Organisation Managing Case Study	Western Australia Water Corporation. (Biowise is a JV between the Water Corporation and Sita Organics Pty Ltd (wholly owned by Sita Australia))

Key Contact Details	
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Location of case study	
Biosolids Produced at *(Location, suburb/region/ nearest town, State)*	Perth Metropolitan WWTPs - Beenyup WWTP, Subiaco WWTP and Woodman Pt WWTP
Biosolids Used at *(Location, suburb/region/ nearest town, State)*	Perth Metropolitan area – Sold as compost / soil improver

Technical Aspects

Year Case Study Operation Commenced	1998
Ultimate Use of Biosolids	Manufacture into compost – for final application to land (including potting mix, horticulture and domestic gardens) *(eg land application, incineration, landfill capping etc)*
How were the biosolids managed before this?	Biosolids have been directly land applied in WA since 1998. However between 1997 and 1998 biosolids were temporary stockpiled during which time the agricultural market was established. The stockpiled biosolids have been used by Biowise for composting. Prior to 1997 biosolids were composted or used by local grower.

Quantities of biosolids produced (consumed at Plant)	
Dry Solids (t/yr)	1540
Moisture Content of biosolids Product (%ds)	16%

Quality and Classification of biosolids used for final product *(using State Biosolids Guidelines Definitions)*

Parameter	Quality	Classification
Heavy Metals –		
Zinc	740 mg/kg DW	Grade C2
Copper	1200 mg/kg DW	Grade C2
Cadmium	2 mg/kg DW	Grade C1
Lead	75 mg/kg DW	Grade C1
Nickel	19 mg/kg DW	Grade C1
Chromium	56mg/kg DW	Grade C1

Microbial		
Other/s		

Restrictions on Use Due to Quality

1. None
2.

Treatment Summary

Stabilisation	Biosolids where a mix of anaerobic and aerobically digested sludge. This product was stockpiled off site for 2 to 5 years prior to being further processed. Composting a mix of green waste, biosolids, and suitable grease trap waste/organic streams.
Dewatering	n/a
Further Processing	Biowise uses a Static Aerated Pile System which uses forced aeration by blowing/sucking air through the substrate mix.
Cartage	Biowise Facility is located adjacent to biosolid stockpile. Alternative source approx 10kms distance. Carting from alternative location will be by road using truck/ trailers with seal tailgates and trailer covers.
Spreading or Application	Biowise sold as potting mix & solid improver

Costs and income from biosolids management (CONFIDENTIAL---NOT SUPPLIED)

Components	**Supplier/Processor**		**End User**
	Cost (A$/dt)	**Income (A$/dt)**	**Cost (A$/dt)**
Processing	n/a	n/a	n/a
Storage	n/a	n/a	n/a
Cartage	n/a	n/a	n/a
Spreading	n/a	n/a	n/a
Biosolids	n/a	n/a	n/a
Total	n/a	n/a	n/a
Comments	Manufacture costs associated with the product of biowise composts are confidential		

Environmental Management Requirements

Environment Improvement Plan (EIP)	EIP is not required for this operation. Licensed by the DoE to operate as a compost site. Licensed to draw ground water. Licensed by local council as “Offensive Trade” in terms of local Health Act.

Monitoring	Regular quality assurance tests completed to ensure product fully meets Australian Standard AS4454 specification for Composts. Also National Guidelines for Sewerage Systems – Biosolids Management (Nov 2004)
Reporting	Internal Q/A reporting Annual Reporting to Department of Environment and SAI Global (QA Auditor) Typical product quality data provided to wholesalers/customers

Key Technical Learnings from Production and Use of Biosolids

1. Importance of Q/A and adherence to AS standards
2. Importance of wastewater source control (control of commercial industrial waste to sewers)
3. Importance of Marketing and listening to customer needs
4. Control of physical contamination (rocks etc) is critical to reuse (equipment wear ant tear and suitability for customers)
5. Odour control and completeness of stabilisation is critical

Community Engagement

Key Community Perception Issues

Issue	How Addressed
Appearance of Biosolids	Manufacture into compost results in dark/black product which has full customer acceptance
Odours	Manufacturing Facility located away from urban housing areas. (800m) Odours minor – significant odour control measures are in place on plant (odour extraction, covering, just in time delivery, use of compost beds for processing extracted gases.
Fear of Contamination	Not an issue due to analytical testing history and good control of wastewater source (trade waste controls)
Not in my Back Yard (NIMBY) Syndrome	Not an issue – well screened from neighbouring land users . Extensive lobbying of local council members during development. Well planned development submission to the State Planning Commission and DoE . Local Council did appeal against development but this was overruled by Ombudsman.
Other	DoE license requires Noise emissions from site to comply with guidelines Comply with DoE guidelines for storage, processing and recycling Maintain written record of any complaints Minimise dust in terms of license conditions Capture leachate generated from site Monitor groundwater Suitable storage for green waste ((Note --No complaint or Council/DoE work order issued since plant commissioned)

Stakeholders and Engagement Methodology

Stakeholder *(Individual or group)*	Engagement Methodology	Outcome
Federal	n/a	
State	Planning and Development Approval from State Planning Commission and DoE	Approval granted
Regional		
Local	Lobbying and presentations to Council Offensive Trade licence from Council. Building / planning approval Advertising Development in local paper Leaflet / Notification drop to local residents	Approval granted

Costs for Community Engagement	
Period of Engagement	~3 months
Costs for Community Engagement (A$) *(Over the period above)*	**n/a**
Key Learnings from Community Engagement	
1. Site visit arranged 2.	

Testimonials of Biosolids Users –	
Name	
Why Used	
Testimonial	

Photos –

No.	Photo Description
1	 Biocell

2	 Biofilter
3	 Maturation pile
4	 Screening final product

Approval to use case study on ABP website	
WWTP Authority I, the undersigned, approve the use the biosolids management system operated by _____ *(insert company name)* to be used as part of a case study for the Australasian Biosolids Partnership Website (www.biosolids.com.au). I also acknowledge that I have the authority in the company inserted above to make such an approval.	
Print name:	
Signature:	
Date: _____/_____/2006	
Phone:	Email
User Authority I, the undersigned, approve the use of my experience with biosolids to be used as a case study for the Australasian Biosolids Partnership Website (www.biosolids.com.au).	
Print name:	
Signature:	
Date: _____/_____/2006	
Phone:	Email: