

13. Waste Management

Burnett Catchment Water Infrastructure - Burnett River Dam

13.1 Local Waste Management Facilities

The regional Shire Councils of Gayndah, Isis, Kolan and Burnett have landfills that are able to accept general construction waste. It is likely that these facilities would have the capacity to accept construction waste from this project, however further discussion with the landfill operators would need to be undertaken. The landfills of Kolan and Burnett Shires, as well as the Bundaberg City landfill and transfer stations are licensed to accept some regulated wastes such as waste oils and tyres.

13.2 General Wastes

13.2.1 Solid Waste from Construction

An estimated 440,000 m³ of spoil will be generated by excavations for dam foundations. Detailed geotechnical investigations have not been carried out at this stage and the suitability of this material for embankment construction is not known. Where possible, the material will be incorporated into the dam embankments and waste material will be placed and compacted in designated disposal areas. The surfaces of the waste areas will be suitably sloped and revegetated to prevent erosion of the material and sedimentation of adjacent waterways. One disposal option is to relocate the spoil into the inundation area.

Table 13.1 shows the types of wastes expected to be generated by the project construction phase. Estimates of volumes are not available at this stage. Solid wastes generated by the construction activities will be collected and transported to an appropriate waste disposal facility.

Table 13.1: Construction Waste Generation and Management

Waste Type	Regulated or General	Potential Hazards	Proposed Waste Management Methods
Soil, sand and gravel	General	<input type="checkbox"/> Blocking of flows in river <input type="checkbox"/> Degradation of visual amenity	<input type="checkbox"/> Sell or make available for construction fill material at other sites <input type="checkbox"/> Make available as cover material for local landfills <input type="checkbox"/> Place in hard waste landfill <input type="checkbox"/> Dispose within impoundment
Concrete cylinders	General	<input type="checkbox"/> Degradation of visual amenity <input type="checkbox"/> Blocking of drainage lines	<input type="checkbox"/> Use in landscaping as lawn and garden edging <input type="checkbox"/> Dispose at licensed landfill
Rock	General	<input type="checkbox"/> Degradation of visual amenity	<input type="checkbox"/> Reuse in embankment
Vegetation	General	<input type="checkbox"/> Clog intake/outlet structure of dam <input type="checkbox"/> Degradation of visual amenity <input type="checkbox"/> Air pollution if burned <input type="checkbox"/> Harboursing of snakes and vermin if stockpiled	<input type="checkbox"/> Potential for cleared trees to be marketed as timber, wood chips or firewood <input type="checkbox"/> Other waste chipped on site to provide mulch for landscaping <input type="checkbox"/> Material unsuitable for chipping will be collected by licensed contractor
Oil, hydraulic fluids, oily rags and oily waste	Regulated	<input type="checkbox"/> Contamination of surface waters <input type="checkbox"/> Contamination of soil	<input type="checkbox"/> Collect in appropriate bunded areas <input type="checkbox"/> Licensed transport <input type="checkbox"/> Reuse in power generation <input type="checkbox"/> Removal and reprocessing at waste oil reprocessing facility
Tyres	Regulated	<input type="checkbox"/> Degradation of visual amenity <input type="checkbox"/> Soil contamination	<input type="checkbox"/> Licensed transport <input type="checkbox"/> Deliver to recycling facility <input type="checkbox"/> Dispose of at licensed landfill
Packaging materials (timber, plastic, cardboard)	General	<input type="checkbox"/> Degradation of visual amenity <input type="checkbox"/> Soil contamination <input type="checkbox"/> Hazard to aquatic life	<input type="checkbox"/> Reuse of timber where feasible <input type="checkbox"/> Transfer to appropriate recycling facility where feasible <input type="checkbox"/> Disposal at licensed landfill
Domestic wastewater	Wastewater	<input type="checkbox"/> Human health <input type="checkbox"/> Contamination of waterways	<input type="checkbox"/> Disposal at municipal wastewater treatment plant
Waste acids from concrete cleaning	Regulated	<input type="checkbox"/> Contamination of waterways <input type="checkbox"/> Health risk	<input type="checkbox"/> Licensed transport <input type="checkbox"/> Disposal to licensed facility
Concrete mixing washdown water	Wastewater	<input type="checkbox"/> Contamination of waterways	<input type="checkbox"/> Sedimentation pond on site and discharge to river

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13.2.1.1 Removal of Vegetation from the Inundation Area

Vegetation in the inundated area will be carefully mapped. Most trees of diameter >10cm will be cleared, although some will be left for habitat (these must have their heads removed to prevent anaerobic digestion of the organic matter). All commercially millable timber and other useable material will be offered for sale to local timber millers who will undertake logging operations under the supervision of the construction contractor.

Vegetation unsuitable for timber will be chipped on site to provide mulch for landscaping, or scattered as potential fauna habitat (under strict supervision).

13.2.2 Regulated Wastes

The *Environment Protection Regulation 1998* lists substances and materials regarded as regulated wastes. (Any waste other than regulated wastes, are known as 'general waste'). Regulated wastes must be transported, stored, recycled and/or disposed of by a licensed operator, and the movement of regulated wastes shall be tracked in accordance with the *Environment Protection (Waste Management) Regulation 2000*. The regulated wastes generated during the construction of the dam include:

- Waste oils;
- Waste tyres; and
- Acids (from cleaning of concrete surfaces and etching of metal parts).

Reasonable attempts will be made to reduce and/or recycle the regulated wastes generated at the site. Disposal of regulated wastes will be to a licensed facility.

13.2.3 Wastewater

Wastewater from the construction workforce facilities will be collected in holding tanks and transported to a municipal wastewater treatment plant for disposal. Any wastewater recycling will be undertaken as part of the municipal program.

Washdown water from the concrete batching plant will be collected in a properly bunded area, treated in sedimentation ponds, and the effluent released to the river. As the batching plant is an ERA, effluent release will be subject to EPA License requirements.

13.2.4 Operation

All wastes from maintenance activities will be removed from site and disposed of in appropriate waste disposal facilities.

Permanent on-site toilet and washroom facilities will be provided. This system will incorporate on-site treatment and disposal, designed in accordance with current best practice.

The operation of the dam is unlikely to produce any other significant waste emissions.

13.3 Conclusions and Recommendations

Construction of the dam will generate some volume of waste material, particularly packaging, tyres and waste oils from machinery, and wastewater from the construction site facilities. The contractor for the works will be responsible for:

- reducing the amount of wastes generated, where possible
- collection of wastes, other than natural earth, soil or rocks in suitable skips or bins
- reusing or recycling waste at an appropriate facility where feasible
- disposal of wastes at an appropriate licensed landfill
- arranging transport of wastes with a licensed carrier, and in accordance with the EPA tracking system as defined in *Environment Protection (Waste Management) Regulation 2000*.