MANAGING FALLS IN THE WORKPLACE

1 OBJECTIVES

To provide practical guidance for managing the potential hazards and risks associated with working at heights. Working at height refers to any work where a person could fall from one level to another that is reasonably likely to cause injury to the person or any other persons. Falls can also occur at ground level as a result of falling into a pit or open excavation.

2 STATEMENT

This procedure is applicable to all workers, contractors, tasks, buildings, plant and equipment owned or controlled by the Kempsey Shire Council where:

- The potential to fall exists
- Work could be carried out in the vicinity of an unprotected edge; or
- Tools, equipment or anything else can fall or be dropped and cause injury to persons or damage to property

All personnel employed by the Kempsey Shire Council and any contractor who carries out work at any Kempsey Shire Council facility shall strictly comply with this procedure.

The requirements stipulated in this document are minimum requirements. Other activities may require additional control measures. Such measures shall be additional to, and not in place of the requirements stipulated in this document.

3 REFERENCES

- NSW WHS Regulation 2011
- NSW WHS Act 2011
- Model Code of Practice - Managing the risk of falls at workplaces – 2015

4 DEFINITIONS

Anchorage Point - A secure point of attachment on plant or structures to which a fall restraint or fall-arrest device or anchorage line (lanyard) may be secured, or a secure point on a fall arrest device to which a lanyard may be secured.

Building Maintenance Units - A power-operated suspended working platform that is fixed permanently to a building or structure. It is used as an access for building maintenance or window cleaning.
**Competent Person** - A person who has acquired through training, qualification or experience, or a combination of these, the knowledge and skills to carry out a task.

**Energy Absorber** - An attachment which by design reduces the deceleration force imposed by a suddenly arrested fall and is typically incorporated in a lanyard.

**Elevating Work Platforms (EWP)** - Elevating Work Platform including: scissor lift, knuckle boom, stick boom, cherry picker, travel tower, vertical lift, man lift, trailer boom, etc. regardless of size of make. These are operated by battery or internal combustion engine. Some are designed to operate on hard flat surfaces only. Others are designed for outdoor or rough terrain.

**Fall-Arrest Device** - A self-locking device meeting the requirements of AS/NZS 1891.3 whose function is to arrest a fall. An inertia reel is an example of such a device.

**Fall-Arrest Equipment (Classification)** - Fall-arrest devices are classified as follows:

- **Type 1** - a fall-arrest device that travels along an anchorage line, locks to the line when loaded and can only be loaded in the direction of the line.

- **Type 2** - a fall-arrest device from which a spring-loaded anchorage line pays out, and which locks when loaded and releases when the load is removed, e.g. an inertia-reel device.

- **Type 3** - a fall-arrest device from which a spring-loaded anchorage line pays out, which locks when loaded, but may be wound back as a winch after loading and locking.

**Fall-Arrest System** - an assembly of interconnected components comprising a harness (or belt in certain limited cases) connected to an anchorage point or anchorage system, either directly or by means of a lanyard, lanyard assembly, pole strap or inertia, where the purpose is to restrain or arrest a fall.

**Fall-Arrest Harness** - an assembly of interconnected shoulder and leg straps, with or without a body belt, designed for attachment to a lanyard, pole strap or fall-arrest device as specified in AS 1891.1 and used where there is likelihood of free or restrained fall.

**Fall Protection** - any combination of equipment utilised to prevent/arrest a fall, including scaffolding, EWP and fall restraint/arrest equipment.

**Free Fall, Free Fall-Arrest** - a fall or the arrest of a fall where the fall distance before the fall arrest system begins to take any loading is in excess of 600 mm, either vertically or on a slope, on which it is not possible to walk without the assistance of a handrail or hand line.

**Fall Restraint** – a system that incorporates a safety line secured to an anchorage that prevents a person from reaching the edge of the roof or a defined opening within it.

**Guardrail System** – a structural roof edge protection system that may comprise posts, rails, infill panel or toe-boards, or a combination of these, that is designed to prevent persons falling from the edge of a roof. Guard rails must be used for jobs where tasks are performed on roofs structures where:

- All roofs with a bottom edge (gutter and fascia) at or above 3 metres from ground level

- All single storey roofs pitched at 27.5° less than 32°
- All roofs pitched at or above 32°
- All two storey roofs below 27.5°
- All two storey roofs at or above 27.5°
- All roofs exceeding two storeys
- Any potential slippery product at or above 15° (e.g. fibro cement, fibreglass, metal roof products)
- All “Internal Voids” with free fall of 3 metres or more from roof elevation

**High risk construction work** - means any of the following in accordance with the *WHS Regulations 2011*:

- Involves a risk of a person falling more than 2 metres
- Is carried out on a telecommunication tower
- Involves demolition of an element of a structure that is load-bearing or otherwise related to the physical integrity of the structure
- Involves, or is likely to involve, the disturbance of asbestos
- Involves structural alterations or repairs that require temporary support to prevent collapse
- Is carried out in or near a confined space
- Is carried out in or near, a shaft or trench with an excavated depth greater than 1.5 metres, or a tunnel
- Involves the use of explosives
- Is carried out on or near pressurised gas distribution mains or piping
- Is carried out on or near chemical, fuel or refrigerant lines
- Is carried out on or near energised electrical installations or services
- Is carried out in an area that may have a contaminated or flammable atmosphere
- Involves tilt-up or precast concrete
- 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
- Is carried out in an area at a workplace in which there is any movement of powered mobile plant
- Is carried out in an area in which there are artificial extremes of temperature; and
- Is carried out in or near water or other liquid that involves a risk of drowning; or involves diving work

**High Risk Work Licence** - Issued by the Workplace Safety Authority (WorkCover) to perform high risk work. Licences are required for crane operation, dogging, rigging,
scaffolding, forklift operation, hoist operation (including EWP over 10mts.), pressure equipment and reach stackers.

**Industrial Rope Access** - Used for gaining access to and work at a workface, usually by means of vertically suspended ropes.

**Inertia Reel** - A reel device that allows a harness cable to unwind freely but which locks under force of rapid acceleration after a fall.

**Latchway Systems** - A fall-protection system that is designed to lock on to supporting cables or barriers in the event of a fall.

**Lanyard** - A line used, usually as part of a lanyard assembly, to connect a fall-arrest harness to an anchorage point or static line in situations where there is risk of a free fall.

**Lanyard Assembly** - An assembly of a lanyard and a personal energy absorber including the connection hardware.

**Mast Climbing Work Platform** - Hoists with a working platform that is used to raise workers and material to a temporary working position. They use a drive system mounted on an extendable mast.

**Mobile Bridge Inspection Unit** - A vehicle mounted elevating work platform used for large structure inspection and maintenance work.

**Perimeter Guard Rails** - Perimeter fall protection scaffolding that is used for jobs where tasks are performed on roofs structures where:

- All roofs with a bottom edge (gutter and fascia) at or above 3 metres from ground level
- All single storey roofs pitched at 27.5° less than 32°
- All roofs pitched at or above 32°
- All two storey roofs below 27.5°
- All two storey roofs at or above 27.5°
- All roofs exceeding two storeys
- Any potential slippery product at or above 15° (e.g. fibro cement, fibreglass, metal roof products)
- All “Internal Voids” with free fall of 3 metres or more from roof elevation

**Personal Energy Absorber** - An energy absorber designed to be used in series with a fall arrest harness and lanyard.

**Rescue Plan** - Is an emergency plan that is developed before a high risk working at heights task begins that has a risk of a fall and a fall arrest harness is utilised. The main purpose is to prevent harness induced death (Orthostatic Intolerance).

**Restraint Technique Systems** - Controls the movement of workers performing tasks near unprotected edges to prevent the person reaching a position where there is a risk of a fall. It consists of a harness connected by a lanyard to a horizontal life line.
Rope/Cable Grab - Supported rope or cable used to afford a hold for a person walking on a raised platform or gangplank.

Safety Mesh - A permanent mesh fixture between roof tiling or cladding and the building structure to provide a control measure for persons working on a roof in the event of a fall. Safety mesh must be correctly installed and be strong enough to support a person who may fall into it.

Safe Work Method Statement (SWMS) - A document that identifies hazards, risks and control requirements associated with each step in a task. A SWMS provides additional information to control hazards associated with workplace activities.

Scaffold / Scaffolding - A temporary structure, specifically erected to support access or working platforms.

Static Line - A horizontal or substantially horizontal line connected to suitable anchor points to which a lanyard may be attached and which is designed to restrain a person from falling or arrest a free fall.

Suspended Scaffolding - A suspended scaffold incorporates a suspended platform that is capable of being raised or lowered when in use. Common types of suspended scaffolds include; swing stages, double rope scaffolds and work cages.

Suspension Trauma - Also known as Harness Hang Syndrome (HHS) or Orthostatic Intolerance, suspension trauma is an effect which occurs when the human body is held upright without any movement for a period of time. A suspended person will eventually faint and may risk death due to the brain being deprived of oxygen.

Temporary Work Platforms - A work platform (other than a permanently installed fixed platform) that is used to provide a working area for the duration of a job, designed to prevent workers from falling. Temporary work platforms included scaffolds, elevating work platforms, mast climbers, workboxes, building maintenance units, portable or mobile fabricated platforms.

Testing - The use of standardised tests to check equipment, plant operation, process control, performance and effectiveness according to a procedure.

WHS - Work Health and Safety at release of new Work Health and Safety Regulations (WHS) on 01.01.2012 replacing previous Occupational Health and Safety Regulations (OH&S).

WHS Management System (WHS MS) - A Work Health and Safety Management System is designed to systematically manage health and safety in the workplace. It consists of a documented set of plans, procedures and documents such as forms.

Workboxes - A workbox is designed to be supported by a crane, hoist, forklift truck or other mechanical device to provide an elevated work area for persons working from the box. It consists of a platform surrounded by an edge protection system and should be designed in accordance with AS1418.17: Cranes (including hoists and winches) – Design and construction of workboxes.

Working at Heights - Is any situation at work when a person or object can fall from an elevated or raised position and/or where a person could fall from one level to another that is reasonably likely to cause injury to the person or any other person. Working at heights becomes a high risk work activity as defined in current WHS legislation when the fall distance is two (2) metres or more.
5 RESPONSIBILITIES

5.1 The General Manager and Directors are responsible for:

a) Authorising this procedure for use in Council’s operations
b) Providing resources to ensure that work practices that involve working at heights are designed to be safe and without risk to health and safety; and
c) Ensuring consultation occurs with workers in the processes of hazard identification, risk assessment and control measures for all working at heights tasks

5.2 Managers/Supervisors/Team Leaders/Project Managers are responsible for:

a) Providing resources and direction to ensure that the work environment is consistent with safe working at heights practices
b) Conducting risk assessments of all work at height activities and ensuring the hierarchy of control is used when determining control measures
c) Ensuring Safe Work Method Statements (SWMS) are developed, implemented and reviewed for all working at heights tasks activities
d) Ensuring by way of observation that any hazards relating to working at heights are identified and then action in accordance with this document
e) Consulting and communicating all risks and implemented SWMS to all relevant personnel on site including contractors, visitors and volunteers
f) Ensuring that all staff under their control follow the relevant safe work instructions
g) Ensuring workers are qualified / competent to carry out any work at heights
h) Ensuring training is provided to all workers required to work at heights
i) Ensuring all personnel working at heights hold the necessary certification and maintain relevant records
j) Providing the necessary PPE to workers that are required to work at heights
k) If an inspection of a scaffold or its supporting structure indicates an unsafe condition, ensuring the appropriate repairs, alterations and additions are carried out and supporting structures are re-inspected by a competent person
l) Monitoring, by inspection and consultation, the suitability of the fall protection system adopted
m) Ensuring that scheduled inspections and maintenance of working at heights equipment, where specified by manufacturer’s guidelines or by a relevant Australian Standards, are followed
n) Maintaining records of inspections and maintenance of all working at heights equipment
o) When personnel, plant or equipment is identified as encroaching on safe working distances, eliminating the risk of electrocution, electric shock or burns by arranging for the network operator to isolate the electricity supply for the duration of the work

p) Developing and implementing emergency procedures and rescue plans prior commencing work to all working at heights jobs that are high risk;

q) Hosting any visitors on site to ensure their health and safety

r) Ensuring any volunteers and contractors attending the site receive Council’s Workplace Induction prior to commencing work

s) Ensuring all contractors performing work at height activities provide SWMS, training records, inspection records for all aspects of work that is performed at heights; and

t) Monitoring contractor’s compliance with work at height requirements

5.3 Building Assets Manager is responsible for:

a) Ensuring that all fixed anchor points on all Council owned buildings are inspected and certified as per manufacturers requirements

b) Maintaining records of inspections and certifications of all fixed anchor points

c) Ensuring all Contractors performing work at height activities provide SWMS, training records, equipment inspection records for all aspects of work that is performed at heights; and

d) Monitoring Contractor’s compliance with work at height requirements

5.4 Team Leader Human Resources is responsible for:

a) Delivering training programs to meet the training needs of personnel required to work at heights; and

b) Maintaining training records

5.5 Work Health and Safety Support and Audit Officer is responsible for:

a) Development and review of this working at heights procedure

b) Providing informed advice, training and support; and

c) Conducting audits and site inspections

5.6 Workers are responsible for:

a) Complying with all work instructions, directions and related legislative regulatory obligations to ensure the safety of themselves and of those around them

b) Reporting any new hazards, incidents and near misses to management

c) Participating in the consultation period for the risk assessment / SWMS development associated with protecting personnel from falls at height

d) Actively participating in training provided for fall protection; and
6 PROCEDURE

Falls from any height pose a serious risk of injury. Working from a height of 2 metres or greater is deemed “high risk work” under the WHS Act and Regulation 2011. Kempsey Shire Council has a duty of care to implement specific control measures to minimise the risk associated with working at heights and must ensure the provision of adequate equipment, risk assessment, training and safe work procedures. All work locations and tasks that could cause injury due to a fall must be identified.

The procedure is designed to assist Council in ensuring that workers and contractors undertake work at heights in a safe manner and are provided with adequate facilities and systems to do so.

This will be achieved through:

a) Task identification, planning and preparation for all working at heights activities

b) Eliminating the need to work at heights, where reasonably practicable

c) Mitigating the risk associated with working at heights by adopting and implementing the hierarchy of control measures

d) Risk assessments being conducted before the commencement of work and at any time the work activity changes or the risk of a fall increases

e) Ensuring all persons who are required to work at heights, are competent to perform the task under Kempsey Shire Council’s safe system of work

f) Formal and communicated procedures for safe working at heights are in place; and

g) Ensuring all equipment is appropriate for the task and inspected and maintained in accordance with relevant Australian standards

6.1 Risk Management

The hazards associated with work at heights shall be identified; risk assessed, controlled, monitored and reviewed as per the requirements of Kempsey Shire Council’s WHS risk management procedures.

In addition, the WHS Regulation specifies a mandatory hierarchy of controls that relate solely to the risks associated with people falling from heights of 2 metres or greater. This mandatory hierarchy of controls must be considered during the risk management process

6.1.1 Identification of Hazards

The major hazard associated with working at heights is falling. Falls may be direct to the ground or to another level, or may be a lateral slide and contact with another object. The person may also become jammed or wedged at the working height worksite.

Working at heights is work in which a worker could fall from a height through, from, into or onto a place or structure. Consideration must also be given to other risks associated with working at heights including falling objects and electrical safety.
Examples of some work activities within Council that are classified as work at heights include but are not limited to the following:

- **Building Maintenance** – Changing lighting, painting, guttering, window cleaning, hanging art gallery items
- **Parks, Gardens and Reserves** - Tree lopping, erection of banners
- **Infrastructure Works** - Bridge, culverts, flood gates and dam inspections and maintenance
- **Water Reticulation, Waste Water** – Filtration plant, Waste Water Plant; and
- **Working from Work Platforms, Elevated Work Platforms or Scaffolds**

All Managers and Supervisors are responsible for ensuring that the risks associated with working at heights are adequately identified, assessed and controlled so far as reasonably practicable. As a minimum, the following requirements apply:

a) Safe Work Method Statements (SWMS) for specific working at heights projects/activities are to be developed and reviewed

b) Safe Working Procedures (SWP) relating to any plant or equipment to be used are up-to-date and adhered to

c) All workers performing work at heights are competent having received adequate training: R11WHS204D Work safely at heights

d) Emergency procedures and rescue plans are developed for all tasks which involve the use of fall arrest systems; and

e) All equipment has been adequately inspected and tested.

### 6.1.1.1 Fitness to work at heights

Identification of hazards must consider a worker's fitness to work at heights. Specific consideration shall be given to personnel who suffer medical conditions such as vertigo and epilepsy, as well as considering the weight of the person using the fall arrest equipment.

Acrophobia is a fear of heights and, although rare, should be considered when identifying hazards for working at heights. Acrophobia may present itself as a sudden onset, particularly with older workers or workers who may have sustained a previous near miss incident or injury. Supervisors may need to determine if employees may suffer from acrophobia.

Generally the following should be considered when medically assessing a worker's suitability to work at heights:

a) Fitness for the job (e.g. an individual’s weight could impact on the harness systems fall prevention capacity. Current harness systems have a maximum weight limit of 136kgs

b) Physical ability to do the job (e.g. history of dizziness acrophobia, fainting spells, heart problems or other impairments that could make working at heights dangerous; and
c) Taking medications that could alter the workers physical functional capability to work at heights

6.1.2 Risk Assessment

A risk assessment is to be undertaken prior to commencement of works to identify all hazards that could cause harm due to a fall, whether it is a person or an object falling. This includes access to the areas where work is to be carried out. All risk assessments will be developed using Council’s Risk Assessment Form WHSF: 0041 Risk Assessment Matrix (RAM).

Tasks that need particular attention are those carried out:

a) On any structure or plant being constructed or installed, demolished or dismantled, inspected, tested, repaired or cleaned

b) On a fragile surface e.g. cement sheeting roofs, rusty metal roofs, fibreglass sheeting roofs and skylights

c) On a potentially unstable surface e.g. areas where there is potential for ground collapse

d) Working on roofs

e) Using equipment to work at an elevated level e.g. when using elevating work platforms or portable ladders

f) On a sloping or slippery surface where it is difficult for personnel to maintain their balance e.g. on glazed tiles

g) Near an unprotected open edge e.g. near incomplete stairwells

h) Near a hole, shaft or pit into which personnel could fall e.g. trenches, lift shafts or service pits

i) Near a steep slope or cliff; and

j) Near overhead power lines.

6.1.3 Risk Control

Where there is a risk of a fall from height, control measures must be implemented. In managing the risks of falls, the WHS Regulations require that the following specific control measures to be implemented, where it is reasonably practicable to do so.

1. Eliminate the risk of fall by working at ground level.

2. Prevent the fall by working on a solid construction (with fixed guard rails, secure work platforms, etc.); and

3. Minimise the risk of fall by providing a safe system of work.

The most effective control measure (Elimination) must be selected first unless it is not practicable to do so. Where elimination is not practicable the Hierarchy of Control must then be followed in order until the risk is controlled to as low a level as possible.
If the task cannot be carried out on the ground and a fenced work platform, guardrails and the like are impracticable, a restraint or fall arrest system capable of preventing or arresting the fall must be used. In some cases a combination of control measures may be necessary, for example using a safety harness while working from an elevated work platform.

Administrative controls are Level 5 controls. These are systems of work or work procedures that help to reduce the exposure of workers to fall hazards where it is not reasonably practicable to only use higher level controls. They must be used to support higher level control measures that are put in place. For example:

a) Work access permits may be used to control work access and authorisation

b) Work procedures may be needed to ensure the safe use of temporary work platforms, fall arrest systems and ladders (for example Ladder SOPs; SWMS)

c) Limit the time workers are exposed to a fall hazard and/or the number of workers involved in the task

d) No go zones may be used to exclude non-essential workers/ contractors/ volunteers/visitors from work areas; and

e) Work may be scheduled to eliminate potential exposure to fall hazards (e.g. pedestrian traffic)

Council must also ensure that the risks associated with falling objects are controlled so far as reasonably practicable. Control measures should consider the use of exclusion zones, PPE, tether lines (tool lanyards), equipment trays and pouches, appropriate warning signs and administrative controls including training and toolbox talks.

Supervisors must ensure that risks associated with falls from height are
controlled by use of the following measures in order of hierarchy of control:

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<tr>
<th>MOST EFFECTIVE</th>
<th>Level 1 Control - Eliminate the risk</th>
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<td>• Carry out any work that involves the risk of a fall at ground level</td>
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<td>• Design changes to the task to allow work to be carried out at ground level</td>
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<th>Level 2 Control - Minimise the risk by performing the task on solid construction</th>
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<td>• Solid construction is an area that is structurally capable of supporting workers, materials and other loads applied to it</td>
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<td>• Is provided with barriers (guard rails, edge protection solid balustrades) around its perimeter and around any openings through which a person or object could fall</td>
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<tr>
<td>• Has even, accessible surface or gradient; and</td>
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<tr>
<td>• Has a safe means of entry and exit.</td>
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<th>Level 3 and 4 Controls - Minimise the risk by providing and maintaining a safe system of work by:</th>
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<td>• providing a fall prevention device (e.g. guard rails, work platforms) if it is reasonably practicable to do so, or</td>
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<tr>
<td>• If it is not reasonably practicable to provide a fall prevention device, providing a work positioning system (e.g. industrial rope access system), or</td>
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<tr>
<td>• If it is not reasonably practicable to provide a fall prevention device or a work positioning system, providing a fall-arrest system.</td>
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<th>Least Effective</th>
<th>Level 5 Controls – Minimise the risk by providing ladders and/or administrative controls.</th>
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<td>• Ladders and administrative controls are the least effective they must only be selected when the risk assessment identifies it is not reasonable practicable to use higher order control measure.</td>
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When identifying control measures consultation with workers is essential. Workers who perform a task regularly often have a good understanding of the risks involved and can provide valuable input into establishing controls measures. It is also important to involve contractors in the development of controls when you are contracting work out.

If the controls highest in the hierarchy are considered impracticable, then reasons must be documented on WHSF: 0041 Risk Assessment Matrix (RAM) or WHSF: 0008a Safe Work Method Statement (SWMS).

### 6.1.4 Safe Work Method Statements (SWMS)

A SWMS must be prepared for all high risk construction work where there is a risk of a person falling more than 2 metres using WHSF: 0008a Safe Work Method Statement (SWMS).

All Workers involved in the working at heights task will be consulted during the development and implementation of any SWMS in accordance with procedure 5.6.17 - Development and Review of Safe Work Method Statements. All workers involved in carrying out the work shall be inducted and understand the SWMS before commencing the work.

The SWMS will be used to nominate the competencies and the items of plant that are required to safely perform the work tasks, together with any permits and licences that are required under the WHS Act 2011 or Council’s WHS...

6.1.5 Permit to Work Requirements

A Working at Heights Permit is required when there is a risk of falling more than 2 metres from one level to another. Before the permit is issued, a risk assessment will be conducted using WHSF: 0041 - Risk Assessment Matrix (RAM) and documented with the permit WHSF: 0116 - Working at Heights Permit.

When preparing the Permit to Work the workgroup must consider whether there is a risk of:

a) Workers completing the work are at risk of a fall that is reasonably likely to cause injury to the worker or other person

b) Workers completing the work falling onto surfaces or equipment from any height that may result in injury to themselves, others or equipment; and

c) Injury or damage which may be caused by any equipment/tools/objects falling onto persons and/or equipment below

Prior to commencing work, the Permit Approver is responsible for ensuring:

d) The risks are assessed and the most appropriate approved work at heights method is used

e) A Risk Assessment form has identifying the working at heights hazards and controls is completed

f) A Safe Work Method Statement has been developed; and

g) A detailed emergency rescue plan had been completed whenever workers have to work in fall arrest equipment

6.1.6 Monitoring and Review

To ensure that the control measures implemented to address identified hazards are effective, risk assessments must be reviewed on a continuous basis or when the following occurs:

a) Where there is evidence that the risk assessment is no longer valid

b) An injury or illness occurs in relation to working at heights; or

c) A significant change is planned to the place of work, work practices, or work procedures

6.2 Specific fall prevention control measures for working at heights

Where the risk of falling is 2 metres or more or on a roof with a slope over 26% before starting work fall protection controls must be in place.

6.3 Roof Access

Supervisors will provide safe access to all areas in a workplace, including access to different levels and to all parts of a roof.
Before choosing a type of access, consideration will be given to:

a) Any tools and equipment that may be required while on the roof – and the risks of carrying them

b) The frequency of access for routine maintenance

c) The number of people required to access the roof; and

d) The nature of the work

Common types of access include:

e) Scaffolds

f) Personnel hoists

g) Permanent access (where feasible)

h) Ladders; and

i) Mobile EWP’s

EWP’s are not intended as a means of access but, in some instances, they may be the safest option to access a roof. If a person is required to leave the basket of a EWP, they must conform to AS 2550.10 - Cranes, hoists and winches Part 10 – Safe use – Mobile elevating work platforms.

Fixed infrastructure such as ladders, gantries and walkways which provide access to roofs, or to an area where there is no fall protection (e.g. hand rails / physical barriers) in place, must remain locked at all times when not in use.

6.4 Fall Prevention Devices

The WHS Regulation requires that work is carried out on the ground or on a solid construction where practicable, and where this is not possible, fall prevention devices, work positioning systems and fall arrest systems must be provided.

Fall prevention devices are equipment designed to prevent falls when conducting temporary work at heights. These include:

a) Temporary Work Platforms

b) Scaffolding

c) Suspended scaffolding

d) Latchway systems

e) Elevating Work Platforms

f) Mobile Bridge Inspection Units

g) Mast Climbing Work Platforms

h) Workboxes

i) Building Maintenance Units
j) Trestle ladder platforms
k) Perimeter guard rails
l) Safety Mesh

6.4.1 Scaffold

Scaffolds are a temporary structure supporting a platform used to perform work at heights safely. Scaffolds are only to be erected, maintained, altered and dismantled by competent personnel in line with the manufacturer’s recommendations.

Where a person or object could fall more than 4 metres from the scaffold platform, the person erecting or dismantling scaffolding must hold the relevant High Risk Work Licence.

Supervisors must ensure that a scaffold and its supporting structure, is inspected by a competent person. If the scaffold is incomplete and left unattended, personnel must ensure that the appropriate controls are put in place to prevent unauthorised access e.g. barricade fencing. These controls include the use of danger tags and warning signs in accordance with procedure 5.6.8 - Safety Tag and Lockout.

All scaffolding must comply with AS 1576 parts 1-6 and AS 4576.

In addition to the requirements of the WHS Regulation 2011, the following measures must be done as means of controlling risk involving scaffolding:

a) The scaffold will only be placed in service after it has been formally handed over by the erection crew and on receipt of a handover certificate
b) The scaffold will be checked for alterations or removal of planks, toe boards and guardrails before use
c) The scaffold will be stable and if necessary should be secured to the building or structure in enough places to prevent collapse
d) The scaffold will be checked for clearance from nearby power lines prior to its erection in accordance with Codes of Practice, Working Near Overhead Powerlines Chapter 6 for safe distances
e) Where scaffolding is used to protect against falls at the perimeter of a building, the platform will be as close to the eaves as possible, but no lower than 500mm beneath the edge of the roof. This may require lifting the working level or installing an intermediate hop-up platform between the working platform and the edge of the roof
f) Mobile scaffold wheel locks will be engaged before personnel work from the scaffold
g) Personnel will leave a mobile scaffold before the scaffold is moved
h) The path of travel of a mobile scaffold will be checked for electrical and other hazards such as excavations, before it is moved; and
i) For scaffold less than 2 metres in height a mid-rail & toe board is not required
It is recommended that Scaffolds should be visually checked by Workers prior to each use. Scaffolds must be inspected:

j) Before its first use
k) Before its use following repairs
l) At least every 30 days; and
m) After an occurrence (as soon as practicable, and before its next use) that might reasonably be expected to affect the stability or adequacy of the scaffold or its supporting structure e.g. a severe storm or earthquake.

If an inspection of a scaffold or its supporting structure indicates an unsafe condition, the site supervisor must ensure that appropriate repairs, alterations and additions are carried out and the scaffold and its supporting structures are re-inspected by a competent person before the scaffold is used.

There is to be safe access to the scaffold platform at all times. Each working platform and access platform must have full edge protection comprising of:

n) Handrail
o) Mid-rail; and
p) Toe board or a handrail and infill panel

6.4.2 Elevating Work Platforms (EWP)

Elevating Work Platforms (EWPs) include scissor lifts, cherry pickers, boom lifts and travel towers. There are battery powered and internal combustion engine types. Some are designed for hard flat surfaces only, while others are designed to be operated on rough terrain. All EWPs must comply with AS 1418: - Cranes, Hoists & Winches – Elevating Work Platforms.

EWPs provide a working platform and must be appropriate for the task. Safety considerations for EWPs include:

Workers operating the platform must be trained and deemed competent in safe operating procedures for the particular brand and type of equipment in accordance with procedure 5.6.15 - Plant Training and Assessment. Training must include the safe use of fall restraint equipment and emergency rescue procedures;

- The platforms are only to be used as working platforms and not as a means of entering and exiting a work area unless the conditions set out in AS 2550.10 - Cranes, hoists and winches Part 10 – Safe use – Mobile elevating work platforms are met
- Unless designed for rough terrain, the platforms are to be used only on a solid level surface
- The surface area must be checked to make sure it is capable of supporting the load and that there are no penetrations or obstructions which could cause uncontrolled movement or overturning of the platform
- When designed for rough terrain, the manufacturer’s or supplier’s instructions will be consulted for information on safe operation
• Workers working in travel towers, boom lifts or cherry pickers must wear a properly anchored safety harness; and

• Workers require a High Risk Work Licence when operating EWPs able to reach a height of >11m and/or with a boom length of 11 metres or more

Elevating Work Platform Association of Australia (EWPA) provide certification (Yellow Card) for the safe operation of various types of EWPs with a boom length or reach of less than 11 metres. It is recommended that Yellow Card certification be adopted at all work sites as the minimum standard for safe operation of EWPs with a boom length or reach of less than 11 metres.

Assessment of Operator’s competency will be undertaken using Council’s EWP Plant Competency Assessment package.

6.4.3 Fall Restraint (Work Positioning) System

A restraint system enables a worker to work supported in a harness in tension in such a way that a fall is prevented. Work positioning systems must only be used where it is not reasonably practicable to use fall prevention devices.

The system controls a person’s movement by connecting them to an anchor or static line in such a way that it will physically prevent the person from reaching a position at which there is a risk of a fall e.g. over an edge or through a surface. This system consists of a full body harness connected by an adjustable shock absorbing lanyard. If there are adjustable components, the system will prevent access to a fall location regardless of any adjustment. The system will have sufficient controls to maintain its effectiveness as a restraint e.g. preventing the users from introducing longer lanyards that would enable them to reach a position of risk.

Restraint systems are not necessarily designed for the impact loads applied in fall arrest. If there is a risk of a person falling, a fall arrest system should be used (this can include a hybrid restraint / fall arrest system, appropriately configured).

6.4.4 Fall Arrest System

A fall arrest system is intended to safely stop personnel falling an uncontrolled distance and reduce the impact of the fall. These systems are designed to prevent or reduce the severity of an injury to a worker if a fall does occur. Fall Arrest Systems include catch platforms, industrial safety nets, and safety harnesses. These systems will only be used if it is not reasonably practicable to use higher level controls, or if higher level controls might not be fully effective in preventing a fall on their own.

Safety considerations in using fall arrest systems include:

• The correct selection, installation and use of the equipment

• That the equipment and anchorages are designed, manufactured and installed to be capable of withstanding the force applied to them as a result of a person’s fall

• That the system is designed and installed so that the person travels the shortest possible distance (within 2 metres) before having the fall stopped

• That the system will incorporate an energy absorber
• There is sufficient distance between the work surface and any surface below to enable the system, including the action of any shock absorber to fully deploy

• That workers using a fall arrest system wear adequate PPE to protect themselves in the event of a fall

• That if the equipment has been used to arrest a fall, it is not used again until it has been inspected and certified by a competent person as safe to use

• Adequate provision is made for the rescue of worker whose fall is arrested by a fall arrest device; and

• Workers operating the device must be trained in the selection, assembly and use of the system

Because personal fall-arrest systems rely on workers wearing and using them correctly, workers who use such systems must be adequately trained in their safe use. Fall Arrest systems must comply with the following standards:

• AS/NZS1891.1 - Industrial fall arrest systems and devices Part 1: Industrial safety belts and harnesses

• AS/NZS 1891.2 - Industrial fall arrest systems and devices Part 2: Horizontal lifeline and rail systems

• AS/NZS 1891.3 - Industrial fall arrest systems and devices Part 3: Fall arrest devices; and

• AS/NZS 1891.4 - Industrial fall arrest systems and devices Part 4: Selection, use and maintenance

Fall protection equipment must be correctly stored according to manufacturer’s recommendations. Fall arrest equipment should be stored hanging in a dry environment away from contaminants and direct sunlight.

Equipment can be damaged by:

• Extended periods of direct sunlight (Ultra violet degradation)

• Acid and alkaline chemicals can damage webbing. Harnesses and lanyards can suffer chemical reactions causing damage if being stored on concrete floors

• Heat/flame over 170 degrees C. care must be taken to avoid contact with welding spatter or grinding sparks

• Damp conditions can result in mould and mildew damage and corrosion to metal parts; and

• Crushing by foot traffic and moving plant

Harnesses and webbing products should be kept clean by following manufacturers recommended cleaning methods.
6.4.4.1 Testing the Fall Protection System

There must be a system in place for ensuring that Fall Protection equipment is:

- Tested and certified for use
- Inspected by the user before use; and,
- Inspected by a competent person and destroyed if necessary following a fall, or where inspection has shown evidence of excessive wear or mechanical malfunction

6.4.5 Anchorage Points

Anchorage points, and the connections and structures to which they are connected, will be designed and selected to resist the maximum likely force. AS/NZS 1891.4 - Industrial fall arrest systems Part 4 – Selection, use and maintenance specifies that the ultimate capacity of a single fall arrest anchorage point for one person is 15 kN (or approximately 1500 kg) – equivalent to the weight of a family sedan. AS/NZS 1891.4 specifies capacity requirements for other situations, apart from proprietary static lines (e.g. horizontal lifelines), whose anchorage loads are provided by the supplier as they can depend on the system design.

All anchorage points must be tested and approved by a competent person before use. Anchorage points will be inspected on a scheduled basis in accordance with AS/NZS 1891.4.

Each anchorage point should be located so that a lanyard can be attached to it before the person using the system moves into a position where they could fall.

Each component of the system and its attachment to an anchorage must be inspected by a competent person:

- After it is installed but before use
- At regular intervals to be determined by Council; and
- Immediately after it has been used to arrest a fall

Inspection of all components should be conducted in accordance with the manufacturer’s specifications and the relevant standards. If any signs of wear or weakness are found during the inspection, the components or means of attachment should be withdrawn from use until they are replaced with properly functioning components.

Roof trusses can only be used as an anchorage point if they are capable of supporting anchors. Roof trusses with temporary bracing should not be used as anchorage points.

6.4.6 Ladders

Ladders may be selected when it is not reasonably practicable to use higher order control measures. Ladders should only be used in limited circumstances as the use of ladders is the number one cause of fatalities due to falls from height. Overreaching, trying to carry out heavy tasks or simply not setting the ladder up securely is among some of the common causes of falls from ladders.
Ladders must be used as prescribed in the National Code of Practice- Managing the Risk of Falls at Workplaces (Section 7 - Ladders). Ladders are predominantly a means of access and egress and should only be used as a work platform for light work of short duration after key hazards such as work position, over reach and set up have been considered. Work of long duration and higher frequency require control measures higher up the hierarchy of control in order to provide adequate protection, for example: elevated work platform or scaffolding.

The choice of ladder must be appropriate for the task, positioned correctly and used in a safe manner. The following considerations should be taken into account when using ladders:

- Ensure that selection, safe use and care of portable ladders comply with Australian/New Zealand Standard AS/NZS 1982 – Portable ladders series
- Have a minimum 120KG safe working load rating
- Be marked ‘industrial grade’ and of robust construction
- Be of suitable type and size for the task
- Be positioned on solid and stable surfaces
- Workers may climb or descend a ladder without fall protection provided that they are able to use both hands and legs to do so
- Workers must face the ladder and use one step at a time
- Placement of ladders at a slope of 4:1
- Extension ladders must be tied off and supported below
- Tools must not be carried in the hand while climbing a ladder
- Working on bridging planks from a ladder is not recommended unless all scaffolding regulations are complied with
- Only 1 person is permitted on a ladder at any one time
- Ladders must be inspected visually before and after use for defects
- The 3 point contact principle will be employed at all times while a person is on a ladder; and
- All ladders will comply with AS/NZS 1892: - Portable Ladders

Where fixed ladders are used, they should be installed according to the specifications of Australian/New Zealand Standard AS/NZS1657 – Fixed Platforms, Walkways, Stairways and Ladders.

Council Managers and Supervisors must ensure that workers and contractors DO NOT use ladders if:

- Using metal tools or metal reinforced ladders whilst working on live electrical installations unless both the tools and ladders are insulated
- Undertaking work such as arc welding or oxy cutting
- Working over people including access areas or doorways
- Two handed operation is required for the task
- Overreach and/or a high degree of leverage force is required
- On scaffolding or an elevating work platform to gain extra height
- Next to power lines
- Very wet or windy conditions prevail
- Traffic areas are not barricaded and no go zones established

Workers working from within the confines of a purpose built, portable work platform ladder fitted with edge protection and designed to prevent a fall are deemed to have controlled the risk of falling providing the equipment is equipped with a lockable safety gate, they are instructed in its use and they maintain 3 points of contact when mounting and dismounting the work platform ladder.

6.5 Prevention of Objects Falling from Heights

The principles that apply to preventing falls also apply to falling objects. All areas below where work is undertaken at a height must be isolated and signposted (where appropriate) to prevent any person inadvertently accessing or walking under the work area. The area to be barricaded must take into account the height at which the work is being carried out, as well as structures and/or obstructions such as downpipes that could deflect a falling object. Consideration must be given to the following hazards:

- The potential for falling objects to strike people below
- The potential for unauthorised access into an area with unprotected edges or openings; and
- The potential for falling objects to bounce off other items

In addition, the following fall prevention strategies must be implemented to ensure objects or equipment being used at height does not fall:

- Ensure objects and equipment can be safely raised and lowered
- Use secure physical barriers to ensure that objects and equipment cannot fall from height (e.g. toe boards)
- Where physical barriers are not practical, use other methods to restrain objects (e.g. tool lanyards); and
- There must be a means of communication established between workers working at height and on the ground

If persons need to enter a barricaded area (no-go zone) then overhead work should be temporarily suspended. If this is not reasonably practicable then persons entering the barricaded area may only do so if the following is met:

- The person wishing to enter the area confers with the Supervisor in control of the job and permission is granted
• All materials and equipment are secured to prevent them from falling
• they are aware of the work being undertaken above them
• they use personal protective equipment (PPE) to mitigate the risk of injury from being hit by a falling object

Supervisors must ensure that risks are minimised. The drop zone of falling objects must be identified during the risk assessment process and delineated prior to any working at heights work commencing. The barricading will be such that it prevents other persons in the vicinity entering the drop zone. A drop zone area must take into account the bounce or deflection of a person or object falling.

Controls that can reduce the risk of objects falling from heights include:

• Modifying the design
• Prohibiting work above other workers
• Installing screens, overhead protection, protected walkways
• Isolating danger areas as “no go” zones
• Housekeeping - clean floors and access ways of spillage and debris

The leaning of tools and/or equipment, etc. against handrails is strictly prohibited. Tools and/or equipment that are required to be left unattended at the working at heights job site for any length of time are to be secured in such a way as to prevent them falling. Particular consideration should be given to securing tools and/or equipment in the case of a change in weather i.e. wind, rain, etc.

Upon completion of the work, the Supervisor in control of the job shall ensure all raised items and equipment have been removed prior to removing the barricading.

6.6 Working near overhead Power Lines

Overhead power line contact is one of the biggest single causes of fatalities associated with mobile plant and equipment. Contact with power lines is a serious risk because any voltage can cause injury including severe burns and/or death. Other risks include fires and explosions. You don’t have to be in direct contact to high voltage power lines to receive a fatal electric shock simply being to close can kill. Supervisors must:

• Risk assess the work site
• Establish no go zones when working on sites near overhead power lines; and
• Use spotters for all work near overhead power lines

When personnel, plant or equipment is identified in the risk assessment as encroaching on safe working distances as outlined in the Code of Practice for Safe Work near Overhead Powerlines, Supervisors must eliminate the risk of electrocution, electric shock or burns by:

• Arranging for the network operator to isolate and de-energise the electricity supply for the duration of the work
- Ensuring workers are trained and competent in safe work near power lines practices and procedures
- Ensuring spotters are used for all work near overhead power lines
- Ensuring a Safe Work Method Statement (SWMS) is developed; and
- Ensuring that the control measures are fully implemented, reviewed daily and followed at all times

Even if it is believed that the supply has been isolated, it must be assumed that all conductors and components are live until an access authority or other form of written documentation has been received from the network operator. All electrical safety will be in accordance with procedure 5.6.16 - Electrical Safety Test and Tag.

If the above option of de-energising and isolating the electricity supply is not reasonably practical the Supervisor must:

- Discuss options for re-routing the electricity supply away from the crane/EWP or mobile plant with the network operator or in the case of work involving private overhead power lines, the person in control of the premises
- Discuss options to replace the existing overhead power lines with underground cables with the network operator or in the case of work involving private overhead power lines, the person in control of the premises; and
- Consider working at another time when the electricity supply can be isolated and investigate whether the section of the overhead power lines that needs to be de-energised can be isolated, while leaving the remainder connected

### 6.7 Plant & Equipment

Large plant and mobile machinery can present fall from heights hazards when mounting or dismounting, carrying out inspections or servicing. All Operators must use the designated mounting points and maintain 3 points of contact at all times.

Where servicing is required the workgroup should consider the use of alternative access such as engineered portable or fixed platforms, portable work platform ladders or fall protection options as part of a risk assessment before starting any work.

When introducing new plant and structures, Kempsey Shire Council will ensure that fall-prevention systems are integrated into the design.

Safety considerations at the design stage include:

- Safe entry to and exit from any work area
- Designing permanent guard rails or other forms of edge protection
- Specific requirements for workers conducting future maintenance, installation or repair work (e.g. window and gutter cleaners and repairers, contractors servicing air conditioning units)
- Specifying the strength of points where work positioning systems will be fixed
• Location of roof mounted plant such as air conditioning units and satellite dishes

Suppliers will be chosen based on the capacity to meet WHS specifications in accordance with WHSP: 5.09.01 Procurement Procedure Manual. During the plant / equipment risk assessment phase, specifications will be developed and communicated to the supplier. Suppliers not able to supply appropriate information, products meeting specifications and standards, certification and training will be excluded from the purchasing processes.

6.8 Emergency Management and Rescue Plans

Rescue equipment is to be made available on site and working at heights rescue personnel must be designated to retrieve workers in the event of an incident. When rescuing an injured or unconscious person at heights it is important to act quickly to prevent possible orthostatic shock - suspension trauma (for more information refer to definitions).

All Managers/ Supervisors are to ensure that emergency management procedures and rescue plans for the rescue of suspended workers are to be developed and attached to the Safe Work Method Statement (SWMS). The emergency procedure will need to be site specific and must take into account:

• The immediate rescue of a person suspended in a harness (how will rescue be assured within 3-5 minutes of the occurrence)
• The appropriate equipment needed to carry out a vertical or horizontal rescue
• Communication methods to be used between the suspended worker and rescue team
• Obstructions which could be in the way of a rescue
• Training of employees in the emergency procedure process; and
• General emergency protocols, including first aid

Note: No person is to work at heights alone. A competent person must be available to facilitate rescue if required.

The rescue plan must address downward evacuation of a worker as the quickest and most practical approach. If downward evacuation is not possible site personnel must be competent and have the equipment to enact upwards/sideways evacuation of the injured worker. A rescue action for fallen and suspended workers must be enacted immediately to prevent suspension trauma. Research indicates that in approximately 8 minutes (or 3 minutes for some people) suspended workers may become unconscious, which significantly complicates the rescue.

6.9 Training & Instruction

All Kempsey Shire Council employees who are required to perform tasks that involve working at heights must receive the appropriate training (National Unit of Competency Code: RIIWHS204D – Work Safely at Heights). Additionally, any employees who are required to perform tasks that are deemed High Risk must have the appropriate High Risk Work Licence.

All contractors that are required to work at heights must provide evidence of competency in RIIWHS204D – Work Safely at Heights (or equivalent) and must
also provide evidence of having obtained a **High Risk Work Licence** where high risk work is being undertaken.

Training provided will include:

- Work activity and site specific inductions (for personnel performing construction work)

- Control measures contained in the job specific **WHSF: 0041 Risk Assessment Matrix Tool (RAM)** and/or **WHSF: 0008a Safe Work Method Statement (SWMS)** devised to control the risk of working at heights. This will include:
  - The methods to be used in loading, handling, positioning and fixing of materials to prevent injury or falling objects
  - The control measures to prevent injury or falls; and
  - The methods of gaining access to the working at heights work site

- The use, care and storage in accordance with the manufactures’ recommendations of PPE, including fall arrest systems, and tools and equipment to be used

- The use of plant and equipment including electrical safety

- Procedures to be adopted in the event of an incident, injury or other emergency; and

- Procedures for working near overhead power lines (work will not be performed unless those performing the work have received appropriate instruction and training)

7 **RECORDS**

Where applicable, records shall be kept for duration as required by legislation. The following records will be kept and maintained for any work conducted at height:

- Risk assessments

- Safe Work Procedures, Safe Work Method Statements and Working at Heights Permits

- Training records/licences/certificates of employees and/or contractors

- Licences/certificates for any contractors who have installed height safety equipment

- Maintenance and Inspection register including inspection records for fall arrest systems and PPE; and

- Completed working at heights induction sheets

Refer to the Council’s Records Management Procedure 5.08.01 Records Management Plan for requirements around the storage of these records.

8 **RELATED DOCUMENTS**

The process for inspection, testing and monitoring is required to conform to relevant legislation, standards and codes of practice including, but not limited to:
• AS/NZS - 1576.1: 1995 - Scaffolding Part 1: General requirements
• AS/NZS - 1577 – Scaffold Planks
• AS/NZ - 1657 - Fixed walkways, platforms stairways and ladders
• AS/NZ 1891.1 - Industrial fall-arrest systems and devices, Part 1: Harnesses and ancillary equipment
• AS/NZS - 1891.2: 2001 - Industrial Fall arrest systems and devices Part 2 - Horizontal lifeline and rail systems
• AS/NZS - 1891.3: 1997 – Industrial Fall arrest systems and devices Part 3 – Fall Arrest Devices
• AS/NZS - 1891.4: 2009 – Industrial fall arrest systems and devices Part 4 – selection, use and maintenance
• AS 1892.1 - Portable ladders Part 1: Metal
• AS 1892.2 - Portable ladders Part 2: Timber
• AS/NZS1892.5: 2000 - Portable Ladders Part 5 – Selection, safe use and care
• AS 3995 Design of lattice towers and masts
• AS 2550.10: 2006 - Cranes, Hoists and Winches-Safe Use Part 10 Mobile Elevating Work Platforms

**VARIATION**

Council reserves the right to review, vary or revoke this procedure which will be reviewed periodically to ensure it is relevant and appropriate.