Disclaimer

While reasonable steps have been taken to ensure that the information provided in this guide is accurate, you should not rely solely on that information and no liability will be accepted for any loss or damage if you do so. This is a guide only and does not take the place of sound legal advice. You should seek legal advice if you need assistance in relation to your particular circumstances.

If you need interpreting help, telephone:

Translating and Interpreting Service – 131 450.

The Office of Regulatory Services is a regulator of best practice, serving the ACT community, industry and government.

We provide a professional and efficient point of contact between the community and a range of ACT government regulatory and support services that aim to protect the public interest in key areas including worker safety; parking amenity; identity security; title guarantee; fair trading; public passenger transport; driver competency; vehicle registration and support for evidenced base policy making by providing accurate and reliable data sets for industry and community.

ORS regulates many industries, occupations and activities that cover a wide range of businesses, single traders and employees in the ACT.

We undertake licensing, registration and accreditation, dispute resolution and consumer and trader assistance, compliance and enforcement/litigation, and education.

This edition of the ACT Building and Construction Industry Safety Handbook has been supported by the ACT Building and Construction Industry Training Fund Authority, ACT Construction and Cleaning Industry Long Service Leave Authority, ACT Construction Industry Safety Reference Group, ACT Construction Industry Training Council, ACT Work Safety Commissioner, CEPU Plumbing Division ACT, CFMEU (ACT), Creative Safety Initiatives, ACT Planning and Land Authority, Electrical Trades Union (ACT) Housing Industry Association ACT, Master Builders Association ACT, Master Plumbers Association ACT and the Office of Regulatory Services.

First Edition September 2002
Second Edition May 2004
Third Edition February 2007
Fourth Edition February 2010
Fifth Edition April 2013
Publishing No 09/1371
Emergency and other contacts

Police, Fire, Ambulance ......................................................... 000
Text emergency call from mobile phone .................................. 106
Police attendance ................................................................. 13 14 44
ActewAGL – Natural gas emergencies & faults (24 hr contact) .......... 13 19 09
Gas inspectors (Gas on-call) .................................................. 0434 073 104
ActewAGL – Electricity emergencies & faults (24 hr contact) ......... 13 10 93
ActewAGL – Water & sewerage emergencies & faults (24 hr contact) .................................................. 13 11 93
Poisons Information Centre (National) ................................... 13 11 26
Sharps and needles hotline .................................................... 13 22 81
ACIRT Australian Construction Industry Redundancy Trust ........ 1800 060 467
Australian Building and Construction Industry Training Fund Authority .................................................. 6262 5630
ACT Long Service Leave Authority ........................................ 1800 655 060
Office of Regulatory Services- WorkSafe ACT ....................... 6207 3000
ORS- WorkSafe ACT after hours .......................................... 0419 120 028
Office of Regulatory Services – Licensing ................................ 6207 3000
AMWU Australian Manufacturing Workers Union Building Trades Group (BTG) .................................................. 6273 2412
DIAL BEFORE YOU DIG (National) ...................................... 1100
CEPU Communications Electrical Plumbing Union – Plumbing Division .................................................. (02) 6163 6666
CEPU – Electrical Division ..................................................... (02) 6163 6666
CFMEU Construction Forestry Mining and Energy Union ............. 6267 1599
CITC Construction Industry Training Council ........................................... 6241 3977
CITEA Construction Industry Training and Employment Association .................................................. 6257 8344
Construction Occupations Regulation Team ACTPLA Mon Fri .......... 6207 1923 (After hours contact ActewAGL)
Construction Charitable Works Drug and Alcohol/ Welfare support program ........................................... 1800 211 470
Creative Safety Initiatives OHS Training .................................................. 6230 1320
HIA Housing Industry Association (ACT and Southern NSW) .......... 6285 7300
HIA Apprenticeships .............................................................................. 6285 7300
MBA Master Builders Association ............................................................. 6247 2099
MBA Group Training .............................................................................. 6280 9119
Master Plumbers Drainers& Gasfitters Association ......................... 6241 7127
Ozhelp Foundation – suicide prevention ................................................ 1300 694 357
Introduction .............................................................................................. 1

Part 1 – General roles and Responsibilities ............................................. 3

Work Health and Safety ............................................................................ 4
Managing Risk ......................................................................................... 6
What a Person in Control Must Provide For Workers ......................... 9
What Is Required Of Workers ............................................................... 11
Site Rules and Behaviour ...................................................................... 12
Responsibilities of Principal Contractor or Person With Management or Control of The Workplace ...... 14
Induction Training .................................................................................. 16
High Risk Work Licensing .................................................................... 20
Registration of Plant and Plant Design .................................................. 22
Consultation with Workers .................................................................... 23
WHS Entry Permit Holders ..................................................................... 27
Injuries and First Aid .............................................................................. 29
Emergencies ............................................................................................ 32
Incident Notification ............................................................................... 34
Workers’ right to refuse ......................................................................... 37
Workers Compensation .......................................................................... 38
WorkSafe ACT Inspectors ..................................................................... 42
<table>
<thead>
<tr>
<th>Topic</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Identifying Hazards, Assessing And Controlling Risks</td>
<td>50</td>
</tr>
<tr>
<td>Height Safety</td>
<td>60</td>
</tr>
<tr>
<td>Fall Hazards</td>
<td>80</td>
</tr>
<tr>
<td>Falling Objects</td>
<td>86</td>
</tr>
<tr>
<td>Demolition</td>
<td>88</td>
</tr>
<tr>
<td>Trenching and Excavation</td>
<td>91</td>
</tr>
<tr>
<td>Formwork and Falsework</td>
<td>94</td>
</tr>
<tr>
<td>Electrical Safety</td>
<td>97</td>
</tr>
<tr>
<td>Working in the Vicinity of Overhead and Underground Electric Lines</td>
<td>104</td>
</tr>
<tr>
<td>and Utility Assets</td>
<td></td>
</tr>
<tr>
<td>Cranes, Hoists and Load Shifting Equipment</td>
<td>118</td>
</tr>
<tr>
<td>Traffic Management</td>
<td>125</td>
</tr>
<tr>
<td>Explosive-Powered Tools</td>
<td>135</td>
</tr>
<tr>
<td>Welding and Hot Work</td>
<td>138</td>
</tr>
<tr>
<td>Confined Spaces</td>
<td>142</td>
</tr>
<tr>
<td>Dangerous Substances</td>
<td>144</td>
</tr>
<tr>
<td>Noise</td>
<td>157</td>
</tr>
<tr>
<td>Manual Handling</td>
<td>159</td>
</tr>
<tr>
<td>Personal Protective Equipment</td>
<td>163</td>
</tr>
<tr>
<td>Site Security</td>
<td>166</td>
</tr>
<tr>
<td>Site Signage</td>
<td>167</td>
</tr>
<tr>
<td>Site Amenities</td>
<td>169</td>
</tr>
</tbody>
</table>
Part 3 – Further Information

First Aid Kit Contents ........................................................................ 180
Safe Work Method Statement ......................................................... 183
Classes of High Risk Work ................................................................. 184
Load-Shifting Classes ...................................................................... 190
Classes of Construction Occupation Licences and Functions ............. 191
Registration of Plant and Plant Designs .......................................... 196
Codes of Practice ............................................................................. 200
National Standards, Fact Sheets and Guidance Material .................. 203
Australian Standards ....................................................................... 204
Guidance Material ........................................................................ 215
Glossary of Terms Commonly Used In the Construction Industry ........ 217
Safety Contacts ............................................................................... 235
Tables

Table 1 – Approach distances to live power lines and utilities for work performed by unauthorised persons. .............................................. 106
Table 2 – Approach distances to live power lines and utilities for work performed by authorised persons, with a safety observer .... 107
Table 3 – Approach distances to live power lines and utilities for vehicles. ............................................................................................ 108
Table 4 – Daily noise exposure levels. .................................................... 158
Table 5 – Examples of hazardous manual tasks. ......................................... 160
Table 6 – Hierarchy of control measures. .................................................. 160
Table 7 – Scaffolding work ..................................................................... 184
Table 8 – Dogging and rigging work. ....................................................... 186
Table 9 – Crane and hoist operation. ......................................................... 187
Table 10 – Reach stackers. ...................................................................... 189

Figures

Figure 1 – Checklist for lightweight aluminium mobile scaffolds ..... 66
Figure 2 – Two Independent Means of Support – Two Complete Suspension Systems................................................................. 68
Figure 3 – Perimeter guard rails. ................................................................. 70
Figure 4 – Anchored safety harness .............................................................. 73
Figure 5 – Mast climber ........................................................................... 76
Figure 6 – Secure ladders to avoid slipping ............................................... 78
Figure 7 – Place ladders at a suitable angle. .............................................. 79
Figure 8 – Erecting structural steel ................................................................ 81
Figure 9 – Electrical approach zones. ....................................................... 105
Figure 10 – Vehicle clearance height .......................................................... 109
Figure 11 – Electrical clearance for mobile plant........................................ 112
Figure 12 – Minimum 4 metre clearance for metallic scaffolding... 113
Figure 13 – Scaffolding with Hoarding ...................................................... 115
Figure 14 – Industrial backhoe loader with rollover/falling object protection ................................................................. 119
Figure 15 – Lifting heavy objects. ................................................................. 162
Figure 16 – Example Safe Work Method Statement ............................... 183
INTRODUCTION

The 5th edition of the ‘Safety Handbook’ was compiled by the ACT Building and Construction Safety Handbook Consultative Group. The Group consists of stakeholders in the building industry striving to achieve improvements in workplace health and safety.

The purpose of this Safety Handbook is to provide members of the building and construction industry with a common set of basic safety requirements applicable to sites, regardless of size.

The information in this Handbook deals with a variety of hazards that have the potential to produce the highest level of risk. Appropriate safety measures are suggested to eliminate the hazards or, if it is not reasonably practicable to do so, implement a systematic hierarchy-of-control approach to minimise as far as reasonably practicable the risks to health and safety.

The Handbook can be used together with general industry and site specific inductions. It is also a useful reference for supervisors, health and safety representatives and workers in determining appropriate work safety policies, practices and procedures required in the building industry.

The Safety Handbook Consultative Group acknowledges and thanks Incolink Victoria for their generosity in allowing the use of their handbook to create a publication that reflects the ACT building and construction industry.

This Handbook has been endorsed by the ACT Office of Regulatory Services as a guide and educational tool for managing safety.
The 5th edition of the Handbook has been revised to reflect new requirements following the commencement of the *Work Health and Safety Act 2011* on 1 January 2012, and the relevant changes to High Risk Work Licensing. In addition there has been an extensive review of the information on asbestos. The Codes of Practice and Standards chapters in Part 3 have also been revised and updated.
PART 1

General roles and Responsibilities
‘Work health and safety’ is defined as ‘the health, safety and wellbeing of people in relation to work’. This includes their physical and psychological well-being.

Eight objectives underpin the *Work Health and Safety Act 2011*. These are:

a) protecting workers and other persons against harm to their health, safety and welfare through the elimination or minimisation of risks arising from work or from specified types of substances or plant; and

b) providing for fair and effective workplace representation, consultation, cooperation and issue resolution in relation to work health and safety; and

c) encouraging unions and employer organisations to take a constructive role in promoting improvements in work health and safety practices, and assisting persons conducting businesses or undertakings and workers to achieve a healthier and safer working environment; and

d) promoting the provision of advice, information, education and training in relation to work health and safety; and

e) securing compliance with this Act through effective and appropriate compliance and enforcement measures; and

f) ensuring appropriate scrutiny and review of actions taken by persons exercising powers and performing functions under this Act; and
g) providing a framework for continuous improvement and progressively higher standards of work health and safety; and

h) maintaining and strengthening the national harmonisation of laws relating to work health and safety and to facilitate a consistent national approach to work health and safety in the ACT.

Subordinate Legislation

The *Work Health and Safety Act 2011* (the Act) is underpinned by subordinate legislation. The principle legislation supporting the Act is the *Work Health and Safety Regulation 2011* (the Regulation), additionally there are many Approved Codes of Practice to provide practical guidance on compliance with the Act and Regulation. The Regulation provides legislated minimum requirements of safety duties for all workplaces across a broad range of specific safety issues. For the Construction Industry, the Regulation covers issues such as duties of designers, manufacturers and suppliers of plant; Construction Induction; High Risk Licensing; High Risk Construction Work; Electrical Work; and general requirements for plant such as scaffolding, formwork, falls from heights etc.
MANAGING RISK

All people at a workplace have a duty to ensure work safety by managing risk. Risk means exposure to the chance of injury and loss.

A workplace means a place where work is carried out for a business or undertaking and includes any place where a worker goes, or is likely to be, while at work.

Work safety duty holders include:

• a person conducting a business or undertaking (PCBU)
• a person with management or control of a workplace
• a person with management or control of fixtures, fittings or plant at a workplace
• a person who designs plant, substances or structures that are to be used or could be reasonably expected to be used at a workplace
• a person who supplies plant, substances or structures that are to be used or could be reasonably expected to be used at a workplace
• a person who installs, constructs or commissions plant or structures that is to be used or could be reasonably expected to be used at a workplace
• an officer of a person conducting business or undertaking e.g. company director or secretary, a person who makes or participates in making decisions that affect the whole or a substantial part of the company, or a person who has capacity to affect significantly the company’s financial standing
• a worker meaning an individual who carries out work in any capacity for a person conducting a business or undertaking, whether for reward or as a volunteer

• persons at workplaces generally e.g. visitors; these persons must not expose others at the workplace to risk because of their conduct.

A person or company may have multiple safety duties. For example, a Builder or Principal Contractor would be a PCBU and also a person with management or control of a workplace. Depending on what work is being conducted, they may have further duties. A sub-contractor would also be a PCBU. This means that for a construction site, there could be multiple PCBUs and each PCBU has to meet their safety obligations under the *Work Health and Safety Act 2011*.

**How to manage risk**

The *Work Health and Safety Act 2011* prescribes the reasonably practicable steps that duty holders must use to manage risk. These are to:

• identify the risk

• eliminate the risk

• minimise the risk, if it is not reasonably practicable to eliminate it

• inform anyone who has a work safety duty about the possible risk.

To minimise a risk, the duty holder must complete the following steps in order:

• substitute the thing giving rise to the risk with something that gives rise to a lesser risk
• isolate the thing giving rise to the risk from anyone otherwise put at risk
• minimise the risk by engineering means
• minimise the risk by administrative means
• ensure personal protective and safety equipment is used.

If two or more people have the same work health and safety duty under the Act, each person must comply with that duty. If two or more people have the same safety duty, these persons should work together to ensure that the obligation is complied with.
WHAT A PERSON IN CONTROL MUST PROVIDE FOR WORKERS

All persons conducting a business or undertaking have the principal duty to ensure work health and safety by managing risk. This ensures that responsibility attaches to those who control the generation of risks and who are in a position to eliminate or minimise risks.

For persons conducting or in charge of a building and construction business, this work health and safety duty includes:

• providing and maintaining a safe workplace and safe systems of work
• providing and maintaining plant that is safe and without risk
• ensuring that plant is operated only by qualified people
• ensuring the safe use, handling, storage and transport of substances
• providing adequate facilities for the work health and safety of people at the business (e.g. amenities and first aid)
• monitoring the work safety of people at the worksite and workplace conditions, to prevent work-related illness and injury
• keeping the information and records relating to work health and safety required under the Act, including incident reports and training records in relation to the business
• providing appropriate information, instruction, training or supervision to people at the business, to allow them to carry out work safely
• consulting people at the business on matters that directly affect their work health and safety, regardless of the size of the business.

The person in control of the business must make sure that these are available to workers, regardless of which site people are working on.
WHAT IS REQUIRED OF WORKERS

‘Worker’ includes people who have employee-like relationships such as employees, independent contractors, apprentices, trainees, persons doing work experience or a volunteer.

You must:

• take reasonable care of your own health and safety
• co-operate with the person conducting the business or in control of your workplace
• comply with any reasonable instructions given by the person conducting the business or in control of your workplace in relation to health or safety
• properly use equipment supplied for work health and safety at the workplace
• report any risk, illness and injury that you are aware of.

You must not:

• interfere with or misuse anything provided in the interests of health and safety
• negligently or recklessly expose someone to a substantial risk of serious harm at the workplace
• negligently or recklessly cause serious harm to anyone at the workplace.
SITE RULES AND BEHAVIOUR

You are expected to maintain an acceptable standard of behaviour while at work and to treat your co-workers with respect. In particular, unacceptable behaviour that will not be tolerated includes:

- taking or being under the influence of drugs or alcohol
- engaging in violence of any kind
- bullying; this includes verbal bullying such as name calling, put-downs or threats and physical bullying – being punched, tripped, kicked or having your belongings stolen or damaged
- sexual harassment
- racial vilification
- pranks or horseplay.

If you are subject to any of the above, report it immediately to your supervisor or to your health and safety representative.

**You could be prosecuted and fined for breaching site rules.**

Some ways to inform people about site rules are to display them in a prominent position on site. Copies can also be distributed to everyone on-site e.g. at site-specific induction and toolbox meetings.

**Bullying and Harassment**

The PCBU must ensure that they have a system in place to ensure work safety by minimising the risk of workplace bullying and harassment. This would include having policies and procedures in place to prevent and respond
to bullying and harassment, ensuring all workers have been trained in these policies and procedures; and that should a complaint of bullying and harassment be made, that the policies and procedures are followed to resolve the complaint. The Work Health and Safety (Preventing and Responding to Bullying) Code of Practice provides practical guidance on how to meet this obligation and further guidance material can be found on the WorkSafe ACT website www.worksafe.act.gov.au.
RESPONSIBILITIES OF PRINCIPAL CONTRACTOR OR PERSON WITH MANAGEMENT OR CONTROL OF THE WORKPLACE

**Principal contractor**

A principal contractor is a person responsible for the construction work at all times until the work is completed.

The *Work Health and Safety Regulation 2011* defines a Principal Contractor as a PCBU that commissions a construction project. Should the above mentioned PCBU appoint a person who is authorised to have management and control of the workplace, then this person is the Principal Contractor for the construction project. If an owner of a residential premise engages a PCBU to undertake a construction project, then the PCBU is the Principal Contractor for the construction project.

The principal contractor, or a site manager appointed by the principal contractor, is responsible for identifying all site safety issues and providing and maintaining the proper systems to ensure the safety of workers, visitors and the public. This includes establishing, prior to commencing work on a site, systems and processes for:

- access and egress
- site safety needs and amenities
- site conditions and security
- site safety inductions
• safety signs and notices
• records, registers and forms
• worker consultation arrangements for work health and safety matters
• list of contacts on site e.g. Foreman, first aid etc.
• emergency procedures.

The principal contractor also needs to maintain and supervise safe housekeeping practices for the duration of the project, including:

• safe and clear access within the workplace, to minimise the risk of slips, trips and falls
• safe systems for the collection, storage and removal of excess or waste materials
• adequate space for the storage of materials and plant and any vehicle parking.

The principal contractor is responsible for making sure that these measures are applied correctly to safeguard all site operations.
INDUCTION TRAINING

It is a requirement of a PCBU or person with management or control of the workplace to ensure that every worker has received adequate training.

Host employers and persons in charge of construction businesses are reminded that new apprentices and trainees will need special attention to ensure that they are conscious of good safety practices.

Required training for construction workers includes three levels of induction:

1. **Mandatory construction induction training**
   i. All persons working on a construction site must complete OHS induction training before they are allowed onto a construction site.
   
   ii. The mandatory construction industry OHS induction training must be provided by a registered training organisation (RTO).
   
   iii. You must be in possession of your construction induction card at all times you are on a construction site. The only exception to this rule is where you have made an application to the Office of Regulatory Services for a card and have not received a decision on that application. In these cases you must keep the statement of attainment issued by the RTO in your possession. The RTO will be required to see evidence of your identity before you undertake the course.
iv. An application for a construction induction card will usually be made through the RTO that provides your course. It can also be made to the Office of Regulatory Services (ORS). To be eligible for the grant of a construction induction card, you must have a statement of attainment that is less than 60 days old.

v. Construction induction card application forms can be accessed from your RTO, or the ORS website at www.ors.act.gov.au.

vi. If you hold a construction induction card issued in another State or Territory, there is generally no need to undergo further induction training or to transfer the interstate card to an ACT construction induction card. Further details can be obtained from the WorkSafe ACT website at www.worksafe.act.gov.au.

2. Work activity based training

Work activity based training should be appropriate for the work the person is required to undertake on a construction site. This includes training in the use of plant, equipment and substances and in work practices including safe work method statements and job safety analyses.

3. Site specific training and induction

What is a site-specific induction?

It is an introduction to the site to inform workers about site rules and safety procedures, making sure they understand them before commencing work, rather than relying on them to “pick it up” as they go along. The
initial site-specific induction should be followed by on-going safety and training to help workers work safely and efficiently.

Having mechanisms in place at the workplace to ensure people are aware of the specific procedures and rules for the site will help eliminate or reduce as far as reasonably practicable the risk of death, injury or illness.

**What should the site-specific induction cover?**

It should explain to all workers including sub-contractors:

- site safety rules and policies (e.g. drugs and alcohol, smoking, horseplay etc)
- site amenities and welfare facilities
- emergency procedures
- site specific hazards and control measures
- how safety issues and disputes are resolved
- how to report hazards or unsafe work practices
- how to report accidents, incidents and dangerous occurrences
- what to do if you are injured
- first aid provisions
- workers’ compensation
- details of consultative processes on site.

**Who should conduct the site specific induction?**

The site-specific induction should be conducted by the site management in conjunction with worker representatives (if applicable). In residential construction, site management need to induct all visitors to sites,
including the owners and the site needs to be secured from unauthorised access.

**Who should attend?**

All workers and site visitors should attend before starting on a new site. The principal contractor must keep a record of the people inducted and the date that it was undertaken. This record must be kept for the duration of the project.
HIGH RISK WORK LICENSING

High risk work includes the carrying out of scaffolding, dogging and rigging work, and the operation of a forklift, crane, hoist, elevating work platform and pressure equipment.

The Regulation requires that persons undertaking work which is defined as “high risk work” under that Regulation hold a High Risk Work Licence for the appropriate class to perform that work.

The Regulation, including stipulations from the National Standard for Licensing Persons Performing High Risk Work requires that:

- all training and assessment associated with the high risk work licences must be done through a registered training organisation (RTO)
- when a person first applies for a licence, they must apply in the state or territory where their training and assessment was undertaken
- on successful assessment, a RTO will issue a statement of attainment to the trainee
- after completing the training and assessment an application for a licence must be lodged with the Office of Regulatory Services. Further details on the application process can be obtained from the ORS website at www.ors.act.gov.au.
- high risk work licences are valid for five years only
- after the five year licensing period expires, high risk work licensees will need to apply to renew their licence
• renewing licensees may be required to provide evidence that they have maintained their skills and are still competent to perform high risk work.

Further information about the classes of high risk work is at Part 3 of this Handbook.

**Transitional arrangements**

Transitional arrangements are in place for persons who now have certificates of competency to operate the high risk plant mentioned above.

Persons who hold certificates of competency can continue to operate that equipment. There will be a staged process for certificate holders to transfer to the new high risk work licenses. Further details can be obtained from the ORS website at [www.ors.act.gov.au](http://www.ors.act.gov.au).

**Undertaking high risk work without a licence or certificate of competency is a serious offence.**
REGISTRATION OF PLANT AND PLANT DESIGN

The Work Health and Safety Act 2011 requires certain items of plant machinery to be registered. The registration is divided into two categories; plant items and plant design. These requirements will come into effect on 1 January 2013.

Some of the items of plant which will need to be registered with the Office of Regulatory Services include, but are not limited to:

- certain boilers and pressure vessels
- tower cranes
- lifts, escalators
- building maintenance units
- vehicle hoists
- concrete booms
- some mobile cranes
- some types of amusement devices

The aim of the registration is to ensure the plant item is inspected by a competent person and is safe to operate. Further information on specific items requiring plant item or plant design registration are listed in Part 3 of this Handbook.
CONSULTATION WITH WORKERS

The *Work Health and Safety Act 2011* requires PCBUs to allow workers to contribute to matters affecting their workplace health and safety, regardless of the size of the workplace or number of workers.

A PCBU for a worker includes a person who engages the worker to carry out work in the person’s business or undertaking e.g. a principal contractor is an employer of a sub-contractor.

The matters that the PCBU must consult workers about include:

- identifying or assessing risks to work health and safety at the workplace
- the measures to be taken to manage risks to work safety at the workplace
- the adequacy of facilities
- proposing changes that may directly affect work health and safety
- any other issues in relation to work health and safety.

**Work group**

If it is not reasonably practicable to consult directly with all workers, for example where the business has more than one workplace or a large number of workers, or if a worker asks them, a PCBU must set up more than one work group.

A PCBU can establish two or more work groups if the business has more than one workplace or the hazardous
nature of the work requires the establishment of multiple consultation units.

Work groups can also be formed from workers from one or more employers at one or more workplaces. An example of a work group would be all the different sub-contractors working at the same construction site who have a regular morning tool box meeting.

**Deciding about consultation**

The PCBU and each work group can decide how consultation is to take place. Together, or with the assistance of someone else, they might decide that the PCBU will consult workers in the unit by:

- a health and safety representative (HSR) elected by the workers
- a health and safety committee (HSC) elected by the workers

In some workplaces a HSR may be appropriate, in others a HSC. If however a majority of workers in a work group ask for a HSR or a HSC, the PCBU must arrange for a HSR or HSC to be elected by the workers in the unit.

In certain circumstances or industries, WorkSafe ACT can direct a particular employer, or a particular industry, to establish a work safety committee. In these circumstances, a HSC must be elected.

**Meaningful consultation**

PCBUs must meaningfully consult with their workers, using the agreed upon method of a HSR, a HSC, or other
consultation procedure. This requires a genuine effort on the PCBU’s part to consult workers.

A PCBU must consult with their workers about a work safety matter by:

- sharing information about the matter with the workers
- giving the workers a reasonable opportunity to:
  - contribute information about the matter; and
  - express their views about the matter
- considering the workers’ views
- consulting the workers directly, if the agreed consultation method does not include either a HSR or HSC.

**Work health and safety representatives**

The work health and safety representative (HSR) is the elected voice of the workers to represent their safety interests.

The purpose of the HSR is to:

- represent the work group in relation to work health and safety
- tell the workers’ PCBU about potential risks and dangerous occurrences
- tell the employer about work health and safety matters directly affecting the represented workers.

The HSR can:

- inspect all parts of a workplace where a represented worker works
- issue a provisional improvement notice for a place where a represented worker works
- exercise emergency powers.

The HSR must take all reasonable steps to consult the employer to try to resolve a work health and safety matter before they issue a provisional improvement notice or exercise an emergency power.

**Health and Safety Committee**

A health and safety committee (HSC) provides a formal means of discussing and resolving work safety issues. The HSC’s functions are to:

- facilitate cooperation between a PCBU and workers
- assist the employer to consult workers on proposing and developing changes to work or other policies, practices or procedures
- assist the employer to resolve work health and safety matters
- to establish, review and publish procedures.
WHS ENTRY PERMIT HOLDERS

A union may apply to WorkSafe ACT to issue a WHS Entry Permit to an official of the union under the Work Health and Safety Act 2011. The official of the union must have satisfactorily completed prescribed training and must hold, or will hold an entry permit under the Fair Work Act.

A WHS entry permit-holder may enter premises to investigate a suspected contravention of the Act. To exercise the right of entry, the representative must have a reasonable belief that a contravention of the Act has occurred or is occurring, and that persons at that workplace are members of the registered organisation or are eligible to be members. A WHS entry permit-holder may also enter a workplace to consult on work health and safety matters with, and provide advice on those matters to, one or more relevant workers who wish to participate in the discussions.

A WHS entry permit holder must have at all times that he or she enters a workplace have their WHS entry permit and photographic identification available for inspection if requested.

A WHS entry permit holder entering a workplace to investigate a contravention or suspected contravention must give notice of the entry and the suspected contravention as soon as is reasonably practicable. The WHS entry permit holder is not required to give notice should it defeat the purpose of the entry to the workplace or would unreasonably delay the WHS entry permit holder in an urgent case.
The WHS entry permit holder may investigate the contravention or suspected contravention by:

- inspecting or viewing work, materials, plant or systems
- interviewing members of the employee or employer organisation, or potential members with their consent
- taking measurements and making sketches, drawings or any other kind of record including photos, film or audio, video or other recordings
- requiring the production for inspection of documents relating to work health and safety
- examining and copying, or taking extracts from, any documents relating to work health and safety
- requiring the occupier or a worker to give the representative any assistance reasonably needed at the premises.

The WHS entry permit holder must comply with any reasonable instruction given by a PCBU, for example, to wear personal protective equipment or to be escorted.

If the WHS entry permit holder requires a person to produce documents for inspection, or wishes to consult and advise workers, the WHS entry permit holder has to give the PCBU at least 24 hours notice.

Further information on WHS entry permit holders can be found at the WorkSafe ACT website at www.worksafe.act.gov.au and in the Safe Work Australia Interpretive Guideline on Workplace Entry by Work Health and Safety Entry Permit Holders, also available on the WorkSafe ACT website.
INJURIES AND FIRST AID

All workers must have access to a first aid kit. The requirements for basic first aid kits are listed in Part 3 of this Handbook.

For those persons working on residential sites, due to the nature of the industry and the isolation factor, it is essential that you or the principal contractor provide a first aid kit.

In the interests of your own health and safety you should inform colleagues of your whereabouts so that help is available to you in the case of an emergency.

On commercial construction sites the names of first aid officers, first aid procedures and emergency contact phone numbers should be part of the induction process and displayed in prominent locations visible to all workers. Make sure you always know where first aid facilities are located.

What to do if someone is injured

- remain calm
- assess the incident
- contact the designated first-aider for your area (or get someone else to do it)
- if anyone needs immediate first aid and the first-aider cannot be located, contact the site office to call an ambulance.

If the site office is unattended call “000” or text an emergency call to 106 from your mobile phone to ask for an ambulance and provide the following information:
• name and address of site/building
• specific location of injured person
• a contact telephone number.

When calling 000, you will have called a National Call Centre and you should tell them the area or state that you are calling from.

Send someone to the main site entry point to direct the ambulance.

Ensure the area is safe and poses no further risk.

While waiting for the ambulance, DO NOT move the injured party or parties, unless there is an increased risk of danger.

Assess the injuries and provide first aid treatment while waiting for the ambulance. Provide any assistance you can to safeguard the injured person and to keep them comfortable.

Details of first aid treatment given by first-aiders should be recorded in the first aid treatment book.

**Reporting and recording injuries**

If you have suffered a work related injury or illness you must report the incident/issue immediately to your supervisor.

**You should:**
• see your doctor for treatment (document your injury/illness)
• fill out the relevant forms for your work place and if applicable include workers compensation claim forms.
The employer must maintain a record of work-related injuries or illnesses involving absences of one day or more.
An emergency is an actual or imminent occurrence (such as an accident, fire, bomb threat, gas or chemical explosion, flood or storm, collapse of a building or structure) which:

• endangers, or threatens to endanger the health or safety of persons, or
• destroys or damages, or threatens to destroy or damage property.

**Make sure you always know what to do in an emergency.**

Your site should have an emergency plan displayed prominently to instruct all workers and visitors of the following:

• the alarm signal for evacuation
• the correct way to exit the building
• what you should do and what you should not do in an emergency
• the safe assembly point
• the site personnel in charge of emergencies
• contact phone numbers for emergency and rescue services.

A register of who is on site should be kept each day so that in the case of an emergency everyone can be accounted for.

Undertake a head count to determine if all workers have been evacuated.
Re-entry to the site should only be done when an authorised person gives the ‘all clear’ e.g. Fire Brigade.
INCIDENT NOTIFICATION

Under the *Work Health and Safety Act 2011*, certain incidents must be reported to the regulator WorkSafe ACT. These are known as Notifiable Incidents. A Notifiable Incident means the death of a person; a serious injury or illness of a person or a dangerous incident.

Serious electrical accidents are also reportable to the electricity distributor by occupiers and electrical contractors under Part 6 of the *Electricity Safety Act 1971*.

A person conducting a business or in control of a workplace (the site manager, principal contractor or sub-contractor) must notify WorkSafe ACT **IMMEDIATELY, and by the fastest possible means** if a notifiable incident occurs at a workplace:

**What is a Serious Injury or Illness?**

A serious injury or illness means an injury or illness requiring the person to have:

- immediate treatment as an in-patient in a hospital [Note: it is not necessary that the person was actually sent to or treated as an in-patient, it is sufficient that the injury or illness could reasonably be expected to warrant such treatment]
- immediate treatment for an amputation, a serious head or eye injury, a serious burn, de-gloving or scalping, a spinal injury, the loss of a bodily function or serious lacerations
- medical treatment within 48 hours of exposure to a substance.
What dangerous incidents must you report?

A dangerous incident means an incident in relation to a workplace that exposes a worker or any other person to a serious risk to a person’s health or safety emanating from an immediate or imminent exposure to:

- an uncontrolled escape, spillage or leakage of a substance
- an uncontrolled implosion, explosion or fire
- an uncontrolled escape of gas, steam or a pressurised substance
- electric shock
- the fall or release from height of any plant, substance or thing
- the collapse, overturning, failure or malfunction of, or damage to, any plant that is required to be authorised for use in accordance with the WHS Regulations 2011
- the collapse or partial collapse of a structure
- the collapse or failure of an excavation or of any shoring supporting an excavation
- the inrush of water, mud or gas in workings, in an underground excavation or tunnel
- the interruption of the main system of ventilation in an underground excavation or tunnel
- any other event prescribed by the WHS Regulations 2011.

If you become aware of an incident at your workplace, report it to your immediate supervisor, even if it does not result in a notifiable incident. That way it can be
investigated to establish the cause and to prevent it happening again.

**Preserving the site of a Notifiable Incident**

A PCBU or person with management or control of a workplace must ensure that the site of a notifiable incident is not entered or disturbed until a WorkSafe ACT Inspector arrives or until an Inspector directs otherwise.

The site of a notifiable incident must not be disturbed unless it is necessary to:

- to assist an injured person
- to remove a deceased person
- that is essential to make the site safe or to minimise the risk of a further notifiable incident
- take any action associated with a police investigation
- take any action which a WorkSafe ACT Inspector has given permission

**Dealing with trauma and counselling**

It is important to remember that anyone witnessing a workplace fatality or serious injury may be in shock and may need counselling to deal with this traumatic event.

If counselling is required, contact your employer, industry association or union.
WORKERS’ RIGHT TO REFUSE

A worker has the right to cease or refuse to carry out work if:

• an emergency procedure has been activated because of a significant risk
• the worker has a reasonable belief that the work could expose them to a serious risk to their health and safety.

In these circumstances a person in control of the workplace may require the worker to do alternative work.

It is an offence under the *Work Health and Safety Act 2011* if a PCBU discriminates against a worker who has:

• complained or proposes to complain about a work health and safety matter at a workplace
• assisted or proposes to assist the conduct of an investigation or inspection of the workplace by an WorkSafe ACT Inspector
• stopped doing work, or proposes to stop doing work, because –
  - an emergency procedure has been activated because of a significant risk to work health and safety, or
  - the worker has a reasonable belief that the work could expose them to a serious risk to their health and safety.
WORKERS COMPENSATION

The *Workers Compensation Act 1951* aims to provide timely, safe and durable return to work through effective injury management and income support to injured workers. It works in conjunction with the work health and safety legislation that seeks to eliminate or minimise as far as reasonably practicable the human and economic cost of work-related injury through improvements in the management of work health and safety in the workplace.

WorkSafe ACT is the ACT Government agency responsible for the administration of the *Workers Compensation Act 1951*.

Inspectors are appointed under the *Workers Compensation Act 1951* to ensure compliance with the legislation. They also investigate complaints, undertake investigations in relation to prosecutions and provide information on a range of workers compensation matters to the general public.

*When is a worker covered for workers compensation?*

In the ACT private sector a worker is entitled to compensation for any personal injury, disease or aggravation that occurs:

- during the course of employment
- by any incident arising out of employment
- on a journey to or from work.
**When is workers compensation insurance required?**

An employer is liable for any compensation payable to a worker suffering work-related injury or disease. Where an employer has a current workers compensation policy, the insurer indemnifies the employer for costs of the claim.

It is **compulsory** for all employers to have a current ACT workers compensation policy in place with an Approved Insurer (See Guidance Note 0051- Workers Compensation – Approved Insurers).

**Who is an employer?**

Under the *Workers Compensation Act 1951*, an employer is someone who employs workers under a ‘contract of service’, or in certain circumstances a ‘contract for service’. A contract can be made either orally or in writing and applies to full time, part time and casual workers.

A ‘contract of service’ exists where there is an employer/worker relationship. In a contract of service, the employer directly engages a worker in employment. Most employment contracts are made under a ‘contract of service’.

A ‘contract for service’ includes circumstances where an individual performs work for the principal, personally does part or all of the work, and works on a regular and systematic basis. This may include some contractors and sub-contractors.

If you engage contractors/sub-contractors on a regular and systematic basis, you should contact the WorkSafe ACT or an approved insurer to discuss your particular
arrangement, as these people may also be deemed ‘workers’ under the workers compensation legislation.

**Early intervention and reporting**

The ACT *Workers Compensation Act 1951* places emphasis upon ‘early intervention’ to facilitate early and safe return to work for workers who have sustained a workplace injury. The process involves early notification of workplace injuries, by an employer to their insurer.

**As an employer, you must:**

- Keep a **Register of Injuries** that is readily accessible to the workers, and which records every injury regardless of whether or not a claim is made.
- Notify your insurer within 48 hours after becoming aware that a worker has received a workplace injury. The notice may be given verbally, but must be confirmed in writing or electronically within 3 days. The insurer must take action within 3 business days after receiving the Injury Notice by contacting you, the injured worker and (if appropriate and practicable) the nominated treating doctor.
- Provide **workers compensation claim forms** on request from the injured worker. Lodge the completed claim form with your insurer within 7 days of receiving the form from the worker. The insurer has 28 days to either accept or reject the claim.
- Continue weekly payments to the injured worker from the date of the injury. The insurer will reimburse payments made if the employer has met their 48-hour notification obligation.
Rehabilitation and return to work

Workplace rehabilitation for injured workers is a requirement under the *Workers Compensation Act 1951*. Workplace rehabilitation helps injured workers achieve an early and safe return to the workplace.

Develop a **Return to Work Program** in consultation with your workers, an approved rehabilitation provider, and any industrial union representing the workers (refer to Guidance Note 0052 – Workers Compensation – Injury Management Process for more detail).

Display the Program and a copy of the Information Summary to the workers (refer to Guidance Note 0056 – Workers Compensation – Information Summary for more detail). Take all reasonable steps to provide suitable duties to a worker returning from a work related injury.
WORKSAFE ACT INSPECTORS

WorkSafe ACT Inspectors provide advice and information to help employers and workers understand their obligations under the *Work Health and Safety Act 2011*. They also have powers to enforce compliance with the legislation.

**WorkSafe ACT Inspectors visit workplaces to:**
- investigate a workplace accident or breach of the work health and safety legislation
- respond to complaints from workers and the public
- conduct random workplace inspections
- target specific workplace hazards or industries as part of a local or national compliance campaign.

**WorkSafe ACT Inspectors have the power to:**
- enter any premises they believe to be a workplace, with or without notice, time
- inspect, examine and make inquiries at the workplace
- inspect and examine anything (including a document) at the workplace
- bring to the workplace and use any equipment or materials that may be required
- take measurements, conduct tests and make sketches or recordings (including photographs, films, audio, video, digital or other recordings)
- take and remove for analysis a sample of any other substance or thing without paying for it
- inspect and take copies of any records
• require the production of documents or information held at locations other than those on which an alleged offence has occurred e.g. at head office
• operate plant or equipment, dismantle or take any plant or thing believed to be used in the commission of an offence
• obtain necessary assistance and facilities from the occupier or anyone at the premises
• exchange information obtained by the Inspectors with both ACT and interstate other law enforcement agencies responsible for worker or public safety
• issue Improvement Notices, requiring employers to correct unsafe working conditions or hazards
• issue Prohibition Notices, which prohibit work until a hazard is eliminated or reduced
• issue Non-disturbance Notices, requiring employers to preserve a site where a notifiable incident has occurred
• collect other information and evidence and recommend prosecution
• request police assistance, if required.

**Improvement Notices**

Improvement Notices are issued to a relevant responsible person for any hazardous situation where there is no immediate risk.

Improvement Notices set out the steps that need to be taken in order to comply with the legislation, and provide a specific time period in which the employer must take corrective action to fix the hazardous situation.
Examples of when an Improvement Notice can be issued include, but are not limited to:
- there is dangerous plant at a workplace
- electric power tools are not tagged and tested
- there are inadequate safety signs
- failure to provide amenities or first aid facilities.

**Prohibition Notices**

Prohibition Notices are issued when an Inspector determines that there is an immediate or imminent risk of serious harm to the work health and safety of people from a hazard at the workplace.

The hazardous activity must be stopped immediately and not recommenced until the risk is eliminated. A Prohibition Notice remains in effect until the hazardous situation or matter has been corrected.

Prohibition Notices can be issued in many circumstances including but not limited to:
- use of unguarded machinery
- not disconnecting electricity (e.g. risk of electric shock or electrocution (death) through contact with a conductive part of an electrical installation that has become live under fault conditions)
- not providing respiratory protection, where there are hazardous substances or inadequate oxygen
- lack of fall protection at heights.

A Prohibition Notice can also be issued to a relevant responsible person if an Inspector believes that it is necessary to allow:
• the inspection, testing or monitoring of anything at the workplace
• the investigation of an accident or incident (including a dangerous incident).

**Non-Disturbance Notices**

Non-Disturbance Notices are issued when an Inspector believes that the preservation or prevention of disturbance of a site is required for the Inspector to exercise their compliance powers.

A Non-Disturbance Notice may require a person to:

• preserve the site at which a notifiable incident has occurred for a specified period (not more than 7 days)
• prevent the disturbance of a particular site (including the operation of plant) in other circumstances

**Enforceable Undertakings**

Where it is alleged that a person has breached the work health and safety legislation, that person may give a written undertaking that they will comply with the legislation. Once an enforceable undertaking has been entered into it is enforceable through the courts.

Enforceable undertakings are another process to ensure compliance with the legislation, without resorting to prosecution.

Some examples are to:

• cease a certain conduct
• take certain action to compensate people adversely affected by a breach of the Act
• take particular action to rectify a state of affairs that arose as a direct or indirect result of the breach
• take particular action (including implementing particular systems) to prevent future contraventions of the Act
• implement publicity or education programs.

**Injunctions**

WorkSafe ACT may apply to the Supreme Court for an injunction compelling a person to comply with a Notice or restraining a person from contravening a Notice. A notice includes an Improvement Notice, Prohibition Notice or Non-disturbance Notice.

Also, a Court may issue an injunction requiring a person to cease contravening the *Work Health and Safety Act 2011* if the Court finds the person guilty of an offence against the Act.

**Infringement Notice**

An Infringement Notice is issued to a person where there are reasonable grounds for an Inspector to believe that a person has committed an ‘infringement notice offence’ under the Act or Regulation.

**Prosecutions**

There are three main categories of safety duty offences prescribed in the Act. These are:

• Reckless conduct – Category 1 – A person with a health and safety duty, without reasonable excuse,
recklessly exposes an individual to the risk of death or serious injury or illness

- Failure to comply with health and safety duty – Category 2 – A person with a health and safety duty fails to comply with that duty and exposes an individual to a risk of death or serious injury or illness
- Failure to comply with health and safety duty – Category 3 – A person with a health and safety duty fails to comply with that duty.

WorkSafe ACT can recommend to the Director of Public Prosecutions (DPP) that prosecution action be taken under the *Work Health and Safety Act 2011*, against any person, business or undertaking where there are reasonable grounds to believe that a safety duty exists and there has been a failure to comply with a safety duty.

**Approved Codes of Practice**

Approved Codes provide practical guidance under the work health and safety legislation. Approved Codes have formal evidentiary status, and courts can consider compliance with a Code to establish whether a safety duty has been met. Further information about the approved Codes of Practice is at Part 3 of this Handbook.

**Obstructing Inspectors and false information**

It is an offence to contravene a requirement made by a WorkSafe ACT Inspector who enters a workplace to conduct a workplace safety inspection or investigate a workplace accident and/or breach of the work health and safety legislation. This includes:
• failure to give information, answer questions, or produce documents reasonably needed by the Inspector
• failure to give the Inspector reasonable help
• interfering with an item that an Inspector has seized or anything containing a seized item, which the Inspector has left at the place of seizure in restricted access
• contravening an Inspector’s requirement to destroy or otherwise dispose of an unsafe thing
• refusing to state your name and address if asked by an Inspector, or providing false information
• failing to produce an authorisation to carry out work, when asked by an Inspector
• failing to comply with a magistrate’s order to provide assistance to the Inspector to access data held in or recoverable from a computer at a premises, copy the data or convert the data.

Always co-operate with and provide assistance if requested by a WorkSafe ACT Inspector.

**Can an Inspector’s decision be appealed?**

Yes. If an Inspector (as a ‘decision maker’) makes a reviewable decision, he/she must give written notice of the decision to each person concerned. A request to review the Inspector’s decision must be submitted in writing to the Senior Director, WorkSafe ACT or to the ACT Civil and Administrative Tribunal (ACAT).
Part 2

Specific Hazards
IDENTIFYING HAZARDS, ASSESSING AND CONTROLLING RISKS

Hazards on construction sites

The majority of injuries which occur on construction sites are back injuries, sprains and strains due to manual handling tasks such as lifting, pushing, pulling and stretching.

Statistics show that the most frequent ways construction workers are killed are through:

• falling from heights
• electrocution
• being hit or crushed by powered mobile plant.

Other hazards common in the construction industry are:

• falling objects
• structural collapse
• collapse of trenches
• compressed air
• dangerous substances (paints, solvents, chemicals etc.)
• hazardous dusts, e.g. silica, asbestos, medium density fibreboard (MDF), synthetic mineral fibres (SMF)
• explosive powered tools
• lasers
• noise
• welding fumes, gases and arcs
• confined spaces.
Risk management

Before commencing tasks, all foreseeable hazards (for example, falling off a roof) and actual risks (e.g. death, serious injury) should be identified and appropriate safety measures put in place (e.g. installing guard railing).

This risk management process means taking the following reasonably practicable steps to:

1. Identify the hazards, and assess the risks arising from each hazard.
2. Implement appropriate control measures to eliminate the risks.
3. Implement appropriate control measures to minimise the risks, if it is not reasonably practicable to eliminate them.
4. Inform other work health and safety duty holders.
5. Monitor and review the control measures to ensure continual safety.

A hazard identification, risk assessment and control process should be carried out by the person conducting or in charge of the construction project in consultation with other work health and safety duty holders and should be documented.

Risk control hierarchy

1. **Elimination** of risks by eliminating the hazard, plant, tool or substance, if practicable. If this is not reasonably practicable and someone is required to minimise a risk, the person must do each of the
following steps that is available and in the following order:

2. **Substitution** by a less hazardous activity, plant, tool or substance.

3. **Isolation** of the hazard from anyone otherwise put at risk to prevent or reduce exposure to it.

4. **Engineering controls** to minimise the risk – for example, exhaust ventilation for dusts, fumes or vapours.

5. **Administrative controls** to minimise the risk – for example, providing training, adopting safe work procedures or instructions to minimise exposure to the hazard.

6. **Personal protective equipment** to be used as a last resort and only when risk has been reduced as far as reasonably practicable by following the above steps 1 – 5.

**Reasonably practicable steps**

To determine what is (or was at a particular time) reasonably practicable steps to eliminate or minimise a risk, the following considerations apply:

1. The seriousness of the risk. This includes the likelihood of the risk eventuating and the degree of injury or loss that would result.

2. Any available and suitable ways to eliminate or minimise the risk.
3. What the person knows or ought reasonably to know about the hazard or risk and ways of eliminating or reducing the hazard or risk.

4. The cost of eliminating or minimising the hazard or risk. ‘Cost’ includes burdens and disadvantages such as time spent and inconvenience.

**Example:** ‘managing risk’

**Step One: Identify the risk** - fall hazard from removal of an old roof on a building under demolition.

**Step Two: Try to eliminate the hazard** – demolish roof with equipment on the ground.

**Step Three: Substitute the hazard** – building scaffolding platform underneath roof.

**Step Four: Isolate the hazard** – perimeter fence to keep unauthorised persons from site.

**Step Five: Engineering control** – work off scissor lifts and/or elevating work platforms.

**Step Six: Administrative control** – procedure that prohibits work near open edges.

**Step Seven: Personal protective equipment** – use personal safety harness.

**Step Eight: Inform other safety duty holders about the possible risks.**

**Safe Work Method Statements**

Contractors are often required to submit Safe Work Method Statements (SWMS) before carrying out their activities on construction sites. Under the *Work Health and Safety Regulation 2011* construction work deemed
“High Risk Construction Work” can only be undertaken so long as a Safe Work Method Statement has been developed for the proposed work. Please refer to the next section for a definition of High Risk Construction Work.

A Safe Work Method Statement sets out the work method in a logical sequence. The hazards associated with each process are identified, and the measures for eliminating or minimising these hazards specified in the mandated order for steps in the risk control hierarchy.

Any job or task, no matter how simple or complex, can be broken down into a series of basic steps that will permit a systematic analysis of each part of the job for hazards and potential accidents. The description of the process should not be so broad that it leaves out activities with the potential to cause accidents and prevents proper identification of the hazards; nor is it necessary to provide too fine a detail of the tasks.

The aims of a Safe Work Method Statement are to:

- describe the job or task to be undertaken
- identify the resources, manpower and skills associated with the task
- identify, assess and select hazard controls to eliminate any risk as appropriate and, if it is not reasonably practicable to eliminate risks, to minimise those risks by working through the steps in the risk control hierarchy in the mandated order
- systematically plan the job so it can be completed efficiently and effectively.

When developing Safe Work Method Statements the following should be considered:
• its development and documentation prior to the commencement of the job
• incorporation of information obtained from other work health and safety duty holders
• site specific risk assessment results should be incorporated
• job procedure should be explained step-by-step in a logical sequence
• should be created in consultation with the workers
• it should be read and understood by the workers, before commencement of work
• it should be signed by the workers, once it has been read and understood
• included as part of site specific induction training
• become part of the overall site safety plan
• written in plain English with minimal jargon and presented in a suitable format (e.g. pre-developed charts and/or forms).

A Safe Work Method Statement template is included in Part 3 of this Handbook.

**High Risk Construction Work**

The *Work Health and Safety Regulation 2011* identifies that certain types of construction work, called High Risk Construction Work, which exposes workers to a greater risk of injury or illness. The Regulation requires that a Safe Work Method Statement is prepared for the proposed High Risk Construction Work prior to the work commencing. The PCBU must also ensure work is carried
out in accordance Safe Work Method Statement for the High Risk Construction Work.

High Risk Construction Work is defined as;

a) involves a risk of a person falling more than 2m; or
b) is carried out on a telecommunication tower; or
c) involves demolition of an element of a structure that is load-bearing or otherwise related to the physical integrity of the structure; or
d) involves, or is likely to involve, the disturbance of asbestos; or
e) involves structural alterations or repairs that require temporary support to prevent collapse; or
f) is carried out in or near a confined space; or

g) is carried out in or near—
   i. a shaft or trench with an excavated depth greater than 1.5m; or
   ii. a tunnel; or
h) involves the use of explosives; or
i) is carried out on or near pressurised gas distribution mains or piping; or
j) is carried out on or near chemical, fuel or refrigerant lines; or
k) is carried out on or near energised electrical installations or
l) is carried out in an area that may have a contaminated or flammable atmosphere; or
m) involves tilt-up or precast concrete; or
n) is carried out on, in or adjacent to a road, railway, shipping lane or other traffic corridor that is in use by traffic other than pedestrians; or

o) is carried out in an area at a workplace in which there is any movement of powered mobile plant; or

p) is carried out in an area in which there are artificial extremes of temperature; or

q) is carried out in or near water or other liquid that involves a risk of drowning; or

r) involves diving work.

Failure to prepare or work in accordance with a Safe Work Method Statement for High Risk Construction Work is an offence under the Regulation.

**WHS Management Plan**

The *Work Health and Safety Regulation 2011* requires that all construction projects (i.e. construction work costing $250,000 or more) must have a written WHS management plan prepared by the principal contractor before work on the construction project commences.

A WHS management plan sets out the arrangements to manage work health and safety on a construction project. The intention of a WHS management plan is to ensure the risks associated with a complex construction project are managed, as there are usually many contractors and subcontractors involved and circumstances can change quickly from day to day.

The WHS management plan must be in writing. It should be easily understood by workers (including contractors and subcontractors). It may not be necessary to communicate
the entire WHS management plan to all workers, however, they must be made aware of the parts that are applicable to the work they are carrying out.

The level of detail required for a WHS management plan will depend on how complex the workplace is (in particular, the number of contractors at the workplace at any one time) and the risks involved in the work.

The WHS management plan prepared by the principal contractor must include:

• the names, positions and health and safety responsibilities of all persons at the workplace whose positions or roles involve specific health and safety responsibilities in connection with the construction project
• the arrangements in place between any persons conducing a business or undertaking at the workplace for consultation, cooperation and coordination of activities in relation to the compliance with their duties under the WHSAct and Regulations.
• the arrangements in place for managing any work health and safety incidents that occur
• any site-specific health and safety rules and the arrangements for ensuring that all persons at the workplace are informed of these rules, and
• the arrangements to collect and assess, monitor and review the SWMS.

The WHS management plan may include the following information:

• details of the person commissioning the construction work, for example their name, ABN (if available) and address
• details of the principal contractor
• details of the construction project, for example address of the workplace, anticipated start and end date and a brief description of the type of construction work that the WHS management plan will cover
• details on how contractors and subcontractors will be managed and monitored, including how the principal contractor intends to implement and ensure compliance with the WHS management plan such as checking on the performance of contractors and subcontractors and how non-compliance will be handled
• details on how the risks associated with falls, falling objects and any high risk construction work that will take place on the construction project will be managed.

Failure to prepare a written WHS management plan for a construction project is an offence under the 2011.
Construction work carried out where there is a risk of a person falling more than 2m is deemed high risk construction work and therefore requires a Safe Work Method Statement.

Where there is a risk of a fall (of person or object) that could cause injury or harm to a person, a risk assessment is required and preventative safety measures implemented.

Falls of people or objects from a height represent a serious health and safety risk in the construction industry. More than half of the falls that occur in the construction industry are from heights. A variety of injuries can occur as a result of a fall from height. The injuries range from short-term minor injuries to more permanent, severe disabilities or even death.

The following situations are particularly hazardous:

- work near unprotected open edges of floors or roofs
- work near unguarded holes, penetrations and voids
- work near unguarded excavations, trenches, shafts, lift wells
- work from unstable structures (for example, incomplete scaffolding)
- work on, or near fragile, brittle surfaces (for example, cement sheet roofs, fibreglass roofs, skylight)
- work from unprotected formwork decks
- work from unsecured ladders.

Generally, fall protection must be provided for anyone when the risk of a fall from height cannot be eliminated
and it is likely that an injury could occur as a result of the fall. However, if the type of work makes it difficult for a worker to be fully aware of the location of the platform edge (for example, welding, oxy acetylene cutting and other work involving restricted vision) fall protection should be provided regardless of height.

**Remember that a fall from any height can cause serious injury or death. Stay alert, even when working off stepladders.**

**For your own safety remember the following points:**

Your employer (broadly defined as including a person who engages the worker to carry out work in the person’s business or undertaking e.g. a principal in relation to a contractor and a head contractor in relation to a sub-contractor) does not expect you to work in any situation where there is a risk of falling

- you have the right to remove yourself from any hazardous work station or situation
- taking risks will not be rewarded
- report any fall hazards you see on site. Your immediate supervisor and health and safety representative should be made aware of any dangerous situations
- if required to use fall arrest equipment make sure you have been properly trained in its use
- don’t be afraid to offer solutions to fall hazard problems – your opinions are important and valuable.

Never work at heights next to an exposed edge without some form of fall protection.
Preferred methods of preventing falls

If the risk can’t be eliminated it should be reduced as far as is reasonably practicable by following the steps in the risk control hierarchy in the mandated order e.g.:

- **substitute the hazard**: arranging for the work to be done on ground or on a safe, solid surface (i.e. solid construction has a surface which is capable of supporting people, materials and other loads applied to it)

- **engineering control**: industrial rope access systems, or properly erected scaffolds or perimeter guard railing and/or other temporary work platforms, such as elevating work platforms (EWP)

- **administrative control**: procedure for safe work at heights

- **personal protective equipment** safety harness etc.

Scaffolding

The following forms of licence may be required to conduct this work:

- High Risk Work Licence

Scaffolding is a temporary structure for supporting access platforms or working platforms.

Scaffolding of more than 4 metres in height **must** only be erected and dismantled by a scaffolder holding a high risk work licence of the right scaffolding work licence class (e.g. Basic, Intermediate or Advanced Scaffolding) or a trainee under the direct supervision of a person with a high risk work licence of the right scaffolding work licence class.
Trainee scaffolders must have a logbook that is signed off by a high risk work licensed scaffolder who supervises the trainee. The competency assessor must work for, or be affiliated with, a Registered Training Organisation (RTO) and be authorised by ORS to conduct high risk work competency assessments for that course in the ACT on behalf of the RTO.

An applicant can also complete the relevant nationally endorsed unit or units of competency in a Training Package or an accredited course that meets the licensing requirements. The training and assessment must be delivered under the supervision of, or in partnership with, an RTO. It is important to check with the RTO whether the necessary approvals have been obtained from ORS for recognition of the training and assessment in the ACT.

Scaffolds less than 4 metres do not have to be erected by scaffolders holding a high risk work licence in the Scaffolding Work licence class, but must be erected according to the relevant Australian Standard (AS/NZS 4576:1995: Guidelines for scaffolding and the AS/NZS 1576 set of Standards and Scaffolding regulations. The PCBU must ensure that all persons erecting scaffolds are properly trained for the job.

You should only work off scaffolding if it is:

- on a stable, level foundation with proper base plates
- complete, properly braced and tied to the supporting structure
- not overloaded (225 kg max. per platform, per bay for light duty scaffold) (450 kg max. per platform, per bay for medium duty) (675kg max per platform, per bay for heavy duty)
• fully planked and fitted with guardrails, mid-rails and
toe boards on the working deck wherever a person or
material could fall more than 2 metres
• fitted with a safe, secure temporary stairway or ladder
to access the working deck
• scaffolding components must not be located within
4.0 metres of any conductors of an overhead electrical
power line without written permission from the owner
of the line – (ActewAGL).

Defective or incomplete scaffolding must not be used and
should be sign posted
“Scaffold Incomplete/Do Not Use”

**Additional requirements for mobile scaffolds**
• follow the manufacturers/suppliers written
instructions for correct erection, use and dismantling
• mobile scaffolds should be used only on a hard, level
surface
• the wheels of a mobile scaffold should be locked
against any possible movement before using the
scaffold, and should remain locked when not in use
• do not relocate a mobile scaffold unless all items have
been secured against falling
• no person should be on a mobile scaffold when it is
being moved
• all mobile scaffolds should have a safe, secure means
of access to the working platform
• do not locate a mobile scaffold closer than 1 metre to
any slab edge, penetration or other step down, unless
a positive means to prevent it crossing that point, such as a fixed fence, rail or raised edge, is in place.

When moving a mobile scaffold, stay well clear of power lines (the highest part of the scaffold should come no closer than 4m).

Never use scaffold guardrails to gain extra height or to support equipment or loads.
Clear of electrical hazards during erection and use

At all times refer to manufacturers recommendations

Handrail at correct height

Midrail at correct height

Toeboard fitted

Deck at suitable working height

Full platform for working deck

All standard joints firmly fitted

All standards (uprights) plumb

Diagonal bracing secured

Plan brace as low as possible

Castor locking device operational

Ladder clear of the ground

Foundation suitable - level and firm

Ladder projects 1 metre above deck

Ladder access trapdoor operational

All end clip mechanism in place

Ladder placed at correct angle

Ladder correctly fixed at base

Base frame in-square and level

Castor adjustment device operational

Ladder correctly placed at base

Ladder placed at correct angle

Ladder placed at correct angle

Ladder placed at correct angle

Ladder placed at correct angle

Ladder placed at correct angle

Figure 1 – Checklist for lightweight aluminium mobile scaffolds
**Suspended scaffolds (swing stages)**

The following forms of licence may be required to conduct this work:

- High Risk Work Licence

Either a rigger holding a high risk work licence for Advanced Rigging or a scaffolder holding a high risk work licence for Advanced Scaffolding may install and dismantle suspended scaffolds.

**Before using a suspended scaffold make sure that:**

- a written hand-over certificate has been provided by the installer
- operators have written authorisation from their PCBU and are suitably trained
- it has had its daily pre-operational check as set out in the operator’s manual
- the cradle is not overloaded above its rated safe working load
- the cradle has meshed guardrails and solid flooring to ensure that materials cannot fall through
- the area below the cradle is protected by a catch platform or is isolated so no-one can be injured from falling material or debris
- there are suitable lateral restraints to stabilise the cradle during use where relevant
- where access to and from the cradle cannot be gained from the ground or a protected platform, the cradle must be securely tied to the building and properly anchored safety harness and lanyards must be worn and used when climbing in and out of the cradle.
Suspended scaffolds should be subject to weekly inspections by a competent person, in addition to daily operator’s checks.

Make sure cradles are properly secured when unattended and cannot be accessed by unauthorised people. For overnight and longer periods the cradle should be tied securely to the building at least 3 metres above the ground.

Figure 2 – Two Independent Means of Support – Two Complete Suspension Systems

**Perimeter guardrailing**

Guardrails may be used to provide effective fall protection at:

- the perimeters of building or other structures
- the perimeters of skylights or other fragile roof materials
- opening in floor or roof structures
• edges of pits, shafts or other excavations.

The guardrail system should:
• incorporate a top rail between 900mm and 1100 mm above the working surface
• incorporate a mid-rail or mesh panels
• incorporate a toe board and alternative control measures such as ‘no go’ zones to ensure no persons are at risk of being hit by falling objects from above
• be of robust construction and designed in accordance with the relevant Australian Standards

Where the slope of the roof exceeds 35 degrees, the roof is an inappropriate surface to stand on, even with guard railing or a catch platform. In this situation, roof workers need a system to prevent both sliding and falling from the perimeter, comprising of two or more of the following:
• a work positioning system
• a roof ladder
• a scaffold platform, located at the roof edge.
Acceptable slope when adding work platform

A guardrail system on the roof with a slope of up to 38 degrees should consist of a toprail, midrail and toeboard

A roof with slope greater than 38 degrees requires a guardrail system consisting of a toprail, midrail and toeboard and two plank work platform

Figure 3 – Perimeter guard rails.

**Fall arrest systems and travel restraint systems**

The following forms of licence may be required to conduct this work:

- High Risk Work Licence

These are personal protective equipment (PPE), which should only be used when other means of providing fall protection, such as scaffolds, guardrails and elevating work platforms have been considered and are not practicable.

Before using an individual fall arrest system or travel restraint system you should be trained in its use. Competency based training must be delivered by a RTO in accordance with AS/NZS 1891.4:2009.

- fall arrest and travel restraint systems require a risk assessment prior to use
- inspect the equipment before using and damaged equipment must not be used. Harnesses and lanyards
with paint and glue on them are deemed damaged and must not be used.

- prior to use, a fall rescue plan should be developed. Workers using fall arrest systems or travel restraint systems should not work alone
- full body safety harness should be worn, not waist belts
- lanyard and inertia reels should be attached to the rear shoulder attachment point of the harness
- lanyard systems should be installed so that the maximum distance a person equipped with a harness would free fall before the fall arrest system takes effect is 2 metres
- energy or shock absorbers should be used with all lanyard, harness and inertia reel systems
- do not directly attach a lanyard snap hook to an anchorage point, i.e. a ring. Use a karabiner passed through the eye of the lanyard thimble to make the connection
- avoid using inertia reels in a horizontal configuration where, in the event of a fall, the line can be snagged on sharp edges
- beware of using an inertia reel when working on a steep pitched roof. In a fall down the inclined surface of a steep pitched roof the inertia reel line may not lock up
- an arrest line may fail if it contacts an edge in a fall. Ensure that verification has been obtained from the manufacturer or supplier that it is safe to use with the specific type of edges involved in the work process
• inertia reels should not be used as working supports by locking the system and allowing it to support the user during normal work
• in order to avoid rollout, make sure you use the fall-arrest manufacturer’s recommended hardware such as energy absorbers, karabiners etc
• seek advice when you set up an inertia reel – avoid the pendulum effect
• only a high risk work licence holder for Basic Rigging or Basic Scaffolding should install a static line system
• maintenance records on inertia reels should be available on request
• suitably competent persons should undertake inspection of fall arrest systems and travel restraint systems.
• travel restraint systems are not fall arrest devices. Typical anchorage points for these systems are not designed for the impact loads applied in the event of a fall. Where there is any possibility that a person using a travel restraint system could approach an edge where a fall is possible, a travel restraint system must not be used.

Elevating work platforms (EWP)

The following forms of licence may be required to conduct this work:
• High Risk Work Licence
• do not operate an EWP unless you have received training in its use and safety rules. The hirer or the supplier of the EWP can provide this training
• the platforms should only be used as working platforms. They should not be used as a means of access and egress from a work area unless the conditions set out in AS 2550.10 are met
• never use an EWP on soft, uneven surfaces. Always check the intended operating area for obstacles such as pits, trenches or ramps etc
• always wear an anchored safety harness while in a boom type EWP
• when travelling on an EWP with the boom elevated – do so as slowly as possible. Always check for clearance before you move the EWP to a new position
• always check that the safe working load written on the EWP is not exceeded
• guardrails of EWPs should not be used to raise pipes or other equipment. Special lifting attachments should be installed if equipment is to be lifted
• lifting loads via cables and ropes from the EWP is not permitted
• the EWP should not be raised in high wind conditions

Figure 4 – Anchored safety harness
• workers must be trained in the safe use of fall-arrest equipment and emergency rescue procedures
• make sure that you know how to lower the platform in an emergency or if power is lost keep everyone clear of the EWP. If used in a thoroughfare, use a warning barrier of Para-webbing positioned to prevent persons from passing under the EWP
• never enter or exit an elevated EWP unless a documented risk assessment has been done
• never operate the EWP anywhere above overhead power lines or within the following clearance distances unless permission has been obtained from ActewAGL and a risk assessment has been completed.

**Power lines on poles** – within 3 metres each side (spotter required when operating between 3 and 6.4 metres)

**Power lines on towers** – within 8 metres each side (spotter required when operating between 8 and 10 metres)

The spotter is a safety observer and should be a competent person.

A high risk work licence for Boom-type Elevating Work Platform is required for operating a boom-type EWP with a boom of 11 metres or more.

**Mast climbing work platforms**

The following forms of licence may be required to conduct this work:

• High Risk Work Licence

Erection and dismantling of mast climbing work platforms must be carried out, or directly supervised, by a person
holding at least a high risk work licence for Intermediate Scaffolding.

Planning for the set up of a mast climbing platform should be by a qualified engineer who takes into account the requirements for mast climbers of a tied or free standing type.

Mast climbing platforms should be subject to a risk assessment prior to erection.

The following should be taken into account:

• barricading where vehicular and pedestrian traffic is encountered
• fencing around the mast climber to prevent unauthorised access
• the ground conditions/stability and outrigger positioning
• the proximity of power lines and electrical equipment
• the development of an operator’s checklist.

**Safe operation of mast climbers**

• make sure daily operational checks have been done, including operation of audible and visible warning systems
• make sure safe working loads are not exceeded
• always check that all persons keep both feet on the platform deck while elevating
• always check the vertical path of travel
• never move the mast climber horizontally while personnel are on the platform.
Do not operate a mast climber unless you are trained in its use.

**Ladders**

Ladders are primarily a means of access, not a work platform, and should only be used for light work where hand hold and stability can be maintained and only if it is not practicable to use other temporary work platforms such as trestles, scaffolds and EWPs.

When working on a ladder make sure that:

- it is an industrial grade ladder with a minimum load rating of 120kg. Do not use domestic grade ladders
• it is placed at a slope of 4 (vertical) to 1 (horizontal)
• it is on a stable, firm footing and secured top and bottom against movement
• both hands are always used to ascend and descend
• all work is done facing the ladder
• only tools that are easily operated with one hand are used
• both feet rest on the ladder and are no higher than the third tread from the top plate of a step ladder or 1000mm from the top of a single or extension ladder
• three limbs are on the ladder where practicable and use tool belts to keep hands free
• overreaching is avoided (the belt buckle should always be within the stiles of the ladder)
• work is not conducted above another person
• not more than one person is on the ladder at any time.

Ladders should not be used:
• in access areas, walkways, traffic ways or within the arc of swinging doors
• where the work involves restricted vision or hot work (e.g. welding)
• on scaffolds or elevating work platforms to gain extra height
• in very windy or wet conditions
• near an exposed edge or a guardrail where, if the ladder toppled, a person could fall over that edge
• where it is possible for the ladder or user to come into contact with electrical power lines; in particular, metal or metal reinforced ladders should not be used in the vicinity of live electrical equipment; such ladders
should be permanently marked with “do not use where electrical hazards exist”.

Figure 6 – Secure ladders to avoid slipping.
Always take care when using ladders. Avoid using ladders when other work platforms are available.
A PCBU must not cause, permit or instruct a worker to do any of the following:

- face away from the ladder while climbing the ladder unless equipment (such as a pole strap) designed to support the worker’s body, is used in an appropriate manner
- stand on a rung closer than 900mm from the top of a single or extension ladder.
Stilts

The use of stilts for plastering or any other construction work almost always involves unacceptable risks to the safety of workers. For this reason, WorkSafe ACT does not recommend the use of stilts to perform work at a workplace.

There are a number of dangers associated with using stilts:

- risk of falling when walking backwards or changing direction
- tripping hazards from normal objects such as steps, railings and benches
- foot constraints reduce capacity to recover from a potential fall
- risk of pushing against or falling through windows
- overloading of spring mounts can cause stilt failure and increased risk of injury.

Manual handling issues arise when stilts are used for construction work such as:

- bending to pick up materials or objects such as buckets from low surfaces applies undue force on the back and legs
- repeated bending when stopping corners leads to awkward posture and repetitive movement
- centre of gravity changes when using stilts.

When accessing heights, workers should use alternative means that allows freedom of movement and protection from falls.
If WorkSafe ACT Inspectors find stilts being used at a workplace, the Inspector will insist that the worker cease the activity and find an alternative safe system of work.

Recommended alternatives

Alternative work methods should be considered instead of using stilts involving one or a combination of:

- mobile scaffolds
- trestle scaffolds
- step platforms.

![Figure 8 – Erecting structural steel.](image)

**Erecting structural steel**

The following forms of licence may be required to conduct this work:

- High Risk Work Licence

Prior to erecting structural steel all workers should be inducted into a task specific Safe Work Method Statement (SWMS) which takes into account the following:

- structural steel should only be erected by experienced and competent riggers holding a high risk work licence for Basic Rigging
- all connections – rafters, purlins, braces etc. and column sling releases – should be performed out of
protected work platforms (scissor lifts, boom lifts, crane boxes, mobile scaffolding, fixed platforms)

- while working out of a boom lift all workers should wear a safety harness/lanyard/shock absorber attached to a fixed anchorage point in the basket.

Where it is necessary to position bundles of roofing sheets on the skeletal frame and to disconnect crane slings, this work should be performed out of a boom lift, or similar.

A high risk work licence for Boom-type Elevating Work Platform is required for operating a boom-type EWP with a boom of 11 metres or more.

**Do not work off structural steel without fall protection.**

**Roofing**

Roofing work is the planning, preparation and conduct of work for the installation, maintenance and removal of roof coverings, including roof trusses, and the movement of persons working on roofs.

A documented risk assessment should be developed for each specific roofing contract, with the measures for eliminating or minimising the hazards as far as is reasonably practicable addressed in the mandated order for steps in the risk control hierarchy. The risk assessment should address fall protection needs for all roofing tasks and include engineering controls such as the installation of purlins, steel mesh and box gutters.

In new roofing work the following fall protection engineering measures to minimise risks should be used:

- 2mm, 45mpa wire mesh installed from a safe work platform
• box gutters installed from a safe work platform
• a perimeter guardrail system
• scaffold tower for access.

In the renewal or replacement of existing roofs, the following engineering control safety measures to control fall hazards at the leading edge (before the wire mesh is installed) should be considered:
• catch platforms and or individual fall arrest systems (subject to risk assessment)
• special safety control measures for work on fragile roofs.

Where trades other than roofing workers need to enter a roofing area under construction, perimeter protection in the form of guardrails or a warning line system should be provided.

If an old roof is to be replaced, make sure that it does not contain asbestos. Note that some metal roof and cladding materials are coated with a thick coating of asbestos paint.

Mesh can be installed safely from scaffolding positioned at each end of the roof.

**Floor penetrations**

Floor openings, penetrations, pipe risers, void and similar openings must be protected against people falling and falling objects at all times. A documented risk assessment should be developed for each project, with the measures for eliminating or minimising the hazards as far as is reasonably practicable addressed in the mandated order for steps in the risk control hierarchy.
Engineering controls include mesh cast in at the concrete pour that can provide protection for small penetrations. Otherwise a timber cover properly secured and splayed should be installed over the penetration. Danger signs must be affixed to the penetration cover.

Large penetrations and voids must have adequate protection to make sure plant, equipment or personnel cannot fall through.

Where guardrails and penetration covers are removed temporarily for work purposes, adequate barricading and warning signs must be placed at a safe distance from openings.

**Shafts**

A full-length screen should protect all shafts.

Lift shafts must be fitted with a steel mesh or solid timber cage, which has a lockable gate.

Where there is a danger of falling during the fitting of screens and cages, workers must be protected by an IFAS (individual fall arrest system).

For all work in shafts a documented risk assessment should be developed for each project, with the measures for eliminating or minimising the hazards as far as is reasonably practicable addressed in the mandated order for steps in the risk control hierarchy. Engineering controls should include fall protection and emergency lighting and administrative controls should include emergency evacuation procedures.

Entry into the shafts should be subject to a tag or permit system signed by the responsible company representative.
Fall protection while working in shafts should consist of a safe working platform complete with guardrails (if the platform does not fully span the shaft).

Where total fall protection cannot be provided by a work platform, an IFAS should be used.

The shaft must remain guarded to protect other workers while work is being performed in the shaft.
FALLING OBJECTS

Falling objects can injure or kill and are a hazard when overhead work is carried out. The fall from height of any object, substance or thing is also defined as a notifiable dangerous incident and must be notified to WorkSafe ACT.

In developing a documented risk assessment for particular tasks on each project, with the measures for eliminating risks or minimising the hazards as far as is reasonably practicable in the mandated order for steps in the hierarchy of control to minimise risks, PCBU, supervisors and their workers should consider falling object hazards.

Where engineering controls to minimise risk (such as protective platforms and screens) cannot guarantee that falling objects will not present a threat, the following isolation control safety measures should apply:

- a NO ACCESS area should be established below overhead work
- the NO ACCESS area should have secure barriers in place and adequate signage to prevent access into the area
- all workers should be made aware of the NO ACCESS area
- in certain circumstances a spotter may be necessary.

Remember that there may be a danger to you from other trades working overhead and that your work may be a danger to those working below.

**Avoid being injured or injuring others by making sure that you:**

1. Always wear your hard hat in work areas.
2. Stay away from ‘No Access’ areas.

3. Keep away from loads being lifted and slung loads.

4. Secure loose material you use such as ply wood, iron-sheets and off-cuts against the wind.

5. Do not stack materials close to un-meshed guardrails and perimeter edges.

6. Alert your supervisor and/or health and safety representative of any falling object problem areas around the site.
DEMOlITION

The following forms of licence may be required to conduct this work:

- Builders Licence
- Drainers Licence
- High Risk Work Licence

Under the *Work Health and Safety Regulation 2011*, demolition work that involves the demolition of a structure or part of a structure that is load bearing that is at least 6m in height; involves load shifting equipment on a suspended floor; or involves explosives, requires written notice of the work be submitted to WorkSafe ACT 5 days before the work commences. A form for the Notice of Demolition Work can be found at www.worksafe.act.gov.au. Demolition work is deemed to be high risk construction work and requires a Safe Work Method Statement.

A licence is required to undertake demolition work as defined in the *Building Act 2004*. Demolition licensing is part of the ACT Construction Occupations Licensing System as an endorsement on a builder’s licence. You will need to seek advice from the Construction Services Branch as to whether you or any person undertaking the demolition work will require a licence for the work to be undertaken. If High Risk Work is being conducted as part of the demolition work, persons undertaking the High Risk Work will need to hold the relevant High Risk Work licence for the class of work being undertaken.

Prior to demolition, a competent person should investigate the structure and the site and a documented Safe Work
Method Statement (SWMS) should be developed in consultation with health and safety representatives, the health and safety committee, or by other agreed means.

The measures for eliminating risks or, if it is not reasonably practicable to do so, minimising the hazards as far as is reasonably practicable, must be addressed in the mandated order for steps in the risk control hierarchy.

Hazards associated with demolition work include:

- hazardous materials present such as asbestos, SMF, PCBs, lead
- existing services (e.g. electricity, gas) and their disconnection
- location of all underground tanks, vaults, wells, voids and structures and certify that all chemicals, volatile fuels and gases have been deactivated
- floor loadings and potential for structural collapse
- fire protection
- where work cannot be done safely from the ground or from solid construction, safe work platforms such as scaffolding, EWPs, boom lifts etc, should be used
- if plant is to be used, a qualified engineer must verify the adequacy of floors and supporting structures to bear loads imposed by the plant. This includes the tying of scaffolding and mast climbing platforms to the structure
- if individual fall arrest systems (IFAS) are used, the specific application of such equipment should be subject to a documented risk assessment
- open sides of floors, roofs, stairwells, and lift shafts should be securely covered with rigid material or provided with guardrails and toe boards; in the
installation of these guardrails and coverings, workers must be protected from falling by IFAS

• cranes should not be used to pull upon fixed structural members or to lift unknown loads
• all rigging work involved in demolition must be controlled by a high risk work licence holder for Intermediate Rigging or Advanced Rigging
• when undertaking jobs within ceilings make sure that a solid and secure work platform has been provided.

When undertaking the demolition of roofs adequate fall protection must be provided (catch platforms, IFAS, guardrails, purpose built roofing ladders). Always make sure that you cannot fall through brittle roofing materials, through holes, or over perimeter edges and leading edges.

Do not work above other workers where there is a danger of materials, tools or equipment falling.
TRENCHING AND EXCAVATION

The following forms of licence may be required to conduct this work:
• Drainers Licence
• Plumbers Licence

Any work carried out involving a trench or shaft excavated to a depth of 1.5m or greater is deemed to be high risk construction work and requires a Safe Work Method Statement.

All trenches and excavations should be made safe and provided with a ground support system, a steel shield or all walls to be benched or battered back at a safe angle.

Prior to excavating, a site investigation should be carried out to determine:
• nature of the ground (soil type, rock, water table)
• possibility of flooding from any water source
• the existence of underground services (gas, electricity, pipelines, sewer) e.g. Dial Before You Dig
• proximity of other excavations and other point sources of instability
• the possibility of natural or artificial hazards (e.g. ground contamination)
• static/dynamic loads (e.g. buildings/traffic) and ground vibration.

A documented risk assessment for all trenching/excavation tasks should be completed based on the results of the site investigation. The risk assessment should set out the measures for eliminating risks or minimising the hazards as far as is reasonably practicable, in the mandated order.
for steps in the hierarchy of control to manage risks. Engineering means to minimise risks should include control measures for the safe use of excavation plant.

When excavation work is being conducted in close proximity to underground utilities assets, further controls should be put in place to reduce the risk of an asset strike by excavation plant. The utilities provider should be advised of proposed works and any requirements of the utilities owner should be incorporated into the risk assessment and Safe Work Method Statement for the excavation work.

Workers should be made aware of the risk assessment relevant to their trenching or excavation work. All trenching and excavation operations should undergo a daily checklist system to ensure that the following safety requirements are observed:

- no person enters an unsupported section
- trenching supports are appropriate to the conditions (i.e. The need or otherwise for trench shields, close sheeting, benching or battering)
- spoil heaps are properly positioned at least 0.9 metres from the edges of the trench
- safe ladder access is provided into the trench, with 2 access points required for trenches > 8 metres long
- where reasonably practicable, appropriately maintained stairs cut into the excavation
- all workers wear safety helmets
- no person is working alone in an excavation
- persons do not remain in close proximity to where an excavator is operating
• persons to wear high visibility vests when working on or near machinery
• the excavation is protected by parawebbing barricades
• workers in excavations are not exposed to an accumulation of hazardous fumes including fumes from petrol or diesel vehicles
• never enter a trench that is not shored or battered.

**Drilling and piling**

All bored pile excavations must be protected from the risk of falling in. Key measures to eliminate risks or to minimise the risks as far as is reasonably practicable include:

- **isolation means:** only personnel directly involved in the work to be in the vicinity of the excavated holes.
- **engineering means:** holes should be securely covered while unattended.

The following additional engineering measures to eliminate or minimise risks as far as is reasonably practicable should be considered:

- installation of temporary frames around the excavation as drilling proceeds
- provision of a temporary top liner projecting above the top of the hole at sufficient distance to allow the drill to enter
- excess water should be prevented from filling up the hole
- spoil should be neatly positioned as far away from the edge of the pile excavation as practicable, subject to site constraints.
FORMWORK AND FALSEWORK

The following forms of licence may be required to conduct this work:

• High Risk Work Licence

The main hazards when working with formwork/falsework are falling from unprotected edges, bearers, holes and being injured by collapse or during removal of the formwork/falsework.

When preparing for the commencement of work, the principal contractor doing the work should ensure that the workplace is safe, based on the work health and safety management plan. The work health and safety management plan should include the measures for eliminating risks or minimising workplace hazards as far as is reasonably practicable, in the mandated order for steps in the hierarchy of control to manage risks.

Preparation should include at least the following:

• an assessment of climatic/environmental conditions including lighting levels
• access to and from the workplace
• specific instructions for workers
• formwork drawings are certified by the formwork/falsework engineer
• plant and tackle required for lifting materials is available and suitable
• residual current devices (RCD)-(safety switches) protecting the user of portable electric power tools
• emergency and rescue procedures in the event of an accident, injury or other emergency (including the
means of rescuing persons from safety harnesses following arrested falls).

- personal protective equipment on site (e.g. safety harnesses, lanyards, safety helmets, eye protection etc)

A documented SWMS that also includes the measures for eliminating workplace risks or minimising these risks as far as is reasonably practicable, in the mandated order for steps in the hierarchy of control to manage risks, should be developed before the commencement of any formwork/falsework installation. Any SWMS developed should be based on a site specific risk assessment to address all risks associated with the particular site.

**The SWMS should include:**

- the proper design and approval of the formwork/falsework by an engineer
- base, supports and ground conditions adequate for the load
- props that are plumb, level, securely tied and fitted with the correct pins
- safe platform access for installing bearers on H frame U jacks from underneath
- safe work platforms with guard rails on edges and similar protection of all openings
- a formwork deck laying method that does not permit walking on bearers
- secured ladder access to the formwork deck
- scaffold access for forming columns and walls
• fall protection as identified in a site specific risk assessment such as:
  - safety nets
  - crash decks (max 2 metres below)
  - lazy joists in position (for spaces > 1.8 metres in any direction)
  - place bearers / joists from below
• the use of individual fall arrest systems where other forms of fall protection are not practicable
• Inspection by a competent person before allowing concrete pours.

Do not work with formwork/falsework unless it has a documented SWMS and engineers’ approval.
ELECTRICAL SAFETY

The following forms of licence may be required to conduct this work:

- Electricians Licence
- High Risk Work Licence

Temporary electrical installations for construction sites must comply with the Standard AS/NZS 3012:2010: Electrical installations – Construction and demolition sites.

The principal electrical contractor should prepare a Safe Work Method Statement (SWMS) before carrying out their activities on site. The SWMS should include the measures for eliminating risks or minimising workplace hazards as far as is reasonably practicable, in the mandated order for steps in the hierarchy of control to manage risks.

The SWMS should as a minimum address the issues set out below.

**Shock protection from contact with earth leakage current**

The following forms of licence may be required to conduct this work:

- Electricians Licence

All final sub-circuits that supply power to equipment, hand held power tools and lighting used in the construction industry must be protected by a safety switch or residual current device (RCD). The RCD must be installed at the switchboard where the circuits originate. To reduce the risk of injury if lighting or power is interrupted in artificially
lit areas it is recommended that a separate RCD be provided for each final sub-circuit.

A licensed electrician should only reset tripped RCD’s or Circuit Breakers. RCD’s and Circuit Breakers trip for a reason, usually an electrical fault. A licensed electrician should investigate these faults and any faults identified are rectified before power is restored to the circuit. To minimise the risk of unauthorised resetting of tipped RCD’s and Circuit Breakers, switchboards should be fitted with lockable covers on circuit protection devices. Lockable covers should not be fitted in a way that prevents access to the main switch or isolator in case of an emergency.

Portable generators that supply more than one lighting point, appliance or socket outlet must have its supply protected with an RCD. All RCDs installed to protect workers from shock current should have a sensitivity of 30 milliamps or 0.03 of an amp and be marked accordingly.

Flexible cords, hand-held power tools or electrical plant and equipment must be protected through a portable RCD where their supply source is from a permanently wired socket outlet (power point) and are required for construction or demolition purposes.

**Temporary switchboards for construction and demolition electrical installations**

The following forms of licence may be required to conduct this work:

- Electricians Licence
Temporary switchboards with RCD protected final sub-circuits must be used to supply all lighting and socket outlet power. Temporary switchboards in general require:

- a latching door or a non-removable lid
- rounded and smooth-edged access holes or a recess under the door for connection of extension cords to switchboard mounted socket outlets
- at least one 15 amp socket outlet
- a weatherproof construction
- protection against mechanical damage
- a stable stand or be fixed to a wall and post mounted switchboards must be coach screwed or bolted; and
- reasonable frontal access to be maintained. A clearance of 1.2 metres is recommended.
- RCD’s and Circuit breakers fitted with lockable covers
- Fitted with a tie bar to prevent damage or strain to flexible cord extension sets.
- Fitted with an insulated lead stand to ensure leads are able to be suspended at least 1.8m from floor level

Never use any power or lighting circuit that is not protected by an RCD.

Never reset an RCD which has tripped until the reasons for its disconnection of the circuit is established by an electrician.

**Flexible cord extension sets**

All extension cord sets shall be of heavy-duty type.

Leads must not exceed the lengths specified in Table 1 of AS/NZS 3012:2010. For example a 10 amp 1.5 mm²
flexible cord cannot exceed 32 metres and a 15 amp 2.5-mm2 cord cannot exceed 40 metres. An electrician can give advice on cord conductor sizes.

- **No** extension cord should run from one floor to another on multi-level sites.
- Cords used around structural steel and sheet metal must be protected from possible mechanical damage.
- Cords should be raised on insulated stands or hooks to protect them from damage and to provide clear access for personnel and vehicles.
- Cords should never run through water or be on the ground where mobile plant and machinery is used.
- All three pin cord extension sockets and plugs should be of the transparent and moulded type. A competent person or an electrician should undertake the fitting of plugs and cord extension sockets to cords.
- Double adaptors and piggyback plugs are not permitted on construction and demolition sites.

**Inspection and tagging**

The following forms of licence may be required to conduct this work:

- Electricians Licence

All 240 and 415 volt hand-held power tools, larger portable equipment and flexible cords must be inspected and tagged prior to first use and then at the prescribed inspection intervals by a competent person or a licensed electrician, as set out in AS/NZS 3012:2010
All items tested should carry a test tag that is colour coded to indicate whether it is ‘current’ as follows:

January: Red
February: Blue
March: Orange
April: Green
May: White
June: Yellow
July: Blue
August: Green
September: Red
October: Yellow
November: Orange
December: White

Tags should have a valid test date that is within the nominated prescribed period of Table 4 in AS/NZS 3760:2011/Amdt1:2011 and indicate a re-test date, and include either the tester’s (competent person’s) name, the tester’s company/business name or electrical licence number.

It is recommended that tagging and testing for construction work be undertaken at least in 3 monthly intervals. Companies and/or contractors should implement suitable maintenance schedules based on the level of use and the environment. This may show that the frequency of testing needs to be increased. (e.g. monthly). Most construction sites require monthly inspection and tagging of tools and leads.
Workers must check/inspect electrical leads and cords daily prior to use, and any damaged items must be removed from use.

For the testing of electrical equipment at 3 monthly intervals the colours are as follows:

- RED January - March
- GREEN April - June
- BLUE July - September
- YELLOW October - December

**Demolition and major refurbishment work**

- Builders Licence
- Electricians Licence

For all demolition and major refurbishment work the management of electrical safety should be the subject of a preliminary on-site meeting to identify potential electrical safety risks to personnel engaged in the demolition or refurbishment process. The preliminary meeting should address the following issues:

- isolation of the pre-existing electrical installation from the area under constructional change
- an inspection of the work zone for the existence of unsafe electrical cables and energised wiring prior to the commencement of each stage of work; and
- the establishment of a temporary supply installation that complies with AS/NZS 3012:2010.

A documented risk assessment should then be prepared, that sets out the measures for eliminating risks or minimising the hazards as far as is reasonably practicable,
in the mandated order for steps in the hierarchy of control to manage risks.

Any electrical wiring such as large distribution sub mains and associated switchboards, which cannot be isolated, should be ‘Danger Tagged’ by a licensed electrician and marked using appropriate warning tape and/or signage.
WORKING IN THE VICINITY OF OVERHEAD AND UNDERGROUND ELECTRIC LINES AND UTILITY ASSETS

The following forms of licence may be required to conduct this work:

• High Risk Work Licence

The *Work Health and Safety Regulation* requires that a PCBU must ensure, so far as is reasonably practicable, that no person, plant or thing at a workplace comes within an unsafe distance of an overhead or underground electric line.

Any construction work carried out on or near energised electrical installations or services is defined as high risk construction work and requires a Safe Work Method Statement for the work to be performed.

**Approach Distances**

An approach distance is the minimum separation in air from an exposed overhead conductor that should be maintained by a person, or any object held by or in contact with that person. The approach distances take into account the differing levels of technical knowledge and items of plant and are greater for unauthorised persons than for authorised persons who have been trained and assessed as having the necessary technical knowledge and skills.
Zone A – Unauthorised Persons

Unauthorised Persons are workers who have not received training in overhead line electrical hazards and do not have sufficient training or experience to enable them to avoid the dangers which overhead electric lines and associated electrical equipment may create. Unauthorised persons are restricted to work in the unauthorised person zone.

Table 1 provides approach distances for:

- unauthorised persons performing work in the vicinity of overhead electric lines, including plant, hand tools, equipment or any other material held by a person
- cranes (and their loads) and items of mobile plant operated by an unauthorised person in the vicinity of overhead electric lines.
Table 1 – Approach distances to live power lines and utilities for work performed by unauthorised persons.

<table>
<thead>
<tr>
<th>Nominal phase to phase a.c. voltage (volts)</th>
<th>Approach distance (metres)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Up to and including 132,000</td>
<td>3.0</td>
</tr>
<tr>
<td>Above 132,000 up to and including 330,000</td>
<td>6.0</td>
</tr>
<tr>
<td>Above 330,000</td>
<td>8.0</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Nominal pole to earth d.c. voltage (volts)</th>
<th>Approach distance (metres)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Up to and including +/- 1500 Volts</td>
<td>3.0</td>
</tr>
</tbody>
</table>

**Zone B – Authorised Persons**

Authorised Persons are workers who have successfully completed a recognised training course in overhead line electrical hazards and are therefore permitted to work closer to overhead electric lines in the authorised person zone.

Table 2 provides approach distances for:

- authorised persons, with a safety observer, who are performing work in the vicinity of overhead electric lines, including plant, hand tools, equipment or any other material held by a person
- cranes (and their loads) and items of mobile plant operated by an authorised person with a safety observer in the vicinity of overhead electric lines.
### Table 2 – Approach distances to live power lines and utilities for work performed by authorised persons, with a safety observer.

<table>
<thead>
<tr>
<th>Nominal phase to phase a.c. voltage (volts)</th>
<th>Approach distance (metres)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Insulated low voltage cables up to 1000, including LV ABC</td>
<td>0.5</td>
</tr>
<tr>
<td>Un-insulated low voltage conductors up to 1000</td>
<td>1.0</td>
</tr>
<tr>
<td>Above 1000 up to and including 33,000</td>
<td>1.2</td>
</tr>
<tr>
<td>Above 33,000 up to and including 66,000</td>
<td>1.4</td>
</tr>
<tr>
<td>Above 66,000 up to and including 132,000</td>
<td>1.8</td>
</tr>
<tr>
<td>Above 132,000 up to and including 220,000</td>
<td>2.4</td>
</tr>
<tr>
<td>330,000</td>
<td>3.7</td>
</tr>
<tr>
<td>500,000</td>
<td>4.6</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Nominal pole to earth d.c. voltage (volts)</th>
<th>Approach distance (metres)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Up to +/- 1,500</td>
<td>1.0</td>
</tr>
</tbody>
</table>

---

**Zone 3 – No Go Zone – Requires electricity supply authority approval**

No Go Zones are the areas around an overhead electric line or electric parts that form a safety envelope. A safety envelope is the space encapsulating an item of plant, including attachments such as rotating/flashing lights or radio aerials, categorised as:

- a design envelope – the space encapsulating all possible movements of plant and any load attached under maximum reach, or
• a transit envelope – the area encompassing the normal height and width of a vehicle or plant when travelling to or from a worksite.

No part of a person, hand tools, equipment or any other material held by a person, cranes, vehicles or items of mobile operating plant including the load, controlling ropes or any other accessories may cross into the no go zone while the electrical part is energised without the written approval of the electricity supply authority. This approval should be made available at the worksite.

A no go zone extends in all directions, not just sideways; it is all around the electrical part. A person should not enter a no go zone.

**Approach distances for vehicles**

Table 3 provides approach distances for vehicles, mobile plant stowed for transit or with a design envelope up to and including 4.6 metres in height, which are driven by or operated by persons under overhead electric lines.

<table>
<thead>
<tr>
<th>Nominal phase to phase a.c. voltage (volts)</th>
<th>Approach distance (metres)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Low voltage conductors up to 1000</td>
<td>0.6</td>
</tr>
<tr>
<td>Above LV, up to and including 33,000</td>
<td>0.9</td>
</tr>
<tr>
<td>Above 33,000 up to and including 132,000</td>
<td>2.1</td>
</tr>
<tr>
<td>Above 132,000 up to and including 220,000</td>
<td>2.9</td>
</tr>
<tr>
<td>330,000</td>
<td>3.4</td>
</tr>
<tr>
<td>500,000</td>
<td>4.4</td>
</tr>
<tr>
<td>Nominal pole to earth d.c. voltage (volts)</td>
<td>Approach distance (metres)</td>
</tr>
<tr>
<td>Up to and including +/- 1500 Volts</td>
<td>0.9</td>
</tr>
</tbody>
</table>
Authorised Person

People who carry out work closer than the approach distances specified in Zone B and safety observers who observe the work must have successfully completed a suitable training course conducted by a Registered Training Organisation (RTO). Examples of suitable training courses may include Certificate III in ESI – Power Systems - Distribution Cable Jointing or Certificate III in ESI – Power Systems – Distribution Overhead. This training is in addition to the requirements for plant operators to be competent and in the case of high risk plant, hold a high risk work licence.

The RTO providing the training and competency assessment should provide statements of attainment or written certification of successful completion of assessment with a unique identifying number.

The PCBU should verify the written certification provided demonstrates the worker is trained and has the necessary technical skills, knowledge and competence to be authorised to work in Zone B.

Safety Observer

The safety observer is a person specifically assigned the role of observing the work in the vicinity of energised
overhead electric lines and associated electrical equipment. This person should have successfully completed specific training so they are competent to observe the work and able to implement control measures in an emergency. They should alert workers, crane or plant operators when approach distances may be about to be breached and of other unsafe conditions.

A safety observer should:

- be used whenever the work activity is likely to be carried out in Zone B
- be positioned at a suitable location to effectively observe both overhead electric lines and plant operations
- be able to immediately and effectively communicated with the cranes or mobile plant operators or other people if required
- ensure all people stay outside the specified approach distance unless they are:
  - performing a rescue in accordance with approved procedures
  - carrying out a specific task described in the safe work method statement e.g. a crane dogger holding a non-conductive tag line attached to a load suspended from a mobile crane
- not carry out other work while acting as a safety observer, including passing of tools, equipment or materials directly to those performing the work
- not observe more than one work activity at a time
- monitor the work activity being carried out and have the authority to suspend work at any time.
Operating Cranes and Mobile Plant – Overhead Electric Lines

The following forms of licence may be required to conduct this work:

• High Risk Work Licence

When operating cranes or mobile plant in the vicinity of overhead electric lines, a site specific risk assessment must be completed. Additionally, given that the work is in near energised electrical installations, the work activity is classed as high risk construction work and must have a safe work method statement for the work activity.

Given the high risk associated with this type of work, a number of controls should be implemented to reduce the risk of serious injury or death. Some of the control measures used may include:

• setting up the crane or mobile plant in a position that keeps the design envelope outside the approach distance
• working at another time when the electricity supply can be isolated
• erecting a physical barrier to prevent any part of the machine or the load being moved from entering Zone B
• limiting the hoisting, slewing, meaning forcible turning or swinging of a crane to a new position or other movements of the crane or mobile plant
• making the hazards more visible by using warning signs or tiger tails
• defining the areas where cranes or mobile plant should not enter
• insulating gloves used by anyone who may come into contact with a conducting part of the crane, plant or load being moved.

• ensuring that the operator of the crane or mobile plant and the safety observer are authorised by the electricity supply authority for work in Zone B

• warning signs should be fitted to cranes and mobile plant that are intended for use in the vicinity of energised overhead electric lines listing the approach distances for persons working in Zone A.

**Figure 11 – Electrical clearance for mobile plant.**

**Scaffolding Work – Overhead Electric Lines**

The following forms of licence may be required to conduct this work:

• High Risk Work Licence

The risks associated with erecting, dismantling and using fixed scaffolding in the vicinity of overhead electric lines and associated electrical equipment with an operating voltage up to and including 33,000 volts must be assessed and managed prior to the work activity commencing. For
scaffolding work above 33,000 volts, the electricity supply authority should be consulted and all special conditions imposed by them complied with.

AS/NZS 4576: Guidelines for Scaffolding sets a 4 metre approach distance for metallic scaffolding used in the vicinity of overhead electric lines.

NOTE: Consideration must also be given to sag and swing of the conductors.

Minimum clearance 4 metres

Figure 12 – Minimum 4 metre clearance for metallic scaffolding.

Construction work carried out on or near energised electrical installations or services is defined as high risk construction work and requires the preparation of a safe work method statement for the work.

Some specific control measures that can be used for minimising the risk associated with scaffold in the vicinity of overhead electric lines include:

- de-energising the overhead electric lines for the duration of the work
- re-routing the overhead electric lines away from scaffolding after consultation and agreement with the electricity supply authority
- using non-conductive physical barriers between the scaffold and overhead electric lines
- substituting the scaffold with another means of entry and exit like an elevated work platform
- using a safety observer to warn people before they enter the 4 metre approach distance
- using electrically tested insulating gloves worn by anyone who may be at risk of coming closer than the 4 metre approach distance

Hoarding positioned on the external face of a scaffold may be used to serve as a physical barrier between a worker and energised electric lines and associated electrical equipment. The following installation conditions for the use of a hoarding and enclosure for reduced safety distances should be considered:

- gaps between fitted sheets of plywood should not exceed 3mm
- no exposed cut or drilled holes should be permitted in the sheets of plywood
- the scaffolder should be responsible for attaching the plywood to the scaffold by non-conductive means and ensuring that the arrangement can sustain an appropriate wind load
- warning signs should be affixed to the safe side of the hoarding warning of the presence of the electrical hazard on the other side of the hoarding and warning the hoarding should not be removed
• a competent person should visually inspect the hoarding and, if applicable the enclosure on a daily basis to ensure the hoarding and enclosure are in a satisfactory condition and remain impenetrable.

Ply re-enforced plastic or other approved non-conductive hoarding fixed securely to the face of the scaffold

Note: No supports should be attached to nearby poles

Warning signs fixed to the safe side of the hoarding warning of the presence of electrical hazard on the other side

Figure 13 – Scaffolding with Hoarding

**Underground Electric Cables and Utility Assets**

The following forms of licence may be required to conduct this work:

- High Risk Work Licence
- Electricians Licence
- Plumbers Licence
- Gasfitters Licence

Any construction work carried out near underground energised electricity installations or services and any work carried out on or near pressurised gas distribution mains
or piping is defined as high risk construction work. A safe work method statement must be prepared for any work construction work involving these activities.

Failure to appropriately manage the risks associated with these activities may result in serious injury or death. A risk assessment must be carried out to identify, assess and control the risks associated with this construction work.

When identifying and assessing the risks of coming in contact with underground electric cables or utility assets, the following things should be considered:

• potential for tools damaging cables or equipment e.g. when digging, driving equipment or excavating where buried cables and assets may be present
• electrical cables or equipment may be concealed in a work location

Dial Before You Dig should always be conducted prior to any work being conducted to locate all electrical cables and utility assets. Additionally, the following authorities may be contacted to identify any cables that may have been placed in the vicinity of the workplace:

• electricity supply authorities
• communication companies
• local government authorities
• water authorities

Where the risk is unknown, it should be assumed that risk could exist. If you cannot determine exactly where an underground cable or utility asset is, you should use pot-holing to carefully identify the cable or utility asset location and avoid accidental contact with the cable. Pot-holing should be conducted using insulated hand digging
tools appropriate for the voltage concerned or the use of vacuum pumping in the pot-holing process to locate the underground cable or utility asset.

Controlling the risks associated with underground assets may include:

- using insulated hand digging tools
- using non-powered hand tools
- hiring a person with relevant electrical qualifications to do the job
- installing a physical barrier to prevent accidental contact between a hand-held tool and underground electric cables
- authorisations to conduct the work like a permit to work
- training to identify the hazards and perform the work safely
- PPE including electrically tested insulating gloves, fire retardant clothing and suitable eye protection.
CRANES, HOISTS AND LOAD SHIFTING EQUIPMENT

The following forms of licence may be required to conduct this work:

- High Risk Work Licence

Safety is critical in the operation of plant and equipment such as cranes, forklifts, elevating equipment such as cranes, forklifts, elevating work platforms, excavators, backhoes, etc.

When a piece of plant is to be used on site, a PCBU must ensure that the risks to health and safety arising from plant in use are minimised and there are systems of work associated with the plant in place.

A documented risk assessment should be developed for all tasks involving plant and taking into consideration:

- the systems of work associated with the use of the plant
- the layout and conditions in the workplace where the plant is used
- the capability, skill and experience of the operator
- any reasonable foreseeable abnormal operating conditions
- safety of the plant when out of service or when not in use.

The risk assessment plan should include the measures for eliminating workplace risks or minimising these risks as far as is reasonably practicable, in the mandated order for steps in the hierarchy of control to manage risks.
You should never operate any piece of mobile plant and equipment unless it is part of your job and you have been fully trained, assessed as competent in its use, and hold the appropriate high risk work licence or licences, or the appropriate current certificate of competency for load-shifting equipment operation.

You may be confident that you can do it and have nothing but good intentions, but there is a danger that you may injure yourself or others, or even kill someone.

**Figure 14 – Industrial backhoe loader with rollover/falling object protection**

**High risk work licences**

High risk work licences are required if you wish to operate the equipment listed below. For further information, refer to Classes of High Risk Work in Part 3 of this Handbook.

- tower crane
- slewing mobile crane – with a capacity up to 20 tonnes
- slewing mobile crane – with a capacity up to 60 tonnes
• slewing mobile crane – with a capacity up to 100 tonnes
• slewing mobile crane – with a capacity over 100 tonnes
• non slewing mobile crane
• materials hoist
• boom-type elevating work platform
• vehicle-mounted concrete placing boom
• forklift truck.

A high risk work licence is also required for:
• scaffolding work (over 4 metres) – basic scaffolding, intermediate scaffolding and advanced scaffolding
• dogging
• rigging work (including erection of steel, dual-lifts and placement of pre-cast concrete panels)- basic rigging, intermediate rigging and advanced rigging.

All training for a high risk work licence must be consistent with the National Standard for Licensing Persons Performing High Risk Work as part of an approved course delivered by a Registered Training Organisation (RTO). The practical training must be under the supervision of a licence holder in the appropriate licence class. If you wish to undertake any part of your practical training at the workplace, you must consult with your employer and the RTO and gain their approval.

An up to date register of high risk work licence holders and their licence classes should be maintained and kept on site.
Certificates of competency for operating plant

Certificates of competency are no longer required if you wish to operate the load-shifting equipment listed below. However, anyone required to operate this type of equipment would still need to display that they were competent to do so. To achieve this, an operator would need to provide evidence that an appropriate level of training and instruction had been provided to the operator, and that someone with the relevant competence for training and assessment had overseen the training and instruction had taken place. An old certificate of competence would be one way of achieving this also.

- draglines (LD)
- excavators (LE)
- front end loaders (LL)
- front end loaders/backhoe (LB)
- front end loader (skid steer type) (LS).

Mobile plant safety

Mobile plant must meet the same work health and safety criteria for all other plant, including:

- a documented risk assessment for the use of the plant at your site, that includes the measures for eliminating workplace risks or minimising these risks as far as is reasonably practicable, in the mandated order for steps in the hierarchy of control to manage risks
- visual inspection prior to first use
- making sure that it is serviced and maintained in accordance with the manual and that current records are kept
• the system for the daily inspection of the plant
• the provision of the relevant safety equipment for use, i.e. harness, flashing lights, beepers, reversing alarms etc
• seat belts must be worn (where fitted).

Forklifts and earthmoving equipment must be fitted with overhead protective devices to stop objects falling on the operator and roll over protection (ROPS).

Always obey the rules for operating mobile plant near overhead power lines (see Electrical Safety – Overhead power lines).

**Crane safety**

• only persons with a high risk work licence for the relevant crane operation can operate cranes
• only persons with a high risk work licence for dogging and/or rigging work can sling and direct loads
• all cranes should be subject to a daily checklist/logbook completed by the operator
• make sure that the set up area has been inspected for potential hazards and that inspection is documented
• make sure that the counterweight slewing area is clear of obstacles and is barricaded
• make sure that loads do not pass overhead workers.

**Lifting gear**

• all lifting gear (shackles, slings, wire rope) should be inspected regularly by a qualified and competent person. The inspection details should be recorded
and the item tagged in accordance with the relevant Australian Standard

- load hooks should be fitted with a safety catch, particularly where there is a chance of the slings being displaced.

**Safe operation of earthmoving equipment**

- never carry passengers unless there is a passenger seat fitted
- always wear the seatbelt (where fitted)
- always take care to know your operating area – never back up until you are certain it is safe
- always shut down the plant and remove the ignition key when you leave the machine unattended
- ground your attachments and booms before vacating the machine
- know the machine’s roll-over limits and stay well within them
- stay a safe distance away from the edge of embankments. Be sure that the boundaries of your operating area are clearly marked
- when descending a grade, use the same gear you would use to climb it
- always obey speed limit restrictions
- always give way to loaded machines, when in doubt, yield
- always make sure spotters and others working nearby wear a helmet and a high visibility vest
- operators to wear high visibility vests at all times.
Safe operation of forklifts

- operators must hold a high risk work licence for the relevant forklift operation (e.g. Forklift Truck or Order-picking Forklift Truck)
- passengers must never be carried on forklift trucks
- always wear the seatbelt (where fitted)
- never elevate or lift people unless an approved lifting box is used
- lower the load before travelling and/or turning
- when travelling, lower the forks as close to the ground as is practicable
- forklifts should never be used over terrain for which they have not been designed
- when leaving the forklift unattended, lower the tines, turn the gas bottles off and remove the ignition key.
**TRAFFIC MANAGEMENT**

*What is temporary traffic management?*

Temporary traffic management (TTM) is a system of controlling traffic movement through or past a worksite to achieve a maximum of safety and a minimum of inconvenience for both the road worker and the road user. A TTM system is required when working on public roads, road verges, road medians, footpaths, bicycle paths, construction sites and where any other work related activities require temporary controlling of traffic.

*Why is a temporary traffic management system required?*

The *Work Health and Safety Act 2011* places obligations upon persons conducting a business or undertaking to take all reasonably practicable steps to eliminate or minimise risk and ensure that the workplace is safe. This includes preventing injury to workers due to hazards within the worksite, protection of workers from oncoming or passing traffic and the protection of road users from hazard within the worksite. Implementing a temporary traffic management system, which is designed to protect workers and road users, is a method of meeting your safety duty under work health and safety laws.

*When must a temporary traffic management / traffic control (TC) plan be approved?*

A temporary traffic management/traffic control plan is a diagram, which shows how the TTM control devices
are to be installed. *The Road Transport (Safety and Transport Management) Act 1999* requires approval from an appropriate authority to install prescribed traffic control devices. A temporary traffic management/traffic control device application must be approved by Roads ACT in the Territory and Municipal Services Directorate (the appropriate authority) when activities are being conducted on or within a certain distance of a public roadway, footpath or bicycle path, or when a project requires the removal or placement of any traffic control devices along the traffic network. For further information on the requirements to obtain temporary traffic management/traffic control device approval, contact Roads ACT on 13 22 81 or visit Roads ACT’s website at www.tams.act.gov.au/roads-transport/traffic.

The Office of Regulatory Services does not approve temporary traffic management/traffic control device plans.

**What are the requirements for temporary traffic management?**

A documented risk management assessment process should be undertaken for all roadwork, whether or not an approved TTM application is required. Risk management involves identifying and assessing all workplace and public safety risks likely to arise during the roadwork including setting up, operating, changing and dismantling traffic control devices. Appropriate control measures must be determined and implemented to eliminate those risks or minimise the risks as far as reasonably practicable, in the mandated order for steps in the hierarchy of control to minimise risks.
The documented risk management process should be undertaken prior to starting the work. The control measures should be incorporated into the design of any TTM plan.

**What does a risk assessment involve?**

A risk assessment estimates the level of risk and involves analysing the likelihood and consequence of damage and injury due to impact with moving vehicles. The following factors should be considered in a risk assessment:

- scope and duration of the project
- site layout
- traffic density
- traffic flow and speed
- time required to perform activities
- time of day when tasks are to be performed
- specific hazards within the work site, such as excavations
- pedestrian movement
- environmental factors such as wet conditions or poor visibility
- risks associated with plant and equipment
- experience and training of workers
- alternate routes available for road users and pedestrians, should a road or footpath be partially or fully closed.
What does risk control involve?

Control measures are set out in the hierarchy of control described below. Risks to work health and safety should be identified and eliminated or, if it is not reasonably practicable to eliminate risks, controls at the top of the hierarchy must be implemented before consideration is given to using lower order controls.

1. **Elimination**: Road closure.

2. **Substitution**: Program the work to be conducted when there is no risk or significantly less risk present.

3. **Isolation**: Use approved temporary safety barriers to isolate workers and work activities from road users.

4. **Engineering controls**: Traffic engineering means such as the use of directional signage such as workmen ahead, speed reduction, lane status signs, as well as cones, bollards, delineators, barrier boards etc.

5. **Administrative controls**: Safe working practices put in place, training instruction and information provided to workers.

6. **Personal protective and safety equipment**: High visibility garments should be worn when working in the vicinity of moving traffic (up to 5 m) or plant. When selecting high visibility garments consideration needs to be given to the time of day, colour of plant on site and the surrounding environment. High visibility vests should be fastened across the front to display a continuous reflective material around the torso. The garment should meet the requirements of AS/NZS 4602.1:2011 : High visibility safety garments- Garments for high risk applications.
Due to the nature of civil works and changing risks, the temporary traffic management system should be regularly reviewed and changes made to ensure that the risks to health and safety of workers and third parties are controlled. Roads ACT must be notified of any amendments to the original approved TTM/TCD plan.

**What control devices are available for TTM systems?**

Australian Standard AS 1742.3-2009 : Manual of uniform traffic control devices - Traffic control for works on roads provides information and practical guidance on types of traffic control devices available and how they are to be installed.

**Examples of temporary traffic control devices**

**1. Safety Barriers**

Safety barriers are designed to provide a physical barrier between the travelled path and the work area, which will inhibit penetration by an out of control vehicle and will preferably have some redirecting properties. Protection using safety barriers is the preferred option for long-term jobs when the separation between the work area and traffic is less than 3m. They can also be used to separate opposing traffic.

Safety barriers should comply with AS/NZS 3845:1999: Road safety barrier systems. When installing a safety barrier there should be a 0.3m clearance between the edge of the traffic lane and the safety barrier. A containment fence should be placed behind the safety
barrier to restrict the work areas beyond the likely deflection limits of the safety barrier if struck by a vehicle.

When determining the likely deflection limits consideration needs to be given to the road cross slope, angle of impact and speed of impact. The manufacturer/supplier should provide information to assist you in determining the likely deflection limits.

**Note:** Lightweight plastic water filled barriers that do not meet the requirements of AS/NZS 3845:1999: Road safety barrier systems must not be used as a safety barrier in any situation where traffic speeds exceed 20km/h.

### 2. Containment Fences

Containment fences may be used to provide visible separation between the travelled path of vehicles, pedestrians and the work area in situations where physical protection by use of a safety barrier is not reasonably practicable.

Where work is being conducted within 1.2-3 metres of the adjacent traffic lane, the clearance between the containment fence and the adjacent traffic lane edge should be a minimum of 1200 mm in a speed zone of 60km/h or less. Where work is being conducted within 1.2 metres of the adjacent traffic lane, speed should be reduced to 40km/h or less. Use of containment fences to protect the safety of workers and road users in locations where traffic speeds exceed 60km/h is not recommended.

Containment fences can also be used to protect the worker from entering “no go” zones.
3. Reduced Speed Zones

Where a reduced speed zone is used as a control measure, but is ineffective due to vehicles not slowing down to the reduced speed, additional control measures should be implemented such as speed monitoring boards, temporary traffic lights or traffic controllers. The Police may also provide assistance in enforcing speed reductions.

4. Signs

There are varying signs for different conditions. For guidance on types of signs, size of signs and mounting requirements refer to AS 1742.3-2009 : Manual of uniform traffic control devices- Traffic control for works on roads.

Temporary traffic management signs need to be displayed at different heights for different situations. It is important that anyone travelling along the road or footpath is fully aware that there is work on the road ahead and knows exactly what path to follow and how fast he or she is supposed to travel through the worksite. Signs placed on the ground should be clear of obstructions. Signs should not be placed in the shade as this may be affect their visibility to road users. Generally, signs should be placed one metre clear of the travelled path, where they will not be a hazard to workers, pedestrians and road users.

Signage that is not approved for displaying outside of the hours that work activities are being performed must be removed or covered.

Environmental conditions such as wind and rain must be taken into account when installing TTM signage or other prescribed traffic control devices.
Training Requirements

AS 1742.3-2009: Manual of uniform traffic control devices – Traffic control for works on roads outlines the minimum required competencies for persons working as traffic controllers or designing Traffic Management Plans (TMP). Only competent persons who possess an appropriate state certification should be appointed as traffic controllers.

There is no certification available in the ACT, however a certification from another Australian state or jurisdiction will be recognised as meeting the training requirements in AS 1742.3-2009.

The roles that require competency based training in accordance with AS 1742.3-2009 include:

- Traffic Controller – Stop / Go
- Traffic Controller – Placing Controls
- Full TMP Design

Keeping records

A logbook should be kept on site for recording any activities and amendments involving the TTM system, including accidents/incidents within the TTM system, when TTM signs are displayed/covered or removed from the work site. The record should also state the time, date and location where these activities occurred.

Specific requirements for construction work

The Work Health and Safety Act 2011 requires that where high risk construction work is carried out, a safe work method statement (SWMS) must be prepared before the
work commences. High risk construction work includes construction work that is carried out:

- in an area of a workplace in which there is any movement of powered mobile plant
- on, in or adjacent to a road, railway, shipping lane or other traffic corridor that is in use by traffic other than pedestrians.

The SWMS must identify the high risk construction work, specify hazards, describe measures to control risks and how this will be implemented. Information and instruction for workers involved in construction work must include the contents of SWMS and workers must have easy access to the relevant SWMS at the workplace.

Temporary traffic management planning and SWMS should be incorporated into the site WHS Management Plan.

**General requirements for construction sites**

- where possible site traffic should be one way only
- speed restrictions on site may need to be implemented to reduce risk to workers’ safety. Workers on site must adhere to speed restrictions
- appoint flagmen/spotters for specific work tasks or locations
- use hazard lights and reversing beepers on all mobile plant and vehicles
- delivery vehicles not fitted with reversing alarms should be escorted while moving around the site
- skid steer loaders should be fitted with isolation switches when unattended or made inoperable
• maintain clear access routes to allow orderly movement of vehicles
• provide crane loading bays, dedicated delivery areas and material storage areas
• minimise vehicles needing to access the site
• separate pedestrian access around the site
• high visibility vests should be worn by those required to work on or near mobile plant
• audible flashing beacon should be installed on the rear of all earthmoving and excavating machines to provide a warning when the machine or counterweight moves.

**Excavations**

Where an excavation is 500mm or more in depth and within 9 metres of the traffic lane edge, the excavation should be isolated from vehicular traffic by the use of safety barriers.

Where this is not reasonably practicable and the excavation is within 3 metres of the traffic lane edge, close delineation with bollards may be acceptable. Bollards should be fitted with safety tape in between bollards to highlight the risk area.

These control measures are subject to a documented risk assessment based on risks to workers and road users, length of excavation, duration of exposure, traffic volume and speed, depth of excavation and road alignment. The risk assessment should include the measures for eliminating workplace risks or minimising these risks as far as is reasonably practicable, in the mandated order for steps in the hierarchy of control to manage risks.
EXPLOSIVE-POWERED TOOLS

Explosive-powered tools (EPTs) can be as dangerous as a loaded gun and should be treated with the same care. Operators must be specially trained in the correct use of the EPT, its adjustment, dismantling, dangers and safety procedures.

EPTs should only be loaded immediately before use and all explosive charges should be kept in a locked box when not in use.

All persons involved in EPTs tasks, including persons assisting should wear eye and hearing protection (PPE).

EPTs should not be used:

- on hard surfaces such as high tensile steel and cast iron
- in the presence of an explosive or flammable gas, dust, vapour or in compressed air or in any place where the explosive charge may explode unintentionally
- close to an edge or hole where there is a risk that the substance might crack or break
  - for steel – within 15mm of the edge
  - for brick or concrete – within 75mm of the edge
- on a roof unless the area below the operators kept clear of all persons for a distance of at least 6 metres in every direction from the point of operation
- where persons, other than the operator and assistant, are in the immediate vicinity of the firing charge
- without a sign posted in the operational area: WARNINGEXPLOSIVEPOWERED TOOL IN USE.
For safe use of an EPT contact the manufacturer. A documented risk assessment should be developed for all tasks using explosive powered tools, that includes the measures for eliminating workplace risks or minimising these risks as far as is reasonably practicable, in the mandated order for steps in the hierarchy of control to manage risks.

All un-used or misfired charges should be collected and securely stored. They should not be left lying around, particularly in any area where children might find them.

**Compressed air**

Compressed air used irresponsibly can cause severe injury or death.

Only trained, competent persons should operate compressed air tools. A documented risk assessment should be developed for all tasks using compressed air tools, that includes the measures for eliminating workplace risks or minimising these risks as far as is reasonably practicable, in the mandated order for steps in the hierarchy of control to manage risks.

Operators must make sure that the following safety rules are always observed:

- all valves, hoses and the tools are in good condition
- hose couplings have safety clips
- the end of the hose is secured to prevent it from ‘whipping’
- before replacing tools, switch the tool and the main valve off
• when turning air on, introduce it slowly into the system, making sure that all controls are in the off position
• always wear goggles or a face shield when working with compressed air
• when using a nail gun, keep all parts of the body clear of the firing line. The trigger should not be squeezed until the nail gun is in position on the timber
• when the job is done, turn off the main isolator and bleed the air from the system.

Never
• use compressed air to cool off or to blow dust off clothes, skin or hair
• direct compressed air at yourself or at another person
• use compressed air for practical jokes
• use an air tool that has a faulty operating valve or governor
• kink the hose to cut off the air supply.
WELDING AND HOT WORK

The following forms of licence may be required to conduct this work:

- Gasfitters Licence
- Plumbers Licence

Welding, soldering, cutting, grinding and similar hot work should only be performed by competent, qualified operators.

Fire extinguishers should always be available next to welding or cutting kits. These should preferably be attached to each welding and oxyacetylene kit.

Welding screens should be used and the appropriate personal protective equipment should be supplied and worn at all times.

A documented risk assessment should be developed for all welding and hot work tasks, that includes the measures for eliminating workplace risks or minimising these risks as far as is reasonably practicable, in the mandated order for steps in the hierarchy of control to manage risks.

The risk assessment should include provisions for:

- the work to be done under a hot work permit system; the permit is issued by the employer (broadly defined) and must be completed and signed on and off by a competent person (immediate supervisor) as required by Australian Standard AS 1674 Set-2007: Safety in welding and allied processes Set
- controls of risks from fire and explosions
- electrical precautions when using arc welders
- adequate ventilation of the work area
• special precautions for working in confined spaces (permits are also needed for work in confined spaces).

A confined space is a place with a restricted means for entry or exit, where harmful substances, lack of oxygen and other hazards may increase the risk of injury to those entering the space.

• gas cylinders should not be taken into a confined space
• gas equipment – hoses, nozzles, etc. should be removed immediately or gases shut off at the cylinder when work has finished or when work has ceased for more than a few minutes
• all purging of fuel gas or oxygen hoses should be done in a well-ventilated area remote from the confined space
• adequate ventilation, safe oxygen levels, and appropriate respiratory protection are provided*.

Always apply a 15-metre buffer zone for any combustible materials, in any direction.

*Note: Too much oxygen is also dangerous. Do not store cylinders in lunchrooms. Use designated storage areas.

**Oxyacetylene or LP Gas Brazing and Cutting**

Cutting and brazing work should not be performed from a ladder. Only gas equipment from a reputable supplier should be used. The supplier should be able to provide details of servicing and maintenance requirements of all equipment.

Flash back arresters should be fitted to outlet side of both fuel gas and oxygen regulators and the handpiece. The
crimping of “O” rings should only be done with the correct crimping tool.

All equipment should be visually checked daily, and before use. Any equipment found to be damaged or suspected to be leaking should be immediately removed from the work area to a well-ventilated space and an “Unsafe – Do Not Operate” tag should be attached to the equipment, until it is repaired or removed from the site.

Cylinders should always be kept vertical (or near vertical) and secured by chains, even when transported around work sites in a trolley or lifting frame. Cylinder storage areas should be well ventilated with ‘No Smoking’ or ‘No Naked Flame’ signs displayed.

**Arc welding**

Only qualified persons should perform arc-welding work.

All welders must wear the appropriate protective clothing – eye protection, welding jackets, gloves, apron, overalls and clothing protecting exposed skin. Respiratory protection may also be needed. Screens must be used to protect the eyes of other persons from flash burns.

Welding must not be carried out in an environment where flammable materials or potentially explosive gases are present. Fume extracting systems should be used in poorly ventilated areas.

Where sparks or slag may affect persons working at a lower level, either fire blankets or a suitable barricade with signs restricting access should be used. Suitable fire fighting equipment should be kept as close as possible to the work area.
‘Danger: Welding in Progress’ signs should be displayed in the area where welding is being carried out.
Welding should not be performed from ladders.
CONFINED SPACES

Any work carried out in an area defined as a confined space is deemed to be high risk construction work.

A confined space is a place with a restricted means for entry or exit, where harmful substances, lack of oxygen and other hazards may increase the risk of injury to those entering the space. Refer to AS 2865-2009: Confined spaces.

In the construction industry confined spaces may be air conditioning ducts, crawl spaces, pits, trenches, pipes, sewers or box beams.

All workers who are required to work in a confined space should receive full information, instruction and training in relation to hazards and risks. They should also be made aware of the relevant documented risk assessment for the confined space work, that includes the measures for eliminating workplace risks or minimising these risks as far as is reasonably practicable, in the mandated order for steps in the hierarchy of control to manage risks.

The risk assessment should include the following control measures.

An entry permit issued by the PCBU and signed on and off by a competent person (immediate supervisor) describing:

- the confined space that the permit applies to
- the measures for control of risks
- the names of the workers approved to enter the space
- the name of the stand-by person assigned to the confined space
- the period of time for which the permit is valid.
Stand-by arrangements for:

• continuous communication between the persons in the confined space and a responsible person on the outside

• emergency procedures that can be initiated from outside the space

• the procedure to know when workers have entered or exited the confined space

• emergency procedures for rescue and first aid.

Always use an Air Quality Monitor before entering a confined space.

**Never enter a confined space unless you have been fully trained and a documented risk assessment has been completed.**
DANGEROUS SUBSTANCES

Dangerous substances are chemicals and other substances that can include:

- paints, solvents, glues, sealants
- particle fibreboard, MDF, insulation material
- concrete, cements, cement finishes
- grease, oils, fuels
- asbestos
- wood dust.

A documented Safety Management Plan is required for any work undertaken involving Dangerous Substances.

Safety Data Sheets (SDS)

A manufacturer, importer or supplier of a dangerous substance must supply a safety data sheet to a person obtaining a dangerous substance. The SDS must comply with the Dangerous Substances Act 2004 and the relevant Codes of Practice.

A person in control of the premises where dangerous substances are stored or handled must keep a register of dangerous substances at the premises, and an SDS for each dangerous substance. The SDS should be the one obtained from the supplier rather than “generic” SDS.

The SDS must not be altered in any way and must:

- be current, accurate and in English
- be readily accessible to workers
- have information about health hazards, first aid requirements and precautions for use
• be reviewed and assessed prior to use
• less than 5 years have elapsed since it was issued or created
• must be relevant for use in Australia e.g. not have references to overseas exposure standards

Risks posed by the use of the substances must be assessed before use and a documented risk assessment should be developed in consultation with each work group. Atmospheric monitoring may be needed to assess risks.

Where there is any doubt as to the safety of a substance, expert advice should be sought.

Containers of hazardous substances must be adequately labelled.

Workers should receive full information, instruction and training about hazards and risks and be made aware of the relevant risk assessment.

• some substances are prohibited and cannot be used (e.g. benzene, asbestos)
• there are also requirements for some scheduled and/or carcinogenic substances (e.g. health surveillance, licence to use)
• you should contact your supervisor or work health and safety representative if your SDS shows any one of the above classifications
• before you use any substance or chemicals you have the right to ask your employer for all relevant information.
Lead

Lead is a hazardous substance used in construction work, including flashing work and painting.

The main routes of exposure to lead are inhalation (breathing it in) or ingestion (swallowing it).

Exposure to lead is a risk to all workers, but is a particular risk to pregnant women. Lead is known to effect the embryo/foetus production. Therefore particular attention must be made to women workers, or men who are exposed to lead, and may spread that exposure to pregnant women.

For example, a painter who uses lead based paint spills some of that paint on his overalls. The paint then dries. His partner then cleans the overalls, and while putting them in the wash the paint flakes off, exposing her to the lead.

The National Standard for the Control of Inorganic Lead at Work [NOHSC:1012(1994)] provides details on the responsibilities of employers using lead containing products. These include:

- providing information to job applicants
- maintaining appropriate safety data sheets
- ensuring that products are correctly labelled
- that all lead products are recorded in a register
- all workers are properly inducted, including in the risks associated with lead, and in work processes
- that all processes involving lead are subject to a risk assessment.
There are exclusions that apply to lead processing work, which include:
- people suffering certain medical conditions
- pregnant women
- breast-feeding women.

Employers involved in work that includes lead products must have a copy of the Code of Practice. Compliance with the Code will ensure compliance with the safety duties under the *Work Health and Safety Act 2011*.

**Silica dust**

Silica dust is created when concrete is cut, sawn or scabbled. Respirable dusts containing crystalline silica can cause irreparable damage to your lungs. Such dusts may be generated from bricks, mortar, aggregate sandstone and concrete, particularly when dry cutting, chasing, sawing, grinding or scabbling.

Alternatives to avoid creating silica dust should always be considered and applied as far as is practicable.

A documented risk assessment should be developed for all tasks where silica dust may be created.

The risk assessment should include at least the following:
- use of wet working methods as far as is practicable
- isolation and restriction of entry to affected areas
- use of tools with dust extraction methods fitted
- use of protective cartridge respirator masks
- use eye, hearing protection and protective clothing
- removal of dry dust using a vacuum cleaner fitted with a HEPA (high efficiency particulate arrester) filter
• removal of wet slurry using a wet vacuum or squeegee
• decontamination of work clothing and personal hygiene
• control measures if necessary.

**Always obtain and read the safety data sheets (SDS) for the product.**

**Medium density fibreboard (MDF)**

Wood working with fibreboard (also known as medium density fibreboard or MDF) can create fine airborne wood particles and dust. This dust is typically created when the MDF product is cut, sawn or sanded (by hand or machine).

Suppliers of fibreboard can provide information e.g. a safety data sheet, about any potential health effects of the MDF product being used.

Exposure to dust from MDF products can cause skin disorders including allergic dermatitis, asthma, rhinitis (runny nose), throat irritation, sore eyes, as well as a rare type of nasal cancer. Working with other wood products such as natural timbers and particleboard (chipboard) also creates wood dust and exposes workers to similar health hazards.

A documented risk assessment process should be developed for all tasks where dust is created from MDF, natural wood and particleboard.

Exposure to dust from wood products and the associated health risks can be minimised by:

• providing dust capture equipment to all wood working machines and tools
• improving housekeeping to minimise wood dust e.g. cleaning/emptying dust collection equipment regularly, using a wet clean-up process, damping down before sweeping, or using an industrial vacuum cleaner fitted with a HEPA filter
• providing workers with protective cartridge respirator masks
• using eye, hearing protection and protective clothing
• decontamination of work clothing and personal hygiene
• control measures if necessary e.g. restricting entry to affected areas.

Always obtain and read the safety data sheets (SDS) for MDFs and other wood products.

**Asbestos**

The following forms of licence may be required to conduct this work:
- Asbestos Assessor Licence
- Asbestos Removalist Licence

Asbestos is a naturally occurring mineral fibre that was once widely used in the building industry. Chrysotile (white) asbestos was the main form of asbestos used in Australia.

A national ban on the use of all forms of asbestos came into effect in 2003. Asbestos, and asbestos containing products, are now prohibited dangerous substances under the *Dangerous Substances Act 2004*.

Asbestos can break into fibres so small that if they get into the air they can be breathed in. Exposure to asbestos
can cause lung cancer, mesothelioma (cancer of the chest lining) and asbestosis (a non-cancerous scarring of the lungs).

Building products that may contain asbestos include:

- asbestos cement sheeting
- corrugated sheeting
- flat sheeting panels
- shingles or tiles (external or ceiling)
- pipes, tubes or fittings
- compressed asbestos sheeting (e.g. millboard)
- floor coverings (e.g. vinyl asbestos tiles)
- textured paints and coatings
- asbestos bitumen products used to damp-proof
- asbestos tape/rope
- lagging and jointing materials
- heat resistant sealing and caulking compounds
- mastics, sealants, putties and adhesives
- electrical panel partitioning
- electrical cloths and tapes
- fire gloves, blankets and curtains.

Asbestos was also used in plant and other equipment including:

- compressed asbestos fibre gaskets and seals
- rubberised or polymerised asbestos gaskets and seals
- friction materials (e.g. brake linings or blocks and clutch linings).
Asbestos Awareness Training

The Work Health and Safety Act requires that a PCBU must provide any information, training, instruction or supervision that is necessary to protect all persons from risks to their health or safety arising out of work conducted for the PCBU. For workers that may come in contact with asbestos during the course of their work, the PCBU must be able to supply evidence that workers have received adequate instruction and training enabling them to:

- understand the dangers associated with asbestos
- be aware of its likely presence and locations
- identify asbestos
- know what to do when its presence is likely or confirmed.

A PCBU may meet this requirement by sending workers on an approved Asbestos Awareness training course and keeping records of training. This course does not provide workers with the skills required to ‘work with’ asbestos. Changes scheduled to the Dangerous Substances Act 2004 will make this training a mandatory requirement for all workers in the Construction Industry.

Residential buildings

If a house was built before 1985, some of the building materials used probably contain asbestos. The common location of materials containing asbestos in ACT homes are eaves, garages/carports, sheds, kitchens and wet areas (including wall and ceiling linings in kitchens and wet areas).
If a house was built after 1985 it is unlikely to contain asbestos. If in doubt assume that the building **does** contain asbestos.

A generic asbestos advice sheet about the possible location of asbestos in residential premises built prior to 1985 can be downloaded from the ACT Government’s Asbestos Awareness website at [www.asbestos.act.gov.au](http://www.asbestos.act.gov.au).

**Non-residential buildings**

Owners of non-residential buildings built before 31 December 2003 or anyone who makes decisions about their management (e.g. property managers) are required to obtain a report from a licensed asbestos assessor identifying the location and condition of any asbestos in the building.

The owner or building manager must then prepare a written asbestos management plan including an **asbestos register** that can be made available to inform all relevant people (such as tenants, workers and contractors) about any asbestos at the premises, the risks they pose and the control measures adopted to eliminate or minimise these risks. The asbestos management plan must also include information about the review procedure to take place every five years.

These reporting requirements also apply to multi-storey commercial premises (including a multi-level commercial operation in a residential building) and single storey commercial premises.

The requirements apply to industrial premises from 1 March 2010 and to community or recreational premises from 1 September 2010.
If a non-residential building was constructed after 31 December 2003, no action is required.

**Refurbishment and demolition**

You are at risk of exposure to asbestos fibres when undertaking building repairs, renovations or demolitions, as using power tools, sanding, sawing or painting can release asbestos fibres into the air.

If a homeowner or residential property manager has a current asbestos assessment report from a licensed asbestos assessor available, it must be provided to a tradesperson or maintenance worker engaged to undertake construction or renovation work at the residential premises.

When working at non-residential premises, always check the asbestos register for information about any materials at the premises that contain asbestos, the risks that they pose and the control measures that are in place to minimise the risks.

If an asbestos assessment report or asbestos management plan is not available for an existing building or plant that may contain asbestos, then before any work on the refurbishment or demolition of the building or plant commences, it should be inspected for asbestos by a licensed asbestos assessor, and an asbestos management plan put in place. The plan must comply with the requirements of the Code of Practice for the Safe Removal of Asbestos [NOHSC:2002 (2005)].
**Asbestos assessors**

Asbestos assessors must be licensed in the ACT to identify and assess asbestos and provide recommendations about its safe management.

An asbestos assessor (class A) provides an asbestos assessment service by undertaking and supervising the following work:

- undertaking field surveys to identify the location, type and condition of asbestos in buildings
- undertaking and supervising air monitoring
- identifying the location, type and condition of asbestos in buildings
- assessing the risk that the identified asbestos presents
- advising on how the asbestos should be managed
- reporting about the work.

An asbestos assessor (class B) can only undertake field surveys to identify the location, type and condition of asbestos in buildings e.g. by bulk sampling. They cannot provide advice about how to handle the asbestos or a report.

**Asbestos removalists**

The *Building (General) Regulation 2008* allows for certain trades people who have undertaken approved training in the removal of bonded asbestos sheeting to handle bonded asbestos under 10m². Handling includes anything that disturbs the asbestos.

The provision only applies if the handling of the bonded asbestos is incidental to the trades’ person’s work. Incidental means that the work is not the activity that
you are setting out to do. For example, if a glazier was installing a new window and the new window was slightly larger than the old one, the bonded asbestos sheeting surrounding the window would be able to be cut and removed by the glazier if they had completed the correct training and removed the asbestos in accordance with the National Occupational Health and Safety Commission Code of Practice for the Safe Removal of Asbestos 2nd Edition.

An example of handling of asbestos that is not incidental to the work being conducted is where a bathroom is being renovated and under 10m2 of bonded asbestos sheeting needs to be replaced with other materials as part of the process. The removal of the asbestos is not incidental in this case; the removal is a significant part of the work activity. In this instance, a licensed asbestos removalist would need to be engaged to remove the bonded asbestos sheeting.

Only licensed removalists can remove friable (loose) asbestos or larger quantities of bonded asbestos. An asbestos removalist (class A) can handle bonded and friable asbestos in buildings and remove and dispose of these asbestos products from buildings. An asbestos removalist (class B) can only handle, remove and dispose of bonded asbestos. At all times when removal work is being conducted, the licensed asbestos removalist must be on site supervising the removal by workers.

Persons working for a licensed asbestos removalist do not have to be licensed, however must have completed the same training modules as the licensed removalist they work for.
If you find friable asbestos or damaged asbestos products in your workplace:

- do not remove in any way
- report the matter to your supervisor and health and safety representative
- do not work in the affected area until a competent person has assessed the area and a clearance has been obtained stating that it is safe to return to work.

Further information about asbestos can be found at the asbestos website at: www.asbestos.act.gov.au. A list of licensed asbestos assessors and licensed asbestos removalists is available from ACTPLA’s website at www.actpla.act.gov.au.
High noise levels are almost always present on construction sites but hearing damage may not be felt immediately. Loss of hearing ability is irreversible and may take years to develop. PCBUs must identify if there are risks to workers, visitors and the public and must address whether the exposure standard for noise is likely to be exceeded.

If workers are likely to be exposed, a written plan of control measures must be developed and included in documented risk assessments. The measures for eliminating risks to hearing or minimising these risks as far as is reasonably practicable, must be addressed in the mandated order for steps in the hierarchy of control to manage risks. Signs must identify noise areas, machinery and tasks where hearing protection must be worn.

Those required to wear hearing protection should have:
- hearing tests (Audiometric testing) (within 3 months of start and every two years)
- training about the effects of exposure to noise, control measures and selection, fit and maintenance of hearing protectors.

The table below shows how quickly you can be exposed to the maximum allowable daily noise dose (85dBa) if not wearing hearing protection.
Table 4 – Daily noise exposure levels.

<table>
<thead>
<tr>
<th>Activity</th>
<th>Decibel level</th>
<th>Time to reach allowed daily dose</th>
<th>Noise reduction needed (dBA)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Drilling wood</td>
<td>80</td>
<td>8hr</td>
<td>0</td>
</tr>
<tr>
<td>Angle grinder on metal</td>
<td>90</td>
<td>2hr</td>
<td>5</td>
</tr>
<tr>
<td>Circular saw</td>
<td>105</td>
<td>3.5min</td>
<td>20</td>
</tr>
<tr>
<td>Chainsaw</td>
<td>115</td>
<td>2min</td>
<td>30</td>
</tr>
<tr>
<td>Pneumatic rock breaker</td>
<td>120</td>
<td>9sec</td>
<td>35</td>
</tr>
<tr>
<td>Pile hammer</td>
<td>125</td>
<td>3sec</td>
<td>40</td>
</tr>
</tbody>
</table>

**Note:** levels are indicative only

If excessive noise remains after all other practicable noise control measures have been implemented, the appropriate hearing protection should be provided and worn.

Personal protective and safety equipment should only be relied upon where all other measures fail to eliminate the risk to hearing. If it is not reasonably practicable to eliminate the risk, the risk must be minimised so far as is reasonably practicable by following the steps in the hierarchy of control to manage risks, in the mandated order.

To prevent hearing loss, always use noise control measures in accordance with the training and instruction provided by your employer (broadly defined as the person who engages any worker to carry out work in the person’s business or undertaking).
MANUAL HANDLING

Manual handling means using your own strength to lift, move or support objects rather than using machinery or equipment to bear the load.

Some of the injuries that can result from poor manual handling include back injury, muscle sprains and strains, abdominal hernias and chronic pain. Many of these injuries are not felt straight away but develop over some time into more or less continuous pain.

Not all manual handling tasks are hazardous. The Work Health and Safety Regulation 2011 defines certain tasks as Hazardous Manual Tasks, which means a task that requires a person to lift, lower, push, pull, carry or otherwise move, hold or restrain any person, animal or thing that involves 1 or more of the following:

• repetitive or sustained force
• high or sudden force
• repetitive movement
• sustained or awkward posture
• exposure to vibration.

Examples of Hazardous Manual Tasks that can lead to problems include those in the following table.
### Table 5 – Examples of hazardous manual tasks.

<table>
<thead>
<tr>
<th>Task</th>
<th>Examples</th>
</tr>
</thead>
<tbody>
<tr>
<td>Handling unstable, unbalanced or difficult to grasp loads</td>
<td>Handling reo sheets</td>
</tr>
<tr>
<td></td>
<td>Handling long lengths of timber</td>
</tr>
<tr>
<td>Repetitive or sustained use of force</td>
<td>Using a nail gun use of force</td>
</tr>
<tr>
<td>Repetitive or sustained awkward posture (even if no load is being handled)</td>
<td>Working on plaster board ceiling</td>
</tr>
<tr>
<td>Repetitive or sustained movement</td>
<td>Bricklaying</td>
</tr>
<tr>
<td>Application of high or sudden force</td>
<td>Lifting heavy loads</td>
</tr>
<tr>
<td>Exposure to sustained vibration</td>
<td>Using jackhammer, pneumatic drill</td>
</tr>
</tbody>
</table>

All tasks must be assessed for risk of injury, in the mandated order for steps in the hierarchy of control to minimise risk, until the risk is eliminated or reduced as far as is reasonably practicable.

### Table 6 – Hierarchy of control measures.

<table>
<thead>
<tr>
<th>Control Measure</th>
<th>Examples</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Eliminate</strong> the task if possible</td>
<td><strong>Do not</strong> manually lift or carry awkward dead weights such as cement blocks and cement bags</td>
</tr>
<tr>
<td>Minimise risk: <strong>Substitute</strong> manual handling with mechanical aids</td>
<td>Use Cranes, forklifts, trolleys, chain blocks, pipe-horses, hoists and similar aids to move loads</td>
</tr>
<tr>
<td>Control Measure</td>
<td>Examples</td>
</tr>
<tr>
<td>-------------------------------------------------------------------------------</td>
<td>------------------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Minimise risk by <strong>Engineering</strong> means</td>
<td>Place materials at waist level rather than at floor level so they are easier to pick up</td>
</tr>
<tr>
<td>Change the workplace layout or environmental conditions</td>
<td>Eliminate the need to push or pull objects up steep ramps. Provide good lighting and work areas free of obstacles with plenty of room to move with</td>
</tr>
<tr>
<td>Change systems</td>
<td>Timing and placement of deliveries to reduce the frequency of handling and to avoid double handling. Team handling to reduce forces, postures on one person</td>
</tr>
<tr>
<td>Change the object</td>
<td>Change the load so it is easier to handle (e.g. 20kg cement bags) Use tools that are light and have good grips and supports</td>
</tr>
<tr>
<td>Minimise risk by Administrative means: Information training and instruction</td>
<td>Workers understand risks and know how to use proper manual handling techniques and equipment</td>
</tr>
<tr>
<td>Minimise risk by PPE</td>
<td>Workers use personal protective equipment</td>
</tr>
</tbody>
</table>

A few simple rules for manual handling:
• never bend down to lift – squat down to the object
• always keep your back upright and straight – use your leg muscles to lift
• do not lift objects that are out of comfortable reach
• avoid reaching out to objects that cannot be handled close to your body
• avoid twisting – turn your feet not your hips or shoulders
• make sure carry paths are clear of all obstacles.

Figure 15 – Lifting heavy objects.
PERSONAL PROTECTIVE EQUIPMENT

When risks to health and safety cannot be controlled by other means, your employer (broadly defined) must provide appropriate personal protective equipment (PPE) to all workers exposed to risk.

PPE includes the following:

**Hard Hats**
Must be worn at all times unless it can be clearly established through a documented risk assessment, that there are no risks of head injuries from either falling objects or collision with fixed objects, tools or plant.

**Hearing Protection**
Ear-plugs/ear-muffs must be worn in designated areas and wherever high noise levels are present e.g. jackhammers, grinders, explosive-powered tools, pile driving.

**Eye Protection**
Safety glasses or goggles are compulsory in designated eye protection areas and when using power or machine tools and pressure equipment. Face shields should be worn when handling acids and chemicals.

Suitable welding goggles must be worn for gas welding and cutting. Welding helmets are to be worn for electric
arc welding. Use welding screens to protect the eyes of other persons from welding flashes.

**Respiratory Protection**

Approved facemasks or respirators fitted with the appropriate filter should be worn when exposed to hazardous chemical vapours, fumes, dust or fibres. Check with your supervisor for the correct type, use, fitting and maintenance and read the safety data sheet for the substance(s) to obtain more specific information.

**High Visibility Safety Garments**

High visibility safety garments should be worn in areas where a worker may be exposed to the hazard of moving traffic, moving plant or equipment in high risk situations. It is also suggested that these garments be worn in situations where a worker needs to be seen at a distance or in conditions of poor visibility.

High visibility safety garments should conform to the relevant standard, and consideration should be given to the time of day and weather conditions when they will be used when selecting garments.

**Safety Shoes**

All personnel on site must wear safety footwear conforming to the relevant standard.
Individual Fall Protection Equipment

Includes safety harnesses, lanyards, shock absorbers and inertia reels. Correctly connected harnesses must be used in boom-type elevating work platform (EWP) and crane-lifted workboxes. In all other cases, they should only be used when safe/protected work platforms are not practicable. Do not use this equipment unless you have been fully trained in its application and use.

Skin Protection

Appropriate gloves, coveralls, boots and face shields should be worn to prevent skin absorption when handling hazardous liquids such as chemicals, epoxies, solvents, acids and wet concrete. Gloves should be worn when handling objects such as sheet metal, wire cables etc.

Sun (UV) Protection

Appropriate apparel (long sleeves and trousers, hat/helmet, sunglasses) to protect against UV should be worn when working outdoors. A SPF15+ protection sunscreen should be applied on all exposed skin.
SITE SECURITY

The *Work Health and Safety Regulation 2011* requires that a person with management or control of a workplace where construction work is being carried out, must ensure that the workplace is secured from unauthorised access so far as is reasonably practicable.

The security of the site must be developed in accordance with a site specific risk assessment which should identify:

- The risks to health and safety that could arise from unauthorised access to the site
- The likelihood of unauthorised access occurring
- If unauthorised access cannot be prevented, ways of isolating the hazards at the site.

Some things to consider would be the proximity of the site to places where children may be. This would include parks, schools and shopping centres. Additionally, in new sub-division areas, once new houses start to be occupied, further controls should be considered and put in place.

The manner in which site security is obtained is up to the PCBU. The usual means of obtaining site security is by erecting temporary fence panels, however the erection of fencing around a site does not necessarily mean that all reasonably practicable steps have been taken to ensure unauthorised access to the site is restricted. The PCBU needs to ensure that the type of fencing is appropriate, is maintained regularly and that site access is secured i.e. locked when work is not being carried out, to ensure they meet the obligations under the Regulation.
SITE SIGNAGE

Safety signs give a specific message to workers on a construction site, visitors to the construction site as well as passersby. When erected as appropriate and kept in good condition they provide a 24 hour warning that construction sites are dangerous places.

Site signage must comply with the Building (General) Regulation 2008 and the Work Health and Safety Regulation 2011 and must include the builder / principal contractor name and have appropriate contact details for builders for after hours emergency situations. Failure to have appropriate signage is an offence under the WHS Regulation.

Effective signs are clear, concise and use internationally accepted symbols. The meaning of the signs should be taught during site induction programs. Placement of signs should not be restricted to perimeter fencing, but should also be placed as required in relation to specific activities occurring on site.

Australian Standard AS 1319-1994: Safety signs for the occupational environment classifies safety signs according to the following functions:

- **Prohibition signs**, that indicate that an action or activity is not permitted. Prohibition signs have a circle, a white background with red borders and cross bar, and a black symbol. Examples include No Smoking and No Pedestrian Access signs.

- **Mandatory signs**, that indicate that an instruction must be carried out. These signs have a circle, a blue background and a white symbol. These signs are
widely used in the construction industry and include Head Protection Must Be Worn, Eye Protection Must Be Worn, Hand Protection Must be Worn and Foot Protection Must Be Worn.

- **Hazard signs**, warning of a particular hazard or hazardous conditions that are likely to be life threatening. Hazard signs include a triangle and have a yellow background with a black border and black symbol e.g., Electric Shock Risk. Other hazard signs can warn of a hazard or hazardous condition that is not life threatening e.g. Opening Door hazard.

- **Danger signs** comprise a red oval shape with the word DANGER superimposed in white letters. The DANGER symbol is placed on a black background covering the full width or height of the sign depending on whether the symbol is at the top or to the left of the sign. Danger signs are also widely used and include Danger Keep Out, Danger Construction Site Unauthorised Persons Keep Out, Danger Demolition Work In Progress and Danger Asbestos signs.

- **Emergency information signs** indicate the location of, or directions to, emergency related facilities such as exits, safety equipment or first aid facilities. These signs are rectangular with a green background and white symbol or wording.

- **Fire signs** advise the location of fire alarms and fire fighting facilities. They comprise a red rectangular sign with a white board and white wording and/or a white symbol.

Other useful signs on site advise locations and facilities for workers and visitors e.g. Site Office, Lunch Room, All Visitors MUST Report to Site Office.
SITE AMENITIES

The Work Health and Safety Regulation 2011 requires that a PCBU must provide and maintain, as far as is reasonably practicable, adequate and accessible facilities for workers, including toilets, drinking water, washing facilities and eating facilities.

In determining how to provide and maintain adequate and accessible facilities, consideration should be given to:

- The nature of the work being carried out at the workplace
- The nature of the hazards at the workplace
- The size, location and nature of the workplace
- The number and composition of the workers at the workplace.

Consultation with workers should be undertaken to determine what the workers consider to be acceptable amenities for the particular workplace.

**What facilities are required?**

**Toilets:** should provide a number and type based on number and sex of workers

**Hand washing facilities:** should provide a number based on number of workers

**Drinking water:** should provide, free of charge, an adequate supply of cool, clean drinking water.

**Eating facilities:** should provide hygienic dining facilities for eating meals and preparing and storing food.

**Showers:** should be provided if required.
• For example, if the work involves dirty, hot or arduous work.

**Change rooms:** should be provided if required.
- For example, if a need to change in and out of clothing (e.g. PPE).

**Personal storage:** should be provided if required.
- For example, if a need to store personal belongings such as tools.

The following examples demonstrate what might be considered reasonable facilities for construction sites.

**Example 1: Housing construction project**
- New single dwelling,
- Max 10 workers, including 1 female worker
- $250,000

Toilets minimum requirements:
- 1 female pan (inc adequate means for disposal of sanitary items,
- 1 male pan
- Options include:
  - temporary facilities such as unisex portable toilet, or
  - relocatable buildings with toilet facilities.

Hand washing facilities minimum requirements:
- 1 female hand basin, and
- 1 male hand basin
- Options include:
  - temporary facilities such as unisex portable toilet with a hand basin, or
- relocatable buildings with hand washing facilities.

Drinking water facilities such as:
  - direct connection to the mains water supply,
  - bottled water or containers.

A dining facility such as:
  - hygienic and weatherproof meal and shelter facility which may include a relocatable building or other structure.

If required, provide 1 separate shower facility such as:
  - portable shower units.

If required:
  - provide temporary change room facilities.

If required, provide:
  - lockable space in an existing or relocatable building, or
  - lockable vehicle or trailer, or
  - lockable tool/storage boxes.

**Example 2: Large residential project**

- New multiple single dwellings
- Max 30 workers, including 3 female workers
- $1.5 Million

Toilets minimum requirements:
  - 1 female pan (inc adequate means for disposal of sanitary items,
  - 2 male pan, and
  - 2 (space) urinal.
  - Options include:
    - temporary facilities such as portable toilets, or
- relocatable buildings with toilet facilities.

Hand washing facilities minimum requirements:
• 1 female hand basin, and
• 2 male hand basin
• Options include:
  - temporary facilities such as portable toilets with a hand basin, or
  - relocatable buildings with hand washing facilities.

Drinking water facilities such as:
• direct connection to the mains water supply,
• bottled water or containers.

A dining facility such as:
• hygienic and weatherproof meal and shelter facility which may include a relocatable building or other structure.

If required, provide 2 separate shower facilities such as:
• portable shower units.

If required:
• provide temporary change room facilities.

If required, provide:
• lockable space in an existing or relocatable building, or
• lockable vehicle or trailer, or
• lockable tool/storage boxes.
Example 3: Commercial construction project

- New 12 storey office tower
- Max 70 workers, including 5 female workers
- $200 Million
- Hazardous chemicals in use at the workplace

Toilets minimum requirements:
- 5 female pan (inc adequate means for disposal of sanitary items,
- 5 male pans, and
- 5 (space) urinal.
- Additional requirements due to multi-storey building:
  - 1 toilet (at least) provided on every second floor.
- Options include:
  - relocatable buildings with toilet facilities, or
  - temporary facilities such as portable toilets.

Hand washing facilities minimum requirements:
- 5 female hand basin, and
- 5 male hand basins.
- Options include:
  - relocatable buildings with hand washing facilities, or
  - temporary facilities such as portable toilets with a hand basin.

Drinking water facilities such as:
- direct connection to the water supply, or
- bottled water or containers.

A separate dining facility such as:
- relocatable building.
Additional requirements for large static workplaces:

- adequate supply of suitable tables, chairs or benches,
- crockery and cutlery,
- clean storage and
- rubbish bins.

If required provide 3 male and 1 separate female shower facilities, such as portable shower units.

Specialised shower facilities may also be required dependent on the types of activities being undertaken, and any use of hazardous chemicals at the workplace.

As some workers are required to use hazardous chemicals at the workplace, which requires the use of specific PPE, change room facilities should be provided.

When required:

- provide temporary change room facilities.

When required, provide:

- lockable space in change room facility
- lockable container, vehicle or trailer, or
- lockable tool/storage boxes.

**Example 4: Civil construction project**

- New major road
- Outdoor and rural location
- Max 70 workers (no female workers on site)
- $350 Million

Toilets minimum requirements:

- 5 male pans, and
- 4 (space) urinal.
Due to rural location and portability of the workplace, temporary facilities such as portable toilets or relocatable facilities should be provided.

Handwashing facilities minimum requirements:
• 5 male hand basins.
• Options include:
  - temporary facilities such as portable toilets with a hand basin, or
  - relocatable buildings with hand washing facilities.

Drinking water facilities such as:
• direct connection to the local water supply, or
• bottled water or containers.

Access provided to a separate dining facility such as:
• a relocatable building e.g. transportable lunchroom.

If required, provide 3 separate shower facilities such as portable shower units (dependent on the types of activities undertaken).

If required, access provided to temporary change room facilities such as a relocatable building.

If required, provide:
• lockable space in a relocatable building,
• lockable vehicle or trailer, or
• lockable tool/storage boxes.
Mobile, Temporary or Remote Workplaces

Access to adequate facilities in mobile, temporary or remote workplaces can sometimes be a challenge to provide. Consultation with workers can define the needs and expectations of workers and allows the PCBU to determine what would be reasonably practicable in these instances.

Drinking Water

Sometimes direct connection to a water supply is not possible. In these cases, alternatives including access to public drinking water facilities, bottled water or containers should be provided for workers.

Toilets

If work is undertaken away from base locations or at outdoor sites (for example landscapers, utilities line workers), workers must have access to toilets, for example public toilets or toilets at clients’ premises. In such cases, information should be provided to workers on where the toilets are located.

Where it is not reasonably practicable to provide access to permanent toilets, portable toilets should be provided. Portable toilets should be located in a secure place with safe access. They should be installed so they do not fall over or become unstable and should be serviced regularly to keep them clean.

Hand Washing

If work is carried out in locations where there are no hand washing facilities, workers should have access to
alternative hand hygiene facilities, for example a water container with soap and paper towels, hand wipes or alcohol-based hand wash.

**Dining Facilities**

Where work involved travelling between different workplaces, or is remote or seasonal, workers need reasonable access to dining facilities. This may involve organising rosters for mobile workers so that they are back at their base location for meal breaks or allowing workers to take meal breaks at a public cafeteria.

It may be appropriate for some temporary workplaces to provide portable dining facilities such as caravans or transportable lunchrooms.

Access to dining facilities for workers in remote areas may be limited. At times the only enclosed facility available to them may be their vehicle. In this instance, portable food storage facilities may be required, such as a car fridge or insulated lunch box.

**Personal Storage**

Where the workplace is temporary or mobile, lockable containers that can be held in a safe place should be provided. Where lockers are provided, they may also serve as a secure storage for personal items.

**Change Rooms**

Where the workplace is located away from buildings or other fixed accommodation, portable private facilities containing secure storage and seating should be provided.
**Shower Facilities**

If workers work in remote or temporary locations, they should have access to shower facilities depending on the nature of the work involved. This may involve providing portable shower units.
Part 3

Further Information
# FIRST AID KIT CONTENTS

At a minimum, each workplace first aid kit must contain the following required items:

## Description of contents First Aid Kit

<table>
<thead>
<tr>
<th>Item</th>
<th>Quantity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Instructions for providing first aid – including Cardio-Pulmonary Resuscitation (CPR) Flow Chart</td>
<td>1</td>
</tr>
<tr>
<td>Note book and pen</td>
<td>1</td>
</tr>
<tr>
<td>Resuscitation face mask or face shield</td>
<td>1</td>
</tr>
<tr>
<td>Disposable nitrile examination gloves</td>
<td>5 pairs</td>
</tr>
<tr>
<td>Gauze pieces 7.5 x 7.5 cm, sterile (3 per pack)</td>
<td>5 packs</td>
</tr>
<tr>
<td>Saline (15 ml)</td>
<td>8</td>
</tr>
<tr>
<td>Wound cleaning wipe (single 1% Cetrimide BP)</td>
<td>10</td>
</tr>
<tr>
<td>Adhesive dressing strips – plastic or fabric (packet of 50)</td>
<td>1</td>
</tr>
<tr>
<td>Splinter probes (single use, disposable)</td>
<td>10</td>
</tr>
<tr>
<td>Tweezers/forceps</td>
<td>1</td>
</tr>
<tr>
<td>Antiseptic liquid/spray (50 ml)</td>
<td>1</td>
</tr>
<tr>
<td>Non-adherent wound dressing/pad 5 x 5 cm (small)</td>
<td>6</td>
</tr>
<tr>
<td>Non-adherent wound dressing/pad 7.5 x 10 cm (medium)</td>
<td>3</td>
</tr>
</tbody>
</table>
Non-adherent wound dressing/pad 10 x 10 cm (large)……1
Conforming cotton bandage, 5 cm width.................................3
Conforming cotton bandage, 7.5 cm width .........................3
Crepe bandage 10 cm (for serious bleeding and pressure application)...............................................................1
Scissors..........................................................................................1
Non-stretch, hypoallergenic adhesive tape – 2.5 cm wide roll.................................................................1
Safety pins (packet of 6) .................................................................1
BPC wound dressings No. 14, medium ......................................1
BPC wound dressings No. 15, large ...........................................1
Dressing – Combine Pad 9 x 20 cm ..........................................1
Plastic bags – clip seal.................................................................1
Triangular bandage (calico or cotton minimum width 90 cm)........................................................................2
Emergency rescue blanket (for shock or hypothermia).....1
Eye pad (single use) .....................................................................4
Access to 20 minutes of clean running water or (if this is not available) hydro gel (3.5 gm sachets).............5
Instant ice pack (e.g. for treatment of soft tissue injuries and some stings)......................................................1
Medication, including analgesics such as paracetamol and aspirin should not be included in first aid kits because of the potential to cause adverse health effects in some people.

If work is being performed outside and there is a risk of insect or plant stings or snake bites, assess whether the following items should be included in the first aid kit:

- A heavy duty crepe bandage
- Sting relief cream, gel or spray

Where people work in remote locations, a first aid kit should include:

- A heavy duty crepe bandage 10 cm (for snake bites)
- Large clean sheeting (for covering burns)
- Thermal blanket (for treating shock)
- Whistle (for attracting attention)
- Torch/flashlight

If your workers are at risk of receiving burns, you should include the following items:

- Burn treatment instructions on two water-proof instruction cards: one for the first aid kit and the other to be located on the wall next to the emergency shower or water supply
- Hydro gel (8 x 3.5 gm sachets)
- Hydro gel dressings
- Clean polythene sheets (small, medium and large)
- 7.5 cm cotton conforming bandage
<table>
<thead>
<tr>
<th>WORK SEQUENCE</th>
<th>HAZARDS</th>
<th>CONTROL MEASURES</th>
</tr>
</thead>
<tbody>
<tr>
<td>(Basic steps in logical sequence - what is to be done, not how)</td>
<td>(Identify unsafe conditions and unsafe acts)</td>
<td>(Use the mandated steps in the risk control hierarchy: Eliminate risks, Minimise risks (Substitute, Isolate, Engineering means, Administrative means, PPE) and Inform other relevant safety duty holders)</td>
</tr>
</tbody>
</table>
The following classes of high risk work, as set out in Table 3.1 of Schedule 3 of the *Work Health and Safety Regulation 2011*, require high risk work licences (HRWL) in the ACT. Licences are issued by the Office of Regulatory Services.

**Table 7 – Scaffolding work.**

<table>
<thead>
<tr>
<th>Item</th>
<th>HRWL</th>
<th>Description of class of high risk work</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>basic scaffolding</td>
<td>scaffolding work involving any of the following: (a) modular or pre-fabricated scaffolds; (b) cantilevered materials hoists with a maximum working load of 500kg; (c) ropes; (d) gin wheels; (e) safety nets and static lines; (f) bracket scaffolds (tank and formwork); but excluding scaffolding work involving equipment, loads or tasks listed in item 2 (2) (a) to (g) and item 3 (2) (a) to (c)</td>
</tr>
</tbody>
</table>
Table 7 – Scaffolding work.

<table>
<thead>
<tr>
<th>Item</th>
<th>HRWL</th>
<th>Description of class of high risk work</th>
</tr>
</thead>
<tbody>
<tr>
<td>2</td>
<td>intermediate</td>
<td>(1) scaffolding work included in the class of basic scaffolding; and</td>
</tr>
<tr>
<td></td>
<td>scaffolding</td>
<td>(2) scaffolding work involving any of the following:</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(a) cantilevered crane loading platforms;</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(b) cantilevered scaffolds;</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(c) spur scaffolds;</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(d) barrow ramps and sloping platforms;</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(e) scaffolding associated with perimeter safety screens and shutters;</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(f) mast climbing work platforms;</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(g) tube and coupler scaffolds (including tube and coupler covered ways and gantries);</td>
</tr>
<tr>
<td></td>
<td></td>
<td>but excluding scaffolding work involving equipment, loads or tasks listed in item 3 (2)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(a) to (c)</td>
</tr>
<tr>
<td>3</td>
<td>advanced</td>
<td>(1) scaffolding work included in the class of intermediate scaffolding; and</td>
</tr>
<tr>
<td></td>
<td>scaffolding</td>
<td>(2) scaffolding work involving any of the following:</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(a) cantilevered hoists;</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(b) hung scaffolds, including scaffolds hung from tubes, wire ropes or chains;</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(c) suspended scaffolds</td>
</tr>
<tr>
<td>Item</td>
<td>HRWL</td>
<td>Description of class of high risk work</td>
</tr>
<tr>
<td>------</td>
<td>--------------</td>
<td>-------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>4</td>
<td>dogging</td>
<td>dogging work</td>
</tr>
<tr>
<td>5</td>
<td>basic rigging</td>
<td>(1) dogging work</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(2) rigging work involving any of the following:</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(a) structural steel erection;</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(b) hoists;</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(c) pre-cast concrete members of a structure;</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(d) safety nets and static lines;</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(e) mast climbing work platforms;</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(f) perimeter safety screens and shutters;</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(g) cantilevered crane loading platforms;</td>
</tr>
<tr>
<td></td>
<td></td>
<td>but excluding rigging work involving equipment, loads or tasks listed in item 6 (b) to (f) and item 7 (b) to (e)</td>
</tr>
<tr>
<td>6</td>
<td>intermediate</td>
<td>rigging work involving any of the following:</td>
</tr>
<tr>
<td></td>
<td>rigging</td>
<td>(a) rigging work in the class basic rigging;</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(b) hoists with jibs and self-climbing hoists;</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(c) cranes, conveyors, dredges and excavators;</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(d) tilt slabs;</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(e) demolition of structures or plant;</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(f) dual lifts;</td>
</tr>
<tr>
<td></td>
<td></td>
<td>but excluding rigging work involving equipment listed in item 7 (b) to (e)</td>
</tr>
</tbody>
</table>
### Table 8 – Dogging and rigging work.

<table>
<thead>
<tr>
<th>Item</th>
<th>HRWL</th>
<th>Description of class of high risk work</th>
</tr>
</thead>
<tbody>
<tr>
<td>7</td>
<td>advanced rigging</td>
<td>rigging work involving any of the following:</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(a) rigging work in the class intermediate rigging;</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(b) gin poles and shear legs;</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(c) flying foxes and cable ways;</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(d) guyed derricks and structures;</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(e) suspended scaffolds and fabricated hung scaffolds</td>
</tr>
</tbody>
</table>

### Table 9 – Crane and hoist operation.

<table>
<thead>
<tr>
<th>Item</th>
<th>HRWL</th>
<th>Description of class of high risk work</th>
</tr>
</thead>
<tbody>
<tr>
<td>8</td>
<td>tower crane</td>
<td>use of a tower crane</td>
</tr>
<tr>
<td>9</td>
<td>self-erecting tower crane</td>
<td>use of a self-erecting tower crane</td>
</tr>
<tr>
<td>10</td>
<td>derrick crane</td>
<td>use of a derrick crane</td>
</tr>
<tr>
<td>11</td>
<td>portal boom crane</td>
<td>use of a portal boom crane</td>
</tr>
<tr>
<td>12</td>
<td>bridge and gantry crane</td>
<td>use of a bridge crane or gantry crane that is—</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(a) controlled from a permanent cabin or control station on the crane; or</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(b) remotely controlled and having more than 3 powered operations;</td>
</tr>
<tr>
<td></td>
<td></td>
<td>including the application of load estimation and slinging techniques to move a load</td>
</tr>
<tr>
<td>Item</td>
<td>HRWL</td>
<td>Description of class of high risk work</td>
</tr>
<tr>
<td>------</td>
<td>-----------------------</td>
<td>-------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>13</td>
<td>vehicle loading crane</td>
<td>use of a vehicle loading crane with a capacity of 10 metre tonnes or more, including the application of load estimation and slinging techniques to move a load</td>
</tr>
<tr>
<td>14</td>
<td>non-slewing mobile crane</td>
<td>use of a non-slewing mobile crane with a capacity exceeding 3t</td>
</tr>
<tr>
<td>15</td>
<td>slewing mobile crane—with a capacity up to 20t</td>
<td>use of a slewing mobile crane with a capacity of 20t or less</td>
</tr>
<tr>
<td>16</td>
<td>slewing mobile crane—with a capacity up to 60t</td>
<td>use of a slewing mobile crane with a capacity of 60t or less</td>
</tr>
<tr>
<td>17</td>
<td>slewing mobile crane—with a capacity up to 100t</td>
<td>use of a slewing mobile crane with a capacity of 100t or less</td>
</tr>
<tr>
<td>18</td>
<td>slewing mobile crane—with a capacity over 100t</td>
<td>use of a slewing mobile crane with a capacity exceeding 100t</td>
</tr>
<tr>
<td>Item</td>
<td>HRWL</td>
<td>Description of class of high risk work</td>
</tr>
<tr>
<td>------</td>
<td>------</td>
<td>----------------------------------------</td>
</tr>
<tr>
<td>19</td>
<td>materials hoist</td>
<td>use of a materials hoist</td>
</tr>
<tr>
<td>20</td>
<td>personnel and materials hoist</td>
<td>use of a personnel and materials hoist</td>
</tr>
<tr>
<td>21</td>
<td>boom-type elevating work platform</td>
<td>use of a boom-type elevating work platform where the length of the boom is 11m or more</td>
</tr>
<tr>
<td>22</td>
<td>concrete-placing boom</td>
<td>use of a concrete-placing boom</td>
</tr>
</tbody>
</table>

**Table 10 – Reach stackers.**

<table>
<thead>
<tr>
<th>Item</th>
<th>HRWL</th>
<th>Description of class of high risk work</th>
</tr>
</thead>
<tbody>
<tr>
<td>U</td>
<td>reach stacker</td>
<td>operation of a reach stacker of greater than 3t capacity that incorporates an attachment for lifting, moving and travelling with a shipping container, but does not include a portainer crane</td>
</tr>
<tr>
<td>23</td>
<td>forklift truck</td>
<td>use of a forklift truck other than an order-picking forklift truck</td>
</tr>
<tr>
<td>25</td>
<td>order-picking forklift truck</td>
<td>use of an order-picking forklift truck</td>
</tr>
</tbody>
</table>

LOAD-SHIFTING CLASSES

The following load-shifting equipment operation classes of work will not require a national high risk work licence, and no longer require a current certificate of competency which is valid for use in the ACT. The operator must however show that they are trained in the safe use of the plant and must be able to provide evidence of this.

*Load shifting equipment operation*

**Code Class**

LL Front End Loader  
LB Front End Loader/Backhoe  
LS Front End Loader (Skid Steer Type)  
LE Excavator  
LD Dragline
CLASSES OF CONSTRUCTION OCCUPATION LICENCES AND FUNCTIONS

An individual or entity that provides a service relating to the design and construction of a home typically needs to be licensed, registered or accredited. This includes builders, owner-builders, certifiers, electricians, gasfitters, gas workers, plumbers, drainers, corporations and partnerships. The following items set out the usual occupations requiring licensing to work in the construction industry.

Asbestos Assessor

Class A – providing an asbestos assessment service and doing anything allowed to be done under a class B licence.

Class B – undertake field surveys to identify the location, type and condition of asbestos in buildings for the Act, the Building Act 2004, the Civil Law (Sale of Residential Property) Act 2003, the Dangerous Substances Act 2004 or the Residential Tenancies Act 1997, including for example, by bulk sampling.

Asbestos Removalist

Class A – providing an asbestos removal service

Class B – providing an asbestos removal service for bonded asbestos

Builder

Class A – building work other than specialist building work or handling asbestos
Class B – building work (other than specialist building work or handling asbestos) in relation to a building that is 3 storeys or lower and basic building work

Class C –
- building work (other than specialist building work or handling asbestos) in relation to a building that is 2 storeys or lower and is a class 1, class 2 or class 10a building
- building work (other than specialist building work or handling asbestos) in relation to a building that is a class 10b structure (other than a swimming pool or swimming pool fence) and is ancillary to a building mentioned in the first dot point
- basic building work

Class D – non structural basic building work, other than specialist building work or handling asbestos

Owner-builder – building work, other than specialist building work or handling asbestos, in relation to a class 1, class 2 or class 10 building that is, or is to be, the licensee’s main home or ancillary to it

**Building Certifiers**

Principal building certifier – building certification work or, for a corporation, supervision of building certification work

Principal building surveyor certifier – building certification work as an employee of a principal building surveyor

General building certifier – building certification work or, for a corporation, supervision of building certification work, in relation to a building that is 3 storeys or lower and that has a floor area of 2 000m2 or less
General building certifier employee – building certification work in relation to a building that is 3 storeys or lower and that has a floor area of 2 000m² or less, as an employee of a principal building surveyor or general building surveyor

Principal government building certifier – building certification work

Government building certifier – building certification work in relation to a building that is 3 storeys or lower and that has a floor area of 2 000m² or less

**Drainer**

Advanced sanitary drainer – sanitary drainage work without supervision

Journeyperson drainer – sanitary drainage work under supervision of licensee with advance sanitary drainers license

Operative drainer – sanitary drainage work under supervision of licensee with advanced sanitary drainers license

**Electrician**

Electrical contractor – electrical wiring work without supervision and supervision of electrical wiring work

Unrestricted – electrical wiring work without supervision and supervision of electrical wiring work

**Gasfitters**

Advanced – gasfitting work, other than LP gas (liquid phase) installation, without supervision
General – gasfitting work for pressures below 21kPa without supervision and gasfitting work for pressures above 21kPa under the supervision of an advanced gasfitter

Journeyperson gasfitter – gasfitting work under the general supervision of a licensee with an advanced gasfitters license or unrestricted license

LPG gasfitter (vapour phase) – LP gas (vapour phase) installation without supervision

LPG gasfitter (liquid phase) – LP gas (liquid phase) installation without supervision

Restricted automotive – LPG forklifts – gasfitting for LPG forklifts

Restricted automotive – NGV forklift – gasfitting for NGV forklifts

Plumbers

Sanitary Plumbers – sanitary plumbing work without supervision

Water supply plumber – water supply plumbing work including fire sprinkler work for class 1 and 2 buildings in relation to pipework of 25mm diameter or less

Irrigation plumber – installation of irrigation networks and related equipment

Journeyperson plumber – sanitary plumbing work under supervision of licensee with sanitary plumbers license

Fire sprinkler fitter – fire sprinkler work and work on a fire hydrant or fire hose connection point
Journeyperson fire sprinkler fitter – fire sprinkler work and work on a fire hydrant or fire connection point, under supervision of a licensee with fire sprinkler fitter license
REGISTRATION OF PLANT AND PLANT DESIGNS

The following items of Plant, as set out in Schedule 5 of the *Work Health and Safety Regulation 2011*, require either registration of plant design or plant item. Registrations are issued by the Office of Regulatory Services.

**Plant requiring registration of design**

- Pressure equipment, other than pressure piping, and categorised as hazard level A, B, C or D according to the criteria in AS 4343:2005 (Pressure equipment – hazard levels), section 2.1
- Gas cylinders covered by AS 2030.1:2009 (Gas cylinders – General Requirements), section 1.1
- Tower cranes including self-erecting tower cranes
- Lifts, including escalators and moving walkways
- Building maintenance units
- Hoists with a platform movement exceeding 2.4m, designed to lift people
- Work boxes designed to be suspended from cranes
- Amusement devices covered by AS 3533.1:2009 (Amusement rides and devices – Design and construction), section 2.1, except as devices stated below
- Concrete-placement units with delivery booms
- Prefabricated scaffolding and prefabricated formwork
- Boom-type elevating work platforms
• Gantry cranes with a safe working load greater than 5t or bridge cranes with a safe working load of greater than 10t, and any gantry crane or bridge crane which is designed to handle molten metal or a dangerous substance mentioned in the Dangerous Substances (General) Regulation 2004, schedule 1, table 1.1
• Vehicle hoists
• Mast climbing work platforms
• Mobile cranes with a rated capacity of greater than 10t

Exceptions not requiring registration of design
• A heritage boiler
• A crane or hoist that is manually powered
• An elevating work platform that is a scissor lift or a vertically moving platform
• A tow truck
• Amusement devices which are:
  - Class 1 devices
  - Playground devices
  - Water slides where water facilitates patrons to slide easily, predominantly under gravity, along a static structure
  - Wave generators where patrons do not come into contact with parts of machinery used for generating water waves
  - Inflatable devices that are sealed
  - Inflatable devices that do not use a non-return valve.
Items of plant requiring registration

- Boilers categorised as hazard level A, B or C according to the criteria in AS 4343:2005 (Pressure equipment – Hazard levels), section 2.1
- Pressure vessels categorised as hazard level A, B or C according to the criteria in AS 4343:2005 (Pressure equipment – Hazard levels), section 2.1, except:
  - Gas cylinders
  - LP Gas fuel vessels for automotive use
  - Serially produced vessels
- Tower cranes including self-erecting tower cranes
- Lifts, including escalators and moving walkways
- Building maintenance units
- Amusement devices covered by AS 3533.1:2009 (Amusement rides and devices – Design and construction), section 2.1, except devices stated below
- Concrete-placement units with delivery booms
- Mobile cranes with a rated capacity of greater than 10t

Exceptions not requiring plant item registration

- Cranes or hoists that are manually powered
- Amusement devices which are:
  - Class 1 devices
  - Playground devices
  - Water slides where water facilitates patrons to slide easily, predominantly under gravity, along a static structure
  - Wave generators where patrons do not come in contact with the parts of machinery used for generating water waves
- Inflatable devices that are sealed
- Inflatable devices that do not use a non-return valve.
Codes of Practice provide practical guidance to the Work Health and Safety legislation. An approved Code of Practice may consist of a code, standard, rule, specification or provision relating to work health and safety, and may apply, adopt, or incorporate a law or instrument, or a provision of a law or instrument, as in force from time to time. An approved code of practice may be used in a proceeding for an offence against legislation, and is admissible in the proceeding as evidence of whether or not a duty or obligation under the legislation has been complied with.

The following Codes of Practice are approved under section 274 of the *Work Health and Safety Act 2011*:

- Work Health and Safety (Confined Spaces) Code of Practice 2011- (NI2011-754)
- Work Health and Safety (Demolition Work Code of Practice) Approval 2012 – (NI2012-427)
- Work Health and Safety (First Aid in the Workplace Code of Practice) Approval 2012 – (NI2012-429)
• Work Health and Safety (Managing Electrical Risks in the Workplace Code of Practice) Approval 2012 – (NI2012-430)
• Work Health and Safety (Managing Risks of Plant in the Workplace Code of Practice) Approval 2012 – (NI2012-431)
• Work Health and Safety (Preventing and Responding to Bullying) Code of Practice 2012 (No 1) – (NI2012-219)
• Work Health and Safety (Preventing Falls in Housing Construction Code of Practice) Approval 2012 – (NI2012-432)
• Work Health and Safety (Safe Design of Structures Code of Practice) Approval 2012 – (NI2012-433)
• Work Health and Safety (Sexual Services Industry) Code of Practice 2011 – (NI2011-762)
The following Codes of Practice are approved under section 219 of the *Dangerous Substances Act 2004*:

- Dangerous Substances (Code of Practice for the Management and Control of Asbestos in Workplaces) Approval 2012 – (DI2012-237)
- Dangerous Substances (Storage and Handling Code of Practice) Approval 2006 – (DI2006-258)

AUSTRALIAN STANDARDS

To ensure these are up to date the following Australian Standards can be checked by using the Search Australian Standards facility available on Standards Australia Ltd’s homepage at www.standards.org.au. Standards can be purchased by following the links provided to SAI-Global’s Webshop.

Electrical

• AS 1735.2-2001: Lifts, escalators and moving walks – Passenger and goods lifts – Electric
• AS 1939 Supp 1-1990: Degrees of protection provided by enclosures for electrical equipment (IP Code) – Wallchart 1 (Supplement 1 to AS 1939-1990)
• AS 1939 Supp 2–1990: Degrees of protection provided by enclosures for electrical equipment (IP Code) – Wallchart 2 (Supplement 2 to AS 1939-1990)
• AS/NZS 3010:2005: Electrical installations – Generating sets
• AS/NZS 1680.0:2009: Interior lighting – Safe movement
• AS 2293.1-2005: Emergency escape lighting and exit signs for buildings – System design, installation and operation
• AS 2293.1-2005/Amdt 1-2008: Emergency escape lighting and exit signs for buildings – System design, installation and operation
• AS/NZS 3000:2007: Electrical installations (known as the Australian/New Zealand Wiring Rules)
• AS/NZS 3012:2010: Electrical Installations – Construction and demolition sites
• AS/NZS 3017:2007: Electrical installations – Verification guidelines
• AS/NZS 3105:2007: Approval and test specification – Electrical portable outlet devices
• AS/NZS 3191:2008: Electric flexible cords
• AS/NZS 3199:2007: Approval and test specification – Cord extension sets
• AS/NZS 3760:2011/Amdt 1:2011: In-service safety inspection and testing of electrical equipment

_Cranes, hoists and earth moving plant_

AS 1418 Set-2011: Cranes hoists and winches Set

This Set brings together all the Standards required for cranes, hoists and winches and is crucial for anyone involved in the design, manufacture or testing of these instrumental machines. The Set include the following titles:
• AS 1418.1- 2002 Cranes, hoists and winches- General requirements
• AS 1418.2-1997 Cranes (including hoists and winches)- Serial hoists and winches
• AS 1418.3-1997 Cranes, hoists and winches- Bridge, gantry, portal (including container cranes) and jib cranes
• AS 1418.4-2004 Cranes, hoists and winches- Tower cranes
• AS 1418.5-2002 Cranes, hoists and winches- Mobile cranes
• AS 1418.6-2004 Cranes, hoists and winches- Guided storage and retrieving appliances
• AS 1418.7-1999 Cranes (including hoists and winches)- Builders hoists and associated equipment
• AS 1418.8-2008 Cranes, hoists and winches- Special purpose appliances
• AS/NZS 1418.9:1996 Cranes (including hoists and winches)- Vehicle hoists
• AS/NZS 1418.10:2011 Cranes, hoists and winches- Mobile elevating work platforms
• AS 1418.11-2007 Cranes, hoists and winches- Vehicle - loading cranes
• AS 1418.12-1991 Cranes (including hoists and winches)- Crane collector systems
• AS 1418.13-1996 Cranes (including hoists and winches)- Building maintenance units
• AS 1418.14-1996 Cranes (including hoists and winches)- Requirements for cranes subject to arduous working conditions
• AS 1418.15-1994 Cranes (including hoists and winches)- Concrete placing equipment
• AS 1418.16-1997 Cranes (including hoists and winches)- Mast climbing work platforms
• AS 1418.17-1996 Cranes (including hoists and winches)- Design and construction of workboxes
• AS 1418.18-2001 Cranes, hoists and winches- Crane runways and monorails
• AS 1418.19-2007 Cranes, hoists and winches- Telescopic handlers
• AS 2294.1-1997: Earth-moving machinery- Protective structures- General
• AS 2550 Set-2011: Cranes, hoists and winches – Safe use Set

This Set provides users with essential guidelines for the design, construction and testing of cranes, hoists and winches. The Set include the following titles:
• AS 2550.1-2011 Cranes, hoists and winches- Safe use- General requirements
• AS 2550.3-2002 Cranes, hoists and winches- Safe use - Bridge, gantry, portal (including container cranes), jib and monorail cranes
• AS 2550.4-2004 Cranes, hoists and winches- Safe use - Tower cranes
• AS 2550.5-2002 Cranes, hoists and winches- Safe use- Mobile cranes
• AS 2550.6-1995 Cranes- Safe use- Guided storing and retrieving appliances
• AS 2550.7-1996 Cranes- Safe use- Builders’ hoists and associated equipment
- AS/NZS 2550.9:1996 Cranes-Safe use- Vehicle hoists
- AS 2550.10-2006 Cranes- Safe use- Elevating work platforms
- AS 2550.11-2004 Cranes, hoists and winches- Safe use - Vehicle-loading cranes
- AS 2550.13-1997 Cranes- Safe use- Building maintenance units
- AS 2550.15-1994 Cranes- Safe use- Concrete placing equipment
- AS 2550.16-1997 Cranes- Safe use- Mast climbing work platforms
- AS 2550.19-2007 Cranes, hoists and winches- Safe use - Telescopic handlers
- AS 2550.20-2005 Cranes, hoists and winches- Safe use - Self-erecting tower cranes

**Demolition**
AS 2601-2001: Demolition of structures

**Confined spaces**
AS 2865-2009: Confined spaces

**Temporary traffic management**
- AS/NZS 3845:1999: Road safety barrier systems
- AS 1742 Set-2010: Manual of uniform traffic control devices Set

This 14 part Set provides the Australian Standards needed to help you regulate, guide and warn drivers about road conditions.
Standards Australia HB81: Field guide for traffic control at works on roads – Short-term urban works, daytime only

**Explosive power tools**
- AS/NZS 1873.1:2003: Powder actuated (PA) hand-held fastening tools: Selection, operation and maintenance

**Noise**
- AS 2436-2010: Guide to noise and vibration control on construction, demolition and maintenance sites
- AS/NZS 1269 Set:2005: Occupational noise management Set

This 5 part Set provides an integrated approach to establishing, implementing and evaluating an occupational noise management program. It assists in organisations reducing the effects of noise within the workplace.
- AS/NZS 1270:2002: Acoustics – Hearing protectors

**First aid and emergencies**
- AS 3745-2010: Planning for emergencies in facilities

**Precast concrete panels**
- AS 3850-2003: Tilt-up concrete construction

**Personal protective equipment**
- AS 1319-1994: Safety signs for the occupational environment
• AS/NZS 1336:1997/Amdt 1:1997: Recommended practices for occupational eye protection
• AS/NZS 1337.1:2010: Personal eye protection - Eye and face protectors for occupational applications
• AS/NZS 1337.1:2010/Amdt 1:2012: Personal eye protection - Eye and face protectors for occupational applications
• AS/NZS 1338.1:2012: Filters for eye protectors - Filters for protection against radiation generated in welding and allied operations
• AS/NZS 1715:2009: Selection, use and maintenance of respiratory protective equipment
• AS/NZS 1716:2012: Respiratory protective devices
• AS/NZS 1800:1998: Occupational protective helmets – Selection, care and use
• AS/NZS 1801:1997/Amdt 1:1999: Occupational protective helmets
• AS/NZS 1891.1:2007/Amdt 2:2008: Industrial fall arrest systems and devices – Harness and ancillary equipment
• AS/NZS 2161 Set:2008: Occupational protective gloves Set
• This 14 part series ensures the correct gloves are chosen and maintained to provide users with effective protection.
• AS 2225-1994/Amdt 1-1996: Insulating gloves for electrical purposes
• AS/NZS 2604:2012 : Sunscreen products- Evaluation and classification
• AS 1270:2002: Acoustics – Hearing protectors
• AS/NZS 4602.1:2011 : High visibility safety garments- Garments for high risk applications

**Scaffolding**
• AS/NZS 4576:1995: Guidelines for scaffolding
• AS/NZS 1576.1:2010: Scaffolding- General requirements
• AS/NZS 1576.3:1995: Scaffolding- Prefabricated and tube-and-coupler scaffolding
• AS/NZS 1576.5:1995: Scaffolding- Prefabricated splitheads and trestles
• AS/NZS 1576.6:2000: Scaffolding- Metal tube-and-coupler scaffolding – Deemed to comply with AS/NZS 1576.3

**Plumbing and gas**
• AS/NZS 3500 (Set):2003: Plumbing and drainage

This 5 part set includes a glossary of terms plus standards for water services, sanitary plumbing and drainage, stormwater drainage, and heated water services.
• AS 5601 (Set)-2010: Gas installations

**Formwork**
• AS 3610-1995/Amdt 1-2003 – Formwork for concrete
Welding

- AS 1674 Set-2007: Safety in welding and allied processes Set
- The Set includes the following titles:
  - AS 1674.1-1997: Safety in welding and allied processes – Fire precautions
  - AS 1674.2-2007: Safety in welding and allied processes – Electrical

Lifts, escalators and moving walks

- AS 1735.2-2001: Lifts, escalators and moving walks – Passenger and goods lifts – Electric
- AS 1735.3-2002: Lifts, escalators and moving walks – Passenger and goods lifts – Electrohydraulic
- AS 1735.4-1986/Amdt 2-2000: Lifts, escalators and moving walks (known as the SAA Lift Code) – Service lifts – Power-operated
- AS 1735.7-1998: Lifts, escalators and moving walks – Stairway lifts
- AS 1735.8-1986/Amdt 1-1989: Lifts, escalators and moving walks (known as the SAA Lift Code) – Inclined lifts
- AS 1735.11-1986: Lifts, escalators and moving walks (known as the SAA Lift Code) – Fire-rated landing doors
• AS 1735.14-1998: Lifts, escalators and moving walks – Low-rise platforms for passengers
• AS 1735.15-2002: Lifts, escalators and moving walks – Low-rise passenger lifts – Non-automatically controlled
• AS 1735.16-1993: Lifts, escalators and moving walks – Lifts for persons with limited mobility – Restricted use – Automatically controlled
• AS/NZS 1735.18:2002: Lifts, escalators and moving walks – Passenger lifts for private residence – Automatically controlled

**Gas cylinders**

• AS 2030.1-2009: Gas cylinders – General requirements
• AS 2030.2-1996/Amdt 2-2000: The verification, filling, inspection, testing and maintenance of cylinders for the storage and transport of compressed gasses – Cylinders for dissolved acetylene
• AS 2030.4-1985/Amdt 1-1999: The verification, filling, inspection, testing and maintenance of cylinders for storage and transport of compressed gasses – Welded cylinders - Insulated
• AS 2030.5-2009: Gas cylinders – Filling, inspection and testing of refillable cylinders
• AS 3533.1-2009: Amusement rides and devices – Design and construction
Boilers and pressure vessels

- AS 1210-2010: Pressure vessels
- AS 1228-2006/Amdt 1-2008: Pressure equipment – Boilers
- AS 2971-2007: Serially produced pressure vessels
- AS/NZS 3509:2009: LP Gas fuel vessels for automotive use
- AS 3892-2001: Pressure equipment – Installation
- AS 4343-2005: Pressure equipment – Hazard levels
- Australian Miniature Boiler Safety Committee Code – Part 1, Issue 7: Copper Boilers
- Australian Miniature Boiler Safety Committee Code – Part 2: Steel Boilers
GUIDANCE MATERIAL

Legislation


Scroll down this page to Legislative Instruments and you can access the *Work Health and Safety Regulation 2011*. Codes of Practice made under the Act can be accessed through the Notifiable Instruments link. The Regulation and Codes can also be directly accessed through the Legislative Instruments link.

You can find other ACT legislation that you need by using the Current legislation search facility at the top left of the ACT Legislation Register screen.

Related Links at the top right of the screen allows you to access Australian and New Zealand legislation, including Federal, state and territory legislation.

ORS Guidance Material

WorkSafe ACT provides guidance material on specific work health and safety issues through a number of different handbooks, guidance notes and safety alerts. WorkSafe ACT Publications can be accessed through the WorkSafe ACT website at [worksafe.act.gov.au/health_safety/resources/publications](http://worksafe.act.gov.au/health_safety/resources/publications)
WorkCover NSW publications

WorkCover NSW has a range of publications available that can be accessed on-line. The WorkCover NSW Catalogue of Publications can be viewed in alphabetical order at www.workcover.nsw.gov.au/FORMSPUBLICATIONS/Pages/default.aspx.
GLOSSARY OF TERMS COMMONLY USED IN THE CONSTRUCTION INDUSTRY

Access platform: A platform that is only used or intended to be used to provide access for persons and materials to or from places of work.

Amusement structure: Powered equipment operated for hire or reward which provides entertainment or amusement through movement of the equipment, or part of the equipment, or when passengers travel on, around or along the equipment. (Examples include Ferris wheels, merry-go-rounds, coin in the slot amusement rides).

Backfill: Material used for refilling trenches and excavation.

Baseplate: Plate that is able to distribute the load from a load-bearing member to a supporting structure.

Batter: Stable, formed slope of an excavation or earth bank, cut to an angle usually less than the natural angle of repose to prevent earth slippage.

Bearer: Structural hardwood timber member, supported on foundation walls, piers or piles.


Boom type elevating work platform: A telescoping device, hinged device, or articulated device or combination of those devices used to support, elevate and position personnel, equipment or materials by means of a platform, but does not include an industrial lift truck.
**Bridge crane:** A crane comprising a bridge beam or beams mounted at each end, to end carriages, capable of travelling along elevated runways and having one or more hoisting mechanisms.

**Building maintenance equipment:** A suspended platform, including a building maintenance unit or a swing stage, which incorporates permanently installed overhead supports to provide access to the faces of a building for maintenance, but does not include a suspended scaffold.

**Building maintenance unit:** A power operated appliance with a suspended platform, permanently installed or intended to be permanently installed on a building and specifically designed to provide access to the facade of the building, for persons working from the platform.

**Butt:** A tube fixed to a scaffold and butting to an adjacent structure, to prevent horizontal movement of the scaffold in the direction of the structure.

**Buttress:** A support to the side of a scaffold, which provides for an effective increase in the on-ground base width, allowing a greater freestanding height.

**Castor:** A swivelling wheel attached to the lower end of a standard, for the purpose of supporting and moving a scaffold.

**Catch platform:** A platform attached to a scaffold, to contain falling debris.

**Civil construction work** means work to:

a) construct a road or highway or erect associated works; or

b) construct a railway or erect associated works; or
c) construct or erect a harbour or associated works; or
d) construct or erect a water storage or supply system or associated works; or
e) construct a sewerage or drainage system or associated works; or
f) construct or erect an electricity or gas generation, transmission or distribution structure or associated works; or
g) construct a park or recreation ground, including, for example, a golf course, playing field, racecourse or swimming pool or associated works; or
h) erect a telecommunications structure or associated works; or
i) construct production, storage and distribution facilities for heavy industry, refineries, pumping stations, or mines or associated works; or
j) construct or structurally alter a bridge or associated works; if the estimated final price of the work at practical completion is more than $40,000 or another amount prescribed by regulation.

**Competent person:** A person who has acquired through training, qualifications or experience, or a combination of these, the knowledge and skills enabling that person to perform a specified task.

**Confined space:** Confined spaces are such spaces as those in a vat, tank, pit, pipe, duct, flue, oven, chimney, silo, container, reaction vessel, receptacle, underground sewer, shaft, well, trench, tunnel or other similar enclosed or partially enclosed structure. A confined space is determined by the hazards associated with a
set of defined circumstances (restricted entry or exit, hazardous atmospheres or risk of engulfment) and not just work performed in a physically restrictive location. The presence of physical or chemical agents acting alone or in combination may be exacerbated in a confined space.

**Construction Project** means a project that involves construction work and the cost of the construction work is $250 000 or more.

**Construction site:** Is a workplace where building work, civil construction work or demolition work is, has been, or is to be carried out by or for someone conducting a business or undertaking.

**Construction Work** means any work carried out in connection with the construction, alteration, conversion, fitting-out, commissioning, renovation, repair, maintenance, refurbishment, demolition, decommissioning or dismantling of a structure and includes the following

a) any installation or testing carried out with any of the above activities

b) the removal from the workplace of any product or waste resulting from demolition

c) the prefabrication or testing of elements, at a place specifically established for the construction work, for use in construction work

d) the assembly of prefabricated elements to form a structure, or the disassembly of prefabricated elements forming part of a structure

e) any work connected with an excavation
f) any work connected with any preparatory work or site preparation (including landscaping as part or site preparation) carried out in connection with the above mentioned activities

g) an activity mentioned above that is carried out on, under or near water, including work on buoys and obstructions to navigation.

Construction work does not include:

a) the manufacture of plant

b) the prefabrication of elements, other than at a place specifically established for the construction work, for use in construction work

c) the construction or assembly of a structure that once constructed or assembled is intended to be transported to another place

d) testing, maintenance or repair work of a minor nature carried out in connection with a structure

e) mining or exploration for or extraction of minerals

**Concrete placing unit (truck-mounted with boom):**
Plant used to place concrete by way of pumping concrete through a pipeline attached to or forming part of a boom and capable of travelling over a supporting surface without the need for fixed runways.

**Conveyor:** Equipment, by which loads are raised, lowered or transported or capable of being raised, lowered, transported, or continuously driven by-

a) an endless belt, rope or chain or other similar means; or
b) buckets, trays or other containers or fittings moved by an endless belt, rope, chain or similar means; or
c) a rotating screw; or
d) a vibration or walking beam; or
e) a powered roller conveyor where the rolls are driven by an endless belt, rope, or chain or other similar means.

**Counterweight:** A weight or series of weights that counterbalance a scaffold from overturning.

**Cradle:** The portion of a suspended scaffold that incorporates a suspended platform.

**Crane:** An appliance intended for raising or lowering a load and moving it horizontally, but does not include - an industrial lift truck, earthmoving machinery, an amusement structure, a tractor, an industrial robot, a conveyor, building maintenance equipment, a suspended scaffold or a lift.

**Demolition:** Work to completely or partially dismantle a building or other structure, or part of a building or other structure.

**Earthmoving machinery:** Plant used to excavate, load, transport, compact or spread earth, overburden, rubble, spoil, aggregate or similar material, but does not include a tractor or industrial lift truck or a vehicle designed to be used primarily as a means of transport on public roads. (Examples include bulldozers, excavators, front-end loaders, backhoes, scrapers, dredgers, draglines and face shovels).

**Employer:** The meaning of employer for the purposes of Work Health and Safety is broader than the common law
meaning of employer (which is a person who engages an individual under a contract of service). Employer, of a worker, includes a person who engages any worker to carry out work in the person’s business or undertaking. Employer would include an employer in relation to an employee; a principal in relation to a contractor; a head contractor in relation to a subcontractor and a person who engages a volunteer or work experience student to carry out work. Another name for an employer for the Work Health and Safety Act 2011 would be a Person Conducting a Business or Undertaking (PCBU)

**Explosive powered tool (EPT):** An implement used to drive fasteners including nails, bolts and screws against, into or through material by means of explosive charges, and includes every attachment to and accessory of such an implement.

**Fill:** Any ground made from excavated material (usually compacted).

**First aid:** The provision of first aid facilities, services and personnel required for the initial treatment of persons suffering injury or illness at a workplace.

**Frame scaffold:** A scaffold assembled from prefabricated frames, braces and accessories.

**Gantry:** A structure, constructed from structural steel, scaffolding or structural timber, that is primarily intended to support a protection deck or portable buildings such as amenity sheds.
Gantry crane: means a crane which-

a) consists of a bridge beam or beams, which are supported at one or both ends by legs mounted to end carriages; and

b) is capable of travelling along runways; and

c) has one or more hoisting mechanisms.

Gas cylinder: A rigid vessel not exceeding 3,000 litres water capacity and without openings or integral attachments on the shell other than at the ends, designed for the storage and transport of gas under pressure and to which AS 2030.1-2009: Gas Cylinders – General requirements applies.

Guardrail: A structural member to prevent persons from falling off any platform, walkway, stairway or landing.

Guy: A rope or appliance used to secure scaffolding in its position.

Hazard: A source, or potential source of injury or illness. See also Risk.

Hoist: An appliance intended for raising or lowering a load or people, and includes a mast climbing work platform, personnel and materials hoist, scaffolding hoist and serial hoist but does not include a lift or building maintenance equipment.

Individual fall arrest system (IFAS): Equipment incorporating a harness which is used or intended to be used to arrest the fall of a person wearing the harness.

Industrial lift truck: A powered appliance comprising a mast with an elevating carriage to which a pair of fork
arms or other load holding attachment is attached and includes-

a) a truck on which the operator is raised with the attachment for order-picking; and

b) a truck where the frame and lift unit straddle, raise, lower, move or stack the load - but does not include a crane or earthmoving machinery.

**Industrial robot:** A mechanical manipulator, capable of handling materials, tools or devices through programmed motions, which are usually intended to be carried out repetitively.

**Laser:** Plant that produces a beam of electromagnetic radiation in the wavelength range from 100 nanometres to 1 millimetre and used for cutting, alignment, scanning or measurement, but does not include plant, which produces light beams at these wavelengths for the primary purpose of illumination.

**Ledger:** A horizontal structural member that longitudinally spans a scaffold.

**Lift (scaffold):** The vertical distance from the supporting surface to the lowest ledger of a scaffold or level at which a platform can be constructed. Also, the vertical distance between adjacent ledgers or levels of a scaffold at which a platform can be constructed.

**Lift:** Permanent plant or plant intended to be permanently installed in or attached to a building or structure in which people, goods or materials may be raised or lowered within a car or cage, or on a platform and the movement of which is restricted by a guide or guides and includes an escalator, moving walk and stairway lift.
**Mast climbing work platform:** Plant with a working platform used to support and elevate personnel, equipment and materials by means of a drive system which moves along an extendable mast but does not include a lift or building maintenance equipment.

**Member:** Anything that forms part of the scaffold assembly.

**Mobile crane:** A crane capable of travelling over a supporting surface without the need for fixed runways.

**Modular scaffolding:** A scaffold assembled from prefabricated individual components, braces and accessories.

**Needle:** A cantilevered structural member that supports a scaffold.

**Operator protective devices:** Include roll-over protective structures (ROPS), falling object protective structures, operator restraining devices and seat belts.

**Outrigger:** A framed component that increases the effectiveness base dimensions of a tower and is attached to the vertical load-bearing members.

**Occupational noise induced hearing loss (ONIHL):** Hearing impairment arising from exposure to excessive noise at work. Occupational noise induced hearing loss is also commonly known as industrial deafness.

**Parapets:** An upstand usually located at the edge of a balcony, roof, bridge and the like.
Person Conducting a Business or Undertaking (PCBU): a person conducts a business or undertaking:

a) whether the person conducts the business or undertaking alone or with others; and

b) whether or not the business or undertaking is conducted for profit or gain.

A PCBU may be a Principal Contractor engaging workers or sub-contractors or a sub-contractor engaging workers.

Personal protective equipment (PPE): Includes clothing, equipment and substances designed:

a) to be worn by a person; and

b) to protect the person from risks of injury or illness.

Plant includes:

a) machinery, equipment, appliance, pressure vessel, implement and tool; and

b) personal protective equipment; and

c) a component of plant and a fitting, connection, accessory or adjunct to plant.

Platform: An elevated surface.

Powered mobile plant: Plant which is provided with some form of self propulsion which is ordinarily under the direct control of an operator.

Prefabricated scaffolding: An integrated system of prefabricated components manufactured in such a way that the possible geometry of assembled scaffolds is predetermined by the designer.

Pressure equipment: Boilers, pressure vessels and pressure piping.
Pressure vessel: A pressure vessel as defined in AS/NZS 1200:2000: Pressure equipment and AS 2030.1-2009: Gas Cylinders – General requirements with a hazard level A, B, C or D as determined by AS 3920.1-1993/Amdt No. 2-1999: Assurance of product quality - Pressure equipment manufacture and includes a fired heater and a gas cylinder, but does not include a boiler or pressure piping.

Principal contractor, see also Employer. For a construction workplace (other than a construction workplace for domestic premises) principal contractor means:

a) the person appointed as principal contractor by the owner of the workplace; or

b) if no principal contractor is appointed- the owner of the workplace.

Puncheon: A vertical supporting member from another structural member of a scaffold.

Putlog: A horizontal structural member, spanning between ledgers or between a ledger and an adjacent wall, that is intended to support a platform.

Reasonably Practicable: The Work Health and Safety Act 2011, in relation to a duty to ensure health and safety, means that which is, or was at a particular time, reasonably able to be done in relation to ensuring health and safety, taking into account and weighing up all relevant matters.

Reverberation: The persistence, by echo or reflection, of sound in an enclosure after the emission by the source has stopped.
**Risk:** In the *Work Health and Safety Act 2011*, risk means exposure to the chance of injury or loss. Risk can arise in two ways: the first is how work is done, for example, an unsafe work practice or system; and the second is an act of omission, for example, non-provision of personal protective equipment, or lack of consultation.

Risk to **health** includes injury, illness or death.

Risk to **safety** includes a danger or hazard.

Risk to **wellbeing** includes undue stress, anxiety or discomfort.

**Risk assessment:** A process that determines how dangerous a hazard is by assessing the likelihood and consequence of an incident occurring.

**Scaffold:** A temporary structure specifically erected to support access or working platforms. (Examples include prefabricated scaffolds, swing stages, tube and coupler scaffolds, trestle scaffolds, bracket scaffolds and ladder bracket scaffolds).

**Shaft:** An excavation made below the surface of the ground, its longer axis being vertical or less than 45 degrees from vertical.

**Shore:** A substantial prop of hardwood or other material used in the direct compression to give temporary support between two walls.

**Shoring:** Providing support by means of a shore or a system of shores.

**Soil:** All materials encountered from the ground surface down to bedrock.
**Soldier:** Vertical upright hardwood timber used for supporting a trench wall, taking the thrust from horizontal walings and supported by struts.

**Soleplate:** A member used to distribute a load through a baseplate to the ground or other supporting structure.

**Spoil:** Excavated material.

**Spur:** An inclined load-bearing member that transmits a load to a supporting structure.

**Standard:** A vertical structural member that transmits a load to a supporting structure.

**Structure:** means anything that is constructed, whether fixed or movable, temporary or permanent and includes:

a) buildings, masts, towers, framework, pipelines, transport infrastructure and underground works (shafts or tunnels)

b) any component of a structure

c) part of a structure

**Strut:** A member that supports a comprehensive force.

**Suspended scaffold:** A scaffold incorporating a suspended platform which is capable of being raised or lowered when in use.

**Suspension rig:** A portion of the structure (including the trolley track) mounted at a level higher than the cradle to support and position the cradle.

**Suspension rope:** A rope carrying the weight of a cradle and supporting an imposed load.
Temporary access equipment: Abseiling equipment, a work box, an industrial safety net, or an individual fall arrest system.

Tie: A member or assembly of members used to tie a scaffold to a supporting structure.

Tinnitus: The ringing or other noises in the head or ears, which can be caused by exposure to excessive noise. Tinnitus can become permanent and when severe may disrupt sleep, reduce concentration and lead to irritability and depression.

Toms: A vertical support used to distribute the load placed on a scaffold.

Tower crane: A boom or jib crane mounted on a tower structure.

Tractor: A powered vehicle, primarily designed to haul and provide power for agricultural or horticultural machinery or implements, by way of a power take-off rotating shaft or other mechanical means, but does not include earthmoving machinery or a passenger vehicle.

Transom: A horizontal structural member transversely spanning an independent scaffold between standards.

Trench: A long, narrow, open excavation made below the surface of the ground and in which the horizontal width across the top is less than twice the vertical depth of the deeper side.

Turbine: A rotary motor or engine driven by a flow of water, steam or gas primarily intended for the production of electricity. (Examples include hydroelectric, steam and gas turbines).
Vehicle hoist: A hoist which is permanently installed or intended to be permanently installed in a workplace to elevate a vehicle to allow work to be carried out on the vehicle.

Virgin ground: Ground that is undisturbed and in situ, as distinct from transported, made-up or backfill material.

Work box: A personnel-carrying device, designed to be suspended from a crane, to provide a working area for persons elevated by and working from the box.

Work health and safety: This is a central term that underlines the operation of the Work Health and Safety Act 2011. ‘Work health and safety’ means the health, safety and wellbeing of people in relation to work, and includes the physical and psychological wellbeing of workers.

Work health and safety duty holders: The Work Health and Safety Act 2011 prescribes that all work health and safety duty holders have a duty to manage risk, but they are only responsible for the matters over which they have actual control.

- a person conducting a business or undertaking (PCBU) (e.g. an employer, self-employed person or contractor)
- a person with management or control of a workplace
- a person with management or control of fixtures, fittings or plant at a workplace
- a person conducting a business or undertaking that designs plant, substances or structures (a designer) that are to be used or could be reasonably expected to be used at a workplace
• a person conducting a business or undertaking that manufactures plant, substances or structures that are to be used, or could be reasonably expected to be used at a workplace (a manufacturer)

• a person conducting a business or undertaking that imports plant, substances or structures that are to be used, or could be reasonably expected to be used at a workplace (an importer)

• a person conducting a business or undertaking that supplies plant, substances or structures that are to be used, or could be reasonably expected to be used at a workplace (a supplier)

• a person conducting a business or undertaking that installs, constructs or commissions plant or structures that is to be used, or could reasonably be expected to be used at a workplace

• an officer of a person conducting a business or undertaking being a person who makes or participates in making decisions that affect the whole or a substantial part of the business or undertaking, or a person who has the capacity to affect significantly the business or undertaking’s financial standing. E.g. a company director or secretary

• workers meaning an individual who carries out work in any capacity for a person conducting a business or undertaking, whether for reward or as a volunteer

• other persons at a workplace generally, e.g. visitors or clients

**Worker:** For the purposes of the *Work Health and Safety Act 2011*, a worker is broadly defined as ‘a person who
carries out work in any capacity for a person conducting a business or undertaking’. Workers include:

- an employee
- a contractor or sub-contractor
- an employee of a contractor or sub-contractor
- an employee of a labour hire company who has been assigned to work in the person’s business or undertaking
- an outworker
- an apprentice or trainee
- a student gaining work experience
- a volunteer

**Working load limit:** The maximum working load that may be applied to any component or system.

**Working platform:** A platform that is intended to support persons, materials and equipment.

**Workpiece:** Material, off-cut or scrap (in any form) on which an item of plant is doing work, or material, off-cut or scrap (in any form) produced by an item of plant but does not include a load being lifted or moved by the plant.

**Workplace:** Is a place where work is carried out for a business or undertaking and includes any place where a worker goes, or is likely to be, while at work.
SAFETY CONTACTS

ACT

ACT Work Safety Commissioner
Level 3, Building A, Callam Offices
Easty Street
Woden ACT 2606
www.worksafe.act.gov.au
(02) 6205 0333
Asbestos Awareness
www.asbestos.act.gov.au
Enquiries to Canberra Connect: 13 22 81
Office of Regulatory Services
255 Canberra Avenue
Fyshwick ACT 2609
www.ors.act.gov.au
(02) 6207 3000
WorkSafe ACT (02) 6205 0200 (24 hrs)
Other Jurisdictions

While all jurisdictions have agreed to harmonisation of their work health and safety legislation, there may be variations or additional requirements with respect to work health and safety in other jurisdictions.

WorkCover NSW (local office)
Lower Ground Floor
159 Auburn Street
Goulburn NSW 2580
www.workcover.nsw.gov.au
(02) 4824 1500
Advice and Assistance Service: 13 10 50

WorkCover NSW (head office)
92-100 Donnison Street
Gosford New South Wales 2250
www.workcover.nsw.gov.au
(02) 4321 5000
Advice and Assistance Service: 13 10 50

Northern Territory WorkSafe
First Floor, Darwin Plaza Building
41 Smith Street, The Mall
Darwin NT 0800
www.worksafe.nt.gov.au
General enquiries: 1800 019 115
Workplace Health and Safety Queensland
75 William Street
Brisbane Queensland 4000
Interstate calls: (07) 3225 2000
Workplace Health and Safety Infoline: 1300 369 915

SafeWork South Australia
Level 3, 1 Richmond Park Road
Keswick South Australia 5001
www.safework.sa.gov.au
(08) 8303 0400

Workplace Standards Tasmania
30 Gordons Hill Road
Rosny Park Tasmania 7018
www.wst.tas.gov.au
Interstate calls: (03) 6233 7657

WorkSafe Victoria
Ground Floor, 222 Exhibition Street
Melbourne Victoria 3000
www.workcover.vic.gov.au
(03) 9641 1444
Advisory Service: 1800 136 089
WorkSafe Western Australia
Westcentre
1260 Hay Street
West Perth Western Australia 6872
www.worksafe.wa.gov.au
(08) 9327 8777
National Relay Service: 13 36 77

National Sites

Comcare
Level 4, 14 Moore Street
Canberra ACT 2600
www.comcare.gov.au
1300 366 979
Fraud reporting line: 1300 366 979

Heads of Workplace Safety Authorities (Australia and New Zealand)
HWSA Secretariat
WorkCover NSW
Locked Bag 2906
Lisarow NSW 2252
www.hwsa.org.au
(02) 4321 5322
Office of the Federal Safety Commissioner
Garema Court, 148-180 City Walk
Canberra ACT 2600
www.ofsc.gov.au
FSC Assist Line: 1800 652 500
Safe Work Australia
220 Northbourne Avenue
Braddon ACT 2601
www.safeworkaustralia.gov.au
General OHS enquiries: (02) 6121 5317