

9.0 WASTE MANGEMENT

This chapter provides information relating to waste produced as a result of the Project during the construction, operation and maintenance phases. A description of waste management and disposal of materials including oils and lubricants, water, solid waste, vegetative waste and regulated waste has also been provided. A description of the origin, quality and quantity of wastewater originating from the Project is also provided along with the sewerage infrastructure required for the substation site.

Information is also provided about on-site treatment of any regulated wastes and proposed waste avoidance, reuse, recycling, treatment and disposal have been described having regard for best practice waste management strategies and the *Environmental Protection (Waste) Policy*.

9.1 POTENTIAL WASTE GENERATION DURING CONSTRUCTION & OPERATION

The likely wastes that are to be generated during the construction and operational phases of the Project are outlined in **Table 9-1**. The majority of the wastes for the Project will be from the construction of the new substation. Waste production during the operational phase of the Project will be minimal in comparison and associated with scheduled maintenance activities of the substation facility and easements.

TABLE 9-1 POTENTIAL WASTES GENERATED DURING CONSTRUCTION & OPERATIONAL PHASES

WASTE TYPE	WASTE CLASSIFICATION*	SOURCE
Construction		
Vegetation	General	Clearing works
Existing dumped rubbish (e.g. vehicle bodies, mattresses, fridges, rusted drums)	General	Previous illegal dumping activities
Topsoil & excess spoil	General	Bulk earthworks for substation pad, foundations and transmission footings
Waste gravel & concrete	General	Substation pad, foundations and transmission footings.
Domestic rubbish (e.g. food scraps, packaging, paper, bottles, cans etc)	General	Construction workers & on-site work office
Waste drums & tins	Regulated	Refueling & vehicle maintenance activities
Residual construction material	General	Construction activities
Timber pallets	General	Packing material
Waste oils	Regulated	Vehicle maintenance activities
Sewage	Regulated	Construction workforce
Residual fuel	Regulated	Refueling activities
Residual chemicals	Regulated	Construction activities
Waste water	General / Regulated	Cleaning & washing down
Operation		
Vegetation	General	Substation & easement maintenance

WASTE TYPE	WASTE CLASSIFICATION*	SOURCE
Waste oils	Regulated	Equipment & plant maintenance
Chemicals	Regulated	Cleaning substation grounds
Waste water	General	Cleaning substation grounds
Scrap metal	General / Regulated	Substation maintenance
Sulphur hexafluoride (SF ₆) gas cylinders	Regulated	Substation maintenance
Defective equipment	General	Substation maintenance
Sewage	Regulated	Maintenance workforce

*Waste Classification as defined under the *Environmental Protection Act 1994*

9.2 MITIGATION MEASURES

General and regulated waste will be produced as a result of the construction and operation of the substation. However, waste generation and potential associated impacts are considered to be similar to other general industrial projects. The potential impacts of waste generation can easily be mitigated and managed by adopting appropriate waste disposal and tracking procedures, as well as adhering to waste management strategies as outlined in **Section 20.0**. Sulphur hexafluoride gas (SF₆) is an operational additive which will be used during operation of the substation. This gas is dealt with in **Section 18**.

Waste management strategies are based on the principles of the waste hierarchy outlined in the *Environmental Protection (Waste Management) Policy 2000* and the Queensland Government Recycling Policy for Buildings and Civil Infrastructure 2009, which promotes the following actions in order of preference:

- Waste avoidance;
- Waste reuse;
- Waste recycling;
- Energy recovery; and
- Waste disposal.

The following sections outline the waste management strategies to be employed for each waste type potentially generated during the construction and operational phases of the project. The waste management strategies are based on the waste hierarchy principles, and will assist in mitigating the potential impacts of the project. All works are to be undertaken in accordance with the EMP (see **Appendix E**).

9.2.1 Solid Waste Disposal

WASTE TYPE	WASTE MANAGEMENT STRATEGY
Solid	
Vegetation	▪ Cleared native vegetation will be sold as mill timber, reused for fencing or chipped into mulch to be used for stabilizing (erosion control), landscaping and rehabilitation works on the site. Vegetation may also be stacked on site for future disposal.
Existing dumped rubbish (e.g. vehicle	▪ Dumped rubbish on the site will be segregated into recyclable items i.e. scrap metal. Other items will be collected as general waste by a licensed contractor for disposal at

WASTE TYPE	WASTE MANAGEMENT STRATEGY
bodies, mattresses, fridges, rusted drums)	a licensed waste facility. Any old drums that appear to have contained chemical based material will be collected by a licensed contractor for treatment and disposal at a licensed waste facility.
Topsoil & excess spoil	Topsoil & excess spoil will be stockpiled on site for reuse during landscaping and rehabilitation works.
Waste gravel & concrete	Waste gravel & concrete will be reused where possible and disposed of off-site.
Domestic rubbish (e.g. food scraps, packaging, paper, bottles, cans etc)	Recycling and general waste bins will be situated on-site. Domestic rubbish is to be segregated into recyclable items and collected by a licensed contractor for disposal at a licensed general waste or recycling facility.
Waste drums & tins	Liquids within drums & tins are to be completely used. Waste drums & tins that contained hazardous material are to be kept within a bunded area until collected by a licensed contractor for treatment & disposal at a licensed facility. Waste drums & tins not containing hazardous material are to be recycled off-site.
Residual construction material	Left over construction material will be reused where possible, returned to suppliers or disposed of off-site.
Timber pallets	Timber pallets will be returned to the material supplier, collected for recycling off-site or collected as general waste by a licensed contractor for disposal at a licensed waste facility.
Scrap metal	Scrap metal to be reused (if practical) or recycled off-site.
Defective equipment	Equipment will be reused where possible or recycled off-site as scrap metal. Any equipment containing hazardous substances will be collected and disposed of by a licensed contractor.

9.2.2 Liquid Waste

WASTE TYPE	WASTE MANAGEMENT STRATEGY
Liquid	
Waste oils	Waste oils will be collected by a licensed contractor for treatment & recycling at a licensed facility. No oil or waste oils will be stored on-site.
Sewage	- During construction, portable toilets will be used and serviced by a licensed contractor; or an appropriate treatment facility/septic tank will be used to process sewerage during the construction phase. - During the operational stage, sewage will be contained and treated within the on-site septic tank, which will be serviced by a licensed contractor.
Residual fuel	Unused fuel will be reused where possible and removed from the site. No large quantities of fuel will be stored on-site.
Residual chemicals	- Unused chemical will be reused where possible and removed from the site. No large quantities of chemicals will be stored on-site. - Unused chemicals will be reused for future or other maintenance work. Empty containers will be refilled and reused or collected by a licensed contractor for treatment, recycling or disposal at a licensed facility.
Waste water	- Unless a suitable wash down facility has been established on site, vehicles and machinery are not to be cleaned on site. Waste water containing hazardous substances are to be contained and not released on site; and - Waste water containing hazardous substances are to be contained and not released on site. Waste water will be treated within the on-site septic tank.