



Transport
Roads & Maritime
Services

Technical Guide

Management of road construction and
maintenance wastes

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Abbreviations

ASM	Acid Sulfate Materials
CCA	Copper Chrome Arsenate
CCO	Chemical Control Order
CEMP	Contractors Environmental Management Plan
CPI	Consumer Price Index
EPA	Environment Protection Authority
EPL	Environment Protection Licence
ERA	Extended Regulated Area
IBC	Intermediate Bulk Container
POEO	Protection of the Environment Operations Act 1997
REF	Review of Environmental Factors
RMS	Roads and Maritime Services
SEE	Statement of Environmental Effects
SMA	Sydney Metropolitan Area
VENM	Virgin Excavated Natural Materials
ENM	Excavated Natural Material
WARR	Waste Avoidance and Resource Recovery Strategy
WHS	Work Health and Safety

Glossary

Agent	A business that acts on behalf of a waste producer and has a written agreement with the waste producer to arrange the movement of load(s) of waste on the producer's behalf.
Consignment authorisation	An approval given by a receiving facility or the EPA to waste producers or their agents to transport a specific type of waste for a period of up to one year. It is a <u>legal requirement</u> that a consignment authorisation be issued before waste which must be tracked can be transported.
Consignor	The sender of the waste to a receiving facility. The consignor can be the producer of the waste or an agent consigning the waste on behalf of the waste producer.
Temporary stockpile site	Temporary stockpile sites are those generally project related, with their use limited to the duration of a project. These stockpile sites are generally established at the beginning of the project and used throughout the project period. Once the project is complete, the site is to be decommissioned and the land restored back to a condition suitable for its intended future use.
Trackable waste	These are wastes that under the Protection of the Environment Operations (Waste) Regulation 2014 must be tracked from the point of origin to the point of disposal using the EPA's online waste tracking system. The list of trackable waste is listed in Schedule 1 of the Regulation and in a fact sheet available on the EPA's website. Table 3-4 of this Guideline also lists the common Roads and Maritime wastes that must be tracked.
Transport certificate	The document used to record a waste movement.
Waste facility	Any premises used for the storage, treatment, processing, sorting or disposal of waste.

Waste Definitions

Animal waste	includes dead animals and animal parts and any mixture of dead animals and animal parts
Asbestos	<p>means the fibrous form of those mineral silicates that belong to the serpentine or amphibole groups of rock-forming minerals, including actinolite, amosite (brown asbestos), anthophyllite, chrysotile (white asbestos), crocidolite (blue asbestos) and tremolite.</p> <p>There are two types of asbestos:</p> <ul style="list-style-type: none"> • <u>Bonded asbestos</u>: means any material (other than friable asbestos material) that contains asbestos (eg fibro, asbestos cement sheeting, asbestos water or drainage pipes) • <u>Friable asbestos</u>: means any material that contains asbestos and is in the form of a powder when or can be crumbled, pulverised or reduced to powder by hand pressure when dry.
Asbestos waste	means any waste that contains asbestos.
Building and demolition waste	<p>means unsegregated material (other than material containing asbestos waste or liquid waste) that results from:</p> <ul style="list-style-type: none"> • the demolition, erection, construction, refurbishment or alteration of buildings other than: <ul style="list-style-type: none"> ○ chemical works, or ○ mineral processing works, or ○ container reconditioning works, or ○ waste treatment facilities, or • the construction, repair or alteration of infrastructure development such as roads, tunnels, sewage, water, electricity, telecommunications and airports, • and includes materials such as: <ul style="list-style-type: none"> ○ bricks, concrete, paper, plastics, glass, metal, and ○ timber, including unsegregated timber, that may contain timber treated with chemicals such as copper chrome arsenate (CCA), high temperature creosote (HTC), pigmented emulsified creosote (PEC) and light organic solvent preservative (LOSP). <p>but does not include excavated soil (for example, soil excavated to level off a site prior to construction or to enable foundations to be laid or infrastructure to be constructed).</p>
Dangerous goods	goods that meet the definition of a 'dangerous good' within the meaning of the Australian Code for the Transport of Dangerous Goods by Road and Rail.
Excavated natural material	<p>is naturally occurring rock and soil (including but not limited to materials such as sandstone, shale, clay and soil) that has:</p> <ol style="list-style-type: none"> a) been excavated from the ground, and

	<p>b) contains at least 98% (by weight) natural material, and</p> <p>c) does not meet the definition of Virgin Excavated Natural Material in the Act.</p> <p>Excavated Natural Material does not include material that has been processed or contains acid sulphate soils (ASS) or potential acid sulphate soils (PASS).</p>
Excavated public road material	<p>relates to the re-use of road construction materials under the EPA's excavated public road material resource recovery order and exemption 2014. Excavated public road material is rock, soil, sand, bitumen, reclaimed asphalt pavement, gravel, slag from iron and steel manufacturing, fly and bottom ash, concrete, brick, ceramics and materials that hold a resource recovery order for use in road making activities; and that have been excavated during the construction and maintenance of council and Roads and Maritime Services public roads and public road infrastructure facilities.</p> <p>Excavated public road material does not include any waste that contains coal tar or asbestos, or any waste that is classified as hazardous, restricted solid, special or liquid waste as defined by the POEO Act and the EPA's Waste Classification Guidelines.</p>
Food waste	<p>means waste from the manufacture, preparation, sale or consumption of food but does not include grease-trap waste</p>
Garden waste	<p>means waste that consists of branches, grass, leaves, plants, loppings, tree trunks, tree stumps and similar materials, and includes any mixture of those materials.</p>
Manure	<p>includes any mixture of manure and biodegradable animal bedding, such as straw.</p>
Raw mulch	<p>relates to the re-use of raw mulch under the EPA's raw mulch resource recovery exemption and order 2014. Raw mulch is plant material that by virtue of the nature and source of the material poses minimal risk of the presence of plant propagules, pathogens and other contaminants.</p> <p>Such materials may be shredded and/or screened to a preferred particle size grading for particular applications. Raw mulch only includes:</p> <p>(a) horticultural barks, leaf mulch and wood chip mulch produced from forestry and sawmill residues, and urban wood residues; and</p> <p>(b) branches, tree stumps and bark that are absent of leaves, flowers, fruit and plant propagules.</p>
Reclaimed asphalt pavement	<p>an asphalt matrix which was previously used as an engineering material and which must not contain a detectable quantity of coal tar or asbestos.</p>
Resource Recovery Exemptions	<p>are granted by the EPA where the land application or use as fuel of a waste material is a genuine, fit for purpose, reuse of the waste rather than another path to waste disposal. An exemption applies to the user of the material, and facilitates the use of these waste materials outside of certain requirements of the waste regulatory framework.</p>
Resource Recovery	<p>are granted by the EPA where the land application or use as fuel of a waste material is a genuine, fit for purpose, reuse of the waste rather than</p>

Orders	another path to waste disposal. Resource recovery orders apply to the generators of materials, and include conditions which generators and processors of waste must meet to supply the waste for land application, use as fuel or in connection with a process of thermal treatment. They may include specifications, record-keeping, reporting and other requirements.
Recovered aggregates	relates to the re-use of recovered aggregates under the EPA's recovered aggregate resource recovery exemption and order 2014. Recovered aggregates are material comprising of concrete, brick, ceramics, natural rock and asphalt processed into an engineered material. This does not include refractory bricks or associated refractory materials, or asphalt that contains coal tar.
Virgin excavated natural material	<p>means natural material (such as clay, gravel, sand, soil or rock fines):</p> <ul style="list-style-type: none"> • that has been excavated or quarried from areas that are not contaminated with manufactured chemicals or process residues, as a result of industrial, commercial, mining or agricultural activities, and • that does not contain sulfidic ores or soils, and • that includes excavated natural material that meets such criteria for virgin excavated natural material as may be approved for the time being pursuant to an EPA gazettal notice.
Waste tyres	means used, rejected or unwanted tyres, including casings, seconds, shredded tyres or tyre pieces.
Wood waste	means sawdust, timber off cuts, wooden crates, wooden packaging, wooden pallets, wood shavings and similar materials, and includes any mixture of those materials, but does not include wood treated with chemicals such as copper chrome arsenate (CCA), high temperature creosote (HTC), pigmented emulsified creosote (PEC) and light organic solvent preservative (LOSP).

Disclaimer

This Guideline is provided for information and guidance only and does not replace formal legal advice nor does it relieve Roads and Maritime Services staff and contractors of their obligations under statute or general law.

Any legislative and regulatory requirements (including codes, regulations or standards) take precedence over the Guideline. This Guideline should be considered in conjunction with other Roads and Maritime guidelines and technical directions. The documents referred to in the Guideline may also change over time and should be checked for currency.

1. Introduction

Roads and Maritime's construction and maintenance activities often involve the management of significant quantities of waste materials. Activities such as earthworks, road pavement construction and rehabilitation, soil stockpiling and the operation of our works depots all generate wastes that must be managed in accordance with our legal obligations.

The generation of these types of wastes has the potential to cause adverse environmental impacts. These include the pollution of air and water, contamination of land and groundwater, and the loss of productive land use at landfill sites. Good waste management practices help minimise these impacts and in many cases also reduces the costs associated with road construction and maintenance activities.

Roads and Maritime Services is committed to reducing the environmental footprint of its activities and to comply with its environmental legislative obligations. These commitments extend to the management of waste from road construction and maintenance activities.

1.1 Purpose and Application

This Guideline provides information on the statutory and Roads and Maritime policy requirements for the management of solid and liquid wastes associated with road construction and maintenance works. It has been prepared to:

- Assist staff and contractors understand Roads and Maritime's requirements for managing waste.
- Provide information on how to comply with legal waste management requirements.
- Promote early project planning for managing waste.
- Promote reuse of materials and reduction in waste disposed of to landfill.
- Direct you to where further information and help can be found.

1.2 What is waste?

In NSW, waste has a very broad definition and includes materials that are intended for disposal as well as materials that are intended to be re-used or recycled. The NSW *Protection of the Environment Operations Act 1997* (POEO Act) defines waste as:

- a) any substance (whether solid, liquid or gaseous) that is discharged, emitted or deposited in the environment in such volume, constituency or manner as to cause an alteration in the environment;
- b) any discarded, rejected, unwanted, surplus or abandoned substance;
- c) any otherwise discarded, rejected, unwanted, surplus or abandoned substance intended for sale or for recycling, processing, recovery or purification by a separate operation from that which produced the substance;
- d) any processed, recycled, re-used or recovered substance produced wholly or partly from waste that is applied to land, or used as fuel, but only in the circumstances prescribed by the regulations; or
- e) any substance prescribed by the regulations to be waste.

Most commonly, material becomes waste because it meets the definition in (b), above, being material which is unwanted or surplus to the needs of the project. This is determined at the point of generation. This means that if material is excess or of no further use, it may be

legally considered waste even if a third party may want that material for another use.

1.3 How is the regulation of waste different to the regulation of contaminated land?

'Waste' is regulated under the Protection of the Environment Operations Act 1997 and the associated regulations, whilst contaminated land is regulated under the Contaminated Land Management Act 1997 (CLM Act).

Under the CLM Act, there are criteria which guide what are safe levels for material to remain on a site, when further investigation is required and when remediation may be required (see the National Environment Protection (Assessment of Site Contamination) Measure 2013). There are also requirements to notify the EPA in respect of the contamination of land.

Material may be capable of satisfying relevant criteria under the CLM Act but, if it is waste, different standards may apply under the POEO Act and POEO (Waste) Regulation. For example, material with trace amounts of bonded asbestos can still sometimes remain at a site under the CLM Act, but applying such material to a site, if it is waste, would be a criminal offence under the POEO Act and POEO (Waste) Regulation. Similarly, if waste is to be reused by applying it to land, the issue of contamination should also be considered.

1.4 Why is management of waste important?

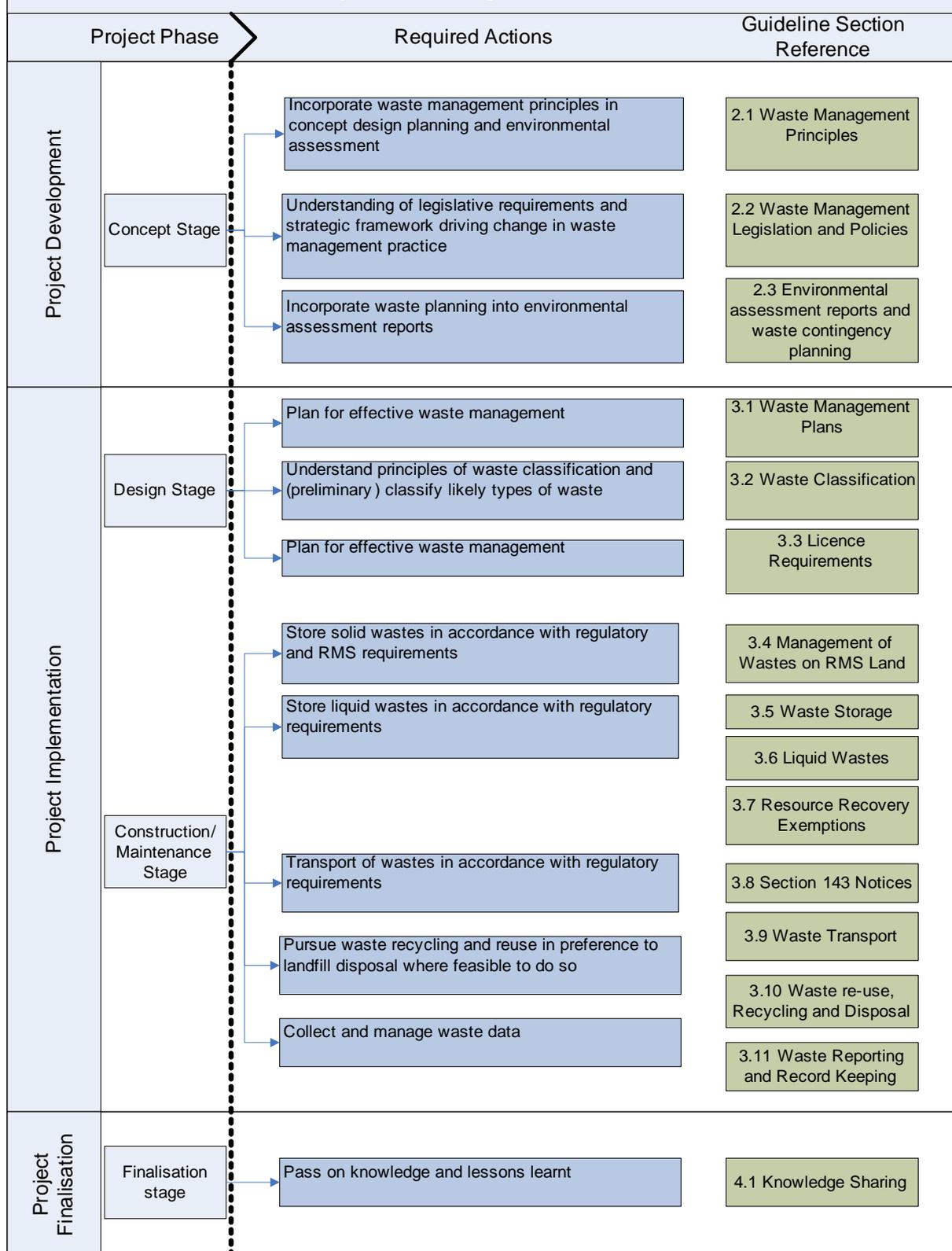
Implementing good waste management practices across Roads and Maritime's operations is required to:

- Ensure Roads and Maritime complies with all statutory requirements relating to waste management, including requirements for licensing, waste treatment and/or disposal.
- Reduce the impact of Roads and Maritime's operations on the environment by reducing the consumption of resources (including materials, energy and water), maximising the recovery of materials for reuse, and reducing the quantity and improving quality of residues requiring disposal.
- Reduce the risk to the community associated with waste generation and disposal practices.
- Promote cost savings through reduced raw material consumption and reduced waste disposal costs.
- Protecting, maintaining or enhancing the productivity of land where waste is stored or disposed.

1.5 How to use this Guideline

This Guideline provides information on Roads and Maritime's requirements for the management of solid and liquid wastes associated with road construction and maintenance works. This information is organised according to the typical phases of a project's development and construction, as shown in Figure A.

FIGURE A: How information is organised in this guideline



2. Project Development

It is important to understand the framework for the management of waste in NSW so that this knowledge can be applied in the planning, design and construction of road projects. This framework consists of waste management principles and regulatory requirements as outlined below.

2.1 Waste management principles

Roads and Maritime endeavours to manage waste in order to conserve resources and reduce impacts associated with waste disposal. The waste management hierarchy is a guide for prioritising waste management practices to achieve these objectives. This hierarchy was established under the *Waste Avoidance and Resource Recovery Act 2001*. It sets out the preferred order of waste management practices from the most preferred to least preferred as follows:

Waste Avoidance	Take action to firstly avoid the generation of waste and to be more efficient in its use of resources. If unable to avoid generating waste, then reduce the amount of waste generated and reduce the toxicity or potential harm associated with its generation and management.
Resource Recovery	Maximise the reuse, reprocessing, recycling and recovery of energy from materials.
Disposal	Disposal is the least desirable option and must be carefully handled to minimise negative environmental outcomes.

Roads and Maritime example

Waste avoidance: Avoid the generation of waste through road design. For example adjusting the road alignment to avoid cut areas that require excavation (if excavated material is not required at a fill location within the project site).

Resource recovery: Where excess excavated material is generated, re-use the material on-site first before considering beneficial re-use locations outside project site. For example, transporting excavated natural material to a building site that requires engineered fill.

Disposal: As a last resort, transport excess excavated material to a licensed landfill for disposal. This is likely to increase the cost of earthworks significantly.

2.2 Waste management legislation and policies

The framework for waste management consists of:

- NSW legislation (acts and regulations)
- NSW waste strategy and policy
- Roads and Maritime Services plans and policies

2.2.1 NSW Legislation

The Environment Protection Authority (EPA) administers the majority of NSW legislation relating to the management of waste.

A summary of some of the key waste management legislation and its implications is provided below. This information is not exhaustive and should not be interpreted as legal advice.

Protection of Environment Operations Act 1997

The Protection of the Environment Operations Act 1997 (POEO Act) promotes mechanisms which aim to protect the environment, reduce risks to human health and prevent environmental degradation. Major features of the legislation include that the POEO Act:

- Specifies requirements for licences and the regulation of various activities that have the potential to pollute or harm the environment.
- Integrates EPA licensing with the development approval procedures under the Environmental Planning and Assessment Act 1979.
- Provides for the issuing of clean-up notices, prevention notices and prohibition notices.
- Creates various environmental offences and penalties.
- Allows for mandatory audits and provides authorised officers' with the power to undertake investigations.
- Provides for a public register to be kept by all regulatory authorities, which includes information on all licences, review of licences, prosecutions, legal notices and the conclusions of any mandatory audit reports.

Key implications: Specifies requirements for licensing, approvals, notices, waste tracking and offences and penalties. These requirements need to be complied with in undertaking all construction and maintenance activities. (See Section 3.3 of this Guideline to determine if you need a licence)

Waste Avoidance and Recovery Act 2001

The Waste Avoidance and Resource Recovery Act 2001 (WARR Act) promotes waste avoidance and resource recovery by developing waste avoidance and resource recovery strategies and programs such as the extended producer responsibility scheme for industry.

Key objectives of the WARR Act are to:

- Encourage the most efficient use of resources and to reduce environmental harm in accordance with the principles of ecologically sustainable development.
- Ensure that resource management options are considered against the waste management hierarchy.
- Provide for the continual reduction in waste generation.
- Minimise the consumption of natural resources and the final disposal of waste by encouraging the avoidance of waste and the re-use and recycling of waste.

Key implications: Sets the preferred hierarchy for the management of waste and provides for the development of the NSW Waste Avoidance and Resource Recovery Strategy which in turn specifies overall state targets for materials reuse and recovery.

Environmental Planning and Assessment Act 1979

The Environmental Planning and Assessment Act 1979 (EP&A Act) requires assessment of activities and has distinct schemes for the assessment and approval of proposals, each with their own specific requirements. Of relevance to Roads and Maritime are the following three schemes:

- Part 5.1 captures projects that are State significant infrastructure (SSI). The Minister for Planning is the consent authority for SSI. An environmental impact statement (EIS) is prepared for SSI in accordance with the environmental assessment requirements issued by the Secretary of the Department of Planning

and Environment.

- Part 4 classifies development as being permissible without consent, permissible with consent or prohibited. Development consent under Part 4 is usually issued by the local council. Generally a development application is lodged with the council together with a supporting Statement of Environmental Effects (SEE), or an EIS for particularly high impact projects.
- Part 5 applies to activities that do not require development consent under Part 4 or approval under Part 5.1. Part 5 applies to the majority of Roads and Maritime projects and usually a Review of Environmental Factors (REF) is prepared to assess the environmental impacts of a project prior to commencing the works, and if, in the opinion of the determining authority, the activity is likely to significantly affect the environment, an EIS will also be required.

Key implications: Management of wastes arising from projects that require assessment under the EP&A Act should be detailed in the assessment process and form part of the approval for the project.

Environmentally Hazardous Chemicals Act 1985

The Environmentally Hazardous Chemicals Act provides the EPA with the authority to declare chemical substances as chemical wastes and to make chemical control orders relating to those substances that are declared as chemical wastes. Chemical control orders are made when chemicals or chemical wastes pose serious threats to the environment and there are particular challenges in their management. Chemicals must be handled in accordance with the relevant Chemical Control Order.

There are currently five Chemical Control Orders in place in NSW.

- Aluminium smelter wastes containing fluoride and/or cyanide,
- Dioxin-contaminated waste materials,
- Organotin waste materials,
- Polychlorinated biphenyl (PCB),
- Scheduled chemical wastes chemical control order 2004 (A list of 24 chemicals including a number of organochlorine pesticides which are no longer registered for use (e.g. DDT, dieldrin, heptachlor) as well as some industrial waste by-products).

The Environmentally Hazardous Chemicals Act also requires that an authorised licence be obtained for certain activities relating to the manufacturing, processing, keeping, distributing, conveying, using, selling or disposing of an environmentally hazardous chemical or a declared chemical waste.

Note that the Environmentally Hazardous Chemicals Act 1985 is currently under review, and is expected to be replaced during 2016 or 2017.

Key implications: Hazardous wastes arising from Roads and Maritime activities, such as the disposal of soils containing organochlorine pesticides, must be managed in accordance with the requirements of applicable chemical control orders.

Protection of the Environment Operations (Waste) Regulation 2014

This Regulation sets out provisions around the way waste is managed in terms of re-use storage and transportation as well as reporting and record keeping requirements for waste facilities. It also provides for:

- Setting special requirements for the management of certain special wastes including asbestos.

- Payment of waste contributions (also referred to as a waste and environment levy) by the occupiers of licensed waste facilities for each tonne of waste received at the facility or generated in a particular area.
- The records that must be kept by occupiers of waste facilities.
- Requirements imposed on consigners, transporters and receivers of waste.
- Requirements for transporters of waste to report to the Environment Protection Authority on the following:
 - (i) the transportation interstate of waste generated in metropolitan areas,
 - (ii) the transportation of waste tyres,
 - (iii) the transportation of asbestos waste,
- Exemption of certain occupiers or types of waste from paying waste contributions and deductions to be claimed in relation to certain types of waste.
- Orders imposing conditions on generators of waste in relation to the supply of waste which falls under a resource recovery exemption.

Key implications: Roads and Maritime must comply with the waste tracking and reporting requirements and the management of certain special wastes including asbestos. The legislation specifies the waste levy which applies in the various regions of NSW which impacts on the cost of waste disposal and provides an incentive to avoid the generation of waste and maximise the recovery of materials to reduce the amount of material being sent to landfills.

2.2.2 NSW waste strategy and policy

NSW Waste Avoidance and Resource Recovery Strategy 2014 - 21

The NSW Waste Avoidance and Resource Recovery Strategy 2014 - 21 (Waste Strategy 2014) targets the following six key result areas:

- Key Result Area 1: Avoid and reduce waste generation
- Key Result Area 2: Increase recycling
- Key Result Area 3: Divert more waste from landfill
- Key Result Area 4: Manage problem wastes better
- Key Result Area 5: Reduce litter
- Key Result Area 6: Reduce illegal dumping.

Across each key result area, specific strategies are provided to achieve nominated targets. For example, by 2021–22, increase recycling rates for:

- municipal solid waste from 52% (in 2010–11) to 70%
- commercial and industrial waste from 57% (in 2010–11) to 70%
- construction and demolition waste from 75% (in 2010–11) to 80%

Key implications: The targets in the Waste Strategy 2014 form the basis of Roads and Maritime's waste and recycling targets for construction and maintenance activities.

Roads and Maritime Environment Policy

Roads and Maritime Services Environmental Policy provides the framework for continually improving Roads and Maritime's environmental performance. The policy sets out the organisation's commitments for managing potential environmental impacts, including:

- At a minimum, conducting all operations, whether carried out by or on behalf of Roads and Maritime, in accordance with relevant legislation and government policy and agreements.
- Minimising pollution and environmental impacts as a result of Roads and Maritime's activities.
- Promoting the efficient use, reuse and recycling of resources, and the minimisation of waste.
- Including environmental considerations in all aspects of strategic planning of road and traffic management.
- Monitoring, reviewing and reporting publicly on the environmental performance of the organisation.

Key implications: Compliance to environmental legislation related to waste management and the adoption of resource efficiency principles form part of Roads and Maritime's Environmental Policy, and as such, are to be adopted when undertaking all Roads and Maritime activities.

2.3 Environmental assessment reports and waste contingency planning

Road project environmental assessment (EA) reports must include information on the management of wastes including excavated soils and construction and demolition wastes.

EA reports should identify options for managing road construction materials in accordance with the waste management principles of:

- **Waste avoidance:** Minimising the amount of material that needs to be generated and managed in the first place.
- **Re-use on site:** Where possible, the re-use of excavated materials within the project site is to be maximised. This reduces the need to import materials onto the site, reduces the need to find off site re-use or disposal locations and the associated materials handling and transport issues, reduces fuel use and minimises the project footprint.
- **Re-use off site:** Where all attempts to re-use excavated materials on site have been exhausted, re-use opportunities must be found off site. This includes finding sites that are approved by the relevant planning consent authorities (e.g. local council) to accept the specific wastes. For example, transporting virgin excavated natural material (VENM) to a building development site that has development consent from the local council to accept VENM for use as engineered fill.
- **Disposal:** Disposal is the last and least preferable management option to be considered. If excavated materials must be disposed of, it must be transported to a facility that is licensed by the EPA to accept the specific material that requires disposal.

An environmental assessment report should include estimates of the total volume of surplus material to be generated by the project and identify how this material is to be managed in accordance with the waste hierarchy.

For materials that are to be re-located off-site, specific details are required for each permanent re-use and disposal site as well as all temporary material storage sites. The EA report should include the following:

- Site locations
- Type of waste to be deposited on the site (e.g. virgin excavated natural material, concrete waste)
- Volume of waste to be deposited on the site

- Whether the material will be placed on the site permanently or temporarily
- If the material is to remain on site permanently, what is the beneficial re-use of the material? (e.g. noise mound, visual barrier, engineered fill) - Note that it is illegal to leave waste on a site permanently unless it is being beneficially re-used as per a relevant EPA resource recovery exemption or the site is licensed as a waste facility to accept the waste.
- The intended future use of the site, and whether the material is suitable for that future use (including any considerations under the Contaminated Land Management Act 1997).

Planning for waste contingencies

Pre-construction estimates of the volume of surplus material to be generated by a project are often exceeded. One of the main reasons that this occurs is that the quality of the sub-surface ground conditions are only well understood once construction earthworks commence. As a result, materials that were expected to be re-used for engineering purposes can be found to be unsuitable (e.g. soils are found to be too wet to be compacted for use in embankment construction). Similarly, extended wet weather periods during the construction phase can saturate soils making them no longer suitable for compaction. These types of scenarios can sometimes result in the pre-construction estimates of the volume of surplus material to be significantly exceeded, requiring additional re-use or disposal sites to be identified.

EA reports should cover the possibility of additional surplus material being excavated and identify contingency sites where additional volumes of surplus material can be managed. If the EA report does not identify all potential sites where surplus material may be permanently placed or temporarily stored, there is the potential for significant project delays during the construction stage while supplementary planning approval is sought to use these additional sites.

Ideally, contingency planning should:

- Where possible, estimate the additional volume of surplus material that may need to be managed.
- Build in contingency by considering as many options as possible to beneficially re-use materials so as to allow for flexibility at construction stage (see below for examples of acceptable beneficial re-use options).
- Identify a range of potential sites both within the project boundary and off-site that could be used for the permanent re-use or temporary storage of additional volumes of material.
- Identify possible detailed road design changes that could be made that will allow for the beneficial re-use of additional surplus material (for example, changes to road batters).

Acceptable beneficial re-uses

In assessing permanent re-use options, the concept of beneficial re-use is to be applied. Beneficial re-use is where the land application of the material is a genuine, fit for purpose re-use of the waste rather than another path to waste disposal.

If waste materials, such as excavated natural material, is managed entirely on a construction/maintenance site at all times, it is generally not considered waste under the relevant legislation and is therefore suitable for re-use.

If material is waste and is intended to be beneficially reused off the construction/maintenance site, it can only be reused if it complies with a resource recovery order and exemption, or if the re-use site has an environment protection licence to accept the subject waste. Refer to Section 3.7 for detailed information on resource recovery exemptions.

Acceptable beneficial re-uses on road projects typically include:

- Construction of acoustic and visual mounds where there is a benefit to residents and other sensitive receivers.
- Flattening of road batters.
- Rehabilitation of borrow pits.
- Engineered fill.
- Approved improvements to flood prone land.

3. Project implementation

3.1 Waste Management Sub-Plans

3.1.1 Why plan?

Effective waste management planning can:

- Assist to reduce the amount of waste generated from construction and maintenance projects.
- Reduce management and disposal costs.
- Reduce double handling of materials (this reduces project time and costs).
- Prevent potential delays in reusing or disposing of materials as a result of needing to obtain environmental approvals.

3.1.2 Waste management sub-plans

Roads and Maritime Services Environmental Protection Specification G36, which is included in Roads and Maritime's construction and maintenance contracts, requires a contractor to prepare a Construction Environmental Management Plan (CEMP), which includes a Waste Management Sub-Plan.

The objective of a Waste Management Sub-Plan is to ensure that wastes are properly managed during construction in a way that it is consistent with the principles of avoidance, reduction, reuse and recycling.

The Waste Management Sub-Plan must:

- Identify the waste streams that will be generated during the Contract.
- Detail for each of the identified waste streams:
 - Its waste classification (see Section 3.2 Waste classification).
 - How and where the waste is to be reused, recycled, stockpiled or disposed.
 - The receptacles that will be used for storing identified waste materials prior to reuse, recycling, stockpiling or disposal.
 - How, and by whom, the waste will be transported between generation, storage and point of reuse, recycling, stockpiling or disposal (including maintenance of a waste management register).
- Specify the methods to be used for monitoring the implementation of the Waste Management Sub-Plan.
- Determine if any of the waste activities required licensing under the POEO Act (see Section 3.3).
- Comply with the requirements of the POEO Act for any non-licensed as well as licensed waste activities that involve the generation, storage and/or disposal of waste.
- Comply with any relevant NSW Resource Recovery Orders and Exemptions when applying waste to land (see Section 3.7).
- Identify the need or otherwise for Section 143 Notices to be obtained from landowners of sites where waste is to be deposited (see Section 3.8).
- Maintain a Waste Management Register (see section 3.11).

Appendix A provides some additional information on waste management planning.

Responsibilities

Role	Responsibility
Contractor	Develop a Waste Management Sub-Plan. Regularly update the Waste Management Sub-Plan as project details change.
Roads and Maritime Services	Review and provide comment on the Waste Management Sub-Plan. Audit compliance with Waste Management Sub-Plan.

3.2 Waste classification

In NSW, waste is classified to determine licensing, transportation, storage and disposal requirements using the [EPA's Waste Classification Guidelines \(2014\)](#).

The waste classification system groups together wastes that pose similar risks to the environment and human health. There are six waste classes as shown in the following table.

Waste Class	Examples of wastes in this category (Refer to Table 3-4 for a more complete list of common Roads and Maritime Services wastes and their classification)
Special Waste	waste tyres, asbestos waste
Liquid Waste	oily water from sumps, concrete slurry)
Hazardous Waste	lead acid batteries, lead paint from lead paint removal activities
Restricted Solid Waste	currently no wastes have been pre-classified by the EPA in this category
General Solid Waste (putrescible)	household waste, waste from litter bins, manure, food waste
General solid waste (non-putrescible)	construction and demolition waste from road works, glass, virgin excavated natural material, plastic, rubber

Table 3-4 in Section 3.10 of this guideline provides a more comprehensive list of common Roads and Maritime Wastes and their classification.

3.2.1 How to classify waste

Use the EPA's five step process shown in Figure 3-1 on the next page to determine the waste classification of a material. Further information on the process can be found in the [EPA's Waste Classification Guidelines \(2014\)](#).

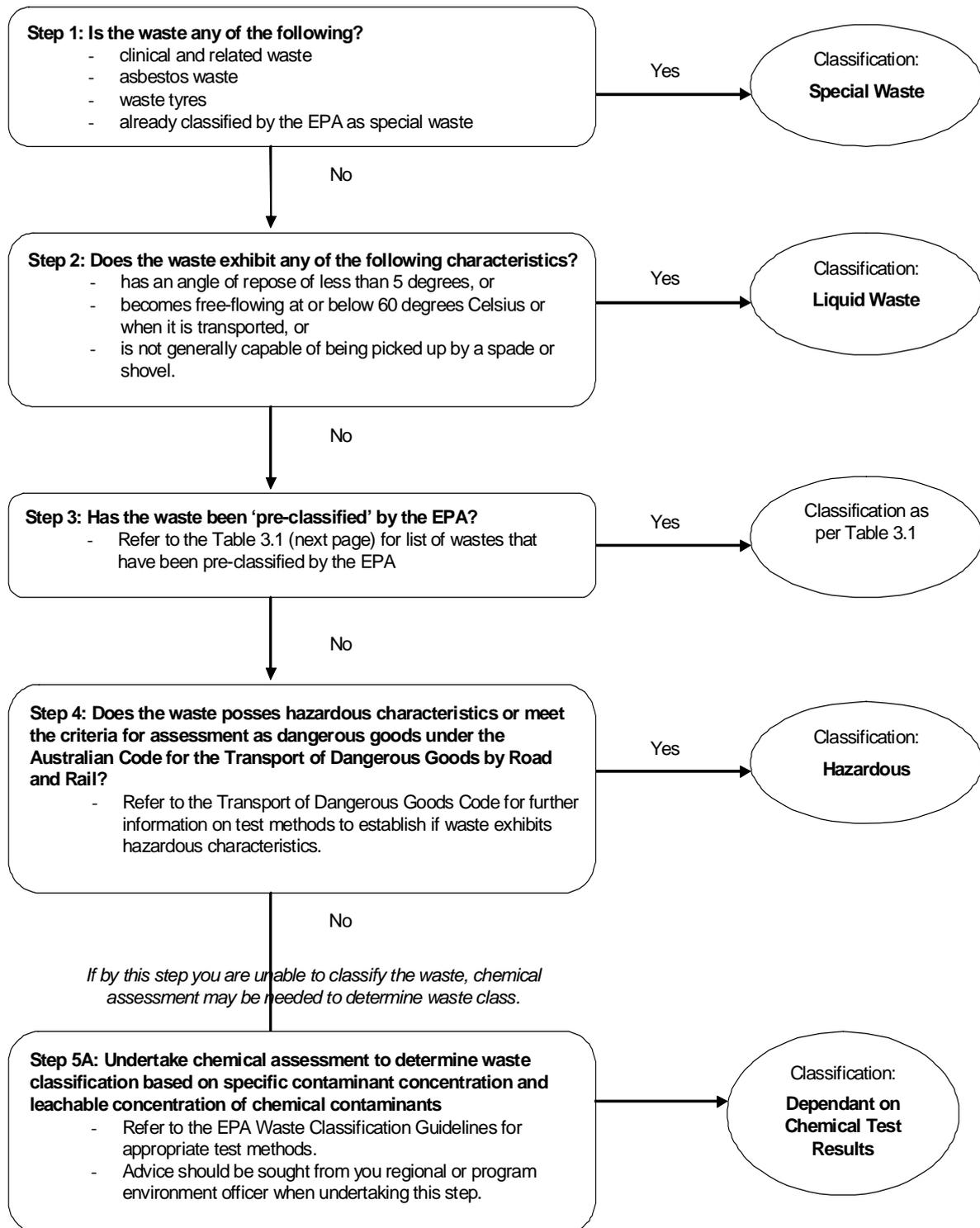


Figure 3-1: Overview of Five Step Waste Classification Process

Table 3-1: Pre- Classified Wastes

Description	Classification
<ul style="list-style-type: none"> • containers, having previously contained a substance of Class 1, 3, 4, 5 or 8 within the meaning of the Transport of Dangerous Goods Code, or a substance to which Division 6.1 of the Transport of Dangerous Goods Code applies, from which residues have not been removed by washing or vacuuming • coal tar or coal tar pitch waste, which is the tarry residue from the heating, processing or burning of coal or coke, being materials comprising of more than 1% (by weight) of coal tar or coal tar pitch waste. Note that coal tar asphalt is “asphalt waste” (see below) and is therefore classified as general solid waste (non putrescible) not hazardous • lead-acid or nickel-cadmium batteries • lead paint waste other than solely from residential premises or educational or child care institutions • any mixture of waste referred to above 	Hazardous waste
<ul style="list-style-type: none"> • household waste that contains putrescible organics • waste from litter bins collected by local councils • manure and night soil • disposable nappies, incontinence pads or sanitary napkins • food waste • animal waste • grit or screenings from sewage treatment systems that have been dewatered so that the grit or screenings do not contain free liquids • any mixture of waste referred to above 	General solid waste (putrescible)
<ul style="list-style-type: none"> • glass, plastic, rubber, plasterboard, ceramics, bricks, concrete or metal • paper or cardboard • household waste from municipal clean-up that does not contain food waste • waste collected by, or on behalf of, local councils from street sweeping • grit, sediment, litter and gross pollutants collected in, and removed from, stormwater treatment devices and/or stormwater management systems that has been dewatered so that it does not contain free liquids • grit and screenings from potable water and water reticulation plants that has been dewatered so that it does not contain free liquids • garden waste • wood waste • waste contaminated with lead (including lead paint waste) from residential premises or educational or child care institutions • containers previously containing dangerous goods, as defined under the Australian Code for the Transport of Dangerous Goods by Road and Rail, from which residues have been removed by washing or vacuuming • drained oil filters (mechanically crushed) and rags and oil-absorbent materials that only contain non-volatile petroleum hydrocarbons and do not contain free liquids • drained motor oil containers that do not contain free liquids • non-putrescible vegetative waste from agriculture, silviculture or horticulture • building cavity dust waste removed from residential premises or educational or child care institutions, being waste that is packaged securely to prevent dust emissions and direct contact • synthetic fibre waste from materials such as fibreglass, polyesters and other plastics, being waste that is packaged securely to prevent dust emissions, but excluding asbestos waste which is a special waste • virgin excavated natural material 	General solid waste (non-putrescible)

- building and demolition waste
 - asphalt waste, including asphalt resulting from road construction and waterproofing works
 - biosolids categorised as unrestricted use or as restricted use 1,2, or 3, in accordance with the criteria set out in the Biosolids Guidelines (EPA 2000)
 - cured concrete waste from a batch plant
 - fully cured and set thermosetting polymers and fibre-reinforcing resins, glues, paints, coatings and inks
 - any mixture of the wastes referred to above.
-

3.3 Licence requirements

The Protection of the Environment Operations Act 1997 includes a schedule that lists the types of activities that require an Environment Protection Licence (EPL). Some waste activities are required to be licensed depending on:

- The type of activity that is being undertaken.
- The type and quantity of waste being generated/managed/disposed.
- What is being done with the waste.

How do I know if a licence is required? Figure 3-2 can assist to determine if a waste licence is required. To use Figure 3.2:

1. Identify activities that will be undertaken on site.
2. Estimate types and quantities of waste that will be generated.
3. Answer each of the questions as shown.

If the answer to any of the questions shown in Figure 3-2 is yes, then a licence may be required.

Sometimes a licence is required depending on whether the activity you are undertaking is located within a "Waste regulated area". Table 3-2 lists the local council areas that are declared to be waste regulated areas.

In addition to an EPL, some waste activities may require other approvals (for example, waste tracking) or development consent (including if land is being used as a 'waste facility', even for temporary storage, or application of waste).

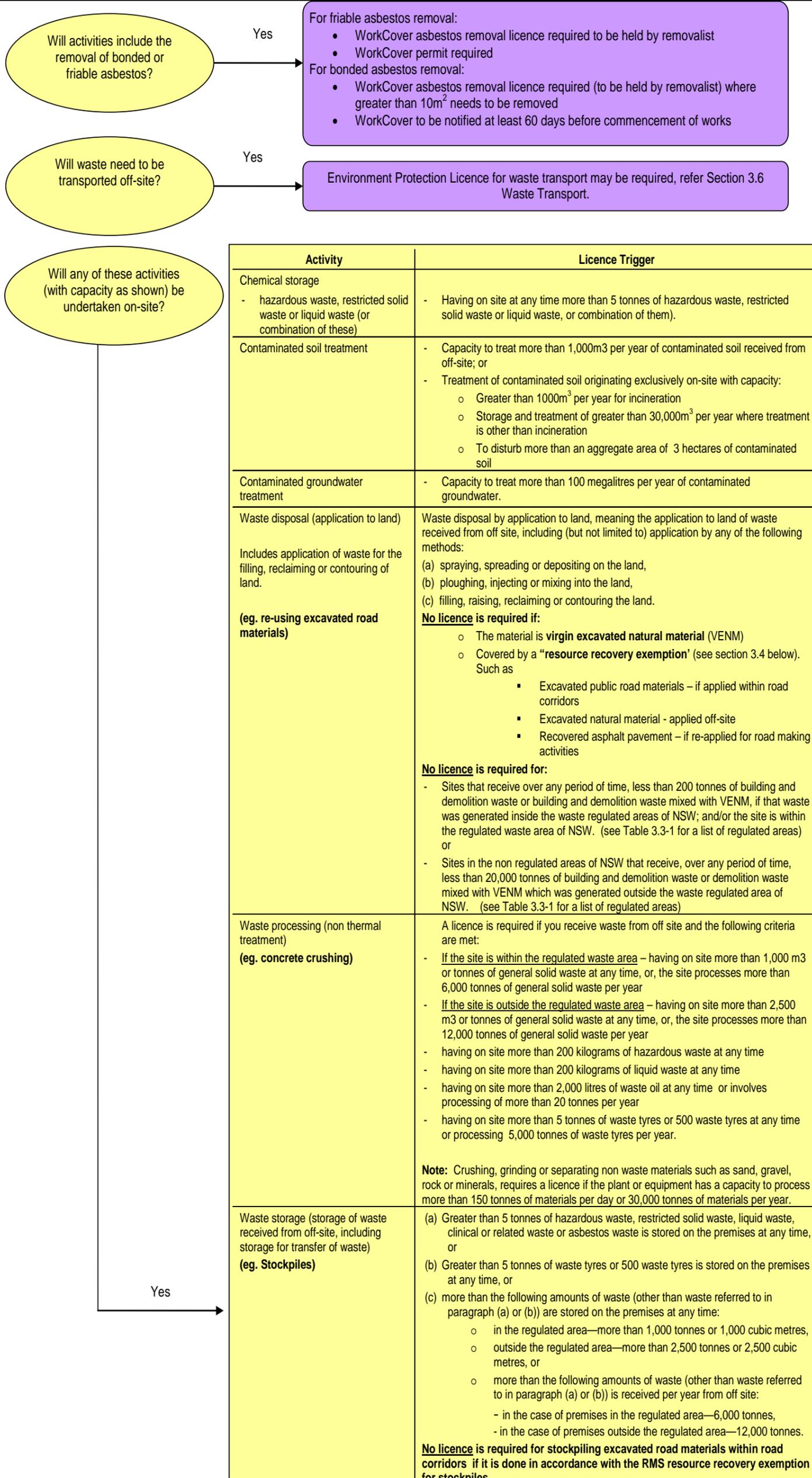


Figure 3-2: Determine Licence Requirements

Responsibilities

Role	Responsibility
Contractor	Determine if a licence is required for waste storage, treatment, transport or disposal. Complete application forms and obtain necessary licences/notices from relevant authorities.
Roads and Maritime Services	Audit works to verify compliance with licence requirements.

Further Information

- Protection of the Environment Operations Act 1997 (Schedule 1)
- WorkCover advice on asbestos management:
<http://www.workcover.nsw.gov.au/health-safety/safety-topics-a-z/asbestos>
- Work Health and Safety Act 2011

Table 3-2: Waste Regulated Areas

Regulated areas include councils within the metropolitan levy area (MLA) and the regional levy area (RLA).

MLA councils		RLA councils
Ashfield	Maitland	Ballina
Auburn	Manly	Bellingen
Bankstown	Marrickville	Blue Mountains
Blacktown	Mosman	Byron
Botany Bay	Newcastle	Clarence Valley
Burwood	North Sydney	Coffs Harbour
Camden	Parramatta	Dungog
Campbelltown	Penrith	Gloucester
Canada Bay	Pittwater	Great Lakes
Canterbury	Port Stephens	Greater Taree
Cessnock	Randwick	Kempsey
Fairfield	Rockdale	Kyogle
Gosford	Ryde	Lismore
Hawkesbury	Shellharbour	Muswellbrook
Holroyd	Shoalhaven	Nambucca
Hornsby	Strathfield	Port Macquarie-Hastings
Hunter's Hill	Sutherland	Richmond Valley
Hurstville	Sydney	Singleton
Kiama	The Hills	Tweed
Kogarah	Warringah	Upper Hunter
Ku-ring-gai	Waverley	Wollondilly
Lake Macquarie	Willoughby	
Lane Cove	Wingecarribee	
Leichhardt	Wollongong	
Liverpool	Woollahra	
	Wyong	

3.4 Managing wastes on Roads and Maritime Services land

The construction of road projects often requires the use of Roads and Maritime Services land for ancillary construction activities such as the temporary stockpiling of soils, concrete batching and locating of site sheds. Roads and Maritime Services land adjacent to road corridors may also be used to construct permanent structures such as visual and noise mounds.

Roads and Maritime has developed an environmental procedure to minimise the risks of unauthorised construction wastes remaining on Roads and Maritime's land following the completion of road construction activities.

The procedure "Management of Wastes on Roads and Maritime Services Land" details:

- Environmental planning and internal Roads and Maritime Services approval processes.
- Proforma pre-construction benchmark site assessments to establish the condition of a Roads and Maritime Services site prior to hand over to a construction contractor.
- Proforma post-construction site condition assessments to verify that no unauthorised wastes remain on a site post construction.

Roads and Maritime Specification G36: Environment Protection requires contractors to undertake the pre and post construction site assessments as per this procedure.

The pre and post land condition assessments are performed by independent environmental consultants at the contractor's expense and payment for the assessments are included in the schedule of Pay Items for G36.

A copy of the procedure: *Management of Wastes on Roads and Maritime Services Land* can be found on the Roads and Maritime website at:

<http://www.rms.nsw.gov.au/documents/about/environment/environment-waste-on-rms-land-procedure.pdf>

3.5 Waste storage

3.5.1 General requirements

All waste must be stored in an environmentally safe manner and in accordance with relevant statutory requirements. At a minimum:

- Where a waste storage licence is required, all storage should be in accordance with the conditions attached to the licence.
- Clear, simple and pictorial signage should be provided to indicate where materials can be stored and any specific requirements for their storage.
- Labels and signage should conform to any legal requirements (for example specific labelling requirements apply for dangerous or hazardous materials).
- Waste storage areas should be located away from sensitive environments, drains or waterways.
- Waste should be covered to prevent dust, odours or rainwater wherever possible.
- Separate wastes where possible to allow for either increased reuse/salvage opportunities.
- Where waste is stored in containers, the containers should be appropriate for the type of waste being stored and the containers correctly labelled.
- Bins and other receptacles should be located such that there is adequate access and manoeuvring area for collection vehicles and that the collection vehicles can enter and exit the site in a forwards direction. The collection point for bins and other

receptacles should be located to allow waste collection to be undertaken without the need to block traffic.

- Only licensed asbestos removalists working under a permit issued by WorkCover should be engaged for work involving the removal of asbestos and the WorkCover Code of Practice for safe removal of asbestos must be followed rigorously. Ensure asbestos waste has been wetted and sealed in heavy-duty plastic prior to transportation to a licensed landfill.
- Storage of dangerous goods should be in accordance with the WorkCover Code of Practice for Storage and Handling of Dangerous Goods.
- All incompatible dangerous goods and materials must be segregated¹.

3.5.2 Location of waste storage bins

Waste storage areas should be located within the project site wherever possible and away from stormwater drainage areas. Waste bins should not be located on footpaths, nature strips, roads or other public places unless there is insufficient space or access to facilitate safe storage within the designated project site and where there is no suitable alternative location.

Where the project requires the placement of a waste bin (or bins) on footpaths, nature strips, roads or other public places:

- Adequate provision must be made for the safe movement of pedestrians, cyclists, motor vehicles and other users of the area around the bin/s.
- The bin/s should be located:
 - Such that they do not obstruct the visibility of road users, block access to roads, driveways, laneways, utility service manholes or other access points or present a physical hazard.
 - Away from high traffic areas.
 - In an area where collection vehicles would be legally able to stop to collect the bin/s (for example bins should not be located in 'No stopping' areas or in a clearway or loading zone).
- Bins should be identified so that they can be seen at all times (e.g. bright colours).

3.5.3 Stockpile management

Roads and Maritime Services has obtained a resource recovery exemption from the EPA that permits the temporary storage of excavated public road materials within road corridors. Excavated public road material is defined in the exemption as being:

“uncontaminated waste rock, soil, sand, bitumen and asphalt products, gravel, slag from iron and steel manufacturing, fly and bottom ash and concrete, excavated during the construction and maintenance of roads and road infrastructure facilities. This does not include any waste that contains coal tar or any waste that is classified as hazardous, restricted solid, special or liquid waste as defined in the POEO Act. RMS excavated road material also includes concrete wash out from the cleaning of concrete trucks”.

A copy of the exemption is included at Appendix B.

¹ Incompatible substances are those which may react together to cause, or substantially increase the likelihood of, a serious incident. 'Segregation' means to keep separate from other substances so that a loss of containment cannot cause a serious incident. Examples of goods that should be kept separated include flammable liquids and corrosive materials. Further information on segregating dangerous goods can be found in the WorkCover Code of Practice for Storage and Handling of Dangerous Goods and on Material Safety Data Sheets.

An Environment Protection Licence may be required to store materials outside the road corridor. Use the flowchart in Figure 3-2 to determine if a licence is required.

3.6 Liquid wastes

Liquid wastes are defined in the POEO Act as any waste (other than special waste²) that includes any of the following:

- Has an angle of repose of less than 5 degrees above horizontal;
- Becomes free-flowing at or below 600°C or when it is transported;
- Is generally not capable of being picked up by a spade or shovel; or
- Anything that is classified as liquid waste pursuant to an EPA Gazettal notice.

Typical RMS liquid wastes that may be generated or used onsite during construction and maintenance projects include:

- Chemical solutions such as solvents or pesticides
- Waste oil
- Effluent disposal (septic tanks)
- Drilling slurries and drilling fluids
- Wastewater from site and vehicle wash-down
- Stormwater and groundwater
- Dredgings

General requirements for management of liquid waste are outlined below. It is beyond the scope of this Guideline to provide specific management requirements for the many different types of liquid wastes. Detailed management requirements should be confirmed with your Regional or Program Environment Manager.

Similarly, this Guideline does not include information on sediment and erosion control requirements from construction and maintenance sites. Detailed guidance information on sediment and erosion control can be found under “Environment” on Roads and Maritime Services’ website.

3.6.1 General requirements

All liquid waste must be managed in an environmentally safe manner and in accordance with relevant statutory requirements. At a minimum:

- No liquid waste should enter, or be placed in a position where it could enter into a stormwater drain or directly into a waterway, without the appropriate licences and/or approvals required by law.
- A trade waste agreement or other liquid waste management arrangement with the local water authority may be required for the project if liquid wastes are to be discharged to a sewer system.
- All employees and subcontractors involved in using liquids or that are involved in liquid waste generating activities should be educated on liquid waste storage and disposal procedures.
- Liquid wastes should be contained in a controlled area such as a holding pit, or portable tank prior to treatment and/or disposal.
- Containment devices must be structurally sound and leak free.

² ‘Special waste’ is defined under the POEO Act as either clinical and related waste, asbestos waste, waste tyres, or anything that is classified as special waste pursuant to an EPA Gazettal notice.

- Containment devices must be of sufficient quantity or volume to completely contain the liquid wastes generated.
- Containment devices should be located in an impervious bunded area which is ideally protected by an overhead shelter. The bund volume must be:
 - For liquids stored in tanks: at least 110% of the largest tank; or
 - For liquids stored in drums or small containers: at least 25% of the total volume of liquid stored
- Liquid wastes should be disposed of in accordance with the requirements of the POEO Act and as described in the environmental management plan and/or environmental approvals, local authority discharge requirements (if applicable).
- Where the composition of the liquid waste is uncertain, undertake testing and certification to determine whether the liquid waste is hazardous and to determine if further treatment is required prior to disposal.
- Inspect containment devices regularly to identify potential for leakage or need for maintenance.
- Classify and manage any solids formed from the deposition of liquids onto the surface of the containment area or receptacle in accordance with the EPA's Waste Classification Guidelines (2014).
- Ensure spill kits are available adjacent to liquid waste storage areas. The spill kits should be appropriate for cleaning up the specific type of liquid waste that is stored.

Responsibilities

Role	Responsibility
Contractor	Determine if there are further specific requirements for the management of any of the liquid wastes likely to be associated with the construction and maintenance works. Ensure general requirements and any additional specific requirements (if applicable) for liquid waste management are complied with.
Roads and Maritime Services	Audit works to verify compliance with licence requirements.

3.7 Resource recovery exemptions and orders

3.7.1 What are resource recovery exemptions and orders?

Applying waste to land in NSW or using it as a fuel may trigger various regulatory requirements such as the need to hold an environment protection licence or pay the waste and environment levy. However in certain cases, the EPA has the power to exempt a person from some of these requirements.

These 'resource recovery exemptions' and 'resource recovery orders' are granted by the EPA where the land application or use as fuel of a waste material is a genuine, fit for purpose, reuse of the waste rather than another path to waste disposal. An exemption and corresponding order facilitates the use of these waste materials outside of certain requirements of the waste regulatory framework.

The EPA will issue a resource recovery exemption and order only where the intended use:

- will be beneficial
- will cause no harm to the environment or human health.

There are conditions attached to orders and exemptions that must be complied with. These conditions include, but are not limited to, sampling and testing requirements, chemical contaminant thresholds, use restrictions and record-keeping requirements.

3.7.2 What don't resource recovery exemptions and orders do?

Exemptions and orders issued by the EPA do not:

- release those using them from the requirement to obtain the necessary planning consents or approvals from the appropriate regulatory authority (e.g the need to have an Review of Environmental Factors (REF) report prepared and obtaining planning consent for a project)
- alter or override the requirements or conditions of any other relevant legislation in relation to the waste being applied to land or used as fuel, such as the need to maintain a Material Safety Data Sheet
- apply to any waste received at a licensed landfill
- apply to waste received for processing at a recycling facility.

3.7.3 What types of exemptions and orders are available?

The EPA issues both general and specific resource recovery exemptions and orders. A general exemption and order can be issued for commonly recovered, high-volume and well-characterised waste materials. These exemptions and orders may be used by anyone, without seeking approval from EPA, provided the generators, processors and consumers fully comply with the conditions they impose.

A list of all current general exemptions is available from the EPA website at www.environment.nsw.gov.au/waste/generalRRE.htm.

Where no general resource recovery exemption and order is available for the intended use, an application may be made to the EPA for a specific order and exemption, which would then be issued by the agency, if appropriate.

The following general resource recovery exemptions and orders are of most relevance to Roads and Maritime Services:

- Excavated natural material
- Excavated public road material

- Raw mulch
- Reclaimed asphalt pavement
- Recovered aggregate

Summary fact sheets about each of these exemptions and orders together with a waste sampling fact sheet are available on the Roads and Maritime website (see <http://www.rms.nsw.gov.au/about/environment/sustainability/waste-resource-management.html>).

3.7.4 Which order and exemption should I use?

Deciding which order and exemption to use is dependant on the type of material to be re-used, where the material was excavated from and the location of the receivable site.

Table 3-3 provides a quick reference on road related resource recovery orders and exemptions and which one to use. Note that these orders and exemptions are to be used for the re-use of waste materials and are not relevant for disposal of materials to a licensed waste facility such as a tip.

Table 3-3: Which exemption to use

EXEMPTION & ORDER	SOURCE OF MATERIAL AND LOCATION OF RECEIVING SITE			
	Road Corridor → Road Corridor	Road Corridor → Non Road Site	Non Road Site → Road Corridor	Non Road Site → Non Road Site
Excavated Public Road Materials (EPRM)	✓	✗	✗	✗
Excavated Natural Material	More appropriate to use EPRM Exemption & Order	✓ (Testing Required)	✓ (Testing Required)	✓ (Testing Required)
Recovered Aggregates	More appropriate to use EPRM Exemption & Order	✓ (Testing Required)	✓ (Testing Required)	✓ (Testing Required)
Recycled Asphalt Pavement	✓ (can also use EPRM Exemption & Order)	✗	✗	✗

✓ = Exemption & Order can be used for this purpose.

✗ = Exemption & Order cannot be used for this purpose.

Responsibilities

Role	Responsibility
Contractor	If intending to re-use materials off site, determine if any of the above Resource Recovery Exemptions & Orders can be used. Ensure that all conditions attached to resource recovery orders & exemptions are complied with.
Roads and Maritime Services	If intending to generate waste, must comply with the conditions of the appropriate resource recovery order. Audit to ensure that all conditions attached to resource recovery exemptions are complied with.

3.8 Section 143 Notices

Under Section 143 of the POEO Act it is an offence if waste is transported to a place that cannot lawfully be used as a waste facility for that waste; this includes waste transported for temporary or permanent storage (including stockpiling), even where the landowner of the property has given their consent for the waste storage.

A duly completed and signed notice under section 143(3A) of the POEO Act (“s.143 Notice”) must be received prior to transporting wastes generated by or for Roads and Maritime Services to a place that is not owned by Roads and Maritime Services and is not a licensed waste facility (the “Waste Site”).

A Section 143 notice is not required for wastes transported to licensed waste facilities.

Under the Roads and Maritime Technical Direction 20 - *Legal offsite disposal of Roads and Maritime Services waste*, it is Roads and Maritime policy to:

- Ensure that waste is classified correctly in accordance with the NSW EPA Waste Classification Guidelines; and
- Seek reuse or recycling options for waste materials in preference to landfill disposal. Where reuse of waste materials by a landholder without the need for an environmental protection licence is subject to the conditions of an EPA resource recovery order/exemption, Roads and Maritime as the generator of waste must ensure the requirements of the applicable order are upheld and that the landholder is aware of the specific requirements of the exemption. Typical project waste that is subject to resource recovery orders/exemptions includes excavated natural materials, raw mulch, and recovered aggregates.
- A copy of Technical Direction 20 - *Legal offsite disposal of Roads and Maritime Services waste* can be found on the Roads and Maritime website:
<http://www.rms.nsw.gov.au/documents/about/environment/rms-environment-offsite-waste-disposal.pdf>

Waste must not be transported to a site unless:

- The landholder has been provided with a letter highlighting the role of the s.143 Notice, the responsibilities of the landholder, the role of any contractors and the role of Roads and Maritime Services. The letter must be consistent with the template included in Appendix A or B in Roads and Maritime Services’ Environment Technical Direction No: 20 must have attached:
 - A copy of the ‘Questions and answers for the landowner/occupier’ relating to illegal waste dumping which can be found as Attachment C to Roads and Maritime Services Environment Direction 20.
 - A Section 43 Notice for the landholder to complete. A copy of a Section 143 Notice is available Attachment D .143 to Roads and Maritime Services Environment Direction 20.
- The landholder completes and signs the s.143 notice and returns a copy of the signed s.143 notice.
- The landowner provides written evidence that development consent from the local council or planning consent authority has been granted allowing the specific type of waste to be placed on the site or can provide evidence that consent is not required.
- A copy of the s.143 notice is provided to the transporter of the wastes, who must be advised of the classification of the wastes to be transported and provided with a copy of the s. 143 Notice. (Refer Section 3.2 on waste classification or Table 3-4 which provide the waste classification for common Roads and Maritime Waste).

The waste must be accurately described on the s.143 Notice and waste delivery

arrangements have been confirmed with the landholder prior to transporting materials to the Waste Site.

Responsibilities

Role	Responsibility
Contractor	<ul style="list-style-type: none"> • Provide landowners with a letter in accordance with Roads and Maritime Services' Environmental Direction 20. • Obtain signed copy of s.143 Notice back from the landholder with copies of any development consent showing that the site can lawfully accept the waste <u>or</u> written evidence that consent is not required (e.g. letter from the local council stating that activity is exempt development). • Provide copy of completed and signed s.143 Notice to the waste transporter.
Roads and Maritime Services	<ul style="list-style-type: none"> • Ensure that completed and signed s.143 Notices have been obtained by the contractor prior to wastes being deposited on a site.

Further Information

- RMS Environmental Direction 20 – Legal offsite disposal of Roads and Maritime Services waste: <http://www.rms.nsw.gov.au/documents/about/environment/rms-environment-offsite-waste-disposal.pdf>

3.9 Waste transport

3.9.1 General requirements for transporting waste

The following general requirements are applicable for the transport of all waste irrespective of whether a licence is required.

- Any vehicle used to transport waste must:
 - Be kept in a clean condition.
 - Be constructed and maintained so as to prevent spillage of waste.
- Any container used to transport waste must be safely secured on the vehicle carrying the container.
- Any vehicle used to transport waste must be covered when loaded so as to prevent spillage and loss of waste and the emission of odours.
- Incompatible wastes must not be mixed or transported together on any vehicle used to transport waste. For guidance refer to the Australian Code for the Transport of Dangerous Goods by Road and Rail.
- Any material segregated for recycling must not be mixed with any other type of waste or with any other material during transport.

3.9.2 Proximity principle

The Protection of the Environment Operations (Waste) Regulation 2014 makes it an offence to transport waste generated in NSW by motor vehicle for disposal more than 150 kilometres from the place of generation. If no waste facility exists within 150 kilometres, the waste can still be legally transported to one of the two nearest lawful disposal facilities from the place of generation (even if that facility is located more than 150 kilometres from its place of generation).

For the transport of restricted solid waste for disposal, it is an offence to transport waste by motor vehicle to a place that is not the closest lawful disposal facility for that waste.

It is not an offence if it can be established that the waste was transported:

- for lawful and genuine recycling, resource recovery, energy recovery, processing or re-use, noting that simply storing or sorting waste does not constitute any of these
- in an emergency to protect human health, the environment or property, or
- as part of an approved mandatory product recall

3.9.3 Waste transport licence requirements

An Environment Protection Licence is required for transporting more than 200 kilograms of the following wastes in any load:

- “Category 1 Trackable Wastes” within NSW
- “Category 2 Trackable Wastes” from NSW to another state or from another state to NSW or if Category 2 wastes are transported through NSW.

A list of Category 1 and 2 wastes can be found on the EPA’s website at:

<http://www.epa.nsw.gov.au/resources/owt/trackwaste07522.pdf>. Table 3-4 also includes information on whether a licence is required for the transport of typical wastes generated from Roads and Maritime Services construction and maintenance projects.

An Environmental Protection Licence is not required for the transport of waste:

- in an emergency to protect human health, the environment or property,
- for the purposes of analysis related to waste categorisation,
- via a pipeline
- any residue of a substance in a container if the container is to be refilled with the same type of substance,
- from a farm resulting from the operation of the farm of unwanted chemicals,

3.9.4 Waste tracking

The transport of some wastes presents a high risk to the environment. These wastes must be tracked when transported into, within or out of NSW. The waste consignor, transporter and receiving facility all have obligations to ensure that the waste is properly tracked.

3.9.5 Steps in waste tracking

1. Determine whether the waste to be transported requires tracking (see the [Waste that must be tracked](#) fact sheet). Table 3-4 identifies if waste tracking requirements apply for the transport of typical wastes generated from Roads and Maritime Services construction and maintenance projects.
2. Obtain prior approval to transport the waste in the form of a [consignment authorisation](#) (CA) issued by a person authorised to do so.
3. Create a transport certificate (TC) which must accompany the waste while it is being transported.
4. Complete the TC when the waste has arrived and been processed by the receiving facility.
5. Report any non-compliances to the Environment Protection Authority (EPA).

Further information on waste tracking requirements can be found on the EPA’s website:

<http://www.epa.nsw.gov.au/owt/>.

3.9.6 Waste tracking for waste transported outside of NSW

The Protection of the Environment Operations (Waste) Regulation 2014, also imposes waste tracking requirements if more than 10 tonnes of any waste is generated from the metropolitan levy area (MLA) and it is transported outside of NSW.

Waste consignors and transporters will be required to use the existing EPA online waste tracking system to lodge details about the consignment, including details of the interstate facility receiving the waste. Limited exceptions apply.

3.9.7 Asbestos waste transport monitoring

The Protection of the Environment Operations (Waste) Regulation 2014 introduced new requirements for waste transporters to record the movement of more than 100 kilograms of asbestos waste or more than 10 square metres of asbestos sheeting.

Under clause 79(3) of the POEO (Waste) Regulation, the transporter of a load of asbestos waste must provide the following information to the EPA before the transportation of the load commences:

1. the address of the site where the asbestos waste was generated,
2. the name, address and contact details of the premises from which the load is proposed to be transported,
3. the date on which it is proposed that the transportation commence,
4. the name, address and contact details of the premises to which the waste is proposed to be transported,
5. the approximate weight of each class of asbestos (rounded to the nearest kilogram), and
6. any other information specified in the Asbestos and Waste Tyres Guidelines.

Loads of asbestos waste are assigned a unique consignment code to allow the EPA to monitor their movement from site of generation to disposal. Information about the asbestos waste tracking system known as “WasteLocate” can be found on the EPA’s website:

<http://www.epa.nsw.gov.au/wasteregulation/asbestos-monitor.htm>

Responsibilities

Role	Responsibility
Contractor	<p>Identify the need or otherwise for a waste transport licence for movement of wastes from the site.</p> <p>Identify which wastes if any are required to be tracked.</p> <p>Verify that the appropriate licences are currently held by waste transporters and that waste tracking is undertaken in accordance with requirements where applicable.</p>
Roads and Maritime Services	<p>Ensure that contractors track wastes in accordance with legal requirements and that authorised waste transporters are being used.</p>

Further Information

- *Australian Code for the Transport of Dangerous Goods by Road and Rail*
- EPA web site: Transporting dangerous goods in NSW.
<http://www.epa.nsw.gov.au/dangerousgoods/>

3.10 Waste reuse, recycling and disposal

The waste management hierarchy should be considered when undertaking waste generating activities with unnecessary resource consumption and generation of waste identified as a priority.

Once waste is generated, disposal of waste to landfill should only be pursued for materials that cannot be recovered (either through reuse, reprocessing, recycling or energy recovery) and for which landfill is the most feasible disposal option.

Many of the wastes that are typically generated in Roads and Maritime Services works can be beneficially recovered. Factors that may impact on the recovery of materials include:

- Quantity of materials available for recovery.
- The quality of material and material composition.
- Potential for materials reuse on-site.
- Transport distance to recovery facility versus landfill (if applicable).
- Beneficial reuse options for the recovered material.
- Cost of recovery versus landfill disposal.
- Requirements of the applicable resource recovery order and exemption.

The recovery and disposal of waste materials must be undertaken in accordance with statutory requirements including that:

- Waste only be sent to facilities for reuse/dispose that may legally receive that class of waste.
- Any on-site recovery activities be undertaken with the required approvals and licences.

Potential opportunities for the recovery of wastes that are typically generated in construction and road maintenance projects are provided in Table 3-4. These are examples only and not exhaustive of all possible opportunities for the recovery of materials.

Responsibilities

Role	Responsibility
Project Manager / Contractor/Works Supervisor	Identify opportunities for materials reuse and recycling and assess feasibility in comparison to landfill disposal.
Project Manager / Contractor/Works Supervisor	Ensure all waste is reused/recycled/disposed in accordance with legislative requirements, including compliance with waste transport and tracking requirements.

Table 3-4: Opportunities for recovery and disposal options for common types of construction and maintenance wastes

Types of Wastes	Waste Classification ^A	1. Recover	2. Dispose	Waste transport licence required ^B	Waste Tracking Required ^C
Asbestos and asbestos containing material	Special waste	N/A	<p>Dispose to waste facility licensed by EPA to accept asbestos waste. Note most landfills will not accept asbestos without prior booking or notification.</p> <p>For an up to date list of facilities that can accept asbestos waste go to:</p> <p>http://www.epa.nsw.gov.au/managewaste/house-asbestos-land.htm</p>	Yes	<p>Yes if more than 100 kg of asbestos waste or more than 10 square metres of asbestos sheeting is transported within NSW.</p> <p>Transporters are to use the EPA's online system called WasteLocate</p>
Asphalt (excluding coal tar asphalt) from road maintenance and construction	General solid waste (non-putrescible)	<p>Reclaimed Asphalt Pavement (RAP) can be used in high value applications such as base, and sub-base or blended for use in new asphalt. It can also be used on road shoulders.</p> <p>The following RMS specifications permit the re-use of RAP 3051, R71, R73, R116, R117, R118, R121.</p> <p>The EPA has issued a resource recovery order and exemption for reclaimed asphalt pavement which permits its application to land for road related activities including road construction or road maintenance activities, being:</p> <ol style="list-style-type: none"> a. use as a road base and sub base, b. applied as a surface layer on road shoulders and unsealed roads, c. use as an engineering fill material. 	Dispose to waste facility licensed to accept this material.	No	No

Types of Wastes	Waste Classification ^A	1. Recover	2. Dispose	Waste transport licence required ^B	Waste Tracking Required ^C
		<p>Or</p> <p>as an alternative raw material in the manufacture of asphalt.</p>			
Batteries (lead acid or nickel cadmium)	Hazardous	Some scrap metal recyclers will accept lead-acid batteries.	<p>Batteries containing cadmium, silver, lead or mercury can not be disposed without prior treatment. Arrange for delivery to treatment facility licensed to accept these items.</p> <p>Scrap metal recyclers are the best option for disposing of lead-acid batteries regularly. Almost all scrap metal merchants will accept used lead-acid batteries. Collection services are also available at most landfills, transfer stations, and automotive workshops.</p>	No, if batteries are collected for recovery.	Yes
Bricks (separated)	General solid waste (non-putrescible)	<p>Bricks can be crushed and recycled into new brick mix or used in other construction applications such as select subgrade.</p> <p>Crushing/recycling of bricks should only be undertaken with appropriate licences or at a recycling facility licensed to accept this material.</p> <p>The following RMS specifications permit the re-use of bricks in earthworks and as a granular pavement material: 3071: Select Material in Formation and R44: Earthworks.</p>	Dispose to waste facility licensed to accept this material.	No	No
<p>Building and demolition (mixed unsegregated material, may contain CCA treated timbers)</p> <p>Does not include soil.</p>	General solid waste (non-putrescible)	Recover and separate concrete, wood, bricks, steel and other feasible materials for recycling at recycling facility licensed to accept this material.	Dispose to waste facility licensed to accept this material.	No	No

Types of Wastes	Waste Classification ^A	1. Recover	2. Dispose	Waste transport licence required ^B	Waste Tracking Required ^C
Coal tar asphalt	Roads and Maritime Services has a policy of not re-using asphalt that contains coal tar. Coal tar asphalts must be disposed of at a licensed landfill facility.				
	Refer to Roads and Maritime Services internet: http://www.rms.nsw.gov.au/documents/about/environment/rms-environment-coal-tar-asphalt.pdf				
Concrete (separated) from an RMS road	General solid waste (non-putrescible)	<p>Recover and separate concrete for recycling at a licensed recycling facility.</p> <p>Concrete is also suitable for use as pavement base and sub-base (blended with RAP).</p> <p>The following RMS specifications permit the re-use of concrete in earthworks and as a granular pavement material: 3051, R71, R73.</p> <p>The EPA has issued the excavated public road material order and exemption which allows concrete from excavated road material to be re-used with the road corridor for certain road related activities.</p>	Dispose to waste facility licensed to accept this material.	No	No
Containers/drums (that have <u>not</u> been cleaned and that contained dangerous goods)	Hazardous	N/A	<p>Cannot be disposed without prior treatment.</p> <p>Arrange for delivery to treatment facility licensed to accept these items.</p>	Yes	Subject to contaminants in drums. See table note c.
Containers/drums (from which residues have been removed by washing or vacuuming)	General solid waste (non-putrescible)	<p>Some recyclers accept empty drums or containers, check with local service providers for details.</p> <p>Return to supplier if possible.</p>	Dispose to waste facility licensed to accept this material.	No	No
Coolant	Liquid	Coolant can be filtered and recycled (using extra concentrate if necessary). Coolant recycling machines are commercially available.	Arrange for delivery to treatment facility licensed to accept this material. Note, coolant cannot be disposed without prior treatment.	Yes	Subject to composition. See table note c.

Types of Wastes	Waste Classification ^A	1. Recover	2. Dispose	Waste transport licence required ^B	Waste Tracking Required ^C
Excavated natural material	Pre-classified as per the NSW EPA excavated natural material order and exemption, see Waste Definitions and Section 0	Can be reused off-site in accordance with the NSW EPA excavated natural material order 2014 and NSW EPA excavated natural material exemption 2014	Dispose to waste facility licensed to accept this material.	No	No
Excavated materials (contaminated)	Subject to chemical testing, see Section 3.2	Opportunities for reuse are subject to the type and level of contamination and overall waste classification. Note any asbestos detected means it is unlawful to re-use. Seek further advice from the Senior Regional Environmental Officer or Senior Environmental Specialist (Sustainability).	Dispose to waste facility licensed to accept this material.	Subject to waste classification	Subject to composition. See table note c.
Excavated public road materials	Pre-classified as per the NSW EPA excavated public road material order and exemption, see Waste Definitions and Section 0	Can be reused off-site in accordance with the NSW EPA excavated public road material order 2014 and NSW EPA public road material exemption 2014	Dispose to waste facility licensed to accept this material.	No	No
Fluorescent tubes and HID lamps (with mercury content)	Not pre classified at present	<p>A number of commercial recycling companies provide fluorescent recycling services. These generally provide a collection box for used globes, together with a collection service.</p> <p>HID lamps should be recycled to recover mercury and other resources for use in new products.</p> <p>To find the nearest recycling facility for fluoro or HID lamps search: http://businessrecycling.com.au/search/</p>	<p>Do not dispose to landfill.</p> <p>High Intensity Discharge (HID) lamps contain a small amount of toxic mercury. If disposed of in landfill this mercury may cause environmental contamination.</p>	No	No

Types of Wastes	Waste Classification ^A	1. Recover	2. Dispose	Waste transport licence required ^B	Waste Tracking Required ^C
Garden waste (vegetation)	General solid waste (non-putrescible)	Reuse on or off-site as mulch, erosion and sedimentation control, fauna habitat, producing millable timber, or as feedstock to composting process. Vegetation with high weed content should be sent to green waste facility for composting if possible, else to suitably licensed landfill disposal.	Dispose to waste facility licensed to accept this material.	No	No
Grit, sediment, litter and gross pollutants from stormwater treatment systems (dewatered with no free liquids)	General solid waste (non-putrescible)	Reuse opportunities subject to litter and pollutant concentration. May be possible to reuse grit and sediment in landscaping works.	Dispose to waste facility licensed to accept this material.	No	No
Lead paint waste	Hazardous waste	No	Dispose to waste facility licensed to accept this material.	Yes	Yes
Mixed waste - non putrescible (i.e. not containing food, animal waste, sewage grit and screenings)	General solid waste (non-putrescible)	If not possible to sort and separate into recyclable versus non-recyclable materials on-site, investigate opportunities for material to be taken to off-site sorting and recovery.	Dispose to waste facility licensed to accept this material.	No	No
Office and packaging waste	General solid waste (non-putrescible)	If not possible to sort and separate into recyclable versus non-recyclable materials on-site, investigate opportunities for material to be taken to off-site sorting and recovery.	Dispose to waste facility licensed to accept this material.	No	No
Oil filters (drained, mechanically crushed)	General solid waste (non-putrescible)	May be accepted by oil recyclers.	Dispose to waste facility licensed to accept this material.	No	No
Oil (motor oil) containers (drained and not containing free liquids)	General solid waste (non-putrescible)	Numerous facilities in NSW recycle used motor oil. For larger quantities, commercial operators offer collection services from site. Some oil facilities will also take used oil filters, oily rags and plastic oil containers.	Dispose to treatment facility licensed to accept this material.	No	No

Types of Wastes	Waste Classification ^A	1. Recover	2. Dispose	Waste transport licence required ^B	Waste Tracking Required ^C
Oil (waste oil)	Liquid	May be sent to a used oil recycler for reprocessing and recovery.	Dispose to waste facility licensed to accept this material.	Yes, but exceptions apply	Yes
Oily water	Liquid waste	N/A	Must be treated through oily water separator with water disposed through a trade waste agreement. If there is no treatment via a separator, then oily water mix must be disposed to liquid waste treatment facility licensed to accept this material.	Yes	Yes
Paint tins (empty), dry paint scrapings/residue	General solid waste (non-putrescible)	N/A	Dispose to waste facility licensed to accept this material.	No	No
Pesticides	Liquid waste	N/A	Disposal depends on the type of pesticide waste. Dispose of in accordance with MSDS, chemical control order (if applicable) and manufacturer's specifications.	Yes	Subject to composition. See table note c.
Plastic, glass and ferrous and non-ferrous, paper and cardboard (separated or co-mingled)	General solid waste (non-putrescible)	Much plastics, glass, and metal would be suitable for recycling either as a source separated stream or if co-mingled with other recyclables (check with recycling service provider).	Dispose to waste facility licensed to accept this material.	No	No
Scrap metal (including brass, copper, aluminium, steel)	General solid waste (non-putrescible)	Recycle via licensed scrap metal recycling facility.	Dispose to waste facility licensed to accept this material.	No	No
Solvents	Liquid waste	Spent solvents may be recycled a number of times prior to requiring disposal depending on the type of solvent and its application.	Arrange for delivery to treatment facility licensed to accept this material. Note, solvents cannot be disposed without prior treatment.	Yes	Subject to composition. See table note c.
Spent abrasive materials - e.g. grit blast waste	Dependent on type, classify in accordance with EPA Waste Classification	Chemical contaminant testing required as per EPA Waste Classification Guidelines to determine waste classification.	Chemical contaminant testing required as per EPA Waste Classification Guidelines to determine waste classification.	Subject to waste classification	Subject to composition. See table note c.

Types of Wastes	Waste Classification ^A	1. Recover	2. Dispose	Waste transport licence required ^B	Waste Tracking Required ^C
Guidelines (2014).					
Spent abrasive materials –(garnet, lead contaminated)	Hazardous waste	N/A	Arrange for delivery to treatment facility licensed to accept this material. Note, lead contaminated garnet cannot be disposed without prior treatment.	Yes	Subject to composition. See table note c.
Timber (see Wood)					
Trade waste	Liquid waste	N/A	Dispose in accordance with Trade Waste Agreement.	Yes, by vehicle (not if in sewer/pipeline)	Subject to composition. See table note c.
Tyres	Special waste	Return to supplier for retreading or recycling, or to tyre recycling facility or recycling drop-off centre.	Dispose to waste facility licensed to accept this material.	Yes	Yes
Vehicle and site wash-down water	Liquid waste	Wash down water may be captured and treated allowing for reuse.	Dispose of in accordance with Trade Waste Agreement	Yes by vehicle (not if in sewer/pipeline)	No
Virgin Excavated Natural Material	General solid waste (non-putrescible)	Weed free topsoil may be stockpiled and reused on batters or in landscaping and revegetation works. VENM may be sent offsite to a place that can legally accept this material for reuse or reprocessing.	Dispose to waste facility licensed to accept this material.	No	No
Water treatment chemicals	Liquid waste /Hazardous waste (subject to type and nature of chemicals – check with supplier)	Return unused chemicals to supplier if possible.	Dispose to waste facility licensed to accept this material.	Yes	Subject to composition. See table note c.
Wiring	General solid waste (non-putrescible)	Recycle via scrap metal recycling facility (check with recycler which types of wires are accepted).	Dispose to waste facility licensed to accept this material.	No	No

Types of Wastes	Waste Classification ^A	1. Recover	2. Dispose	Waste transport licence required ^B	Waste Tracking Required ^C
Wood (not including CCA treated timbers)	General solid waste (non-putrescible)	Reuse as building material or chip and use as mulch or deliver to garden waste recycling facility. Organise for supplier to collect timber pallets for reuse if applicable.	Dispose to waste facility licensed to accept this material.	No	No
Wood (containing CCA treated timbers not bridge timbers- see below)	General solid waste (non-putrescible)	N/A	Dispose to waste facility licensed to accept this material noting that CCA treated timbers can only be disposed of to a lined landfill licensed to accept these timbers.	No	No
Wood (replaced bridge timbers)	General solid waste (non-putrescible)	Roads and Maritime Services has entered into a contract with specific timber recycling companies to process recovered bridge timbers by removing contaminated surfaces. Processed timber is then tested to ensure that they meet acceptable residual chemical contaminant levels.	Dispose to waste facility licensed to accept this material noting that treated timbers can only be disposed of to a lined landfill licensed to accept these timbers.	No	No

Notes:

A. Further information on how and why waste is classified is provided in Section 3.3 Licence requirements

B. Further information on waste transport licences, including trigger limits for licences, is provided in Section 3.9

C The transport of certain wastes will be subject to waste tracking requirements. Refer to the Waste Tracking Section of this guideline, Section 3.9 Waste transport for further information on these requirements including if tracking is required within NSW and/or interstate.

3.11 Reporting and record keeping requirements

3.11.1 Collection of waste data

Waste generation and transport

Both licensed and non-licensed waste activities, waste transporters and waste facilities must maintain written records of waste movements. As a minimum, for waste tracking purposes, records must be kept in relation to the:

- Amount and the type of waste generated, stored, treated or disposed of;
- Amount and the type of waste transported;
- Name of the transporter and transporter's licence number;
- Date of transportation; and
- Name and location of the waste facility that receives the waste.

These records must be kept for a period of at least four (4) years from the date of transportation.

Though the records are required to be kept in relation to trackable wastes, it is advised that the above records are kept for **all solid and liquid wastes**. This will assist Roads and Maritime:

- meet its due diligence obligations;
- maintain records in the event of an incident; and
- collect comprehensive data for reporting, identifying opportunities for waste reduction and recycling and managing performance.

In addition to waste tracking, records may be required under particular licences, approvals, or resource recovery exemptions and orders. Some resource recovery orders require records to be kept for six (6) years. For example, the excavated public road material order 2014 requires that:

The generator must keep a written record of the following for a period of six years:

- The quantity of any excavated public road material supplied; and
- The name and address of each person to whom the generator supplied the excavated public road material.

Section 143 Notices

A copy of all Section 143 Notices should be kept at the project site (if there is a site-office) and a copy lodged with the Roads and Maritime Services project manager/works supervisor.

Waste data reporting

Roads and Maritime Services requires construction and maintenance projects to provide quantitative waste data on the:

- Total quantities of scheduled wastes being generated and recycled; and
- Total quantities of materials being purchased which contain recycled content.

Roads and Maritime's Environmental Protection Specifications G36 requires contractors to report on waste purchasing and recycling data for:

- Fill / VENM;
- Concrete;
- Asphalt;
- Aggregates; and

- Landscaping materials.

In addition the quantity of material reused/recycled from the project and quantity of recycled content materials purchased to undertake the works is to be reported as per Specification G36.

Waste purchasing and recycling data for work undertaken by the Roads and Maritime Service's Asset Maintenance Division should be collected in accordance with Asset Maintenance Division's operating procedures and standard forms.

Responsibilities

Role	Responsibility
Contractor / Project manager / Works Supervisor	Ensure collection of data to meet waste tracking regulatory requirements and any other record keeping requirements.
Contractor / Project manager/ Works Supervisor	Collect information on materials purchasing and waste generation as per Roads and Maritime Services specification requirements or RMS procedures. Submit information to Roads and Maritime Services in accordance with G36 specification requirements.
Contractor / Project manager/ Works Supervisor	Report all incidents including breaches, or suspected breaches of the requirements for waste handling, storage or transport to the appropriate authorities as per Roads and Maritime Services' incident reporting systems.

4. Project Finalisation

4.1 Knowledge sharing

Improving waste management requires:

- Raising the level of awareness of waste management principles and objectives and the motivation for increasing material recovery and encouraging the use of products with recycled content;
- Facilitating understanding of what Roads and Maritime Services is trying to achieve from all stakeholders;
- Reporting regularly to Roads and Maritime Services staff and contractors on the organisations overall progress towards achieving it's targets;
- Identifying any barriers to change so that they may be overcome with future strategy implementation;
- Publicising positive initiatives and outcomes as examples of what can be achieved through planning and innovation; and
- Promoting feedback and suggestions for improvements and/or change from both internal and external Roads and Maritime Services stakeholders.

Hence as part of the project finalisation phase, works supervisors and project managers are encouraged to share information on lessons learnt in trying to reduce and better manage waste with others. This information should be provided formally or informally to Roads and Maritime's Environment Branch in order that it can be considered in the development of future case studies and awareness and training information, policies or action plans.

Responsibilities

Role	Responsibility
Project manager/ Works Supervisor	Advise Roads and Maritime Environment Branch of any lessons learnt from construction and maintenance projects in relation to the reduction and better management of waste. This may be both positive and negative experiences.

Appendix A

Guide Note: Waste Planning – Construction and Maintenance

Guide Note:

Waste Planning - Construction and Maintenance Projects

Listed below are suggestions of how the principles of waste avoidance, reuse and recycling can be better adopted through strategic planning during procurement, design and implementation.

Waste Avoidance

Waste avoidance is a priority. Planning for how to avoid waste should form part of early project planning and should involve stakeholders such as project managers, contractors, sub-contractors and suppliers in the discussions wherever possible. This can result in greater stakeholder buy-in, clarification of responsibilities and identification of innovative ways to avoid generation of wastes.

Some examples of how waste can be avoided include:

- Use higher quality more durable materials that require less maintenance.
- Be mindful of not over-estimating or rounding up of purchasing requirements.
- Set up appropriate storage arrangements for materials to guard against product degradation or damage from weathering or moisture.
- Request that suppliers don't provide any unnecessary packaging or take back packaging.
- Take into account existing site conditions (such as site slope and cleared areas) to minimise excavation and reduce unnecessary removal of existing vegetation.
- Where possible use standard sized products and encourage their use to avoid wastage from excess trimming of materials or the need to develop custom products
- Retain excavated topsoil to be re-used back on-site after construction where possible (not only does this reduce waste but also allows for natural soils and nutrients to be returned to the site also allows for re-establishment of local vegetation).
- Purchase materials in bulk where possible to reduce packaging and transport requirements, but do be mindful of possible over-ordering.

Resource Recovery

Suggestions of how to allow for recovery of materials and/or reuse of recovered materials include:

- Recovering construction and demolition materials for use as alternatives to virgin products in road construction projects. The Roads and Maritime intranet site has a list of materials specifications that permit the use of recycled materials.
- Using demolition and construction techniques that allow for easy separation of reusable and recyclable materials such that they may be salvaged and reused (if not on the project site then potentially at another site).
- Utilise environmentally improved materials (for example, those made from recycled content or with energy conserving features) where possible.
- Use mulches and composts made from recycled materials for site rehabilitation and landscaping works where they are available, in accordance with specification requirements and are cost competitive. Particular effort should be made to collect, mulch and reuse any cleared native vegetation back on the project site.
- Make arrangements with recycling contractors to provide clearly marked bins or designated stockpile areas for material separation. Make sure that sub-contractors are aware of the placement of the bins and their responsibility to separate materials. If there

is insufficient space to separate materials on site, explore arrangements for mixed loads to be sent to a sorter for recycling.

- Protect and stockpile soils for reuse, or divert soils and excavated material to suitable alternative sites if it can't be reused on-site.

Disposal

Disposal of unavoidable waste material generated during construction (i.e. waste that can not be recovered, reused or recycled and requires landfilling or other disposal), must be done in a safe manner and in accordance with all legislative requirements.

Reviewing Performance

Regular review of waste management systems should be undertaken to confirm the effective implementation of the Waste Management Sub-Plan and to identify potential management and disposal issues as soon as possible. Monitoring and reporting mechanisms should also be in place to track performance.

On Regional Maintenance Delivery (RMD) Construction and Maintenance jobs, monthly waste management records should be collated in accordance with the Roads and Maritime environmental (waste management) reporting requirements. These records should be reviewed to identify opportunities for performance improvement.

Information and Communication

Successful implementation of a waste management system is strongly linked to people's understanding of the objectives and reasons for waste management, their ownership of the management process and responsibility for system implementation and achieving specific outcomes. Best practice waste management site procedures should therefore be included in site induction sessions.

Waste planning should include identifying how information can be effectively communicated to staff and contractors, in addition to feedback being collected from them. Without understanding the need for minimising and reusing waste and its safe handling and disposal, staff cannot confidently promote the waste minimisation message. Information and training should be provided to all members of the project team and should incorporate a combination of both theoretical information and hands on practical demonstration where suitable.

Appendix B

Roads and Maritime Services Stockpile Exemption 2015



Resource Recovery Exemption under Part 9, Clauses 91 and 92 of the Protection of the Environment Operations (Waste) Regulation 2014

The Roads and Maritime Services stockpile exemption 2015

Introduction

This exemption:

- is issued by the Environment Protection Authority (EPA) under clauses 91 and 92 of the Protection of the Environment Operations (Waste) Regulation 2014 (Waste Regulation); and
- exempts NSW Roads and Maritime Services (“RMS”) from certain requirements under the *Protection of the Environment Operations Act 1997* (POEO Act) and the Waste Regulation in relation to the temporary storage of RMS excavated road material, provided RMS complies with the conditions of this exemption.

1. Waste to which this exemption applies

- 1.1. This exemption applies to the storage of RMS excavated road material at RMS managed stockpile sites that is, or is intended to be, applied to land.
- 1.2. RMS excavated road material means uncontaminated waste rock, soil, sand, bitumen and asphalt products, gravel, slag from iron and steel manufacturing, fly and bottom ash and concrete, excavated during the construction and maintenance of roads and road infrastructure facilities. This does not include any waste that contains coal tar or any waste that is classified as hazardous, restricted solid, special or liquid waste as defined in the POEO Act. RMS excavated road material also includes concrete wash out from the cleaning of concrete trucks.

2. Persons to whom this exemption applies

- 2.1. This exemption applies to RMS.

3. Duration

- 3.1. This exemption commences on 23 July 2015 and is valid until revoked by the EPA in writing.

4. Premises to which this exemption applies

- 4.1. This exemption only applies to RMS managed stockpile sites.

5. Revocation

- 5.1. 'the Roads and Traffic Authority stockpile exemption 2011' which commenced on 1 May 2011 is revoked from 23 July 2015.

6. Exemption

- 6.1. Subject to the conditions of this exemption, the EPA exempts each consumer from the following provisions of the POEO Act and the Waste Regulation in relation to RMS's storage of the RMS excavated road material:
- section 48 of the POEO Act in respect of the scheduled activities described in clause 42 of Schedule 1 of the POEO Act.
- 6.2. The exemption does not apply in circumstances where RMS excavated road material is received at the premises for which the consumer holds a licence under the POEO Act that authorises the carrying out of the scheduled activities on the premises under clause 39 'waste disposal (application to land)' or clause 40 'waste disposal (thermal treatment)' of Schedule 1 of the POEO Act.

7. Conditions of exemption

The exemption is subject to the following conditions:

- 7.1. The RMS excavated road materials can only be stored within the road corridor at stockpile sites managed in accordance with the RMS *STOCKPILE SITE MANAGEMENT GUIDELINE May 2015* (Attachment 1).
- 7.2. The consumer must make any records required to be kept under this exemption available to authorised officers of the EPA on request.

8. Definitions

In this exemption:

Road Corridor means land that is used for the purposes of a road or road infrastructure facilities or for maintaining or constructing a road or road infrastructure facilities and that is owned, leased, licensed or managed by the RMS, or its agents or contractors.

Road infrastructure facilities has the same meaning as it has in Clause 93 of State Environmental Planning Policy (Infrastructure) 2007.



20 July 2015

Rob Hogan
Manager Waste Strategy and Innovation
Environment Protection Authority
(by delegation)

Notes

The EPA may amend or revoke this exemption at any time. It is the responsibility of the consumer to ensure they comply with all relevant requirements of the most current exemption.

In issuing this exemption, the EPA is not in any way endorsing the use of this substance or guaranteeing that the substance will confer benefit.

The conditions set out in this exemption are designed to minimise the risk of potential harm to the environment, human health or agriculture, although neither this exemption nor the accompanying order guarantee that the environment, human health or agriculture will not be harmed.

The consumer should assess whether or not the recovered glass is fit for the purpose the material is proposed to be used for, and whether this use will cause harm. The consumer may need to seek expert engineering or technical advice.

Regardless of any exemption provided by the EPA, the person who causes or permits the application of the substance to land must ensure that the action is lawful and consistent with any other legislative requirements including, if applicable, any development consent(s) for managing operations on the site(s).

The receipt of recovered glass remains subject to other relevant environmental regulations in the POEO Act and the Waste Regulation. For example, a person who pollutes land (s. 142A) or water (s. 120), or causes air pollution through the emission of odours (s. 126), or does not meet the special requirements for asbestos waste (Part 7 of the Waste Regulation), regardless of having an exemption, is guilty of an offence and subject to prosecution.

This exemption does not alter the requirements of any other relevant legislation that must be met in utilising this material, including for example, the need to prepare a Safety Data Sheet (SDS).

Failure to comply with the conditions of this exemption constitutes an offence under clause 91 of the Waste Regulation.

rms.nsw.gov.au

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RMS 16.272
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