hot exhausts	Y		L	X	X	X		Information/Instruction/Training: - All persons to be trained in emergency fire procedures including what to do if the alarm is raised, how to raise the alarm and general evacuation procedures - All staff to be informed of the risks from fire and the precautions taken to control and reduce the risk of fire, including the safe storage of flammable materials, site tidiness and the requirement for hot work permits - Key operatives to be trained in the selection and use of fire extinguishers Managerial Controls: - Ensure adequate supervision is provided and that control measures remain valid for the duration of the work - Ensure a suitable and sufficient fire plan is established and that adequate means of escape are provided. - Ensure a suitable means of raising the alarm is provided and that appropriate fire extinguishers are located around the site. - Ensure that adequate access is provided to all areas of the site for the fire and other emergency services - Ensure all electrical installations comply with BS7671 Physical Controls: - All hot works to be strictly controlled with a Hot Works Permit - No hot Works to be undertaken within 1 hour of the site closing - Fire extinguishers to be provided whenever hot works are undertaken Procedural Controls: - Restrict smoking to designated areas - Do not allow waste to build up on site - Ensure all machinery and electrical equipment is inspected and regularly checked to avoid the risk of fire from faulty equipment HSE & Other Guidance: - HSG 168 Fire Safety in Construction	Y	L	
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		Y	N	H M L	Public	Const Person s	Third Parties	Other s		Y/N	H M L					
A12	Glazing															
	2. Falls from Height 5. Ladder Work	Y		H	X	X	X		Information/Instruction/Training: - Only competent experienced glazers to be employed - Train all operatives in safe lifting and handling techniques - Train all operatives to use and the need for appropriate PPE Managerial Controls: - Ensure adequate supervision is provided and that control measures remain valid for the duration of the work - Ensure first aid kit is readily available close to the works being undertaken - Ensure the PPE provided is appropriate for the task Physical Controls: - Ensure adequate storage areas are provided - Ensure safe access is provided to the working area - Clear up all breakages immediately - Use approved suction pads to lift and handle glass sheets Procedural Controls: - Avoid working from ladders and other temporary platforms, ensure an adequate safe working platform is always provided - Ensure a first aider is present within each glazing team	Y	L					
	1. Manual Handling 3. Sharp Edges 4. Falling Objects/Materials	Y		M	X	X	X		Information/Instruction/Training: - Only competent experienced glazers to be employed - Train all operatives in safe lifting and handling techniques - Train all operatives to use and the need for appropriate PPE Managerial Controls: - Ensure adequate supervision is provided and that control measures remain valid for the duration of the work - Ensure first aid kit is readily available close to the works being undertaken - Ensure the PPE provided is appropriate for the task Physical Controls: - Ensure adequate storage areas are provided - Ensure safe access is provided to the working area - Clear up all breakages immediately - Use approved suction pads to lift and handle glass sheets Procedural Controls: - Avoid working from ladders and other temporary platforms, ensure an adequate safe working platform is always provided - Ensure a first aider is present within each glazing team	Y	L					

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		Y	N	H M L	Public	Const Person s	Third Parties	Other s		Y/N	H M L	

A13	Lead Work											
	1. Ingestion of lead 2. Inhalation of lead fumes 3. Absorption of lead through contact with the skin	Y		H		X			Information/Instruction/Training: - All workers to be informed of the hazards from working with lead - Smoking, eating and drinking is to be prohibited when working with lead - Workers to be instructed in the safe system of work Workers to be instructed in safe manual handling techniques Managerial Controls: - Ensure strict supervision is provided and that control measures remain valid - Health surveillance and biological monitoring techniques to assess the health of individuals will be required if exposure Physical Controls: - Adequate hygiene facilities are to be provided including washbasins, soap, nail brushes and towels - Mechanical lifting devices should be provided to assist with lifting large pieces of lead - Mechanical snips/cutters should be used instead of other burning/cutting techniques - Where removal of products such as lead paint are envisaged, ensure that adequate ventilation is provided and wet the surfaces to limit the potential for lead dust HSE & Other Guidance - Control of Lead at Work Regulations and Approved Code of Practice	Y	L	All lead work should ideally be undertaken by competent specialists

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		Y	N	H M L	Public	Const Person s	Third Parties	Other s		Y/N	H M L	

	4. Manual Handling	Y		M		X			Information/Instruction/Training: - All workers to be informed of the hazards from working with lead - Smoking, eating and drinking is to be prohibited when working with lead - Workers to be instructed in the safe system of work Workers to be instructed in safe manual handling techniques Managerial Controls: - Ensure strict supervision is provided and that control measures remain valid - Health surveillance and biological monitoring techniques to assess the health of individuals will be required if exposure Physical Controls: - Adequate hygiene facilities are to be provided including washbasins, soap, nail brushes and towels - Mechanical lifting devices should be provided to assist with lifting large pieces of lead - Mechanical snips/cutters should be used instead of other burning/cutting techniques - Where removal of products such as lead paint are envisaged, ensure that adequate ventilation is provided and wet the surfaces to limit the potential for lead dust HSE & Other Guidance Control of Lead at Work Regulations and Approved Code of Practice	Y	L	All lead work should ideally be undertaken by competent specialists
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		Y	N	H M L	Public	Const Person s	Third Parties	Other s		Y/N	H M L	

A14	Overhead Services											
	1. Contact with plant or equipment 2. Contact with other objects (survey poles, ladders, lighting columns, scaffold tubes etc.) 3. Arcing between cables and other objects	Y		H		X			Information/Instruction/Training: - All staff to be informed of the location of overhead cables and the restrictions placed on works in their vicinity - All visiting delivery drivers to be informed of the dangers and restrictions placed on them such as when tipping materials on the site Managerial Controls: - Ensure adequate supervision is provided and that control measures remain valid for the duration of the work - Where possible remove or divert overhead cables to eliminate the risk Physical Controls: - Establish distance barriers/goal posts on the approaches to power lines - Ensure all overhead cable are clearly identified and signed - Restrict all works in the vicinity of overhead cables - Restrict/limit the reach of plant/equipment which must be used in the vicinity of such cables Procedural Controls: - Control the movement of plant and vehicles in the vicinity of overhead cables - No lifting operations to be carried out within the hazard zone (to be agreed with electricity authority) Physical Controls: - Restrict all works in the vicinity of overhead cables - Restrict/limit the reach of plant/equipment which must be used in the vicinity of such cables	Y	L	

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		Y	N	H M L	Public	Const Person s	Third Parties	Other s		Y/N	H M L	

A15	Painting											
	1. Falls from height	Y		H	X	X	X		Information/Instruction/Training: - Provide training appropriate to the method of working, i.e.: use of MEWPS, inspection/use of mobile tower scaffolds - Inform operatives of the hazards from the substances they are using - Training in the use and selection of appropriate respiratory protection Managerial Controls: - Ensure adequate supervision is provided and that control measures remain valid for the duration of the work - Select non solvent based paints/varnishes etc. Physical Controls: - Ensure all waste materials are appropriately disposed of - Ensure a safe working platform is provided to access all areas - Where necessary, consider the use of forced ventilation - Full welfare and hygiene facilities should be provided HSE & Other Guidance: - HSG4 Highly Flammable Liquids in the Paint Industry	Y	L	
	3. Falling objects/materials 4. Dermatitis 5. Inhalation of toxic vapours	Y		M	X	X	X		Information/Instruction/Training: - Provide training appropriate to the method of working, i.e.: use of MEWPS, inspection/use of mobile tower scaffolds - Inform operatives of the hazards from the substances they are using - Training in the use and selection of appropriate respiratory protection Managerial Controls: - Ensure adequate supervision is provided and that control measures remain valid for the duration of the work - Select non solvent based paints/varnishes etc. Physical Controls: - Ensure all waste materials are appropriately disposed of - Ensure a safe working platform is provided to access all areas - Where necessary, consider the use of forced ventilation - Full welfare and hygiene facilities should be provided HSE & Other Guidance: - HSG4 Highly Flammable Liquids in the Paint Industry	Y	L	

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		Y	N	H M L	Public	Const Person s	Third Parties	Other s		Y/N	H M L	

	2. Slips, trips and falls 6. Fire/explosion	Y		L	X	X	X		Information/Instruction/Training: - Provide training appropriate to the method of working, i.e.: use of MEWPS, inspection/use of mobile tower scaffolds - Inform operatives of the hazards from the substances they are using - Training in the use and selection of appropriate respiratory protection Managerial Controls: - Ensure adequate supervision is provided and that control measures remain valid for the duration of the work - Select non solvent based paints/varnishes etc. Physical Controls: - Ensure all waste materials are appropriately disposed of - Ensure a safe working platform is provided to access all areas - Where necessary, consider the use of forced ventilation - Full welfare and hygiene facilities should be provided HSE & Other Guidance: - HSG4 Highly Flammable Liquids in the Paint Industry	Y	L	
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		Y	N	H M L	Public	Const Person s	Third Parties	Other s		Y/N	H M L	

A16	Pre-Cast Concrete Works											
	1. Failure/collapse of the pre-cast units 2. Failure/collapse of the supporting structure(s)	Y		L	X	X			Information/Instruction/Training: - Staff to be training in lifting, slinging, handling and positioning of the pre-cast units - Manual handling training to be provided Managerial Controls - Ensure adequate supervision is provided and that control measures remain valid for the duration of the work Physical Controls - Edge protection to be provided wherever fall of more than 1.8m can be achieved - Ensure the correct lifting accessories as recommended by the manufacturers are used - Persons working at height should be protected with harnesses and lanyards - Use steel bars, not hands to assist in the positioning of individual units Procedural Controls - Ensure adequate space is available to locate the lifting equipment and for the storage/off-loading of the pre-cast units - Check wind speeds to ensure that additional hazards are not created by adverse conditions HSE & Other Guidance - GS28 Safe Erection of Structures - HSG46 A Guide for Small Contractors: Site Safety and Concrete Construction	Y	L	

REF	HAZARDS	RISK			PERSONS WHO WILL BE AFFECTED				RISK CONTROL MEASURE TO BE UNDERTAKEN IN ORDER TO ELIMINATE HAZARD / REDUCE RISK TO AN ACCEPTABLE LEVEL. COMMENT /DESIGN INTERVENTION	RESIDUAL RISK		Comments
		Y	N	H M L	Public	Const Person s	Third Parties	Other s		Y/N	H M L	

	3. Failure of the lifting operation 5. Falls from height 6. Falling objects 7. Crushing of hands	Y		H	X	X			Information/Instruction/Training: - Staff to be training in lifting, slinging, handling and positioning of the pre-cast units - Manual handling training to be provided Managerial Controls - Ensure adequate supervision is provided and that control measures remain valid for the duration of the work Physical Controls - Edge protection to be provided wherever fall of more than 1.8m can be achieved - Ensure the correct lifting accessories as recommended by the manufacturers are used - Persons working at height should be protected with harnesses and lanyards - Use steel bars, not hands to assist in the positioning of individual units Procedural Controls - Ensure adequate space is available to locate the lifting equipment and for the storage/off-loading of the pre-cast units - Check wind speeds to ensure that additional hazards are not created by adverse conditions HSE & Other Guidance - GS28 Safe Erection of Structures - HSG46 A Guide for Small Contractors: Site Safety and Concrete Construction	Y	L	
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		Y	N	H M L	Public	Const Person s	Third Parties	Other s		Y/N	H M L	

	4. Manual Handling	Y		M	X	X			Information/Instruction/Training: - Staff to be training in lifting, slinging, handling and positioning of the pre-cast units - Manual handling training to be provided Managerial Controls - Ensure adequate supervision is provided and that control measures remain valid for the duration of the work Physical Controls - Edge protection to be provided wherever fall of more than 1.8m can be achieved - Ensure the correct lifting accessories as recommended by the manufacturers are used - Persons working at height should be protected with harnesses and lanyards - Use steel bars, not hands to assist in the positioning of individual units Procedural Controls - Ensure adequate space is available to locate the lifting equipment and for the storage/off-loading of the pre-cast units - Check wind speeds to ensure that additional hazards are not created by adverse conditions HSE & Other Guidance - GS28 Safe Erection of Structures - HSG46 A Guide for Small Contractors: Site Safety and Concrete Construction	Y	L	
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		Y	N	H M L	Public	Const Person s	Third Parties	Other s		Y/N	H M L	

A17	Pre-Demolition Enabling Works											
	1. Exposure to hazardous substances (Asbestos, lead etc.) 2. Exposure to live services 4. Fire caused by site clearance works	Y		H	X	X	X		Information/Instruction/Training: - Comprehensive induction and training is required for all operatives to reinforce the inherent dangers of this work and to highlight the potential hazards which they may encounter - Staff need to informed of the need for good hygiene Managerial Controls: - Ensure adequate supervision is provided and that control measures remain valid for the duration of the work - All services to the site should be disconnected and isolated at the boundary to site before the start of works - A full Type 3 survey should be undertaken prior to the commencement of works Physical Controls: - All cuts and scratches should be treated and covered immediately to prevent infection - All known hazardous substances such as Asbestos should be removed from the site prior to the start of works and clearance certificate issued Procedural Controls: - Smoking should not be permitted on the site - Regular coordination meetings should be held to ensure good communications are being maintained and that the safe systems of works are being maintained - All suspicious substances should be left intact and reported immediately to the works supervisor and works in the area stopped until the issue has been resolved	Y	L	

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		Y	N	H M L	Public	Const Person s	Third Parties	Other s		Y/N	H M L					
	3. Contaminated substances from historic use of the site	Y		M	X	X	X		Information/Instruction/Training: - Comprehensive induction and training is required for all operatives to reinforce the inherent dangers of this work and to highlight the potential hazards which they may encounter - Staff need to informed of the need for good hygiene Managerial Controls: - Ensure adequate supervision is provided and that control measures remain valid for the duration of the work - All services to the site should be disconnected and isolated at the boundary to site before the start of works - A full Type 3 survey should be undertaken prior to the commencement of works Physical Controls: - All cuts and scratches should be treated and covered immediately to prevent infection - All known hazardous substances such as Asbestos should be removed from the site prior to the start of works and clearance certificate issued Procedural Controls: - Smoking should not be permitted on the site - Regular coordination meetings should be held to ensure good communications are being maintained and that the safe systems of works are being maintained - All suspicious substances should be left intact and reported immediately to the works supervisor and works in the area stopped until the issue has been resolved	Y	L					

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		Y	N	H M L	Public	Const Person s	Third Parties	Other s		Y/N	H M L	

A18	Propping/Falsework											
	1. Collapse of the falsework/propping systems 2. Falls from height 3. Falling materials 4. Manual Handling 5. Use of power tools/trailing leads 6. Noise/vibration	Y		M	X	X	X		Information/Instruction/Training: - Training to be provided in the use, erection and dismantling of the falsework and propping systems - Ensure all staff are familiar with the sequence of operations and have copies of the plans and calculations before commencing works - Ensure all persons are aware of the hazards and have the appropriate training - All lifting operations should be carefully planned and coordinated by a competent person Managerial Controls: - Ensure adequate supervision is provided and that control measures remain valid for the duration of the work - Ensure that the systems have been properly designed and are suitable for the chosen application, taking into account factors such as the spans, loads and use Physical Controls: - All works shall be controlled by a Falsework Coordinator as defined in BS5975 - Safe access and egress to the workplace should be provided, together with safe working platforms - Where appropriate edge protection and fall arrest system shall be used - Where appropriate protection should be put in place to prevent the falsework/props from being disturbed/moved Procedural Controls: - All work should be carried out in accordance with an agreed method statement and sequence of works - Falsework must not be overloaded HSE & Other Guidance - HSG46 A Guide for Small Contractors: Site Safety and Concrete Construction - HSG32 Safety in Falsework for In-Situ Beams and Slabs - BS5975 Code of Practice for Falsework	Y	L	All falsework and propping systems should be carefully designed by a competent person

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			Y	N	H M L	Public	Const Person s	Third Parties	Other s					Y/N	H M L								

A19	Rendering											
	1. Falling Objects/Materials 2. Falls from Height 3.Manual Handling 4. Contact with Mortar	Y		M	X	X			Information/Instruction/Training - Standard site safety inductions should be provided and the risks of working at height and manual handling should be highlighted Managerial Controls - Ensure adequate supervision is provided and that control measures remain valid for the duration of the work Physical Controls: - Ensure that a safe working platform is provided - Ensure that safe access and egress to the place of work is provided - Provide mechanical handling equipment to deliver materials to point at which they are needed - Ensure all waste is cleared from working platforms Procedural Controls: - Ensure all staff are competent and experienced in the type of work	Y	L	

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			Y	N	H M L	Public	Const Person s	Third Parties	Other s					Y/N	H M L								

A20	Site Access/Egress											
	1. Impact/collision between site traffic and other road users 2. Muddy roads and pavements on the site approach roads 3. Restricted access for emergency vehicles	Y		M	X	X	X	X	Information/Instruction/Training: - Banksmen/traffic coordinators to be given special training - All staff to be informed of traffic and parking restrictions such as no parking on the approach roads Managerial Controls: - Ensure adequate supervision is provided and that control measures remain valid for the duration of the work - Ensure police and other emergency services are kept informed about the works, particularly if any changes occur during the works Physical Controls: - Ensure approach roads are kept clear of mud and other debris - Use banksman to assist with vehicular movements into and out of the site - Consider traffic control system to control traffic entering and exiting the site - Ensure a properly marked pedestrian path is identified - Ensure that pedestrian and vehicular traffic on the site are also separated - Provide a dedicated pedestrian access to and from the site - Ensure the site entrance and site roads are adequately illuminated - Ensure that sufficient warning signs are displayed on the approach roads to the site Procedural Controls: - Ensure that adequate parking is made available for all the staff likely to be present on the site, if this is not practical, consider establishing a park and ride scheme HSE & Other Guidance: - HSG144 The Safe Use of Vehicles on Construction Sites	Y	L	Consider signing up for the Considerate Contractors Scheme

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		Y	N	H M L	Public	Const Person s	Third Parties	Other s		Y/N	H M L						
	4. Increase in the number of large/heavy delivery vehicles	Y		L	X	X	X	X	Information/Instruction/Training: - Banksmen/traffic coordinators to be given special training - All staff to be informed of traffic and parking restrictions such as no parking on the approach roads Managerial Controls: - Ensure adequate supervision is provided and that control measures remain valid for the duration of the work - Ensure police and other emergency services are kept informed about the works, particularly if any changes occur during the works Physical Controls: - Ensure approach roads are kept clear of mud and other debris - Use banksman to assist with vehicular movements into and out of the site - Consider traffic control system to control traffic entering and exiting the site - Ensure a properly marked pedestrian path is identified - Ensure that pedestrian and vehicular traffic on the site are also separated - Provide a dedicated pedestrian access to and from the site - Ensure the site entrance and site roads are adequately illuminated - Ensure that sufficient warning signs are displayed on the approach roads to the site Procedural Controls: - Ensure that adequate parking is made available for all the staff likely to be present on the site, if this is not practical, consider establishing a park and ride scheme HSE & Other Guidance: - HSG144 The Safe Use of Vehicles on Construction Sites	Y	L	Consider signing up for the Considerate Contractors Scheme					

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			Y	N	H M L	Public	Const Person s	Third Parties	Other s				Y/N	H M L		

A21	Site Setup												
	1. Excavations 2. Fire 4. Exposure to hazardous substances	Y		M	X	X	X		Managerial Controls: - Ensure adequate supervision is provided and that control measures remain valid for the duration of the work - Plan the layout of the site before commencing works - Ensure adequate water, electricity and drainage infrastructure can be provided and where it should be connected to Physical Controls: - Ensure ground is capable of sustaining the loads of not only the site offices etc., but also for the crane and other vehicles which will be used at this time - Ensure that operatives are issued with the appropriate PPE, first aid kits and fire extinguishers etc. as none will be available on site at this stage of the works Procedural Controls: - Ensure that a suitable crane is available for all lifting operations - Ensure all lifting operations are carefully planned and coordinated HSE & Other Guidance - HSG168 Fire Safety in Construction Work	Y	L	As this is often one of the first operations to take place on a new site, it is essential that the works are carefully planned to take account of any unforeseen conditions etc.	
	3. Lifting operations 5. Electricity	Y		H	X	X	X		Managerial Controls: - Ensure adequate supervision is provided and that control measures remain valid for the duration of the work - Plan the layout of the site before commencing works - Ensure adequate water, electricity and drainage infrastructure can be provided and where it should be connected to Physical Controls: - Ensure ground is capable of sustaining the loads of not only the site offices etc., but also for the crane and other vehicles which will be used at this time - Ensure that operatives are issued with the appropriate PPE, first aid kits and fire extinguishers etc. as none will be available on site at this stage of the works Procedural Controls: - Ensure that a suitable crane is available for all lifting operations - Ensure all lifting operations are carefully planned and coordinated HSE & Other Guidance - HSG168 Fire Safety in Construction Work	Y	L	As this is often one of the first operations to take place on a new site, it is essential that the works are carefully planned to take account of any unforeseen conditions etc.	

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A22	Storage and Use of Highly Flammable Liquids											
	1.Fire 2.Explosion 3. Environmental Contamination	Y		H	X	X	X	X	Information/Instruction/Training: - All persons using HFL's to be provided with specific training to control the risks associated with its use, this should also include the use of fire extinguishers Managerial Controls: - Ensure adequate supervision is provided and that control measures remain valid for the duration of the work Physical Controls - HFL's to be stored in appropriate containers which are clearly marked with its contents, the lids of all containers shall be securely fitted at all times - Containers will be stored in a well ventilated locked cage - All spillages will be cleared up immediately. □ Procedural Controls: - Minimise the quantities of HFL's held on site - Restrict access to the use of the materials - Smoking to be banned in the vicinity of all HFL's HSE & Other Guidance: - HSG168 Fire Safety in Construction Work	Y	L	

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		Y	N	H M L	Public	Const Person s	Third Parties	Other s		Y/N	H M L	

A23	Storage of Materials on Site											
	1. Falling materials (as a result of poorly stacked materials) 2. Injury to unauthorised persons such as children 3. Manual handling	Y		M		X	X	X	Information/Instruction/Training: - Site operatives should be instructed of the need for good housekeeping standards and in maintaining a tidy well organised storage area - Operatives should be informed that all chemicals are potentially hazardous and should be handled with care – reference should also be made to the appropriate COSHH assessment before use Managerial Controls: - Ensure adequate supervision is provided and that control measures remain valid for the duration of the work - Sufficient space should be provided for the safe storage of all materials - All areas to be regularly inspected to ensure the stability and safety of such areas Physical Controls: - Perishable goods should be stored within lockable containers - Pipes, drums and other similar materials should be securely chocked - Follow manufacturers/suppliers storage recommendations in all cases - Avoid stacking any materials more than 2m high - All chemicals and fuel’s shall be stored within bunded areas to reduce the risk of contamination	Y	L	

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		Y	N	H M L	Public	Const Person s	Third Parties	Other s		Y/N	H M L	

	4. Mechanical handling	Y		L		X	X	X	Information/Instruction/Training: - Site operatives should be instructed of the need for good housekeeping standards and in maintaining a tidy well organised storage area - Operatives should be informed that all chemicals are potentially hazardous and should be handled with care – reference should also be made to the appropriate COSHH assessment before use Managerial Controls: - Ensure adequate supervision is provided and that control measures remain valid for the duration of the work - Sufficient space should be provided for the safe storage of all materials - All areas to be regularly inspected to ensure the stability and safety of such areas Physical Controls: - Perishable goods should be stored within lockable containers - Pipes, drums and other similar materials should be securely chocked - Follow manufacturers/suppliers storage recommendations in all cases - Avoid stacking any materials more than 2m high - All chemicals and fuel's shall be stored within bunded areas to reduce the risk of contamination	Y	L	
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		Y	N	H M L	Public	Const Person s	Third Parties	Other s		Y/N	H M L	

A24	Structural Steelwork Erection											
	1. Fall from height	Y		H		X			Information/Instruction/Training: - Only experienced competent and trained steelwork erectors to be used - Other staff in the area to be instructed to keep clear of the area Managerial Controls: - Ensure adequate supervision is provided and that control measures remain valid for the duration of the work Physical Controls: - No other works to take place in the area below the steelwork erection - No straddling of steelwork permitted - All steelwork to be secured by personnel operating from MEWP's or other man rider's Procedural Controls: - Monitor weather conditions and stop the erection works if the wind speed exceeds 15mph - Detailed method statement should be prepared and adhered to at all times - Ensure an appropriately rated crane is used HSE & Other Guidance - GS28 Safe Erection of Structures	Y	L	
	2. Falling tools/materials 3. Lifting operations 4. Adverse weather conditions 5. Overhead services	Y		M		X			Information/Instruction/Training: - Only experienced competent and trained steelwork erectors to be used - Other staff in the area to be instructed to keep clear of the area Managerial Controls: - Ensure adequate supervision is provided and that control measures remain valid for the duration of the work Physical Controls: - No other works to take place in the area below the steelwork erection - No straddling of steelwork permitted - All steelwork to be secured by personnel operating from MEWP's or other man rider's Procedural Controls: - Monitor weather conditions and stop the erection works if the wind speed exceeds 15mph - Detailed method statement should be prepared and adhered to at all times - Ensure an appropriately rated crane is used HSE & Other Guidance - GS28 Safe Erection of Structures	Y	L	

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			Y	N	H M L	Public	Const Person s	Third Parties	Other s			Y/N	H M L		

A25	Traffic Management											
	1. Operatives being struck by traffic	Y		H	X	X			Information/Instruction/Training: - All operatives to be informed and instructed of the risk and hazards of working adjacent to live traffic - Appropriately qualified site supervisor trained in accordance with the NRSWA to be on site at all times - All operatives to be NRSWA certified - All operatives to be familiar with the requirements of Chapter 8 of the Street Works Manual Managerial Controls: - Ensure adequate supervision is provided and that control measures remain valid for the duration of the work Physical Controls: - During the setting up of the traffic management systems, vehicles with roof mounted flashing amber beacons; men at work signs and keep left/right arrows shall be used to provide protection to the operatives setting out the cones, barriers and signage etc. - Advance warning signs will be erected on the approaches to the works area to warn motorists of the impending works - All staff will wear high visibility clothing when working in the public highway - Sufficient road width will be provided to enable buses, cars and lorries etc. to pass safely Procedural Controls: - All traffic management proposals should be carefully planned in advance and agreed with the highways authorities and where applicable with the emergency services - All traffic management schemes are to be designed in accordance with Chapter 8 of the NRSWA - Ensure sufficient supplies of cones, signs and other products are available before the commencement of operations - Operatives will always face the traffic when setting out cones, barriers and signs etc. - Regular inspection and checking of signs and other elements of the traffic management proposals will be carried out to ensure they remain in the correct position etc. HSE & Other Guidance: - CIS No. 52 – Crossing High Speed Roads on Foot During Temporary Traffic Management Works - Safety at Street Works and Road Works – A Code of Practice	Y	L	

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		Y	N	H M L	Public	Const Person s	Third Parties	Other s		Y/N	H M L						
	2. Traffic colliding with stationary plant, materials or equipment	Y		M	X	X			Information/Instruction/Training: - All operatives to be informed and instructed of the risk and hazards of working adjacent to live traffic - Appropriately qualified site supervisor trained in accordance with the NRSWA to be on site at all times - All operatives to be NRSWA certified - All operatives to be familiar with the requirements of Chapter 8 of the Street Works Manual Managerial Controls: - Ensure adequate supervision is provided and that control measures remain valid for the duration of the work Physical Controls: - During the setting up of the traffic management systems, vehicles with roof mounted flashing amber beacons; men at work signs and keep left/right arrows shall be used to provide protection to the operatives setting out the cones, barriers and signage etc. - Advance warning signs will be erected on the approaches to the works area to warn motorists of the impending works - All staff will wear high visibility clothing when working in the public highway - Sufficient road width will be provided to enable buses, cars and lorries etc. to pass safely Procedural Controls: - All traffic management proposals should be carefully planned in advance and agreed with the highways authorities and where applicable with the emergency services - All traffic management schemes are to be designed in accordance with Chapter 8 of the NRSWA - Ensure sufficient supplies of cones, signs and other products are available before the commencement of operations - Operatives will always face the traffic when setting out cones, barriers and signs etc. - Regular inspection and checking of signs and other elements of the traffic management proposals will be carried out to ensure they remain in the correct position etc. HSE & Other Guidance: - CIS No. 52 – Crossing High Speed Roads on Foot During Temporary Traffic Management Works - Safety at Street Works and Road Works – A Code of Practice	Y	L						

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		Y	N	H M L	Public	Const Person s	Third Parties	Other s		Y/N	H M L	

A26	Underground/Buried Services											
	2. Damaged pipes (gas, sewage, water, oil, chemicals etc.) 3. Toxic/Flammable atmospheres	Y		M	X	X			Information/Instruction/Training - Inform site manager and operatives of the location, type and position of underground services - All operatives should be trained in the requirements of HSG 47 Avoiding Danger From Underground services - Plant operators should be trained to CPCS level - All operatives to be trained in emergency procedures to be followed in the event of a service strike Managerial Controls - Ensure adequate supervision is provided and that control measures remain valid for the duration of the work - All services should be assumed live until proved otherwise Physical Controls - Confirm the location of services with a cable detection tool - Hand dig around services to avoid damage Procedural Controls - Obtain copies of services drawings and mark them out on the surface prior to starting work - Implement a permit to dig system - A detailed method statement outlining the work should also be provided HSE & Other Guidance - HSG 47 Avoiding Danger from Underground Services - Construction Information Sheet No. 8 Safety in Excavations - HSG185 Health and Safety in Excavations: Be Safe and Shore	Y	L	

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		Y	N	H M L	Public	Const Person s	Third Parties	Other s		Y/N	H M L	

	1. General excavation hazards 4. Electrocution	Y		H	X	X			Information/Instruction/Training - Inform site manager and operatives of the location, type and position of underground services - All operatives should be trained in the requirements of HSG 47 Avoiding Danger From Underground services - Plant operators should be trained to CPCS level - All operatives to be trained in emergency procedures to be followed in the event of a service strike Managerial Controls - Ensure adequate supervision is provided and that control measures remain valid for the duration of the work - All services should be assumed live until proved otherwise Physical Controls - Confirm the location of services with a cable detection tool - Hand dig around services to avoid damage Procedural Controls - Obtain copies of services drawings and mark them out on the surface prior to starting work - Implement a permit to dig system - A detailed method statement outlining the work should also be provided HSE & Other Guidance - HSG 47 Avoiding Danger from Underground Services - Construction Information Sheet No. 8 Safety in Excavations HSG185 Health and Safety in Excavations: Be Safe and Shore	Y	L	
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			Y	N	H M L	Public	Const Person s	Third Parties	Other s			Y/N	H M L		

A27	Underpinning												
	1. Work in confined spaces 2. Use of plant restricted areas 3. Noise and vibration 4. Manual handling 5. Collapse of ground	Y		M	X	X			Information/Instruction/Training: - All operatives to be made aware of the safe system of work - All workers to be competent and experienced in this area of work Managerial Controls: - Ensure adequate supervision is provided and that control measures remain valid for the duration of the work Physical Controls: - The area should be securely fenced to prevent unauthorised access to the work area - The structure should be securely propped to prevent collapse Procedural Controls: - All works should carried out in accordance with a detailed method statement and under the control of a permit to work HSE & Other Guidance: - HSG47 Avoiding Danger From Underground Services - HSG185 Health and Safety in Excavations: Be Safe and Shore	Y	L	This is generally a specialist operation to which specialist contractors should be appointed	
	10. Collapse of structure	Y		H	X	X			Information/Instruction/Training: - All operatives to be made aware of the safe system of work - All workers to be competent and experienced in this area of work Managerial Controls: - Ensure adequate supervision is provided and that control measures remain valid for the duration of the work Physical Controls: - The area should be securely fenced to prevent unauthorised access to the work area - The structure should be securely propped to prevent collapse Procedural Controls: - All works should carried out in accordance with a detailed method statement and under the control of a permit to work HSE & Other Guidance: - HSG47 Avoiding Danger From Underground Services - HSG185 Health and Safety in Excavations: Be Safe and Shore	Y	L	This is generally a specialist operation to which specialist contractors should be appointed	

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		Y	N	H M L	Public	Const Person s	Third Parties	Other s		Y/N	H M L	

	5. Water ingress	Y		L	X	X			Information/Instruction/Training: - All operatives to be made aware of the safe system of work - All workers to be competent and experienced in this area of work Managerial Controls: - Ensure adequate supervision is provided and that control measures remain valid for the duration of the work Physical Controls: - The area should be securely fenced to prevent unauthorised access to the work area - The structure should be securely propped to prevent collapse Procedural Controls: - All works should carried out in accordance with a detailed method statement and under the control of a permit to work HSE & Other Guidance: - HSG47 Avoiding Danger From Underground Services - HSG185 Health and Safety in Excavations: Be Safe and Shore	Y	L	This is generally a specialist operation to which specialist contractors should be appointed
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		Y	N	H M L	Public	Const Person s	Third Parties	Other s		Y/N	H M L	

	1. Burst wheel/disc 2. Flying debris from wheel/disc 3. Flying debris from material being cut/ground 4. Noise/Vibration 5. Inhalation of dust 6.Contact with cutting wheel/disc	Y		M	X	X	X		Information/Instruction/Training: - All persons changing abrasive wheels/cutting discs shall be trained in accordance with the requirements of current regulations - All operatives to be trained in the selection and use of abrasive wheels/ cutting discs - All operatives using abrasive wheels should be instructed to warn other persons in the area who may be affected by their work and ensure that they remain at a safe distance - All operatives to be trained in the use of the appropriate PPE Managerial Controls: - Ensure adequate supervision is provided and that control measures remain valid for the duration of the work - Only competent fully trained persons shall be authorised to change/mount abrasive wheels, all such persons shall be formally appointed by the company and recorded on a central register - The register shall be maintained together with copies of training certificates for all persons qualified/authorises to change abrasive wheels - Managers to ensure that sufficient supplies of the correct type of cutting disc/wheel are always available Physical Controls: - All wheels/discs to be inspected prior to use/mounting - Checks to be made to ensure the correct disc has been selected - Operators shall not apply excessive pressure to the disc during the cutting operation and shall ensure that the correct speed is used for the disc - Adequate and appropriate storage facilities to be provided for the storage of cutting discs/wheels and associated equipment - All required PPE as stated above shall be inspected and assessed for its suitability prior to use - No loose clothing or other material shall be worn or in the vicinity of the cutting operation - Operators shall only commence cutting operations when it is safe to do and they shall ensure that they have a firm footing at all times - Ensure guards are properly positioned to minimise the risk of injury should the cutting disc/wheel fail Procedural Controls: - Disc cutters and abrasive wheels shall only be used by appropriately trained and competent persons - Staff to ensure that the area adjacent to the cutting operations are either kept clear or that sufficient shielding is provided to guard other operatives/members of the public from flying sparks, dust and other debris - Ensure adequate ventilation is provided in areas where ventilation is poor - Where there is a potential fire risk, ensure an appropriate fire extinguisher is available HSE & Other Guidance - HSC17 Safety in the Use of Abrasive Wheels	Y	L	
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		Y	N	H M L	Public	Const Person s	Third Parties	Other s		Y/N	H M L	

	7. Entanglement of clothing in moving parts	Y		L	X	X	X		Information/Instruction/Training: - All persons changing abrasive wheels/cutting discs shall be trained in accordance with the requirements of current regulations - All operatives to be trained in the selection and use of abrasive wheels/ cutting discs - All operatives using abrasive wheels should be instructed to warn other persons in the area who may be affected by their work and ensure that they remain at a safe distance - All operatives to be trained in the use of the appropriate PPE Managerial Controls: - Ensure adequate supervision is provided and that control measures remain valid for the duration of the work - Only competent fully trained persons shall be authorised to change/mount abrasive wheels, all such persons shall be formally appointed by the company and recorded on a central register - The register shall be maintained together with copies of training certificates for all persons qualified/authorises to change abrasive wheels - Managers to ensure that sufficient supplies of the correct type of cutting disc/wheel are always available Physical Controls: - All wheels/discs to be inspected prior to use/mounting - Checks to be made to ensure the correct disc has been selected - Operators shall not apply excessive pressure to the disc during the cutting operation and shall ensure that the correct speed is used for the disc - Adequate and appropriate storage facilities to be provided for the storage of cutting discs/wheels and associated equipment - All required PPE as stated above shall be inspected and assessed for its suitability prior to use - No loose clothing or other material shall be worn or in the vicinity of the cutting operation - Operators shall only commence cutting operations when it is safe to do and they shall ensure that they have a firm footing at all times - Ensure guards are properly positioned to minimise the risk of injury should the cutting disc/wheel fail Procedural Controls: - Disc cutters and abrasive wheels shall only be used by appropriately trained and competent persons - Staff to ensure that the area adjacent to the cutting operations are either kept clear or that sufficient shielding is provided to guard other operatives/members of the public from flying sparks, dust and other debris - Ensure adequate ventilation is provided in areas where ventilation is poor - Where there is a potential fire risk, ensure an appropriate fire extinguisher is available HSE & Other Guidance HSC417 Safety In the Use of Abrasive Wheels	Y	L	
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			Y	N	H M L	Public	Const Person s	Third Parties	Other s			Y/N	H M L		

B02	Cartridge Operated Tools											
	1. Ricochet of nails	Y		H		X	X		Information/Instruction/Training: - Persons providing training must be experienced and competent to do so - Operators to be trained in the general use, application and hazards associated with the use of cartridge operated tools - Training shall also be provided in the selection of the appropriate fixings and cartridge for a given application - Training must also be provided to enable operatives to safely deal with misfires Managerial Controls: - Ensure adequate supervision is provided and that control measures remain valid for the duration of the work - Only trained operatives over the age of 18 years shall be authorised to use cartridge operated tools - Check to ensure operatives are not colour blind (cartridges are colour coded to identify their strength) Physical Controls: - To reduce the risk associated with ricochets nails passing straight through the material being fixed, the presence of others in the area should be strictly restricted - No persons shall be present on the opposite side of any wall, roof, partition or other fixing when using cartridge operated tools - Wherever necessary, shields shall be erected to provide protection against ricochets and splintering - Cartridge operated tools shall not be left unattended at any time - Cartridge operated tools shall not be used in flammable or explosive atmospheres Procedural Controls: - All cartridge's and tools shall be stored in a locked and secure store under the control of a competent supervisor - Supervisor shall keep strict records regarding the issue and use of all cartridges and tools HSE & Other Guidance: - HSE Guidance Note – Safety in the Use of Cartridge Operated Fixing Tools	Y	L	

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		Y	N	H M L	Public	Const Person s	Third Parties	Other s		Y/N	H M L	

	2. Material penetration/ breakthrough 3. Failure of material(s) being fixed 7. Damage to hidden services	Y		M		X	X		Information/Instruction/Training: - Persons providing training must be experienced and competent to do so - Operators to be trained in the general use, application and hazards associated with the use of cartridge operated tools - Training shall also be provided in the selection of the appropriate fixings and cartridge for a given application - Training must also be provided to enable operatives to safely deal with misfires Managerial Controls: - Ensure adequate supervision is provided and that control measures remain valid for the duration of the work - Only trained operatives over the age of 18 years shall be authorised to use cartridge operated tools - Check to ensure operatives are not colour blind (cartridges are colour coded to identify their strength) Physical Controls: - To reduce the risk associated with ricochets nails passing straight through the material being fixed, the presence of others in the area should be strictly restricted - No persons shall be present on the opposite side of any wall, roof, partition or other fixing when using cartridge operated tools - Wherever necessary, shields shall be erected to provide protection against ricochets and splintering - Cartridge operated tools shall not be left unattended at any time - Cartridge operated tools shall not be used in flammable or explosive atmospheres Procedural Controls: - All cartridge's and tools shall be stored in a locked and secure store under the control of a competent supervisor - Supervisor shall keep strict records regarding the issue and use of all cartridges and tools HSE & Other Guidance: - HSE Guidance Note – Safety in the Use of Cartridge Operated Fixing Tools	Y	L	
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		Y	N	H M L	Public	Const Person s	Third Parties	Other s		Y/N	H M L	

	4. Recoil 5. Misuse of tools/free firing – free flying nails 6.Explosion/fire caused by cartridge ignition particularly in flammable atmospheres	Y		L		X	X		Information/Instruction/Training: - Persons providing training must be experienced and competent to do so - Operators to be trained in the general use, application and hazards associated with the use of cartridge operated tools - Training shall also be provided in the selection of the appropriate fixings and cartridge for a given application - Training must also be provided to enable operatives to safely deal with misfires Managerial Controls: - Ensure adequate supervision is provided and that control measures remain valid for the duration of the work - Only trained operatives over the age of 18 years shall be authorised to use cartridge operated tools - Check to ensure operatives are not colour blind (cartridges are colour coded to identify their strength) Physical Controls: - To reduce the risk associated with ricochets nails passing straight through the material being fixed, the presence of others in the area should be strictly restricted - No persons shall be present on the opposite side of any wall, roof, partition or other fixing when using cartridge operated tools - Wherever necessary, shields shall be erected to provide protection against ricochets and splintering - Cartridge operated tools shall not be left unattended at any time - Cartridge operated tools shall not be used in flammable or explosive atmospheres Procedural Controls: - All cartridge's and tools shall be stored in a locked and secure store under the control of a competent supervisor - Supervisor shall keep strict records regarding the issue and use of all cartridges and tools HSE & Other Guidance: - HSE Guidance Note – Safety in the Use of Cartridge Operated Fixing Tools	Y	L	
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		Y	N	H M L	Public	Const Person s	Third Parties	Other s		Y/N	H M L	

B03	Chain Saws											
	1. Contact with cutting chain 2. Noise/Vibration 4. Flying debris and dust 5. Kick back 7. Fire (from fuel spilling onto hot exhaust)	Y		M	X	X	X		Information/Instruction/Training: - All operatives to be instructed in the safe system of work for the proposed operation - Training to be provided in the selection and use of the appropriate protective clothing and equipment - All operatives to be trained and competent in the use of chainsaws including its maintenance, inspection, refuelling, starting and storage - Other persons in the vicinity to be informed of the risks from noise, dust, fumes and flying debris etc. Managerial Controls: - Ensure adequate supervision is provided and that control measures remain valid for the duration of the work - The use of chain saws shall not be permitted by persons under the age of 18 years Physical Controls: - Chainsaws shall not be used above waist height - Operators shall always be securely footed when using chainsaws - Chainsaws shall not be used from ladders - Chain guards shall be used whenever the chainsaw is not in use - When working at height the operator shall be secured with a harness and lanyard - Care should be taken when refuelling chainsaws to ensure no fuel is spilt on to the exhaust which may in turn cause a fire hazard Procedural Controls: - All chainsaws shall be carefully checked prior to use - Chainsaws shall be securely and safely stored within an appropriate storage store - Right handed chain saws shall not be used by left handed persons and vice versa	Y	L	

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		Y	N	H M L	Public	Const Person s	Third Parties	Other s		Y/N	H M L				
	3. Working at height	Y		H	X	X	X		Information/Instruction/Training: - All operatives to be instructed in the safe system of work for the proposed operation - Training to be provided in the selection and use of the appropriate protective clothing and equipment - All operatives to be trained and competent in the use of chainsaws including its maintenance, inspection, refuelling, starting and storage - Other persons in the vicinity to be informed of the risks from noise, dust, fumes and flying debris etc. Managerial Controls: - Ensure adequate supervision is provided and that control measures remain valid for the duration of the work - The use of chain saws shall not be permitted by persons under the age of 18 years Physical Controls: - Chainsaws shall not be used above waist height - Operators shall always be securely footed when using chainsaws - Chainsaws shall not be used from ladders - Chain guards shall be used whenever the chainsaw is not in use - When working at height the operator shall be secured with a harness and lanyard - Care should be taken when refuelling chainsaws to ensure no fuel is spilt on to the exhaust which may in turn cause a fire hazard Procedural Controls: - All chainsaws shall be carefully checked prior to use - Chainsaws shall be securely and safely stored within an appropriate storage store Right handed chain saws shall not be used by left handed persons and vice versa	Y	L				

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		Y	N	H M L	Public	Const Person s	Third Parties	Other s		Y/N	H M L						
	6. Inhalation of toxic fumes	Y		L	X	X	X		Information/Instruction/Training: - All operatives to be instructed in the safe system of work for the proposed operation - Training to be provided in the selection and use of the appropriate protective clothing and equipment - All operatives to be trained and competent in the use of chainsaws including its maintenance, inspection, refuelling, starting and storage - Other persons in the vicinity to be informed of the risks from noise, dust, fumes and flying debris etc. Managerial Controls: - Ensure adequate supervision is provided and that control measures remain valid for the duration of the work - The use of chain saws shall not be permitted by persons under the age of 18 years Physical Controls: - Chainsaws shall not be used above waist height - Operators shall always be securely footed when using chainsaws - Chainsaws shall not be used from ladders - Chain guards shall be used whenever the chainsaw is not in use - When working at height the operator shall be secured with a harness and lanyard - Care should be taken when refuelling chainsaws to ensure no fuel is spilt on to the exhaust which may in turn cause a fire hazard Procedural Controls: - All chainsaws shall be carefully checked prior to use - Chainsaws shall be securely and safely stored within an appropriate storage store Right handed chain saws shall not be used by left handed persons and vice versa	Y	L						

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		Y	N	H M L	Public	Const Person s	Third Parties	Other s		Y/N	H M L	

B04	Display Screen Equipment											
	1.Slips, trips and falls from trailing leads 2.Poor workstation/ergonomic design 3.Inadequate seating 4.Poor lighting 5.Reflection onto screens/VDU's	Y		L		X			Information/Instruction/Training: - Operators to be instructed on the use and adjustment of all elements of their workstation - Operators to be trained to check and inspect cables, wiring and other equipment for signs of damage and wear - Operators/users to be informed of the potential health risks and controls associated with the use of display screen equipment Managerial Controls - Ensure adequate supervision is provided and that control measures remain valid for the duration of the work - Operators to be provided with free eye checks Physical Controls: - Individual workstations to be fully adjustable and compliant with current regulations - All furniture to be correctly maintained in a satisfactory condition - Operators/users to be made aware of the need for frequent rest breaks Procedural Controls: - Regular checks and assessments shall be made to ensure operators/users use their workstations in accordance with the regulations - Records of any ill health or absence relating to workstation use should be retained and reviewed as part of the assessment HSE & Other Guidance: - HSG90 VDU's: An Easy Guide to the Regulations	Y	L	

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			Y	N	H M L	Public	Const Person s	Third Parties	Other s					Y/N	H M L								

B05	Dump Trucks											
	1. Overturning 2. Falls into excavations 6. Falls from the dump truck	Y		M	X	X	X		Information/Instruction/Training: - All drivers to be competent trained to CPCS standard - All drivers to have full driving - Drivers to be trained to carry out basic safety checks before use Managerial Controls: - Ensure adequate supervision is provided and that control measures remain valid for the duration of the work - Only competent and appropriately trained drivers over the age of 18 years to be permitted to drive dump trucks Physical Controls: - Driver to dismount the vehicle whilst it is being loaded - Seat belts are to be secured at all times - All dump trucks to be fitted with Roll Over Protection System (ROPS) - Handbrake to be applied whenever stationary, tipping or being loaded - Driver to ensure there are no projecting elements before proceeding - Dump truck engines to be turned off, keys removed, hand brake applied and wheels chocked whenever it is left unattended - A banksman shall be used for all reversing and tipping operations - Extra care and caution should be exercised whenever working on slopes, especially when crossing the gradient Procedural Controls: - Any driver suspected to be under the influence of alcohol shall not be permitted to drive a dump truck - Passengers should never be carried on any dump truck - Speed limits to be strictly enforced - Adequate site lighting shall be provided during periods of operation in poor light - Clearly marked pedestrian routes shall be identified on site to ensure vehicular and pedestrian traffic are kept separate HSE & Other Guidance: - HSE Guidance – Working with Small Dump Trucks - HSG144 The Safe Use of Vehicles on Construction Sites	Y	L	

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REF	HAZARDS	RISK			PERSONS WHO WILL BE AFFECTED				RISK CONTROL MEASURE TO BE UNDERTAKEN IN ORDER TO ELIMINATE HAZARD / REDUCE RISK TO AN ACCEPTABLE LEVEL. COMMENT /DESIGN INTERVENTION	RESIDUAL RISK		Comments
		Y	N	H M L	Public	Const Person s	Third Parties	Other s		Y/N	H M L	

	3. Noise/vibration 4. Impact with pedestrians 5. Impact with other vehicles	Y		L	X	X	X		Information/Instruction/Training: - All drivers to be competent trained to CPCS standard - All drivers to have full driving - Drivers to be trained to carry out basic safety checks before use Managerial Controls: - Ensure adequate supervision is provided and that control measures remain valid for the duration of the work - Only competent and appropriately trained drivers over the age of 18 years to be permitted to drive dump trucks Physical Controls: - Driver to dismount the vehicle whilst it is being loaded - Seat belts are to be secured at all times - All dump trucks to be fitted with Roll Over Protection System (ROPS) - Handbrake to be applied whenever stationary, tipping or being loaded - Driver to ensure there are no projecting elements before proceeding - Dump truck engines to be turned off, keys removed, hand brake applied and wheels chocked whenever it is left unattended - A banksman shall be used for all reversing and tipping operations - Extra care and caution should be exercised whenever working on slopes, especially when crossing the gradient Procedural Controls: - Any driver suspected to be under the influence of alcohol shall not be permitted to drive a dump truck - Passengers should never be carried on any dump truck - Speed limits to be strictly enforced - Adequate site lighting shall be provided during periods of operation in poor light - Clearly marked pedestrian routes shall be identified on site to ensure vehicular and pedestrian traffic are kept separate HSE & Other Guidance: - HSE Guidance – Working with Small Dump Trucks HSG144 The Safe Use of Vehicles on Construction Sites	Y	L	
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DESIGNERS RISK ASSESSMENT								DOC REF: 3300/NOK		STAGE - TENDER		PATRICK McCAUL ENVIROMENTAL CONSULTING ENGINEERS LTD		BANKMORE BUSINESS PARK BANKMORE ROAD OMAGH Co. TYRONE BT79 0BE Tel: 028-8225 1155 E-mail: info@pmccaul.com	
								Sheet: 62 of 101							
REF	HAZARDS	RISK			PERSONS WHO WILL BE AFFECTED				RISK CONTROL MEASURE TO BE UNDERTAKEN IN ORDER TO ELIMINATE HAZARD / REDUCE RISK TO AN ACCEPTABLE LEVEL. COMMENT /DESIGN INTERVENTION	RESIDUAL RISK		Comments			
		Y	N	H M L	Public	Const Person s	Third Parties	Other s		Y/N	H M L				
B06	Electrical Hand Tools/Equipment														
	3. Flying particles from the material being worked 4. Flying particles from damaged tools 5. Trailing cables 6. Entanglement with moving parts 7. Sudden/unexpected movement of the tool	Y		L		X	X		Information/Instruction/Training: - All operatives and others in the area should be advised when noise, dust and other flying particles are likely to be present - All operatives should be instructed in how to inspect and check the equipment prior to using it - All operatives to be trained in the use, selection and storage of the tools they use - At least one person on site shall have received training in electric shock treatment Managerial Controls: - Ensure adequate supervision is provided and that control measures remain valid for the duration of the work Physical Controls: - All electrical power tools to be 110v or less - Power sockets shall not be overloaded - The supply voltage shall always be within the operating range of the selected tool - Trailing cables shall be managed to reduce the risk of slips, trips and falls - All tools shall be earthed or double insulated - Temporary and impromptu repairs shall not be allowed - All tools and cables shall be inspected before use - Transformers shall be centre tapped to earth - When not in use, all tools shall be disconnected from its electrical supply - All damaged and defective equipment shall immediately be taken out of use, reported to the supervisor and marked as being defective Procedural Controls: - A planned preventative maintenance system shall be implemented whereby all equipment shall be regularly inspected, tested and maintained in accordance with manufacturers recommendations - Where equipment is to be used in damp or confined spaces, management shall be responsible for ensure the correctly rated equipment is made available HSE & Other Guidance - HSE Guidance Notes – Safe Use of Portable Electrical Equipment - Electricity on Construction Sites - HSE Information Sheet – Maintenance of Portable Electrical Equipment	Y	L				

DESIGNERS RISK ASSESSMENT									DOC REF: 3300/NOK		STAGE - TENDER			PATRICK McCAUL ENVIROMENTAL CONSULTING ENGINEERS LTD			BANKMORE BUSINESS PARK BANKMORE ROAD OMAGH Co. TYRONE BT79 0BE Tel: 028-8225 1155 E-mail: info@pmccaul.com		
									Sheet: 63 of 101										
REF	HAZARDS	RISK			PERSONS WHO WILL BE AFFECTED				RISK CONTROL MEASURE TO BE UNDERTAKEN IN ORDER TO ELIMINATE HAZARD / REDUCE RISK TO AN ACCEPTABLE LEVEL. COMMENT /DESIGN INTERVENTION	RESIDUAL RISK		Comments							
		Y	N	H M L	Public	Const Person s	Third Parties	Other s		Y/N	H M L								
	1. Electrocution 2. Noise/vibration	Y		M		X	X		Information/Instruction/Training: - All operatives and others in the area should be advised when noise, dust and other flying particles are likely to be present - All operatives should be instructed in how to inspect and check the equipment prior to using it - All operatives to be trained in the use, selection and storage of the tools they use - At least one person on site shall have received training in electric shock treatment Managerial Controls: - Ensure adequate supervision is provided and that control measures remain valid for the duration of the work Physical Controls: - All electrical power tools to be 110v or less - Power sockets shall not be overloaded - The supply voltage shall always be within the operating range of the selected tool - Trailing cables shall be managed to reduce the risk of slips, trips and falls - All tools shall be earthed or double insulated - Temporary and impromptu repairs shall not be allowed - All tools and cables shall be inspected before use - Transformers shall be centre tapped to earth - When not in use, all tools shall be disconnected from its electrical supply - All damaged and defective equipment shall immediately be taken out of use, reported to the supervisor and marked as being defective Procedural Controls: - A planned preventative maintenance system shall be implemented whereby all equipment shall be regularly inspected, tested and maintained in accordance with manufacturers recommendations - Where equipment is to be used in damp or confined spaces, management shall be responsible for ensure the correctly rated equipment is made available HSE & Other Guidance - HSE Guidance Notes – Safe Use of Portable Electrical Equipment - Electricity on Construction Sites HSE Information Sheet – Maintenance of Portable Electrical Equipment	Y	L								

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		Y	N	H M L	Public	Const Person s	Third Parties	Other s		Y/N	H M L	

B07	Excavators											
	1. Impact of machine with persons or other objects	Y		H	X	X			Information/Instruction/Training: - All machine drivers are to be competent for the specific plant they operate, this should include formal certification to CPCS or equivalent - All drivers to be informed of main traffic and pedestrian routes together with any traffic management details Managerial Controls: - Ensure adequate supervision is provided and that control measures remain valid for the duration of the work - Management to ensure that the correct excavator for the job has been selected Physical Controls: - No persons to be permitted within the operating range of the machine without the operators permission - Loads must not be slued over persons, site accommodation or other occupied areas - A banks man should be used to assist the machine operator when excavating and traversing - All machines shall be inspected before and after use - If the machine is to be left unattended the keys shall be removed and the excavator secured - A minimum distance of 600mm shall be left between the outer radius of the machine and any structures/obstructions - Care to be taken when operating on inclines and when traversing slopes	Y	L	

REF	HAZARDS	RISK			PERSONS WHO WILL BE AFFECTED				RISK CONTROL MEASURE TO BE UNDERTAKEN IN ORDER TO ELIMINATE HAZARD / REDUCE RISK TO AN ACCEPTABLE LEVEL. COMMENT /DESIGN INTERVENTION	RESIDUAL RISK		Comments
		Y	N	H M L	Public	Const Person s	Third Parties	Other s		Y/N	H M L	

	2. Contact with live power cables	Y		M	X	X			Information/Instruction/Training: - All machine drivers are to be competent for the specific plant they operate, this should include formal certification to CPCS or equivalent - All drivers to be informed of main traffic and pedestrian routes together with any traffic management details Managerial Controls: - Ensure adequate supervision is provided and that control measures remain valid for the duration of the work - Management to ensure that the correct excavator for the job has been selected Physical Controls: - No persons to be permitted within the operating range of the machine without the operators permission - Loads must not be slued over persons, site accommodation or other occupied areas - A banks man should be used to assist the machine operator when excavating and traversing - All machines shall be inspected before and after use - If the machine is to be left unattended the keys shall be removed and the excavator secured - A minimum distance of 600mm shall be left between the outer radius of the machine and any structures/obstructions Care to be taken when operating on inclines and when traversing slopes	Y	L	
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		Y	N	H M L	Public	Const Person s	Third Parties	Other s		Y/N	H M L	

	3. Overturning of machine/collapse of ground beneath machine 4. Excavator arm dropping inadvertently 5. Falling material	Y		L	X	X			Information/Instruction/Training: - All machine drivers are to be competent for the specific plant they operate, this should include formal certification to CPCS or equivalent - All drivers to be informed of main traffic and pedestrian routes together with any traffic management details Managerial Controls: - Ensure adequate supervision is provided and that control measures remain valid for the duration of the work - Management to ensure that the correct excavator for the job has been selected Physical Controls: - No persons to be permitted within the operating range of the machine without the operators permission - Loads must not be slued over persons, site accommodation or other occupied areas - A banks man should be used to assist the machine operator when excavating and traversing - All machines shall be inspected before and after use - If the machine is to be left unattended the keys shall be removed and the excavator secured - A minimum distance of 600mm shall be left between the outer radius of the machine and any structures/obstructions Care to be taken when operating on inclines and when traversing slopes	Y	L	
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		Y	N	H M L	Public	Const Person s	Third Parties	Other s		Y/N	H M L	

B08	Excavators Used for Lifting											
	1. Unintended movement, release or dropping of the load	Y		M		X			Information/Instruction/Training: - All machine drivers are to be competent for the specific plant they operate, this should include formal certification to CPCS or equivalent - Competent, experienced and trained slinger to be used to sling loads and direct machine operator Managerial Controls: - Ensure adequate supervision is provided and that control measures remain valid for the duration of the work - Management to ensure that the correct excavator for the job has been selected - Only excavators with a valid test certificate shall be used for lifting operations - Only chains, slings and other lifting accessories with a valid test certificate shall be used for lifting operations Physical Controls: - No persons to be permitted within the operating range of the machine without the operators permission - Loads must not be slued over persons, site accommodation or other occupied areas - A banks man should be used to assist the machine operator when excavating and traversing - All machines shall be inspected before and after use - The machine shall be sited on a firm, level base Procedural Controls: - SWL of the excavator must be clearly identified on the machine and should not be exceeded - The weight of the item to be lifted shall be assessed prior to the lifting operation	Y	L	

REF	HAZARDS	RISK			PERSONS WHO WILL BE AFFECTED				RISK CONTROL MEASURE TO BE UNDERTAKEN IN ORDER TO ELIMINATE HAZARD / REDUCE RISK TO AN ACCEPTABLE LEVEL. COMMENT /DESIGN INTERVENTION	RESIDUAL RISK		Comments
		Y	N	H M L	Public	Const Person s	Third Parties	Other s		Y/N	H M L	

	2. Contact with overhead obstruction/cable 3. Impact with person	Y		L		X			Information/Instruction/Training: - All machine drivers are to be competent for the specific plant they operate, this should include formal certification to CPCS or equivalent - Competent, experienced and trained slinger to be used to sling loads and direct machine operator Managerial Controls: - Ensure adequate supervision is provided and that control measures remain valid for the duration of the work - Management to ensure that the correct excavator for the job has been selected - Only excavators with a valid test certificate shall be used for lifting operations - Only chains, slings and other lifting accessories with a valid test certificate shall be used for lifting operations Physical Controls: - No persons to be permitted within the operating range of the machine without the operators permission - Loads must not be slued over persons, site accommodation or other occupied areas - A banks man should be used to assist the machine operator when excavating and traversing - All machines shall be inspected before and after use - The machine shall be sited on a firm, level base Procedural Controls: - SWL of the excavator must be clearly identified on the machine and should not be exceeded The weight of the item to be lifted shall be assessed prior to the lifting operation	Y	L	
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		Y	N	H M L	Public	Const Person s	Third Parties	Other s		Y/N	H M L	

B09	Fork Lift Trucks											
	1. Overturning 2. Objects falling from forks	Y		M	X	X	X		Information/Instruction/Training: - Fork lift truck (FLT) drivers to be trained to CPCS standards - FLT drivers to be informed of all traffic management requirements and restrictions Managerial Controls: - Ensure adequate supervision is provided and that control measures remain valid for the duration of the work - Ensure plant and equipment is properly maintained and certified Physical Controls: - Ensure pedestrian and vehicular routes are clearly defined and separated - Assess suitability of and maintained traffic routes - FLT's to be operated within manufacturers limits - All loads to be checked for stability and security prior to movement - Driver to make daily inspection and checks to ensure its effectiveness - Engine to be turned off, key removed and hand brake applied when left unattended - Additional care to be taken when driving across slopes and inclines - Banks man to be used to assist with loading and general site movements HSE & Other Guidance: - HSG6 Safety in Working With Lift Trucks	Y	L	

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		Y	N	H M L	Public	Const Person s	Third Parties	Other s		Y/N	H M L	

	3. Impact/collision with another object/vehicle/person	Y		H	X	X	X		Information/Instruction/Training: - Fork lift truck (FLT) drivers to be trained to CPCS standards - FLT drivers to be informed of all traffic management requirements and restrictions Managerial Controls: - Ensure adequate supervision is provided and that control measures remain valid for the duration of the work - Ensure plant and equipment is properly maintained and certified Physical Controls: - Ensure pedestrian and vehicular routes are clearly defined and separated - Assess suitability of and maintained traffic routes - FLT's to be operated within manufacturers limits - All loads to be checked for stability and security prior to movement - Driver to make daily inspection and checks to ensure its effectiveness - Engine to be turned off, key removed and hand brake applied when left unattended - Additional care to be taken when driving across slopes and inclines - Banks man to be used to assist with loading and general site movements HSE & Other Guidance: - HSG6 Safety in Working With Lift Trucks	Y	L	
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		Y	N	H M L	Public	Const Person s	Third Parties	Other s		Y/N	H M L	

	4. Noise/Vibration	Y		L	X	X	X		Information/Instruction/Training: - Fork lift truck (FLT) drivers to be trained to CPCS standards - FLT drivers to be informed of all traffic management requirements and restrictions Managerial Controls: - Ensure adequate supervision is provided and that control measures remain valid for the duration of the work - Ensure plant and equipment is properly maintained and certified Physical Controls: - Ensure pedestrian and vehicular routes are clearly defined and separated - Assess suitability of and maintained traffic routes - FLT's to be operated within manufacturers limits - All loads to be checked for stability and security prior to movement - Driver to make daily inspection and checks to ensure its effectiveness - Engine to be turned off, key removed and hand brake applied when left unattended - Additional care to be taken when driving across slopes and inclines - Banks man to be used to assist with loading and general site movements HSE & Other Guidance: - HSG6 Safety in Working With Lift Trucks	Y	L	
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		Y	N	H M L	Public	Const Person s	Third Parties	Other s		Y/N	H M L	

B10	High Pressure Water Cleaners											
	1. Cuts and harm caused by high pressure water jets 2.Electrocution	Y		M		X	X		Information/Instruction/Training: - Operatives to be trained in the use of the equipment, its maintenance and inspection prior to use - Operatives to be instructed in the hazards and harm which can be caused by directing high pressure jets at other persons Managerial Controls: - Ensure adequate supervision is provided and that control measures remain valid for the duration of the work Physical Controls: - Electrical supply to be protected with a residual current device (RCD) - Cables to be placed where they will not be subject to damage or abrasion from other equipment and site traffic - Supply voltage to be 110v or less - Equipment to be contained within a splash proof case and no element of the casing should be damaged or removed whilst in use - All PPE to be worn at all times and warning signs to be erected in the area where the work is taking place Procedural Controls: - High pressure power washing equipment shall not be used where works on live electricity are being undertaken	Y	L	
	3. Dermatitis/Irritations Caused by Cleaning Chemical	Y		L		X	X		Information/Instruction/Training: - Operatives to be trained in the use of the equipment, its maintenance and inspection prior to use - Operatives to be instructed in the hazards and harm which can be caused by directing high pressure jets at other persons Managerial Controls: - Ensure adequate supervision is provided and that control measures remain valid for the duration of the work Physical Controls: - Electrical supply to be protected with a residual current device (RCD) - Cables to be placed where they will not be subject to damage or abrasion from other equipment and site traffic - Supply voltage to be 110v or less - Equipment to be contained within a splash proof case and no element of the casing should be damaged or removed whilst in use - All PPE to be worn at all times and warning signs to be erected in the area where the work is taking place Procedural Controls: - High pressure power washing equipment shall not be used where works on live electricity are being undertaken	Y	L	

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				Sheet: 73 of 101															
REF	HAZARDS		RISK			PERSONS WHO WILL BE AFFECTED				RISK CONTROL MEASURE TO BE UNDERTAKEN IN ORDER TO ELIMINATE HAZARD / REDUCE RISK TO AN ACCEPTABLE LEVEL. COMMENT /DESIGN INTERVENTION				RESIDUAL RISK		Comments			
			Y	N	H M L	Public	Const Person s	Third Parties	Other s					Y/N	H M L				

B11	Hydraulic and Pneumatic Tools/Equipment											
	1.Hydraulic fluids 2.Compressed air 4.Flying debris 5.Noise/Vibration 6.Manual handling	Y		M	X	X			Information/Instruction/Training: - All operatives to be informed of the health risks from hydraulic fluids and compressed air - Operatives to receive full training in the use, storage, and general care of equipment - Full manual handling training to be provided to all operatives Managerial Controls: - Ensure adequate supervision is provided and that control measures remain valid for the duration of the work - Wherever possible, ensure anti-vibration tools are used Physical Controls: - Duration of exposure to be controlled to reduce the risk of vibration related illnesses Procedural Controls: - Ensure correct tool for the job has been selected - All damaged tools, hoses and other equipment shall be taken out of use and reported to the site supervisor HSE & Other Guidance: - HSG39 Compressed Air Safety	Y	L	
	7.Inhalation of exhaust fumes 8.Unanticipated movement of tools 3.Failure of hoses or couplings	Y		L	X	X			Information/Instruction/Training: - All operatives to be informed of the health risks from hydraulic fluids and compressed air - Operatives to receive full training in the use, storage, and general care of equipment - Full manual handling training to be provided to all operatives Managerial Controls: - Ensure adequate supervision is provided and that control measures remain valid for the duration of the work - Wherever possible, ensure anti-vibration tools are used Physical Controls: - Duration of exposure to be controlled to reduce the risk of vibration related illnesses Procedural Controls: - Ensure correct tool for the job has been selected - All damaged tools, hoses and other equipment shall be taken out of use and reported to the site supervisor HSE & Other Guidance: HSG39 Compressed Air Safety	Y	L	

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		Y	N	H M L	Public	Const Person s	Third Parties	Other s		Y/N	H M L	

B12	Lifting Equipment											
	1. Failure of equipment/accessories 2. Movement of load 3. Dropping of load 4. Weather conditions (e.g.: high wind)	Y		M	X	X	X		Information/Instruction/Training: - Only competent trained operators to at least CPCS standard shall operate any crane - All lifting operations will be co-ordinated by an Appointed Person as required by LOLER98 - A competent and appropriately trained slinger shall ensure all loads are correctly slung prior to lifting Managerial Controls: - Ensure adequate supervision is provided and that control measures remain valid for the duration of the work - All lifting operations should have a lifting plan which details the safe working procedures, nominated persons and details of the lifting strategy - All lifting equipment and accessories shall subject to statutory inspections Physical Controls: - All equipment shall be checked and inspected for damage prior to use - Packing shall be used to protect slings from sharp edges - Guy ropes shall be used to help control and direct loads during lifting operations, particularly on large items which may be subject to wind effects - Procedural Controls - All equipment and accessories are to be individually identified and carefully stored to prevent damage	Y	L	Lifting operations are a potentially high hazard activity which can affect many persons, as such they should always be carefully planned and coordinated

REF	HAZARDS	RISK			PERSONS WHO WILL BE AFFECTED				RISK CONTROL MEASURE TO BE UNDERTAKEN IN ORDER TO ELIMINATE HAZARD / REDUCE RISK TO AN ACCEPTABLE LEVEL. COMMENT /DESIGN INTERVENTION	RESIDUAL RISK		Comments
		Y	N	H M L	Public	Const Person s	Third Parties	Other s		Y/N	H M L	

B13	Other Hand Tools/Equipment											
	2.Sharp blades/edges 3.Manual handling	Y		M		X			Information/Instruction/Training: - General awareness training required, together with specific training for any unusual tools - Operatives should be trained to clean, store and maintain all tools Managerial Controls: - Ensure adequate supervision is provided and that control measures remain valid for the duration of the work Physical Controls: - Appropriate PPE to be work - Damage tools to be returned to the supervisor - All tools shall be regularly inspected and maintained - Tools should only be used for their intended purpose	Y	L	
	1.Splintering/shattering tools 4.Damaged tools 5.Incorrect tool for the job	Y		L		X			Information/Instruction/Training: - General awareness training required, together with specific training for any unusual tools - Operatives should be trained to clean, store and maintain all tools Managerial Controls: - Ensure adequate supervision is provided and that control measures remain valid for the duration of the work Physical Controls: - Appropriate PPE to be work - Damage tools to be returned to the supervisor - All tools shall be regularly inspected and maintained Tools should only be used for their intended purpose	Y	L	

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		Y	N	H M L	Public	Const Person s	Third Parties	Other s		Y/N	H M L	

B14	Slinging of Loads											
	1. Failure of lifting accessories/slings 3. Load/lifting accessories snagging on another fixed object	Y		M	X	X	X		Information/Instruction/Training: - Only competent trained operators to at least CPCS standard shall operate any crane - All lifting operations will be co-ordinated by an Appointed Person as required by LOLER98 - A competent and appropriately trained slinger shall ensure all loads are correctly slung prior to lifting Managerial Controls: - Ensure adequate supervision is provided and that control measures remain valid for the duration of the work - All lifting operations should have a lifting plan which details the safe working procedures, nominated persons and details of the lifting strategy - All lifting equipment and accessories shall subject to statutory inspections Physical Controls: - All equipment shall be checked and inspected for damage prior to use - Packing shall be used to protect slings from sharp edges - Guy ropes shall be used to help control and direct loads during lifting operations, particularly on large items which may be subject to wind effects - Every load should be carefully assessed to establish its centre of gravity and to determine the most applicable method of slinging Procedural Controls: - All equipment and accessories are to be individually identified and carefully stored to prevent damage	Y	L	Lifting operations are a potentially high hazard activity which can affect many persons, as such they should always be carefully planned and coordinated

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		Y	N	H M L	Public	Const Person s	Third Parties	Other s		Y/N	H M L	

	2. Dropping of load/Falling objects 6. Incorrectly slung load	Y		H	X	X	X		Information/Instruction/Training: - Only competent trained operators to at least CPCS standard shall operate any crane - All lifting operations will be co-ordinated by an Appointed Person as required by LOLER98 - A competent and appropriately trained slinger shall ensure all loads are correctly slung prior to lifting Managerial Controls: - Ensure adequate supervision is provided and that control measures remain valid for the duration of the work - All lifting operations should have a lifting plan which details the safe working procedures, nominated persons and details of the lifting strategy - All lifting equipment and accessories shall subject to statutory inspections Physical Controls: - All equipment shall be checked and inspected for damage prior to use - Packing shall be used to protect slings from sharp edges - Guy ropes shall be used to help control and direct loads during lifting operations, particularly on large items which may be subject to wind effects - Every load should be carefully assessed to establish its centre of gravity and to determine the most applicable method of slinging Procedural Controls: - All equipment and accessories are to be individually identified and carefully stored to prevent damage	Y	L	Lifting operations are a potentially high hazard activity which can affect many persons, as such they should always be carefully planned and coordinated
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		Y	N	H M L	Public	Const Person s	Third Parties	Other s		Y/N	H M L	

	4. Personnel becoming entangled with load/lifting accessories 5. Contact with/arcing from overhead power cables	Y		L	X	X	X		Information/Instruction/Training: - Only competent trained operators to at least CPCS standard shall operate any crane - All lifting operations will be co-ordinated by an Appointed Person as required by LOLER98 - A competent and appropriately trained slinger shall ensure all loads are correctly slung prior to lifting Managerial Controls: - Ensure adequate supervision is provided and that control measures remain valid for the duration of the work - All lifting operations should have a lifting plan which details the safe working procedures, nominated persons and details of the lifting strategy - All lifting equipment and accessories shall subject to statutory inspections Physical Controls: - All equipment shall be checked and inspected for damage prior to use - Packing shall be used to protect slings from sharp edges - Guy ropes shall be used to help control and direct loads during lifting operations, particularly on large items which may be subject to wind effects - Every load should be carefully assessed to establish its centre of gravity and to determine the most applicable method of slinging Procedural Controls: - All equipment and accessories are to be individually identified and carefully stored to prevent damage	Y	L	Lifting operations are a potentially high hazard activity which can affect many persons, as such they should always be carefully planned and coordinated
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REF	HAZARDS	RISK			PERSONS WHO WILL BE AFFECTED				RISK CONTROL MEASURE TO BE UNDERTAKEN IN ORDER TO ELIMINATE HAZARD / REDUCE RISK TO AN ACCEPTABLE LEVEL. COMMENT /DESIGN INTERVENTION	RESIDUAL RISK		Comments
		Y	N	H M L	Public	Const Person s	Third Parties	Other s		Y/N	H M L	

	1. Fire risk from welding equipment, hot metals and sparks causing the ignition of other flammable materials/gases 2. Explosion risk from gas cylinders 3. Damage to the eye's from ultra violet and infra-red radiation	Y		H		X			Information/Instruction/Training: - All persons to be informed of when and where welding operations are to take place so that precautions can be taken to protect other workers in the area - Only competent experienced and trained welders shall be permitted to carry out welding operations - All welding operatives and site supervisors to be trained in fire prevention and in the use of fire extinguishers - All welding operatives to be informed of site specific hazards and restrictions which may impact on their works Managerial Controls: - Ensure adequate supervision is provided and that control measures remain valid for the duration of the work - Specific and specialised PPE is required for those carrying out welding operations, together with other who may be affected by the works. Management shall ensure that the appropriate PPE is always available Physical Controls: - Any potentially flammable materials and debris in the vicinity of the welding operations shall be removed prior to the commencement of work - All equipment shall be inspected and checked prior to use, paying particular attention to gas cylinders and hoses to ensure there is no risk of a gas leak - Where practical and wherever necessary from a fire prevention perspective, fireproof sheets and screens shall be erected to contain any sparks etc. - Where a build of fumes is likely, or where heat stress is a potential concern, additional forced ventilation should be introduced - Extraction units should be used to minimise the risk from fumes, though care should be taken to ensure the exhaust does not create a hazard for other persons Procedural Controls: - All welding operations will be carried out in accordance with a strict Hot Works Permit system, this will be strictly enforced by site supervisors and operatives at all times - Consider the use of a second persons for all welding operations - No hot works should be carried out within 1 hour of the site's closure - All areas where welding works have been carried out shall be inspected prior to the daily closure of the site to ensure no fire risk remains - Checks should always be made to ensure no other activities which may combine to generate a potentially hazardous situation exist, examples include the use of certain solvent based paints and adhesives and certain coatings which may have previously been applied to the metal being worked HSE & Other Guidance: - HSG118 Electrical Safety in Arc Welding - BSEN 470 Protective Clothing for use in the Welding and Allied Industries	Y	L	
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		Y	N	H M L	Public	Const Person s	Third Parties	Other s		Y/N	H M L	

	4. Prolonged exposure to heat 5. Molten metal particles	Y		L		X			information/Instruction/Training: - All persons to be informed of when and where welding operations are to take place so that precautions can be taken to protect other workers in the area - Only competent experienced and trained welders shall be permitted to carry out welding operations - All welding operatives and site supervisors to be trained in fire prevention and in the use of fire extinguishers - All welding operatives to be informed of site specific hazards and restrictions which may impact on their works Managerial Controls: - Ensure adequate supervision is provided and that control measures remain valid for the duration of the work - Specific and specialised PPE is required for those carrying out welding operations, together with other who may be affected by the works. Management shall ensure that the appropriate PPE is always available Physical Controls: - Any potentially flammable materials and debris in the vicinity of the welding operations shall be removed prior to the commencement of work - All equipment shall be inspected and checked prior to use, paying particular attention to gas cylinders and hoses to ensure there is no risk of a gas leak - Where practical and wherever necessary from a fire prevention perspective, fireproof sheets and screens shall be erected to contain any sparks etc. - Where a build of fumes is likely, or where heat stress is a potential concern, additional forced ventilation should be introduced - Extraction units should be used to minimise the risk from fumes, though care should be taken to ensure the exhaust does not create a hazard for other persons Procedural Controls: - All welding operations will be carried out in accordance with a strict Hot Works Permit system, this will be strictly enforced by site supervisors and operatives at all times - Consider the use of a second persons for all welding operations - No hot works should be carried out within 1 hour of the site's closure - All areas where welding works have been carried out shall be inspected prior to the daily closure of the site to ensure no fire risk remains - Checks should always be made to ensure no other activities which may combine to generate a potentially hazardous situation exist, examples include the use of certain solvent based paints and adhesives and certain coatings which may have previously been applied to the metal being worked HSE & Other Guidance: - HSG118 Electrical Safety in Arc Welding - BSEN 470 Protective Clothing for use in the Welding and Allied Industries	Y	L	
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		Y	N	H M L	Public	Const Person s	Third Parties	Other s		Y/N	H M L	

	6. Production of toxic gases and fumes	Y		M		X			Information/Instruction/Training: - All persons to be informed of when and where welding operations are to take place so that precautions can be taken to protect other workers in the area - Only competent experienced and trained welders shall be permitted to carry out welding operations - All welding operatives and site supervisors to be trained in fire prevention and in the use of fire extinguishers - All welding operatives to be informed of site specific hazards and restrictions which may impact on their works Managerial Controls: - Ensure adequate supervision is provided and that control measures remain valid for the duration of the work - Specific and specialised PPE is required for those carrying out welding operations, together with other who may be affected by the works. Management shall ensure that the appropriate PPE is always available Physical Controls: - Any potentially flammable materials and debris in the vicinity of the welding operations shall be removed prior to the commencement of work - All equipment shall be inspected and checked prior to use, paying particular attention to gas cylinders and hoses to ensure there is no risk of a gas leak - Where practical and wherever necessary from a fire prevention perspective, fireproof sheets and screens shall be erected to contain any sparks etc. - Where a build of fumes is likely, or where heat stress is a potential concern, additional forced ventilation should be introduced - Extraction units should be used to minimise the risk from fumes, though care should be taken to ensure the exhaust does not create a hazard for other persons Procedural Controls: - All welding operations will be carried out in accordance with a strict Hot Works Permit system, this will be strictly enforced by site supervisors and operatives at all times - Consider the use of a second persons for all welding operations - No hot works should be carried out within 1 hour of the site's closure - All areas where welding works have been carried out shall be inspected prior to the daily closure of the site to ensure no fire risk remains - Checks should always be made to ensure no other activities which may combine to generate a potentially hazardous situation exist, examples include the use of certain solvent based paints and adhesives and certain coatings which may have previously been applied to the metal being worked HSE & Other Guidance: - HSG118 Electrical Safety in Arc Welding - BSEN 470 Protective Clothing for use in the Welding and Allied Industries	Y	L	
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REF	HAZARDS		RISK			PERSONS WHO WILL BE AFFECTED				RISK CONTROL MEASURE TO BE UNDERTAKEN IN ORDER TO ELIMINATE HAZARD / REDUCE RISK TO AN ACCEPTABLE LEVEL.			RESIDUAL RISK		Comments		
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										COMMENT /DESIGN INTERVENTION							

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C02	Flat Roof Work											
	1. Falls through fragile materials	Y		H		X	X	X	Information/Instruction/Training: - Occupiers of the building to be informed of the works and the hazards associated with it - All staff to be fully briefed of the hazards and the control measures necessary to reduce the risk - All staff to be trained in safe manual handling techniques and for working at height - Where work involves the use of LPG or other hot work equipment, key members of staff should be trained in the use of fire extinguishers - Only staff trained and authorised to use equipment such as materials hoists and tar boilers etc. shall be authorised to do so - All site persons to be trained in emergency procedures and in what to do on discovering a fire Managerial Controls: - Ensure adequate supervision is provided and that control measures remain valid for the duration of the work Physical Controls: - All tools, equipment and access facilities shall be checked and inspected before use - Edge protection in the form of guardrails and toe boards shall be provided on all edges - Where this is not possible or practical, rigid barriers shall be erected at least 3m from the edge to prevent access to the edge zone - All work to be undertaken around the edge, particularly where no edge protection is provided, shall be carried out using harnesses and lanyards - No lone working will be permitted - All waste materials will be either lifted off in skips or deposited in skips at ground level via a rubble chute Procedural Controls: - An assessment of the SWL which can be placed onto flat roofs shall be made by a competent person prior to the commencement of works - All persons shall be informed of any such restrictions and supervisors shall ensure that the requirements are adhered to at all times HSE & Other Guidance: - HSG33 Safety in Roof Work	Y	L	

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		Y	N	H M L	Public	Const Person s	Third Parties	Other s		Y/N	H M L	

	2. Falling objects 3.Slips, trips and falls 4.Manual handling 5. Fire and burns from use of tar boilers/heating equipment	Y		M		X	X	X	Information/Instruction/Training: - Occupiers of the building to be informed of the works and the hazards associated with it - All staff to be fully briefed of the hazards and the control measures necessary to reduce the risk - All staff to be trained in safe manual handling techniques and for working at height - Where work involves the use of LPG or other hot work equipment, key members of staff should be trained in the use of fire extinguishers - Only staff trained and authorised to use equipment such as materials hoists and tar boilers etc. shall be authorised to do so - All site persons to be trained in emergency procedures and in what to do on discovering a fire Managerial Controls: - Ensure adequate supervision is provided and that control measures remain valid for the duration of the work Physical Controls: - All tools, equipment and access facilities shall be checked and inspected before use - Edge protection in the form of guardrails and toe boards shall be provided on all edges - Where this is not possible or practical, rigid barriers shall be erected at least 3m from the edge to prevent access to the edge zone - All work to be undertaken around the edge, particularly where no edge protection is provided, shall be carried out using harnesses and lanyards - No lone working will be permitted - All waste materials will be either lifted off in skips or deposited in skips at ground level via a rubble chute Procedural Controls: - An assessment of the SWL which can be placed onto flat roofs shall be made by a competent person prior to the commencement of works - All persons shall be informed of any such restrictions and supervisors shall ensure that the requirements are adhered to at all times HSE & Other Guidance: - HSG33 Safety in Roof Work	Y	L	
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		Y	N	H M L	Public	Const Person s	Third Parties	Other s	COMMENT /DESIGN INTERVENTION				Y/N	H M L			
C03	Fragile Roofs																
	1. Falls through fragile materials 2. Traversing across fragile roofs	Y		H		X	X	X	Information/Instruction/Training: All operatives to be trained in the risks of working at height and with fragile roofing materials Operatives to be specifically trained in the selected safe system of work required in each individual case Only persons with experience of this type work shall be used Managerial Controls: Ensure adequate supervision is provided and that control measures remain valid for the duration of the work All work involving fragile roofs shall be clearly identified prior to the start of work Physical Controls: Safe and adequate means of access and egress to be provided to the roof area Where fragile material is restricted to a small area (i.e.: roof lights) these areas should be barriered off No person shall be permitted to walk or traverse over a fragile roof without the use of crawling boards, roof ladders, scaffolding, staging or other protective devices Consideration shall be given to the use of safety nets suspended below the roof where applicable Procedural Controls: All work will be subject to a full permit to work system No lone working will be permitted HSE & Other Guidance: HSG33 Safety in Roof Work				Y	L			

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		Y	N	H M L	Public	Const Person s	Third Parties	Other s		Y/N	H M L	

C04	Ladders											
	1. Falls from ladder	Y		H	X	X			Information/Instruction/Training - All persons to be trained in basic ladder safety, including use, inspection and safety measures whilst working from ladders and at height Managerial Controls - Ensure adequate supervision is provided and that control measures remain valid for the duration of the work Physical Controls - Ladders to be securely tied off to prevent slippage and movement - Where a ladder cannot be tied or secured in any other way, it will be securely footed by another operative - If a ladder is being used to access a working platform the ladder shall extend 1.05m above the platform level - The correct angle for a ladder is 75° or at a slope of 1:4 - Overreaching from ladders shall not be permitted Procedural Controls - Use of ladders will only ever be used for short duration work where no viable alternative is available - Damaged ladders shall be removed from site immediately - The painting of ladders shall not be permitted as this may mask any defects HSE & Other Guidance - HSE Guidance Note – Safe Use of Ladders, Stepladders and Trestles	Y	L	

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		Y	N	H M L	Public	Const Person s	Third Parties	Other s		Y/N	H M L						
	2. Ladder slipping 3. Falling objects	Y		M	X	X			Information/Instruction/Training - All persons to be trained in basic ladder safety, including use, inspection and safety measures whilst working from ladders and at height Managerial Controls - Ensure adequate supervision is provided and that control measures remain valid for the duration of the work Physical Controls - Ladders to be securely tied off to prevent slippage and movement - Where a ladder cannot be tied or secured in any other way, it will be securely footed by another operative - If a ladder is being used to access a working platform the ladder shall extend 1.05m above the platform level - The correct angle for a ladder is 75° or at a slope of 1:4 - Overreaching from ladders shall not be permitted Procedural Controls - Use of ladders will only ever be used for short duration work where no viable alternative is available - Damaged ladders shall be removed from site immediately - The painting of ladders shall not be permitted as this may mask any defects HSE & Other Guidance - HSE Guidance Note – Safe Use of Ladders, Stepladders and Trestles	Y	L						

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		Y	N	H M L	Public	Const Person s	Third Parties	Other s		Y/N	H M L	

C05	Material Hoists											
	1. Fall of materials and equipment from the hoist 2. Persons being struck by the hoist 4. Entanglement with hoist and pulley system	Y		L		X			Information/Instruction/Training: - Only competent trained operators shall be permitted to operate the hoists controls - A competent person will be trained to carry out daily and weekly inspections of the plant and equipment Managerial Controls: - Ensure adequate supervision is provided and that control measures remain valid for the duration of the work - Only persons over the age of 18 years shall be authorised to operate any materials hoist Physical Controls: - The hoist will only be operated from a single location by a single operator - All doors and gates into the hoist shall be fitted with interlocks to prevent its operation when any gate is open or not properly closed - The hoist's shaft shall be fully enclosed at each landing and at ground level to prevent any person being struck by the hoist - The hoist mechanism shall be fitted with an overrun device to ensure it does not overrun the support mast - The hoist and mast shall be securely fixed to the structure/scaffold at every landing point Procedural Controls: - All inspections of the plant shall be recorded - No persons shall be permitted to ride on any materials hoist - The Safe Working Load (SWL) shall be clearly identified on the inside of the hoist - All materials and loads within the hoist shall carefully placed to prevent accidental movement of the load whilst being transported HSE & Other Guidance: - HSE Guidance Note – Construction Hoists - HSE Guidance Note – Inclined Hoists in Building and Construction - BS Code of Practice for Construction Hoists	Y	L	

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		Y	N	H M L	Public	Const Person s	Third Parties	Other s		Y/N	H M L				
	3. Fall of persons into the hoist shaft	Y		M		X			Information/Instruction/Training: - Only competent trained operators shall be permitted to operate the hoists controls - A competent person will be trained to carry out daily and weekly inspections of the plant and equipment Managerial Controls: - Ensure adequate supervision is provided and that control measures remain valid for the duration of the work - Only persons over the age of 18 years shall be authorised to operate any materials hoist Physical Controls: - The hoist will only be operated from a single location by a single operator - All doors and gates into the hoist shall be fitted with interlocks to prevent its operation when any gate is open or not properly closed - The hoist's shaft shall be fully enclosed at each landing and at ground level to prevent any person being struck by the hoist - The hoist mechanism shall be fitted with an overrun device to ensure it does not overrun the support mast - The hoist and mast shall be securely fixed to the structure/scaffold at every landing point Procedural Controls: - All inspections of the plant shall be recorded - No persons shall be permitted to ride on any materials hoist - The Safe Working Load (SWL) shall be clearly identified on the inside of the hoist - All materials and loads within the hoist shall carefully placed to prevent accidental movement of the load whilst being transported HSE & Other Guidance: - HSE Guidance Note – Construction Hoists - HSE Guidance Note – Inclined Hoists in Building and Construction BS Code of Practice for Construction Hoists	Y	L				

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C06	Mobile Elevated Working Platforms (MEWPs)											
	1. Falls from height	Y		H		X			Information/Instruction/Training: - All operators to be trained in the safe use of the specific type of platform being used - All persons using a MEWP should be provided with training for working at height - All persons using a MEWP shall be provided with training in the use safety harnesses and in the importance of ensuring a harness is always used and secured to the basket Managerial Controls: - Ensure adequate supervision is provided and that control measures remain valid for the duration of the work - Checks shall be made prior to use to ensure that all MEWP's are in a serviceable state and are accompanied by a valid test certificate Physical Controls: - The working area beneath the MEWP will be fenced off to safeguard any persons below from falling objects and from the risk of collision with the MEWP - The area in which it is anticipated the MEWP will operate shall be cleared of all materials, debris and other obstructions - The ground should be inspected prior to use by a competent person to ensure it is capable of sustaining the load - If fitted, stabilisers shall be extended prior to the raising of the platform - When not in use, the platform should be lowered, the keys removed and the platform in the Procedural Controls - MEWP's will only be used on firm level ground HSE & Other Guidance: - HSG 150 Health and Safety in Construction - HSG144 The Safe Use of Vehicles on Construction Sites	Y	L	

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		Y	N	H M L	Public	Const Person s	Third Parties	Other s		Y/N	H M L	

	2. Falling objects 3. Overturning 5. Failure of lifting mechanism 6. Impact with overhead cables or other obstructions	Y		L		X			Information/Instruction/Training: - All operators to be trained in the safe use of the specific type of platform being used - All persons using a MEWP should be provided with training for working at height - All persons using a MEWP shall be provided with training in the use safety harnesses and in the importance of ensuring a harness is always used and secured to the basket Managerial Controls: - Ensure adequate supervision is provided and that control measures remain valid for the duration of the work - Checks shall be made prior to use to ensure that all MEWP's are in a serviceable state and are accompanied by a valid test certificate Physical Controls: - The working area beneath the MEWP will be fenced off to safeguard any persons below from falling objects and from the risk of collision with the MEWP - The area in which it is anticipated the MEWP will operate shall be cleared of all materials, debris and other obstructions - The ground should be inspected prior to use by a competent person to ensure it is capable of sustaining the load - If fitted, stabilisers shall be extended prior to the raising of the platform - When not in use, the platform should be lowered, the keys removed and the platform in the Procedural Controls - MEWP's will only be used on firm level ground HSE & Other Guidance: - HSG 150 Health and Safety in Construction - HSG144 The Safe Use of Vehicles on Construction Sites	Y	L	
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		Y	N	H M L	Public	Const Person s	Third Parties	Other s		Y/N	H M L	

	4. Collision with other plant or structures	Y		M		X			Information/Instruction/Training: - All operators to be trained in the safe use of the specific type of platform being used - All persons using a MEWP should be provided with training for working at height - All persons using a MEWP shall be provided with training in the use safety harnesses and in the importance of ensuring a harness is always used and secured to the basket Managerial Controls: - Ensure adequate supervision is provided and that control measures remain valid for the duration of the work - Checks shall be made prior to use to ensure that all MEWP's are in a serviceable state and are accompanied by a valid test certificate Physical Controls: - The working area beneath the MEWP will be fenced off to safeguard any persons below from falling objects and from the risk of collision with the MEWP - The area in which it is anticipated the MEWP will operate shall be cleared of all materials, debris and other obstructions - The ground should be inspected prior to use by a competent person to ensure it is capable of sustaining the load - If fitted, stabilisers shall be extended prior to the raising of the platform - When not in use, the platform should be lowered, the keys removed and the platform in the Procedural Controls - MEWP's will only be used on firm level ground HSE & Other Guidance: - HSG 150 Health and Safety in Construction - HSG144 The Safe Use of Vehicles on Construction Sites	Y	L	
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			Y	N	H M L	Public	Const Person s	Third Parties	Other s			Y/N	H M L		

C07	Mobile Tower Scaffolds											
	1. Falls from height	Y		H	X	X			Information/Instruction/Training: - Only competent and experienced scaffolders shall be permitted to erect, modify or dismantle any scaffold tower - Persons inspecting scaffold towers shall also be competent to do so and have the appropriate CSCS certification - All users of scaffold towers shall be trained to identify potential defects and inadequacies in the scaffold and the measures to be taken in such instances - All users of scaffold towers shall be made aware of the dangers of making unauthorised modifications, such as the removal of guard rails and scaffold ties - No worker shall be permitted to throw any object of a scaffold tower Managerial Controls: - Ensure adequate supervision is provided and that control measures remain valid for the duration of the work - All scaffolds shall be erected in accordance with BS5973 by competent scaffold, certified scaffolders - Where scaffold towers are to be erected on the public highway, suitable lighting and other protective measures shall be implemented to protect other road users and the scaffold itself Physical Controls: - All scaffold towers shall be constructed with double guard rails and fixed toe boards - Scaffold towers shall always be constructed on level, solid foundations - All ladders shall be securely tied off and guarded to prevent accidental falls - Where scaffold towers are fitted with wheels, they should be securely locked before use Procedural Controls: - No scaffold tower will be put into use will be used until it is complete and has been fully inspected by a competent person - All scaffolds, including mobile towers will be subject to additional inspections every 7 days, these inspections will be recorded in accordance with the Construction (Health, Safety and Welfare) Regulations - Further inspections will be carried out after any adverse weather conditions and following any alterations HSE & Other Guidance: - HSG 150 Health and Safety in Construction - GS42 Tower Scaffolds	Y	L	

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REF	HAZARDS	RISK			PERSONS WHO WILL BE AFFECTED				RISK CONTROL MEASURE TO BE UNDERTAKEN IN ORDER TO ELIMINATE HAZARD / REDUCE RISK TO AN ACCEPTABLE LEVEL. COMMENT /DESIGN INTERVENTION	RESIDUAL RISK		Comments					
		Y	N	H M L	Public	Const Person s	Third Parties	Other s		Y/N	H M L						
	2. Falling objects 3. Overturning of the tower 4. Collapse/failure of the tower	Y		M	X	X			Information/Instruction/Training: - Only competent and experienced scaffolders shall be permitted to erect, modify or dismantle any scaffold tower - Persons inspecting scaffold towers shall also be competent to do so and have the appropriate CSCS certification - All users of scaffold towers shall be trained to identify potential defects and inadequacies in the scaffold and the measures to be taken in such instances - All users of scaffold towers shall be made aware of the dangers of making unauthorised modifications, such as the removal of guard rails and scaffold ties - No worker shall be permitted to throw any object of a scaffold tower Managerial Controls: - Ensure adequate supervision is provided and that control measures remain valid for the duration of the work - All scaffolds shall be erected in accordance with BS5973 by competent scaffold, certified scaffolders - Where scaffold towers are to be erected on the public highway, suitable lighting and other protective measures shall be implemented to protect other road users and the scaffold itself Physical Controls: - All scaffold towers shall be constructed with double guard rails and fixed toe boards - Scaffold towers shall always be constructed on level, solid foundations - All ladders shall be securely tied off and guarded to prevent accidental falls - Where scaffold towers are fitted with wheels, they should be securely locked before use Procedural Controls: - No scaffold tower will be put into use will be used until it is complete and has been fully inspected by a competent person - All scaffolds, including mobile towers will be subject to additional inspections every 7 days, these inspections will be recorded in accordance with the Construction (Health, Safety and Welfare) Regulations - Further inspections will be carried out after any adverse weather conditions and following any alterations HSE & Other Guidance: - HSG 150 Health and Safety in Construction GS42 Tower Scaffolds	Y	L						

REF	HAZARDS	RISK			PERSONS WHO WILL BE AFFECTED				RISK CONTROL MEASURE TO BE UNDERTAKEN IN ORDER TO ELIMINATE HAZARD / REDUCE RISK TO AN ACCEPTABLE LEVEL. COMMENT /DESIGN INTERVENTION	RESIDUAL RISK		Comments
		Y	N	H M L	Public	Const Person s	Third Parties	Other s		Y/N	H M L	

C08	Roof Truss Erection											
	1. Lifting operations 4. Falling objects 5. Access and egress to the working area 6. Manual Handling	Y		M		X	X		Information/Instruction/Training: - All operatives to be made aware of the risks and hazards associated with working at height and to be instructed in the contents of the method statement and safe system work - All staff to be trained in the use and inspection of their harnesses and lanyards - All workers to be provided with training in safe manual handling techniques Managerial Controls: - Ensure adequate supervision is provided and that control measures remain valid for the duration of the work Physical Controls: - A crash deck or other suitable fall protection device (such as air bags, safety nets or polystyrene blocks) shall be placed within the rooms below where the trusses are to be erected - Subject to a suitably designed roof of sufficient strength, consideration shall be given to the erection of the trusses at ground level, these can then be lifted into position thus reducing the time persons have to work at height - All operatives carrying out roof works shall wear a safety harness which shall be securely connected to prevent falls of more than 2m, no lanyard greater than 2 m in length shall be used - A full scaffold shall be provided to give safe access and egress to roof, this shall incorporate adequate edge protection including double toe boards and double guard rails - Consideration shall also be given to reducing the spacing of the roof trusses or to the fitting of additional battens/purlins to the underside of the trusses in order to reduce the size of hole through which operatives may fall - Temporary boarding should be placed within the trusses as the erection sequence progresses; this will not only limit the height of any fall, but will also provide a safe working platform for the fixing of battens and bracing etc. Procedural Controls: - In addition to the inspections before use, a formal recorded examination of each safety harness and lanyard shall be carried out every three month - A sufficient number of operatives shall be provided to ensure the trusses can be safely handled and erected - No materials or debris shall be allowed to be thrown from the roof HSE & Other Guidance: - HSG33 Safety in Roof Work	Y	L	

DESIGNERS RISK ASSESSMENT					DOC REF: 3300/NOK				STAGE - TENDER			PATRICK McCAUL ENVIROMENTAL CONSULTING ENGINEERS LTD			BANKMORE BUSINESS PARK BANKMORE ROAD OMAGH Co. TYRONE BT79 0BE Tel: 028-8225 1155 E-mail: info@pmccaul.com		
					Sheet: 97 of 101												
REF	HAZARDS	RISK			PERSONS WHO WILL BE AFFECTED				RISK CONTROL MEASURE TO BE UNDERTAKEN IN ORDER TO ELIMINATE HAZARD / REDUCE RISK TO AN ACCEPTABLE LEVEL. COMMENT /DESIGN INTERVENTION	RESIDUAL RISK		Comments					
		Y	N	H M L	Public	Const Person s	Third Parties	Other s		Y/N	H M L						
	2. Falls of the roof 3. Falls through trusses	Y		H		X	X		Information/Instruction/Training: - All operatives to be made aware of the risks and hazards associated with working at height and to be instructed in the contents of the method statement and safe system work - All staff to be trained in the use and inspection of their harnesses and lanyards - All workers to be provided with training in safe manual handling techniques Managerial Controls: - Ensure adequate supervision is provided and that control measures remain valid for the duration of the work Physical Controls: - A crash deck or other suitable fall protection device (such as air bags, safety nets or polystyrene blocks) shall be placed within the rooms below where the trusses are to be erected - Subject to a suitably designed roof of sufficient strength, consideration shall be given to the erection of the trusses at ground level, these can then be lifted into position thus reducing the time persons have to work at height - All operatives carrying out roof works shall wear a safety harness which shall be securely connected to prevent falls of more than 2m, no lanyard greater than 2 m in length shall be used - A full scaffold shall be provided to give safe access and egress to roof, this shall incorporate adequate edge protection including double toe boards and double guard rails - Consideration shall also be given to reducing the spacing of the roof trusses or to the fitting of additional battens/purlins to the underside of the trusses in order to reduce the size of hole through which operatives may fall - Temporary boarding should be placed within the trusses as the erection sequence progresses; this will not only limit the height of any fall, but will also provide a safe working platform for the fixing of battens and bracing etc. Procedural Controls: - In addition to the inspections before use, a formal recorded examination of each safety harness and lanyard shall be carried out every three month - A sufficient number of operatives shall be provided to ensure the trusses can be safely handled and erected - No materials or debris shall be allowed to be thrown from the roof HSE & Other Guidance: - HSG33 Safety in Roof Work	Y	L						

REF	HAZARDS	RISK			PERSONS WHO WILL BE AFFECTED				RISK CONTROL MEASURE TO BE UNDERTAKEN IN ORDER TO ELIMINATE HAZARD / REDUCE RISK TO AN ACCEPTABLE LEVEL. COMMENT /DESIGN INTERVENTION	RESIDUAL RISK		Comments
		Y	N	H M L	Public	Const Person s	Third Parties	Other s		Y/N	H M L	

C09	Roof Work (Maintenance)											
	1. Falls of the roof 2. Falls through trusses	Y		H	X	X	X		Information/Instruction/Training: - All operatives to be made aware of the risks and hazards associated with working at height and to be instructed in the contents of the method statement and safe system work - All staff to be trained in the use and inspection of their harnesses and lanyards - All workers to be provided with training in safe manual handling techniques Managerial Controls: - Ensure adequate supervision is provided and that control measures remain valid for the duration of the work Physical Controls: - A safe system of access and egress to the working area shall be provided, for short duration work this may involve the use of a securely footed ladder, though the use of mobile scaffold towers and full access scaffolds shall be given consideration - The working area shall provide protection from and to pedestrians and other road users where applicable - For short duration work the use of roof ladders will be used to provide access to and from the work area - For longer duration work the use of a full scaffold with toe boards, double guard rails, ladder access and other features such as a gin wheel and debris chute shall be used Procedural Controls: - No materials or debris shall be allowed to be thrown from the roof - A full method statement and safe system of work shall be prepared prior to the commencement of any works - No material shall be allowed to be thrown from the roof area - Warning signs shall be erected stating “men working overhead” - Works shall not be permitted to take place during periods of adverse weather such as in strong winds or wet weather HSE & Other Guidance: - HSG33 Safety in Roof Work	Y	L	

DESIGNERS RISK ASSESSMENT					DOC REF: 3300/NOK				STAGE - TENDER			PATRICK McCAUL ENVIROMENTAL CONSULTING ENGINEERS LTD			BANKMORE BUSINESS PARK BANKMORE ROAD OMAGH Co. TYRONE BT79 0BE Tel: 028-8225 1155 E-mail: info@pmccaul.com		
					Sheet: 99 of 101												
REF	HAZARDS	RISK			PERSONS WHO WILL BE AFFECTED				RISK CONTROL MEASURE TO BE UNDERTAKEN IN ORDER TO ELIMINATE HAZARD / REDUCE RISK TO AN ACCEPTABLE LEVEL. COMMENT /DESIGN INTERVENTION	RESIDUAL RISK		Comments					
		Y	N	H M L	Public	Const Person s	Third Parties	Other s		Y/N	H M L						
	3. Falling objects 4. Access and egress to the working area 5. Manual Handling	Y		M	X	X	X		Information/Instruction/Training: - All operatives to be made aware of the risks and hazards associated with working at height and to be instructed in the contents of the method statement and safe system work - All staff to be trained in the use and inspection of their harnesses and lanyards - All workers to be provided with training in safe manual handling techniques Managerial Controls: - Ensure adequate supervision is provided and that control measures remain valid for the duration of the work Physical Controls: - A safe system of access and egress to the working area shall be provided, for short duration work this may involve the use of a securely footed ladder, though the use of mobile scaffold towers and full access scaffolds shall be given consideration - The working area shall provide protection from and to pedestrians and other road users where applicable - For short duration work the use of roof ladders will be used to provide access to and from the work area - For longer duration work the use of a full scaffold with toe boards, double guard rails, ladder access and other features such as a gin wheel and debris chute shall be used Procedural Controls: - No materials or debris shall be allowed to be thrown from the roof - A full method statement and safe system of work shall be prepared prior to the commencement of any works - No material shall be allowed to be thrown from the roof area - Warning signs shall be erected stating “men working overhead” - Works shall not be permitted to take place during periods of adverse weather such as in strong winds or wet weather HSE & Other Guidance: - HSG33 Safety in Roof Work	Y	L						

REF	HAZARDS	RISK			PERSONS WHO WILL BE AFFECTED				RISK CONTROL MEASURE TO BE UNDERTAKEN IN ORDER TO ELIMINATE HAZARD / REDUCE RISK TO AN ACCEPTABLE LEVEL. COMMENT /DESIGN INTERVENTION	RESIDUAL RISK		Comments
		Y	N	H M L	Public	Const Person s	Third Parties	Other s		Y/N	H M L	

C10	Working from a height											
	1. Falls from height	Y		H	X	X			Information/Instruction/Training: - All operatives to be made aware of the risks and hazards associated with working at height and to be instructed in the contents of the method statement and safe system work - All staff to be trained in the use and inspection of their harnesses and lanyards - All workers to be provided with training in safe manual handling techniques Managerial Controls: - Ensure adequate supervision is provided and that control measures remain valid for the duration of the work Physical Controls: - A safe system of access and egress to the working area shall be provided, for short duration work this may involve the use of a securely footed ladder, though the use of mobile scaffold towers and full access scaffolds shall be given consideration - The working area shall provide protection from and to pedestrians and other road users where applicable - For short duration work the use of roof ladders will be used to provide access to and from the work area - For longer duration work the use of a full scaffold with toe boards, double guard rails, ladder access and other features such as a gin wheel and debris chute shall be used Procedural Controls: - No materials or debris shall be allowed to be thrown from the roof - A full method statement and safe system of work shall be prepared prior to the commencement of any works - No material shall be allowed to be thrown from the roof area - Warning signs shall be erected stating “men working overhead” - Rubble netting, brick guards and fans shall be considered to provide protection to persons below - Works shall not be permitted to take place during periods of adverse weather such as in strong winds or wet weather HSE & Other Guidance: - HSG33 Safety and Roof Work - HSG150 Health and Safety in Construction - BS1129 Timber Ladders, Steps, Trestles and Lightweight Stagings	Y	L	

DESIGNERS RISK ASSESSMENT								DOC REF: 3300/NOK		STAGE - TENDER		PATRICK McCAUL ENVIROMENTAL CONSULTING ENGINEERS LTD		BANKMORE BUSINESS PARK BANKMORE ROAD OMAGH Co. TYRONE BT79 0BE Tel: 028-8225 1155 E-mail: info@pmccaul.com	
								Sheet: 101 of 101							
REF	HAZARDS	RISK			PERSONS WHO WILL BE AFFECTED				RISK CONTROL MEASURE TO BE UNDERTAKEN IN ORDER TO ELIMINATE HAZARD / REDUCE RISK TO AN ACCEPTABLE LEVEL. COMMENT /DESIGN INTERVENTION	RESIDUAL RISK		Comments			
		Y	N	H M L	Public	Const Person s	Third Parties	Other s		Y/N	H M L				
	2. Falling objects	Y		M	X	X			Information/Instruction/Training: - All operatives to be made aware of the risks and hazards associated with working at height and to be instructed in the contents of the method statement and safe system work - All staff to be trained in the use and inspection of their harnesses and lanyards - All workers to be provided with training in safe manual handling techniques Managerial Controls: - Ensure adequate supervision is provided and that control measures remain valid for the duration of the work Physical Controls: - A safe system of access and egress to the working area shall be provided, for short duration work this may involve the use of a securely footed ladder, though the use of mobile scaffold towers and full access scaffolds shall be given consideration - The working area shall provide protection from and to pedestrians and other road users where applicable - For short duration work the use of roof ladders will be used to provide access to and from the work area - For longer duration work the use of a full scaffold with toe boards, double guard rails, ladder access and other features such as a gin wheel and debris chute shall be used Procedural Controls: - No materials or debris shall be allowed to be thrown from the roof - A full method statement and safe system of work shall be prepared prior to the commencement of any works - No material shall be allowed to be thrown from the roof area - Warning signs shall be erected stating “men working overhead” - Rubble netting, brick guards and fans shall be considered to provide protection to persons below - Works shall not be permitted to take place during periods of adverse weather such as in strong winds or wet weather HSE & Other Guidance: - HSG33 Safety and Roof Work - HSG150 Health and Safety in Construction BS1129 Timber Ladders, Steps, Trestles and Lightweight Stagings	Y	L				

Project: National Orthopaedic Hospital Cappagh Entrance					Project Job No.: 2511						
Part of Project Being Assessed: New Build					Risk Classification:			Risk Rating:		Date: 26.05.2026	
					Likelihood:	Remote = 1	Possible = 2	Probable = 3	1-2 = Low	Hard Copy Included in Safety File ☐	
					Severity:	Minor = 1	Serious = 2	Severe / Fatal = 3	3-4 = Medium	6-9 = High	
Item	Activity Element	Significant Potential Hazards	Type Population at Risk	Risk Classification			Design Action to be Taken to Reduce Risk.	Design Action	Reduced Risk Factors	Future Action	
				Likelihood	Severity	Risk Rating		Date & By Whom			
1	Risks associated with interface between construction activities and members of the public	Site is located adjacent to hospital building which is fully operational.	Site Operatives /members of the public	3	3	9	Adequate signage, separation and hoarding between members of the public and construction traffic. Proper management of construction traffic & members of the Public.	Main Contractor	6	A construction traffic management plan to be undertaken by Main Contractor prior to start on site. Access to site must be strictly controlled by the Main contractor that only personnel who have undertaken the safe pass course are permitted to site. Signs are to be erected and maintained to ensure that this is clearly understood. Adequate hoarding required to separate work sites from office/public areas. Location of contractor parking to be agreed.	
2	Adequate Signage for members of the Public with hearing or visual difficulties	Dangers associated with members of the public with hearing difficulties in proximity with the construction site	Members of the Public with hearing difficulties	2	3	6	More prominent visual signage for members of the public with hearing difficulties-safety	Main Contractor	3	Main Contractor to brief site operatives on members of the public using the facilities. Adequate signage to be erected.	
3	Removal of hazardous material such as asbestos.	Respiratory /Carcinogenic Illnesses. Injury due to falling material	Site Operatives	2	3	6	Adequate asbestos survey of the building to be carried out. Method statement for removal by specialist contractor if necessary.	Specialist Sub-contractor/ the Main Contractor	3	Sub-contractor to produce report and method statements for the removal and disposal works, to be included in the safety file given to the main contractor on nomination.	
4	Working at height on Roof	Falling from height	Site Operatives	3	1	3	Platform and handrail to be constructed around rooflights to allow safe maintenance access.	Main Contractor	3	Full scaffolding protection measures such as: Toe boards and guarding proper access. Ladders to be tied Adequate safety harnessing. Main Contractor to produce report and method statements for the works which is to be included in the safety file.	
5	Risks associated with hazardous substances such as paints thinners sealants etc.	Asphyxiation	Site Operatives	3	3	9	Minimize use on site.	Main Contractor	3	Contractor to produce Material Safety Data Sheets for all hazardous chemicals or products to be used on site. The PSCS will take account of these issues and put preventative procedures in place. Good PPE and hygiene procedures to be adopted for use of all hazardous products and operatives notified at induction.	

6	Disconnection of Services/ Proximity of overhead high voltage power lines around site. Works to plant room.	Electrocution	Operatives operating machinery. Maintenance operatives	3	3	9	All times practicable cables will be cut off, highlighted and marked off during works. All work to be carried out by specialist contractor. Service provider to be adequately notified.	Main Contractor	6	Ensure that service location drawings are included in the safety file given to the main contractor. Existing services to be confirmed. No mechanical digging within 0.5m of a live service.
7	Dust/ Noise Pollution	Lung disease / Hearing Problems	Site Operatives	3	3	9		Main Contractor	3	Noise to be limited during Construction. Operatives to wear protective dust masks and ear protection when necessary.
8	Burial under earth falls	Crushing/ Injury due to falling material	Site Operatives	1	3	6	Structural Engineer and Main Contractor to evaluate risk and design accordingly. Temporary Works to be designed by main contractor/ method statement and DRA for works to be produced and issued to PSDP.	Structural Engineer/ Main Contractor	3	Adequate separation and hoarding, proper use of trenches- limiting heavy machinery in the vicinity, Contractor to use trench supports where required. Excavations not to be left open for long periods of time.
9	Works involving assemble or dismantling of heavy per- fabricated components or scaffolding	Crushing / falling from height Injury due to falling material.	Site Operatives	1	3	6	Main contractor and crane contractor to be advised on the extent of works and associated dimensions.	Main Contractor	3	Works and dimensions will be advised to the contractors involved and crane contractor. All visitors must report to the site office before proceeding to site. Signs are to be erected and maintained to ensure that this is clearly understood.
10	Hot Works- Combustible materials	Falls- failure of material	Site Operatives	1	3	6	Hot works within the development to be minimised	Structural Engineer/ Main Contractor	3	Contractor to produce Material Safety Data Sheets for all Hazardous Chemicals or products to be used on site. The PSCS will take account of these issues and put preventative procedures in place. Good PPE and hygiene procedures to be adopted for use of all hazardous products and operatives notified at induction.
11	Future Maintenance	Falls from height	Cleaning contractor	1	3	6	Adequate access and tie off points to be fitted as appropriate for future maintenance	Main Contractor / Landlord	3	External: Window cleaners using carbon rod 'reach and wash' high level cleaning system to be specified in future maintenance contracts. Atrium: Mobile tower to be used for maintenance purposes within the double height space. Mobile tower to be used for the maintenance of any ceiling mounted equipment: parallel bars, hoist if deemed appropriate.
12	Clash of trades	Falls from height/Injury	Site Operatives	1	3	6	Main Contractor to produce and circulate for approval co-ordinated programme for the works.	Main Contractor	3	Main Contractor to co-ordinate subcontractors on site.
13	Disposal of Waste	Biological Injury, Weal's Dieses	Members of the public	2	3	6	Waste storage area to be separated from domestic waste and fully secured from intruders, adequate CCTV & lighting to be provided outside waste areas.	Main Contractor	3	External Waste storage area to be fully secured from above- metal cage or fully roofed.
14	Manual Handling	Physical Injury	Site Operatives	2	3	6	Heavy materials-blockwork, windows and pre-cast elements to be craned into position	Main Contractor	3	Main Contractor to co-ordinate subcontractors on site.

16	Demolitions	Debris falling from a height	Members of the public/ Site Operatives	3	3 X	6	Adequate signage, separation and hoarding between members of the public and construction traffic. Proper management of construction traffic & members of the Public.	Main Contractor	3	A construction traffic management plan to be undertaken by Main Contractor prior to start on site. Access to site must be strictly controlled by the Main contractor that only personnel who have undertaken the safe pass course are permitted to site. Signs are to be erected and maintained to ensure that this is clearly understood. Adequate hoarding required to separate work sites from office/public areas. Location of contractor parking to be agreed.
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Designer's assessment of safety and health hazards/risks			
Molony Millar Consulting Engineers Rathfarnham, Dublin 14. Ph:01-4930211	Project: NOHC – Dublin 11. Main entrance works	Designer: Sean Twomey	Date: May 2026
	Ref Nr: 989-86 MMCE	Checker: Ray Goggin	Sheet no: DAR 02 (2of3)
Design Stage: Note: review previous stage b/f items			
No.	Key construction hazards (or risks) identified	Evaluations. Design decisions made (or alternative actions)	
6	Noise arising from demolition and/or construction works.	No alternative. <i>Contractor shall implement measures to eliminate noise where possible and reduce levels where not. Works shall comply with BS 5228 "Noise Control on Construction and Open sites" Part 1.</i> <i>Works to adhere to limits in order to minimize any annoyance to neighboring parties, especially the live operating theatres located nearby.</i>	
7	Vibration arising from demolition and/or construction works.	No alternative. <i>Works shall comply with BS 5228 "Vibration Control on Construction and Open sites" Part 2 and BS 7385 Evaluation and measurement for vibration in buildings Part 2.</i> <i>Works to adhere to limits in order to minimize any damage / annoyance to neighboring parties, especially the live laboratory over.</i>	
8	Damage to the retained structure	No alternative. <i>Demolition works near retained structure by hand or mechanical pusher arm</i>	
9	Exposure to harmful substances Asbestos or/and Lead based paint	No alternative. <i>Appropriate PPE to be issued and worn by all working within dusty environments. Comply with Asbestos Report and regulations</i>	
10	Fire potential originating from materials of the demolition works	No alternative <i>A clean as you go policy to be implemented to prevent a buildup of combustible materials.</i>	
11	Gases caused by site welding	No alternative. <i>Ventilate the space</i>	
Notes re providing information [see Chap 4] a) for client's designers [section 4.3] b) 'Schedule 1' hazards/particular risks [Box B] c) other 'particular risks' [Box C] d) re assumed construction methods [Box D] e) for Safety File [section 4.5] f) in-house: b/f to future stages		Item Nos. (from above) 6 to 11	Remarks <i>Provide all available information to the contractors.</i>
<i>Other parties please take note:</i> These are designer's risk evaluations of design options carried out in-house for the purpose of our complying with designers' duties under the Safety, Health and Welfare at Work (Construction) Regulations 2006. The evaluations relate only to those aspects/elements of the project which we are responsible for designing under the terms of our appointment by our client. Other parties should not rely on these evaluations for their own purposes; in particular, contractors, who must deal with and control all risks arising during construction, must carry out their own definitive risk assessments <i>ab initio</i> for that purpose.			

Designer's assessment of safety and health hazards/risks			
Molony Millar Consulting Engineers Rathfarnham, Dublin 14. Ph:01-4930211		Project: NOHC – Dublin 11. Main entrance works	Designer: Sean Twomey
		Ref Nr: 989—91 MMCE	Date: May 2026
		Checker: Ray Goggin	Sheet no: DAR-01 (1of3)
Design Stage: <i>Note: review previous stage b/f items</i>			
No	Key construction hazards (or risks) identified	Evaluations. Design decisions made (or alternative actions)	
1	<i>Hidden services: gases, electrical, water & so on.</i> <i>Working in a live hospital</i>	<i>Existing services to be located and shut down or isolated – CHECK WITH THE HOSPITAL & OBTAIN APPROVAL BEFORE CARRYING ANY WORK TO THE SERVICES..</i> <i>Retain/maintain services to the hospital</i>	
2	<i>Dust generated during the works</i> <i>Risk of Aspergillus infection to persons especially to patients.</i>	<i>No alternative.</i> <i>Control dust (apply water spray)</i> <i>Seal off the work areas.</i>	
3	<i>Hazard to persons arising from demolition traffic</i>	<i>No alternative.</i> <i>Contractor to put in place a traffic management system.</i> <i>Dedicated waiting areas to be designated if delivery /construction traffic cannot access site directly</i> <i>Site personnel to be assigned at all times to traffic management duties.</i>	
4	<i>Unauthorized entry by persons onto the site during the demolition phase of the project.</i> <i>Risk of injury to persons from moving plant, falling from height.</i>	<i>Secure hoarding to be installed along the site boundary, to comply with Health & Safety and Welfare at Work (Construction) Regulations.</i> <i>Person entry to the site to be controlled at all times</i> <i>One entry and one exit point only</i>	
5	<i>Demolition of heavy building elements</i>	<i>No alternative.</i> <i>Contractor to use heavy plant to remove these elements</i>	
Notes re providing information [see Chap 4]		Item Nos. (from above)	Remarks
a) for client's designers [section 4.3] b) 'Schedule 1' hazards/particular risks [Box B] c) other 'particular risks' [Box C] d) re assumed construction methods [Box D] e) for Safety File [section 4.5] f) in-house: b/f to future stages		1 to 5	Provide all available information to the contractors.
<i>Other parties please take note:</i> These are designer's risk evaluations of design options carried out in-house for the purpose of our complying with designers' duties under the Safety, Health and Welfare at Work (Construction) Regulations 2006. The evaluations relate only to those aspects/elements of the project which we are responsible for designing under the terms of our appointment by our client. Other parties should not rely on these evaluations for their own purposes; in particular, contractors, who must deal with and control all risks arising during construction, must carry out their own definitive risk assessments <i>ab initio</i> for that purpose.			

Designer's assessment of safety and health hazards/risks			
Molony Millar Consulting Engineers Rathfarnham, Dublin 14. Ph:01-4930211	Project: NOHC – Dublin 11. Main entrance works s	Designer: Sean Twomey	Date: May 2026
	Ref Nr: 989-86 MMCE	Checker: Ray Goggin	Sheet no: DAR-03 (3of 3)
Design Stage: Note: review previous stage b/f items			
No.	Key construction hazards (or risks) identified	Evaluations. Design decisions made (or alternative actions)	
12	<i>Fumes generated by petrol/diesel powered engines, if used, in an enclosed space</i>	<i>No alternative.</i> <i>Ventilate the space</i>	
13	<i>Placement of heavy steel elements</i>	<i>No alternative.</i> <i>Use hoists or similar to lift the heavy members into position.</i>	
14	<i>Danger of falling from height</i>	<i>Install temporary barriers</i>	
15	<i>Collapse of temporary propping works</i>	<i>Temporary propping to be designed by specialist to resist the applied loading and this shall be submitted to the design team for review.</i>	
Notes re providing information [see Chap 4] a) for client's designers [section 4.3] b) 'Schedule 1' hazards/particular risks [Box B] c) other 'particular risks' [Box C] d) re assumed construction methods [Box D] e) for Safety File [section 4.5] f) in-house: b/f to future stages		Item Nos. (from above) <i>12 to 15</i>	Remarks <i>Provide all available information to the contractors.</i>
<i>Other parties please take note:</i> These are designer's risk evaluations of design options carried out in-house for the purpose of our complying with designers' duties under the Safety, Health and Welfare at Work (Construction) Regulations 2006. The evaluations relate only to those aspects/elements of the project which we are responsible for designing under the terms of our appointment by our client. Other parties should not rely on these evaluations for their own purposes; in particular, contractors, who must deal with and control all risks arising during construction, must carry out their own definitive risk assessments <i>ab initio</i> for that purpose.			