# Appendix **U** – ARRT Facility Operation Environmental Management Plan


**LH-EMP-005**

# OPERATIONAL ENVIRONMENTAL MANAGEMENT PLAN

## Advance Resource Recovery Treatment Facility

ADDRESS: New Illawarra Rd, Lucas Heights NSW 2234



THE LEADER IN RESOURCE RECOVERY

sembcorp
suez environnement
SITA

| SITA AUSTRALIA | No: LH-EMP-005 |
|---|---|
| | Date: 16 September 2015 |
| **ADVANCED RESOURCE RECOVERY CENTRE<br>OPERATIONAL ENVIRONMENTAL MANAGEMENT PLAN** | |
| Lucas Heights Resource Recovery Park | Approved: DRAFT 12 |

## TABLE OF CONTENTS

## LIST OF APPENDICES

## ABBREVIATIONS

| | |
|---|---|
| ANSTO | Australian Nuclear Science and Technology Organisation |
| ARRT | Advanced Resource Recovery Technology Facility |
| CRG | Community Reference Group |
| DoPE | New South Wales Department of Planning & Environment (formerly known as the New South Wales Department of Planning & Infrastructure) |
| EIS | Environmental Impact Statement |
| EMR | Environmental Management Representative |
| EMTG | Environmental Management Technical Group |
| EPL | Environmental Protection Licence |
| ERP | Emergency Response Plan |
| FGO | Food and garden organics |
| GO | Garden Organics |
| IMS | Information Management System |
| LHCA | Lucas Heights Conservation Area |
| LHRRP | Lucas Heights Resource Recovery Park |
| MSW | Municipal Solid Waste |
| NSW EPA | New South Wales Environment Protection Authority |
| OEMP | Operational Environmental Management Plan |
| PIRMP | Pollution Incident Response Management Plan |
| SICTA | Sydney International Clay Target Association |
| SITA | SITA Australia |
| SSC | Sutherland Shire Council |
| SSPCYC | Sutherland Shire Police Citizens Youth Club |
| RRP | Resource Recovery Park |
| VPA | Voluntary Planning Agreement |
| WH&S | Work Health and Safety |

# SECTION 1
# INTRODUCTION

## 1.1 OVERVIEW

SITA Australia (SITA) is a leader in resource recovery, providing integrated waste management and resource recovery solutions. Its core business is to provide end-to-end waste management solutions including the collection, resource recovery, recycling and disposal of residual waste at over 100 sites and facilities around Australia.

SITA operates a solid waste landfill at Lucas Heights Resource Recovery Park (LHRRP). LHRRP is licensed to accept solid waste from domestic and commercial sources that are suitable for disposal in a general solid (putrescible) waste landfill.

Activities at the LHRRP include waste receival and recycling, waste compaction and covering, environmental monitoring and environmental management.

Waste receival activities will cease at the LHRRP in 2037. The site will then be rehabilitated and made available from 2039 to the community as a parkland. SITA would continue to have responsibility for the environmental performance of the disposed waste for a minimum 30 year period after site closure and would monitor and manage the site in accordance with the closure requirements administered by the New South Wales Environment Protection Authority (NSW EPA).

SITA also operates an Advanced Resource Recovery Technology (ARRT) facility at the LHRRP. The ARRT facility accepts food and garden organic (FGO) waste, municipal solid waste (MSW) and an authorised quantity of biosolid waste. The primary purpose of the ARRT facility is to minimise the amount of recyclable materials disposed to landfill. Activities at the ARRT facility include waste receipt and recycling, waste segregation, aerobic composting, and environmental management and monitoring.

During the site's operational period the maximum quantity per annum of waste proposed to be processed by the ARRT facility is 200,000 tonnes.

A LHRRP Operational Environmental Management Plan (OEMP) has been prepared which incorporates management strategies for all environmental and operational activities associated with waste receival, recycling and landfilling located at the landfill and Resource Recovery Centre at the LHRRP. The LHRRP OEMP also covers the cumulative environmental impacts (i.e. odour) arising from all of the activities at the LHRRP (e.g. Garden Organics (GO) and ARRT facilities). A Post Closure Environmental Management Plan (EMP) is also prepared to ensure that the site operates in accordance with community expectations and meets all applicable environmental standards.

## 1.2 SCOPE

The scope of this ARRT facility OEMP includes all environmental and operational activities associated with the ARRT facility. This ARRT OEMP is specific to the potential impacts from the ARRT facility and specific controls. As mentioned, all cumulative impacts are addressed in the LHRRP OEMP.

This draft version of the OEMP will be updated to address any additional requirements from the conditions of consent and Environmental Protection Licence (EPL, post development consent for the project).

## 1.3 PURPOSE

The purpose of this OEMP is to document a “Best Practice Approach” for the environmental management of the ARRT facility.

This OEMP describes the operational activities on the site that have, or are likely to have, an impact on the environment and the community and the measures to be undertaken to minimise those impacts.

The OEMP provides:

- A basis for the New South Wales Environment Protection Authority (NSW EPA) to assess the environmental performance of ARRT facility and to review the operational and monitoring activities that are covered by the site’s Environment Protection Licence (EPL No. 5065).
- Assurance to Sutherland Shire Council (SSC) that agreed preventative, mitigation and rectification measures are integrated into the ARRT facility operating procedures.

## 1.4 BEST MANAGEMENT PRACTICE

The purpose of this OEMP is to adopt and document a “Best Practice Approach” for the environmental management of the ARRT facility.

Best Practice is defined as:

"*The best combination of eco-efficient techniques, methods, processes or technology used in a similar industry sector and environmental setting that demonstrably minimises the environmental impact and achieves the desired project goals for the local environmental setting*”

Eco-efficient is defined as:

"*The most effective means of achieving a particular goal or set of goals, taking into consideration environmental, economic and social factors*"

## 1.5 PREVENTION / MITIGATION / RECTIFICATION

This section describes the operational activities on the site that have, or are likely to have, an impact on the environment and the community and measures to be undertaken to manage those impacts.

Where applicable, the measures have been hierarchically categorised as follows:

- *Preventative measures* - aim to eliminate or reduce an environmental aspect that is likely to cause a negative impact
- *Mitigation measures* - aim to pre-emptively minimise the negative environmental impacts
- *Rectification measures* - aim to retrospectively control the negative environmental impacts

SITA will adopt the appropriate preventative, mitigation and/or rectification measures to address the site goals and objectives as required.

## 1.6 UPDATES

This OEMP is a "living document" and will be updated periodically by SITA as new technology emerges and new standards for environmental performance are adopted industry wide. Any proposed updates will be provided to SSC, NSW EPA and the Community Reference Group (CRG) for discussion and comment.

This document is approved by SSC and any amendments must be approved by SSC.

## 1.7 LEGAL AND OTHER REQUIREMENTS

### 1.7.1 NSW Legislation

The procedure for maintaining compliance with legal and regulatory requirements at the ARRT facility is outlined in the Legal and Other Requirements Integrated Management System Procedure. The procedure designates responsibility for identifying applicable legal and regulatory requirements and ensuring access is maintained on site to applicable legal and regulatory requirements. The following NSW legislation applies to the operations of the ARRT facility:

- Environmental Protection and Biodiversity Conservation Act 1999
- Environmental Planning and Assessment Act 1979 (*EP&A Act*)
- Protection of the Environment Operations Act 1997 (*PoEO Act 1997*)
- Waste Avoidance and Resource Recovery Act 2001
- Environmentally Hazardous Chemicals Act 1985
- Pesticides Act 1999
- Public Health Act 1991
- Protection of the Environment Operations (Noise Control) Regulation 2000
- Protection of the Environment Operations (General) Regulation 2009
- Protection of the Environment Operations (Clean Air) Regulation 2010
- Protection of the Environment Operations (Waste) Regulation 2005
- Protection of the Environment Administration Regulation 2012
- Heritage Act, 1977
- National Parks and Wildlife Act 1974
- Environmental Planning and Assessment Act, 1979
- Waste Avoidance and Resource Recovery Act, 2001
- Waste Recycling and Processing Corporation Act, 2010
- Ozone Protection Act, 1989
- National Environment Protection Council (New South Wales) Act, 1995
- Sydney Water Act, 1994
- Water Management Act, 2000
- Soil Conservation Act, 1938
- Public Health Act, 2010
- Work Health and Safety Act, 2011
- Road Transport Act 2013
- Contaminated Land Management Act 1997

The *Commonwealth National Greenhouse and Energy Reporting Act 2007* requires reporting of landfill gas emissions, and will be used to underpin the future Carbon Pollution Reduction Scheme.

The *Commonwealth National Environment Protection Council Act 1994* requires reporting of pollutants annually through the National Pollutant Inventory National Environment Protection Measure. This reporting is to the NSW EPA, and supporting legislation including the *PoEO Act 1997* and regulations.

### 1.7.2 Conditions of Development Consent

*THIS SECTION WILL BE UPDATED WITH THE NEW DEVELOPMENT CONSENT*

### 1.7.3 Environment Protection Licence

*THIS SECTION WILL BE UPDATED WITH THE NEW EPL REQUIREMENTS*

The ARRT facility has been licensed by the NSW EPA under the *PoEO Act 1997*. This environmental protection licence (EPL) is renewed annually and is reviewed every five years after the date of issue (refer Appendix A). The conditions of this licence are addressed within this OEMP. A copy of the licence is kept at the LHRRP site office. There are separate EPLs for waste receival, recycling and landfilling of the LHRRP, the Sutherland Shire Police Citizens Youth Club (SSPCYC) Minibike Club Area and the Garden Organics (GO) facility.

### 1.7.4 Voluntary Planning Agreement

In recognition of the critical role that the LHRRP plays in managing Sydney's waste, SITA would enter into a Voluntary Planning Agreement (VPA) with SSC in accordance with the requirements of the *EP&A Act*. The Minister for Planning would consider the VPA along with the DA and EIS and would be the consent authority for the proposal. All SITA entities (SembSITA, WSN Environmental Solutions and SITA Australia) and SSC would be signatories to the VPA.

The VPA commits SITA to providing significant financial resources to SSC and the community to enable it to develop community facilities like the Ridges Sporting Complex and golf course.

Under the VPA, SITA is committing to meet a number of environmental commitments in terms of actions it will take based on the site's environmental performance. This OEMP forms part of the VPA.

# SECTION 2
# SITE DESCRIPTION

## 2.1 BACKGROUND

### 2.1.1 Former Activities

The LHRRP site had been used for logging, gravel extraction and trail bike riding. The majority of the site has now been utilised for waste disposal and recycling activities. No liquid, toxic, hazardous or restricted waste, including radioactive waste, has been accepted by the LHRRP.

### 2.1.2 Existing LHRRP Activities

SITA currently operates the LHRRP site as a solid waste landfill with associated waste management and recycling activities including the treatment of mixed waste in the ARRT facility and garden organics processing in the GO facility. Activities on site include: waste receival, recycling, waste compaction and covering, environmental management and monitoring, leachate collection and disposal, landfill gas extraction, electricity generation and flaring of excess gas and truck parking and servicing.

The ARRT facility is located on the western side of the existing landfill, on the western side of Mill Creek.

### 2.1.3 Surrounding Land Uses

Location of the LHRRP is shown in Figure 2.1. Land uses surrounding the ARRT facility are as follows:

| Direction | Description |
|---|---|
| North | • The Sydney International Clay Target Association (SICTA) uses a site leased from SITA for clay target shooting |
| East | • Mill Creek is immediately adjacent to the boundary of the ARRT facility, with the LHRRP landfill adjacent further east |
| South East | • The southern portion of the LHRRP landfill is located in this direction.<br>• Beyond the landfill is the SSPCYC Mini-Bike Club<br>• ANSTO's research facilities are located across New Illawarra Road |
| South | • The GO facility occupies land immediately to the south |
| West | • Heathcote Road is immediately adjacent to the boundary<br>• The Holsworthy Military Reserve is on the other side of Heathcote Road |

To the north-east of the LHRRP is a quarry which has been rehabilitated, a former quarry which has been filled with solid waste (Harrington's Quarry), and a former privately operated liquid waste depot on Commonwealth land, a burial facility for low level radioactive waste, and the former SSC night soil depot. Menai and West Menai residential areas are located approximately 2 km north-east of the site, and Yarrawarrah and Engadine are located approximately 2 km south west of the site. The Lucas Heights Conservation Area (LHCA) is located directly to the north of the LHRRP and comprises mainly bushland. Heathcote National Park is located to the south of the LHRRP.

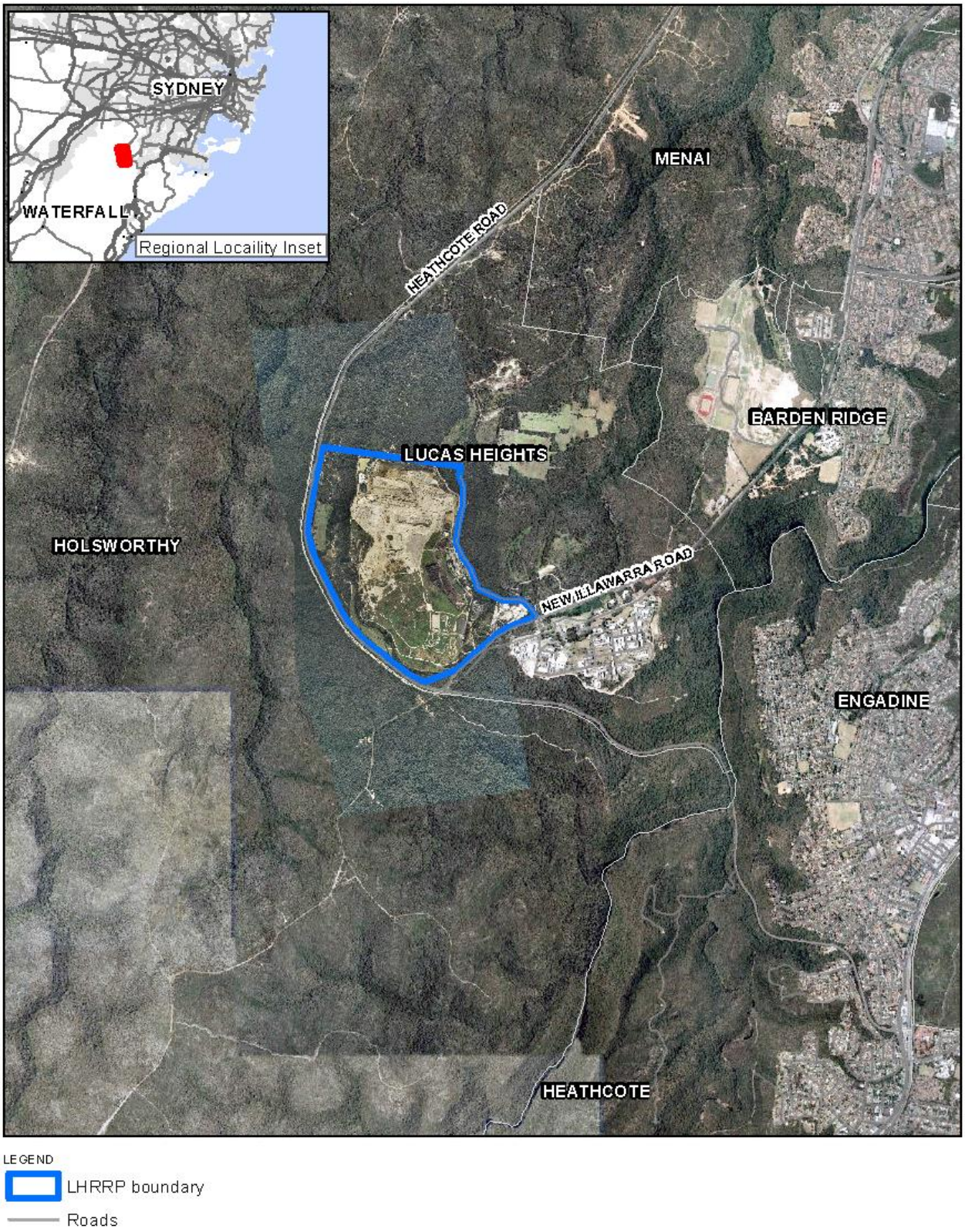


**Figure 2.1 LHRRP Location**

### 2.1.4 Archaeology and Heritage

*Unexpected finds*
Any unexpected finds would follow procedures developed in the CEMP *(TO BE DEVELOPED)*

## 2.2 ENVIRONMENTAL CHARACTERISTICS

### 2.2.1 Zoning and Surrounding Land Use

*TO BE CONFIRMED*

Under the Sutherland Local Environmental Plan 2015 (SLEP), LHRRP is located in the following zones:

- SP1 – Special activities (Waste Recycling)
- RE1 – Public Recreation

The following outlines the objectives and permitted uses of each zone.

Under the SLEP, the LHRRP proposal can be defined as the following:

***waste or resource management facility*** *means any of the following:*

*(a) a resource recovery facility,*

*(b) a waste disposal facility,*

*(c) a waste or resource transfer station,*

*(d) a building or place that is a combination of any of the things referred to in paragraphs (a)–(c).*

The following definitions are relevant to the definition of a waste or resource management facility as outlined above:

***resource recovery facility*** *means a building or place used for the recovery of resources from waste, including works or activities such as separating and sorting, processing or treating the waste, composting, temporary storage, transfer or sale of recovered resources, energy generation from gases and water treatment, but not including re-manufacture or disposal of the material by landfill or incineration*

***waste disposal facility*** *means a building or place used for the disposal of waste by landfill, incineration or other means, including such works or activities as recycling, resource recovery and other resource management activities, energy generation from gases, leachate management, odour control and the winning of extractive material to generate a void for disposal of waste or to cover waste after its disposal.*

***waste or resource transfer*** *station means a building or place used for the collection and transfer of waste material or resources, including the receipt, sorting, compacting, temporary storage and distribution of waste or resources and the loading or unloading of waste or resources onto or from road or rail transport.*

The reprofiling of the landfill would occur on both the SP1 – Special Activities and RE1 – Public Recreation zones. Reprofiling of the landfill (waste disposal facility) does not meet the definition of waste recycling (or any other permitted uses) and therefore is not permissible on the SP1 and RE1 zones.

The proposed ARRT and GO facilities are located in the RE1 – Public Recreation zone. Both of these uses can be defined as a resource recovery facility, however this use is not permitted within the RE1 zone.

A planning proposal has been prepared and would run in parallel with the State Significant Development Application. The planning proposal seeks to include new local provisions on the LHRRP site within the SLEP which would allow the proposal (a waste or resource management facility) to be undertaken on the proposal site. To permit development of a waste or resource management facility, the consent authority must be satisfied that the objectives of the local provision for the site are met, these objectives are as follows:

(a) To improve the resource recovery capabilities of the Lucas Height Resource Recovery Park,

(b) To increase the waste disposal capacity of the Lucas Heights Resource Recovery Park to meet the needs of Sydney,

(c) To ensure that quality open space for recreation purposes is achieved following the closure of the Resource Recovery Park,

(d) To ensure landfill is of a type and degree of compaction that is capable of supporting the future use of the land for recreation purposes,

(e) To minimise the environmental impacts of the continued operation of the Lucas Heights Resource Recovery Park on local residents and the environment.

LHRRP activities are considered to be consistent with these objectives as they would improve the resource recovery capabilities and increase the waste disposal capacity of the LHRRP. The impacts of the proposal on the environment have been assessed through the environmental impact statement (EIS). The EIS concluded that there would be minimal additional impacts associated with the proposal.

The proposal would permit the future use of the land for recreation purposes, which would have occurred when the existing LHRRP facility ceases operating. Once capped and landscaped, the final landfill surface would support future recreation land uses. A master plan has been developed for the future use of the site and this plan identifies a number of passive recreation land uses such as picnic areas (with facilities), grassed areas available for picnics and other passive uses and also a shared path for pedestrians and cyclists.

Sutherland Shire Council granted approval in 2009 for the SSPCYC Mini-Bike club to be located at the southern end of the LHRRP site.

### 2.2.2 Topography

The LHRRP represents a gently undulating plateau, 200-1000 metres (m) in width, dissected by two ridges. The ridges run parallel to Heathcote Road and form a shallow valle. The gradients of the LHRRP are typical of a dissected plateau, with the slopes becoming steeper close to Mill Creek. Mill Creek itself has a slope of approximately 2% as it travels through the site.

### 2.2.3 Climate

A warm temperate climate with strong maritime influence is experienced in the Lucas Heights area. Mean daily temperatures range from 26.0 $^{0}$C to 17.0 $^{0}$C in February and from 15.8 $^{0}$C to 6.6 $^{0}$C in July. Frost is not experienced in this area.

Seasonal variations occur in rainfall with a greater proportion being received during summer months. A generally even rainfall distribution is experienced over the region with a mean annual rainfall of 1015 millimetres (mm).

### 2.2.4 Geology and Soils

The geology of the LHRRP is mainly Hawkesbury Sandstone, which is commonly found in the region. A lens of clay / shale, several metres thick, occurs near the LHRRP. There is an area of clay / shale on the north-eastern corner of the site in the Little Forest area, and also along the eastern side of adjoining SITA land. A clay quarry formerly operated on the eastern boundary of the LHCA. The shale is weathered, grey, silty clay with many fine sandy particles.

The soil in the LHRRP has been disturbed due to ongoing waste disposal and clay/shale extraction, and also because of gravel quarrying that took place here prior to these activities.

### 2.2.1 Surface Hydrology and Groundwater

**Surface Water**

Most of the LHRRP site lies within the Mill Creek catchment. Mill Creek originates from the LHRRP and flows north along the western boundary towards Georges River. The gradients of the LHRRP are typical of a dissected plateau, with the slopes becoming steeper close to Mill Creek. Mill Creek itself has a slope of 2% as it travels through the site. Baseflow for the perennial rivers and streams are generally sourced from seeps and springs derived from groundwater.

There are a number of surface water management features currently in place at the site. Surface water diversion drainage is constructed around the rim of each active waste disposal cell to control surface water runoff flowing into or from the cells. The drainage typically comprises open channel drains on the outer edge of earthen bunds. Surface water is collected in drains, swales and ponds and diverted to sediment dams. The dams are designed to allow for settlement of suspended solids before discharging offsite following large rainfall events when stormwater has reached capacity.

Most of the LHRRP (the landfilled portion) lies within the catchment area of Mill Creek, with the exception of the area bounded by New Illawarra Road and Little Forest Road in the south-east and the administration facilities, which drains to Bardens Creek. As this area is not impacted by this proposal, impacts to Bardens Creek are not assessed in this report. Mill Creek originates from within the site and flows in a northerly direction through approximately the centre of the site, covering most of the length of the site. Towards the origin of the creek, the channel is not always clearly visible. Apart from small overflows, flooding is not expected to occur over the site because the gradients of the site allow good drainage.

**Groundwater**

The Hawkesbury Sandstone is generally well-cemented by authigenic quartz and siderite and is infilled with varying proportions of clay. The unweathered sandstone has a very low primary or intergranular permeability. The formation has a complex aquifer system due to sub-vertical joints and sub-horizontal bedding planes and the lithology associated with variable weathering. There is 20 to 25 m of low permeability medium and high strength sandstone above the fracture zone (Douglas Partners, 1994).

Perched water tables, 'leaky' aquifers and pressurised zones are a feature of the hydrogeological environment due to the discontinuous shale and clay layers (Knight, 1992). Weathering has produced spatially and vertically variable aquifer material which influences the groundwater flow paths and hydraulic conductivity in different layers and areas.

### 2.2.2 Flora and Fauna

**Flora**

The LHRRP is surrounded by areas of natural vegetation which have been disturbed to varying degrees. Adjacent to the site to the north-west, is the site occupied by the SICTA. The vegetation on the SICTA site comprises the Scribbly Gum / Red Bloodwood woodland community and the Mallee / Heathland community. There is an area of cleared land within the SICTA site, where facilities for clay target shooting have been constructed. To the north, adjacent to the LHRRP, is the LHCA, which contains mainly vegetation which is common to sandstone soils in the region and the eastern part of the site contains significant vegetation on shale soils. Several trail bike tracks dissect the vegetation within the LHCA. On the eastern side of the site, to the east of Little Forest Road, there are former waste disposal areas which have been rehabilitated, as well as vegetation common to sandstone soils, which form the upper reaches of the Bardens Creek catchment. Remnant vegetation screens the LHRRP from Heathcote Road to the south.

Over 90% of the original vegetation has been cleared from the LHRRP site. The vegetation at the LHRRP site, prior to its use for waste disposal, was likely to have been a continuation of the vegetation existing within the LHCA. The vegetation that remains on the site is mainly fragments of Scribbly Gum / Red Bloodwood woodland along the boundaries of the site. An area of approximately 3 ha of shale / sandstone Transition Forest (Transition Forest) on shale soils occurs in the north-east corner of the site, continuing from the LHCA. The Transition Forest was listed on Part 3 of Schedule 1 of the *Threatened Species Conservation Act 1995* (TSC Act 1995) as an endangered ecological community in September 1998.

Kevin Mills & Associates (1994) identifies several distinct vegetation areas at the site. They include:

- A natural area of bushland bordering the landfill area
- An older regeneration area along the far eastern end of the landfill site
- A more recent regeneration area along the southern edge of the landfill site
- The broad regeneration area over the completed landfill

*Presence of Significant Flora*

Very little of the site has been unaffected by landfill activities. The presence of significant species such as *Melaleuca deanei* and *Darwinia diminuta* is the result of propagation and planting undertaken at the site. Both *Melaleuca deanei* and *Darwinia diminuta* are classified as Rare or Threatened Australian Plant species under the Briggs and Leigh (1988) classification system, however, the legal status of these species is "Protected". These species are not listed in schedules of the *TSC Act 1995*. Neither of these species were recorded at the site in a search of the NPWS Atlas of NSW Wildlife database (NPWS, June 1997).

The Transition Forest is an endangered ecological community under the Threatened Species Conservation Act (Cth). As mentioned previously, approximately 3 ha of this community can be found in the north-eastern part of the site.

**Fauna**

Mammals are not likely to be common in the areas where landfilling activities are currently taking place. Mammals are more likely to occur in vegetation near the northern boundary of the site close to the LHCA, however, the site is fenced and access is restricted for some species. The Fox *Vulpes vulpes,* Rabbit *Oryctolagus cuniculus,* Swamp Wallaby *Wallabia bicolor*, Bush Rat *Rattus fuscipes*, Black Rat *Rattus rattus*, House Mouse *Mus musculus* and Feral Cat *Felis catus* are likely to be found at the site.

Kevin Mills & Associates (1991) stated that arboreal mammals were uncommon in the area, which is consistent with other sandstone regions. It is unlikely that arboreal mammals would use the remnant woodland located near the boundary of the site, near the main roads. Arboreal mammals could occur in the woodland and open forest located near the northern boundary of the LHRRP, or are likely to venture into this vegetated area from the LHCA.

The birds at the LHRRP are likely to be mainly woodland birds, with some forest birds utilising the habitat provided by the open forest to the north of the site.

Snakes and lizards can also be expected to be found at the site. Evidence of a Lace Monitor *Varanus varius* was seen in the LHCA, near the fence of the LHRRP.

Frogs were recorded within the LHRRP (Waste Service NSW, 1997). These frogs were not identified by the study.

*Presence of Significant Species*

No significant species have been recorded or observed at the LHRRP. Given the extensive disturbance at the site, it is highly unlikely that threatened fauna occur at the site.

## 2.3 SITE FACILITIES AND SERVICES

Figure 2.2 shows the location of the ARRT facility and Figure 2.3 shows the ARRT facility layout. The area enclosed by the boundary titled “Operational Environmental Management Plan Boundary” depicts the area where the LHRRP OEMPs (including this LHRRP OEMP, GO Facility OEMP and ARRT OEMP) is applicable.

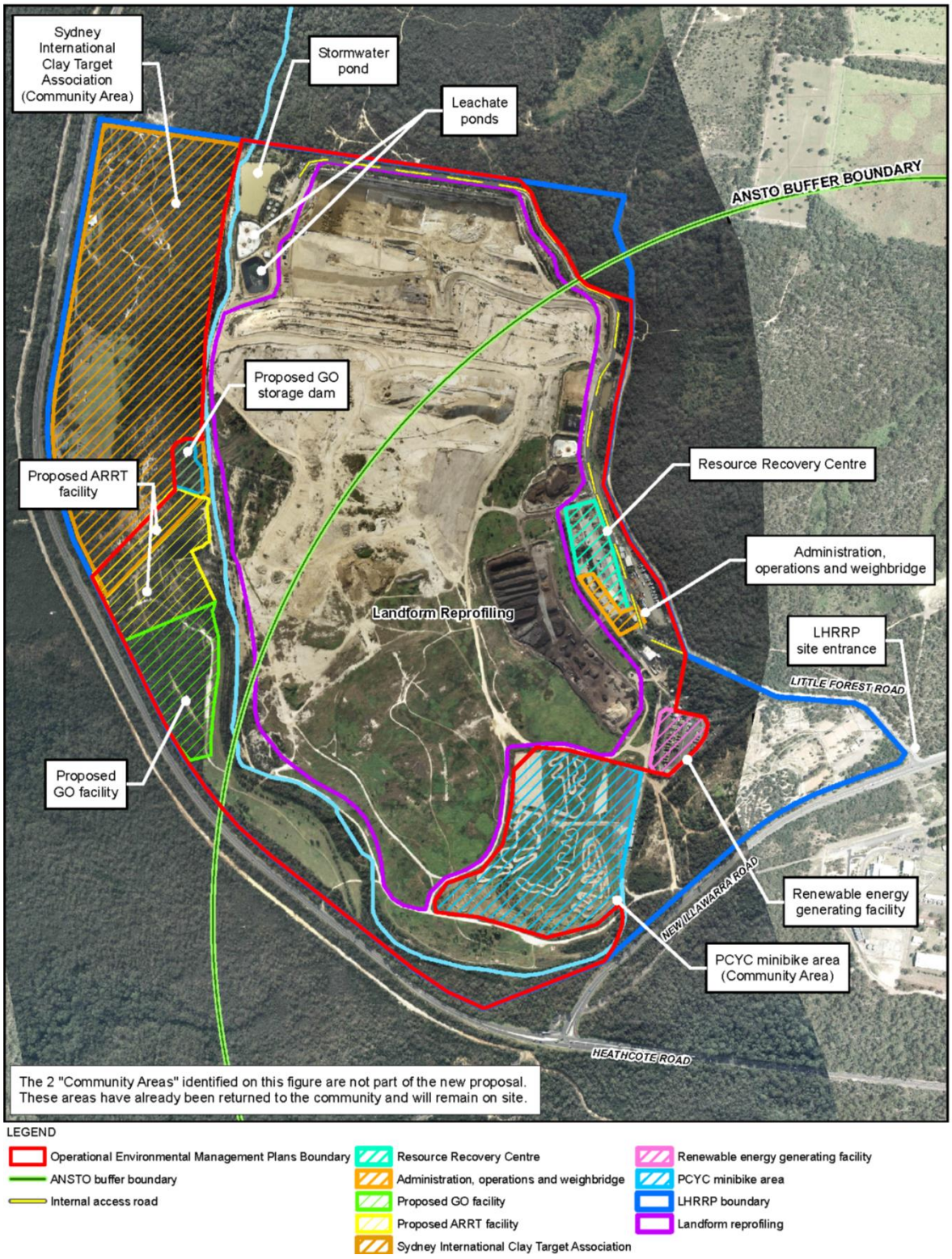


**Figure 2.2 LHRRP Layout**

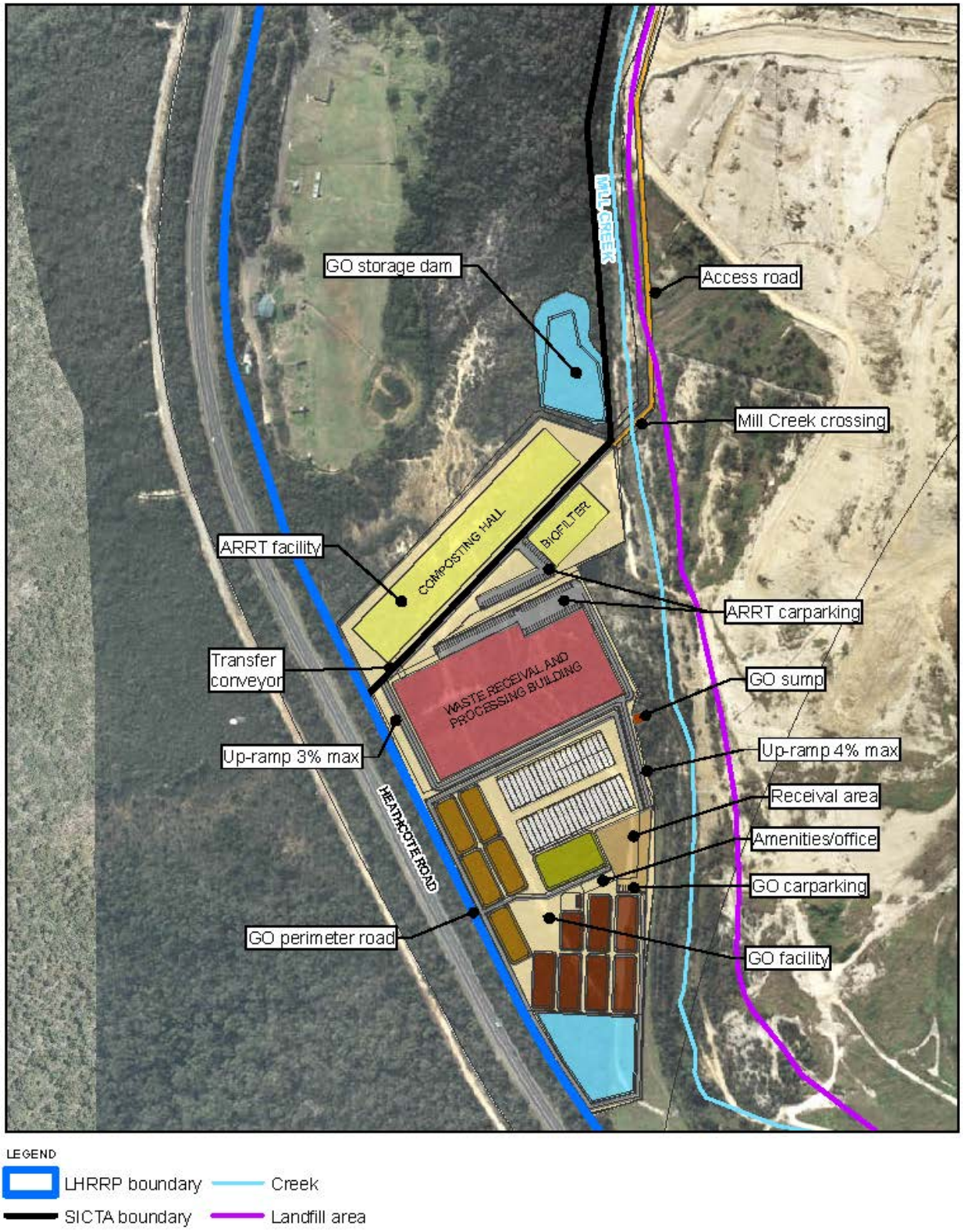


**Figure 2.3 ARRT Facility Layout**

Until 2025, the LHRRP facilities as well as those associated with the ARRT facility are accessed via Little Forest Road, which intersects New Illawarra Road opposite the ANSTO facility. Access will be made using Little Forest Road until 2025, and post 2025 using either Heathcote Road or Little Forest Road.

The ARRT facility contains the following functional areas:

- Access road and weighbridge
- Processing buildings and storage buildings
- Biofilters
- Sediment detention pond

### 2.3.1 Site Access Roads and Weighbridge

Access to the ARRT facility is via Little Forest Road and an internal roadway.

Near Little Forest Road, two weighbridges are installed, one on each side of the weigh bridge office, for incoming and outgoing traffic. The office contains the weighbridge computers, printout equipment, two-way radio and telephone communications.

Vehicles requiring access to the ARRT facility are directed by the weigh bridge to the ARRT facility access road after leaving the weigh bridge. Vehicles then proceed along the sealed access road, around the existing landfill, to the ARRT facility.

### 2.3.2 ARRT Facility Buildings and Compost Storage Building

Incoming waste materials would be delivered to the waste receival and processing building. Compost would be processed within this and the composting hall. Finished and refined compost would be stored within the compost hall ready for market.

All buildings would be enclosed under negative pressure and equipped with fast-acting roller doors to assist with air management and hence reduce dust and odour emissions.

The waste receival and processing building would have an approximate area of 18,500 m2, including biofilters. The composting hall on the northern side of the facility would have approximate area of 11,500 m2. An additional separate building of area 2,400 m2 has been allowed for the composting hall biofilters.

The buildings would be portal-framed structures with concrete floors. The main rafters and columns would be constructed from universal or welded beams. Roof and floor cladding would be constructed using colourbond steel wall sheeting with a colour selected to compliment the surrounding environment.

### 2.3.3 Biofilters

Odour may be caused by the ARRT processes. Biofilters would be connected to buildings to treat internal air emissions prior to discharge to the atmosphere. These biofilters would be enclosed and fitted with irrigation spray systems to maintain a moist environment and ensure adequate treatment of air prior to discharge. Each biofilter would be fitted with a 20 m high column to enhance dispersion.

The biofilter design would be based on the standard practice of the biofilter supplier. An enclosed biofilter with portal to raise the height and velocity of treated air emissions is proposed, so standard dimensions and residence times used for regular biofilters would not necessarily apply. A specialist firm would design the biofilter to meet the required emissions standards. This would involve designing the system to have some excess capacity, at all times, and to allow for progressive maintenance.

In the event that the biofilters are not performing, SITA will investigate the problem and determine whether alternative technical solutions are possible. If required, the odour treatment system will be modified or upgraded to achieve environmental commitments (this may include, but is not limited to, an upgrade to a scrubber unit).

### 2.3.4 Ancillary structures

***Office and amenities***
Amenities for the ARRT facility staff would be provided in accordance with the requirements of relevant building codes. Amenities would include a washroom, toilet, staff change room and lunch room.

A site office would also be provided. This would contain a laboratory for product quality control for the composting process. The office and amenities would be internal to the main ARRT facility receival and processing building.

The ARRT facility would cater for the vehicles of up to 50 staff members and 20 visitors. The car park has been designed to meet the requirements of AS2890.

***Fencing***
The site is surrounded by a 1.8 metre high chain-wire fence. Outside normal working hours, the access gate is locked and on site security is provided by SITA.

### 2.3.5 Roller doors

For the main ARRT facility building, there would be one entrance door for vehicles entering the building to drop off waste, and a second roller door for exiting vehicles. Both are automatic fast closing doors and have air curtains fitted.

The composting hall has at least two roller doors, on the southern face of the building, again fitted with air curtains.

The building ventilation systems for both the composting hall and waste receival / processing buildings is designed to maintain negative air pressure conditions at all times. The ventilation requirements for achieving negative air pressure in the waste receival building would mean that approximately 0.5 air changes per hour are needed. In the composting hall, a greater number of air changes per hour than this would be needed due to the nature of the activities and the need to provide sufficient air for the composting processes.

## 2.4 TRANSPORT VEHICLES

Waste would be delivered to the ARRT facility predominantly by trucks with enclosed 'walking floor' trailers. Biosolids would be transported in enclosed tanker trucks. Material would be directed to the receivals/processing building once it has been accepted at the weighbridge.

## 2.5 LANDSCAPING

Landscaping is used to improve the aesthetics of the facility. Plants, shrubs and ground-cover are used to soften the visual impact of the building and concrete sealed surfaces. A mixture of trees, shrubs and ground covers and bunds endemic to the area has been selected to improve the visual amenity of the site. The landscaping is maintained by SITA and it is watered from stormwater runoff. Weed control is undertaken regularly.

## 2.6 SERVICES

***Electricity***
Above ground power lines would be run alongside the proposed new internal access road from the resource recovery centre to the GO/ARRT facility sites.

The peak power supply requirements for the ARRT facility is likely to be of the order of 1.0 to 1.5 MW. The ARRT facility would have a total electrical demand of approximately 9.5 GWh per year (181,500 kWh per week).

***Communications***
The ARRT facility buildings is provided with telephone, computer and data cable access.

Standard telephone cabling and two-way radio / mobile telephones would provide the required telecommunication services. Internet access would be provided via ADSL or Wi-Fi.

***Water supply***
Potable water is required for a number of activities at the ARRT facility including staff amenities. Water would be supplied to the ARRT facility site by ANSTO.

***Stormwater management***
Stormwater collected from building roof areas would be collected in rainwater tanks alongside the buildings, and used for general purposes e.g. washing down of equipment, or for addition into the composting processes. Stormwater collected from paved areas within the ARRT facility would be directed to a storage/retention dam on the northern end of the ARRT facility site. This water would be re-used where possible for composting purposes.

***Wastewater management***
As the reticulated sewerage system does not currently service the site, wastewater from the amenities facilities would be managed through an onsite sewage package treatment plant or a storage tank with pump out capability. The wastewater/sewage (partly treated or untreated) would be tankered to an external wastewater treatment plant for disposal.

# SECTION 3
# SITE MANAGEMENT STRUCTURE

## 3.1 SITE MANAGEMENT STRUCTURE

### 3.1.1 SITA Management Systems

SITA manages its environmental and Work Health and Safety (WH&S) performance on site through its Corporate Information Management System (IMS). The SITA IMS is structured on the requirements of AS/NZS 4801:2001 and AS/NZS 14001:2004 and contains Policies, Procedures, Management Plans, Emergency Response Plans, SOPs and Forms.

This OEMP is a key component of the SITA IMS.

### 3.1.2 Change in Management Over Time

The development of the LHRRP site for the proposed use as a recreational facility involves the rehabilitated site being made available to the public in 2039. Operations of the ARRT facility, GO facility and waste disposal activities would cease by the end of 2037 to allow the rehabilitation works to take place.

SITA would continue to have responsibility for the environmental performance of the disposed waste for a minimum 30 year period after site closure and in accordance with the closure requirements administered by the NSW EPA. This would include both the monitoring and management of landfill gas, groundwater quality and leachate.

The management structure of the ARRT facility and how it relates to the facility is described below.

| Manager | Overall responsibility for the management of operational issues on site. |
|---|---|
| Compliance officer | Establishment and management of environmental monitoring contract, wet weather monitoring and ad-hoc sampling as required and interpretation and management of monitoring data. Quarterly reporting to CRG, SSC and the NSW EPA as required |
| Site supervisor | Supervision of site activities, ensuring that necessary water environmental controls are maintained and operated to achieve the environmental objectives. |
| Site personnel | Day to day implementation of environmental controls and visual monitoring as required |

### 3.1.3 Management roles from the Planning instruments

Based on the existing conditions issued by the Minister for Urban Affairs and Planning it is expected that the new conditions of consent will still require that the following management structure is continued for the LHRRP:

- Environmental Management Representative (EMR)
- Environmental Management Technical Group (EMTG)
- Community Reference Group (CRG)
- Compliance officer

***Environmental Management Representative***

SITA will employ or contract qualified environmental services throughout the operating life of the ARRT facility. The manager is the nominated EMR and is supported by SITA compliance officers.

The EMR is responsible for overseeing the environmental management of the ARRT facility operations and supervision of environmental services. The EMR has the authority to stop work if an adverse impact on the environment has occurred or is likely to occur.

The EMR will:

- Be responsible for the presentation or certification of all OEMPs and procedures
- Be responsible for considering and advising on matters specified in the conditions of this consent and compliance with such matters
- Oversee the receipt and response to complaints about the environmental performance of the project
- Facilitate an introduction and training program for all persons involved with ARRT facility activities
- Be present on site during any critical construction or operational activities as defined in the relevant OEMP

***Environmental Management Technical Group***

The EMTG, which will include SSC, SITA and the NSW EPA and will have regular meetings (quarterly, or as indicated per the VPA - Exhibit 1) during the initial landfill reprofiling works.

***Community Reference Group***

A CRG has been established for the LHRRP Facility, comprising of SITA representatives and the community. The CRG will meet on a quarterly basis to discuss matters of concern associated with the environmental impact of the LHRRP, including the ARRT facility, and to promote mutually satisfactory solutions. The group is kept informed of proposed works at the ARRT facility.

***Compliance officer***

SITA will employ or nominate a compliance officer for the ARRT facility.

The compliance officer will:

- Be in charge of establishment and management of environmental monitoring contract, wet weather monitoring and ad-hoc sampling as required and interpretation and management of monitoring data
- Repor on a quarterly basis to CRG, SSC and the NSW EPA as required

# SECTION 4
# STAFFING AND TRAINING REQUIREMENTS

## 4.1 STAFFING AND TRAINING REQUIREMENTS

SITA is responsible for the provision of sufficient staff on site to meet all the requirements described in this OEMP. It is also the SITA's responsibility to provide adequate training to all staff performing critical tasks such as inspection and direction of incoming wastes, operation of compaction or earthworks equipment and environmental management on site.

The Induction, Training and Competency Procedure provides instruction to ensure that staff are trained and competent to perform their required duties in a safe and environmentally sound manner and that appropriate training records are retained. Appropriate environmental and WH&S training shall also be given to suppliers and contractors to ensure their performance meets SITA requirements.

Environmental and WH&S Due Diligence Training is also provided to employees and nominated contractors. It is designed to provide employees and contractors with information about their environmental and WH&S responsibilities.

The training is focused on the following issues:

- Environmental legislation - NSW
- Environmental aspects and impacts of the operational activities
- SITA policies
- Environmental management
- Environmental due diligence

The LHRRP Training Matrix identifies the internal training needs (Induction, Environmental Due Diligence, IMS Awareness, IMS Procedures and SOPs) and the external training needs (first aid etc.) for on site staff. Contractors are required to provide ongoing training which is discussed at the monthly contractor meetings.

# SECTION 5
# REPORTING

## 5.1 RECORDS AND REPORTING

### 5.1.1 Monitoring Results

Environmental monitoring data are stored in electronic format on the SITA computer network. Summaries of monitoring data from the ARRT facility are available.

The monitoring results are reviewed and communicated on a monthly basis at the site meetings. This provides an ongoing mechanism for assessing the environmental performance over time. Monitoring results are also provided to the CRG meetings and SSC on a quarterly basis.

An annual return with the results from surface water, groundwater, surface gas, subsurface gas and leachate monitoring is provided to the NSW EPA within eight weeks of the licence renewal date. The report includes all monitoring results, the number of complaints and details of non-compliance against the EPL.

Monitoring results required by the EPL are posted on the SITA website within 14 days (or made available on request).

The records of all complaints received are stored. The records include details of the following:

- Date and time of the complaint
- Method by which complaint was made
- Personal details of the complainant which were provided by complainant or, if no details were provided, a note to that effect
- Nature of the complaint
- The action taken by the licensee, including any follow-up contact with the complainant
- If no action was taken by the licensee, the reasons why no action was taken

The record of each complaint must be kept for at least four years after the complaint was received and must be made available to any authorised officer of the NSW EPA on request.

SITA provides a number of feedback mechanisms for complaints.

Community members can register complaints via the SITA free-call 24-hour odour hotline in writing or through the SITA website.

In accordance with the ARRT facility Pollution Incident Response Management Plan (PIRMP), SITA must immediately notify relevant agencies of any incidents causing or threatening material harm to the environment.

### 5.1.1 Reporting Template

In addition to report to the NSW EPA. SITA will also report to SSC in accordance with the LHRRP Reporting Template. The Reporting Template is contained in the LHRRP OEMP.

# SECTION 6
# ENVIRONMENTAL AUDITING AND REVIEW

## 6.1 ENVIRONMENTAL REVIEW

SITA evaluates the success of its environmental management approach on a regular basis. While individual components of the monitoring programme will be reviewed at set intervals as required by the NSW EPA, an overall evaluation of the environmental performance of the ARRT Facility is conducted on an annual basis in accordance with SITA's Environmental and WH&S Risk Assessment IMS Procedure. SITA's Statement of Environmental and WH&S Responsibilities and Accountabilities also provides the responsibilities for all SITA staff and contractors.

The Environmental and WH&S Risk Assessment Procedure aims to effectively identify and assess the current controls for WH&S hazards and environmental impacts and aspects and assists in the following objectives:

- To quantitatively evaluate the significance of the environmental impacts associated with waste disposal activities
- To formulate and periodically review environmental objectives, targets and programs for the ARRT facility
- To evaluate the effectiveness of existing environmental management practices to ensure compliance with current environmental legislation and guidelines
- To assist in the continual improvement and optimisation of the site's existing environmental management practices
- To provide confidence to the general public, community groups and regulatory agencies that waste disposal operations are being effectively managed in a way that minimises environmental impacts

## 6.2 MANAGEMENT SYSTEM AUDITS

The SITA Audit Procedure provides detailed instruction on weekly inspections and management system audits conducted on a regular basis to verify that site's operations comply with the requirements of this OEMP. The results of the audits are recorded and recommendations for improvement are communicated to the relevant management personnel as well as to the contractors.

## 6.3 COMPLAINT INVESTIGATION AND RECTIFICATION PROCESS

SITA is committed to best practice, prevention, mitigation and rectification of the operation and management of the LHRRP and post closure management obligations.

SITA and SSC have established an Agreed Methodology for establishing complaints. It will be reviewed every two years and at the request of any party, but any changes to the Agreed Methodology will only be made by agreement between the parties.

The Complaint Investigation and Rectification Process is documented in the LHRRP OEMP.

# SECTION 7
# ARRT FACILITY - SITE OPERATIONS

## 7.1 OPERATIONAL CONDITIONS

The LHRRP is certified as meeting a range of national and international certifications including ISO 14001 Environmental Management, ISO 9001 Quality Management and AS 4801 Occupational Health & Safety Management. As part of obtaining these accreditations, SITA is subject to a range of internal and external audits.

In addition to the above accreditations, SITA also has an interlinked system to govern the operations of each site as discussed in sections previously. This includes:

- SOPs
- Operational Environmental Management Plans
- Frequent meetings with stakeholders (including SSC, NSW EPA, refer to SECTION 3 for details)
- Environmental reporting programs (refer to SECTION 5 for details)
- Complaint handling programs (refer to SECTION 6 for details)
- Environmental monitoring programs (refer to SECTION 9 for details)

All these safeguards are in-place to evaluate the effectiveness of existing environmental and operational practices to ensure SITA operates in compliance with the licence conditions applicable at each site.

This section describes the operations of the LHRRP.

### 7.1.1 Operating Hours

The ARRT facility is staffed and open for the acceptance of materials during the following hours

| Activity | Day | Operating hours |
|---|---|---|
| Waste receival | Monday - Friday<br>Saturday and Sunday | 6am – 4pm<br>8am – 4pm |
| ARRT operations | Monday – Sunday | Anytime |

### 7.1.2 Processes

The ARRT facility process would comprise a combination of mechanical separation, manual sorting and biological composting technologies. The main steps in the process would include:

- Receival
- Resource recovery
- Composting
- Maturation
- Refining

All facilities are fully enclosed under negative pressure to contain any odours associated with the process.

**Receival**

Waste would be transported to the ARRT facility predominantly by trucks with enclosed 'walking floor' trailers. It would be the responsibility of the waste transportation contractors to transport waste appropriately and in accordance with licence and legislative requirements. Loads of waste that are not licensed to be accepted at the ARRT facility would not be accepted at the weighbridge.

Collection vehicles would be directed to the ARRT facility receival and processing building after exiting the weighbridge. Vehicles would unload waste inside the building. Mixed waste and source separated organic waste loads would be handled separately via an internal conveyor system to the next process stage.

**Resource recovery**

Resource recovery would be undertaken in two separate processing lines within the ARRT facility waste receival and processing building. One processing line would be used for the mixed waste feedstock and the other for source-separated organics. Material would be passed through a series of mechanical separation equipment. Examples of the equipment include:

- Trommel screens to separate waste streams by size
- Manual sorting stations to recover recyclable items and remove hazardous materials such as car batteries
- Magnetic separators to recover ferrous metals
- Eddie current separators to recover aluminium and other non-ferrous metals
- Shredding equipment to size reduce and prepare material for composting
- Mixing equipment to prepare material for composting

This pre-treatment process would remove recyclables and contaminants from the waste stream before the material is composted. Recovered recyclables removed during the pre-treatment process would be stored initially in bunkers and then baled for transportation off site.
Process residuals such as any separated paper and plastics would also be baled for use as PEF.
Waste material that has been pre-processed would be transferred via conveyor to the composting system. Mixed waste and source separated organics streams would continue to be kept separate and processed separately.

**Composting and maturation**

Following resource recovery, waste would be directed to the composting hall. Composting would be carried out by a fully automated and mechanised process, consisting of a travelling crane transporting rotating screw augers to continuously turn material and progressively move it through the composting hall.

Inside the composting hall, the material would be moved across a series of composting reactors at a rate of approximately one metre per day. Waste material would be composted for a minimum of four weeks before undergoing refinement.

A deluge type irrigation system would be mounted on the screw augers to control the moisture content of the composting material. Sumps installed within the floor aeration systems would collect any free water and condensate, and direct it to leachate storage tanks for reuse in the system. At the beginning of the composting process, leachate from the leachate storage tanks would be used

for moisture control whereas cleaner water sourced from the stormwater ponds or stormwater leachate pond would be used towards the end of the process for compost quality reasons.

Air supply for the composting hall would be via ducting and fans extracting air from the resource recovery building. This would increase the negative pressure in these buildings and help prevent fugitive emissions from this segment of the facility.
The composting system would draw air through the compost via a network of pipes in a porous bed to aerate the compost, prevent anaerobic conditions developing, and to control temperature. Multiple aeration piping systems and fans would be used to allow independent control of different floor segments, and therefore differential control of the compost as it is moved across the reactor. This would also provide a level of redundancy and ensure that aeration of the compost and overall building airflow would not be affected by possible fan breakdowns.

Air extracted from the reactors would be directed to enclosed biofilters for treatment prior to discharge through stacks. The biofilters would have an automated irrigation system for media moisture control and the biofilter floor system would be designed for rapid media change, thereby minimising the down time of individual biofilters.

**Refining**

Specialised compost refining equipment would be used to prepare the matured mixed waste compost for final use/sale. This would include removal of oversized materials and remaining contaminants.

The matured and refined compost would be stored within the composting hall to await off-site transport.

Residual process material from the refining stage would be disposed of at the adjacent landfill.

**Finished products**

Finished products will be stored on site until they are dispatched to customers or blending facilities.

**Disposal of residuals**

Non-compostable materials (residuals) will be placed in bins and transported to the adjacent landfill.

**Operational plant and equipment**

The following equipment would be required for operation of the ARRT facility:

- 2 x forklifts
- 1 x truck and dog
- 2 x wheel loaders

### 7.1.3 Process leachate

Process leachate would be produced within the enclosed operational areas of the ARRT facility, primarily from the composting system and the biofilters, but small volumes of leachate may also be generated during the cleaning and biofilters. Process leachate would also be generated within the composting hall.

An estimated 150 kL per day of process leachate is expected to be generated. All process leachate would be directed to and stored in an aerated 500 kL capacity above ground leachate storage tank

arrange for reuse in the composting process. The leachate storage tanks would provide capacity for three days of storage. Bunding would be provided around the leachate storage tank array to prevent discharge of leachate from the ARRT facility site in the unlikely event of failure or during maintenance.

Water is required for application to the composting material in order to accelerate the composting process. The objective is to produce material with 35% moisture content for effective quality control. The estimated water demand to maintain this moisture content is 240 kL per day on the five days per week that turning would operate. Therefore the overall weekly demand for process leachate from the operation of the ARRT facility composting would exceed the volume of process leachate anticipated to be collected from the system. As such, the shortfall in water would be supplied from other sources including stormwater ponds on the ARRT facility site or other parts of the LHRRP site, or potable water.

In the event that excess process leachate is produced, it would be transferred to a licensed processing facility for treatment and disposal.

Leachate is a potential odour source. Odour management measures directed towards leachate are detailed in section 8.3.

## 7.2 WASTE CONTROL

### 7.2.1 Permitted Wastes

The ARRT facility is licensed by the NSW EPA to accept solid waste (General solid waste (non-putrescible and putrescible) as defined by Schedule 1 Part 3 of the POEO Act, 1997. Only the following waste types are accepted for processing (as defined in Section 3 of the EPL).

### 7.2.2 Excluded Wastes

Any material that does not fall into the categories outlined in Section 7.2.1 is not accepted. This includes, but is not limited to, wastes classified in Schedule 1, Part 1 and Part 3 of the PoEO Act 1997 as hazardous waste, industrial waste, liquid, biosolids, grease trap waste, restricted solid or special waste, as listed in Appendix D.

SITA monitors and controls the waste delivered to the site and rejects any substances that are not accepted at the ARRT facility. This function is fulfilled by informing customers, making enquiries into the content of customer loads at the weighbridge, visual inspection at the weighbridge as well as visual monitoring during unloading.

### 7.2.3 Screening of Wastes

Signs at the entrance clearly indicate the types of wastes that are and are not accepted at the facility. Information is also available in brochures available at the weighbridge, on the SITA website (www.SITA.com.au) and through the Customer Service Division (Tel: 1300 651 116).

When a vehicle enters the weighbridge, the weighbridge operator weighs the vehicle, records the data and asks the driver to describe the contents of the load. If the content cannot be clearly described or identified, the weighbridge operator will direct the load to a separate area for closer examination. If the wastes are identified as excluded wastes, the site manager will respond in

accordance with the “Excluded Waste – management and handling” SOP. If the waste is rejected, this will be recorded in the weighbridge data system using the Rejected Load code (9999).

## 7.3 WASTE DELIVERY

All vehicles arriving at the ARRT facility have previously been weighed at the site entrance weigh bridge shared with the landfill. In addition to weighing and charging, drivers are asked about the nature of the load before proceeding to the ARRT facility.

Vehicles proceed from the weighbridge along the asphalt access road leading around the existing landfill. Upon passing through the secondary access gates vehicles take the second right before reversing into the ARRT facility to deliver their load of waste.

The ARRT facilities are accessed via Little Forest Road, which intersects New Illawarra Road opposite the ANSTO facility. Access will be made using Little Forest Road until 2025, and post 2025 using either Heathcote Road or Little Forest Road.

Drivers are directed to the appropriate area in accordance with the waste being transported. MSW wastes are generally delivered immediately to the right upon entrance to the facility. FGO wastes are delivered immediately to the left upon entrance to the facility. All wastes are tipped onto the tipping floor and if required are ‘pushed up’ to improve available floor space to meet operational requirements.

To avoid queuing of vehicles upon exit, some account customers (such as SSC operated trucks and SITA collection vehicles) are permitted to drive through the bypass lane at the weigh bridge, as they are not required to weigh out.

## 7.4 WASTE SEGREGATION

The design of the ARRT facility is such that cross contamination between fresh materials and already composted materials is avoided. Fresh wastes are received and then sorted and composted in the designated composting tunnels indoors. Once composting has been undertaken the materials are then placed onto the appropriate maturation pad according to the initial waste stream.

## 7.5 WASTE TRANSPORT

Non compostable and non-recyclable residual wastes from processing are transported by truck to the LHRRP landfill. Recyclable components that are removed from waste streams during initial stages and after composting are transported to the Chullora or Spring Farm Material Recycling Facilities for further processing.

## 7.6 WASTE STORAGE

Finished product ready for market would be stored within the composting halls/storage building before being transported off-site in trucks.

Residuals from the ARRT facility would be stored temporarily in skip bins within buildings at the ARRT facility and then periodically transferred to the landfill.

## 7.7 SITE SUPERVISION AND CONTROL

Active areas are supervised by suitably experienced staff at all times during hours of operation.

The supervisor will:

- Maintain effective control of traffic to and from the ARRT facility
- Be responsible for the supply and placing of barricades and/or signs, in order that the above requirements are maintained at all times
- Keep a logbook for recording activities and incidents that occur during the operation of the ARRT facility
- Provide site notices and incident reports covering all activities on site

## 7.8 STAFFING

SITA will ensure that the ARRT facility is appropriately staffed by qualified and experienced personnel. When the ARRT facility is open the weighbridge will be staffed and the ARRT facility will be supervised.

At a minimum, staff training will be undertaken to ensure that:

- Staff are appropriately trained in their nominated roles to undertake task required of them
- All operators of compaction or earthworks equipment are skilled at undertaking all tasks required of them and maintain up to date licences for the operation of machinery
- All those that operate gas testing, water sampling or water testing apparatus are familiar with required testing and sample retention protocols to a standard approved by the NSW EPA under the EPL
- All those inspecting incoming wastes are skilled at identifying wastes that are unacceptable and accurate data recording

## 7.9 EQUIPMENT

Sufficient and appropriate machinery, plant and equipment will be maintained to meet the requirements of the OEMP. This will include, but is not limited to, equipment for:

- Fire control and fire-fighting
- Odour control
- Any other operation required for the proper and efficient operation of the ARRT facility

All equipment will conform to the relevant Australian Standards and be selected in accordance with Best Practice principles.

All machinery and equipment will be maintained in proper working order in accordance with the manufacturers' requirements. In the event of machinery or equipment failure replacement plant or equipment will be organised as soon as practicable to ensure the requirements of the OEMP are fully complied with at all times.

## 7.10 SECURITY

Public access to the ARRT facility will be restricted during opening hours. The site is fenced and outside opening hours all access gates will be locked and the security contractor will maintain the security of the site.

## 7.11 HEALTH AND SAFETY PROCEDURES

All necessary precautions will be taken to ensure the safety of all personnel engaged at the ARRT facility and all public visiting the facility.

All employees are inducted and instructed about potential hazards at the landfill and that safe working practices are to be observed.

A first aid treatment station will be equipped and maintained at the landfill and SITA will have a person trained in first aid will be on site, during all operating times in accordance with the appropriate statutory regulations.

It is SITA's responsibility to be familiar with the provisions of the *Work health and Safety Act 2011*.

All necessary protective clothing and safety equipment will be made available and/or issued to employees, is maintained in good condition and used effectively.

The ARRT facility is operated in accordance with AS/NZS 4801 Occupational Health and Safety Management System and ISO 14001 Environmental Management System.

## 7.12 COMMUNITY COMPLAINTS

A free call telephone line through SITA's customer service department operates 24 hours a day 7 days per week. Complaints about the LHRRP can be registered on this line. The details of all complaints received and actions taken in response to the complaints are kept on the SITA database. Complainants receive a detailed response within 24 hours of the complaint being lodged if requested.

Complaints received via the NSW EPA Environment line or SSC that are subsequently reported to SITA are investigated and responded to within the allocated time frame.

The complaints register is available for inspection upon request by the NSW Department of Planning & Environment (DoPE), the NSW EPA and SSC.

## 7.13 WET WEATHER OPERATION

The ARRT facility will operate under all weather conditions.

## 7.14 FIRE CONTROL

The main potential types of fires within the facility include:

- Fire in offices/buildings
- Fire around fuel storage tanks
- Fire involving site plant and equipment

With the presence of flammable materials such as garden organics and other waste and stockpiles of finished compost there is the potential for fire at the ARRT facility and or the GO facility given the correct conditions and the presence of an ignition source.

If the conditions in the stockpiled or windrowed material are not managed appropriately, there is the potential for spontaneous combustion of the composting material. However, with appropriate management of compost piles in accordance with operating procedures, it is not considered likely that the conditions necessary for spontaneous combustion would be present. However, it is necessary that management strategies are applied to prevent spontaneous combustion.

Other fires are also possible at the GO facility or ARRT facility or other parts of the LHRRP including offices/buildings, around the fuel storage tanks or involving site plant and equipment. As outlined in the proposed mitigation and management measures buildings would be designed and fitted to meet the fire safety requirements of the Building Code of Australia. Appropriate fire prevention, detection and suppression (fire fighting) measures would be provided. The fuel storage areas would be managed in accordance with site operational procedures. Site operational procedures would also include preventative measures and actions for plant and equipment. These measures would reduce the likelihood of facility fires and potential for damage to property and personnel should a facility fire occur.

Current fire management of the LHRRP site is undertaken in accordance with the LHRRP Emergency Response Plan.

A water tanker and pumping equipment capable of being used for fire-fighting as well as dust suppression will be kept on site at all times and maintained in working condition. Water will be supplied from the onsite stormwater dams or potable town water as required.

SITA will comply with all requirements of the PoEO Act 1997, and therefore prevent fires to minimise emissions to the atmosphere. No waste will be burned at the site and no fires will be deliberately lit on the site, without the permission of the NSW EPA.

Incoming wastes which are found during inspection to be hot or on fire prior to deposition will be directed away from the storage areas to a location where the material can be extinguished without risk of causing a fire on site.

In the event of a fire occurring at the site, prompt action will be taken to extinguish the fire. The NSW fire brigade will be immediately notified of all fires irrespective of the extent of the fire and whether or not it has been controlled. Full cooperation will be given to the fire brigade in fighting fires on the site.

All fire events will be recorded in detail including the date, time, location, expected cause of the fire, time it was extinguished, prevailing weather conditions, observations with regard to smoke direction and dispersion, amount of waste burnt, action taken to extinguish the fire and action taken to prevent a recurrence.

In the event of a surface fire occurring at the site, water and earth will be used as appropriate to extinguish the fire.

A firebreak, not less than 20 m wide and cleared of all flammable material will be provided and maintained around the boundaries of the waste disposal area. All sections of the firebreak will be maintained to allow access for fire-fighting vehicles in accordance with the requirements of the Fire Brigade. SITA will liaise with the Fire Brigade to establish and maintain these requirements.

All new employees will receive fire prevention, protection, fire-fighting and emergency procedures training. Training assistance will be sought from the fire protection section of the NSW fire brigade. All employees will be given refresher training courses at regular intervals.

SITA will ensure that each employee is conscious of the fire safety standards required to operate safely.

Other measures that will be taken to prevent fire include:

- A ban on smoking in the ARRT facility, with clear posted signs indicating designated smoking areas
- Clear posted signs on display to the public advising that waste flammable liquids are not permitted on the site
- Cell construction, compaction and use of cover material should be undertaken in a manner that prevents fire
- All sealed or contaminated drums should not be accepted unless they are delivered as a special waste whose contents are clearly identified and suitable for acceptance
- All fuels or flammable solvents for operational use will be stored in an appropriately ventilated and secure store that complies with the Act covering storage of dangerous goods
- Hot Works Permits will be used where appropriate

## 7.15 RECORD KEEPING

All vehicles entering and leaving the ARRT facility will be recorded, along with the tonnage of waste or product from the ARRT facility will be weighed over the weighbridge. Details regarding reporting and review are documented in Section 5.

## 7.16 VEHICLE WHEEL AND EQUIPMENT WASHING

SITA shall ensure that the wheel wash facility for cleaning the wheels of the vehicles leaving the site operates during wet weather. Signs will be displayed during wet weather when the wheel wash is operational. The wheel wash has a treatment system and recycles the water used in the process. A small amount is wasted and will be directed to the LHRRP sewer connection via ANSTO. Collected solids are removed to the ‘Specials’ area of the landfill as required.

Washing and servicing of equipment will be conducted in a wash bay / work bay, which will be bunded to exclude rainwater. All of the wastewater from the washdown / service area will be discharged to sewer.

## 7.17 RESIDUAL WASTE

This site was selected as it has the benefit of co-location with the existing landfill, is already cleared and is positioned with good buffers to nearby sensitive receptors, such as residences. This means there is existing infrastructure, established transportation routes and residual waste from the processing of municipal solid waste can be disposed of without the need for the waste to leave the LHRRP site.

## 7.18 WATER AND WASTE WATER

The ARRT facility is be a net user of water. The water required for the composting process will be derived from leachate produced during the process, supplemented by water from detention ponds and stormwater dams both within the proposed ARRT facility and also from those situated around the landfill site. In times of low rainfall, the water supply may need to be supplemented by mains water.

### 7.19 SICTA SHOOTING RANGE SAFETY MANAGEMENT

A safety exclusion zone applies within 205m of the firepoint.

# SECTION 8
# ARRT FACILITY - MANAGEMENT

## 8.1 OVERVIEW

In the waste that SITA handles every day on behalf of itsmany customers, SITA strives to increase the proportion which is reused, recycled or recovered. Waste that cannot be converted into resources are eliminated under conditions that respect our environment.

SITA provides environmental services for the well-being of the Australian population, and aims to manage natural resources by reinjecting them into the economy in the form of raw materials and energy. This is to avoid wastage of precious virgin resources.

SITA is committed to:

- Optimising recycling and recovery rates
- Reducing greenhouse gas emissions
- Improving energy efficiency through all operations
- Increasing and promote renewable energy production
- Reducing the degradation of Australia's agricultural soils

The following sections describe SITA's strategy to management at the LHRRP. Complaints will also trigger the complaints and auditing procedures as noted in section 6.3.

## 8.2 SURFACE WATER MANAGEMENT

### 8.2.1 Environmental Goals and Principles

Operational activities on the site have the potential to exacerbate erosion processes and sediment generation. The surface water management system provides mechanisms for controlling these processes and minimising the potential for contamination of waterways within the site and beyond its boundaries. It also enables water to be collected on site for uses such as temporary irrigation and dust control. Except as expressly specified in the EPL, LHRRP will comply with Section 120 of the *PoEO Act 1997*, prohibiting the pollution of waters at the site.

The primary objectives of water management at the ARRT facility are to:

- Eliminate transport of sediment laden and contaminated storm water off site
- Avoid negative impact to water quality of nearby creeks and river systems downstream
- Effectively manage storm water control systems and measures for anticipated rainfall events
- Ensure water discharged from the storm water systems comply with stated objectives, including pump out
- Ensure re-used storm water is tested as fit for purpose of its intended use
- Prevent flooding
- Meet discharge limits set in the EPL
- No leachate from the ARRT facility entering surface water and being discharged to Mill Creek

As the facilities are fully enclosed, it is anticipated that the only surface water that requires managing will be from the building roofs.

Any dams are lined to suitably contain leachate.

### 8.2.2 Management Strategy

Surface water is collected in the storm water drains around the facility (roads and buildings) and diverted to the onsite storm water collection dam. All storm water is retained and treated on site until it meets the required water quality criteria. Should the water be highly contaminated or the criteria not be met the water is diverted to the on site leachate dam for further treatment.

All waste is received internally at the facility in the designated receival hall to prevent contamination of external water drains and water courses. All vehicles delivering wastes to the facility or transporting wastes to the landfill must cover the loads.
Surface water runoff from all non-contaminated hardstand areas, including all roadways, the manoeuvring area and the landscaped areas is collected in the stormwater dam at the front of the facility. Storm water is utilised for cleaning of road surfaces, dust suppression, irrigation of gardens, and in final compost production.

Storm water collected from the roof of the building is diverted into two large water storage tanks located on the western boundary of the site. This water is used for firefighting services if and when required at the facility.

Plant refuelling is carried out in an area away from the site storm water dam to prevent contamination in the event of a fuel spill. Bunding around chemical tanks is 110% of the tank capacity to prevent spill into the storm water dam.

Sedimentation dams will be used to store and control water quality of stormwater prior to any discharge from site as necessary. Water quality monitoring has been regularly conducted in designated locations along Mills Creek as part of the existing landfill licence. Preferential reuse of process and product-related leachate and stormwater runoff will prevent the discharge of untreated water from the ARRT facility. The use of stormwater for processing purposes will reduce the risk of dam overflow.

The following procedures are carried out so as to minimise the frequency of spills and the necessary subsequent clean up:

**PREVENTION**

- All major maintenance of transfer vehicles is carried out away from the site at the landfill workshop
- ARRT facility users are made aware of the requirement for loads to be delivered in covered or enclosed vehicles
- All sealed surfaces are sprayed using collected storm water rather than potable water sources
- Stormwater is used in the composting process, for dust suppression, irrigation of site gardens and used in the odour suppression fence
- Ongoing monitoring of leachate volumes generated, stored, re-used and disposed of for the ARRT facility
- Periodic review of the leachate water balance model

**MITIGATION**

- All storm water drains flow to grit separators installed on the side of the storm water dam, to collect pollutants prior to release to the storm water dam; Including cleaning the contents of the drains and pits to avoid blockages

- Storm water pond is lined with low permeability liner and drainage paths are designed to control infiltration to ground

**RECTIFICATION**

- In the event of a spill of waste outside the building, the waste is recovered both by hand shovel or loader and transported to the ARRT facility receival floor. Any minor quantity of debris remaining is collected by the site sweeper
- Spillages of liquids are absorbed using sand, 'dri-sorb' or an approved similar absorbent material. The contaminated material is collected and transported to a suitable disposal location. Quantities of suitable absorbent material are kept on site at all times. Once the bulk of the spill has been removed, the area is cleaned in a manner appropriate to the material concerned and washed down. Every effort is made to prevent contaminated material entering the stormwater system

**Lucas Heights Resource Recovery Park Project EIS (GHD, 2015)**

The Lucas Heights Resource Recovery Park Project EIS (GHD, 2015) undertook an assessment on the soils and surface water associated with the reprofiling works, GO facility and the ARRT facility. It was concluded that:

- With the implementation of the mitigation measures proposed in the EIS, it is not expected that the proposal would result in an unacceptable impact in terms of sediment discharge to downstream waterways
- It is not expected that the activities associated with the proposal would result in a major increase in potable water demand
- Stormwater discharged from the site is not expected to have any unacceptable impacts on flooding conditions downstream
- Therefore, the proposed works are not expected to result in any unacceptable impacts relating to surface waters.

### 8.2.3 Activities/Frequency

The following activities are undertaken:

- Monitoring and analyses of storm water - *prior to release or pump out*
- Regular maintenance of the onsite treatment plant - *as per equipment maintenance schedule*
- Site inspections - *informal daily combined with formal weekly, monthly and 6 monthly inspections*

### 8.2.4 Performance Indicators/Targets

- No significant impacts to existing downstream waterways
- Ensure storm water discharge from the site storm water pond complies with:
  - <50mg/L of Total Suspended Solids
  - <2.5mg/L Ammonia
  - pH between 6.5 and 8.5

### 8.2.5 Reporting and Review

- Site Supervisor performs daily inspection of the site, and reports weekly to the site manager using the checklist system
- The compliance officer conducts weekly inspections and maintains checklists, which are forwarded to the site manager
- Quarterly inspections by the compliance officer reported to the site manager
- Results of water analyses carried out by the site compliance officer are reported to the site manager and recorded according to SITA procedures
- In the case of an event on the premises that has caused, is causing or is likely to cause harm to the environment, whether the harm occurs on or off the premises, the licensee must report the event to the NSW EPA immediately after it becomes known to the licensee or to one of the licensee's employees or agents (except when such event is permitted by the EPL); and
- The site manager records environmental incidents, including spills in covered and open areas, according to the Incident Reporting and Investigation Procedure.

## 8.3 ODOUR CONTROL

### 8.3.1 Environmental Goals and Principles

All facilities will be enclosed. Odours generated from the LHRRP will be considered cumulatively, although the olfactory signature of each source will be taken into account in determining the offensiveness of the odour and likely impacts.

As described in the LHRRP OEMP, odour control at the LHRRP site is aimed at (as based on the NSW *EPA Environmental Guidelines: Solid Waste Landfills:* Odour Control):

- Prevention of degradation of local amenity
- Prevention of landfill gas emissions
- Achieving no detectable odours (less than 2 Odour Units (OU), cumulative) at the nearest residential receptor
- Improving site gas capture and destruction either by power generation activities or gas flaring as required

### 8.3.2 Management Strategy

The following strategies are specific to the ARRT and are employed to minimise odour:

**PREVENTION**

- Place prominent signs at the entrance to the site defining acceptable wastes
- Random monitoring and inspection of incoming vehicles to determine waste composition
- Receipt of wastes is carried out within the closed confines of the facility
- All initial processing of wastes are carried out within the internal confines of the facility
- Immediate processing of waste received
- Waste processed daily
- Composting carried out at set periods of time, to set temperatures, oxygen levels and moisture levels to provide certainty that composted material has fermented properly and has stabilized
- Minimise the volume of final product storage, keeping volumes as low as possible
- Maintain the facility under negative pressure, ensuring odours do not escape the building
- Materials are transported to landfill in covered vehicles
- Routine maintenance of site machinery to avoid breakdown of equipment

- Aerators installed and serviced regularly in leachate ponds
- Regular inspection of biofilters and maintenance of biofilter media
- Reuse of leachate within the composting process to avoid long-term leachate storage; and
- Staff training (internal and contractors) on odour management strategy and all relevant procedures
- Ensure only up to 10,000 tonnes per annum of biosolids is received at the site

**MITIGATION**

- Recording of all incidents of identification and/or rejection of unacceptable waste in the logbook
- Any complaints from neighbours will be investigated and recorded in database
- Odour patrols as required through residential areas
- Aerate the leachate dams as needed

**RECTIFICATION**

- If odour complaint is received, the complaints procedure will be triggered (section 6.3) and the odour will be investigated.
- In the event that the treatment systems such as biofilters are not achieving the environmental commitments, then SITA will review the technology and upgrade if required. This may include, but is not limited to, an upgrade to a scrubber unit

**Lucas Heights Resource Recovery Park Project EIS (GHD, 2015)**

The Lucas Heights Resource Recovery Park Project EIS (GHD, 2015) undertook an assessment on the air quality including potential odour cumulatively from the reprofiling works, GO facility and ARRT facility. It was concluded that with the mitigation measures in place:

- There would be no significant impacts on the community or environment
- The project would be able to achieve 2 OU odour performance criteria cumulatively at the nearest residential receptor

### 8.3.3 Activity/Frequency

The following activities are undertaken:

- Review of biofilters - *daily*
- Inspections of site equipment – *as per equipment maintenance schedule*
- Site inspections are conducted by the site supervisor - *daily*
- Site inspections are conducted by the compliance officer - *weekly*

### 8.3.4 Performance Indicators/Targets

- Meet the requirements of Section 129 of the PoEO Act 1997
- Achieving no detectable odours (less than 2 OU, cumulative) at the nearest residential receptor
- No odour complaints

### 8.3.5 Reporting and Review

- Site supervisor performs daily inspection of the site, and reports weekly to the site manager using the checklist system

- Weekly inspection by site supervisor of correct operation and sealing of composting tunnel roller doors and high speed roller shutters
- Monthly review of monitoring results compiled by the compliance officer with the site manager at operations meetings
- Monthly reporting of complaints in the monthly management performance report
- Quarterly inspections by the compliance officer reported to the site manager
- Biofilter monitoring conducted as per the Biofilter Monitoring Manual
- Replacement of bio filter media every 2 years or as required

Odour complaints will also trigger the complaints and auditing procedures as noted in section 6.3.

## 8.4 WASTEWATER MANAGEMENT

### 8.4.1 Environmental Goals and Principles

There are two main sources of wastewater:

- Condensate (process leachate) – created during the tunnel composting process - highest concentration of chemicals and biological contaminants
- Wash water – generated within the facility from use of water for cleaning of hard surfaces within the facility - moderately concentrated

Wastewater is acknowledged as a potential odour source. Odour is addressed in section 8.3.

### 8.4.2 Management Strategy

The following strategies are employed to minimise odour from wastewater:

**PREVENTION**

- Condensate is drained into storage tanks and re-used in the composting process for moisture control and oxygen concentrations. (Excess condensate is diverted to the appropriate storage pond)
- Washwater is collected in sumps and diverted to storage tanks
- Wastewater that does not meet composting requirements is managed in the same manner as leachate from the landfill
- Irrigation of storm water runoff from roofs and hardstand is also permitted on vegetated areas of the LHRRP landfill or on areas undergoing rehabilitation

**MITIGATION**

- Bunding would be provided around the leachate storage tank array to prevent discharge of leachate from the site in the unlikely event of failure or during maintenance

**RECTIFICATION**

- In the event that excess process leachate is produced, it would be tankered off site in accordance with EPA guidelines to a licensed processing facility for treatment.

### 8.4.3 Activity/Frequency

The following activities are undertaken:

- Analysis of wastewater to assess compliance with EPL criteria for reuse or release - *as required*
- Transport of wastewater that does not meet EPL requirements to a licenced liquid treatment facility - *as required*

#### 8.4.4 Performance Indicators/Targets

- No significant impact to waterways
- No reportable wastewater related incidents to EPA

#### 8.4.5 Reporting and Review

- Daily site monitoring during wet weather periods, reported to site management
- Site supervisor performs daily inspection of the site, and reports weekly to the site manager using the checklist system
- Routine maintenance of aerators
- Review of monitoring results compiled by the compliance officer with the site manager
- Quarterly inspections by the compliance officer reported to the site manager

### 8.5 DUST CONTROL

#### 8.5.1 Environmental Goals and Principles

All facilities will be enclosed. Dust is not expected outside the facilities. Dust control on site is aimed at:

- Minimising occupational exposure to staff and visitors
- Minimising degradation of local amenity
- Minimising air pollution

#### 8.5.2 Management Strategy

Internal storage and maturation of product minimises potential external dust impacts. Use of dust suppression systems within the buildings minimises occupational risks to staff.

**PREVENTION**

- All operating activities conducted within the enclosed areas of the facility
- Vehicles are covered or enclosed during transport around the site
- Increased use of water carts and sprays in case of elevated dust levels
- Main site access and vehicle manoeuvring area roadway surfaces are sealed
- Spraying of windrows, final compost storage areas, and loading areas, particularly prior to transportation and turning

**MITIGATION**

- Water cart on trafficable areas as required
- Visual monitoring of dust emissions
- Monthly dust deposition monitoring at six boundary locations on site
- Periodic Total Suspended Particulate (TSP) monitoring

**RECTIFICATION**

- Recording of environmental complaints and regular review and reporting of performance
- Increase the amount of sprinklers on stockpiles and water cart equipment for operational areas if required

**Lucas Heights Resource Recovery Park Project EIS (GHD, 2015)**
The Lucas Heights Resource Recovery Park Project EIS (GHD, 2015) undertook an assessment on the air quality including potential dust impacts cumulatively from the reprofiling works, GO facility and ARRT facility. It was concluded that with the mitigation measures in place:

- There would be no significant impacts on the community or environment

### 8.5.3 Activities/Frequency

The following activities are undertaken:

- Dust suppression system - *as required*
- Cleaning of sealed roadway areas using street sweeper and water cart – *as required*
- Cleaning of machinery – *as required*

### 8.5.4 Performance Indicators/Targets

- No dust complaints
- Maximum level in dust deposition gauges shall not exceed 4 grams per metre squared ($g/m^2$) per month as an annual mean

### 8.5.5 Reporting and Review

- Daily inspection of the site by the site supervisor, and weekly reports to the site manager using the checklist system
- Weekly inspections by the compliance officer with checklists maintained, which are forwarded to the site manager
- Results of dust gauge analyses carried out by the compliance officer are reported to the site manager and recorded according to SITA procedures
- Monthly reporting by site manager
- Quarterly inspections by the compliance officer reported to the site manager

## 8.6 LITTER CONTROL

All facilities will be enclosed and litter is not expected to be generated. Any litter generated due to the ARRT facility will be considered cumulatively with the whole LHRRP. Litter management measures detailed in LHRRP OEMP.

## 8.7 TRAFFIC CONTROL

Traffic control for inbound and outbound vehicles for the ARRT facility should be considered with traffic associated with the rest of the LHRRP. Traffic management measures for the whole LHRRP are detailed in the LHRRP OEMP.

## 8.8 NOISE CONTROL

### 8.8.1 Environmental Goals and Principles

The major noise generating sources at the LHRRP ARRT facility are the processing lines within the facility, bio-filtration systems, operation of plant and machinery, internal shredder operations and waste delivery and transport vehicles.

Noise control on site is aimed at operating within specified limits of the EPL and preventing impacts on local amenity, notably:

- Prevention of noise pollution
- Prevention of the degradation of local amenity
- No significant impact on the community or environment

### 8.8.2 Management Strategy

The following measures are undertaken to minimise noise emissions from the ARRT facility:

**PREVENTION**

- All vehicles accessing the site will use the designated access roadways
- Noise mitigation measures have been fitted within the structure of the building
- All fixed processing equipment is located within the building
- Noisy equipment will not be operated outside the building after hours
- Plant and equipment will be selected to minimise noise emissions where possible, whilst maintaining efficiency of function. Residential grade silencers will be fitted and all noise control equipment will be maintained in good order
- Traffic speeds are controlled at all times. Staff, customers and visitors are required to observe signposted limits at all times
- Maintenance of collection vehicles and provide staff training on noise management requirements
- Monitoring and track vehicle collection routes
- Staff inductions and training
- Develop SOPs for deliveries of unrecoverable residual wastes to the landfill
- All staff are informed of the importance of noise minimisation and the methods for achieving acceptable levels, and required to implement those methods at all times
- Observe working hours as stated in section 7.1.1

**MITIGATION**

- All operations would be within buildings
- Enclose any significantly noisy operations within buildings
- Reverse quackers rather than alarms with a low decibel output for excavators and wheel loaders
- Use favourable routing for accessing and exiting the facility (i.e. avoid residential areas)
- Enforcement by site management of the SOPs
- Back to back performance Key Performance Index (KPI)

**RECTIFICATION**

- Potentially increase sound dampening technology and invest in advanced noise reduction techniques
- Performance management of staff not meeting KPIs
- Monitor and track collection vehicle routes

**Lucas Heights Resource Recovery Park Project EIS (GHD, 2015)**
The Lucas Heights Resource Recovery Park Project EIS (GHD, 2015) undertook an assessment on the noise including potential noise impacts cumulatively from the reprofiling works, GO facility and ARRT facility. It was concluded that with the mitigation measures in place:

- There would be no significant impacts on the community or environment

### 8.8.3 Activities/Frequency

The following activities are undertaken:

- Site inspections by the Site Supervisor to ensure that noise levels are not excessive - *daily*
- Noise monitoring by the site Compliance Officer - *as required*
- Maintain factory fitted noise reduction technology for excavators and wheel loaders – *as required*
- For site vehicles, enforce rules by:
  - Site management of the SOPs – *as required*
  - Back to back performance KPIs – *as required*
  - Speed Humps – *as required*
- Vehicle pre-starts - *daily*

### 8.8.4 Performance Indicators/Targets

- No noise complaints from surrounding landholders
- Noise emanating from the site must not exceed a LA10, T sound pressure level of 50 dB(A) when measured or computed at any point within 1 m of any residential boundary or any other noise sensitive areas, over any 10 to 15 minute period, using the 'FAST' response on the sound level meter during the day. Noise emanating from site must not exceed LA10, T of 35dB (A) at night. 5 dB(A) must be added to the measured level if the noise is substantially tonal or impulsive in character

### 8.8.5 Reporting and Review

- Daily inspection of the site by the site supervisor, and weekly reports to the site manager using the checklist system;
- Weekly inspections by the site compliance officer with checklists maintained, which are forwarded to the site manager;
- Monthly reporting by site manager;
- Quarterly inspections by the compliance officer reported to the site manager.

## 8.9 WASTE CONTROL

### 8.9.1 Environmental Goals and Principles

Waste control should:

- Ensure receipt of only those wastes that the ARRT facility is licensed to receive
- Demonstrate due diligence in screening incoming wastes
- Ensure that the nature and quantity of all wastes received is known and recorded
- Maximise the reuse and recycling of materials to reduce waste disposal to landfill

This is achieved by ensuring that staff have been given training and that supervision and staff numbers on site are sufficient to provide adequate screening of waste.

### 8.9.2 Management Strategy

Strategies to control waste are:

**PREVENTION**

- Weighbridge to record waste type and tonnage of waste received
- Signs clearly state the types of waste permissible for disposal
- Computerised system to record quantities, types and sources of waste
- Gates locked after hours to prevent unauthorised entry

**MITIGATION**

- Visual inspection at weighbridge and/or receival hall to verify contents of loads

**RECTIFICATION**

- Analytical sampling of materials and products generated to ensure conformity to applicable standards, regulations and codes of practice

### 8.9.3 Activities/Frequency

The following activities are undertaken:

- Vehicles are weighed – *when entering and leaving weighbridge*
- Driver of vehicle is questioned as to type of waste – *as required*
- Inspection of operations and records - *daily*
  This should be done by the Site Manager to verify that:
  - excluded wastes are not accepted
  - weighbridge operator:
    - manages the incoming waste stream
    - records details of all incoming vehicles
    - records all loads of material for recycling
    - records all green waste loads
    - records the number and weight of all transfer vehicles entering the site
    - records the number and weight of all council waste collection vehicles entering the site
  - Staffing levels are adequate – *as required*

### 8.9.4 Performance Indicators/Targets

- Waste accepted meets licence conditions and is recorded correctly
- No exceedence of annual tonnes received as per EPL
- Meets agreed landfill diversion targets
- Compost product meets applicable standard

### 8.9.5 Reporting and Review

- Daily inspection of the site by the site supervisor, and weekly reports to the site manager using the checklist system
- Weekly inspections by the site compliance officer with checklists maintained, which are forwarded to the site manager
- Weekly reporting by site manager of residual wastes and compost manufactured
- Monthly reporting by site manager
- Quarterly inspections by the compliance officer reported to the site manager

## 8.10 PEST, VERMIN AND WEED CONTROL

### 8.10.1 Environmental Goals and Principles

Pests and vermin may be attracted to the facility if waste materials and litter generated are not managed and removed within a suitable time frame. Site litter clean up will be controlled.

There is a riparian zone on the eastern boundary of the facility associated with Mill Creek.

The operations of the LHRRP ARRT facility is not expected to increase the presence of weeds in the riparian zone as materials are tipped and processed inside the facility in accordance with strict guidelines for compost production. The ARRT facility is also fully enclosed and constructed on hardstand.

Pest, vermin and weed management measures for the whole LHRRP are detailed in the LHRRP OEMP.

## 8.11 EMERGENCY PREPAREDNESS

### 8.11.1 Environmental Goals and Principles

The Emergency Response Plan (ERP) for the ARRT facility is regularly reviewed and updated. The plan describes the general policy and approach to be followed when dealing with an emergency or incident including:

- Identification and address of the various types of emergencies which may be experienced at the site
- Risk minimisation to the SITA employees, contractors, customers, visitors and the community in an emergency
- Control of any incident so as to minimise damage to plant, equipment, property and the environment

To complement this there is a Pollution Incident Response Management Plan (PIRMP) for the ARRT facility for correct handling and reporting of pollution incidents in accordance with the EPL.

### 8.11.2 Management Strategy

Strategies to manage emergency preparedness are:

**PREVENTION**

- Provision of adequate resources including staffing, fire-fighting equipment, first aid equipment and personal protective equipment

- Training and retraining of staff so that a high level of preparedness is maintained by all people who may be involved in an emergency
- Periodic review and update of the Emergency Procedures for the site

**MITIGATION**

- Reporting incident to relevant authorities
- Notification of community members who may be affected by the incident

**RECTIFICATION**

- Implement the Emergency Procedures for the site

#### 8.11.3 Activities/Frequency

The following activities are undertaken:

- Visual checks of fire-fighting equipment - *weekly*
- Testing of fire-fighting equipment - *biannual*
- Tests of the emergency response procedures (One WH&S related, the other environmental incident related) – *biannual*

#### 8.11.4 Performance Indicators/Targets

- Review of Incident Reports and ongoing issues
- All emergency equipment is ready and available for use at all times
- Conduct a test of ERP by simulating emergencies on site at least twice yearly
- Completion of applicable ICAM and action closures for all incidents

#### 8.11.5 Reporting and Review

All WH&S and environmental incidents and near misses, and incidents that have the potential to cause damage to SITA Australia's image and reputation, must be reported and investigated according to the Incident Reporting and Investigation Procedure. This includes"

- Immediate verbal reporting of any major and significant incidents / emergencies to the site manager and compliance officer, who will notify any relevant staff
- Verbal notification must be followed up by submission of a copy of the completed Incident Report form within 1 hour (even if not all details are complete). Original completed report forms are maintained in the SITA Incident Management System (SIMS)
- Minor incidents must be reported on the SIMS system within 1 hour of the incident occurrence
- The compliance officer is responsible for ensuring that applicable statutory authority has been notified where appropriate
- All incidents require investigation in accordance with SITA Australia Procedure. Participants required to be involved in the investigation are dependent upon the severity of the incident

### 8.12 GROUNDWATER

#### 8.12.1 Environmental Goals and Principles

The goals for groundwater are:

- No significant impact on groundwater quality
- No significant impact on the community

### 8.12.2 Management Strategy

**Reprofiling strategies - Lucas Heights Resource Recovery Park Project EIS (GHD, 2015)**
The Lucas Heights Resource Recovery Park Project EIS (GHD, 2015) undertook an assessment of groundwater impacts associated with the reprofiling works, GO facility and the ARRT facility. It was concluded that there would be no significant impact to the e the community.

Comprehensive mitigation measures are proposed relating to both the design and the operations of the facilities. The additional mitigation measures and strategies related to operations for the reprofiling works that were developed as part of the Lucas Heights Resource Recovery Park Project EIS (GHD, 2015) are summarised below:

- Implement site practices described in this EMP that minimise the production and spillage of impacted water and/or chemicals used in site activities

If emergence of impacts occurs during operation or post closure then further investigation and potentially remedial measures would be required and would include:

- Additional investigations to isolate the source of impact and characterise the significance of the impact relative to key target criteria for the protection of surrounding sensitive systems.
- Implementation of additional control measures to prevent ongoing impact. This may include:
  - Installation of additional monitoring wells to assess the emergence of significant impacts that may not be considered presently significant
  - Installation of additional wells to capture and treat impacted groundwater. This may include treating the water separately or incorporating the system into the existing leachate treatment system

### 8.12.3 Activities/Frequency

The following will be undertaken:

- Monitoring – *ongoing*

### 8.12.4 Performance Indicators/Targets

In accordance with the EPL condition R2.3, the criteria for groundwater ammonia concentration is 1 mg/L

### 8.12.5 Reporting and Review

Daily operational checklists and weekly checklists are completed by the site supervisor. The compliance officer is responsible for completion of the environment weekly checklist.

Additional reporting and review functions include:

- Reporting at site meetings if problems occur
- Reporting problems that occur to the CRG
- Maintaining site environmental checklists

## 8.13 COMPLIANCE WITH THE CONDITIONS OF CONSENT

Every three years following the date of consent or at periods otherwise agreed to by DoPE, SITA will arrange for an independent audit of the environmental performance of the development at LHRRP. The audits will:

- Be conducted pursuant to ISO 14010 - Guidelines and General Principles for Environmental Auditing, ISO 14011 - Procedures for Environmental Monitoring and any specifications DoPE
- Be conducted by a suitable qualified independent person approved by DoPE
- Assess compliance with the requirements of the consent (refer Appendix B)
- Assess the implementation of the EMPs and review the effectiveness of the environmental management of the proposal
- Be carried out at SITA's expense

SITA will comply with all reasonable requirements of DoPE in respect of any measures arising from or recommended by the audits.

# SECTION 9
# MONITORING

*ALL THIS SECTION IS TO BE REVIEWED TO ONCE THE OPERATION IS CONFIRMED AND THE EPL HAS BEEN GRANTED.*

*The monitoring program is outlined in the site EPL and summarised below.*

*INSERT TABLE – MONITORING PROGRAM*

*Monitoring locations are shown on Figure 9.1.*

*INSERT FIGURE 9.1 – MONITORING LOCATIONS*

**Figure 9.1 ARRT Facility monitoring locations**

Monitoring at the ARRT facility incorporates surface water, leachate, groundwater, dust, noise and any other environmental performance indicator in accordance with the relevant EPL. The results of all monitoring carried out on the ARRT facility are recorded and retained as set out in the relevant EPL.

# SECTION 10
# RISK MANAGEMENT

SITA ensures the effective control of environmental hazards across its facilities so that environmental impacts are prevented or minimised. Two main types of risk assessment are used by SITA at operational / project level to assess environmental and WH&S risk.

## 10.1 JOB SAFETY AND ENVIRONMENTAL ANALYSIS (JSEA)

The JSEA process is used for new projects, new tasks, any unusual, abnormal or non-routine work or projects and tasks where there is likely to be an increase in the level of risk. This may include but is not limited to any unusual task not normally executed in day-to-day operations. All contractors are required to complete the JSEA process prior to commencing any work on the site.

## 10.2 PROJECT / SITE BASED RISK ASSESSMENTS

Project based risk assessments are carried out to assist in identifying additional environmental risks that may not have been assessed in the preparation of the OEMP for the site (following commencement of operations).

Site or project based risk assessments are performed when:

- A change in legislation requires a change in SITA practices and processes
- Additional processes or activities are introduced that may increase the level of environmental risk
- When new and additional information concerning an environmental hazard becomes available
- When required by existing legislative requirements