

# Pollution Solutions

## POULTRY FARMS

JULY 2000



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# EXPLANATORY NOTES FOR OPERATOR'S ENVIRONMENTAL GUIDE (OEG)

## Purpose of the OEG

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The *Environmental Protection Act 1994* states 'A person must not carry out an activity that causes, or is likely to cause, environmental harm unless the person takes all reasonable and practicable measures to prevent or minimise the harm (the "general environmental duty")'. This clause applies to all persons in Queensland.

Under the *Environmental Protection Act 1994* and *Integrated Planning Act 1997* Local Government licenses and approves businesses that have the potential to cause environmental harm – Environmentally Relevant Activities (ERAs). Poultry farms are level 2 ERAs listed in the *Environmental Protection Regulation 1998*.

All ERAs must have an a development permit and/or environmental authority (approval) which lists the conditions of operation to prevent pollution. However, setting these conditions is only part of the story. Businesses should know how to meet these conditions (compliance) and to go beyond them (best practice).

This Operator's Environmental Guide (OEG) – *Pollution Solutions for Poultry Farms* - has been developed to assist industries to achieve their general environmental duty as above. That is, to achieve compliance with the *Environmental Protection Act 1994* and progress towards best practice.

The OEG was developed jointly by the Brisbane City Council and representatives of the poultry farming industry.

## Limitations of the OEG

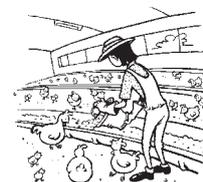
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Council has written this OEG as a guide only. It does not form part of the approval conditions. Complying with this document does not necessarily exempt the licensee from prosecution or ensure compliance with the *Environmental Protection Act 1994, Regulation and Policies* (Air, Water, Noise and Interim Waste).

Approvals may contain conditions that vary from the requirements of the OEG. These are often included because of site specific requirements or because of the nature of the activity. Whether your operational performance meets the conditions of your development permit and/or environmental authority (approval) will be the main determinant of compliance.

The control measures in the OEG are recommendations only. **It remains the responsibility of each operator and employee of the business to satisfy the general environmental duty** applicable to that business. The operator should carefully consider the information in this OEG and put in place measures that help to achieve this objective.

This OEG represents accepted industry practice at the time of issue and is therefore subject to change. Please note the date recorded on the front.



## How to use the OEG

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This OEG is based on three central concepts. These are explained below and each operational process is defined according to these concepts.

### Environmental Outcomes

are those outcomes, or goals, that Council considers important to achieve if the environment is to be protected. **The Environmental Outcomes are highlighted in bold.** You should try to satisfy the general environmental duty. The environmental outcomes in the OEG, however, do not ensure that this duty is achieved and should be considered in conjunction with your development permit and/or approval conditions.

### Compliance

means those control measures that the Council recommends as the minimum required to meet the environmental outcome for the industry.

In some cases, a number of compliance control measures may be listed for one process. In these cases, you are advised to aim for the control measure or combination of control measures that is most likely to achieve the environmental outcome for that process.

Alternatively, you may be able to meet an environmental outcome in a manner that is not listed in this OEG. It is recommended that these instances be discussed with a Council Officer prior to implementation.

Although this guide lists some solutions, Council would encourage operators to develop alternative ideas or innovations that are consistent with the environmental outcome and other relevant requirements.



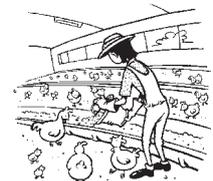
### Best practice

means those control measures that are considered to be above the minimum requirements. They are not compulsory. Best practice incorporates concepts such as waste minimisation, recycling and reuse. Use of best practice control measures may help to improve industry standards and progress towards best practice in the industry. Best practice measures are marked with a  in the text.

In some cases, a business may be required to use a best practice control measure, rather than compliance, if an authorised officer believes that it is necessary to achieve an environmental outcome.

The best practice options listed are not fully inclusive; they are only indicative of the options available. Other best practice options not listed in this OEG may be used.

Importantly, this OEG takes into account changing industry standards, technology improvements, and scientific knowledge and community expectations.



# ENVIRONMENTAL DUTY

## Develop environmental commitment and sound environmental performance

- Develop a commitment to being good neighbours and to preventing or minimising pollution.
- Ensure all staff are aware of the development permit and/or approval conditions and the relevant methods and procedures contained in this OEG.



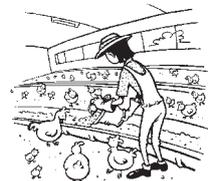
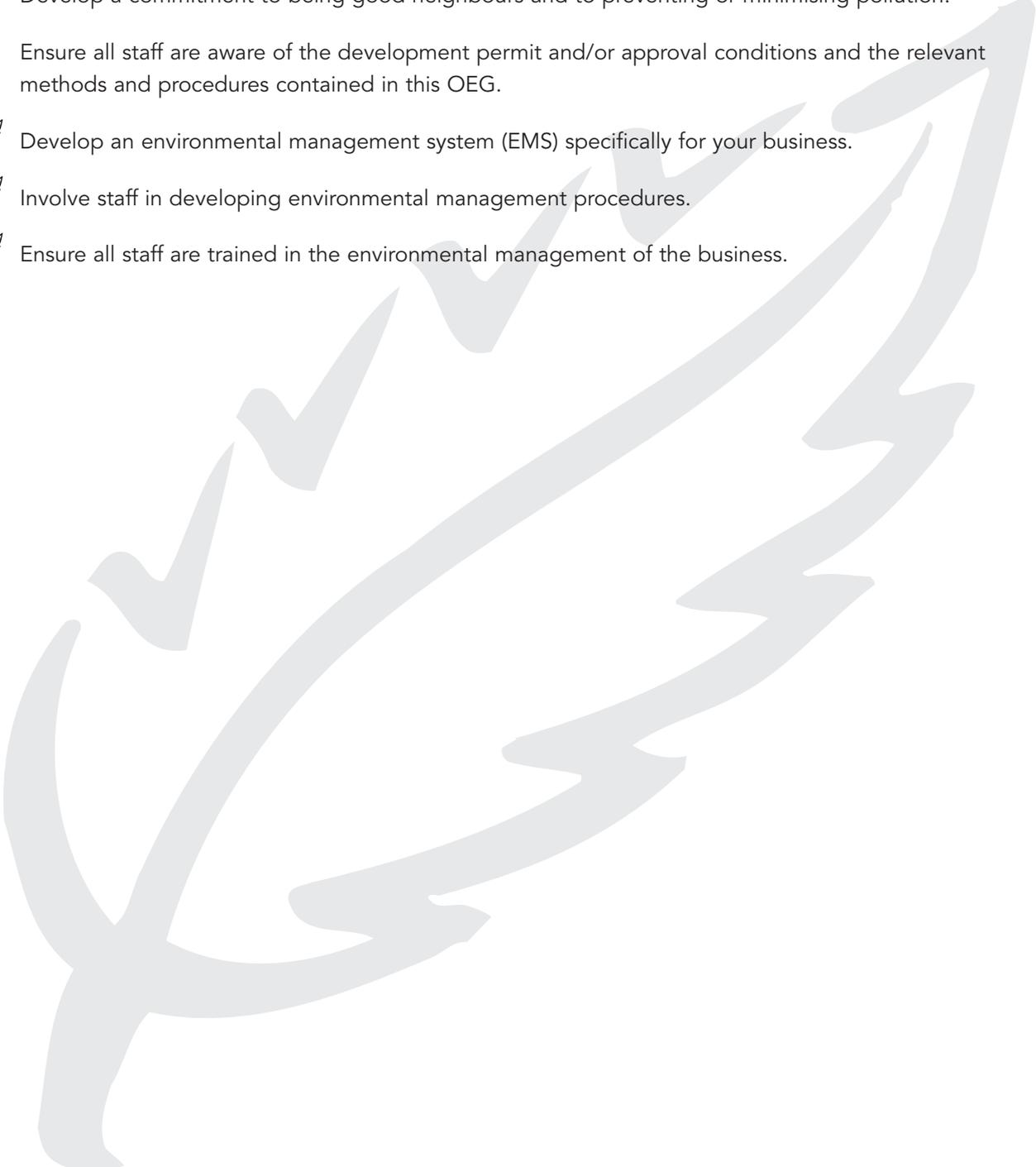
Develop an environmental management system (EMS) specifically for your business.



Involve staff in developing environmental management procedures.



Ensure all staff are trained in the environmental management of the business.



# ENVIRONMENTAL MANAGEMENT

## Implement environmental policies and practices

- The object of the *Environmental Protection Act 1994* is to protect Queensland's environment while allowing for development that improves the total quality of life, both now and in the future, in a way that maintains the ecological processes on which life depends (ecologically sustainable development).

## Environmental Management Program (EMP)

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### Achieve compliance for non-conforming activities

- Operators who are currently unable to comply with the requirements of approval conditions and the OEG may be required to submit an EMP for approval.
- An EMP is a binding agreement between your business and Council that sets out the areas where your business needs to improve to achieve compliance, and the time frame to achieve them. This allows you to operate your business although you may not fully comply, as long as Council has a firm arrangement with you to rectify problem areas in a mutually agreed time.

## Environmental Management System (EMS)

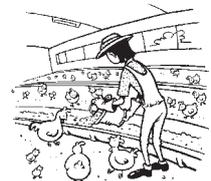
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### Maintain compliance with licence conditions and implement best practices



Develop an EMS to ensure environmental performance and compliance with licensing conditions and the OEG. An EMS provides a systematic method for meeting environmental outcomes, approval conditions and the ways or procedures for meeting compliance. It allows for:

- better practices
- monitoring of performance
- training of staff
- keeping of relevant records
- complaint response
- emergency and incident response.

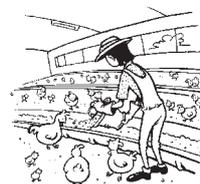


## Plan to protect your environment and reduce your business risks



An EMS addresses noise, air quality, waste and any other relevant environmental issues associated with processes that could reasonably pose a significant risk to the environment, if not appropriately controlled, monitored and/or managed.

- For low risk activities, the EMS should be kept concise with control measures, checklists and records (e.g. development application, waste disposal) maintained.
- In higher risk activities, approval conditions and procedures generally require more detail in an EMS. In some cases, preparation by an environmental consultant is recommended.
- The basic objectives are to increase business performance and reduce environmental risks through good management practices. Key components in the EMS include:
  - monitoring and reporting
  - records
  - training of employees
  - complaint response
  - emergency and incident responses.



# POULTRY FARM PROCESSES AND MANAGEMENT

## Site Selection

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### Ensure long term operation and minimise potential environmental impacts

- Have regard for adjacent and nearby land uses when choosing a new site for a poultry farm.  
**Only sites approved under the Town Plan can be developed for use as a poultry farm.**



Plan to include buffer zones around the poultry farm by adopting suitable separation distances between establishments on a farm and with the farm's neighbours. These zones attempt to minimise potential nuisance impacts on neighbouring land uses.



The shape and size of the block should enable sheds to be built with the following set-back and separation distances recommended by the Department of Primary Industries (DPI). **The following points are guidelines only and the operator should refer to the Development Approval Conditions:**

- 300m from settlements of more than 10 houses
- 100m from well trafficked public roads
- 20m from other boundaries of the land and dry gullies and channels
- 100m from watercourses, wells and bores
- 150m from neighbouring houses
- 500m from poultry sites on adjoining land.



Choose a site with the following characteristics:

- suitable elevation to provide better ventilation and drainage
- level, to reduce site preparation costs
- access to adequate supply of good quality water and three phase electric power
- large enough to accommodate any future planned expansion.



## Layout and Maintenance of Buildings

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### Plan for adaptable design and the uptake of changing technologies

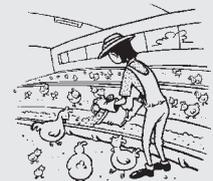
-  The scale of environmental impact is closely linked to shed design, the materials used in the construction of the shed and management of the sheds. All new poultry farm developments should incorporate the latest in animal welfare and environmental management technologies.
-  Permanent buildings should be designed to enable management to 'update' with new technology when it becomes available. This approach would extend the life of buildings beyond their original lifespan and enable the poultry farm to operate efficiently.
-  All materials used for foundations, flooring, external and internal wall linings, roofs, columns, beams, trusses and insulation should have some degree of design flexibility for efficient later modification.
-  Interior linings should be impervious, smooth, easily cleaned surfaces of materials non-toxic to poultry. Floors should be concrete or other impervious material that will permit efficient removal of litter and manure.

### Minimise stock losses from heat stress and provide physical comfort

-  The most suitable orientation for sheds is with the length of the building running from east to west. This arrangement minimises solar absorption during hot weather.
-  Poultry sheds should be built with good ventilation. This will be helped by building the sheds with the following DPI recommended separation distances:
  - 15m from parallel meat chicken sheds, pullet sheds and breeding sheds
  - 20-25m from parallel high rise layer sheds
  - 1m from laying sheds and rearing sheds.
- Design the poultry shed to minimise stock losses from heat stress:
  - provide adequate ventilation control and ensure ventilation openings are shaded and clear of obstructions
  - install fans, high pressure fogging systems and roof sprinklers at strategic locations
  - ensure the availability of adequate emergency water supply
  - landscape the surrounding ground with tall shade trees and lawns.

### Protect soil and water quality

- The shed floors must be impervious to water:
  - compacted clay is the minimum requirement
  -  concrete is best practice.
- The sheds must be adequately roofed and the floor levels raised above the surrounding land or suitably bunded. This will prevent the incursion of rain and stormwater into the production areas.



## Landscaping and Screen Planting

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### Enhance environmental amenity



Plant quick growing species around sheds and the boundary of the property to enhance the environmental amenity.

## Farm Maintenance

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### Effective maintenance to reduce environmental management costs

- Maintain constructed roadways, by-product and waste storage areas, and drainage in good working order.
- Keep product storage and handling facilities clean and hygienic.



Maintain the exterior of all buildings to keep the appearance, security and functioning of the structures up to a high standard. Keep walls, roofs and gutters in good condition to maintain effective ventilation, appearance and function of all buildings.



Maintain the overall site including roads, fences, grass, vegetation, grassed channels, contour banks and dams to ensure the continued aesthetic quality of the area.

## Management of Soiled Litter and Manure

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### Minimise odour and dust nuisance, and protect soil and water quality

- Materials used as litter must be dry and highly absorbent, such as coarse sawdust, wood shavings or shredded paper. Such litter can be re-used as a fertiliser to avoid the problem of disposal.
- Litter residues must be removed from sheds in a nuisance free manner - do not generate excessive levels of dust.



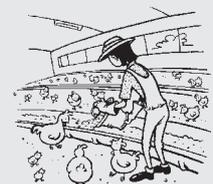
Mechanically remove litter. The frequency of removal is to be determined by the poultry application.



In the long term, nutrient accumulation may change the chemical balance and cause soil degradation. Monitor manure levels in free range farms and take steps to ensure that manure concentrations do not become excessive. Maintain adequate groundcover.

### Minimise odour generation and impacts on the health of livestock and employees

- Excessively wet litter or manure causes odour and fly problems. Manure must be removed if it becomes excessively wet or the build-up blocks ventilation. You may allow a dry residue base of approximately 10 centimetres to remain under cages to provide an adequate absorption medium for wet manure.
- Take adequate precautions to prevent odour and dust nuisances when soiled litter or manure is removed, particularly under windy or rainy conditions. Residues left outside sheds may create odour and disease or fly problems if allowed to become wet.



### **Minimise environmental nuisance from improper procedures**

- Never stockpile litter and manure in the open.

### **Protect air quality and minimise dust and odour nuisance**

- Operators / growers are to supervise the removal of litter and manure. This will ensure environmental harm or nuisance is not caused and that proper environmental practices are followed. Records must be kept of each removal.
- Litter may be disposed off site in an authorised landfill or re-used according to the following section (*Re-use of Soiled Litter and Manure*).
- Transport soiled litter and manure in covered vehicles to minimise odour and dust nuisance on roadways.

## **Re-use of Soiled Litter and Manure**

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### **Reduce waste disposal costs**



Poultry litter and manure can be used as valuable fertiliser. The recommended methods for use of litter and manure as fertiliser include:

- direct land application (although land application is discouraged and must be assessed by a suitably qualified consultant to determine land suitability for nutrient accumulation and application rates of soiled litter and manure)
- off-site removal to commercial processors such as composting/pelleting operations, the nursery industry and market gardens
- composting.

### **Protect water quality**

- Surface runoff from land application or composting areas must be collected and treated. Litter and manure must not be spread within 20m of waterways, wetlands, open drains, boundaries or residences.

### **Prevent odour nuisance**



Avoid applying manure on weekends, public holidays, and when the prevailing wind direction is towards neighbours or public roads.



## Disposal of Dead Poultry and Unhatched Eggs

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### Protect air quality and prevent odour nuisance

- Remove dead birds and unhatched eggs from the sheds or brooders daily. Place in a vermin and odour proof container prior to disposal.
- Dispose of:
  - wastes every 24 to 48 hours to minimise odour and health problems. Keep records of these removals, and
  - dead birds and other associated waste by a licensed waste removalist to a fertiliser plant for conversion into fertiliser, an approved Council facility or by other nuisance free method satisfactory to Council (e.g. composting).

### Prevent odour generation and protect water quality

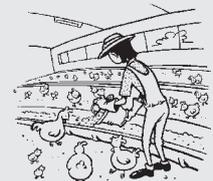
- Where dead poultry is composted, all measures must be taken to prevent odour nuisance and the attraction of vermin. That is, materials must be composted effectively (minimises odour generation) and securely sealed. Leachate must be collected and recycled (back into the compost heap), or treated/disposed.
- Dead poultry and associated wastes should not be buried on site without approval from Council. The suitability of the site must be assessed in terms of water catchment, possible contamination of groundwater or stormwater and possible odour nuisance.

## Shed Hygiene and Management

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### Protect air quality and prevent odour nuisance

- Poultry sheds must be managed and maintained to ensure that litter does not become 'wet' and cause an odour problem.
- Avoid overstocking and keep sheds well ventilated (see *Code of Practice for the Welfare of Domestic Fowl*).
- Keep ammonia concentrations to an acceptable level by maintaining suitable conditions of temperature, ventilation and humidity.
- Correctly position and properly maintain watering systems such as waterers and drinker nipples. This will minimise the moistening of manure through drips and spillage and prevent odour nuisance.
- Roofs must be watertight. Divert rainwater, irrigation sprinklers and surface water from the sheds to avoid wetting the production areas and causing an odour nuisance.



- Excessively moist (>50%) or wet poultry litter must be replaced or filled out with fresh litter to reduce the moisture content to an acceptable level (30-40% in well managed litter and aged manure).
- Good ventilation must be provided to dilute odour strength during the removal of dead poultry, soiled litter and manure from the property. Where passive airflow is insufficient, mechanical ventilation must be provided.
- Ventilation fans should be directed away from neighbours or screened by a vegetative buffer or other suitable barrier.
- Mechanical ventilation must be adjusted to ensure sufficient air flow to provide adequate cooling and oxygen to the birds without creating a dust problem.

## Cleaning

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### Prevent flock health problems and protect worker health and safety



Empty sheds should be washed down with high pressure hoses, hot water, foaming or steam cleaning. Any detergents used should be biodegradable with a low phosphate concentration.

### Minimise odour nuisance

- Ensure that the use of biocides does not cause an odour nuisance and is in accordance with manufacturers' and Workplace Health and Safety requirements. These activities must not be conducted in unsuitable environmental conditions (e.g. when the wind is blowing in the general direction of neighbours).
- Where fogging systems are used, install high volume low pressure (HVLP) foggers and adjust them to minimise the amount of moisture reaching the litter. This will minimise ammonia generation from bacterial action within the litter and reduce risk of odour nuisance to neighbours.

### Protect water quality and ensure proper disposal of sewerable material

- Wastewater from washdown and equipment cleansing and other activities must be directed to the sewerage system under the conditions of a Trade Waste Permit, or collected for recycling or disposal by a licensed waste removalist.
- Never discharge wastewater from this activity to the stormwater system, land or water.



# STORAGE OF POTENTIAL CONTAMINANTS



## Minimise accidental spills and prevent contamination of soil, stormwater, ground-water and/or air

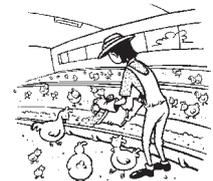
- Store chemicals and other materials that may contaminate soil, stormwater, groundwater and/or air in a manner that prevents or minimises the impact of any accidental spills or releases. This means:
  - potential liquid contaminants stored in a secure, covered area away from through traffic. Such contaminants may include disinfectants, fuels, oils, detergents, poisons, cleaning solvents, alkaline or acidic solutions;
  - storage areas provided in an impervious bunded area or compound to contain any leakage or spillage. The capacity of the compound shall be at least the capacity of the largest tank or package in the compound (Bunding may not be required where the storage is inside a workshop or similar area and the operator can demonstrate that any spills will not escape the area and contaminate stormwater or surrounding ground.); and
  - where dangerous goods (as defined by the ADG Code) are stored in quantities in excess of minor storage (refer to the Note below), the capacity of the compound shall comply with the requirements of the relevant legislation, Australian Standard and/or Code of Practice.

Relevant Australian Standards may include:

- AS 1940 *The storage and handling of flammable and combustible liquids*
- AS 2022 *Anhydrous ammonia – Storage and handling anhydrous ammonia*
- AS 2714 *The storage and handling of hazardous chemicals - Class 5.2 substances (organic peroxides)*
- AS 3780 *The storage and handling of corrosive substances*
- AS 3833 *The storage and handling of mixed classes of dangerous goods in packages and intermediate bulk containers*
- AS 4081 *The storage, handling and transport of liquid and liquefied polyfunctional isocyanates*
- AS 4326 *The storage and handling of oxidising agents*
- AS 4452 *The storage and handling of toxic substances*

*Note: Storage of materials in excess of minor storage quantities may require approval, licensing and full compliance with the above standards. Contact Council or the relevant dangerous goods administering authority for further information.*

- Storage must be:
  - away from any heating or ignition sources
  - provided with adequate natural or mechanical ventilation relevant to the nature of the substance and its use.



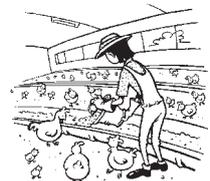
### **Reduce volatile emissions**

- Avoid unnecessary exposure of volatile liquids (e.g. solvents, thinners) by storing materials in closed containers. Containers are to be kept closed when not in use.
- Keep Material Safety Data Sheets (MSDS) for all hazardous substances used or stored on site. In case of an emergency an MSDS is the most effective means of assessing risk.

*CAUTION!:* Some classes of materials may react dangerously if mixed or stored together. Incompatible materials must be segregated to minimise the possibility of any reaction. Read and follow all directions on labels. Refer to the material's Material Safety Data Sheet (MSDS) or contact the manufacturer for further information.

### **Respond promptly to spills and leaks**

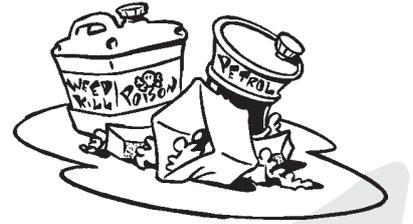
- Keep clean-up equipment, absorbent materials, and any materials for neutralising or decontaminating spills on the premises. Staff are to be adequately trained in the use of these materials.
- Immediately take action to clean-up spills or leaks. Contaminated materials are not to be reused and must be appropriately contained and packaged for transport for either recycling or disposal by a licensed waste operator.
- Clean up any feed spillages during bulk deliveries or bagging operations to prevent vermin, bird and odour problems.



# WASTE MANAGEMENT

## Reduce waste of material resources and landfill space

- Minimise all wastes produced by site activities.



## Recycle and reduce waste disposal costs



Disposal of wastes should be viewed as the last option in environmental management strategies. The life of material resources may be extended by recovery, reuse and recycling.



Implement a waste recycling (reuse) system for non-hazardous solid wastes using separate containers for individual waste streams (refer to Solid Wastes section).

- Clearly label waste containers and locate them in convenient areas to encourage use. Mixing wastes may make them unsuitable for reuse or recycling.

## Protect soil, stormwater and groundwater quality

- Store solid wastes undercover so contaminants cannot be washed to stormwater by rain.
- Never dispose of waste on site.



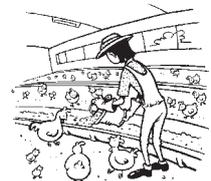
Use wet/dry vacuum cleaners with dust filters for general cleaning of floors instead of sweeping and hosing with water.

## Prevent landfill hazards

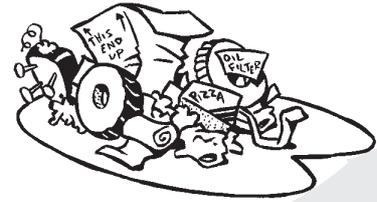
- Material put into industrial bins will generally go to landfill. Do not dispose of gas cylinders, asbestos-containing materials or synthetic-mineral fibres into an industrial bin; instead a licensed waste removalist should dispose of wastes.
- Only put solid inert waste in industrial bins.

## Protect air quality

- Incinerating waste on site is prohibited.



# SOLID WASTES



## Hazardous Wastes (regulated)

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### Prevent contamination of landfill, soil and water

- Regulated wastes are those that have been identified as unsafe for municipal or refuse landfill disposal. These wastes are listed in Schedule 7 of the *Environmental Protection Regulation 1998* (refer to Appendix 2) and must be disposed of by a licensed waste removalist.
- Proof of proper disposal of hazardous wastes should be kept for presentation to Council officers. Proof includes:
  - hazardous waste disposal facility dockets
  - waste manifest documents
  - licensed waste transport receipts.

## Non-hazardous Wastes

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### Conserve material resources, landfill space and reduce waste disposal costs



The following solid wastes are recyclable and should be collected in separate containers for disposal at a waste recycling and reprocessing facility:

- clean cardboard
- aluminium cans, drink bottles
- plastics
- steel drums, drained steel cans
- rags (can be laundered and reused)
- batteries
- tyres.

### Ensure appropriate disposal of non-recyclable solid wastes

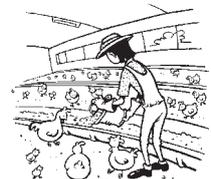


Recycle organic wastes using composting methods, worm farms or similar.

- Always dispose of non-recyclable solid waste at a licensed general waste disposal facility (e.g. local government service or approved waste removalist).

### Prevent air contamination by harmful dusts

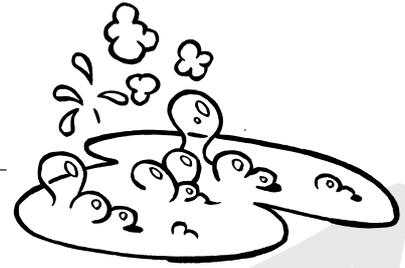
- Bag floor sweepings and other dusty wastes before disposing via the industrial bins.
- Only transport general solid wastes in your own vehicle or by a licensed waste transporter.



# LIQUID WASTES

## Non-sewerable Wastes (regulated)

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### Prevent contamination of landfill, soil and water

- Non-sewerable (regulated) wastes are those that have been identified as unsafe for sewer disposal. These wastes are outlined in Schedule 7 of the *Environmental Protection Regulation 1998* (refer to Appendix 2) and must be disposed of by a licensed waste removalist.
- Keep proof of proper disposal of non-sewerable wastes for presentation to Council officers upon request. Proof includes:
  - hazardous waste disposal facility docket
  - waste manifest docket
  - licensed waste transport receipts.



Separate out recyclable liquid wastes for collection by a licensed waste removalist. Recyclable liquid wastes include solvents, thinners and waste oil.

## Sewerable Wastes

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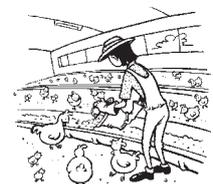
### Ensure compliance with licence conditions (Trade Waste Permit)

- Obtain a Trade Waste Permit from Council prior to discharge of any trade waste to the sewer. The permit establishes the discharge conditions for the waste.
- Washdown waters must either be directed to the sewerage system under the conditions of the Trade Waste Permit, or collected for recycling or disposal by a licensed waste removalist.
- Water-miscible solutions are generally accepted under a Trade Waste Permit. This may include dilute organic wastes.

### Prevent contamination of landfill, soil and water



On-site treatment and reuse of wastewater (e.g. washdown waters) can be used to replace or reduce disposal of wastewater to sewer. The systems of treatment and nature of reuse must not cause pollution or be hazardous to persons (refer to Appendix 3).



# STORMWATER MANAGEMENT

## Prevent contamination of soil, stormwater and local watercourses

Stormwater flows untreated to your local creek or waterbody.

- Prevent stormwater from entering or leaving work areas where it may become contaminated with wastes, grease, oils, chemicals, particles or solvents.
  - Cover and bund such areas where necessary to avoid the incursion of stormwater and prevent hazardous and trade wastes from contaminating the surrounding soil and stormwater system.
- Prevent wastewater containing contaminants (e.g. detergents used for cleaning areas) from contaminating stormwater or the ground. Do not hose workshop floor, vehicles or machinery parts on to the surrounding soil or into stormwater drains.

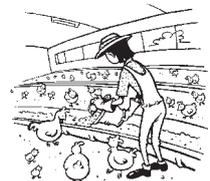


## Avoid sewerage system overload

- Do not direct stormwater to the sewerage system. It is an offence under the *Sewerage and Water Supply Act 1949*.
- Contain any contaminated stormwater (e.g. holding tank) and:
  - dispose by a licensed waste removalist
  -  treat on-site to an appropriate standard for discharge
  -  treat on-site for recycling or reuse (refer to Appendix 3).

**CAUTION!:** Contaminating stormwater and other Queensland waters may result in an 'on the spot' fine or prosecution under the *Environmental Protection Act 1994*.

*The Environmental Protection (Water) Policy 1997 prohibits the discharge of 'certain things' into a roadside gutter, stormwater or a water, or to a place where it could be reasonably expected to move or to be washed into a roadside gutter, stormwater or a water. Discharges to stormwater must comply with the Environmental Protection (Water) Policy 1997.*



# AIRBORNE WASTES



## Dust Control

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### Maintain and protect local and regional air quality, soil and waters

- Control dust generation so that particles do not move off-site. Dusts may contain hazardous materials and contaminate air, soil and waters.

### Minimise dust emissions and possible associated contaminants from exposed surfaces

- Specify speed limits on exposed road surfaces (< 40 km/hr).
-  Erect barriers to discourage vehicle movements on unsealed areas.
- Regularly water unsealed roads (clean water @ 1-2 l/m<sup>2</sup>) to prevent nuisance from traffic movements.
-  Seal, turf or cover unsealed sites with a dust suppressant such as compacted road base or aggregate to minimise airborne dust. Dust may also be suppressed by applying organic dust-binding agents.
- Do not use waste oil or other contaminants on dirt roads as a dust suppressant or weed killer. This practice may lead to the site being notifiable under the *Environmental Protection Act 1994*.

### Minimise dust emissions, and potential contaminants

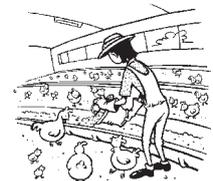
- Immediately clean up material spilt on traffic areas before vehicle movement can move it.
- Regularly collect and place in a sealed bag any floor sweepings, dust, powder waste or absorbent clean up materials, before disposing in a covered waste bin.
- The transportation of soiled litter and manure must be in covered vehicles or containers to minimise odour and dust emissions.
- Ensure that operations such as the filling of feed silos, removal of poultry, soiled litter and manure and the spreading of fresh litter do not create dust nuisance.
- Adjust mechanical ventilation to ensure sufficient air flow to provide adequate cooling and oxygen to the birds without creating dust nuisance.
- Cover raw material with high dust generating potential.

## Odour/Volatile Emissions

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### Reduce odour and volatile emissions to prevent environmental nuisance

- Maintain adequate ventilation and hygiene to reduce the generation of odour.
-  Maintain good housekeeping and cleaning practices.
-  Use mechanical ventilation systems and activated carbon filters or scrubbers to prevent the release of any uncontrolled and objectionable odours from buildings or rooms.
- Volatile liquids (solvents);
  - must be kept cool and stored in a covered container to prevent evaporation into the environment
  -  should be pumped instead of poured.



# NOISE MANAGEMENT

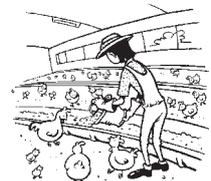


## Prevent nuisance and unreasonable noise

- The activity must not cause an 'unreasonable noise' as defined in the *Environmental Protection (Noise) Policy 1997*.
- Use the layout of the buildings and the natural topography as noise barriers where possible. Cost-effective landscaping improvements (e.g. fencing, mounds, and plants) can be implemented to reduce noise emissions and therefore noise complaints.
- It is best to avoid using extension telephone bells and public address systems but if they are considered necessary keep them at the lowest possible audible level. Ensure that music does not cause an annoyance to the neighbours.
- Ensure that silencers fitted to air compressors, pumps, fans and blowers and other noisy machinery are effective.
- Enclose or acoustically screen noisy equipment not complying with *Environmental Protection (Noise) Policy 1997* to muffle noise. Locate equipment or operations away from noise sensitive land uses.
- Reduce structural-borne noise and vibration by mounting equipment on vibration isolating platforms, rubber mats, or by increasing the mass weight of equipment.
- Fit mechanical ventilation systems (e.g. air conditioners, fans) with noise-proof ducting and acoustically designed intake and exhaust openings.
- Ask for noise-reduction devices when purchasing new plant and equipment.
- Close windows and roller doors facing noise-sensitive premises and seal all unnecessary openings.
- Only operate heavy vehicles in daylight hours .
- Regularly maintain all equipment and vehicles and attend promptly to any loose parts, rattling covers, worn bearings and broken components. This should be addressed through a regular maintenance schedule and correct staff training.

*Note: Premises causing ongoing noise problems may be required to introduce other noise control measures, including noise monitoring and reporting.*

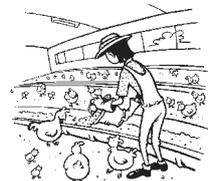
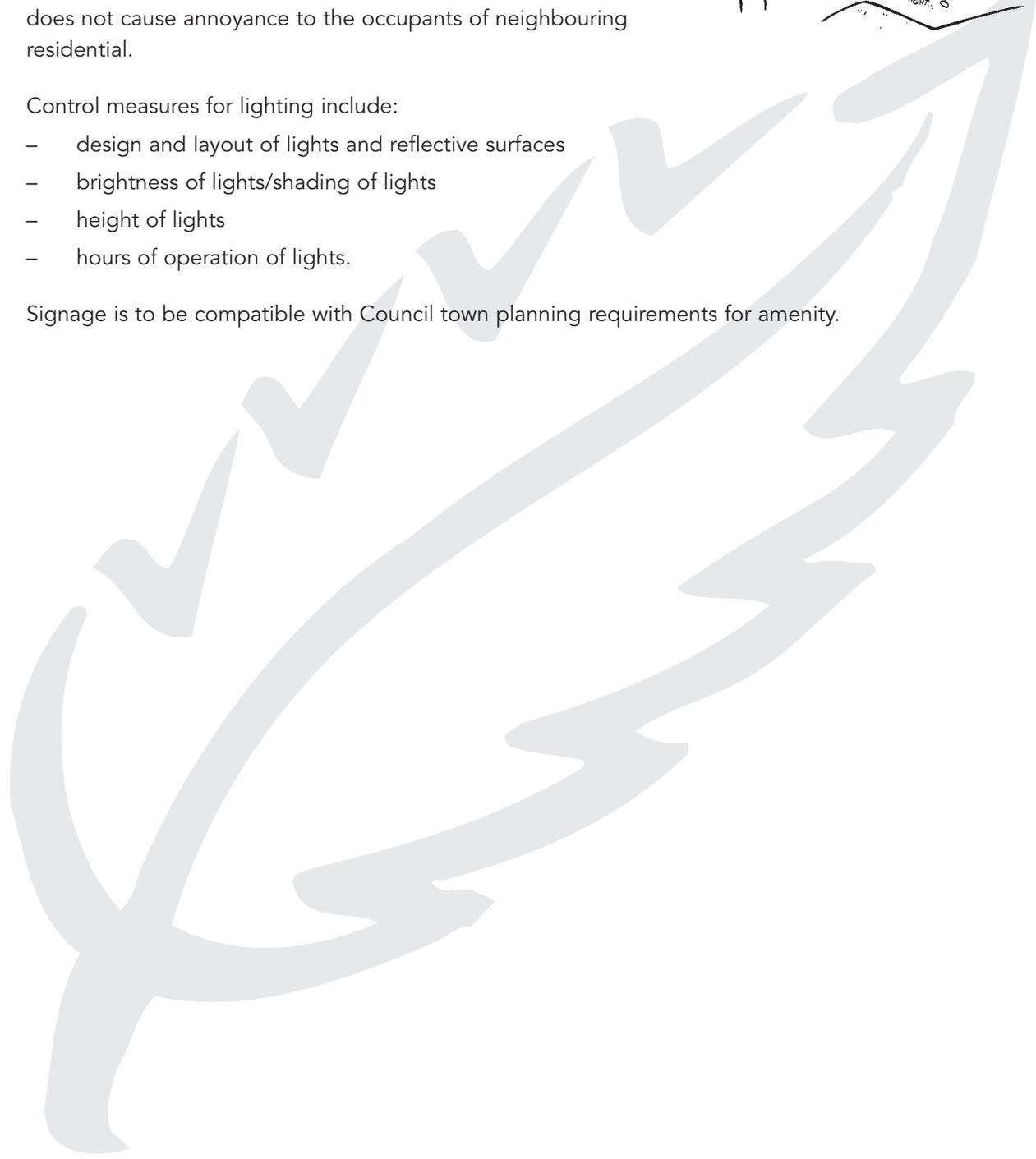
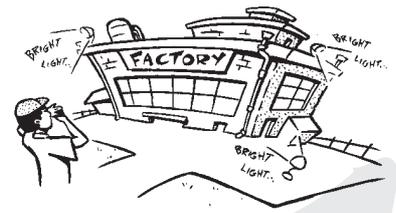
*Operators should be aware of the cumulative effects of noise levels on the receiving environment, and where practical, take appropriate steps to reduce noise levels from their operation, particularly before 7am and after 6pm.*



# VISUAL AMENITY

## Prevent environmental nuisance

- Ensure that lighting of the premises for security or any other reason does not cause annoyance to the occupants of neighbouring residential.
- Control measures for lighting include:
  - design and layout of lights and reflective surfaces
  - brightness of lights/shading of lights
  - height of lights
  - hours of operation of lights.
- Signage is to be compatible with Council town planning requirements for amenity.



# APPENDIX 1 – DEFINITIONS

## **Bund**

An impervious embankment or wall of brick, stone, concrete, or other approved material that may form part or all of the perimeter of a compound

For example, a bund may be used to contain spills from a fuel tank.

## **Environmental Harm**

An adverse effect (whether temporary or permanent and of whatever magnitude, duration or frequency) on an environmental value and includes environmental nuisance, *Environmental Protection Act 1994*.

## **Environmental Management Program (EMP)**

A specific program that, when approved, achieves compliance with the *Environmental Protection Act 1994* for the matters dealt with by the program by:

- (a) reducing environmental harm
- (b) detailing the transition to an environmental standard

## **Environmental Management System (EMS)**

Is a systematic approach to managing the environmental aspects of an activity. As a minimum for the lower risk activities administered by Council, an EMS would entail documenting standard operating procedures for the aspects of the activity that may result in environmental harm or nuisance.

## **Environmental Nuisance**

Any unreasonable interference or likely interference with an environmental value that is caused by noise, dust, odour, light, an unhealthy, offensive or unsightly condition because of contamination, or another way prescribed by regulation, *Environmental Protection Act 1994*.

## **Environmental Value**

- (a) A quality or physical characteristic of the environment that is conducive to ecological health or public amenity or safety; or
- (b) another quality of the environment identified and declared to be an environmental value under an environmental protection policy or regulation, *Environmental Protection Act 1994*.

## **General Environmental Duty**

A person must not carry out an activity that causes, or is likely to cause, environmental harm unless the person takes all reasonable and practicable measures to prevent or minimise the harm.

## **Material Safety Data Sheets (MSDS)**

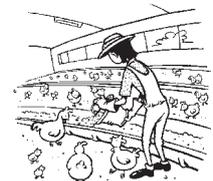
Information sheets on products that manufacturers are required to provide. They outline the composition, applications and precautions that need to be taken in using such products.

## **Regulated Liquid Wastes**

Those wastes that have been identified as unsafe for sewer disposal due to their chemical nature (e.g. flammable). These wastes are outlined in Schedule 7 of the *Environmental Protection Regulation 1998*.

## **Regulated Solid Wastes**

Those wastes that have been identified as unsafe for landfill disposal. These wastes are outlined in Schedule 7 of the *Environmental Protection Regulation 1998*.



**Stormwater**

Rainfall that runs off hard surfaces, such as roofs, roads and car parks, or off ground that has become saturated. Stormwater flows untreated to local creeks.

**Trade Waste**

Liquid wastes from any business, industry, trade or manufacturing process approved for sewer disposal other than domestic sewage

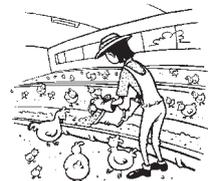
**Unreasonable Noise**

An unreasonable noise is one which:

- (a) causes unlawful environmental harm because of:
  - its characteristics
  - its intrusiveness
  - the time at which it is made
  - where it can be heard
  - other noises ordinarily present at the place where it can be heard
- (b) is not declared to be reasonable in an Environmental Protection Policy.

**VOCs (Volatile Organic Compounds)**

Evaporated organic solvents (e.g. hydrocarbons or alcohols, or unburnt liquid fuels) which are known or suspected to have environmental or health effects. Examples of VOCs include solvents, thinners, acrylic lacquers and fuels.



## APPENDIX 2 – SCHEDULE 7 - REGULATED WASTES

Abattoir effluent	Heterocyclic organic compounds containing oxygen, nitrogen or sulphur	Pharmaceutical substances
Acids and acid solutions	Hydrocarbons (oxygen, nitrogen or sulphur)	Phenolic compounds (other than solid inert polymeric materials)
Adhesives (other than solid inert polymeric materials)	Industrial plant wash down waters	Phosphorus
Alkalis and alkaline solutions	Infectious substances	Pickling liquors
Antimony	Inks	Polychlorinated biphenyls and related substances
Arsenic	Inorganic cyanides and cyanide complexes	Polymeric lattices
Asbestos (all chemical forms)	Inorganic sulphur compounds	Poultry processing wastes
Azides	Isocyanate compounds (other than solid inert polymeric materials)	Quarantine waste
Barium	Laboratory chemicals	Reactive chemicals
Batteries	Lead	Reducing agents
Beryllium	Lime neutralised sludges	Resins (other than solid inert polymeric materials)
Biocides	Lime sludges	Saline effluent and residues
Boiler blowdown sludge	Materials or equipment contaminated with infectious substances	Selenium
Boron	Mercaptans	Silver compounds
Cadmium	Mercury and anything containing mercury	Solvent recovery residues
Caustic solutions	Metal finishing effluent and residues	Surfactants
Chlorates	Methacrylate compounds (other than solid inert polymeric materials)	Tallow
Chromium	Nickel	Tannery effluent and residues
Contaminated soils	Oil interceptor sludges	Tars and tarry residues
Copper compounds	Oil water emulsions and mixtures	Tellurium
Cytotoxic wastes	Oils	Textile effluent and residues
Detergents	Organic solvents	Thallium
Distillation residues	Oxidising agents	Timber preservative effluent and residues
Dyes	Ozone depleting substances	Treatment tank sludges and residues (including sewage tank sludges and residues)
Electroplating effluent and residues	Paint sludges and residues	Tyres
Filter backwash waters	Perchlorates	Vanadium
Filter cake sludges and residues	Pesticides	Vegetable oils
Fish processing waste	Petroleum tank sludges	Vehicle wash down waters
Fly ash		Wool scouring effluent & residues
Food processing waste		Zinc compounds

## APPENDIX 3 – ON-SITE TREATMENT AND REUSE OF WASTEWATER OR STORMWATER

- a) The operator should consult with the Council regarding any system for the collection, treatment and reuse of wastewater (e.g. washdown waters) or stormwater that may be contaminated. This needs to be approved by Council to ensure the method and level of treatment is adequate and safe.
- b) It is generally necessary to test and monitor treated waters to demonstrate effectiveness of the system for Council approval.
- c) Consideration must be made of:
  - volumes to be treated
  - handling and storage
  - key contaminants
  - types of treatment
  - disposal of wastes (e.g. sludge)
  - safety and hygiene
  - testing and frequency.

