



**Waste**  
EIS information guideline



**Queensland**  
Government

Prepared by: Environmental Impact Assessment, Operational Support, Department of Environment and Science

© State of Queensland, 2022.

*The Department of Environment and Science acknowledges Aboriginal peoples and Torres Strait Islander peoples as the Traditional Owners and custodians of the land. We recognise their connection to land, sea and community, and pay our respects to Elders past, present and emerging.*

*The department is committed to respecting, protecting and promoting human rights, and our obligations under the Human Rights Act 2019.*

The Queensland Government supports and encourages the dissemination and exchange of its information. The copyright in this publication is licensed under a Creative Commons Attribution 4.0 Australia (CC BY) licence.



Under this licence you are free, without having to seek our permission, to use this publication in accordance with the licence terms. You must keep intact the copyright notice and attribute the State of Queensland as the source of the publication.

For more information on this licence, visit <https://creativecommons.org/licenses/by/4.0/>

#### **Disclaimer**

This document has been prepared with all due diligence and care, based on the best available information at the time of publication. The department holds no responsibility for any errors or omissions within this document. Any decisions made by other parties based on this document are solely the responsibility of those parties. Information contained in this document is from a number of sources and, as such, does not necessarily represent government or departmental policy.

If you need to access this document in a language other than English, please call the Translating and Interpreting Service (TIS National) on 131 450 and ask them to telephone Library Services on +61 7 3170 5470.

This publication can be made available in an alternative format (e.g. large print or audiotape) on request for people with vision impairment; phone +61 7 3170 5470 or email <[library@des.qld.gov.au](mailto:library@des.qld.gov.au)>.

#### **Citation**

Department of Environment and Science 2022, *Waste—EIS information guideline*, ESR/2020/5311, Queensland Government, Brisbane.

ESR/2020/5311, version 1.02, last reviewed: 21 Apr 2022

# Contents

Introduction .....	1
What is waste?.....	1
How is waste regulated?.....	1
What wastes must the EIS identify? .....	1
Can waste be a resource? .....	1
How much detail must the EIS provide about wastes? .....	1
Waste and resource management hierarchy.....	2
Waste and resource management principles .....	2
Waste generation.....	2
Regulated waste .....	3
General waste .....	3
Excavated waste .....	3
Tailings and fine rejects .....	3
Potable water treatment waste.....	4
Mine affected water .....	4
Coal seam gas water .....	4
Waste storage.....	4
Waste handling and transportation.....	4
Waste treatment, reuse, recycling and recovery .....	4
Sewage treatment .....	5
Waste disposal.....	6
Waste rock .....	6
Co-disposal of rejects.....	6
Tailings .....	7
Evaporation pond .....	7
Regulated and general waste .....	7
Sewage treatment waste.....	7
Spontaneous combustion.....	7
Discharge.....	8
Liquid.....	8
Gas.....	8
Glossary.....	8
References.....	8

## Introduction

This guideline advises proponents about the information and assessment requirements in relation to waste management when preparing an environmental impact statement (EIS).

Some terms that are highlighted in italics in this guideline are defined or explained in the glossary at the end of the guideline.

Some sections of this guideline (e.g. sewage treatment) might not be applicable to all projects. Nevertheless, the EIS should mention why the sections are not applicable in order to show that they have not been neglected.

## What is waste?

Section 13 of the *Environmental Protection Act 1994* defines waste as any thing that is:

- a) left over, or an unwanted by-product, from an industrial, commercial, domestic or other activity; or
- b) surplus to the industrial, commercial, domestic or other activity generating the waste.

However, waste does not include an *end of waste resource* (see *Can waste be a resource?* below).

## How is waste regulated?

The storage, treatment, management, movement, reuse, and disposal of waste is regulated to protect human health and the environment. Queensland regulates waste under legislation and subordinate legislation, including:

- *Environmental Protection Act 1994*
- Environmental Protection Regulation 2019
- *Waste Reduction and Recycling Act 2011*
- Waste Reduction and Recycling Regulation 2011

Everyone who generates, stores, treats, transports, receives, recycles or disposes of wastes has a responsibility to ensure they do not cause, or risk causing, environmental harm. The law can impose penalties on those who do not act responsibly.

The movement of *regulated waste* must be licenced and tracked, while some other dealings with waste are regulated as *environmentally relevant activities* (ERAs).

## What wastes must the EIS identify?

The EIS must identify all wastes the project would produce from all potential sources, whether from resource extraction, industrial processing, vehicle and machinery use and maintenance, and/or office and domestic refuse.

The EIS must categorise potential wastes into solid, liquid, and gaseous, and into other categories, including regulated waste, recyclables, disposables, and *end of waste resources* (see below).

## Can waste be a resource?

In addition to established practices for recycling waste, the Queensland Government promotes opportunities for waste to be valued as a resource. The government has legislated a framework to ensure the use of waste as a resource is done responsibly. The [end of waste \(EOW\) framework](#) under Chapter 8 and Chapter 8A of the *Waste Reduction and Recycling Act 2011* consists of EOW codes and EOW approvals. Only wastes covered by EOW codes and EOW approvals can be used as a resource.

## How much detail must the EIS provide about wastes?

The EIS must provide a high level of detail describing wastes and waste streams, and how the project's operators would handle and managed them. Provide details about locations and transportation routes. Generalisations such as saying 'domestic waste will be disposed at the nearest local landfill' will not be sufficient.

For example, the EIS must estimate:

- how much domestic waste would be generated, including the proportion of recyclables
- how and when domestic waste would be transported (including the route)
- where recyclable wastes would go
- which landfill non-recyclable domestic waste would go to
- whether that landfill has the capacity to take the waste for the life of the project.

An EIS for a proposed mining project must have subsections that specifically address the generation, handling, treatment, and disposal of all wastes, including excavated material, tailings and fine rejects.

## Waste and resource management hierarchy

Demonstrate how the project will accord with the waste and resource management hierarchy (see s. 9 of the Waste Reduction and Recycling Act). The hierarchy lists the preferred waste and resource management options in the following descending order:

- (a) **AVOID** unnecessary resource consumption
- (b) **REDUCE** waste generation and disposal
- (c) **RE-USE** waste resources without further manufacturing
- (d) **RECYCLE** waste resources to make the same or different products
- (e) **RECOVER** waste resources, including the recovery of energy
- (f) **TREAT** waste before disposal, including reducing the hazardous nature of waste
- (g) **DISPOSE** of waste only if there is no viable alternative.

The EIS must address each of those options in turn for the major waste streams and explain how the project would maximise the most preferred option and minimise the least preferred option. This might include, for example, describing why the project's design chose a preferred alternative for process technology.

## Waste and resource management principles

Explain how the project would address each of the following waste and resource management principles:

- the polluter pays principle
- the user pays principle
- the proximity principle
- the product stewardship principle.

Chapter 1, Part 3 of the Waste Reduction and Recycling Act provides more information about these principles.

## Waste generation

Provide the following information about wastes the project would generate:

- a waste inventory of all potential sources with an estimate of the expected quantities of each waste type/stream produced each year, including
  - quantities of each raw waste
  - quantities of each waste that can be recycled, reused, or covered by an EOW approval
  - quantities of any waste treatment by-products
  - quantities of each waste that will need to go to landfill or be discharged as a liquid
- the stages of the project (such as construction, operation and decommissioning) during which each waste will be produced
- the physical and chemical characteristics, and the variability of composition and generation rates of each waste, including changes over time and different climatic conditions
- schematic diagrams for each waste stream for each distinct stage of the project
- diagrams or tables that cross-reference to relevant sections of the EIS that describe the potential impacts and mitigation measures associated with each waste stream.

## Regulated waste

Identify and describe the quantities and characteristics of any regulated wastes the project would generate. In accordance with Schedule 9 of the Environmental Protection Regulation, categorise each such waste as either *Category 1 regulated waste (highest risk)* or *Category 2 regulated waste (moderate risk)*. The Department of Environment and Science's (the department) information sheet [Overview of regulated waste categorisation](#) (DES 2019) provides additional advice.

Describe which regulated wastes will be disposed of onsite and which would be taken offsite—generally, only minor quantities of regulated waste may be disposed of onsite. Disposal of scrap tyres may be allowed at mine sites if the proposal accords with the department's [Operational policy—Disposal and storage of scrap tyres at mine sites](#) (DES 2014).

## General waste

Identify and describe the quantities and characteristics of any general wastes the project would generate. General waste is defined in Schedule 19 of the Environmental Protection Regulation, and includes domestic waste, recyclable waste, and commercial waste other than regulated waste.

## Excavated waste

Estimate the tonnage and volume of excavated wastes for each stratigraphic unit during each proposed stage of the project. Describe the physical, geo-mechanical and chemical properties of each unit in both fresh and weathered forms, and assess their suitability for constructing stable slopes and exposed surfaces on waste rock dumps and backfilling operations.

For coal mines, separately describe the partings. For metalliferous mines separately describe the proportion and source of waste rock that is mineralised but currently uneconomical for processing.

Analyse and provide results of statistically representative samples from each unit for relevant parameters, which should include:

- sulfides
- metals
- paste pH, conductivity, and chloride of slurry samples
- Net Acid Producing Potential and Net Acid Generation Potential of the mined waste
- cation exchange capacity and exchangeable sodium percentage in material that would be placed near the surface
- metal and salt solubility.

Assess the properties that affect the erosion and leaching potential of the waste rock and subsoil units. Give particular attention to the capacity of wastes to generate acid, and saline or sodic wastewater that could contaminate both surface water and groundwater.

Describe those parts of the excavated waste that will need special handling, such as encapsulation in a buried cell, or deposition in a pit or void.

## Tailings and fine rejects

Estimate the annual production of tailings and/or fine rejects at the various stages of the project.

Describe the methods and materials that would be used to produce tailings and/or fine rejects. State whether the methods that would produce and treat tailings or fine rejects would be novel or well established.

For novel methods, describe the testing that would be undertaken to determine if the methods would be suitable for the proposed use. For established methods, provide examples of where each method has been, or is being, used, and assess the equivalence of those examples to the project's proposed use.

Describe in detail the likely physical and chemical characteristics of the tailings waste and the likely chemical characteristics of wastewater from:

- any pressing plant
- the decant water from any tailings storage facility (see also *Mine affected water* below)
- the pore water and leachate from any dump that would contain tailings or fine rejects.

Describe how the methods used to produce and treat tailings would be in accordance with the waste and resource management hierarchy and current best practice.

## Potable water treatment waste

If the project would produce potable water onsite, describe the quantity and quality of any liquid, slurry, or solid wastes the treatment process would produce.

## Mine affected water

Mine affected water has the definition given in the department's [Model mining conditions](#) (DES 2017), and includes (among other types) pit water, tailings dam water, and processing plant water. Estimate the quantity and quality of mine affected water that the project would produce. Also, describe and illustrate where and at what stage of the project mine affected water would be produced. Assess how time and climatic conditions would affect the quantity, quality, and management of mine-affected water.

## Coal seam gas water

If the proposed project would produce coal seam gas water, the EIS must provide sufficient information for the department to assess the proposed management of the coal seam gas water and develop conditions for an environmental authority. The department has published extensive guidance for this requirement. That guidance is available through our [Coal seam gas water](#) webpage, and is not repeated in this guideline.

## Waste storage

Describe how each waste would be stored at each intermediate stage of the waste stream. Provide quantities, and describe how the proposed containment systems would be appropriate for the physical and chemical characteristics of the waste. Discuss which wastes, particularly regulated wastes, would be stored separately. Describe in detail the following aspects of the containment systems:

- stockpiles
- storage buildings
- pit storage of mine affected water
- dams (cross-referenced with the section of the EIS that addresses regulated structures)
- bunding
- seepage controls, including impervious barriers and seepage collection systems
- spill recovery and clean-up methods
- any gas release systems
- odour controls
- vermin control for domestic waste
- circumstances and locations of any potential uncontrolled releases.

Assess the risks associated with the storage of wastes, such as spills, fire, impact of flood, and so on.

Describe the likely impacts on terrestrial and aquatic ecology of storing wastes at the project site, particularly those related to any form of cyanide or other toxicants in supernatant water of any tailings storage facility. Take into account any proposed measures to prevent harm to wildlife.

## Waste handling and transportation

Describe all proposed methods and locations to be used to transport wastes within and/or off the project site.

Assess the risks associated with the handling and storage of wastes, and propose measures to manage the risks.

For those regulated wastes that would be taken offsite, demonstrate that it would be feasible to get licenced transporters to take the regulated waste to an approved receiver.

## Waste treatment, reuse, recycling and recovery

Describe all proposed methods and locations to be used to treat, reuse, recycle or recover wastes.

Investigate and describe the feasibility of using waste minimisation and cleaner technology options during all phases of the project.

Describe the proposed treatment, reuse, and/or recovery of mine affected water.

Describe the proposed use of wastewater for any of the following:

- resource or industrial processes
- dust suppression
- irrigation
- toilet flushing
- firefighting
- any other use.

Describe and quantify any wastes that would be used as a resource covered by EOW codes and EOW approvals.

For gold mineral processing, describe options for removing or reducing cyanide from the waste streams entering tailings storage, and develop a preferred option. Provide predictions of the concentrations of cyanide, in total and in relevant chemical species, resulting from the preferred option for all components of the waste streams, including settled solids and supernatant effluent in tailings storage facilities.

Apply waste minimisation and treatment, and cleaner production techniques, to gaseous wastes, particularly methane, nitrogen oxides, sulfur oxides, particulates, and carbon dioxide. Pay particular attention to measures that would maximise energy efficiency and minimise internal energy consumption in the proposed project.

## Sewage treatment

Describe how sewage from onsite toilet and greywater facilities would be collected, piped or transported, treated, and disposed of.

If the project would have an onsite sewage treatment plant, compare and describe the proposal against the activities and thresholds of *ERA63—sewage treatment* in Schedule 2 of the Environmental Protection Regulation. Provide details of the sewage treatment infrastructure and process, such as the following features:

- daily peak design capacity
- treatment units and processes
- amounts and compositions of waste solids, liquid(s), and gases
- storage tanks
- pipework and pumps
- alarm systems for both plant operations and any sewage pump stations necessary to indicate any plant malfunctions and overflows or unplanned wastewater releases/spills
- bypassing infrastructure and treatment, including bypass screening prior to discharge
- wet weather storage capacity
- measures to prevent potential uncontrolled overflows to waters
- any irrigation system and infrastructure, including areas where effluent would be applied
- odour controls.

Illustrate at appropriate scales the following details:

- locations of all sewage treatment infrastructure, including, but not necessarily limited to, tanks, sewage pump stations, sewerage collection system and pipe work, wet weather storage structure(s), disposal areas, and their relation to other onsite structures (e.g. buildings, recreational areas, and other infrastructure)
- site contours
- average recurrence interval (ARI) 10 year and 100 year flood levels
- distance to site boundaries
- distance from all proposed sewage treatment infrastructure and disposal area(s) to potentially impacted waters and environmentally sensitive features, including places of residence or work outside the site boundary
- groundwater bore locations (if applicable)
- stormwater collection/drainage system(s).



Describe the proposed effluent quality, including pH, salinity, biological oxygen demand, total solids, nutrients, and microbiology. Describe the composition(s) of separated and/or composted solid waste. Provide details of any waste gases, such as from digesters.

Specifically address whether the project would produce any sewage sludge or residue that would be regulated waste, and if so, describe the composition and rate of production of the regulated waste.

Describe the proposed reuse or recycling of all sewage treatment end products/wastes whether solid, liquid, or gas (see the following section with regard to the disposal of sewage waste). Describe how the regulated waste would be transported and its fate.

Assess how well the proposed onsite sewage treatment process would comply with the [Model operating conditions for ERA63](#) (DES 2017). Describe any instances where the onsite sewage treatment process would not comply with those model operating conditions, and propose alternative measures that would prevent significant impact on the environment.

## Waste disposal

Describe the quantity and quality of all wastes that cannot be recycled, reused, recovered, or an EOW resource. Describe the proposed methods of the disposal of all such wastes.

Describe the proposed location, capacity, and suitability of any landfill that would receive solid waste from the project, whether on or off the project site. Describe and illustrate any proposed onsite landfill, including its dimensions, volume and method of construction (see also the *Regulated and general waste* section below).

The following subsections provide advice about particular aspects of waste disposal.

### Waste rock

Describe and illustrate the location, design, and methods for constructing dumps for waste rock and any subsoil that would not be used in rehabilitating the site. Describe and illustrate how the construction and rehabilitation of waste rock dumps would progress from the start of the project to the surrender of the lease. Assess how the proposed design maximises site efficiency and minimises the footprint.

Assess the proposed slope profiles and the stability and erosion potential of waste dumps.

Assess how the disposal of waste rock would avoid, or minimise the size of, a residual void. Show that waste rock disposal would avoid leaving a residual void on a floodplain. Demonstrate how the proposed project would avoid placing dumps/engineered landfills across drainage lines, and thereby avoid ponding water behind the placed material and causing infiltration.

Describe the potential for acid, neutral, or alkaline drainage from waste dumps or engineered landfills. Characterise the potential quality of leachate from the mined waste under a range of field conditions. Include sulfate, pH, chloride, iron, major cations and anions, and any chemical species (including those with the potential to bio-accumulate) that are like to be present in sufficient quantity to cause environmental harm including nuisance. Predict and discuss the likely temporal variation in the quality and quantity of the leachate, including the influence of weathering and different management options across the life of the proposed project. Provide cross-references in the waste section to the other sections of the EIS that assess in detail the potential impacts of any direct or indirect discharge of leachate on downstream sensitive environments or users of receiving waters.

Assess the likely performance of the proposed waste disposal options with particular regard to segregating and encapsulating currently sub-economic but mineralised rock and/or potentially acid-forming rock.

With regard to rehabilitation, assess:

- re-contouring and surface treatment of dumps for rehabilitation
- the intended land use after mining ceases
- the land management and maintenance requirements for the subsequent landholder.

### Co-disposal of rejects

If the project would involve co-disposal of fine and coarse rejects, describe the size fractions and mixing method that would produce a stable deposit. Describe the containment systems proposed for intercepting and storing the bleed water, runoff, and leachate from co-disposal systems. Where containment structures and holding dams are

required to prevent discharge of contaminated water to the external environment, the structures must be assessed in the EIS using the [Manual for assessing consequence categories and hydraulic performance of structures](#) (DES 2016).

## Tailings

Describe and illustrate the proposed locations for the disposal of tailings, including any pits, dams, bunds, or dumps/engineered landfills. Provide a detailed description of the proposed operation of tailings disposal facilities, and their subsequent capping and rehabilitation. Assess the hydraulic performance of the proposed tailings disposal facilities during operation and after decommissioning.

Describe any cells for non-flowable tailings within waste rock dumps. A shear strength of greater than 1000 pascals would generally be required of pastes suitable for dry tailings stacking, while pastes with lower shear strength must be contained in a regulated dam. However, the slumping and plastic properties of any tailings considered for disposal by dry stacking should be derived from tests on representative samples and reported in the EIS.

Describe the source, and assess the suitability, of the materials the project would use to construct containment systems. Describe any proposed staging of the construction for any disposal cells and demonstrate that a suitably qualified and experienced engineer produced the design.

Describe the proposed monitoring network and regime the project would use to detect any leaks from a tailings storage facility.

Assess whether the proposed design and methods of disposal would minimise the potential hazards and risks, particularly in relation to the potential impacts of mass release from structural failure or contaminant release from overflow.

Describe the proposed measures to be used to decommission any tailings storage facility or dump used for the disposal of tailings. Assess any legacy issues for the subsequent landholder.

For more information about the planning and assessment requirements for containment dams and tailings storage facilities, refer to the department's following documents:

- [Structures which are dams or levees constructed as part of environmentally relevant activities](#) (DES 2016)
- [Manual for assessing consequence categories and hydraulic performance of structures](#) (DES 2016).

## Evaporation pond

If the project would use an evaporation pond, describe in detail how residues would be encapsulated and left on site, or removed. Assess the long-term impacts of the residues, cross-referencing to other sections of the EIS if necessary.

## Regulated and general waste

If the project proposes to dispose of general and/or regulated waste onsite, the EIS must provide sufficient information and assess potential impacts consistent with an application for *ERA 60–Waste disposal* (see Schedule 2 of the Environmental Protection Regulation). Assess how well the proposed onsite waste disposal would comply with the department's [model operating conditions for ERA60](#) (DES 2016). Describe any instances where the onsite waste disposal would not comply with those model operating conditions, and propose alternative measures that would prevent significant impact on the environment.

## Sewage treatment waste

Demonstrate that the disposal to land of any solid or liquid wastes from onsite sewage treatment would meet the environmental objectives and performance outcomes in Table 1 (Operational assessment), Part 3, Schedule 8, of the Environmental Protection Regulation.

## Spontaneous combustion

Spontaneous combustion has occasionally occurred in sulfidic and/or carbonaceous wastes on mine sites, and may occur in underground coal mines. Assess the potential for spontaneous combustion of mine waste, and propose measures to avoid potential occurrences. Such measures would typically involve a combination of selective handling and placement, compaction, spoil dump shaping and capping, and revegetation, with the aim of reducing oxygen ingress. Also, propose measures to monitor for outbreaks of spontaneous combustion, and propose corrective measures that would be undertaken should an outbreak occur.

# Discharge

## Liquid

Describe the proposed release conditions and locations of discharges for every liquid waste or mine affected water. Include potential discharges to surface water, groundwater and to land (e.g. mine affected water used for dust suppression). Also, include potential unplanned or uncontrolled releases (e.g. wet weather overflows, or leachate) as well as controlled releases.

Provide details about the expected concentrations of contaminants for every potential discharge of liquid waste or mine affected water. Describe the proposed volumes, schedules, and discharge criteria. Design all criteria related to contaminant concentrations and permissible release conditions so as to protect environmental values from significant impacts. Provide enough information for the department to be able to develop discharge conditions in accordance with the model mining conditions.

Describe, and illustrate on contour maps, the flow and infiltration path any discharge would take. Provide an overview of the potentially affected receiving environment with particular regard to downstream sensitive ecosystems or users of receiving waters. Provide cross-references in the *Discharge* section to the other parts of the EIS that assess in detail the potential impacts of any discharge on downstream sensitive environments or users of receiving waters.

Describe the expected very long-term fate of the water in any residual mine void including quality and volume, and the likelihood of drainage or leakage into surrounding strata. Describe measures that would be taken to prevent mine affected water in any residual void from overflowing and flushing into the environment under any foreseeable extreme weather event.

## Gas

Describe any gas drainage and/or gas recovery from coal seams. Describe the expected composition of the gas, with particular reference to methane and carbon dioxide. Describe whether the project would vent, flare, and/or use the gas for power generation. If the project would flare, or burn gas in a plant, continuously for more than three months, assess all potential impacts associated with the proposed practice, not just its waste gas discharges. For example, assess air quality, noise impacts, and the impacts of light from flares on wildlife.

Describe any proposed discharge of waste gas from mineral processing, such as ore roasting or chemical digestion. Describe the locations and expected quantity and composition of discharge emissions. Cross-reference to other sections of the EIS (e.g. the *Air* section) that assess the impacts of the waste gas discharge.

## Glossary

*End of waste resource* means a waste that stops being a waste and becomes a resource under the provisions of the *Waste Reduction and Recycling Act 2011*.

*Environmentally relevant activity* means an activity listed in Schedule 2 of the Environmental Protection Regulation 2019.

*Regulated structure* means a structure that is assessed as being a regulated structure under the [Manual for assessing consequence categories and hydraulic performance of structures](#) (DES 2016) published by the department.

*Regulated waste* has the meaning provided in r. 42 of the Environmental Protection Regulation 2019.

## References

*Note: These references were correct at the time of publication. Where more recent versions are available, these must be used. For all Department of Environment and Science publications, the latest version of a publication can be found by using the publication number as a search term at the [Queensland Government website](http://www.qld.gov.au) <www.qld.gov.au>.*

Department of Environment and Science 2014, *Operational policy—Disposal and storage of scrap tyres at mine sites*, ESR/2016/2380, Queensland Government, viewed April 2020  
<<https://environment.des.qld.gov.au/assets/documents/regulation/rs-op-scrap-tyres-mine-sites.pdf>>.

Department of Environment and Science 2016, *Model operating conditions: ERA 60—Waste disposal*, ESR/2015/1667, Department of Environment and Science, Brisbane, Queensland, viewed April 2020, <<https://environment.des.qld.gov.au/assets/documents/regulation/pr-co-landfill.pdf>>.

Department of Environment and Science 2016, *Manual for assessing consequence categories and hydraulic performance of structures*, ESR/2016/1933, Department of Environment and Science, Brisbane, Queensland, viewed April 2020, <<https://environment.des.qld.gov.au/assets/documents/regulation/era-mn-assessing-consequence-hydraulic-performance.pdf>>.

Department of Environment and Science 2016, *Structures which are dams or levees constructed as part of environmentally relevant activities*, ESR/2016/1934, Department of Environment and Science, Brisbane, Queensland, viewed April 2020, <<https://environment.des.qld.gov.au/assets/documents/regulation/era-gl-structures-dams-levees-eras.pdf>>.

Department of Environment and Science 2017, *Model mining conditions*, ESR/2016/1936, Queensland Government, viewed April 2020, <<https://environment.des.qld.gov.au/assets/documents/regulation/rs-gl-model-mining-conditions.pdf>>.

Department of Environment and Science 2017, *Model operating conditions: ERA 63—Waste disposal*, ESR/2015/1668, Department of Environment and Science, Brisbane, Queensland, viewed April 2020, <[https://environment.des.qld.gov.au/\\_\\_data/assets/pdf\\_file/0030/88419/pr-co-sewage-treatment.pdf](https://environment.des.qld.gov.au/__data/assets/pdf_file/0030/88419/pr-co-sewage-treatment.pdf)>.

Department of Environment and Science 2019, *Overview of regulated waste categorisation*, ESR/2019/4749, Queensland Government, viewed April 2020, <<https://environment.des.qld.gov.au/assets/documents/regulation/era-is-categorising-regulated-waste.pdf>>.

Queensland Government 2019, *Coal seam gas water*, viewed April 2020, <[https://environment.des.qld.gov.au/management/non-mining/csg-water.html#csg\\_water\\_approval\\_requirements](https://environment.des.qld.gov.au/management/non-mining/csg-water.html#csg_water_approval_requirements)>.

Queensland Government 2020, *End of water framework*, viewed April 2020, <<https://environment.des.qld.gov.au/waste/end-of-waste-framework.html>>.