


HS808	
UNSW Contractor induction guide (construction)	

Welcome

Welcome to the UNSW Induction guide for *construction* contractors. Before reading this guide, you should have already completed the general UNSW Contractor Induction guide (WHS807).

This module builds on the information covered in the UNSW Contractor Induction Course, and provides training for contractors carrying out construction work on UNSW (University of New South Wales) sites. It meets the requirements of the WHS Act & Regulation 2011, and covers:

- Construction related preparation and equipment;
- Hazards;
- Hazardous work;
- Storage and disposal of materials, and
- Conservation and pollution

Before Commencing Work

In accordance with the provisions of the WHS Act & Regulation 2011, any contractor or sub-contractor working on UNSW buildings or infrastructure is considered as undertaking construction work.

Therefore:

- For construction work where the cost exceeds \$250,000, the "Principal Contractor" shall prepare and keep up to date during the course of the work, a site-specific occupational health and safety plan and have it approved by the Project Officer;
- For high-risk construction work not exceeding \$250,000, the "Principal Contractor" shall provide safe work method statement(s) for itself and sub contractor(s) and have it/them approved by the Project Officer;
- Contractors, other than "Principal Contractors" shall provide a "Safe Work Method Statement" and have it approved by the Project Officer.

All Contractors are also required to:

- Show to the Project Officer that any employee(s), self-employed person(s) or sub contractor(s) have a valid SafeWork NSW WHS General Induction for Construction work in NSW card (SafeWork NSW Card), and.
- Provide evidence to the Project Officer that any employee(s), self-employed person(s) or sub contractor(s) have completed this UNSW Contractor Induction as well as a site-specific WHS induction.

UNSW may audit a contractor's or sub-contractor's procedures and certificates at any time.

Environmental Management Plan

For construction work where the cost exceeds \$1million, the "Principal Contractor" shall prepare and keep up to date during the course of the work, a site-specific Environmental Management Plan (EMP) which may be combined with the WHS Plan. The EMP must be approved by the Project Officer.

UNSW reserves the right to carry out a "second party" audit of a contractor's EMP.

Certificates of Competency

All Contractors and their staff must have relevant Certificates of Competency and or licences for the equipment being used or tasks being performed, as required by SafeWork NSW. That certificate or licence must be shown to the Facilities Management Project Officer and a copy kept on site for presentation if requested.

Personal Protective Clothing and Equipment

Contractors shall supply their employees with all appropriate personal protective clothing and equipment (PPCE). For example:

- Hard hats;
- Safety boots;
- Gloves;
- Safety glasses, and
- Clothing

Contractors shall ensure that their employees use and maintain the equipment correctly, as required by applicable legislation and codes of practice.

Note that PPCE, while necessary, is the last line of defence for safety. Where-ever possible, other measures should be considered first, such as:

- Substituting for something less hazardous (eg using lead-free solder);
- Engineering controls (such as machine guarding), or;
- Administrative controls (such as scheduling noisy work for a time when as few people are on site as possible).

Electrical Equipment

Unless double insulated, all equipment and appliances that are plugged or direct-wired shall be connected to an Earth Leakage Circuit Breaker (ELCB).

All equipment and appliances must be tested and tagged by a competent person.

All electrical leads must be:

- Tested and tagged by a competent person within the period specified by SafeWork NSW;
- Always supported off the ground or floors;
- Only connected to the nearest power outlet;
- Removed from the power outlet when not in use;
- Protected if passing under doors or through doorways.

Damaged leads, piggyback plugs and/or double adaptors must not be used.

Machine Guarding and Hand Tools

All hand tools, machinery or other equipment must be operated with effective guards in accordance with Australian Standards.

Tools that must be checked regularly include tools like:

- Picks;
- Shovels;
- Axes;
- Crowbars;
- Hammers;
- Spanners, and
- Screwdrivers .

Use an approved wrist-stop or lanyard to secure a tool if there is a risk of it falling and injuring people below.

Where damage or defects are present, the tool must not be used.

Lasers

Lasers used must conform to AS 2211, Safety of Laser Products Part 1: Equipment classification, requirements and user's guide.

Lasers shall only be used with the following precautions:

- Operators must have completed a recognised course in laser safety;
- Up to Class 3A lasers only are to be used on any UNSW construction site;
- Ensure that persons do not look directly into the beam;
- Laser equipment must be positioned so as not to be at eye height in areas where there may be passers by;
- Warning signs are erected indicating the use of a laser in the area.

Explosive Power Tools

Explosive powered tools may only be used by operators who hold a certificate issued by a statutory authority and after the following precautions have been taken:

- Explosive charges for explosive powered tools shall be kept in an approved, locked box, in a secure place, and;
- A warning sign displayed and barriers erected at each place the explosive powered tool is being used.

Suitable PPCE is to be worn when using the explosive powered tool.

Mobile Mechanical Plant

Mobile equipment includes:

- Front-end loaders;
- Dozers;
- Backhoes, and
- Forklifts

When not in use, mobile equipment must:

- Have the keys removed;
- Have blades and buckets lowered onto the ground, and
- Be chocked/blocked

All operators are to produce to the Project Officer an appropriate operator's certificate (or copy) for the plant being operated on request.

No mobile equipment or vehicles are to be parked on slopes.

Compressed Air Equipment

Compressed Air Equipment refers to equipment such as:

- Scabblers;
- Water/airjets;
- Impact wrenches, and
- Grinding tools.

All compressors must:

- Have a current pressure vessel certificate;
- Be appropriately secured, and
- Have their regulators protected from accidental knocks.

Care must be taken when working with compressed air. Remember, if compressed air enters the blood stream through a break in the skin it can be fatal. Under no circumstances should a jet of air be directed towards the body of another person.

Welding

Before any welding commences, a [HS821 Hot Work Permit](#) must be obtained from the Project Officer or site supervisor.

Appropriate PPCE must be worn. For example:

- Aprons;
- Leather sleeves;
- Gauntlet gloves;

- Eye protection, and
- Welding spats or flame-proof overalls.

It is a requirement that people using electric welders wear insulated footwear when working in damp areas where the danger of electric shock exists. All electrical welding cables must be inspected in accordance with AS1674 by a competent person and maintained in good condition.

Screens shall be erected where there is a danger to co-workers or passers by from sparks or welding flash.

Laboratories

All laboratories contain hazardous materials, either solid, liquid, gas or fumes (aerosols). These materials include:

- Radioactive solids;
- Liquids;
- Chemicals;
- Dangerous gases;
- Animals;
- Electro-magnetic fields;
- Biological, infectious and clinical waste, and
- Sharps.

Many laboratories have hazards that must not be allowed to escape into the environment and therefore specific requirements must be met in order to work in these areas.

You must make sure that the laboratory manager is aware when you arrive and when you leave the site of the work being undertaken.

Do not move or touch anything in a laboratory that is not part of the scope of your work. It is the responsibility of the lab manager to ensure that the area is safe and free of hazards before work commences.

1. Before Working in Laboratories

Contractors and/or their employees are not to enter laboratories without permission from the laboratory manager. Permission may be required for each occasion.

Before you commence work in a hazardous area, obtain a "[HS700 Laboratory Clearance Certificate](#)" from the Project Officer and have it completed by the Laboratory Manager as per Guidelines for Work in Laboratories.

2. Maintenance and Isolation of Fume Cupboards

Routine maintenance of fume cupboards must be pre-arranged with the lab manager on each occasion. Fume cupboard or chemical store ventilation can only be isolated by arrangement with the Project Officer.

Fume cupboard extraction fans shall not be isolated before 'tagging out' all affected laboratory fume hoods to prevent their use.

Contractors must advise laboratory staff that they are about to start work on a fume cupboard system.

High Voltage Substations

A Contractor needing access to a high voltage substation must obtain a [HS823 HV Substation Entry Permit](#) from the Project Officer.

Asbestos and Confined Spaces

If Asbestos is found in a building, no work should be carried out in that area and the Project Officer should be contacted immediately.

No Contractor, their employee(s) or subcontractor shall enter a confined space unless they:

- Obtain a [HS822 Confined Space Entry Permit](#), from the Project Officer, and
- Can produce a certificate of competency for Safe Entry and Working in Confined Spaces, issued by an accredited training provider

Interruption of Services

Adequate notice must be given to the Project Officer when a Contractor's work involves a requirement to isolate services to all or part of a building. This includes services like:

- Electricity;
- Gas;
- Telephone;
- Communications, and
- Water supply

The Project Officer will inform appropriate University staff. Should services be shut-down accidentally, the Contractor should immediately advise the Project Officer or Security on 9385 6000.

'Danger' and 'Out of Service' Tags

Whenever a service or any piece of equipment is isolated, contractors and their staff shall place a "Danger" or "Isolation" tag(s) on all control switches, valves, main isolators or key rings.

All tags must display:

- Date and time of isolation;
- Name of person carrying out the isolation;
- Name of the company;
- A contact number.

Always remove tags when work has been completed. Never remove another person's isolation tag.

Isolation of Building Fire Protection Equipment

Many areas of UNSW are covered by automatic fire detection and alarm systems that are linked to the NSW Fire Brigade. If the work involves any of the following, Contractors must ensure that fire alarms are temporarily isolated by arranging this with the Project Officer:

- Dust;
- Vibration;
- Moisture;
- Aerosol sprays;
- Fumes, or;
- Mechanical damage to detection equipment.

This must be done by 2:00 pm the day prior to commencing work.

If you fail to notify the Project Officer of the need to isolate an alarm, you will be charged for any unnecessary attendance by the Fire Brigade.

Barricades and Fencing

Contractors must supply and erect any necessary barricades, fencing and lighting to ensure the safety of all persons on and around the work-site and those passing by.

Care must be taken to regularly check and secure the barricades and fences; particularly whenever contract staff leave the work area.

Working on Roofs

The following minimum requirements should be reflected in the Safe Work Method Statement. These must be met to access and work on roofs;

- The roof must be structurally sound before a person walks on or places a load on a roof;
- The roof is not too steep or slippery to access;
- Roof areas are kept tidy and clean;
- Rubbish is regularly removed;
- All stored items are secured appropriately;

- The Project Officer is aware of personnel present or working on the roof and the expected time frame for return.
- Do not:
 - Store or stack materials where they interfere with access to work;
 - Access or work on a roof unless trained appropriately;
 - Access roofs in adverse weather conditions such as wind, rain or thunderstorms, or
 - Store or stack materials within 2 metres of the edge of the roof.

1. Roof Access

A safe and satisfactory means of access should be used to reach a roof, particularly when other roofs need to be crossed to reach an area for work. Where fixed or permanent access is not available, it may be necessary to use temporary access such as mobile work platforms or ladders. In some cases, the [HS916 Working at Height Permit Template](#) may also be required.

Make sure that appropriate PPCE is worn at all times.

2. Handling Materials and Tools on and Around Roofs

Measures adopted for safely handling materials and tools on and around roofs should be reflected in the Safe Work Method Statement, and should make sure that:

- Manual handling is minimised while working on roofs
- Awkward or heavy loads are always craned to the roof by appropriately trained personnel
- Lift boxes and cages are provided to prevent items from falling

To minimise the risk of falling objects injuring a person a combination of the following control measures should be adopted:

- Containment sheeting;
- Toe boards;
- Lanyards secured to tools;
- Exclusion zones;
- Hoardings;
- Catch platforms;
- Signs and warning devices;
- Barricades, and
- Traffic controllers

The following measures should also be adopted for safely handling materials around roofs and should be reflected in the Safe Work Method Statement:

- If the only option is using a rope to lift tools or small sized materials on to and off roofs, a rail or some type of restraining device shall be provided to keep the personnel loading onto the roof away from the roof's edge, and
- Areas where materials are being lifted and loaded on and off roofs should be barricaded. Make sure there are no personnel in the loading area.

Tools or materials must not be carried while climbing up and down ladders.

3. Prevention of Falls

If work is to be carried out within 2 metres of an edge of a roof where any person could fall 2 metres or more, provision must be made to prevent persons falling. Work should only be carried after complying with the relevant code of practise and industry standards.

The preferred method is safety mesh and guardrails. Other available methods include:

- Individual fall arrest systems;
- Scaffolding;
- Safety nets;
- Elevated work platforms, or;
- A combination of these methods.

The selected method is to be determined by the work being undertaken. On steep pitched roofs a roof ladder may also have to be used. Guard railing is not appropriate for pitches exceeding 45 degrees.

Ladder, Harness Use, scaffolds and platforms

No domestic ladders are to be used on UNSW campuses. Industrial ladders shall be designed, constructed, used and maintained in accordance with AS/NZS 1892 and SafeWork NSW NSW guidelines.

The appropriate ladder should always be selected for the task. For example, NEVER use a metal ladder for electrical work.

When working at heights where no other protection is available, a full parachute safety harness conforming to Australian Standards must be worn and secured to approved fixing devices. Contractors and their employee(s) must have a certificate of competency in the use of a safety harness before access to roofs is granted.

1. Using Portable Ladders

When using portable ladders:

- NEVER climb higher than the third rung from the top of the ladder;
- Make sure the ladder is adequately supported at the base and firmly attached where possible;
- NEVER 'walk' a ladder while standing on it;
- One ladder, one person;
- Have three limbs on the ladder at all times;
- Always wear fully enclosed slip resistant footwear, and;
- If being used in a thoroughfare or where the danger of a collision with the ladder exists, the area around the ladder must be barricaded.

Ladders must not be used on working platforms or to support a working platform.

2. Scaffolds and Platforms

Make sure a Safe Work Method Statement has been completed before erecting, using and dismantling scaffolding or a power operated mobile work platform.

All scaffolding and working platforms, suspended or not, must conform to statutory, Australian Standard and Codes of Practice requirements (AS1576 and AS1418.10) and may only be erected by an individual with an appropriate certificate of competency.

Please note mobile scaffolds should not be moved while personnel are on the scaffold.

Gutter Cleaning

When cleaning gutters:

- Tie or secure any tools being used so they are not able to fall;
- Always use harness points or safety systems;
- Do not over-extend or over-reach during cleaning;
- Only vacuum type machines shall be used to clean gutters and the operator must wear appropriate PPCE;
- Overhanging trees should be reported to Facilities Management to ensure less build up in gutters, and;
- Note difficulties, damaged gutters or any other unsafe conditions and report back to the Project Officer

Electrical Work

Prior to the commencement of any electrical work on any UNSW campus and property, all electrical contractors are to provide to the Project Officer, documentary evidence of a current Electrical Contractor's Licence, as well as licences held by contractor staff.

All contractors carrying out electrical work must comply strictly with the WHS Act & Regulation 2011 - Part 4.2 Division 3 and Part 4.3 Division 8, and be familiar with and adhere to the Codes of Practice:

- Electrical Practices for construction work, and
- Electrical Practices for low voltage electrical work

Contractors engaged to carry out work on high voltage installations must possess a High Voltage Operators Certificate, issued from an energy supply authority, and must also undergo specific UNSW High Voltage Induction training.

1. Distribution Boards and Completion of Electrical Work

All distribution boards (DB) must have up-to-date circuit schedules. Contractors must update schedules whenever any alterations are made.

For **major changes**, the contractor will be supplied with a file in EXCEL format by the Project Officer. The contractor must update the spread sheet and return the file to the Project Officer. The contractor must also provide a hard copy fitted in the holder in the DB.

Minor changes are to be advised to the Project Officer. The changes will be made and the contractor will be provided with an updated hard copy to be installed in the DB holder.

At the completion of all electrical work, contractors are to submit a completed "Notification of Work Certificate" to the Project Officer.

Plumbing, Drainage and Gas Fitting

Prior to the commencement of any plumbing, drainage or gas fitting work on any UNSW campus or property, all plumbing contractors are to provide to the UNSW Project Officer documentary evidence of a current licence as well as licences held by contractor staff and or sub-contractors.

Permits are to be obtained from the relevant authority and a copy provided to the Project Officer.

Never install gas equipment beneath air intake vents.

After completion of the work, where required, the Contractor shall arrange inspections by the relevant supply authority and provide certificates of compliance to the Project Officer.

Excavation Work

All excavations and trenches shall comply with WHS Act & Regulation 2011 and SafeWork NSW Codes of Practice: Excavation.

Before carrying out any excavation work, the Contractor shall:

- Seek approval from the Project Officer;
- Obtain a drawing of the site services from the Project Officer;
- Ensure excavation is appropriately fenced off at all times.

On completion of the excavation work, the Contractor shall return drawings to the Project Officer with any changes to services marked on those drawings.

Hot Work

A Hot Work Permit must be completed prior to commencing any hot work such as welding, angle grinding, brazing or paint removal by heat gun or burner. Adequate fire extinguishers must be present.

The Contractor must also ensure that fire alarms are isolated.

Movement and Storage of Materials

Contractors are not to use public space or lifts to store or transport materials, unless prior approval has been granted by the Project Officer. Contractors shall pay particular attention to ensure access is available at all times for the physically impaired.

Nothing is to be stored in fire escapes. Fire escapes must never be chocked open. Storage of items must never prevent access and egress to buildings.

Rubbish

Rubbish must be removed progressively by Contractor(s) at their own expense. Contractors are not permitted to use UNSW bins or skips to transport or deposit rubbish.

Under no circumstances are contractors to dump rubbish on vacant land on the UNSW campuses or properties. The disposal and washing out of excess concrete from trucks is not permitted on UNSW campuses or properties.

The disposal of paints or residue from cleaning and painting equipment is not permitted on UNSW campuses or properties as this poses an environmental risk.

1. Site Tidiness and Recycling

The work-site and surrounding area shall be kept clean and tidy and any safety or fire hazards removed promptly, for example:

- Oily rags;
- Flammable materials, and
- Garbage.

Keep in mind other safety actions such as:

- Replacing lids and caps on containers;
- Wiping up spills;
- Removing or bending over nails or bolts, and
- Progressively removing other dangerous protruding objects.

UNSW collects recyclable containers in the same bin with general rubbish. Recyclable containers are separated and recovered off-site.

Waste Management

UNSW expects Contractors and their employees to identify waste minimisation options at the start of each project consistent with state government legislation.

At most work sites, an industrial rubbish skip is required but only for materials that cannot be re-used or recycled. Contractors must ensure that rubbish does not blow away, or spill from the skip.

You are legally responsible to ensure your waste is disposed of in the correct manner.

Contractors shall not use UNSW rubbish bins/recycling bins/skips to deposit construction and demolition waste and are expected to maximise recovery of construction and demolition waste for reuse or recycling.

Contaminated Waste, Asbestos and Refrigerant Gases (CFCs)

Never dispose of contaminated waste in UNSW rubbish or recycling bins. This is not only unlawful but it also presents a great risk to the health and safety of cleaning staff.

Asbestos must only be removed by a licensed contractor and require the use of the [HS918 Asbestos Work Permit](#).

Refrigerant gases (CFCs):

- Must be collected in specially sealed cylinders by a licensed disposal company;
- Must not be released into the atmosphere.

Chemical Waste

When handling chemical waste:

- Contract a licensed waste disposal company to remove from site;
- Store in original packaging and ensure that lids are sealed, and;
- Never pour chemicals down the sink, onto the ground, or into a stormwater drain.

PCBs

If polychlorinated biphenyls (PCBs) are encountered in fittings or are spilt, it is the Contractor's responsibility to clean up the spill safely and dispose of any PCB waste using a licensed waste removal company.

Contractors servicing transformers, where PCB is contained in the waste oil, must:

- Store this oil in special containers, and
- Have these containers collected and disposed of by a licensed waste removal company.

Never pour oils down the sink, onto the ground, or into a stormwater drain.

Contaminated Soils

Soil may become contaminated with:

- Oil;
- Asbestos;
- Cyanide;
- Heavy metals, or
- Any other toxic material.

The Project Officer must be informed of any incidence of soil contamination.

A licensed waste disposal contractor should be engaged to collect contaminated soil in an approved container. Do not remove any contaminated soil from UNSW campuses or properties without authorisation from the Project Officer.

Protection of Landscaped Areas

All flora and fauna is valued very highly, and Contractors are asked to respect the campus ecology when on the grounds.

If any work is likely to disturb landscaping or grassed areas, the Contractor must advise the Project Officer a minimum of one week prior to the intended commencement of the work.

Every effort must be made to avoid disturbing trees as well as landscaped and grassed areas. Where negligent work results in damage to these areas, the cost of rectifying the damage will be recovered from the Contractor.

Never light a fire on University grounds. In general, it is against the law to burn-off.

Water Conservation, Erosion and Sediment Control

It is against the law to place any material other than clean water in a position where it is likely to leak, fall or be blown into any drain or gutter that is used to receive rainwater.

Before work starts, erosion and sediment controls must be installed when it is possible that work on UNSW grounds will cause erosion or sediment losses.

1. Aquifers

The bulk of storm water runoff on the Kensington campus is used to recharge the aquifer for subsequent bore water extraction by the University. This water is then used for a variety of purposes, including cooling towers and non-potable laboratory water.

2. Bore Water

Please also note that only bore water should be used for such purposes as:

- Site shed toilet flushing;
- Washing down;
- Street cleaning;
- Trench compaction;
- Pipe cleaning, and
- Testing.

Due to its low pH level, bore water is not recommended for use in concrete. Drinking water is only to be used for human consumption and ablutions.

Pollution

To help control pollution:

- Suitable erosion and sediment controls must be installed around work sites to keep the footpath and gutters free of litter, soil and sand at all times;
- Litter, leaves and anything else must not be swept into drains or gutters;
- Rubbish bins must be kept covered, and
- Clean-up kits for spills should be kept on site.

Dust

Dust can cause health problems for workers and others on UNSW campus and properties. If a work-site is generating dust:

- That dust must be contained within that work-site;
- Materials and stockpiles that generate dust should be covered;
- Sweepings should be placed into a bag or box before being put into a skip to prevent dust from becoming airborne when the bin is emptied, and
- Face masks and respirators should be worn to protect your health as necessary.

Solvents

Many chemicals release polluting vapours when bottles are open.

When using solvents:

- Care must be taken so that vapours do not escape into the surrounding area or air intake vents;
- Always seal solvent containers with a tight lid, and
- Use water-based or biodegradable strippers and cleaners wherever possible.

Noise Pollution

The physical environment of UNSW campus needs to remain conducive to learning and research at all times.

1. Machinery noise shall be controlled by fitting noise suppressors and by regular maintenance.
2. Noisy work and noisy truck movements shall be scheduled to minimise disruption.
3. Radios and other loud outdoor music are not permitted on UNSW grounds.

PPCE must be worn by all contractors.

Chemical Spill

In the event of a chemical spill, contain the spill if it is safe to do so, and:

- Prevent further spillage;
- Follow MSDS information, and
- Block stormwater drain inlet.

Report the spill by informing the Project Officer immediately, or if urgent, call Security on 938 56666 (24 hours).

When cleaning up a chemical spill:

- Clean up as quickly as possible and reduce the risk of pollution running off the site;
- Never wash chemicals down the drain or pour chemicals onto the ground, and
- Absorbent material used to contain the spill must be disposed of off-site by the contractor.