

Project Approval (Consolidated Version)

Section 75J of the *Environmental Planning and Assessment Act 1979*

I approve the project application referred to in schedule 1, subject to the conditions in schedules 2 to 4.

These conditions are required to:

- prevent and/or minimise adverse environmental impacts;
- set standards and performance measures for acceptable environmental performance;
- require regular monitoring and reporting; and
- provide for the ongoing environmental management of the project.

Frank Sartor MP
Minister for Planning

Sydney

2008

SCHEDULE 1

Application No:

06_0185

Proponent:

SITA Environmental Solutions

Approval Authority:

Minister for Planning

Land:

The parts of the following lots marked on the figure in Appendix 1:
- Lot 1 DP 542395; and
- Lot 740, DP 810111

Project:

SITA Advanced Waste Treatment Facility

Consolidated version incorporating:

Modification 1 – Operating hours (2010) in blue

Modification 2 – (Withdrawn)

Modification 3 – Maturation pad upgrades (2014) in taupe

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DEFINITIONS

AEMR	Annual Environmental Management Report
BCA	Building Code of Australia
Council	Penrith City Council
Day	The period from 7am to 6pm on Monday to Saturday, and 8am to 6pm on Sundays and public holidays
Department	Department of Planning and Infrastructure
Director-General	Director-General of the Department, or delegate
EA	Environmental Assessment titled <i>Advanced Waste Treatment Facility – Elizabeth Drive, Environmental Assessment</i> , dated June 2007, and the Preferred Project Report dated October 2007
Elizabeth Drive Landfill	The waste management facility off Elizabeth Drive licensed to receive Solid Waste Class 2 and Industrial Waste
EPA	Environment Protection Authority
EP&A Act	<i>Environmental Planning and Assessment Act 1979</i>
EP&A Regulation	<i>Environmental Planning and Assessment Regulation 2000</i>
EPL	Environment Protection Licence issued under the <i>Protection of the Environment Operations Act 1997</i>
Evening	The period from 6pm to 10pm
Garden Waste	Source separated garden or related organic waste
Hazardous Waste	See definition POEO Act
Heavy Vehicle	Any vehicle with a gross vehicle mass of 5 tonnes or more
Industrial Waste	See definition POEO Act
Land	The whole of a lot, or contiguous lots owned by the same landowner, in a current plan registered at the Land Titles Office at the date of this approval
LGA	Local government area
Minister	Minister for Planning and Infrastructure, or delegate
Mixed Waste	Municipal solid waste or commercial and industrial waste that has been classified as inert or solid waste under schedule 1 of the POEO Act
Morning Shoulder	The period from 6am to 7am Monday to Friday
Night	The period from 10pm to 6am on Monday to Friday, and 10pm to 8am on Saturdays, Sundays and Public Holidays
NOW	NSW Office of Water
POEO Act	<i>Protection of the Environment Operations Act 1997</i>
Privately-owned Land	Land not owned by the Proponent or its related companies, or where a private agreement does not exist between the Applicant and the land owner
Proponent	SITA Australia Pty Ltd or its successor
RMS	Roads and Maritime Services
Site	Land to which the project application applies (see schedule 1)
Statement of Commitments	Proponent's commitments shown in Appendix 3

SCHEDULE 2 GENERAL ADMINISTRATIVE CONDITIONS

Obligation to Minimise Harm to the Environment

1. The Proponent shall implement all practicable measures to prevent and/or minimise any harm to the environment that may result from the construction, operation, and/or rehabilitation of the project.

Terms of Approval

2. The Proponent shall carry out the project generally in accordance with the:
 - (a) EA;
 - (b) statement of commitments; and
 - (c) Modification application 06_0185 MOD 1;
 - (d) Modification application 06_0185 MOD 3; and
 - (e) conditions of this approval.

Note: The layout of the project is shown in Appendix 1 and Appendix 1A.

3. If there is any inconsistency between the above, then the conditions of this consent shall prevail to the extent of the inconsistency.
4. The Proponent shall comply with any reasonable requirement/s of the Director-General arising from the Department's assessment of:
 - (a) any reports, plans, programs or correspondence that are submitted in accordance with this approval; and
 - (b) the implementation of any actions or measures contained in these reports, plans, programs or correspondence.

Limits on Approval

5. Waste operations may only take place for 20 years from the commencement of operations on site.

Note: Under this approval the Proponent is required to decommission the project upon the completion of waste operations, and rehabilitate the site to the satisfaction of the Director-General. Consequently, this approval will continue to apply in all other respects other than the right to conduct waste operations on site until the site has been rehabilitated to a satisfactory standard.

Management Plans/Monitoring Programs

6. With the approval of the Director-General, the Proponent may submit any management plan or monitoring program required by this approval on a progressive basis.
- 6a. Within 3 months of any modification approval, the Proponent must prepare and implement a revised version of any relevant management plan or monitoring program to the satisfaction of the Director-General.

Structural Adequacy

7. The Proponent shall ensure that any new buildings and structures, and any alterations or additions to existing buildings and structures, are constructed in accordance with the relevant requirements of the BCA.

Notes:

- Under Part 4A of the EP&A Act, the Applicant is required to obtain construction and occupation certificates for any building works.
- Part 8 of the EP&A Regulation sets out the detailed requirements for the certification of project.

Demolition

8. The Proponent shall ensure that all demolition work is carried out in accordance with AS 2601-2001: *The Demolition of Structures*, or its latest version.

Operation of Plant and Equipment

9. The Proponent shall ensure that the plant and equipment used on site, or in connection with the project, is:
 - (a) maintained in a proper and efficient condition; and
 - (b) operated in a proper and efficient manner.

Statutory Requirements

10. The Proponent shall ensure that all licences, permits and approval/consents are obtained as required by law and maintained as required throughout the life of the Development. No condition of this approval removes the obligation for the Proponent to obtain, renew or comply with such licences, permits or approval/consents.

SCHEDULE 3 SPECIAL ENVIRONMENTAL CONDITIONS

WASTE MANAGEMENT

Limits on Inputs

1. The Proponent shall not receive:
more than:
 - 120,000 tonnes of mixed waste and garden waste a year on site; and
 - 14,400 tonnes of biosolids from sewage treatment plants; andwaste on site that is:
 - contaminated by chemicals and/or pathogens that would not be rendered harmless by operations on site, or that may constitute a health or environmental risk, including clinical and related waste and diseased carcasses; and
 - classified as hazardous waste or industrial wastes under the *Protection of the Environment (Operations) Act 1997*.

Waste Acceptance & Screening

2. The Proponent shall:
 - (a) implement suitable procedures to:
 - ensure that the site does not accept wastes that are prohibited; and
 - screen incoming waste loads; and
 - (b) ensure that:
 - all waste sludges and wastes that are controlled under a tracking system have the appropriate documentation prior to acceptance at the site; and
 - staff receive adequate training in order to be able to recognise and handle any hazardous or other unapproved waste.

Limits on Outputs

3. Except for the following, the Proponent shall dispose of all outputs produced on site to suitably licensed facility:
 - (a) recyclables extracted and delivered off-site for resource recovery purposes; and
 - (b) compost output products approved for use under the POEO Act and Regulations; or
 - (c) compost output products for approved public compost applications off SITA's land that:
 - have been composted in accordance with *Australian Standard AS 4454-2003: Composts, Soil Conditioners and Mulches*;
 - comply with the limits for physical contaminants set out in Table 3.1 of *Australian Standard AS 4454-2003 Composts, Soil Conditioners and Mulches*; and
 - comply with the chemical acceptance concentration thresholds for Restricted Use (Grade A) in the NSW Environmental Guidelines: *Use and Disposal of Biosolid Products* (1997); or
 - (d) compost output products for land rehabilitation, namely mine site rehabilitation and landfill site rehabilitation, that:
 - have been composted in accordance with *Australian Standard AS 4454-2003: Composts, Soil Conditioners and Mulches*;
 - comply with the limits for physical contaminants set out in Table 3.1 of *Australian Standard AS 4454-2003 Composts, Soil Conditioners and Mulches*; and
 - comply with the chemical acceptance concentration thresholds for Restricted Use (Grade B and C) in the NSW Environmental Guidelines: *Use and Disposal of Biosolid Products* (1997).
4. Within 3 years of commissioning the plant on site, or as directed by the Director-General, the Proponent shall:
 - (a) review the criteria in condition 3(c) and 3(d) above in consultation with the EPA with a view to moving to approved criteria under the POEO Act and Regulations or establishing criteria that are specifically appropriate for an identified intended use; and
 - (b) comply with any revised criteria set under the POEO Act and Regulations or by the Director-General.

Waste Monitoring

5. The Proponent shall prepare and implement a Waste Monitoring Program for the project to the satisfaction of the Director-General, prior to the commencement of operation. This program must:
 - (a) be prepared in consultation with **EPA** by a suitably qualified and experienced expert; and
 - (b) include a suitable program to monitor the:
 - quantity, type and source of waste received on site;
 - quantity, type and quality of the outputs produced on site; and
 - (c) outline contingency measures that would be implemented in the event that levels of foreign matter or contaminants in the compost output exceed acceptable levels.

ODOUR

6. The Proponent shall ensure that the project complies with Section 129 of the *Protection of the Environment Operations Act, 1997*.

Notes:

- *Section 129 of the Protection of the Environment Operations Act 1997, provides that the Proponent must not cause or permit the emission of any offensive odour from the site, but provides a defence if the emission is identified in the relevant environment protection licence as a potentially offensive odour and the odour was emitted in accordance with the conditions of a licence directed at minimising odour.*

7. The project must be built and operated to minimise odours. This must include:
 - (a) all composting must be undertaken within enclosed tunnels;
 - (b) composting must be undertaken for set periods of time and at certain temperatures, oxygen and moisture levels so that the composted material has been fermented properly and is adequately stabilised prior to any outdoor storage of the composted material;
 - (c) all exhaust air from the composting building and from the composting tunnels must pass through the biofilters;
 - (d) the biofilters are to be of a deep bed design and must have vented roofs; and
 - (e) a system of two leachate ponds must be used on site, to minimise the surface area of odorous leachate.
8. For the life of the project, the Proponent shall ensure that there is a suitable meteorological station in the vicinity of the site that complies with the requirements in the *Approved Methods for Sampling of Air Pollutants in New South Wales* guideline.

DUST

9. The facility is to be maintained in a condition which minimises and prevents the emission of dust from the site.

GREENHOUSE GAS

10. The Proponent must ensure that all composting is undertaken in accordance with *Australian Standard AS 4454-2003: Composts, Soil Conditioners and Mulches*, Appendix N, Best practice guidelines for Composting Systems, or other practices approved by the **EPA**.
11. The Proponent is required to prepare a feasibility report for the Director-General's approval within 5 years of this approval, outlining options to capture and use greenhouse gas in the generation of electricity. The report must identify which options could be reasonably and feasibly implemented.

NOISE

Operating Hours

12. The Proponent shall comply with the operating hours in Table 1.

Table 1: AWT Site Operating Hours

Activity	Day	Hours
Construction	Monday - Friday	7 am – 6 pm
	Saturday	7 am – 4 pm
	Sunday & Public Holidays	Nil
Waste Receipt, outdoor operations and product dispatch	Monday - Friday	6 am – 6 pm
	Saturday	8 am -5 pm
	Sunday	8 am – 4 pm
Outdoor operations	Monday - Friday	6 pm -10 pm*
	Public Holidays	7 am – 4 pm
Indoor Operations	Monday - Saturday	7 am – 11 pm
Emergency	Monday - Sunday	Anytime

*Note: ...Outdoor operations between the hours of 6pm – 10pm Monday to Friday must be limited to 10 trips by a 6-tonne truck (that is 20 movements) and 12 trips by a front end loader (that is 24 movements)

Noise Limits

13. The Proponent shall ensure that noise from operation of the project does not exceed the noise limits presented in Table 2.

Table 2: Project Noise Limits

Location	Day	Evening	Night		Morning Shoulder
	L _{Aeq} (15 minute) dB(A)	L _{Aeq} (15 minute) dB(A)	L _{Aeq} (15 minute) dB(A)	L _{Amax}	L _{Aeq} (15 minute)
McGarvie Smith Farm	42	39	35	Na	39
1745 Elizabeth Drive	41	40	37	47	40
1669A Elizabeth Drive	38	38	35	Na	38
Caretakers Residence 1669A Elizabeth Drive	42	42	38	53	42

Notes:

- Morning Shoulder is defined as 6am to 7am Monday to Friday
- Noise from the premises is to be measured at the most effected point or within the residential boundary or at the most affect point within 30 metres of the dwelling (rural situations) where the dwelling is more than 30 metres from the boundary to determine compliance with the L_{Aeq}(15 minute) noise limits.
- Where it can be demonstrated that direct measurement of noise from the development is impractical, the Department and the EPA may accept alternative means of determining compliance (see Chapter 11 of the NSW Industrial Noise Policy).
- The modification factors in Section 4 of the NSW Industrial Noise Policy shall also be applied to the measured noise levels where applicable.
- The noise limits identified in Table 1 apply under the following meteorological conditions:
 - wind speeds up to 3 m/s at 10 metres above the ground level; or
 - temperature inversion conditions up to 3°C/100m and wind speeds up to 2 m/s at 10 metres above ground level.

Construction Noise Management

14. The Proponent shall prepare and implement a Construction Noise Management Protocol for the project to the satisfaction of the Director-General. The plan shall be submitted to the Director-General prior to commencing demolition and construction, and must:
 - a) identify specific activities to be carried out, the noise generation from these activities and timetabling of the activities;
 - b) identify appropriate construction noise limits;
 - c) identify all reasonable and feasible mitigation measures that would be implemented to minimise noise;
 - d) describe monitoring methods and program to ensure noise levels are limited;
 - e) include procedures for notifying residents of construction activities that are likely to affect their noise and vibration amenity, and procedures for managing complaints; and
 - f) identify site contact person to manage and follow up complaints.

Noise Mitigation

15. Prior to the commencement of operation, the Proponent shall install noise mitigation at the Caretakers Residence for 1669A Elizabeth Drive, as agreed by the owner of the property. The Proponent shall notify the Director General once installation of the noise mitigation is completed.

Operational Noise Monitoring Program

16. The Proponent shall prepare and implement a Noise Monitoring Program for the project, to the satisfaction of the EPA and the Director-General. The Noise Monitoring Program shall be submitted to the Director-General prior to commencing operation, and must include a noise monitoring protocol for evaluating compliance with the project noise limits in Table 1.

SOIL AND WATER

Discharge Limits

17. Except as may be expressly provided in an EPL for the project, the Proponent shall comply with section 120 of the *Protection of the Environment Operations Act 1997*.

Leachate Barrier

18. Outdoor areas where compost products or organic outputs are stored must have a leachate barrier system in the form of clay or modified soil liner (or equivalent) consisting of at least 600mm of re-compacted clay with an in-situ permeability (K) of less than 10^{-7} m/s.

Bunding

19. The Proponent shall ensure that all above ground tanks and vats, including those used for treating or processing wastewater and leachate and diesel storage, must be surrounded by a bund with a capacity to contain 110% of the tanks within the bund. These bunds shall be designed and installed in accordance with the requirements of all relevant Australian Standards, and/or EPA's Environmental Protection Manual *Technical Bulletin Bunding and Spill Management*.

Soil, Water and Leachate Management Plan

20. The Proponent shall prepare and implement a Soil, Water and Leachate Management Plan for the project to the satisfaction of the Director-General. This plan must:
 - (a) be submitted to the Director-General for approval prior to carrying out any development on site;
 - (b) be prepared by a suitably qualified and experienced expert;
 - (c) be prepared in consultation with the EPA, NOW and Council; and
 - (d) include:
 - a site water balance;
 - an erosion and sediment control plan;
 - a stormwater management scheme;
 - a surface water, groundwater and leachate monitoring program; and
 - a surface water, groundwater and leachate response plan.
21. The site water balance must:
 - (a) identify the source of all water collected or stored on the site, including rainfall and stormwater; and
 - (b) include details of all water use on site and any discharges.
22. The erosion and sediment control plan must:
 - (a) be consistent with the requirements in the latest version of *Managing Urban Stormwater: Soils and Construction* (Landcom);
 - (b) identify the activities on site that could cause soil erosion and generate sediment; and
 - (c) describe what measures would be implemented to:
 - minimise soil erosion and the transport of sediment to downstream waters, including the location, function and capacity of any erosion and sediment control structures; and
 - maintain these structures over time.
23. The stormwater management scheme must:
 - (a) be consistent with the guidance in the latest version of *Managing Urban Stormwater: Council Handbook* (EPA); and
 - (b) have sufficient capacity to cater for the 90th percentile 5 day rainfall event.

24. The surface water, groundwater, and leachate monitoring program must:
 - (a) be generally consistent with the guidance in EPA's *Environmental Guidelines for Composting & Related Organics Processing Facilities*; and
 - (b) include:
 - baseline data;
 - details of the proposed monitoring network; and
 - the parameters for testing and respective trigger levels for action under the surface water, groundwater and leachate response plan (see below).
25. The surface water, groundwater and leachate response plan must:
 - (a) include a protocol for the investigation, notification and mitigation of any exceedances of the respective trigger levels; and
 - (b) describe the array of measures that could be implemented to respond to any surface or groundwater contamination that may be caused by the development.

FLORA AND FAUNA

26. The area between the internal road along the western boundary and Badgerys Creek as outlined in Appendix 2, is to be protected and rehabilitated as a riparian corridor.
27. The Proponent shall prepare a Vegetation Management Plan for the site, in consultation with NOW. This Plan shall be submitted and approved by the Director-General, prior to the commencement of construction. The Vegetation Management Plan shall:
 - (a) be prepared in accordance to NOW's *How to Prepare a Vegetation Management Plan Guideline*;
 - (b) include a detailed plan to protect and rehabilitate the Badgerys Creek riparian corridor on-site;
 - (c) provide details of the on-site revegetation program to offset clearing of 0.81 hectares of Cumberland Plain Woodland; and
 - (a) outline the weed management program to be implemented on-site.

TRANSPORT

28. The Proponent shall monitor the performance of the intersection of Elizabeth Drive and the landfill access road within two years of the commencement of operations, or as otherwise required by the Director-General. In the event that the performance of the intersection is found to be at LOS D or worse as a result of traffic from the landfill and AWT, the Proponent shall implement mitigation measures, as recommended by the RMS.

VISUAL AMENITY

Lighting

29. The Proponent shall ensure that all external lighting associated with the development:
 - (a) does not create a nuisance to surrounding properties or roadways; and
 - (b) complies with AS 4282(INT) 1995 – *Control of Obtrusive Effects of Outdoor Lighting*.

Rehabilitation & Closure

30. Upon the cessation of waste operations, the Proponent shall decommission the project and rehabilitate the site to the satisfaction of the Director-General.
31. The Proponent shall prepare and implement a Rehabilitation and Closure Plan for the project to the satisfaction of the Director-General. This plan must be:
 - (a) be prepared in consultation with EPA, and Council by a suitably qualified and experienced expert whose appointment has been approved by the Director-General;
 - (b) be submitted to the Director-General for approval no more than one year after the sixth independent environmental audit of the project (see schedule 4), or as directed otherwise by the Director-General;
 - (c) define the objectives and criteria for rehabilitation and closure;
 - (d) investigate options for the future use of the site;
 - (e) describe the measures that would be implemented to achieve the specified objectives and criteria for rehabilitation and closure;
 - (f) calculate the cost of implementing these measures; and
 - (g) describe how the performance of these measures would be monitored over time.

SCHEDULE 4 ENVIRONMENTAL MANAGEMENT, REPORTING & AUDITING

ENVIRONMENTAL MANAGEMENT PLAN

1. The Proponent shall prepare and implement an Environmental Management Plan for the project to the satisfaction of the Director-General. This plan must:
 - (a) be prepared in consultation with the EPA by a suitably qualified and experienced expert;
 - (b) be submitted to the Director-General for approval prior to commencement of operations;
 - (c) describe in detail the management measures that would be implemented to address:
 - the relevant matters referred to in Section 4 and Appendix B of the EPA's *Environmental Guidelines for Composting & Related Organics Processing Facilities*; and
 - the conditions of this approval;
 - (d) include a copy of:
 - the management plans and monitoring programs required in this approval;
 - a quality assurance program for the design and installation of the leachate management system has been developed in accordance with *Australian Standard AS 3905.2*;
 - (e) describe the procedures that would be implemented to:
 - keep the local community and relevant agencies informed about the operation and environmental performance of the project;
 - receive, handle, respond to, and record complaints;
 - resolve any disputes that may arise during the course of the project; and
 - respond to emergencies; and
 - (f) describe the role, responsibility, authority and accountability of all key personnel involved in the environmental management of the project.

REPORTING

Compliance Reporting

2. Prior to carrying out any development on site, and then operations, the Proponent shall certify in writing to the Director-General that it has complied with all the relevant conditions of this approval.

Incident Reporting

3. Within 24 hours of detecting an exceedance of the limits/performance criteria in this approval, or the occurrence of an incident that causes (or may cause) harm to the environment, the Proponent shall notify the Department and EPA of the exceedance/incident.
4. Within 6 days of notifying the Department and EPA, the Proponent shall provide a written report to the Department and EPA that:
 - (a) describes the date, time, and nature of the incident;
 - (b) identifies the cause, or likely cause, of the incident; and
 - (c) describes what action has been taken to date address the incident, and what actions are proposed to be implemented in the future to either address the consequences of the incident or avoid a recurrence of the incident.

Annual Reporting

5. Every year from the date of this approval, unless the Director-General agrees otherwise, the Proponent shall submit an AEMR to the Director-General and relevant agencies. The AEMR shall:
 - (a) identify the standards and performance measures that apply to the development;
 - (b) include a summary of the complaints received during the past year, and compare this to the complaints received in previous years;
 - (c) include a summary of the monitoring results for the development during the past year;
 - (d) include an analysis of these monitoring results against the relevant:
 - impact assessment criteria;
 - monitoring results from previous years; and
 - predictions in the EA;
 - (e) identify any trends in the monitoring results over the life of the development;
 - (f) identify any non-compliance during the previous year; and
 - (g) describe what actions were, or are being taken to ensure compliance.
6. The Proponent is to implement continuous improvement in regard to odour emission management. As part of this, the Proponent is to submit a report annually to the Department and the EPA, unless otherwise agreed by the Director-General, outlining new developments in the field of odour control and management relevant to the operation, and detailing practices that have been implemented on the site during the previous year, to reduce odour emissions. The report must identify which

practices can be implemented in a cost effective manner and justify why the remainder are not required.

INDEPENDENT ENVIRONMENTAL AUDIT

7. Within 2 years of the commencement of operations, and every 3 years thereafter, unless the Director-General directs otherwise, the Proponent shall commission and pay the full cost of an Independent Environmental Audit of the project. This audit must:
 - (a) be carried out by a suitably qualified, experienced and independent audit team containing a waste management specialist, whose appointment has been endorsed by the Director-General;
 - (b) include consultation with EPA;
 - (c) assess the environmental performance of the project, and its effects on the surrounding environment;
 - (d) determine whether the project is complying with the relevant standards, performance measures and statutory requirements;
 - (e) review the adequacy of the Environmental Management Plan for the project, compliance with the requirements of this approval, and any other licences and approvals; and, if necessary,
 - (f) recommend measures or actions to improve the environmental performance of the project, and/or any plan/program required under this approval.
8. Within 3 months of commissioning this audit, or as otherwise agreed by the Director-General, the Proponent shall submit a copy of the audit report to the Director-General, with a response to any recommendations contained in the audit report.
9. Within 3 months of submitting a copy of the audit report to the Director-General, the Proponent shall review and if necessary revise the plans/programs required under this approval to the satisfaction of the Director-General.

ACCESS TO INFORMATION

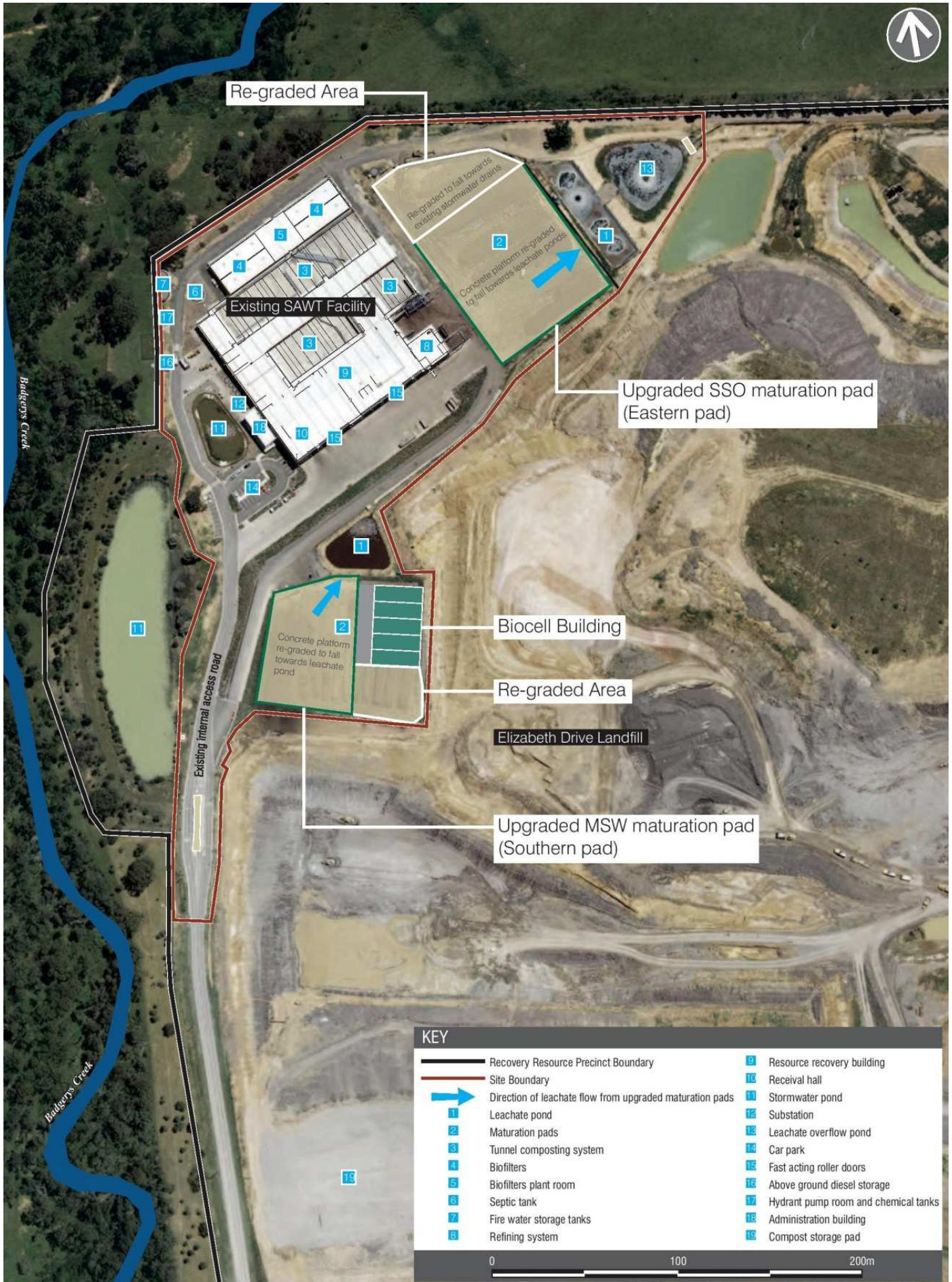
10. Within 1 month of the approval of any plan or program required under this consent, or the completion of any independent audit or AEMR required under this approval, the Proponent shall:
 - (a) ensure that a copy of the relevant documents is made publicly available on the Proponent's website; and
 - (b) provide a copy of the relevant document/s to any interested party upon request.

Labels in the image include:

- Stormwater Pond
- Leachate Pond A
- Maturation Area
- Receiving
- Sorting Area
- Composting Tunnels
- Composting Tunnels
- Biotiter
- Biotiter
- Leachate Pond B
- Maturation Area
- Maturation Area
- Maturation Area
- Overflow Pond

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APPENDIX 1A: MATURATION PAD UPGRADES AND BIOCELL



AWT

BID APPLICANT ZONE

LOT 1 DP 74574

740 DP 810111
65.48 ha

LOT 1 DP 542395
19.83 ha

LOT 1 DP 240718

LOT 2 DP 240718

LOT 3 DP 240718

LOT 4 DP 240718

APPENDIX 3: STATEMENT OF COMMITMENTS

Table 1: Draft Statement of Commitments for Advanced Waste Treatment Facility, Elizabeth Drive

Prior to Construction	
Environmental Outcome (commitment)	Measure (commitment)
1.1 Environmental Protection and management	1.1.1 A Construction Environmental Management Plan (CEMP) will be prepared in accordance with the conditions of approval, this Environmental Assessment and all other relevant Acts and Regulations.
1.2 Minimise impact on flooding and hydrology	<p>1.2.1 During detailed design, all facilities and roads will be elevated above the 1 in 100 year AEP flood event or sufficient bunding will be provided. Protection will be provided to areas subject to erosion or inundation during a 1 in 100 year AEP storm event.</p> <p>1.2.2 Runoff for all events up to and including the 1 in 10 year, 24 hour AEP event will be retained on site as described in Section 4.</p> <p>1.2.3 Solid waste, which could potentially pollute stormwater runoff, will be handled in an enclosed building with concrete floors to limit the generation of leachate;</p> <p>1.2.4 Sorting and composting will occur within an enclosed building. Condensate from composting tunnels will be recycled in the composting process, which will prevent leachate discharge to other parts of the SAWT facility. As the composting process is a net user of water, leachate discharge from the process is highly unlikely;</p> <p>1.2.5 Maturation and green waste storage will be carried out on specifically designed hardstand areas that have suitably low permeability to prevent infiltration of leachate into the groundwater. Any leachate from the maturation and green waste storage will be drained to the leachate pond;</p> <p>1.2.6 All drainage paths will be designed to prevent ponding and infiltration into the groundwater as a result of standing water; and</p> <p>1.2.7 Leachate storage and treatment ponds and stormwater storage ponds will be lined with a low permeability liner to control infiltration into groundwater.</p>
Minimise impact from odour emissions	<p>Odour can be generated at the SAWT facility as a result of mixed waste processing and degradation of organic components. The SAWT process requires both indoor and outdoor operations. The outdoor operations are susceptible to changes in weather and require careful attention. Several mechanisms that either limit odour generation or provide odour mitigation have been incorporated into the design of the proposed layout. These include:</p> <ul style="list-style-type: none"> • Provision of enclosed facilities for all parts of the SAWT process, except maturation and green waste shredding; • Roller doors in the Receival Building to enable the openings to be closed at all times other than loading/unloading; • Biofilters for treatment of all air within the Receival, Resource Recovery and Composting buildings;

Prior to Construction	
Environmental Outcome (commitment)	Measure (commitment)
	<ul style="list-style-type: none"> • Maintenance of oxygen and moisture levels and feedstock composition within optimum range for composting; • Aeration of the leachate and stormwater ponds as required to ensure the ponds remain aerobic; • Preferential reuse of stored leachate in the composting process to avoid long-term storage of leachate; and • Appropriate storage of biosolids (tank or covered pit) if/when they are accepted. <p>SITA will implement a transparent and efficient Neighbourhood Feedback program whereby odour complaints can be registered and investigated. An odour complaints registration, investigation and response procedure will be implemented at the SAWT facility.</p>
Minimise impact on visual amenity and landscape	<p>To address the visibility of the SAWT facility in context with the surrounding landscape, buildings have been designed to sit at an elevation as low as practicable on the SAWT Site, without compromising flood protection or drainage design.</p> <p>SITA also proposes to retain as many trees and other vegetation as practicable. This will provide screening for the completed SAWT facility, and also maintain the semi-rural character of the area.</p>

Construction Phase	
Environmental Outcome (commitment)	Measure (commitment)
The proposed SAWT- facility will be constructed in accordance with the proposal contained in the Environmental Assessment, June 2007	The SAWT facility will be constructed in accordance with CEMP.
Minimise impact on geology, soils and groundwater	<p>An Erosion and Sediment Control Plan (ESCP) and/or Stormwater Management Plan (SWMP) will be prepared as part of the Construction EMP to ensure that impacts associated with construction are appropriately managed. The specific mitigation measures that will be applied to control erosion and soil related impacts are:</p> <ul style="list-style-type: none"> • An ESCP and/or SWMP will be prepared and implemented in line with Edition 4 of the Department of Housing's <i>Managing Urban Stormwater Guidelines</i> (2004) 'Blue Book' prior to the commencement of works; • Regular inspection of the work site will be undertaken during construction activities to ensure that the ESCP and/or SWMP is properly implemented and maintained; • Geofabric sediment fences will be temporarily installed down slope of disturbed areas where there is the potential

Construction Phase	
Environmental Outcome (commitment)	Measure (commitment)
	<p>for runoff to enter Badgerys Creek;</p> <ul style="list-style-type: none"> • Temporary stockpiles will not be located adjacent to drainage lines; • Vegetation clearance and soil disturbance will be limited to areas required for construction; • Revegetation of disturbed areas will occur (where practicable) immediately after completion of works in that area; and • In the event that unexpected contaminated material is disturbed during earthworks, controls will be implemented to divert surface runoff and the material will be removed from the Site and disposed of at an approved site.
Minimise impact on surface water quality	<p>A Water Quality Management Strategy will be developed for sediment control during construction and operation. The following measures will be adopted:</p> <ul style="list-style-type: none"> • Temporary erosion controls will be provided where necessary; • Permanent stabilisation of embankments, channels, etc. will be achieved through vegetation and will be carried out promptly; and • Construction will be staged and progressive rehabilitation undertaken to minimise the area available to erosion at any one time.
Minimise impact on flora and fauna	<p>To offset the removal of some severely degraded and isolated small pockets of Cumberland Woodland, a revegetation program will be initiated in discussion with LANDCARE and DECC along the north west boundary. It is envisaged that the revegetation program will include species affiliated with Cumberland Woodland vegetation association.</p> <p>A Vegetation Management Plan including a re-planting program will be developed including details on:</p> <ul style="list-style-type: none"> • Ongoing preservation of riparian vegetation and the protection of fauna habitat; • Clearing limits will be clearly marked and fenced prior to construction to prevent accidental impacts to adjacent vegetation; • No heavy machinery will be permitted access outside of clearing limits; • No building materials (including spoil mounds) will be stored or placed outside of clearing limits; • Revegetation of areas within the 'River Flat Eucalypt Forest endangered ecological community' (Badgerys Creek Riparian Community) will be considered; • The area of Badgerys Creek Riparian Community, adjacent to the SAWT Site, will remain restricted to staff of SITA and persons will enter this area only for the purposes of vegetation management and environmental monitoring • An active program of weed management will be implemented;

Construction Phase	
Environmental Outcome (commitment)	Measure (commitment)
	<ul style="list-style-type: none"> • The mature Angophora will be fenced prior to clearing to avoid disturbance; • Non-residual herbicides will be used, on an as-needed basis, to control weeds; • A referral will be sent to the Department of the Environment and Water Resources (DEWR) in regards to the clearing of Cumberland Plain Woodland, a listed EEC under the EPBC Act; and • Prior to construction conduct a targeted survey for threatened flora. <p>In addition to these measures, SITA have implemented a programme of revegetation along the northern boundary of the Elizabeth Drive Site with species consistent with Cumberland Plain Woodland vegetation association. This revegetation commenced in 2004 in co-operation with LANDCARE, such that 2,000 trees have already been planted in this area. Key objectives of replanting would be to replace any remnants of Cumberland Plain Woodland that have already been removed from the Elizabeth Drive Site during historical (pre-SITA) quarrying/land clearing practices. This planting will also serve as a vegetative screening barrier along this boundary.</p>
Minimise impact on air quality	<p>The following practices and procedures will be adopted to ensure that dust levels are adequately controlled:</p> <ul style="list-style-type: none"> • Regular cleaning of the site haulage and access roads; • Dust suppression on unsealed roads and work areas using a water cart; • Minimising traffic movements on exposed areas; • Minimising heavy vehicle trip distances and speed within the Elizabeth Drive Site; • Dampening of temporary stockpiles; • Removing mud from vehicles before leaving the Elizabeth Drive Site, where necessary; • Cleaning up materials that might act as dust sources, as soon as possible; • Progressive rehabilitation of cleared land; • Conducting regular maintenance of machinery and vehicles; • Ensuring any procedures for outdoor activities include a requirement for dust minimisation; and <p>Providing awareness training in the importance of minimising dust generation at its source.</p> <p>The following practices and procedures will be adopted to ensure that dust levels are adequately controlled:</p> <ul style="list-style-type: none"> • Waste handling within enclosed buildings, except for green waste; • Locating compost maturation and compost feedstock stockpiles away from sensitive receptors;

Construction Phase	
Environmental Outcome (commitment)	Measure (commitment)
	<ul style="list-style-type: none"> • Dampening of stockpiles; • Limiting storage size of green waste to reduce potential for dust nuisance; • Conducting regular maintenance of machinery and vehicles;
Minimise impact on heritage	<p>The riparian precinct will remain fenced and padlocked to ensure that contractors do not enter the KC/1 vicinity and that storage, building rubble and spoil materials are excluded. SITA recognises that it is an offence to remove, disturb or destroy any Aboriginal relic in NSW without the prior written consent of the Director-General of DECC. Should any Aboriginal archaeological relics, deposits or sites be located or exposed during any SAWT Site works, all works with the potential to disturb the site will cease immediately and DECC will be contacted to confirm a course of action.</p>
Minimise impact on surface water quality	<p>Stormwater and Leachate</p> <ul style="list-style-type: none"> • Stormwater affected by the proposed SAWT facility has been divided into diverted stormwater and 'clean' site runoff. The SAWT Site will be graded to ensure that stormwater is diverted appropriately and undergoes the level of treatment as required by regulation. Roads will be graded to prevent uncontrolled runoff. All stormwater will be captured and retained on site up to and including the 1 in 10 year, 24 hour duration event; • Storage of stormwater runoff will be suitably managed to ensure as much re-use, and thereby reduction in potable water demand, as is practicable. This type of water will be used for application in the SAWT process, or it will be directly used for operational purposes (irrigation and dust suppression); • All leachate will be retained and re-used on site. Condensate leachate and leachate from cleaning will be temporarily stored in closed containers before being re-used in the composting process. Stormwater leachate will be stored on site in two leachate ponds prior to being used within the SAWT process and this will have the added benefit of reducing the demand for potable water. The ponds will be lined to a suitable permeability to prevent leachate leakage; and • Re-use of process and product-related leachate and additional use of stormwater runoff to the extent that is practicable, will prevent the discharge of untreated water from the SAWT facility, and stormwater discharged to Badgerys Creek will not increase. <p>The waste will be received under cover in the Receiving and Resource Recovery Buildings to avoid contact with stormwater and hence stop potential pathogen transfer via wind and/or water.</p>
Minimise impact from	<p>In order to minimise the impact from greenhouse gas emissions, the following procedures will be used:</p>

Construction Phase	
Environmental Outcome (commitment)	Measure (commitment)
greenhouse gas emissions	<ul style="list-style-type: none"> The composting of waste under aerobic conditions produces less methane than the anaerobic decomposition of waste which occurs within a landfill. This greatly reduces the amount of methane being released to the atmosphere, and the magnitude of greenhouse gases produced overall; and Over the past ten years approximately 3500 new trees have been planted by SITA. SITA propose to plant a further 300 trees, further reducing the impact of any greenhouse gas emissions.
Minimise impact from noise during operation	<p>A Construction Noise Management Plan will be prepared within the CEMP.</p> <p>SITA would propose to install mitigation measures at Caretaker's Cottage after the appropriate negotiation with Council and/or affected landowner.</p> <p>SITA will commit to combined noise from the SAWT and the existing landfill not exceeding the noise limits approved for the landfill operations licence.</p> <p>SITA will undertake additional noise modelling when the facility is operational to verify the results of the predicted noise modelling. Should the predicted noise levels identified in the modelling not be capable of being achieved SITA will propose further modification to the design of the facility to further reduce the impact of noise.</p>
Minimise impact on visual amenity and landscape	<p>At the completion of construction of the SAWT facility, the riparian area will be further landscaped with native flora species endemic to the locality. SITA has previously undertaken substantial planting around the perimeter of its Elizabeth Drive Site.</p> <p>Location of new trees and native flora will be complementary with stormwater drainage design, water storage, water treatment, vehicle movements and LANDCARE advice. In addition to providing screening for buildings, the vegetation and trees will also act as a buffer to prevailing winds.</p> <p>Even though most of the machinery and equipment comprising the SAWT facility does not need to be housed for its operation, much of it has been enclosed to reduce other impacts such as noise and odour. Enclosing machinery reduces the visual impact of the SAWT Site.</p> <p>An appropriate range of building materials, colours and textures will be integrated into the current building designs and hard surfaces to take account of surrounding landscape colours, seasonal changes and variable light conditions</p>

Construction Phase	
Environmental Outcome (commitment)	Measure (commitment)
	<p>Given the semi-rural location, SITA will take care to minimise the amount of light spill impacting on local fauna. Consideration will be given to use of directional lights that limit light spill. Mobile equipment will be fitted with headlights as opposed to permanent lighting masts, where feasible.</p>
Minimise the risk of fire hazard	<p>To minimise the risk of fire and fire hazards on and around the facility the following procedures and measures will be implemented:</p> <ul style="list-style-type: none"> • Inform staff when extreme fire danger conditions exist; • Monitoring of extreme fire danger conditions and fire bans; • Procedures written for the SAWT facility based on receiving and reporting of 'hot' loads; • Temperature monitoring and control in composting process, buildings and maturation stockpiles; • Smoking prohibited within the SAWT facility, composting areas and near equipment maintenance facilities and the use of designated smoking areas; • Strict controls over welding or other 'hot' works that may produce sparks; • Facility Evacuation Plan and procedures; • Reporting of incidents to the Emergency Co-ordinator; • Adequate provision of water supply in close proximity to the SAWT facility; • Fire fighting equipment installed within SAWT facility and staff training in its use; • A water cart will be available on site; • Contaminants that may be combustible will be stored in metal skip bins and removed before the bin is full; • Fuels and flammable solvents stored in appropriately constructed areas, including bunds and spill management equipment; • The use of appropriate fire-fighting design as required by the Building Code of Australia; • Diesel for equipment fuelling will be stored on site in a tank with associated fittings and pipelines designed to comply with Australian Standard AS1940:2004 (Storage and Handling of Flammable and Combustible Liquids.) The tank would be contained within a bunded area which would not be linked to any other part of the site. The bund would have the capacity of 110% of the tank capacity; • Maintenance of a buffer firebreak zone between built structures and natural vegetation surrounding the Elizabeth Drive site. Smoking prohibited within the SAWT facility, composting areas and near equipment maintenance facilities;

Construction Phase	
Environmental Outcome (commitment)	Measure (commitment)
	<ul style="list-style-type: none"> • Strict controls on activities likely to generate sparks (e.g. welding); and • Adequate provision of water supply in close proximity to the SAWT facility. The SAWT facility is a net user of water and as such a supply of water will always be maintained.
Minimise potential health and safety impacts to workers and future users of the compost material	<ul style="list-style-type: none"> • The SAWT process will be maintained at a temperature to inactivate parasites and destroy most weed seeds. The temperature will be controlled to ensure that beneficial micro-organisms are not immobilised; • Temperature will also be controlled by the monitoring and control of moisture content within the composting materials. Moisture will be monitored and the addition rate of water/leachate will be controlled to maintain the required moisture content, which in turn will promote the composting process and maintain the required temperature; • Pathogens will be controlled in the SAWT process during active composting taking place within the composting tunnels; • Oxygen content will be constantly monitored during the active composting phase and airflow will be controlled by either/both the air intake or/and air extraction capacity for each tunnel; • The contents of each tunnel will be turned as required to ensure thorough mixing and hence composting of all material; • Mechanical waste handling equipment, such as front-end loaders, will be provided in the Receiving Building, the Resource Recovery Building, and for processes associated with the composting tunnels and the Maturation Pad. The loaders have air-conditioned cabins that provide filtered air to the driver; • Biosolids, if accepted at the facility, would be discharged directly into a sealed tank/pit to avoid human contact; • Provision of specifically-designed air-conditioned rooms that incorporate air-conditioned ducting systems to provide fresh air for workers in the Manual Recovery Room located within the Resource Recovery Building; • Conveyors designed to minimise heavy lifting and associated strain injuries or other movements that could result in workers falling into the waste will be installed; • The spread of disease by nuisance animals such as feral cats, rats and birds will be controlled by undertaking the entire SAWT process in fully-enclosed buildings and installing security fencing around the property; • Transportation of waste to the SAWT facility will occur in enclosed vehicles to avoid leakage and spillage onto roads and hence any potential health risks associated with the public coming in contact with material being delivered to the SAWT facility; • Appropriate authorisation from NSW Agriculture will be obtained in regard to any transfer of compost to <i>Phylloxera</i> exclusion zones; and

Construction Phase	
Environmental Outcome (commitment)	Measure (commitment)
	<ul style="list-style-type: none"> Compost and recyclables exiting the SAWT facility will be transported in vehicles that comply with RTA requirements and will generally be in the type of vehicles usually associated with this form of transport. <p>A high level of plant hygiene is required to prevent incidents associated with all forms of bacteria and pathogens. Accordingly, a number of workplace, health and safety procedures will be added to the SITA Health and Safety Management System. The new procedures will be put in place to minimise risks to the workers from the material arriving at the proposed SAWT facility. These procedures will include:</p> <ul style="list-style-type: none"> Staff training prior to the commencement of work under workforce supervision; Use of gloves by all workers at all times to avoid transferring material and potentially pathogenic material from hand to mouth; Compulsory use of washing facilities prior to meal breaks and before leaving the SAWT Site; Use of facemasks as necessary by staff when working outside rooms with forced ventilation and air-conditioned mobile plant machinery cabins; Use of protective clothing such as overalls; Worker health checks and monitoring; Safe work procedures; and Hearing protection in certain areas of the SAWT facility, as required.
Pre-Operational Phase	
Environmental Outcome (commitment)	Measure (commitment)
The proposed SAWT facility will be operated in accordance with the proposal contained in the Environmental Assessment, June 2007	<ul style="list-style-type: none"> An Operational Environmental Management Plan will be prepared and implemented addressing the operational mitigation measures proposed in the Environmental Assessment, Statement of Commitments and the Conditions of Approval. This includes relevant parts of Plans made under the Statement of Commitments.

Operational Phase	
Environmental Outcome (commitment)	Measure (commitment)
The proposed SAWT facility will be operated in accordance with the proposal contained in the Environmental Assessment, June 2007	<ul style="list-style-type: none"> The SAWT facility will be operated in accordance with the OEMP.
Minimise impact from odour emissions	<ul style="list-style-type: none"> SITA will undertake odour monitoring when the facility becomes operational to verify the predicted odour emissions and should the subsequent modelling indicate odour emissions in excess of that predicted SITA will propose further mitigation measures.
Minimise impact on flora and fauna	<ul style="list-style-type: none"> To offset the removal of some severely degraded and isolated small pockets of Cumberland Woodland, a revegetation program will be initiated (in discussion with LANDCARE & DECC) along the north-west boundary. It is envisaged that the revegetation program will include species affiliated with Cumberland Woodland vegetation association. An active vegetation management program will be initiated. This will provide the buffering from the development to the riparian zone.
Organic outputs	<ul style="list-style-type: none"> SITA will ensure through its processes that all residual materials will be disposed to a facility licensed to accept them. Compost products will be processed according to Australian Standard AS4454 and the Biosolid guidelines.