

Waste Management

Waste removal in workplaces is a physically demanding job that often poses health and safety risks for staff. Implementing some easy steps could save your site **money**; encourage staff and students to use proven **waste minimisation** strategies and of course, **improve the health and safety** of those involved in the rubbish removal processes. These steps help us not only work safely but also reduce our impact on the environment and our community.

Controlling the risk around waste management

Consultation between management and staff responsible for waste removal on site is critical to ensure the right equipment is purchased. A successful solution can usually be found when a consultative approach is used; that is, talking with people who perform the task.

When determining waste risk management solutions remember that the cost of controlling a risk may be considered in what is reasonably practicable, but cannot be used as a reason for doing nothing. Cost cannot be used as a reason for adopting controls that rely exclusively on changing people's behaviour or actions. This is particularly the case when there are more effective controls available that can minimise the risk through substitution, engineering or isolation.

Regardless of the waste removal option selected, ongoing review of its effectiveness is to be conducted to ensure reduction in risk is achieved.

Identifying site specific issues

Workplaces are encouraged to consider engaging a waste removal company for professional advice about options for their specific situation. However, if you undertake an analysis of how waste is currently managed, this can help you identify site specific issues and options.

1. Who is responsible for waste removal at the site? e.g.:
 - who uses the wheelie bins, bin lifters and industrial bins?
2. What is the quantity of waste generated at the site and the type of waste? e.g.
 - what is the frequency that wheelie bins and industrial bins need to be emptied?
 - How many wheelie bins are emptied at a time?
 - Is rubbish emptied into an industrial bin?
 - How is this undertaken?
 - Is a bin lifter in use?
 - Are there any issues with use, storage, security of the bin lifter?
3. What are possible waste reduction/minimisation strategies for the site?
4. What are the types of injuries/hazards/near misses related to waste removal tasks?
5. Location and facilities at the site e.g:
 - If staff use the industrial bins what is the access like?
 - rough dirt track / smooth concrete path / are there any steps?
 - How long does it take staff to get to the industrial bins/waste disposal area?
 - Can a bin lifter be safely used or does another option need to be implemented?
 - what is the travelling time for a waste removal company to get to the site?
 - how close can a waste removal company get to bins – i.e. are they accessible by truck?

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Waste removal options

1. Roadside collections

- Organise for a waste company to visit the site and develop a plan, e.g. for additional pickups and segregation of waste materials into appropriate bins. Bin collection charges can be determined by contacting your service provider.

2. Industrial (front lift) bins

- This option economises waste removal for medium to large volumes by considering container size and collection frequency for your site. When using this type of service you will need to consider the nature of the work site environment for truck access:
 - reversing onto roadways;
 - mounting gutters and kerbs to reach the bin;
 - entering and exiting car parks;
 - dangerous overhead obstructions and electrical wires in close proximity.
- If wheelie bins are to be emptied into an industrial bin then an appropriate lifting device is to be provided.

NOTE: Wheelie bins are not to be manually lifted into industrial bins nor is rubbish to be lifted out of wheelie bins by hand. An appropriate lifting device is to be provided.

3. Compactor options for sites with large volumes of waste

- Compactor hire and collection charges can be determined by contacting your service provider.

4. Waste minimisation programs

- Separation of recyclables, waste and food scraps
 - The Department of Environment and Heritage Protection is partnering with our department and the Australian Packaging Covenant to encourage the use of waste minimisation and recycling systems in schools.
 - Schools can apply for equipment such as wheelie bins and recycling boxes and promotional material including stickers, posters and badges through the School Waste Minimisation Program. Schools can also claim a \$200 rebate for an onsite composter or worm farm which can be used to compost fresh food waste.
- Shredding/chipping green waste and reusing for mulch
- "Nude food" strategies for student lunches using reusable containers instead of cling wrap, zip lock bags and foil <http://www.sustainableschools.qld.edu.au/Default.aspx?tabid=921>

Bin Lifters

Bin lifters are used at many DETE sites. As with all equipment, a bin lifter requires careful selection to ensure it does the job and that no other health and safety risks are created. Broad risk considerations for the use of bin lifters are provided on page 4.

The purchase of lifters with crank handles or foot pumps is not recommended due to injury risks and the limitations where a person can only empty two or three bins at a time. Other more mechanised options are available that provide greater safety and efficiency.

Hand crank and pump bin lifters can pose significant injury risks to users. These include musculoskeletal injuries such as strain and sprain injury due to manual tasks risk factors and risks of crush, pinch, blunt force and amputation injuries due to plant design or maintenance issues.

Manual tasks risk factors of awkward postures, excessive force, duration and repetition have been identified through *Participative ergonomics for hazardous manual tasks* (PERforM) process. PERforM risk assessments were conducted on the process of lifting wheelie bins into industrial bins using manually operated bin lifters (see page 4 for more information).

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For schools considering purchase of a bin lifter:

1. Review current waste needs (as above) and waste removal options.
2. Conduct a pre-purchase risk assessment to identify a practical and safe option:
 - Suppliers can provide advice about products and advise if any custom made modifications are required. The equipment suppliers may offer a free trial to check if the lifter is appropriate for the task in mind.
 - Fully enclosed styles of bin lifter are available to minimise the risk of pinching, amputation and impact injuries. These types of devices have guards on moving parts and pinch points as well as eliminating operator exposure to debris from the bin as it empties.
 - Note: hydraulic assisted lifters require appropriate maintenance e.g. battery charge, oil levels, lead and cable integrity.
3. Consider purchase options:
 - Purchase outright; the site will be responsible for maintenance costs; or
 - Hire through a supplier and maintained as part of the agreement.

For all schools with bin lifters or similar equipment:

4. Implement inspection and maintenance regimes:
 - Use the Operator Manual to establish maintenance requirements; e.g. checklist for daily inspections, maintenance and servicing of equipment.
 - Ensure there is an EMR (Equipment Maintenance Register) for the equipment. A template is available at <http://education.qld.gov.au/health/safety/hazards/equip-resources.html>
 - List the bin lifter in the school plant and equipment maintenance schedule.
5. Update instruction and training:
 - Ensure all users have initial training and annual refresher training on equipment operation and any inspection tasks.
 - Always refer to the equipment manual for specific guidance. Bin lifters and other equipment can cause injury to persons and damage to property if used incorrectly.

Resources

- End of Year Clean Up & Relocations Staying Safe Fact Sheet <http://education.qld.gov.au/health/docs/clean-up-activities.pdf>
- Manual tasks and Ergonomics <http://education.qld.gov.au/health/safety/hazards/manual.html>

For further information, please contact your:

- Facilities Services Officer (Asset Maintenance Unit) for further information <https://oneportal.deta.qld.gov.au/Services/Facilities/Forms/Documents/regional-facilities-contact-list.doc>; or
- Regional Health and Safety Consultants
- <http://education.qld.gov.au/health/contacts/hscontacts.html>

Additional information

- Waste Minimisation – DEH <http://www.ehp.qld.gov.au/waste/minimisation/index.html>
- [How to manage work health and safety risks Code of Practice 2011](#)

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Broad risk management considerations for bin lifters

Some bin lifter designs can pose significant injury risks to users. These include potential musculoskeletal injuries such as strain and sprain injury due to manual tasks risk factors, falling object injuries and the bin is unloaded and risks of crush, pinch, blunt force and amputation injuries due to plant design or maintenance issues.

Participative ergonomics for hazardous manual tasks (PERforM) risk assessments on the process of using manual bin lifters have identified the manual tasks risk factors of:

- Awkward posture when moving the bin around
- Excessive force; especially when bins are full and are heavy e.g. papers/magazines;
- Lack of, or limited maintenance leading to mechanical failure and subsequent operator injury;
- Duration of task – 30 mins or more to undertake task
- Repetition - a hand crank or hand pump style bin lifter requires 30 rotations or pumps per bin. Foot operated bins require repeated pumping using the leg and back.

The following table outlines the common risks associated with bin lifters. It is suggested that workplaces consider these aspects as part of their plant selection processes, training plans and equipment operation. When managed safely, bin lifters are a very practical way of minimising the physical strain aspects associated with removing large waste volumes from wheelie bins.

Risks	Suggested controls
Unauthorized use or use by untrained personnel	<ul style="list-style-type: none"> • Only allow trained and authorised operators to use the machine. Operators must read and obey the instructions displayed on the machine. • Keep machine secure when not in use. • If a machine is located in an area where unauthorised persons have access, fit a key - operated isolating switch.
Trapping of hands or feet by moving bin-cradle.	<ul style="list-style-type: none"> • All persons other than the operator must keep well clear while the machine is in use. Never stand inside the swing range of the cradle. • The operator must stand at the 'control' side, and must not attempt to hold the bin or cradle while it is moving. • Do not remove any mesh/screen/guard panel that protects the operator from the moving cradle • Ensure covers are in place to prevent access to the hydraulic power pack, ram and fittings. • Keep body clear of moving parts on bin lifter during operation • Do not put feet under the machine.
Machine tips over	<ul style="list-style-type: none"> • Never operate on uneven or sloping ground. • Engage the wheel brakes before use. • Engage the Bin-retainer (J) hooks if these have been fitted to the machine. • If there is a perceived risk that the machine could topple over, fit and use a Bin-retainer kit.
Electrocution	<ul style="list-style-type: none"> • Ensure there are no overhead power lines, cables or obstructions before the bin lifter is used. • Inspect power source (battery) and leads before using hydraulic lifters
Mechanical failure	<ul style="list-style-type: none"> • Check for damaged or missing parts – complete daily EMR • Do not exceed the safe working load of the bin lifter • Undertake regular maintenance • Use caution when moving heavy wheelie bins • Do not use wheelie bins that do not fit the supports on the bin lifter • Do not use damaged or split wheelie bins
Falling objects	<ul style="list-style-type: none"> • Keep lid of wheelie bins closed during operation • Take caution during windy conditions (dust, liquids and other light waste can be blown away and cause injury to persons).
Work environment	<ul style="list-style-type: none"> • Do not leave the bin lifter outdoors unnecessarily. • Ensure the ground is flat and does not have an incline greater than 6 degrees. • Do not place bin lifter near open flames, or sparks.