

## Element 1 CONSTRUCTION LAW AND MANAGEMENT

### Learning outcomes

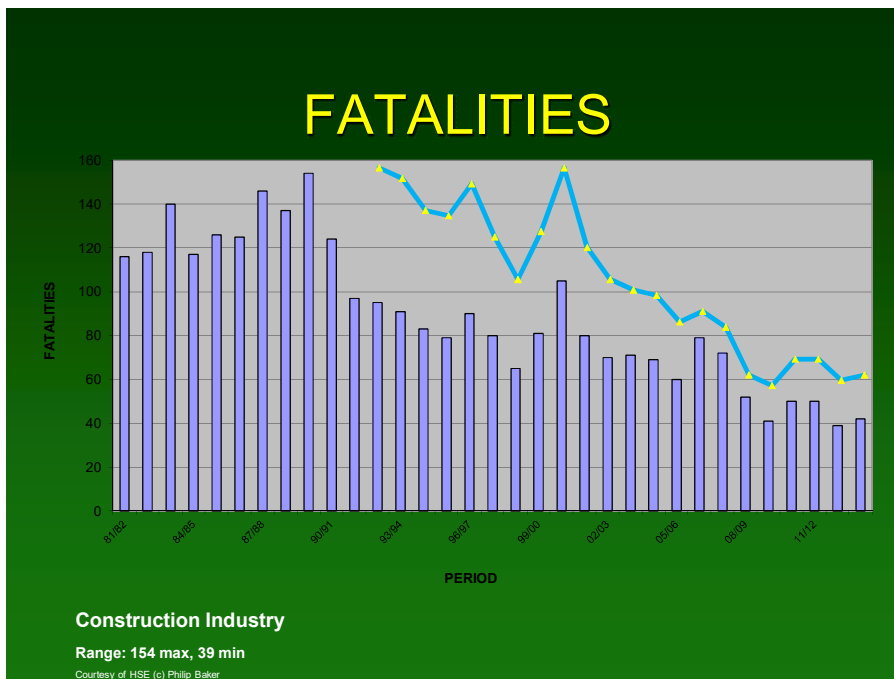
On completion of this element, candidates should be able to demonstrate understanding of the content through the application of knowledge to familiar and unfamiliar situations. In particular they should be able to:

- Identify the scope, definition and particular issues relating to construction activities
- Outline the legal, moral and financial consequences of failing to manage health and safety within the construction industry
- Outline the scope and application of the Construction (Design and Management) Regulations 2015
- Identify the nature and main sources of external construction health and safety information
- Links to NGC1

### 1. INTRODUCING SAFETY IN CONSTRUCTION AND DEMOLITION

Accidents and ill health history

- 5% of employees in Britain work in construction, but the industry accounts for 27% of fatalities
- >There has been an average of 53 fatal injuries a year over the past 5 years, roughly one death per week
- >Nearly 4,000 occupational cancer cases are estimated to arise from exposure in the construction industry



Despite the improvements the construction industry still has one of the worst health and safety records of all sectors. The most common types of accidents are:

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- Falls – particularly in roof work, steel erecting & fixing, demolition and building maintenance, such as painting. Approximately 50% of deaths in construction are as a result of falls from height.
  - Falling materials and collapse – such as from materials falling whilst being lifted, collapse of excavations, premature collapse of buildings being demolished, or collapse of scaffolds.
  - Plant & machinery – people may be run over on site, particularly by reversing vehicles. In addition, accidents involving overturning vehicles on site are a common occurrence.
  - Electricity – the use of electrical equipment in harsh environments, utilising temporary installations, inevitably leads to accidents involving electrocution.
  - Ill health – in addition to all the hazards that may occur, as outlined above, the construction industry may cause a range of illnesses, from mesothelioma due to asbestos exposure, to hearing damage from high noise levels.

Despite the improvements the construction industry still has one of the worst health and safety records of all sectors.

What factors contribute to this poor H&S record?

- Ever changing work environment
- Macho attitude
- Lack of control
- Heavy plant used
- Weather conditions
- Self employed and casual labour
- Lack of skills
- Blame culture
- Wide range of hazards present

Who is at greatest risk?

- roofers
- general construction workers & labourers
- electricians
- welders
- painter /decorators
- brick layers
- scaffolders

### 1.1 What is construction?

This is defined by the Construction, Design and Management Regulations

“carrying out of any building , civil engineering or engineering construction work including .....

- construction, alteration, conversion, renovation of a structure
- repair, redecoration, maintenance, decommissioning and demolition of a structure
- Includes cleaning which involves high pressure water or abrasions or toxic or corrosive substances

- preparation for a structure
- assembly and disassembly of prefabricated elements
- removal of a structure
- installation, commissioning, maintenance of services fixed within the structure.

2015 addition

- **Construction Work... ..not cleaning but ...or other maintenance (including cleaning which involves the use of water or an abrasive at high pressure or the use of corrosive or toxic substances)**

## 1.2 Typical Construction activities

- Site clearance
- Demolition
- Excavation e.g. earthwork, trench work, shaft, tunnel or underground working.
- Loading and lifting materials
- Fabrication
- Cleaning
- Installation and removal of services
- Landscaping
- Decoration

### 1.3. LEGAL MORAL AND FINANCIAL CONSEQUENCES OF POOR SAFETY MANAGEMENT ON SITE



#### Construction Legal Issues

Health and safety legislation places a number of duties on organisations, managers and employees alike. Failure to carry out these duties can result in fines and, in extreme cases, imprisonment. The basic principle is that every employee must take reasonable care for the safety of themselves and of others who may be affected by their acts or omissions.

It is important that employers and their staff understand their responsibilities under the Health & Safety at Work etc Act 1974 (HSW Act); and in particular for the health & safety of other personnel e.g. contractors' employees. The Act covers general issues but without the detail, it is sets of regulations such as the Construction, Design & Management Regulations which give the specific measures which must be taken to ensure safety during all stages of the construction project.

A common misunderstanding revolves around the legal position or "liability" as it is often referred to. The HSW Act and all its associated legislation are CRIMINAL LAW i.e. the law of the land. Failure to comply with such legislation could be regarded as a "crime", with possible prosecutions in a Magistrates or Crown Court, ending up with a criminal conviction.

Any contractual obligations regarding health and safety are CIVIL LAW i.e. part of a private agreement between 2 or more parties, one of whom may be an employer. Failure to comply with a contract can only be redressed by an action for breach of contract. Similarly a party who has suffered injury or loss may choose to pursue an action under CIVIL LAW for compensation due to the negligence of another.

So for the same incident e.g. an accident on site, it is not uncommon for there to be a prosecution under the CRIMINAL LAW for failure to comply with statutory law and separate action under CIVIL LAW for breach of contract and/or negligence. The standard of proof required for Criminal Law is "Beyond all reasonable doubt" but for civil cases it is by "the balance of probabilities". In reality this means that for there to be a prosecution there must be more evidence presented than is required in a civil case. (See NGC1 for further details)

### 1.4 Structure of Statute Law

Document	Legal Status	Issued by	Example
<b>Statute – Act</b>	Legally binding	Parliament	Health & Safety At Work Act 1974
<b>Regulations</b>	Legally Binding	Parliament (drafted by HSE)	Management of Health & Safety At Work Regulations Construction Design & Management Regs 2015 (CDM)
<b>Approved Code of Practice</b>	Not legally enforceable but can be used in evidence against you	HSE	ACOP associated with CDM 2015/Control of Substances Hazardous to Health Regulations (COSHH)
<b>Code of Practice</b>	Not legally enforceable but provides useful guidance on meeting legal requirements	Industry bodies	TUC COP on the functions of Trade Union Safety Representatives
<b>Guidance Notes</b>	Guidance only Usually more technical and specific	HSE & other organisations e.g. CITB	HSG50 H&S In construction HSG47 Underground services HSG33 Roof work HSG141 Electrical safety on site HSG 151 Safety of visitors/public HSG 168 Fire safety
<b>British or European Standards</b>	Not legally enforceable	BSI	Safety sign colour and shape Machinery guarding types

### 1.5 Accidents and the Financial implications of Poor Site Safety

2.2 million people work in Britain's construction industry, making it the country's biggest industry. It is also one of the most dangerous. In the last 25 years, over 2,800 people have died from injuries they received as a result of construction work. Many more have been injured or made ill.

Financial penalties should be obvious. If you are injured and cannot work, insurance will never fully compensate you for the financial loss. There is also the risk of being fined following action by the Health & Safety Executive (HSE), Environment Agency or Environmental Health Officer (EHO).

## 1.6 Information Sources

There are vast amounts of external health and safety information available in many different forms: written, CD, video and personal assistance.

- Professional bodies - IOSH, NEBOSH, ROSPA, IIRSM
- Construction Industry Training Board
- Accreditation Bodies
- Manufacturers chemical data sheets/Instruction manuals
- British standards institute
- The enforcement authorities : HSE, Environmental Health Officer, Fire Authority
- H&S Consultants
- Training courses leading to accredited qualifications
- Trade standards or British standards
- H&S Journals – Safety & Health Practitioner etc.
- Department of Work & Pensions: days lost, sickness etc.
- National Audit office
- Local H&S and Construction Safety groups
- Government research
- HSE - web site and the specific construction industry section

### External Contact Points

Construction confederation 55 Tufton Street, Westminster, London, SW1P 3QL  
 The Construction Plant-hire Association (CPA), the Organisation for Plant-Hire Professionals in the United Kingdom. The CPA was originally named the Contractors Plant Association, before changing its name in 1985. 020 7796 3366.  
 Explosive industries group [Explosive Industry Group CBI Centrepoint, 103 New Oxford Street, London WC1A 1DU](#)  
 t: 0207 395 8063 f: 0207 497 2597 e: [queries@eig.org.uk](mailto:queries@eig.org.uk)

Welcome to the National Federation of Demolition Contractors  
 HSE Enquiry Point : 0541 545500 <http://www.open.gov.uk/hse/hsehome.htm> or [www.hse.gov.uk](http://www.hse.gov.uk) or info on line 0870 1545500. The web site contains details of latest publications, legislation and consultative documents. Small leaflets can be downloaded for local printing, there is also access to details of prosecutions, improvement notices and prohibition notices, which can be accessed via job sector etc.

HSE Area Office : Luton 01582 444200

HSE Books : 01787 881165

Incident Contact Centre – For RIDDOR reporting [www.riddor.gov.uk](http://www.riddor.gov.uk) (other contact details are provided in the Accident Management Section)

HSE Direct – This is a subscription service which allows legislation, ACOPs, guidance, European directives, HSE forms and Butterworths Tolley's Introduction to H&S to be downloaded. There is also a comprehensive search tool. (Prices as at 1.1.2002 Day ticket £20 + VAT, Annual subscription £199 + VAT) 0845 300 3142 or [www.hsedirect.com](http://www.hsedirect.com)

The Stationary Office (HMSO Books) 0171 873 0011 <http://www.the-stationery-office.co.uk>

British Safety Council : National Safety Centre, 70 Chancellors Road, London, W6 9RS

The International Institute of Risk Management : Albion House, 87-89 Aldgate High Street, London, EC3N 1LH

Home Office Fire Department : 50 Queen Anne's Gate, London, SW1H 9AT

IOSH : The Institution of Occupational Safety & Health, The Grange, Highfield Drive, Wigston, Leicester, LE18 1NN

British Standards Institute : Linford Wood, Milton Keynes, MK14 6LE 0181 996 9000

Fire Protection Association : 0181 207 2345

Repetitive Strain Injury Association : 01895 431134

Child Accident Prevention Trust : 0171 608 3828

Construction Industry Training Board : 01485 577577

TUC – The TUC has a comprehensive health and safety web site that covers policy issues, reports and H&S campaigns. It also has information specifically aimed at safety representatives. [www.tuc.org.uk/h\\_and\\_s\\_/index.cfm](http://www.tuc.org.uk/h_and_s_/index.cfm) ( Note: there is a “\_” after the h & s in this web address)

Safety & Health Practitioner Magazine – 0800 297 5344

Safety Management Magazine: 70 Chancellors Road, London, W6 9RS

Cambridge Safety, Health, Safety and Environmental Consultants 01733 865695,  
[www.cambridgesafety.co.uk](http://www.cambridgesafety.co.uk)

NHS Direct – Highlights major health topics. [www.nhsdirect.nhs.uk](http://www.nhsdirect.nhs.uk)

Occupational Health Strategy – This gives examples of good practice in the field of occupational health. [www.ohstrategy.net](http://www.ohstrategy.net)

## **England and Wales Construction**

### **Civil Engineering Contractors Association (CECA)**

The representative body for companies who work day-to-day to deliver, upgrade, and maintain the country's infrastructure; [www.ceca.co.uk](http://www.ceca.co.uk) (<http://www.ceca.co.uk>)

### **Federation of Master Builders (FMB)**

The UK's largest trade association in the building sector, with national offices in England, Northern Ireland, Scotland and Wales; [www.fmb.org.uk](http://www.fmb.org.uk) (<http://www.fmb.org.uk>)

### **British Woodworking Federation (BWF)**

Offering advice, support and wood industry information to its members as well as guidance for customers who use its products and services; [www.bwf.org.uk/](http://www.bwf.org.uk/) (<http://www.bwf.org.uk/>)

### **Construction Plant-hire Association (CPA)**

The leading trade association in the UK supporting its 1,500 members, ranging from owner-operators with a single machine, right through to the largest companies in the industry, with hire fleets of thousands of machines; [www.cpa.uk.net/](http://www.cpa.uk.net/) (<http://www.cpa.uk.net/>)

### **Hire Association Europe (HAE)**

Offering companies member support to assist in improving industry standards by supporting campaigns to increase awareness of the benefits of hire and rental to the end user; [www.hae.org.uk/](http://www.hae.org.uk/) (<http://www.hae.org.uk/>)

### **Home Builders Federation (HBF)**

Acting as the voice of the home building industry in England and Wales, the HBF represent member interests on a national and regional level to create the best possible climate in which they can deliver the homes this country needs; [www.hbf.co.uk/](http://www.hbf.co.uk/) (<http://www.hbf.co.uk/>)

### **National Association of Shopfitters (NAS)**

One of the UK's longest established trade federations for small- to medium-sized enterprises (SMEs) builders, contractors and house builders across England and Wales; [www.shopfitters.org/](http://www.shopfitters.org/) (<http://www.shopfitters.org/>)

### **National Federation of Builders (NFB)**

The NFB provides business and policy support to builders, contractors and house builders across England and Wales; [www.builders.org.uk/](http://www.builders.org.uk/) (<http://www.builders.org.uk/>)

**National Federation of Demolition Contractors Ltd (NFDC)**

Acting as the recognised voice of the demolition industry, the NFDC helps to steer the demolition sector and provide vital information to its members; [www.demolition-nfdc.com/](http://www.demolition-nfdc.com/) (<http://www.demolition-nfdc.com/>)

**National Specialist Contractors Council (NSCC)**

The National Specialist Contractors' Council (NSCC) brings together the common aims of specialist trade organisations within the construction industry and is the authoritative voice of Specialist Contractors in the UK; [www.nsc.org.uk/](http://www.nsc.org.uk/) (<http://www.nsc.org.uk/>)

**UK Contractors Group (UKCG)**

Promoting the UK construction industry by supporting its members in delivering excellence and encouraging contractors to work together with their clients and supply chains to promote change and best practice; [www.ukcg.org.uk/](http://www.ukcg.org.uk/) (<http://www.ukcg.org.uk/>)

**Asbestos Removal Contractors Association (ARCA)**

The Asbestos Removal Contractors Association (ARCA) is the UK's leading asbestos removal association; [www.arca.org.uk](http://www.arca.org.uk) (<http://www.arca.org.uk>)

**Asbestos Control & Abatement Division (ACAD)**

The Asbestos Control & Abatement Division (ACAD) formed in 1994 as a Trade Association and UKATA Asbestos Removal Training Provider representing specialists in asbestos removal; [www.tica-acad.co.uk](http://www.tica-acad.co.uk) (<http://www.tica-acad.co.uk/page/about-acad>)

**The Association of Technical Lightning & Access Specialists (ATLAS)**

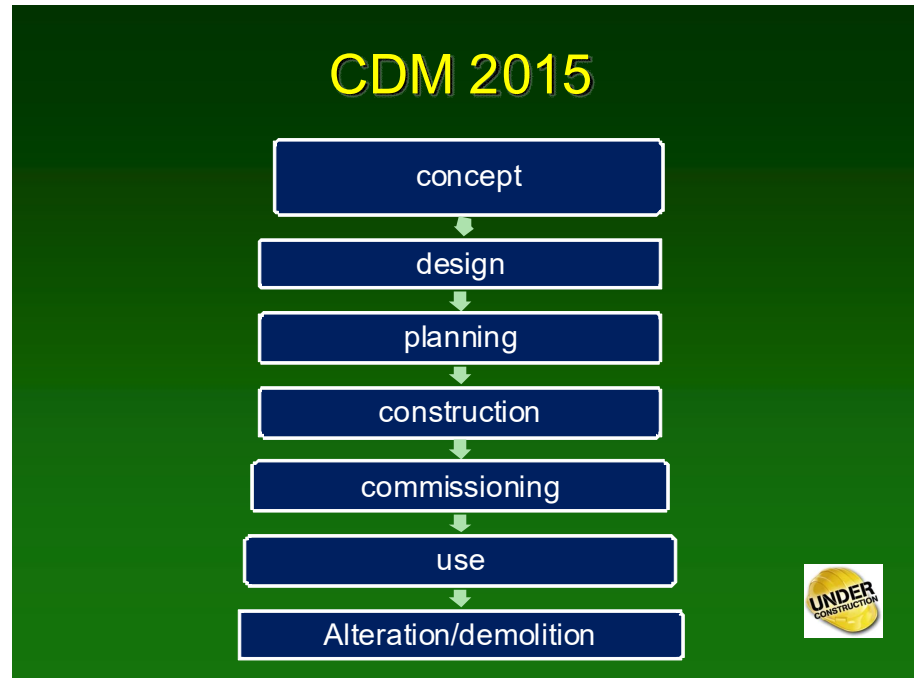
ATLAS represents the leading player in the lightning protection and steeplejack industry which deliver high quality standards nationwide; [www.atlas.org.uk](http://www.atlas.org.uk) (<http://www.atlas.org.uk>)



## 1.7. LEGAL REQUIREMENTS FOR CONSTRUCTION

### 1.7.1 CONSTRUCTION DESIGN & MANAGEMENT REGULATIONS 2015

These regulations come onto the statute books in April 2015 and completely replace the 2007 regulations in their entirety. Legal obligations are placed on everyone involved in the construction process, including the Client, to provide for site safety at every stage of a project. The Contractor will no longer take sole responsibility. The main focus of the regulations is on the four C's: Communication, Competence, Co-operation and Control, along with the site specific H&S standards to be met. This is the third version of these important construction specific regulations which were originally introduced in 1994.



The objectives of the new regulations are

- improve worker protection;
- simplify the regulatory package;
- improve health and safety standards on small construction sites;
- implement the Temporary or Mobile Construction Sites Directive (TMCSO) in a proportionate way; This is a EU directive which the UK is obliged to implement fully.
- discourage bureaucracy; and
- meet better regulation principles

#### What changed?

- The replacement of the ACoP with targeted guidance and mini ACOP;
- Removal of the CDM Co-ordinator role
- Creation of a new role, that of the 'Principal Designer';
- Removal of explicit competence requirements and replacing with a specific requirement for appropriate skills;

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- Addressing areas of EU TMCS D relating to domestic clients; as the EU requirement required domestic clients to be covered by CDM but in the 2007 version they were excluded
  - The threshold for appointment of co-ordinators has changed
  - The threshold for notification ( and now a Client duty) has changed

Legal obligations are placed on everyone involved in the construction process, including the Client, to provide for site safety at every stage of a project.

No longer can Clients view health and safety as being solely the responsibility of the Principle Contractor. Clients and Designers have to appreciate how the newly acquired obligations affect them, and how they can influence health and safety in a positive way.

The main responsibility shifts from the Client and Principle Designer prior to construction to the Principal Contractor once the construction phase begins.

The main focus of the regulations is on the four C's:

**Communication** – between all those involved

**Co-operation** – on site during construction and prior via planning meetings and during construction work.

**Competence** – new guidance is provided on how to check those involved are competent to complete their responsibilities.

**Control and Planning** – this needs to be done by all involved. Everyone involved has a duty to apply the principles of prevention from the Management of Health and Safety at Work regulations.

## 1.7.2 CDM REGULATION FRAMEWORK

These regulations require that health and safety is taken into account throughout all stages of a construction project.

- Part 1 Introduction
- Part 2 Client Duties
- Part 3 Health and Safety Duties and Roles
  - General
  - Principal Designer
  - Designer
  - Principal Contractor
  - Contractor
- Part 4 General Requirements for Construction Sites
- Part 5 General.

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### 1.7.3 CDM SPECIFIC DETAIL

#### **PART 1 Commencement, interpretation and application**

Regulation 1 Citation and commencement (Starting 6<sup>th</sup> April 2015)  
Regulation 2 Interpretation  
Regulation 3 Application in and outside Great Britain

#### **PART 2 Client duties**

Regulation 4 Client duties in relation to managing projects  
Regulation 5 Appointment of the principal designer and the principal contractor by client  
Regulation 6 Notification of projects  
Regulation 7 Application to domestic clients

#### **PART 3 Health and safety duties and roles**

Regulation 8 General duties  
Regulation 9 Duties of designers  
Regulation 10 Designs prepared or modified outside Great Britain  
Regulation 11 Duties of a principal designer in relation to health and safety at the pre-construction phase  
Regulation 12 Construction phase plan and health and safety file  
Regulation 13 Duties of a principal contractor in relation to health and safety at the construction phase  
Regulation 14 Principal contractor's duties to consult and engage with workers  
Regulation 15 Duties of contractors

#### **Part 4**

#### **Duties in relation to H&S on construction sites (these are covered in the other specific elements of the NCC1)**

Regulation 16 Application of Part 4 site specific requirements  
Regulation 17 Safe places of construction work  
Regulation 18 Good order and site security  
Regulation 19 Stability of structures  
Regulation 20 Demolition or dismantling  
Regulation 21 Explosives  
Regulation 22 Excavations  
Regulation 23 Cofferdams and caissons  
Regulation 24 Reports of inspections  
Regulation 25 Energy distribution installations  
Regulation 26 Prevention of drowning 54  
Regulation 27 Traffic routes  
Regulation 28 Vehicles  
Regulation 29 Prevention of risk from fire, flooding or asphyxiation  
Regulation 30 Emergency procedures  
Regulation 31 Emergency routes and exits  
Regulation 32 Fire detection and fire-fighting  
Regulation 33 Fresh air  
Regulation 34 Temperature and weather protection  
Regulation 35 Lighting

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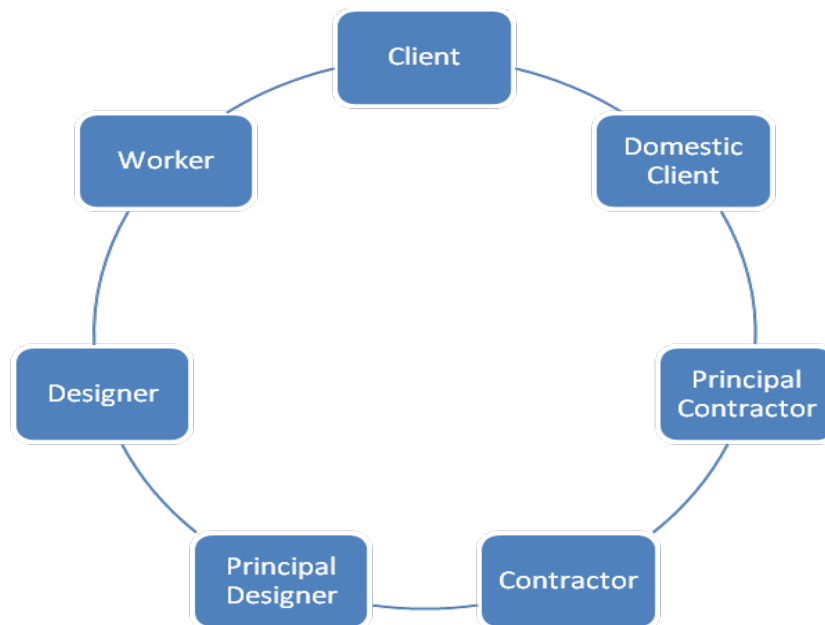
**PART 5 General**

Regulation 36 Enforcement in respect of fire  
Regulation 37 Transitional and saving provisions  
Regulation 38 Revocation and consequential amendments  
Regulation 39 Review

SCHEDULE 1 Particulars to be notified under regulation  
SCHEDULE 2 Minimum welfare facilities required for construction sites  
SCHEDULE 3 Work involving particular risks  
SCHEDULE 4 Transitional and saving provisions

**1.7.4. CDM DETAIL****When do the Regulations apply?**

They apply to most common building works, civil engineering and engineering construction. (Including construction, alteration, renovation, maintenance, de-commissioning, & demolition). There are a range of roles within the new regulations.



Demolition – “deliberately pulling down, dismantling a structure or substantial part of a structure”. It does not include making openings for windows or doors or removing non structural items such as roof tiles.

CDM now covers all construction work, small and large projects. (All work needs to be properly managed). If the construction phase of a project is.....

- 30 days with 20 or more people on site at any time
- 500 person days - all days on which construction work is undertaken count.

The Health and Safety Executive (HSE) must be notified online as early as possible using the F10 form, giving details of the project and the key people involved in the project from start to finish.

### **Form 10**

This is the form used to notify the HSE of a forthcoming construction projects. A hard copy can be completed and sent in or an online version completed via the HSE web site.

- *The date of forwarding the notice.*
- *The address of the construction site or precise description of its location.*
- *The name of the local authority where the construction site is located.*
- *A brief description of the project and the construction work that it entails.*
- *The following contact details of the client: name, address, telephone number and (if available) an email address.*
- *The following contact details of the principal designer: name, address, telephone number and (if available) an email address.*
- *The following contact details of the principal contractor: name, address, telephone number and (if available) an email address.*
- *The date planned for the start of the construction phase.*
- *The time allocated by the client under regulation 4(1) for the construction work.*
- *The planned duration of the construction phase.*
- *The estimated maximum number of people at work on the construction site.*
- *The planned number of contractors on the construction site.*
- *The name and address of any contractor already appointed.*
- *The name and address of any designer already appointed.*
- *A declaration signed by or on behalf of the client that the client is aware of the client duties under these Regulations.*

Once completed additional submissions can be made if all the required information is not available at the time of the first notification.

*The F10 notification must*

- (a) contain the particulars specified in Schedule 1;*
- (b) be clearly displayed in the construction site office in a comprehensible form where it can be read by any worker engaged in the construction work; and*
- (c) if necessary, be periodically updated.*

## **1.7.5 RESPONSIBILITIES UNDER CDM**

### **A. THE CLIENT**

Clients may appoint competent agents or other clients to act on their behalf. Persons so appointed then carry the full burden of the Client's duties under CDM. This is the person (not a domestic client) or company who actually commissions the project. The client is the person or company who pays the bills! There are duties now which apply to business activities and also to domestic house holders.

#### **Client must:**

- Ensure project is managed – time and resources
- SFAIRP construction work carried out without risk to H&S
- Ensure welfare facilities are provided
- Review mgt arrangements as the project progresses
- Provide pre-construction information (ASAIP)
- Ensure construction work does not start until the construction phase plan is in place
- A H&S file is prepared & available
- Report project if notifiable using the form F10

#### **Projects involving more than one contractor**

*Where there is more than one contractor, or if it is reasonably foreseeable that more than one contractor will be working on a project at any time, the client must appoint in writing—*

*a designer with control over the pre-construction phase as principal designer; and*

*a contractor as principal contractor.*

*The appointments must be made as soon as is practicable, and in any event, before the construction phase begins.*

*If the client fails to appoint a principal designer, the client must fulfil these duties if they do not appoint a principal contractor, then the client must fulfil their duties as well.*

The principal designer should be appointed as early as possible in the design process, if practicable at the concept stage. Appointing the principal designer early will provide the client with help in matters such as pulling together the pre-construction information and giving the principal designer enough time to carry out their duties. The duration of the principal designer's appointment should take into account any design work which may continue into the construction phase or any issues that may arise during construction involving the need to make suitable modifications to the designs. For projects involving early work by a concept architect or project management company where a design and build contractor or novated designer is subsequently involved, it may be appropriate for the initial principal designer appointment to be ended and a new principal designer appointed.

The principal contractor should be appointed early enough in the pre-construction phase to help the client meet their duty to ensure a construction phase plan is drawn up before the construction phase starts. This also gives the principal contractor time to carry out their duties, such as preparing the construction phase plan and liaising with the principal designer in sharing any relevant information for health and safety.

### **Ongoing review and management**

The client must maintain and review their arrangements to ensure they remain relevant throughout the life of the project. Some projects do not go smoothly and clients may experience difficulties and delays as they progress. Examples of actions the client can take to maintain and review their arrangements are:

establishing key milestones so they can assess the progress of the project and determine whether health and safety standards are being met;

where necessary, seeking advice. On larger projects, the client may value an independent review of standards;

ensuring arrangements for handing over the building to a new user are sufficient to protect anyone (including members of the public) who may be affected by risks arising from any ongoing construction work, e.g. snagging work.

#### Pre construction information

The client has the main duty for providing pre-construction information. This must be provided as soon as practicable to each designer (including the principal designer) and contractor (including the principal contractor) who is bidding for work on the project or has already been appointed. For projects involving more than one contractor, the client should expect the principal designer to help bring the pre-construction information together and provide it to the designers and contractors involved.

*Example: The client believes that there may be asbestos present so commissions an asbestos survey prior to the start of refurbishment of a 1960's office building. The results were included in the pre-construction information so the potential contractors can consider how they are going to manage these risks on site.*

### **The construction phase plan**

The client must ensure that a construction phase plan for the project is prepared before the construction phase begins. The plan outlines the health and safety arrangements, site rules and specific measures concerning any work involving the particular risks listed in Schedule 3 of CDM 2015. For single-contractor projects, the contractor must ensure the plan is prepared. For projects involving more than one contractor, it is the principal contractor's duty.

### **The health and safety file**

**A health and safety file is only required for projects involving more than one contractor.** The client must ensure that the principal designer prepares a health and safety file for their project. Its purpose is to ensure that, at the end of the project, the client has information that anyone carrying out subsequent construction work on the building will need to know about in order to be able to plan and carry out the work safely and without risks to health.

## B. DOMESTIC CLIENTS

Domestic clients are now included in the regulations, but they will in the main meet their duties by passing these on to their contractor once appointed. They are not required to carry out all the duties placed on a commercial client including managing the project, notifying the HE and the provision of welfare facilities

Where the project involves:

- (a) **only one contractor**, the contractor must carry out the client duties as well as the duties they already have as contractor. In practice, this should involve doing little more to manage the work to ensure health and safety;
- (b) **more than one contractor**, the principal contractor must carry out the client duties as well as the duties they already have as principal contractor. If the domestic client has not appointed a principal contractor, the duties of the client must be carried out by the contractor in control of the construction work.

In some situations, domestic clients wishing to extend, refurbish or demolish parts of their own property will, in the first instance, engage an architect or other designer to produce possible designs for them. It is also recognised that construction work does not always follow immediately after design work is completed. If they so wish, a domestic client has the flexibility of agreeing (in writing) with their designer that the designer coordinates and manages the project, rather than this role automatically passing to the principal contractor. Where no such agreement is made, the principal contractor will automatically take over the project management responsibilities.

## C. THE PRINCIPAL DESIGNER

**The Principal Designer** – This is a new role in CDM and replaces the previous CDM co-ordinator role. They should have control over the pre-construction phase of the project. This is the very earliest stage of a project from concept design through to planning the delivery of the construction work. The principal designer must be appointed in writing by the client.

The principal designer can be an organisation or an individual that has:

- the technical knowledge of the construction industry relevant to the project;
- the skills, knowledge and experience to understand, manage and coordinate the pre-construction phase, including any design work carried out after construction begins.

This appointment is made by the client they must have the relevant skills, knowledge and experience for the construction project being undertaken. Key duties include:-

- Report anything likely to endanger their own H&S or that of others
- This role may be combined with other roles e.g. Project manager
- Plan, manage and monitor co-ordination of pre construction phase
- Ensure technical & organisational aspects for staging of work
- Estimate work stages and timing
- Take into account principles of prevention e.g. eliminate risks if possible
- Assist client in gathering pre construction information



- 
- Provide pre construction information to designers and contractors
  - Liaise with Principal Contractor

In carrying out the duty to plan, manage, monitor and coordinate the pre-construction phase, principal designers must take account of the general principles of prevention and, where relevant, the content of:

(a) pre-construction information

(b) any construction phase plan. This will be relevant when the plan has implications for design work carried out after the construction phase has started, e.g. ground contamination discovered affecting the choice of piling method; and

(c) any existing health and safety file). In cases where a health and safety file has been prepared as part of previous construction work on the building, it should have information which will help the planning, management and coordination of the pre-construction phase. This information should be taken into account particularly when decisions are being taken about design, technical and organisational issues to plan which items or stages of work can take place at the same time or in what sequence; and when estimating the time needed to complete certain items or stages of work.

The principal designer's work should focus on ensuring the design work in the pre-construction phase contributes to the delivery of positive health and safety outcomes. Bringing together designers as early as possible in the project, and then on a regular basis, to ensure everyone carries out their duties, will help to achieve this. This can be done as part of the normal design process. Regular design meetings chaired by the principal designer are an effective way to:

(a) discuss the risks that should be addressed during the pre-construction phase;

(b) decide on the control measures to be adopted; and

(c) agree the information that will help prepare the construction phase plan.

If the principal designer appoints any designers they must check they have sufficient skills, knowledge, experience and (if they are an organisation) the organisational capability to carry out the work. These checks should be carried out before appointment.

The principal designer's role continues into the construction phase when design work is carried out and when gathering and preparing information for the health and safety file.

Identifying, eliminating or controlling foreseeable risks

Principal designers must ensure, as far as is reasonably practicable, that foreseeable risks to health and safety are identified. In practice, this will involve the principal designer working with other designers involved with the project. The risks that should be identified are the significant ones and which are likely

## D. THE DESIGNER

### The Designer

**The Designer – this could be an architect, structural engineer, electrical engineer etc. It can covers anyone involved in the design of a structure.** Designers must ....

- Not to start work unless client is aware of CDM and its duties
- Apply the principles of prevention in the design and use design information to eliminate and reduce foreseeable risks to H&S

- Must cover people effected by construction, those maintaining or cleaning or using the structure as a building
- Where risks cannot be eliminated Take steps to reduce risks through design
- Provide information on the risks to the Principal Designer
- Ensure information is added to the H&S file
- Provide information to assist other duty holders to meet their duties (considering design, construction and maintenance of the structure)

Example: A designer identifies that floor tiles have to be fixed with a solvent based glue, on investigation he found a similar tile which met the specification which could be fixed with a water based glue.

*They should check:*

- *Client knows their duties*
- *Co-ordinator has been appointed*
- *HSE has been notified where appropriate*
- *Provide information for contractors and H&S file*
- *Informed, professional judgement essential to fulfil role!*

*Examples: A Designer identifies that floor tiles have to be fixed with a solvent glue, on investigation he found a similar tile which met the specification which could be fixed with a water based glue.*

*An architect suggested using a water based paint for the outside of a building to reduce the risk from solvents. However the building was tall and would need repainting frequently if this type of paint was used. As such a solvent paint was used because the area was well ventilated, as the risk of repainting at height exceeded that of using the solvent.*

Three RAG lists has been completed to assist designers in meeting their obligations to design out risks.

### **CDM Red, Amber, Green (RAG) Lists**

RAG lists are practical aids to designers on what to eliminate, avoid and encourage.

#### **Red List**

Hazardous procedures, products and processes that should be eliminated from the project where possible.

Lack of adequate pre-construction information (E.g. asbestos surveys, details of geology, obstructions, services, ground contamination and so on)

Hand-scabbling of concrete (E.g. 'Stop ends').

Demolition by hand-held breakers of the top sections of concrete piles (pile cropping techniques are available).

Specification of fragile roof lights and roofing assemblies.

Processes giving rise to large quantities of dust (E.g. Dry cutting, blasting and so on).

On-site spraying of harmful substances.

Specification of structural steelwork which is not purposely designed to accommodate safety nets

Designing roof mounted services that require access (for maintenance and so on), without provision for safe access (E.g. Barriers).

Glazing that cannot be accessed safely. All glazing should be anticipated as requiring cleaning replacement, so a safe system of access is essential.

Entrances, floors, ramps, stairs and escalators not specifically designed to avoid slips and trips during use and maintenance, including talking into account the affect of rain water and spillages.

Design of environments involving adverse lighting, noise, vibrations, temperature,

wetness, humidity and draughts or chemical and/or biological conditions during use and maintenance operations.  
 Designs of structures that do not allow for fire containment during construction.

### Amber Lists

Product, processes and procedures to be eliminated or reduced as far as possible and only specified or allowed if unavoidable. Including amber items would always lead to the provision of information to the principal contactor.

Internal manholes and inspection chambers in circulation areas.

External manholes in heavily used vehicle access zones.

Specification of 'lip' details (I.E. trip hazards) at the tops of precast concrete staircases.

Specification of small step (E.g. risers) in external paved areas.

Specification of heavy building blocks (E.g. those weighing more than 20KGs).

Large and heavy glass panels.

Chasing out concrete, brick or block-work walls or floors for the installation of services.

Specification of heavy lintels (slim metal or hollow concrete lintels are better alternatives).

Specification of solvent-based paints and thinners, or isocyanates, particularly for use in confined areas.

Specification of curtain wall or panel system without provision for the tying or raking of scaffolds.

Specification of block-work wall more than 3.5 meters high using retarded mortar mixes.

Site traffic routes that do not allow for one-way systems and/or vehicular traffic segregated from site personnel.

Site layout that does not allow adequate room for delivery and/or storage of materials, including site specific components.

Heavy construction components which cannot be handled using mechanical lifting devices (because of access restrictions/floor loading and so on).

On-site welding, in particular for new structures.

Use of large piling rigs and cranes near live railways and overhead electric power lines or where proximity to obstructions prevents guarding of rigs.

### Green Lists

Products, processes and procedures to be positively encouraged.

- Adequate access for construction vehicles to minimise reversing requirements (one-way systems and turning radii).
- Provision of adequate access and headroom for maintenance in plant room, and adequate provision for replacing heavy components.
- Thoughtful location of mechanical and electrical equipment, light fittings, security devices and so on to facilitate access, and placed away from crowded areas.
- Specification of concrete products with pre-cast fixings to avoid drilling.
- Specification of half board sizes for plasterboard sheets to make handling easier.
- Early installation of permanent means of access, and prefabricated staircases with hand rails.
- Provision of edge protection at permanent work where there is a foreseeable risk of falls after handover.
- Practical and safe methods of window cleaning (E.g. from the inside).
- Appointment of a temporary works co-ordinator (BS 5975)
- Off-site timber treatment if PPA- and CCA-based preservatives are used (Boron or copper salts can be used for cut ends on site).

- Off-site fabrication and prefabricated elements to minimise on site hazards.
- Encourage the use of engineering controls to minimise the use of personal protective equipment.

## E. THE PRINCIPAL CONTRACTOR

The term principal contractor is used only in relation to notifiable projects.

The duties of the Principal Contractor include:

- co-ordination of the activities of all contractors
  - ensuring that contractors comply with rules in the Health and Safety Plan
  - ensuring that all contractors are provided with relevant information on risks and also that training is provided.
  - consultation, as necessary, with employees on site.
  - Plan, manage and monitor work
    - Prepare the construction phase plan
    - Liaise with contractors in developing plan
    - Give contractors copies of relevant parts of the construction phase plan
  - Suitable welfare facilities are provided from start and maintained throughout the project
  - Arrange site inductions and further information and training needed for the work
  - Consult the workers
  - Liaise with Principal Designer re: ongoing design changes
  - Secure site at all times to prevent unauthorised access
  - Ensure safety of all on site including visitors
- Principal Contractor must
- Consult the workforce
  - Make key documents available
    - Health and safety file
    - Site surveys
    - Designers' info
    - Risk assessments
    - Plan
- The Principal Contractor Should Check
    - client is aware of duties under CDM
    - Co-operate with Principal designer in planning / managing
    - Site rules are being followed by all one site

*Example: On a large scale construction project involving several contractors the key details of the construction phase plan were put on a wall chart and displayed in the site office and canteen. It was updated weekly or as required and was clearly visible to all employees, contractors and visitors to the site.*

### Principle Contractor Summary

- Plan, manage and monitor
- Prepare construction phase plan
- Implement site rules
- Ensure cooperation between contractors
- Pass on relevant parts of plan to contractors

- Ensure contractors comply with H&S plan
- Allow only authorised people on site
- Direct contractors
- Provide information
- Site inductions and training are provided
- Display statutory notices
- Provide welfare facilities
- Liaise with the Client, Principal Designer and Designers

#### **F. OTHERS ON SITE**

The duties of other Contractors include:

- co-operation with the Principal Contractor
- provision of information to the Principal Contractor as needed
- complying with directions given by the Principal Contractor.
- Plan, manage and monitor own work and that of workers
- Train own employees
- Provide information to their workers
- Follow the principles of prevention

#### **All Employees Should:-**

Follow instructions given, co-operate with their employer and follow safety rules plus use safety equipment provided.

## 1.8 CHECKING COMPETENCE AND RESOURCES

Everyone involved in CDM must be competent

- Principal Designer
- Principal contractor
- Designers
- Contractors
- Sub contractors
- Site supervisors
- Workers

### Competence Checks May include

- References
- Evidence of similar work & experience
- Qualifications (skills & knowledge)
- Membership of trade or professional bodies
- HSE enforcement
- Accident record
- H&S policy
- Method statements
- Sample risk assessments
- Sample plans from other jobs
- Evidence of safety mgt – audits, inspections etc.
- Training provision

Competency checks may need to extend not only to the individual involved in the project but also to the companies themselves. How do they ensure they have a source of suitable health and safety advice as well as advice on their specific aspect of work. If they use an external contractor for advice, they should be asked for examples of evidence of advice given by their consultant and the action they have taken as a result.

### Resources

- Annual accounts
- Bank references
- Insurance certificates (employers liability, occupiers liability)
- Facilities : office, admin support
- Equipment – owned or to be hired
- Make up of workforce – employees or sub-contractors
- Other jobs on hand – danger of over commitment
- Maintenance programme in evidence
- Location of facilities – accessible
- IT equipment available

## 1.9 CDM PAPERWORK

The CDM Regulations describe three distinct documents that should be created during the project (pre construction information, construction phase plan and H&S file), they also require early communication of relevant information to all those involved in the project.

- Pre-construction information (more detailed for larger projects)
- The Construction phase safety plan (for all notifiable projects)
- The Health & Safety file

### 1.9.1 Pre-construction Information

Pre-construction Information provides the health and safety information needed by:

- a) Designers and contractors who are bidding for work on the project, or who have already been appointed, to enable them to carry out their duties.
- b) Principal designers and principal contractors in planning, managing, monitoring and co-ordinating the work of the project.

This document provides information to prospective Principal Contractors in order that their submissions take in to account all relevant factors. It is therefore often used as part of the selection process. The aim of this information is to provide those contractors tendering for the project info to enable them to plan for H&S, to ensure the foreseeable issues are dealt with at the planning stage. It does not need to give tenderer's standard information they should know, such as informing them that the project will involve working at height, but it should inform them of things they might not know i.e. specific to the site or method of construction, such as:

- presence of contaminated ground
- presence of asbestos in buildings or the ground
- overhead or underground services
- geotechnical information

It also provides a basis for the preparation of the construction phase plan. Some material may also be relevant to the preparation of the health and safety file

- Pre-construction Information is defined as information about the project that is already in the **client's possession or which is reasonably obtainable by or on behalf of the client**. The information must:
  - Be relevant to the particular project.
  - Have an appropriate level of detail.
  - Be proportionate, given the nature of the health and safety risk involved.
- Pre-construction Information should be gathered and added to as the process progresses to reflect new information about the risks to health and safety and how they should be managed. Preliminary information gathered at the start of the project is unlikely to be sufficient.
- When Pre-construction Information is complete it must include proportionate information about:
  - The project, such as the client brief and key dates of the construction phase.

- 
- The planning and management of the project, such as the resources and time being allocated to each stage of the project and the arrangements to ensure there is co-operation between duty holders and that the work is co-ordinated.
  - The health and safety hazards of the site, including design and construction hazards and how they will be addressed.
  - Any relevant information in an existing health and safety file.

The information should be in a convenient form and be clear, concise and easily understandable to allow other duty holders involved in the project to carry out their duties.

### **1.9.2 The Construction Phase Health & Safety Plan**

Regulation 12 of CDM requires a construction phase plan for all reportable projects.

The plan must be produced in good time prior to commencement, by the Principal Contractor. It is submitted to the Client, who must positively approve it prior to commencement of the work on site. The Principal Designer needs to be in a position to advise the Client on the adequacy of the plan at start of project. It is the Principal Contractor's duty to update the plan throughout the construction phase. The construction phase plan needs to be:

- **Proportionate to size & nature of work and risks**
- **Workable**
- **Realistic**
- **In place before work starts**
- **Reviewed and updated as new work or trades start**
- **Not cluttered with generic and blank templates**
- **Specific to each project / site**

The contents of the Construction Phase Safety Plan are likely to include at least the following:

- Organisation describing who is responsible for what in terms of health & safety
- Procedures for design changes
- Project health & safety policy
- Procedure for the management of method statements / risk assessments, i.e. production, review & approval, monitoring compliance with, dissemination of information contained therein
- Health & safety monitoring arrangements
  - Statutory inspections
    - Lifting equipment
    - Scaffolds
    - Excavations
  - Site inspection & audit arrangements
  - Portable appliance testing
  - Health surveillance
  - Compilation and dissemination of accident / incident data
- Site rules and sanctions
- Welfare arrangements
- Traffic management
- Emergency procedures
- Accident / incident reporting procedures
- Arrangements for visitors
- Requirements for safety co-ordination, meetings etc.



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- General arrangements for the management of lifting operations
  - Material off-loading and storage requirements/arrangements
  - Arrangements for the control of hazardous substances on site (storage, use, disposal, etc.)

### 1.9.3 The health and safety file

The health and safety file is defined as a file appropriate to the characteristics of the project, containing relevant health and safety information to be taken into account during any subsequent project. **The file is only required for projects involving more than one contractor.**

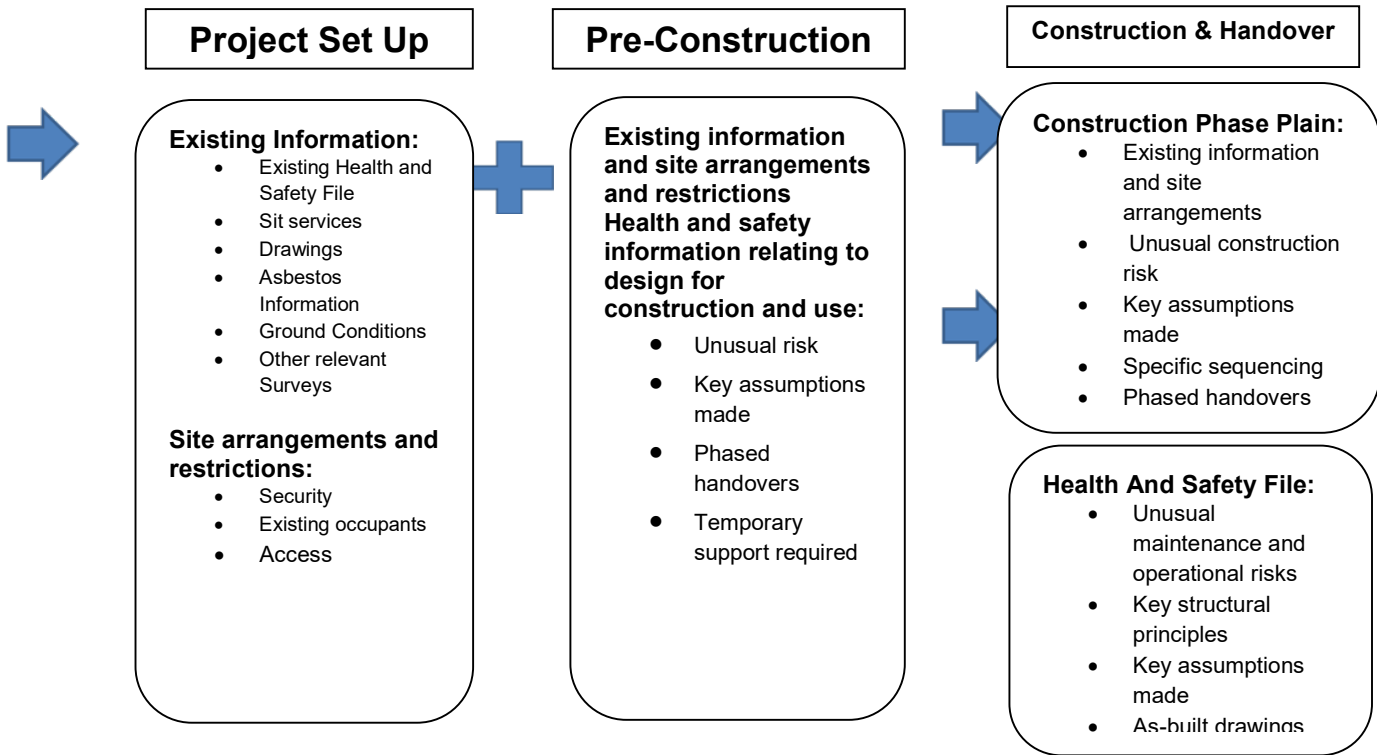
The file must contain information about the current project that is likely to be needed to ensure health and safety during any subsequent work such as maintenance, cleaning, refurbishment or demolition. When preparing the health and safety file, information on the following should be considered for inclusion.

- a) A brief description of the work carried out.
- b) Any hazards that have not been eliminated through the design and construction processes, and how they have been addressed (for example, surveys or other information concerning asbestos, contaminated land, water-bearing strata, buried services and so on).
- c) Key structural principles (for example, bracing or sources of substantial stored energy including pre- or post-tensioned members) and safe working loads for floors and roofs.
- d) Hazardous materials used (for example, lead paints and special coatings).
- e) information regarding the removal or dismantling of installed plant and equipment (for example any special arrangements for lifting such equipment).
- f) Health and safety information about equipment provided for cleaning or maintaining the structure.
- g) The nature, location and markings of significant services, including underground cables, gas supply equipment and fire-fighting services.
- h) Information and as-built drawings of the building, its plant and equipment (for example, the means of safe access to and from service voids, and the position of fire doors).

There should be enough detail to allow the likely risks to be identified and addressed by those carrying out the work and be proportionate to those risks.

### 1.10 Information Flow Summary

This chart illustrates the information flow during the key stages of a project, including information received from set up to completion and handover.



### 1.11. CDM DUTY HOLDERS AND THEIR ROLES SUMMARISED

CDM Duty Holders - Who are they?	Summary of Role/Main Duties
<b>Clients</b>	
Organisations or individuals for whom a construction project is carried out.	<p>Make suitable arrangements for managing a project. This includes making sure that:</p> <ul style="list-style-type: none"> <li>• Other duty holders are appointed.</li> <li>• Sufficient time and resources are allocated.</li> </ul> <p>Clients must also make sure that:</p> <ul style="list-style-type: none"> <li>• Relevant information is prepared and provided to other duty holders.</li> <li>• The principal contractor carry their duties.</li> <li>• Welfare facilities are provided .</li> </ul>
<b>Domestic Clients</b>	
People who have construction work carried out on their own home, or the home of a family member, that is <b>not</b> done in furtherance of a business, whether for profit or not.	<p>Domestic clients are in scope of CDM 2015, but their duties as a client are normally transferred to:</p> <ul style="list-style-type: none"> <li>• The contractor, on a single contractor project, or</li> <li>• The principal contractor, on a project involving more than one contractor.</li> </ul> <p>However, the domestic client can choose to have a written agreement the principal designer to carry out the client duties.</p>
<b>Principal Designers</b>	
Designers appointed by the client in projects involving more than one contractor, They can be an organisation or an individual with sufficient knowledge, experience and ability to carry out the role .	<p>Plan manage, monitor and co-ordinate health and safety in the pre-construction phase of a project, This includes:</p> <ul style="list-style-type: none"> <li>• Identifying, eliminating or controlling foreseeable risks.</li> <li>• Ensuring designers carry out their duties.</li> </ul> <p>Prepare and provide relevant information to other duty holders.</p> <p>Liaise with the principal contractor to help in the planning, management, monitoring of the construction phase.</p>
<b>Designers</b>	
Those who, as part of a business, prepare or modify designs for a building, product or prepare or modify designs to system relating to construction work.	<p>When preparing or modifying designs, eliminate, reduce or control foreseeable risks that may arise during:</p> <ul style="list-style-type: none"> <li>• Construction</li> <li>• The maintenance and use of a building once it is built.</li> </ul> <p>Provide information to other members of the project team to help them fulfil their duties.</p>
<b>Principal Contractors</b>	
Contractors appointed by the client to co-ordinate the construction phase of a project where it involves more than one contractor.	<p>Plan, manage, monitor and co-ordinate the construction phase of a project. This includes:</p> <ul style="list-style-type: none"> <li>• Liaising with the client and principal designer</li> <li>• Preparing the construction phase plan</li> <li>• Co-ordinating their work.</li> </ul> <p>Ensure That:</p> <ul style="list-style-type: none"> <li>• Suitable site inductions are provided</li> <li>• Reasonable steps are taken to prevent unauthorised access</li> <li>• Workers are consulted and engaged in securing their health and safety.</li> <li>• Welfare facilities are provided.</li> </ul>

Contractors	
<p>Those who do the actual construction work . They can be either an individual or a company.</p>	<p>Plan, manage and monitor work under their control so that it is carried out without risks to health and safety.</p> <p>For projects involving more than one contractor, co-ordinate their activities with other project team - in particular, comply with directions given to them by the principal designer or principal contractor.</p> <p>For single - Contractor Projects, prepare a construction phase plan.</p>
Workers	
<p>The people who work for or under the control of contractors on a construction site.</p>	<p>They must:</p> <ul style="list-style-type: none"> <li>• Be consulted about matters which affects their health, safety and welfare.</li> <li>• Take care of their own health and safety and that of others who may be affected by their actions.</li> <li>• Report anything they see which is likely to endanger either their own or others' health and safety.</li> <li>• Co-operate with their employer, fellow workers, contractors and other duty holders.</li> </ul>