

Annex K

SEMRC Draft Site Selection  
and Technology Criteria  
Summary August 2006

**SEMRC**



**REGIONAL RESOURCE RECOVERY FACILITY**

**SITE SELECTION  
AND TECHNOLOGY CRITERIA  
SUMMARY**

**August 2006**

## 1.1 BACKGROUND

The South East Metropolitan Regional Council (SEMRC) was established in 2001 by the Cities of Armadale, Gosnells and South Perth to develop and implement strategic regional approaches to waste management in the region. One of the key strategic activities is waste education across the region.

In December 2004, the SEMRC adopted a Strategic Plan for Waste Minimization and Resource Recovery. This plan can be downloaded from the SEMRC web-site at [www.sermc.wa.gov.au](http://www.sermc.wa.gov.au)

It has been resolved by the SEMRC that the following Councils could participate in the Study as contributing members (although they are not members of the Regional Council):

- The City of Mandurah (Participant);
- The Shire of Murray (Participant); and
- The Shire of Serpentine-Jarrahdale (Observer).

The SEMRC has commissioned a consultancy team lead by Clifton Coney Group to develop a Business Plan for achieving its vision for waste management in the region.

1. Development of a Project Plan
2. Development of land and technology options guiding principles
3. Preliminary technical and financial assessment of technologies
4. Consultation with the community and stakeholders
5. Detailed assessment of preferred sites and technologies
6. Assessment of waste collection systems
7. Preparation of detailed financial models and a Business Plan

This report summarises the Site Selection and Design Criteria adopted by Council for use when evaluating sites and technologies for procuring a resource recovery facility.

## COMMUNITY INVOLVEMENT

### Community Involvement Principles

These principles are derived from the content of the SEMRC's Strategic Plan for Waste Minimisation and Resource Recovery and discussions with TAC members.

#### *Principle CII – SEMRC as Decision Maker*

The SEMRC is the lawfully constituted body responsible for making decisions in relation to waste management matters in the region. The commitment to consult, engage and involve the community does not in any way transfer or reduce this responsibility.

Principle CI2 – SEMRC to Involve/Engage the Community in the Decision making Process

The SEMRC is committed to a transparent approach to informing the community and will operate in good faith with the CRG in involving/engaging the community in the process used for decision making.

Principle CI3 – SEMRC to Publicly Report Where Decisions Deviate from the Recommendations of the Community reference Group

## **TECHNOLOGIES**

### **Excluded Technologies**

The SEMRC has decided that it will not consider either landfill or any thermal technology as the primary basis for a resource recovery facility treating municipal solid waste.

### **Probable Technologies**

Although a final technology selection will be made through a tender process, it is considered that the process most likely to be selected will be based on aerobic or anaerobic digestion within an enclosed facility incorporating mechanical front end sorting and product processing and screening.

### **Technology Selection Principles**

The SEMRC intends that the following principles will be adopted to guide the process of selecting a treatment technology:

Principle TS1 Technologies Excluded as a Primary Process

*The excluded technologies (landfill, bioreactor landfill and thermal processes) will not be considered as future options for the primary waste treatment system for the SEMRC (Although it is recognised that there will be some reliance on landfill for management of residuals from any treatment process or as a fall back in the event of plant failure).*

Principle TS2 – Technologies to be subjected to Triple Bottom Line Assessment

*All technologies will be assessed on the basis of the “Triple Bottom Line” over the whole life of the facility.*

Principle TS3 – Compliance with Laws, Standards and Policies

*Technologies will only be considered where the proponent can demonstrate that environmental emissions and end products comply with relevant assessment criteria, laws and standards and meet community health standards and expectations.*

TS4 – Technology Maturity

*Preference will be given to technologies that have a proven track record at a commercial scale. Technologies which are unproven at a commercial scale will not necessarily be eliminated but will be the subject of a more rigorous evaluation to fully evaluate any environmental, social or economic risks.*

#### TS5 – Technology Reliability

*The reliability of pollution control technologies is of paramount importance in protecting the environment and amenity of the area around a facility. The specification for any facility will incorporate key performance indicators that must be met for critical control equipment to provide a high degree of confidence for the community that the frequency and duration of failures causing impacts outside the plant boundary will be within agreed targets. The performance targets set are to be determined through research and in consultation with the community.*

#### **Enclosed Waste Handling**

In order to provide adequate control over potential odour and surface and ground water impacts, the following criteria are proposed:

*All waste receipt operations and waste treatment operations will be conducted inside a ventilated enclosure. Ventilation to be directed through an efficient odour scrubbing device.*

*All waste receipt and treatment operations will be conducted on a floor with a sufficiently low permeability to prevent leachate or contaminated water escaping to the environment.*

### **SITE SELECTION**

#### **Site Selection Principles**

In developing assessment criteria to guide the site selection process, the SEMRC, has used the following principles:

##### Principle SS1 – Separation or Buffer Distances

*The site selected and the transport routes associated with it should be sufficiently separated from sensitive land uses to ensure that any facility will not, under normal operating conditions impact adversely on either environmental values or amenity (See Definition in Section 1.6) of surrounding lands.*

##### Principle SS2 – Site Suitability

*The site's characteristics, including topography, geology, hydrogeology, hydrology, flora and fauna, ethnographic and heritage values should minimise the risk of adverse impacts occurring.*

##### Principle SS3 – Proximity to Waste Source

*Any facility should be sited in a manner that minimises any adverse economic and environmental impacts arising from transport of wastes or products.*

Principle SS4 – Zoning

*The site selected should either be zoned appropriately under the relevant planning schemes or be capable of being rezoned to comply with the scheme.*

Principle SS5 – Protection and Enhancement of Conservation Values (To be considered in conjunction with siting Criteria 1,2 6, 13)

*Council will act through the siting, design and operational phases of the project in a manner that results in a nett positive environmental benefit for the conservation values of the area around a facility.*

The proposed site Selection Criteria are summarised in the following table

**Specific Site Selection Criteria**

No.	Specific Factor	Criteria	Rankings
1.	Separation Distances (Enclosed Waste Treatment Facilities)	At least 500 metres from Sensitive Land uses  At least 25 metres from any area of any conservation area or area of locally or regionally significant Bushland not subject to 'active use'  At least 750 metres from Sensitive Land uses.  At least 50 metres from any conservation area or area of locally or regionally significant Bushland not actively used for recreation.	Essential  Essential  Desirable  Desirable
2.	Separation Distances (Non-enclosed facilities storing or treating Greenwaste or C&D Waste)	Any active areas of such facilities should be sited a minimum of 100 metres from locally or regionally significant bushland areas and areas of conservation.  At least 150 metres from any conservation area or area of locally or regionally significant Bushland not actively used for recreation	Essential  Desirable
3.	Transport Routes	The plant should be sited so that it can be readily accessed from appropriately classified traffic routes without heavy vehicles accessing minor suburban roads.	Essential
4.	Transport Routes	The plant should be located within 3 km of designated major haulage route	Desirable
5.	Flood plains	At least 500mm above a 20 year ARI floodplain.	Essential

No.	Specific Factor	Criteria	Rankings
6.	Natural Waterways/Wetlands/Marine Systems	<p>No closer than 500m to high conservation/ ecological value aquatic ecosystems (Conservation Category Wetlands),</p> <p>No closer than 250m from a slightly to moderately disturbed systems (e.g. Resource Enhancement Wetlands).</p> <p>No closer than 50 metres from disturbed systems (e.g. Multiple Use Wetlands).</p>	<p>Essential</p> <p>Essential</p> <p>Essential</p>
7.	Groundwater/Surface Water	Not within Public Drinking Water Source Areas (PDWSAs) P1-P2 priority areas identified in published development plans.	Essential
8.	Groundwater/Surface Water	Not within Public Drinking Water Source Areas (PDWSAs) P3 priority areas identified in published development plans.	Desirable
9.	Groundwater	Groundwater should be maintained at least 1m below the surface.	Essential
10.	Constructed drainage systems e.g. storm water	Not within 25m of an entry point of a constructed surface drainage feature.	Desirable
11.	Geological Stability	Located on stable ground e.g. not in a seismically active area, areas susceptible to soil sinking, landslides or swelling, karst or sinkhole terrain.	Essential
12.	Topography	Not located in an area with a slope >4 %.	Desirable
13	Conservation Value – regionally significant Bushland, including land hosting threatened flora, fauna or ecological communities	<p>The construction of the facility should not result in the clearing of vegetation on regionally significant bushland areas or areas of conservation significance including locally significant bushland.</p> <p>Also see recommendations at items 1, 2 and 6 regarding separation distances</p>	
14	Heritage Value	No negative impact on sites of recognized cultural or historical significance.	Essential