EPA VICTORIA

Mining and quarrying – Guide to preventing harm to people and the environment

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Includes information about the new environmental laws

VICTORIA State Government

Acknowledgements

Environment Protection Authority Victoria (EPA) gratefully acknowledges the industry groups, local councils and government agencies that contributed to the development of this guide.

We thank everyone for their contribution and commitment to keeping Victoria prosperous and liveable by preventing and reducing harm from pollution and waste.

Disclaimer

The information in this publication is for general guidance only. It does not constitute legal or other professional advice and should not be relied on as a statement of the law. Because it is intended only as a general guide, it may contain generalisations.

You should obtain professional advice if you have any specific concern. EPA has made every reasonable effort to provide current and accurate information, but does not make any guarantees regarding the accuracy, currency or completeness of the information.

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EPA acknowledges Aboriginal people as the first peoples and Traditional custodians of the land and water on which we live, work and depend. We pay respect to Aboriginal Elders, past and present.

As Victoria's environmental regulator, we pay respect to how Country has been protected and cared for by Aboriginal people over many tens of thousands of years.

We acknowledge the unique spiritual and cultural significance of land, water and all that is in the environment to Traditional Owners, and recognise their continuing connection to, and aspirations for Country.

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1. Introduction

Many things we do at work can cause pollution and create waste. This can put our health and our land, air and water at risk of harm.

From 1 July 2021, the *Environment Protection Act 2017*[1] (EP Act) and Environment Protection Regulations 2021 (EP Regulations) take effect. These laws require all businesses to take proactive steps to manage risks of harm from pollution and waste.

By preventing harm and complying with the law, you keep your community safe, lower your environmental impact and potentially save time and money.

What you consider to be minor pollution and waste adds up. Think about the combined impact of every business on our health and the environment.

The **mining and quarrying** life cycle can include pre-competitive geoscience, exploration, discovery, feasibility, development and land clearing, operational activities, decommissioning activities, site rehabilitation, closure and post-closure management of the mine.

Purpose of this guide

This guide contains information about how to manage your risks, including examples of how this can be done using a simple four-step process.

It also provides an overview of your legal obligations under the EP Act, including the general environmental duty (GED) and highlights parts of the EP Regulations that may apply to your activities.

To help you work out which of your activities have the most potential to cause harm, this guide contains a list of common hazards in mining and quarrying[2], plus information about managing waste, contaminated land and noise.

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[1] *Environment Protection Act 2017* as amended by the *Environment Protection Amendment Act 2018*.

[2] The *Mineral Resources (Sustainable Development) Act 1990* defines:
"mining" as extracting minerals from land for the purpose of producing them commercially, and includes processing and treating ore;
"quarry" as (a) a pit or excavation made in land below the natural surface for the purpose of extracting or removing stone if a primary purpose of the extraction or removal is the sale or commercial use of the stone or the use of the stone in construction, building, road or manufacturing works; or (b) any place or operation involving the removal of stone from land, declared by the Minister by notice published in the Government Gazette to be a quarry —
and includes access ways on private land and the works, machinery, plant, equipment, buildings and structures above or below ground used for or in connection with —

(c) making, enlarging or deepening the pit or excavation; or
(d) carrying on the operation; or
(e) the extraction or removal of stone from the pit or excavation; or
(f) the treatment on or adjacent to the land in which the pit or excavation is made of stone extracted or removed from the land or the manufacture on or adjacent to that land of bricks, tiles, pottery or cement products substantially from stone so extracted or removed.

This guide will not tell you what specific controls to put in place to manage your risks – it links to guidance which has information about controls, and you can decide what best suits your circumstances. It also has a list of resources and where to go for more help.

Note: EPA is the primary regulator of water discharges into surface or groundwater from mining and quarrying industries. EPA is also a referral authority, which includes providing advice on air quality and noise emissions. EPA also has an increased role in mining referrals from other government agencies. Earth Resources Regulation (ERR) is the primary regulator for approving mining and quarrying operations with impacts to members of the public and the environment, delivering regulatory functions under the *Mineral Resources (Sustainable Development) Act 1990*. This includes approving rehabilitation plans leading to a final landform post closure that is safe stable and sustainable.

The **EP Act** outlines your broad duties. The **EP Regulations** support the EP Act and help address some risks of harm that need further controls. This includes specific requirements for particular hazards, where appropriate.

Throughout the guide there are specific references to sections of the EP Act (for example, s80) or regulations (for example, reg 16) if you would like to refer to the legislation for the provisions in full.

Note: References to 'you' are to any person engaging in an activity that may give rise to risks of harm. This will include business owners, whether companies or sole traders.

2. How to manage your risks

As a business owner, whether a company or sole trader, it is your responsibility to understand and manage the risks of harm from pollution and waste to people and the environment from any work you do.

In straightforward situations, managing risks will involve thinking through your activities and taking simple steps to avoid harm. For example, making sure your rubbish goes in the right bin, and chemicals don't go down stormwater drains and into our waterways.

In larger businesses or those that carry out a lot of different activities with greater risks of harm, more complex systems, procedures and documentation may be required to manage risks.

Note: You should follow any required risk assessment processes where there are co-regulators involved – for example, ERR's risk assessment process identified in work plans and work plan variations for mining and quarrying. EPA doesn't require a separate risk assessment process to be undertaken when you have followed requirements of another co-regulator. EPA's expectation is that you can demonstrate you have identified and assessed risk. The following four-step process may assist you to do so.

Step 1 – Identify any hazards from your business activities that could cause harm.

Step 2 – Assess the risk, based on the likelihood of the hazard causing harm, and the consequence of that harm.

Step 3 – Implement suitable control measures, based on what is reasonably practicable for your business, with the aim of choosing the highest level of protection and reliability.

Step 4 – Check controls regularly to make sure they are working, well maintained, effective and remain the most appropriate option. This process includes monitoring control measures and identifying any changes that may need to be made to improve their effectiveness.

Useful resources:

- *Assessing and controlling risk: a guide for business* (publication 1695) – this includes an example of a risk register where you can list your hazards and risks.
- *Self-assessment tool for small business* (publication 1812) – check what actions you can take to manage the risks of your business causing harm to people and the environment.
- Action plan (Appendix A in this guide) – you can use this template to list what actions you can take to improve the way you control risks.

Note: Keeping a risk register or plans can help you demonstrate what steps you have taken to manage your risks.

Risk management examples

These examples show how to use the four-step risk process to manage environmental hazards.

A. Managing risks from dust

Samson is an environmental site manager with a mining company. Samson **identifies** their worksite is often dry and exposed, so dust is a common hazard that needs to be controlled. Samson knows it can cause health complications and adversely impact surrounding views, vegetation and land uses.

Their site was designed with a buffer zone between dust-generating activities and neighbouring land. Onsite roads near sensitive areas like those with protected flora are sealed or actively treated with clean water to prevent dust. Some of their equipment that generates dust is kept in buildings fitted with extraction fans.

Samson **assesses** the site activities and determines that dust comes from: vehicles travelling on unsealed roads; drilling and blasting; vegetation clearing; stockpiling of soil and rock; and equipment like crushers and conveyers.

Dust **controls** in the site's environmental management plan include progressively rehabilitating disturbed areas, dampening blast areas pre-blasting, dampening unsealed roads to prevent dust and covering or wetting loads when moving materials. The dust prone roads are also signposted with enforced speed limits.

The company monitors weather and is ready to adjust its activities when conditions are dry and windy.

Samson regularly **checks** and keeps a log of controls and equipment to ensure they're working effectively and are maintained. Samson also monitors dust levels near sensitive areas and identifies other present or potential sources of dust.

The company adjusts controls depending on their effectiveness, or if onsite conditions change. They register dust complaints which then trigger a review and possible modification of controls and practices.

Samson continually monitors how they manage their risks associated with dust.

B. Managing risks from water and sediment discharge into waterways

Leah is an environmental officer with a quarrying company. Leah **identifies** that rainwater, water from dewatering, and water from other sources can cause offsite run-off and erosion, and collect sediment, nutrients and other contaminants as it travels across a site. The company **assesses** this can enter their site's drainage system and waterways, and impact the health of people downstream, as well as plant and aquatic life.

When planning their site layout, the company locates stockpiles away from waterways and floodplains, and incorporates erosion and sediment controls based on rainfall and water flows. They have bunded washdown facilities to capture wastewater. They have designed their water management requirements to separate dirty water from non-dirty water (to minimise water coming into contact with mining activities).

The company minimises the surface area of land exposed through staging vegetation clearing and earthworks. Other controls include revegetation of disturbed areas, seeding or mulching soil stockpiles, road drainage, and contouring and minimising the length and steepness of stockpile slopes.

The company **implements** controls that respond to seasonal rainfall patterns, and before and after high-rainfall events. They routinely inspect and de-silt their drainage system and erosion and sediment control structures, so they are ready for use.

Before a high-rainfall event, they increase inspections and monitor against EPA licence water discharge requirements. This helps them **check** whether their controls are effective or need to be modified to comply with licence conditions.

Leah is confident they are eliminating or reducing risk because they follow all relevant EPA and ERR guidance and regulatory requirements.

As EPA is the primary regulator for water discharges, their environmental management plan includes a trigger to notify EPA, as well as Earth Resources Regulation, if any discharge not meeting licence, permitting or compliance requirements leaves their site.

Note: The above are examples. You will need to assess your site and apply relevant legal obligations – refer to information about approvals, licencing and permits in **'Chapter 5 – EPA's role in mining and quarrying'** of this guide.

3. Your legal obligations

Victoria's environment protection laws include a duty focused on prevention, called the general environmental duty (GED). This duty requires you to put in place reasonably practicable measures to eliminate or reduce the risks of harm to people and the environment from pollution and waste.

This means you need to proactively manage your risks of harm as well as deal with the impacts of pollution and waste after they occur. EPA works with people to help them understand the law and what they need to do to comply.

You may already manage some environmental risks through your efforts to comply with Victoria's occupational health and safety (OHS) and dangerous goods laws. For example, using and storing chemicals and fuels safely, and keeping your buildings and sites clean and tidy. You may also be familiar with 'reasonably practicable', a term used in OHS.

The core duties in the EP Act are outlined on pages 10 to 14 of this guide. In some instances, there may be specific requirements detailed in the EP Regulations. These are signposted throughout the guide.

EPA's compliance and enforcement approach involves a mix of encouragement and deterrence to motivate action. See **'Chapter 6 – How environment protection law is enforced'** for more information.

It's important to note that a breach of the GED could lead to civil or criminal penalties if you are a business or conducting an undertaking, even if harm has not occurred.

'Reasonably practicable' means you must *put in proportionate controls to mitigate or minimise the risk of harm.*

To show you have thought about what is reasonably practicable, consider these six factors:

1. Eliminate first
2. Likelihood
3. Degree
4. Your knowledge about the risk
5. Availability and suitability of controls
6. Cost of controls

See *Reasonably practicable* (publication 1856) for more information.

The environment reference standard (ERS) is a new tool made under the EP Act. The ERS identifies environmental values the community wants to achieve and maintain. For example, clean water for drinking and swimming, and sound levels that let us sleep at night.

The ERS shows whether environmental values are being met or threatened. It covers four aspects of our environment: ambient air and sound, land and water. Water includes surface water and groundwater.

The ERS provides a reference to help make decisions. It does not set compliance limits. To find out how the ERS is applied go to **epa.vic.gov.au** (epa.vic.gov.au/about-epa/laws/epa-tools-and-powers/environment-reference-standard/applying-the-standard).

Summary of environmental duties (in the *Environment Protection Act 2017*)[3]

This legal requirement	Means you have to...
General environmental duty (s25-27)	*Understand* how your business activities may give rise to risks of harm to human health or the environment from pollution or waste. *Put in place* reasonably practicable measures to eliminate or reduce identified risks of harm from pollution or waste. *Use* and *maintain*: • plant, equipment, processes and systems in a way that minimises risks (for example, maintain machinery and equipment in accordance with manufacturer's specifications) • systems for identifying, assessing and controlling risks • adequate systems to ensure that if risk of harm eventuates, harmful effects are minimised. *Ensure* all substances are handled, stored, used and/or transported in a way that minimises risks. *Provide* information, instruction, supervision and training to people engaged in activities to enable them to comply with the GED (for example, undertake toolbox sessions where practicable). **Note:** It doesn't matter whether an adverse impact on people and/or the environment has or has not occurred. The GED is breached whenever there is a *risk* of harm not being proportionally managed. **If you engage in an activity that involves the design, manufacture, installation or supply of a substance, plant, equipment or structure you must, so far as reasonably practicable:** - *Minimise* risks of harm to people or the environment from pollution and waste arising from the design, manufacture, installation or supply of the substance, plant, equipment or structure when used for the purpose for which it was designed, manufactured, installed or supplied. - *Provide* information to each person about the purpose of the substance, plant, equipment or structure and any conditions necessary to ensure it can be used in a way that reduces the risks of harm.

[3] *Environment Protection Act 2017* as amended by the *Environment Protection Amendment Act 2018*

This legal requirement	Means you have to...
Duty to take action to respond to harm caused by a pollution incident (s31)	*Restore* the areas affected by a pollution incident to their previous state, so far as reasonably practicable. Should a pollution incident occur, the person engaging in the activity that is likely to, or has, caused harm to human health and/or the environment must take action to clean up. They must restore the affected areas to their previous state, so far as reasonably practicable.
Duty to notify Authority of notifiable incidents (s32-33)	*Contact* EPA on 1300 372 842 (1300 EPA VIC) as soon as practicable if a pollution incident happens that causes or threatens material harm[4] to human health or the environment. This applies as soon as the person engaging in an activity that results in a pollution incident becomes aware (or ought to have been aware) of the pollution incident. When notifying EPA *provide* information about: • the type of incident, such as an oil or fuel spill, or fire • where and when it happened • the harm or possible harm • the circumstances in which it occurred, or how you think it happened, and • proposed action to deal with the incident.

[4] Material harm means harm that is caused by pollution or waste that has an adverse effect on human health or the environment that is not negligible; has an adverse effect on an area of high conservation value or of special significance; or results in, or is likely to result in, costs in excess of $10,000 or a higher amount prescribed by the EP Regulations being incurred to take action to prevent or minimise the harm or to rehabilitate or restore the environment to the state it was in before the harm.

Duty to manage contaminated land (s39)	*Minimise*, so far as reasonably practicable, risks of harm to human health and the environment arising from contaminated land (vacant or occupied), including groundwater, under your management or control. *Investigate* further and undertake an assessment to understand the risks of the contamination. **Note:** A suitably qualified and experienced professional, such as an environmental consultant, or EPA-appointed environmental auditor who specialises in contaminated land, can assist you if required. *Provide* and *maintain* measures to minimise risks of harm to human health and the environment, including undertaking clean up activities, where reasonably practicable. *Provide* adequate information to any person who might be affected by the contamination. This includes adjacent landowners if contamination is migrating offsite. Adequate information includes information about the contamination, the results of any investigation and risks of harm to human health or the environment. This duty applies regardless of who caused the land or groundwater to be contaminated or when contamination took place. It also applies regardless of whether EPA is aware of the contamination or has issued any notices. ***How to work out whether you are in control of the land*** Persons in management or control of land include those who hold a legal interest in the land, such as: • an owner, occupier or lessee, • committee of management (or similar). It may also include persons who hold right of way, use, access or entry onto land (when exercising those rights). The extent of the management or control that a person has over the land will be relevant in considering whether that person has complied with the duty to manage contaminated land so far as is reasonably practicable. For more information see *Assessing and controlling contaminated land risks: A guide to meeting the duty to manage for those in management or control of land* (publication 1977).

This legal requirement	Means you have to...
Duty to notify of contaminated land (s40) regs 8-15 For more information, see **Chapter 9 – Contaminated land** in this guide.	*Contact* EPA on 1300 372 842 (1300 EPA VIC) as soon as practicable if the land you manage or control is contaminated by notifiable contamination (as set out in the EP Regulations). This includes contamination to groundwater. EPA will publish guidance on the duty to notify in 2021. This duty applies as soon as the person/s who manages or controls the land becomes aware (or ought to have been aware) of the contamination, regardless of when the contamination took place. The duty is intended to expand EPA's knowledge about contaminated sites in Victoria.
Duties relating to industrial waste (s133-137) regs 60-64 For more information, see **Chapter 8 – Waste management** in this guide.	*Ensure* industrial waste is deposited or received at a 'lawful place' – this means a place or premises authorised to receive that waste. This requirement applies to producers, transporters and receivers of industrial waste. *Obtain* the consent of the permission holder, occupier or person in management or control of the place authorised to receive the waste before you deposit it. *Take all reasonable steps* before giving up management or control of industrial waste to another person for the purposes of transport. This is to ensure it will be safely transported to an authorised place. Reasonable steps include (but are not limited to): • *identifying* and *classifying* the type of industrial waste • *describing* the industrial waste to the person collecting, consigning, transferring or transporting the industrial waste for disposal • *checking* that the place the transporter is planning to take the industrial waste can lawfully receive that waste. **Note:** If you are a facility receiving industrial waste, you must be authorised to receive it.

This legal requirement	Means you have to...
Duties and controls relating to priority waste (s138-141) regs 65-70	*Classify* the priority waste you manage or control in accordance with the EP Act and EP Regulations. *Take* all reasonable steps to ensure any priority waste you manage or control is contained so it can't escape and is isolated to ensure resource recovery remains practicable. **Note:** This requirement applies to producers, transporters and receivers of priority waste. *Provide* to the person who collects, consigns, transfers or transports the priority waste, information (where reasonably available) about: • its nature and type • any risks of harm in relation to the priority waste • any other relevant information necessary for them to comply with the law. Before deciding to dispose of any priority waste to landfill, take all reasonable steps to *investigate* if you can re-use or recycle the priority waste. Also investigate how you can avoid producing or generating similar waste in the future. Some ways you can investigate alternatives to waste disposal include (but are not limited to): • considering EPA guidelines or other relevant publications • considering the availability of any relevant technology used in resource recovery • consulting someone with relevant expertise and/or industry associations for further guidance.
Duties and controls relating to reportable priority waste (s142-143) regs 71-85	*Record* and *notify* transaction details relating to reportable priority waste in accordance with the EP Regulations. You must do this via EPA's online waste tracker tool, which replaces electronic waste transport certificates in 2021. **Note:** Reportable priority waste is a subset of priority waste and carries the highest level of controls. It is reserved for waste types with the highest levels of risk. If you *transport* reportable priority waste, *ensure* you have the relevant permission. If someone transports reportable priority waste on your behalf, *ensure* they have the relevant permission.

Additional obligations that might apply to your specific activities

In addition to duties under the EP Act, the EP Regulations might apply to your activities. The EP Regulations help address some risks of harm that need further controls. This includes where there is known risk of mismanagement or there could be significant impacts on human health or the environment.

In some instances, EP Regulations may also be necessary:

- for the legislation to function
- when duty holders need greater certainty or consistency to comply with the duties listed in the table on the previous pages.

As well as the EP Regulations relating to permissions (page 16), waste management (page 33), contaminated land (page 36), and noise (page 38), consider whether any of the following apply to you:

- Certain **chemical substances** must not be processed, stored, or used unless EPA has been notified of the intention to do so, and EPA has given notice that the activity may be undertaken. These substances generally comprise chlorofluorocarbon CFC substances that destroy our ozone layer. See reg 102 for notification requirements.

- There are obligations relating to the emission of some **toxic substances** and their levels. Facilities that have activities associated with one or more of the subset of ANZSIC codes for the National Pollutant Inventory (that tracks certain pollution across Australia) are required to report on their emissions and transfers if thresholds are exceeded (regs 103-108).

- If you use **methyl bromide** (such as for fumigation for pest and disease control), you must, so far as reasonably practicable, replace it with an alternative substance or technology. If it is not reasonably practicable to replace it, you must eliminate or reduce emissions. For pest and diseases control, this can be done by recovering the methyl bromide and returning it to the supplier (reg 111).

- Motor **vehicles** that emit visible smoke, or exceed exhaust and noise limits must not be used or sold (regs 135-149). It is an offence to sell a motor vehicle that is subject to a vehicle testing notice (regs 156-158).

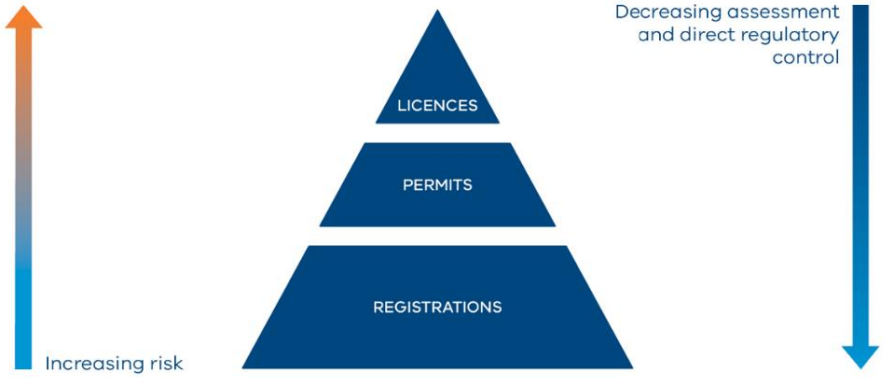
- If you have an onsite **wastewater** management system, reasonable steps must be taken so it doesn't pose a risk to human health and the environment. It must be maintained in good working order and not overflow. For example, make sure it isn't overloaded because this can cause blockages, runoffs, spills or leaks. There are also duties in relation to providing information on correct operation and maintenance, notifying council if the system poses a risk to human health or the environment or is otherwise not in good working order, and keeping maintenance records. (regs 159-163). **Note:** Councils administer permits for the construction, installation or alteration of onsite wastewater management systems. Councils may also take enforcement action for breaches of onsite wastewater management systems permit conditions (reg 171).

See the EP Regulations at epa.vic.gov.au/about-epa/laws/new-laws/subordinate-legislation.

4. Permissions

Under the environment protection laws, EPA issues licences, permits and registrations. These are collectively referred to as 'permissions' (regs 16-42) and work with the general environmental duty. They ensure certain standards and conditions are met across a range of activities.

The nature of your activities determines if you need permissions, and the level of controls that need to be put in place. Permissions are set by Schedule 1 of the EP Regulations (see the table on next page for examples and **Appendix B: Prescribed permission activities**).



Licences – are for prescribed activities that need the highest level of regulatory control. Applications involve a detailed assessment. Licences that are granted will include customised conditions EPA regularly checks compliance with.

There are three types of licences: pilot project licence, development licence, and operating licence. The type of licence you may need will depend on your activities:

- a pilot project licence is for research and development of a new technology or technique
- a development licence is for the design, construction and modification of high risk activities
- an operating licence is for ongoing operational activities.

Permits – are for prescribed activities that are moderate or high risk but low complexity. The conditions of a permit can provide additional direction and clarity about how to manage your risks.

Registrations – are for low-risk prescribed activities. Registrations are automatically granted upon application and may include standard conditions to help you manage your risks.

Applying for an exemption – in some situations, EPA may grant an exemption from a licence or permit. For example, where an activity has a low risk of harm. If you receive an exemption it may be subject to conditions or specific requirements, which you must comply with or risk facing a penalty (EP Act, s44, s46, s80, s82).

Examples of what permissions are required

Licence	Permit	Registration
Landfills – excluding municipal landfills servicing less than l000 people	Containment on a project site of Category D waste soil generated at that project site	Waste and resource recovery – small
Coal processing	Discharge or deposit of waste to aquifer	Temporary storage – asbestos
	Constructing, installing or altering an onsite wastewater management system (permit issued by council)	Receiving waste acid sulfate soil for treatment or amelioration

For more information, see EPA's draft Permissions Scheme Policy (publication 1799), which describes how the three types of permissions work. Details for each permission activity are in Schedule 1 of the EP Regulations (see **Appendix B: Prescribed permission activities**).

Fees, assurances and other costs

There are fees for licences (regs 172-185), permits (regs 186-200) and some registrations (regs 201-203). See the EPA website (epa.vic.gov.au/for-business/fees/calculate-fees-and-fines) for information about how fees are calculated and how to pay them.

There are other fees relating to the emergency storage and use of waste, better environment plans, applications for accredited consignors, site management orders (to revoke or vary) and for exemption applications (regs 209-215).

Some prescribed activities:

- require payment of an environment protection levy or waste levy (regs 43-52)
- may require submission of a financial assurance (regs 167-168) to EPA. This is to ensure appropriate funds are available if a cleanup is required, and prevent the community bearing the cost. There is a fee for review and release of financial assurances (regs 204-205).

These are highlighted in **Appendix B: Prescribed permission activities.**

5. EPA's role in mining and quarrying

EPA is the primary regulator of water discharges to surface or groundwater from mining and quarrying industries. EPA also has a support and advisory role that includes advising on:

- air discharges, noise, water management and waste management
- environmental management conditions (both operational and rehabilitation) related to waste and pollution.

Earth Resources Regulation (ERR) is the primary regulator for approving mining and quarrying operations with impacts to members of the public and the environment, delivering regulatory functions under the *Mineral Resources (Sustainable Development) Act 1990*. This includes approving rehabilitation plans leading to a final landform, post closure, that is safe, stable and sustainable.

EPA and ERR work together under a Memorandum of Understanding. EPA also uses the *Protocol for Environmental Management: Mining and extractive industries* (publication 1191) to set out requirements for assessment and management of emissions to air and environment from mining and quarrying activities.

As part of the approval process, Environment Effects Statements (EES) are required for projects that are of a larger scale and are likely to have a larger environmental impact. When an EES is not required, mining and quarrying activities are regulated through a work plan process or a code of practice (both for mining and quarrying) managed by ERR. Mines and quarries sometimes also need a planning permit process managed by the local authority. Work plans allow for referral to EPA for expert technical advice. In addition, mining and quarrying activities are regulated by WorkSafe Victoria, for worker safety aspects of operations.

The EPA website – epa.vic.gov.au/for-business/find-your-industry/energy-petroleum-and-extractive-industries and ERR website – earthresources.vic.gov.au provide the most up-to-date information for your sector.

With the new environment protection laws and ongoing reform of the *Mineral Resources (Sustainable Development) Act 1990*, there are a number of publications and webpages that will be replaced and updated.

Approvals, licensing and permits

ERR is responsible for the approval process with advice from EPA where required.

EPA is responsible for licensing of discharges to surface and groundwaters with ERR advice where required or legislated.

ERR regulate mines and quarries under the *Mineral Resources (Sustainable Development) Act 1990*. Mines require a mining licence to extract minerals. Quarries require a work authority to extract stones.

Low-risk quarrying and mining is regulated through codes of practice. This includes mines and quarries that are limited in scale and use low-risk methods to extract materials out of the ground. All other commercial operations are regulated through a work plan endorsement process, in

which EPA is a referral authority (both statutory and non-statutory) and can provide comments to ERR in line with our supportive role.

For more information, please visit earthresources.vic.gov.au or email workplan.approvals@ecodev.vic.gov.au

EPA works approval and licence requirements for mining and quarrying are currently outlined in the Environment Protection (Scheduled Premises) Regulations 2017. Permission requirements for these activities are outlined in the EP Regulations.

EPA has a dedicated email to support referrals and applications for quarry and mine proposals: ERR.Referrals@epa.vic.gov.au.

6. How environment protection law is enforced

EPA compliance and enforcement

EPA works with industry to build knowledge and capability to prevent environmental harm.

We provide businesses with certainty, transparency and consistency. In turn, EPA expects duty holders to take proactive steps to inform themselves and comply with their obligations.

EPA supports compliance with guidance, education, and where appropriate, remedial action. We will strongly enforce the law if the environment or community is deliberately or negligently exposed to harm.

For more information, see EPA's *Regulatory strategy* (publication 1800) and *Compliance and enforcement policy* (publication 1798).

Who enforces environmental law?

EPA has a team of authorised officers (AOs), including environment protection officers (EPOs) and officers for the protection of the local environment (OPLEs), who inspect businesses and premises, provide guidance and advice about compliance, and enforce the law. Councils also have powers to enforce certain environmental laws under the EP Act and EP Regulations. Council officers can also hold statutory appointments under the EP Act, such as a litter enforcement officer.

What happens if I don't manage my risks?

If an EPA AO reasonably believes you are not complying with your duties, they may give you compliance advice or use a remedial tool (see the table below and on the next pages for an overview) or sanction. The aim of this is to address any harm, waste or contamination present and bring you into compliance with the relevant duties.

Remedial tools

Remedial tool	What it is
Compliance advice	This may include information about how to comply with the law, interpret standards and/or other support on how to remedy non-compliance. While an AO will record this advice in a report it doesn't mean you necessarily have to follow the advice if you find another suitable way to comply.

Remedial tool	What it is
Remedial notices	These may be issued where an AO reasonably believes you are not complying with the law or where a harmful or unlawful situation exists. A remedial notice can also function as a formal record that EPA has sought action to remedy non-compliance. The range of remedial notices include: • **Improvement notice** – requires you to take action to remedy non-compliance. A notice can request that you proactively address a risk. This means harm doesn't necessarily have to occur for EPA to issue an improvement notice. • **Prohibition notice** – requires you to stop an activity that has an immediate risk of harm. It may also require you to do other things to prevent or minimise the harm. • **Notice to investigate** – requires you to investigate whether: land is or may be contaminated; a pollution incident has occurred; industrial waste is at a place or premises unlawfully; or there is a risk of harm arising from pollution or the depositing, storing or handling of waste. This investigation will determine whether further action needs to be taken. • **Environmental action notice** – requires you to address the impact of pollution, waste and contamination. It is used when: land is or may be contaminated; a pollution incident has occurred; industrial waste is at a place or premises unlawfully; there is a risk of harm arising from pollution or the depositing, storing or handling of waste; or you haven't complied with a notice to investigate. • **Non-disturbance notice** – requires you to stop movement or prevent disturbance of anything at a place or premises. For example, if an AO believes it is necessary to carry out an investigation into non-compliance. • **Waste abatement notice** – requires you to address waste that: negatively impacts the public; negatively impacts the proper use of a place; or is a hazard to the environment. It may be issued by EPA officers or councils. It requires you to: conduct a cleanup to remove waste; restore places impacted by waste; modify activities that cause waste to be deposited; or lawfully dispose of waste.

Remedial tool	What it is
Site management order	Used for the long-term management or rehabilitation of contaminated land or to undertake a broad range of actions to manage the risk of harm. It may be used when land is contaminated, or where there is a risk of harm from pollution and waste. Measures required by an order may include installing and maintaining infrastructure, monitoring of contamination on the site and ongoing reporting requirements.
Directions	Issued when an AO believes there is an immediate risk of harm, for example, during an emergency incident. Whether issued verbally or in writing, it is an offence to not follow directions unless there is a reasonable excuse not to.

In certain circumstances EPA may determine that pursuing a sanction is warranted. This may be an infringement notice, enforceable undertaking or penalties determined by a court through civil or criminal proceedings. EPA will publish a policy on sanction powers in 2021.

What are the powers of an EPA AO?

EPA AOs can enter a place or premises to:

- conduct inspections
- assess and monitor compliance with the EP Act and EP Regulations
- determine whether there is a risk to human health or the environment from pollution and waste.

Possible reasons an AO may inspect your site include a report of pollution (for example, from a community member, local council or WorkSafe) or to check you are complying with your EPA approval, licence, permit or notice. It could also be in response to an emergency notification from an emergency services authority such as the Fire Rescue Victoria.

Before starting an inspection, an AO will explain the role of each EPA officer present and the purpose of the inspection (such as responding to a pollution report). The AO will show their authorised officer identification card and discuss any OHS issues.

EPA AOs can:

- examine or test anything at the premises
- take samples away for analysis
- take pictures or recordings if required
- inspect documents
- request information
- take away anything that may be evidence of a breach of the Act.

Anyone at the premises must cooperate with the AO. There are also circumstances which an AO can enter residential premises.

See EPA's *Compliance and enforcement policy* (publication 1798) for more information.

7. Common environmental hazards in mining and quarrying

Hazards you may commonly come across in mining and quarrying include:

- air contaminants
- chemical spills
- dust
- erosion and sediment
- fire and explosion
- groundwater contamination
- odour
- surface water contamination
- noise
- waste (including drilling mud)
- wastewater.

See the tables on pages 24 to 32 for information about these hazards, and some examples of what may cause them. This isn't a complete list but gives you an idea of what could harm people and the environment if risks of harm aren't properly managed.

Some of the common sources of harm can impact many different areas of the environment as well as human health. These areas include, but aren't limited to:

- social surroundings (houses, hospitals, schools, playgrounds, public amenities)
- waterways and bays, sources of drinking water for people or livestock
- parks and recreational areas
- areas of public interest and cultural significance
- land or water with identified plant life, animal life, ecosystem or environmental value.

These are also referred to as 'sensitive receptors'.

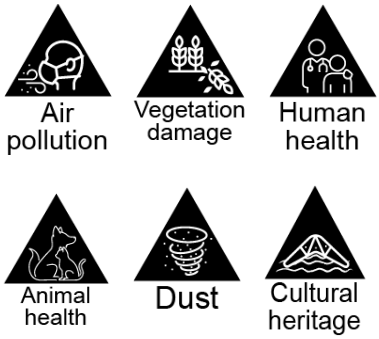
A single hazard can have multiple risks associated with it that can cause several harmful impacts. For example, poor management of stored chemicals can result in chemical spills, release of air contaminants, and surface water contamination.

Remember that every site is different and may have a unique set of hazards and risks. Putting in place controls to eliminate or reduce identified risks of harm from pollution or waste will help you meet your general environmental duty. Following standards in existing relevant regulatory legislation or codes of practice (for example, OHS) can also indicate that your common sources of harm are being managed appropriately.

Note: Similar example hazards and controls/recommended practices are described in the Earth Resources Regulation code of practices and work plan guidelines for exploration, mining and quarrying (refer to the list on page 32).

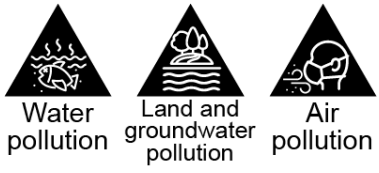
Hazard: Air contaminants

Toxic or hazardous materials that are discharged into the air in the form of soot, ashes, fumes, gas, smoke etc.

Common sources of harm	Possible consequences if risks of harm from pollution and waste aren't managed	For more information, including controls
• Exhaust fumes from poorly maintained vehicles and machinery • Fire ignition sources • Mine ventilation exhausts • Fumes and exhausts from poorly maintained processing facilities such as furnaces and boilers • Smelting emissions • Bulk storage tank failure (for example, for fuels) • Mine and stone/rock processing activities (which can discharge hazardous materials) • Air emissions from waste storage areas. • Respirable particles including crystalline silica and other dust • Demolition activities		Check air quality in Victoria – EPA AirWatch Air pollution Air quality *Protocol for environmental management: Mining and extractive industries* (publication 1191) *Recommended separation distances for industrial residual air emissions – guideline* (publication 1518)

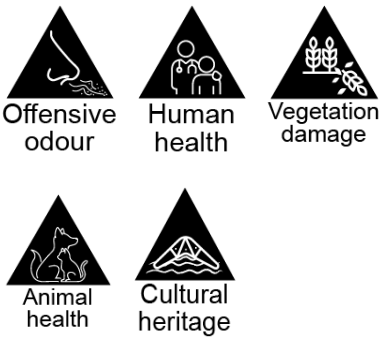
Hazard: Chemical spills

The uncontrolled release of chemicals, regardless of the amount or whether the spill happens indoors or outdoors.

Common sources of harm	Possible consequences if risks of harm from pollution and waste aren't managed	For more information, including controls
• Leaking containers or pipelines, including chemical storage drums • Poor storage and handling of fuels, chemicals or drilling mud		*Liquid storage and handling guidelines* (publication 1698)

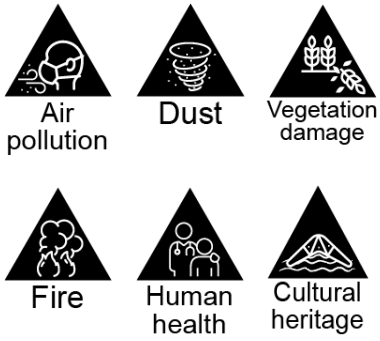
Hazard: Chemical spills

The uncontrolled release of chemicals, regardless of the amount or whether the spill happens indoors or outdoors.

Common sources of harm	Possible consequences if risks of harm from pollution and waste aren't managed	For more information, including controls
• Vehicle/equipment maintenance and refueling (for example, spills) • Inappropriately contained chemical additives and coating substances		*Solid storage and handling guidelines* (publication 1730)

Hazard: Dust

Earth or other matter, in fine, dry particles.

Common sources of harm	Possible consequences if risks of harm from pollution and waste aren't managed	For more information, including controls
• Stripping/land clearance • Open pits • Drilling and blasting • Unsealed roads • Ore processing and stockpiles • Tailings storage facilities • Exposed soil, overburden and waste rock stockpiles • Improper use of plant and equipment, such as crushers • Poor management of material transfer (conveyor/truck loading/off-loading) • Soil movement during site rehabilitation • Site infrastructure demolition • Poor cleaning operations		Reducing erosion and sedimentation risk: guidelines for industry *Construction techniques for sediment pollution control* (publication 275) *Recommended separation distances for industrial residual air emissions – guideline* (publication 1518)

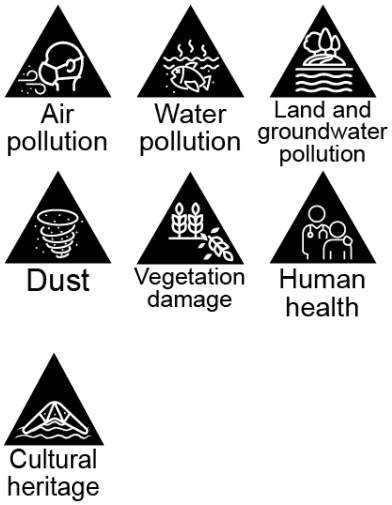
Hazard: Dust

Earth or other matter, in fine, dry particles.

Common sources of harm	Possible consequences if risks of harm from pollution and waste aren't managed	For more information, including controls
		How to control dust from your business Work-based dust examples Guidelines for the design and management of tailings storage facilities (ERR)

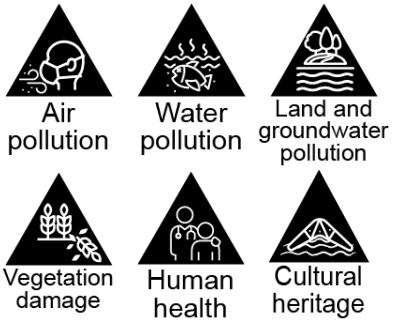
Hazard: Erosion and sediment

Erosion happens when wind or water wears away surface soil. Erosion can lead to a build-up of soil, rock and gravel in waterways and drains. We call this build-up sediment.

Common sources of harm	Possible consequences if risks of harm from pollution and waste aren't managed	For more information, including controls
• Removal of vegetation onsite • Excavation, handling and stockpiling of soil • Movement of plant and equipment across exposed soil • Driving trucks on unsealed roads		Reducing erosion and sedimentation risk: guidelines for industry *Civil construction, building and demolition guide* (publication 1834)

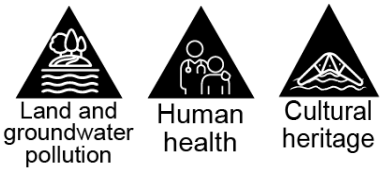
Hazard: Fire and explosion

Flames and heat from something that is burning in an uncontrolled way.

Common sources of harm	Possible consequences if risks of harm from pollution and waste aren't managed	For more information, including controls
• Unmanaged vegetation • Self-heating of ore materials, such as coal • Inadequate storage of waste mined materials (for example, that could result in spontaneous combustion of waste rock materials) • Poor storage of waste materials (for example, combustible recyclables and other non-mined waste materials) • Bushfires burning onto or within mining/quarrying sites • Metal dust • Uncontained ash		*Management and storage of combustible recyclable and waste materials – guideline* (publication 1667)

Hazard: Groundwater contamination

Chemical substances or waste present in the groundwater (water that flows underneath the earth's surface) at levels above what would be expected to occur naturally.

Common sources of harm	Possible consequences if risks of harm from pollution and waste aren't managed	For more information, including controls
• Improper stormwater management practices • Inappropriately managed mine dewatering • Seepage from tailings storage facilities and soil and waste rock storage • Leaching of heavy metals from mined metals and waste rock		How to prevent water pollution from your business *Liquid storage and handling guidelines* (publication 1698) *Solid storage and handling guidelines* (publication 1730)

Hazard: Groundwater contamination

Chemical substances or waste present in the groundwater (water that flows underneath the earth's surface) at levels above what would be expected to occur naturally.

Common sources of harm	Possible consequences if risks of harm from pollution and waste aren't managed	For more information, including controls
• Inadequately managed oil, grease, fuel, and chemicals resulting in spills and leaks • Pipeline leaks • Inappropriate management of acid mine drainage		Guidelines for the design and management of tailings storage facilities (ERR)

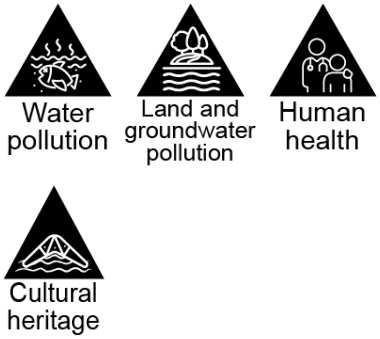
Hazard: Odour

Gases in the air that can cause an unpleasant smell.

Common sources of harm	Possible consequences if risks of harm from pollution and waste aren't managed	For more information, including controls
• Waste, such as processing waste and landfill • Chemical use (for example, material processing and water treatment, fuels/oils) • Fumes from poorly maintained machinery (exhaust and ventilators). • Fumes from refueling • Poorly maintained vehicles (exhaust). • Inappropriately contained organic waste and sewage • Unsegregated food waste from other waste • Chemicals, such as paints and solvents, stored without containment.		Odour guidance for businesses *Recommended separation distances for industrial residual air emissions – guideline* (publication 1518) Odour work-based examples

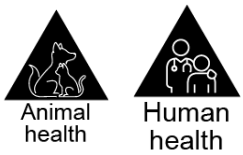
Hazard: Surface water contamination

Surface run-off from rain and storms that enters our waterways (for example, creeks, rivers, wetlands and bays) can contain pollutants such as sediments, chemicals, litter, and human and animal faeces.

Common sources of harm	Possible consequences if risks of harm from pollution and waste aren't managed	For more information, including controls
• Inappropriate stormwater management practices • Lack of separation of clean and dirty site water • Inappropriate storage of water from site dewatering • Sediment run-off from exposed cleared areas • Run-off from soil and waste stockpiles. • Inappropriate / lack of containment of washdown water from cleaning of vehicle, machinery and equipment • Contaminated run-off that has been in contact with wastes • Inadequate containment of soil and loose waste during transport • Inappropriate management of waste rock dumps and tailings storage facilities (for example, leachates and contaminated soil, sediments and dust) • Inadequately managed oil, grease, fuel, and chemicals resulting in spills and leaks • Pipeline leaks • Seepage from stored processing wastes (for example, leach dumps/pads, tailings storage facilities) • Inappropriate management of acid mine drainage • Tailings storage facility failure		*Reducing stormwater pollution: A guide for industry* (publication 978) How to prevent water pollution from your business Reducing erosion and sedimentation risk: guidelines for industry *Liquid storage and handling guidelines* (publication 1698) *Solid storage and handling guidelines* (publication 1730) *Reducing risks in the pre-mixed concrete batching industry* (publication 1806) Guidelines for the design and management of tailings storage facilities (ERR)

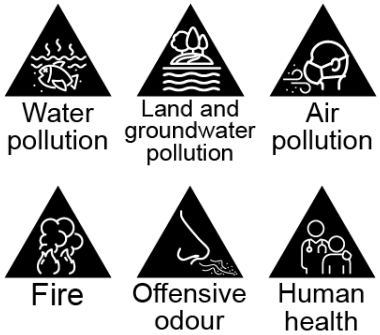
Hazard: Noise

Unwanted sound (including vibration) that's annoying, disturbing or harmful.

Common sources of harm	Possible consequences if risks of harm from pollution and waste aren't managed	For more information, including controls
• Drilling • Rock and ore processing (for example, crushers, grinders, screens, and conveyor systems) • Poor material handling (for example, loading ore bins) • Use of plant and machinery (mobile and fixed) • Ventilation systems • Excessive vehicle movement (for example, haulage and beepers) • Blasting (detonation of explosive devices) • Concrete batching		Noise guidance for businesses Noise control guidelines (publication 1254) *How to reduce noise from your business* (publication 1481) *Reducing risks in the pre-mixed concrete batching industry* (publication 1806)

Hazard: Waste

Any matter, whether solid, liquid, gaseous or radioactive, which is discharged, emitted or deposited in the environment in a way that alters it. This includes unwanted or surplus material, irrespective of its potential use or value.

Common sources of harm	Possible consequences if risks of harm from pollution and waste aren't managed	For more information, including controls
Mineral waste • Overburden or waste rock stockpiles • Tailings storage facilities and processing wastes • Acid sulphate soils • Leachate ponds • Contaminated soils Non-mineral waste		Managing waste *Waste classification assessment protocol* (publication 1827) *Waste disposal categories – characteristics and thresholds* (publication 1828)

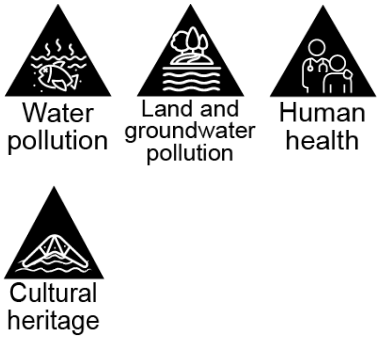
Hazard: Waste

Any matter, whether solid, liquid, gaseous or radioactive, which is discharged, emitted or deposited in the environment in a way that alters it. This includes unwanted or surplus material, irrespective of its potential use or value.

Common sources of harm	Possible consequences if risks of harm from pollution and waste aren't managed	For more information, including controls
• Hazardous wastes such as fuels and chemicals • Onsite landfill • Site closure and demolition activities • Dewatering sludges or solids (for example, sediment ponds) • Contaminated soils		EPA will publish information on managing industrial waste in 2021. Manage contaminated land Imported materials management guidelines (ERR) Guidelines for the design and management of tailings storage facilities (ERR)

Hazard: Wastewater

Any excrement or domestic waterborne waste, or any water that has been 'used' or is in excess and is not wanted for use, whether untreated or partially treated.

Common sources of harm	Possible consequences if risks of harm from pollution and waste aren't managed	For more information, including controls
• Washing vehicles, tools, and equipment near waterways without containment or collection of wash waters processing wastewater • Wastewater treatment facilities • Leachate run-off from uncontained waste stockpiles		*Reducing stormwater pollution: A guide for industry* (publication 978) How to prevent water pollution from your business

Earth Resources Regulation guidance

The following guidance (developed by Earth Resources Regulation), has information relevant to all hazards listed in the tables on pages 26 to 34, including compliance and permission requirements:

- Code of practice for mineral exploration
- Exploration work plan guidelines
- Exploration licence guidelines
- Code of practice for small quarries
- Extractive industry work plan guideline
- Work plan guidelines for mining licenses
- Code of practice for low risk mines
- Preparation of Rehabilitation Plans: Guideline for Mining and Prospecting Projects

8. Waste management

It is up to everyone to safely manage their waste. Waste generators, transporters and receivers must all make sure waste goes to a place authorised to receive it.

This requirement supports waste reuse and recovery. It also helps to avoid land and groundwater contamination, stockpile fires, abandoned waste, and illegal waste sites.

For some businesses, managing waste may involve simply sorting it into the right bin and keeping it out of drains. For other businesses, it is more complex. Some examples of hazardous waste include asbestos, clinical and medical waste, unprocessed used cooking fats and oils.

Industrial and priority waste

Industrial waste is waste produced by any business. This includes any waste transported from commercial, industrial and trade activities, or from laboratories for fee or reward. Kerbside waste that is collected by, or on behalf of a council or waste and resource recovery group is not considered industrial waste until it reaches a waste or resource recovery facility such as a transfer station.

If you produce industrial waste there are specific requirements you must meet. If you have high risk industrial waste, more care and controls are needed.

Follow these three steps to help you comply:

1. **Classify your waste.** Waste must be properly identified and classified so it is clear what duties apply to managing the waste. Most common wastes are listed in Schedule 5 of the EP Regulations. Based on hazard and mismanagement risk, the majority of these have been pre-classified into three types:

- **Industrial waste**, as defined above, includes household waste once it is gathered at a waste facility, such as a transfer station or landfill. Other examples include steel, rock and soil.
- **Priority waste** is a higher risk industrial waste. It requires additional controls due to its higher level of hazard, its potential to be mismanaged, or to encourage resource recovery or efficiency. Examples include e-waste and treated timber.
- **Reportable priority waste** is the highest risk industrial waste. It requires the highest level of controls. Only permissioned transporters can transport this type of waste. Examples include asbestos, chemicals, pesticides, herbicides, and paints.

Use EPA's Waste Tracker to notify EPA of all reportable priority waste transactions
Waste Tracker logs all reportable priority waste transactions. Examples of waste transactions include when waste moves from producer to transporter, and transporter to receiver. Waste Tracker helps to make sure waste is transported appropriately and taken to a lawful place. You can access Waste Tracker via the EPA portal.

2. Arrange for appropriate transport. Waste must be safely contained during transportation, and the transporter must be provided with sufficient information about the waste. Some waste types have specific containment and isolation requirements. For example, asbestos must be packaged during transportation to the landfill.

3. Ensure the waste goes to the right place. All industrial waste must go somewhere lawfully able to receive it, such as a place with an EPA permission. Examples include licensed landfills and waste treatment facilities. Some wastes are banned from going to landfill. This includes liquid wastes, tyres and e-waste. **Note:** If you arrange a contractor to manage your site waste, you still have a responsibility to take all reasonable steps to ensure it goes to a lawful place. For example, you should check your contractor engages reputable waste operators and ask questions about how your waste will be managed.

Note: EPA will publish more guidance on managing industrial waste in 2021. You can also find useful waste and recycling tips at sustainability.vic.gov.au.

Finding a lawful place to send your waste

A lawful place is somewhere lawfully authorised to receive industrial waste. Often this will be a facility with a permission. Examples include landfills, resource recovery facilities, and transfer stations. When engaging a waste transporter, ask for information in writing that shows where they plan to take your waste and check that the waste transporter is authorised to receive your waste.

See *How to establish lawful place* (publication 1946) for more information.

Some lower risk waste can be lawfully taken to a place that does not hold a permission. Two other options can provide for lawful place in certain circumstances:

Declaration of use (DoU) - is a tool that supports the safe use and recovery of materials from low-risk waste. It does not apply to material from high-risk wastes, which need a permission. Applying waste to land is only allowed through a DoU for a limited number of wastes. These include:

- commercial garden and landscaping organics that don't contain any physical or chemical contamination
- untreated timber, including sawdust
- natural organic fibrous waste.

Determination – is a tool that allows the safe use of specified types of low-risk waste. This may include processed solid organic waste, manures, fill material and aggregates. EPA makes determinations and sets required specifications for the lawful deposit and receipt of industrial waste, subject to conditions or limitations.

Littering and illegal dumping

Littering and illegal dumping is a significant problem in Victoria. Some common examples of illegally disposed waste include industrial waste, soil, e-waste and packaging. Offences relating to the unlawful deposit of waste covers litter[5], dangerous litter[6], waste of more than 50 litres, and waste of more than 1000 litres. EPA and other litter enforcement authorities, including councils, Victorian Police and Parks Victoria, enforce these unlawful deposits (Part 6.3, EP Act).

It is also an offence to distribute unsolicited documents. For example, placing leaflets under a windshield wiper or a poster on a wall without consent of the owner. It is also an offence to damage public bins or drive a vehicle with an unsecured load or make someone else drive such a vehicle (regs 54-59).

Accredited consigners

Those who produce industrial waste may want to seek additional advice and assistance if they are unsure about waste obligations. One option is to engage an accredited consigner. An accredited consigner is an appointed professional who has the approval of EPA to classify your waste and can assist you to meet some of your other waste duties.

It is not a requirement to work with an accredited consigner, but it is an option available to you.

[5] 'Litter' means a quantity of waste that does not exceed 50 litres.

[6] 'Dangerous litter means litter that is wholly or partly comprised of one or more of the following: a) oil, fuel, grease, paint or solvents; b) a lit cigarette or a lit cigarette butt; c) glass; d) a syringe; e) any substance, material or other thing prescribed by the regulations.

9. Contaminated land

Land is contaminated if waste, a chemical substance, or a prescribed substance[7] is:

- on or under the land in a concentration above the background level, and
- creates a risk of harm to human health or the environment (reg 8)

When land is contaminated, it can cause acute and chronic health problems such as allergic reactions, hypersensitivity, respiratory illness, reproductive problems, cancer, and birth defects. Contaminated land can also harm the environment, for example, the soil, water and air quality.

Contamination is often the result of past activities. This includes industrial, agricultural, and commercial activities that involved storing and/or moving liquids, chemicals and/or wastes. Abandoned mining operations and sites that have had underground fuel storage tanks are examples of where land could be impacted by contamination.

Contamination is often underground and not seen from the surface of a site. You may suspect land is contaminated based on the site history. Because it can be hidden or invisible, sampling and laboratory analysis is often required to confirm contamination.

Activities which could cause contamination include: asbestos disposal, battery recycling, chemical storage or blending, fuel storage, pest control, bulk consumable storage.

Victoria Unearthed is an online tool which gives access to more information about potential and existing contaminated land.

What is required at your site depends on the specific circumstances, including the history of the site. EPA will publish guidance on how to manage contamination in 2021.

The key duties that address contaminated land risks and actions you can take to help you comply with the laws are outlined in the table below.

Contaminated land duties

1. General environmental duty (GED)	*Consider* the risk of harm regarding the activities you are proposing to engage in. Could anything make contamination worse (for example, exposing someone to the contamination) or involve groundwater that may be contaminated? Activities such as earthworks, resurfacing and major landscaping can uncover contamination that was previously unknown or not detected. You must have systems to identify, assess and minimise these risks. You must also *train* those involved to identify and respond appropriately to 'unexpected finds' that suggest contamination is present or more widespread at the site. This may include training staff on safety measures for excavating soil, internal reporting processes and types of possible finds. For example, using photographs of what asbestos fragments look like when uncovered in soil and buried infrastructure such as piping.

[7] A substance identified by EPA as having the potential to cause harm to human health and the environment.

2. Duty to manage contamination	This duty requires a person **managing or controlling** land to, so far as reasonably practicable: - *reflect* on direct knowledge (for example, environmental reports) they have about the condition of the land, and - *consider* indirect knowledge about the potential for contamination to be present (for example, site history, council's own records, and other data such as Victoria Unearthed). (A suitably qualified and experienced professional, such as an environmental consultant, who specialises in contaminated land, can assist you, if required). If you know where contamination is or could be present based on available evidence, you have a duty to manage contamination risks. See **page 11** for information about how to work out whether you are in control of the land.
3. Duty to notify of certain contamination	*Notify* EPA of the presence of contamination when you are aware that your land is contaminated in certain circumstances (as set out in the EP Regulations). This applies even if you didn't cause the contamination. The circumstances that make contamination notifiable relate to the contaminants being above one or more investigation levels or guideline values *and* where that contamination: • is exposing a person to that contamination, or • has entered adjacent land from your land. Guidance to assist you figure out whether you need to notify EPA will be published in 2021. A suitably qualified and experienced professional can help you work out what is notifiable. They can advise you on information (for example, reports and investigations) you have about the nature and extent of the contamination. You don't need to start an investigation purely for the purposes of figuring out if you need to notify EPA unless you strongly suspect such circumstances are present. This situation is more likely to arise as you fulfill your duty to manage contamination.

The duties outlined above sit within a broader risk management and response scheme under the EP Act. They are explained in more detail on page 10-14 of this guide. Land contamination issues will also continue to be addressed under other regulatory processes, in particular the *Planning and Environment Act 1987* and the *Environment Effects Act 1978*.

For more information, see EPA's *Contaminated land policy* (publication 1915) and *Assessing and controlling contaminated land risks: A guide to meeting the duty to manage for those in management or control of land* (publication 1977).

10. Noise

Environment protection laws require anyone who engages in an activity that creates noise which may be harmful to people or the environment to manage those risks of harm. This includes mining and quarrying activities. Noise is defined as both sound and vibration.

This is regardless of whether the noise you are trying to prevent and/or control has a legally prescribed limit. The general environmental duty (GED) requires you to eliminate or minimise the risks of harm from your noise so far as is reasonably practicable.

There is a greater risk of harm when there's poor management of noise and it happens near homes, schools, hospitals, and other noise sensitive areas[8].

Further to your GED noise obligations, you must make sure your business doesn't emit **unreasonable** or **aggravated** noise. This includes complying with noise limits where relevant.

Mines and quarries are commercial, industrial and trade premises. The EP Regulations for noise from commercial, industrial and trade premises (regs 116-121) apply.

The EP Regulations do not set operating hours for businesses. Instead, the Noise Protocol sets noise limits and methods to assess the noise.

The noise emitted from the premises is unreasonable if it exceeds the noise limit for the relevant time of day when measured in a noise sensitive area. The noise limits are lower at more sensitive times, such as at night.

In urban areas, the noise limits for commercial, industrial and trade premises apply to mines and quarries. In rural areas, the Noise Protocol provides a method for setting noise limits specifically for earth resources premises. It also has variations for the following activities at mines and quarries:

- installation of constructed noise-control works
- site clearing and preparation works
- site rehabilitation
- necessary unshielded work.

Some noise sources are not assessed using the EP Regulations. This includes noise from, for example, blasting, construction or demolition activities, and intruder, emergency or safety alarms (see reg 117 for the full list). In some instances, specific industry standards and controls can be applied to eliminate or reduce the risk of harm.

However, the noise can be considered unreasonable when you have regard to the factors identified in the definition of unreasonable noise in the EP Act.

[8] The EP Regulations prescribe some noise sensitive areas where noise limits apply. These include childcare centres, kindergartens, primary and secondary schools; as well as tourist establishments, caravan parks and camping grounds (in defined rural areas only). The noise limits at childcare centres, kindergartens, primary and secondary schools only apply when the noise sensitive area is in operation.

Under the EP Act, unreasonable noise is noise that is unreasonable regarding:

- its volume, intensity or duration
- its character, the time, place and other circumstances in which it is emitted
- how often it is emitted, or
- any prescribed factors in the EP Regulations.

Unreasonable noise using the factors in the EP Act can be applied to any noise including where the noise is not assessable under the EP Regulations (reg 117 and reg 124) or affects a place that is not a noise sensitive area defined in the EP Regulations.

Note: The GED and unreasonable noise in section 166 of the EP Act apply independently. However, meeting the GED can help you to meet the regulatory noise limits.

EPA will publish further guidance about the noise framework in 2021.

Getting help to manage noise – You can get a noise and vibration impact assessment to help you manage noise or predict the effects of implementing noise and vibration controls you plan to use. You can engage an acoustic consultant to help you do this.

11. Where to go for more help

1300 EPA VIC (1300 372 842)

epa.vic.gov.au/for-business/find-your-industry/energy-petroleum-and-extractive-industries – Some helpful general publications include:

- *Assessing and controlling risk – A guide for business* (publication 1695) – how to manage risks, using a four-step process.
- *Self-assessment tool for small business* (publication 1812) – check what actions you can take to manage the risks of your business causing harm to people and the environment.
- *Supporting you to comply with the general environmental duty* (publication 1741.1) – information about the general environmental duty, state of knowledge and the role of industry guidance.
- *Fact sheet: Engaging consultants* (publication 1702) – information about engaging consultants to identify and understand hazards and select appropriate control measures.

Note: Some EPA publications haven't been updated to reflect changes which take effect from 1 July 2021. Guidance should be viewed as general in nature and not a substitute for obtaining legal advice.

Industry associations – Contact your industry association for further information about resources, training and opportunities that may be relevant to your business.

Know Your Council (knowyourcouncil.vic.gov.au) – the Victorian Government has compiled a list of all councils in Victoria. Get in touch with your council for information on building regulations and the Victorian planning schemes, and what it means for your operations.

WorkSafe Victoria (worksafe.vic.gov.au) – for guidance and advice relating to health and safety at your workplace, including storing, handling and transporting dangerous goods.

Department of Environment, Land, Water and Planning (planning.vic.gov.au/guide-home/using-victorias-planning-system) – for more information about Victoria's planning system.

VicRoads (vicroads.vic.gov.au) – for more information about Victoria's road regulatory framework.

Earth Resources Regulation (ERR) (earthresources.vic.gov.au) – for legislation about mineral exploration, mining and quarrying activities. Many of its resources include information about managing risks, and other compliance and permission requirements, including*:

Exploration

- Code of practice for mineral exploration
- Exploration licence guidelines
- Exploration work plan guidelines

Extractives

- Code of practice for small quarries
- Extractive industry work plan guideline

Mining

- Code of practice for low risk mines
- Mining licence guidelines
- Work plan guidelines for a mining licence
- Preparation of Rehabilitation Plans: Guideline for Mining and Prospecting Projects

Other

- Imported materials management guidelines
- Guidelines for the design and management of tailings storage facilities

*The ERR website provides the most up-to-date information for your sector. With the ongoing reform of the *Mineral Resource (Sustainable Development) Act 1990* there are several publications and webpages that will be replaced and updated.

Appendix A: Action plan example

Use this template to list actions you can take to improve the way you control risks.

Key focus area	Action required	Objective	Action owner (who)	Target completion date	Date action reviewed	Additional comments (post review)
For example, B	*For example, Review EPA Liquid storage and handling guideline*	*Improve the way liquids are stored on site and spill containment.*	*Danica*	*03/08/2021*		

Key focus areas:

A: Understanding the preventative laws	**B:** Documentation and operational procedures	**C:** Identification of hazards and risks If any of the following apply, please specify: **C(i):** Identification of air pollution and odour **C(ii):** Identification of unreasonable and aggravated noise **C(iii):** Identification of water pollution (including stormwater)
D: Assessing hazards and risks	**E:** Managing risks of harm	**F:** Monitoring risks of harm
G: Reporting notifiable incidents	**H:** Management of contaminated land	**I:** Managing waste(s) (including disposal)
J: Permissions for activities	**K:** Storage of flammable or hazardous material(s)	**L:** Staff consultation and training and/or community engagement

Appendix B: Prescribed permission activities

If you undertake any of the activities below, there are specific things you must do to comply with the law. This includes applying for the relevant permission and paying a fee (if applicable). This is a summary of the activity types listed in Schedule 1. See **Schedule 1** and **Part 3.5** of the EP Regulations for further detail on the prescribed permission activities and other Regulations relating to permissions, including prescribed exemptions.

Legend -

Environment protection levy applies	⊛ Waste levy applies	▧ Financial assurance may be required	✱ Council issued permit

Waste treatment, disposal, transport and recycling		
Reportable priority waste management ⊛▧	Other waste treatment incineration	Other waste treatment – e-waste more than 500 tonnes
Other waste treatment – e-waste more than 500 tonnes or less	Sewage treatment	Industrial wastewater treatment
Industrial wastewater treatment	Landfills – excluding municipal landfills servicing less than 5000 people ⊛▧	Municipal landfills servicing less than 5000 people
Disposal to land	Organic waste processing – large	Organic waste processing – small
Waste to energy	Waste tyre storage – large	Waste tyre storage – small
Reportable priority waste (transport) – high risk	Reportable priority waste (transport) – other	Transporting waste into Victoria
Transporting waste out of Victoria	Waste and resource recovery – large ▧	Waste and resource recovery – medium ▧
Waste and resource recovery – small	Reclaimed wastewater supply or use	Biosolids supply or use
Supply or use of reportable priority waste	Containment of Category D waste soil	Discharge or deposit of waste to aquifer
Temporary onsite waste treatment	Onsite wastewater management systems ✱	Temporary storage – biomedical waste
Temporary storage – asbestos	Temporary storage – designated waste	
Primary industry and allied operations		
Animal industries – waste not solely to land	Livestock saleyards or holding pens – waste solely to land	Livestock saleyards or holding pens – waste not solely to land
Fish farms		

Extractive industry and mining		
Extractive industry and mining		
Animal derived by-products and food		
Abattoirs	Rendering	Animal skin tanning works
Seafood processing	Petfood processing	Food processing
Food processing	Milk processing	Edible oil or fat processing
Beverage manufacturing		
Textiles		
Textile works		
Wood and wood derivatives		
Timber preserving works	Fibreboard works	Paper pulp mills
Chemical works	Coal processing	Oil or gas refining
Bulk storage ▧	Container washing	
Non-metallic minerals		
Cement works	Bitumen or asphalt batching	Ceramics
Mineral wool works	Glass works – manufacturing	Glass works – large reprocessing
Glass works – small reprocessing		
Metals and engineering		
Primary metallurgical	Metal melting	Metal galvanising
Metal finishing	Can and drum coating	Vehicle assembly
Printing		
Printing		
Utilities		
Power generation	Carbon geosequestration	Water desalination
Others		
General discharges or emissions to the atmosphere	Contaminated sites – onsite soil retention ▧	Road tunnel ventilation systems
Operation outside of hours or extended operations	Conducting more than six outdoor concerts	Dry-cleaning
Receiving waste acid sulphate soil for treatment		