

# ***Partnerships Victoria*** **Project Summary**

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## **Barwon Water Biosolids Management Project**

**November 2007**

Prepared by the  
Barwon Region Water Corporation  
In conjunction with the  
Department of Treasury and Finance

# Table of Contents

<b>Part One: Project overview .....</b>	<b>1</b>
1.1 The Barwon Water Biosolids Management project .....	1
1.2 Partnerships Victoria - A public private partnership.....	3
1.3 Tender process .....	3
1.4 Bid assessment parties .....	5
1.5 Value for money.....	6
<i>Public Sector Comparator</i> .....	8
1.6 Public interest test.....	9
1.7 Contract milestones .....	13
<b>Part Two: Key commercial features .....</b>	<b>14</b>
2.1 Parties to the contract .....	14
2.2 Contractual relationship of the parties.....	15
2.3 Risk transfer .....	16
2.4 General obligations of the contractor .....	18
2.5 General obligations of Barwon Water.....	19
2.6 Barwon Water contributions .....	19
2.7 Payment Mechanism and Abatement Regime .....	19
2.8 Default, step in and termination regime.....	20
2.9 Finance and security arrangements .....	21
2.10 State rights at expiry of contract.....	22
2.11 Process for modification of services/ facility .....	22
2.12 Current Version .....	22
Appendix 1: Useful references.....	23
Appendix 2: Contact details for project parties.....	24

# Foreword

This Project Summary series provides information about the contractual nature of *Partnerships Victoria* projects in practice.

*Partnerships Victoria* is part of the Victorian Government's strategy to provide better services to all Victorians by expanding and improving Victoria's public infrastructure. The policy is designed to tap into private sector expertise in designing, financing and building large infrastructure projects and to drive innovative delivery methods that deliver improved value-for-money outcomes.

Victoria has taken a lead in developing a public private partnerships market in Australia. Since 2000, 17 *Partnerships Victoria* projects have been contracted. They are worth almost \$4.5 billion of capital investment. This includes the \$77 million (NPC) Barwon Water Biosolids Management Project.

This summary does not alter or replace any of the existing *Partnerships Victoria* guidance material. A comprehensive set of policy guidelines is available at [www.partnerships.vic.gov.au](http://www.partnerships.vic.gov.au). It covers matters from the procurement process and risk allocation to detailed financial benchmark case studies. Further information on the *Partnerships Victoria* policy and guidelines is also available at the website address.

NB; This summary should not be relied on as a complete description of the rights and obligations of the parties to the project and is not intended for use as a substitute for the contracts.

# Part One: Project overview

This Project Summary provides information about the contractual nature of the \$77 million (NPC) Barwon Water Biosolids Management *Partnership Victoria* project, currently under design and construction.

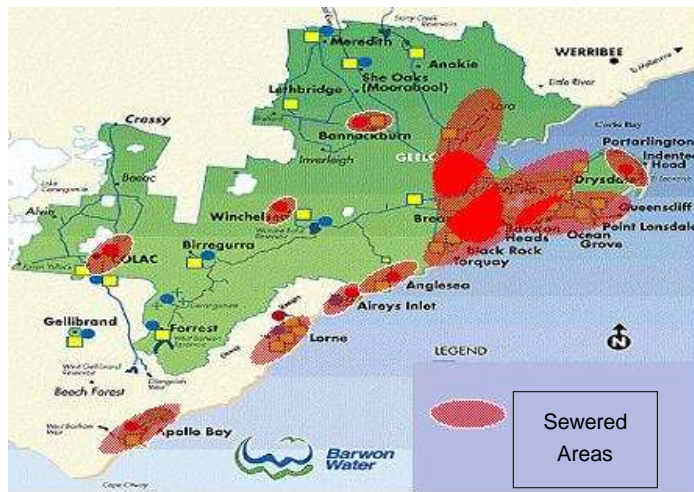
The summary is divided into two parts. The first part provides a broad overview of the contractual arrangements of Barwon Water biosolids management as a *Partnerships Victoria* project.

The second part focuses in more detail on key contractual features of the project.<sup>1</sup>

## 1.1 The Barwon Water Biosolids Management project

The Barwon Region Water Corporation (Barwon Water) is Victoria's largest regional water corporation. Barwon Water was constituted under the Water Act 1989 in February 1994, but its history can be traced back to the establishment of the Geelong Municipal Waterworks Trust in 1908. As an acknowledged industry leader, it provides quality water

and sewerage management services to a permanent population of 271,000 people over 8,100 square kilometres.



As part of its statutory responsibilities for provision of customer services and protection of the natural environment, Barwon Water currently operates several sewerage systems within its region.

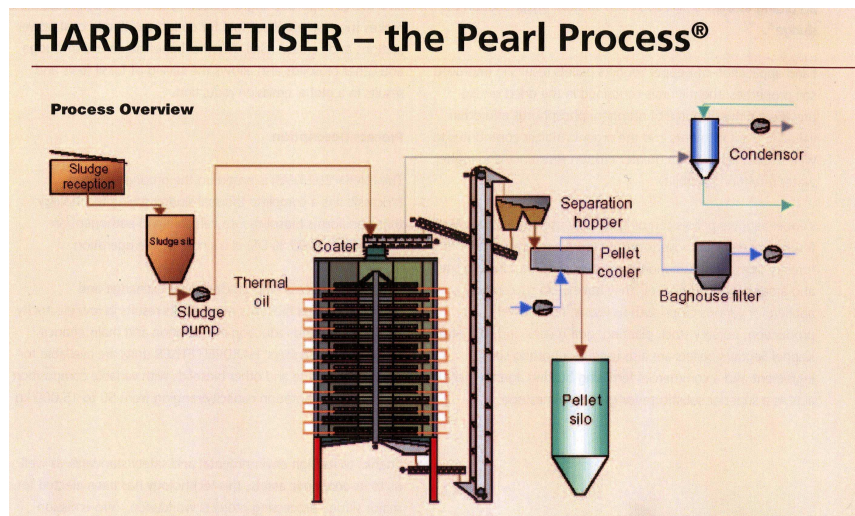
Barwon Water has nine water reclamation plants, five of which produce sludges (biosolids) on a regular basis. The largest water reclamation plant operated by Barwon Water is located at Black Rock, which produces about 46,000 tonnes of sludge (biosolids) per year.

The Barwon Water biosolids management project will provide an environmentally sustainable, long-term management scheme for the beneficial utilization of biosolids produced at the Black Rock and other regional water reclamation plants. Currently the plants produce approximately 54,000 tonnes of sludge (biosolids) at 14-16% solids content per year. Biosolids are trucked to Melbourne Water's water reclamation plant in Werribee where they are air dried, which is not sustainable. Over the contract term, the amount of sludge produced is expected to increase to approximately 60,000 tonnes per year.

The project includes the following:

<sup>1</sup> Further information on the *Partnerships Victoria* policy and guidelines is available [www.partnerships.vic.gov.au](http://www.partnerships.vic.gov.au)

- Sludge receival facilities to receive biosolids from the Black Rock water reclamation plant by conveyor and from regional water reclamation plants delivered by truck.
- Fully enclosed sludge storage to allow for blending of sludges and for plant shut-downs.
- Dual train Keppel Seghers HARD Pelletisers (Indirect gas fired dryers).
- Fully enclosed intermediate storage at the Black Rock site.
- A beneficial use program which ensures that all biosolids are used without prolonged storage. It is currently proposed to use the biosolids in broad-acre agriculture and as a fuel.



The process will produce T1 grade biosolids as defined by the Environmental Protection Authority (EPA) document “Guidelines for Environmental Management – Biosolids Land Application”, April 2004. Use of the biosolids in agriculture will reduce reliance on fertilisers and will improve soil structure. Use of the biosolids as a fuel will reduce dependence on non-renewable fossil fuels.

The plant will be fully enclosed to ensure that there is no increase in odour or noise at the boundary. All foul air from the plant will be treated and the building will be designed to minimise its impact on the local environment. Further landscaping of the Black Rock site by Barwon Water is also reducing the impact of the existing facilities on the local environment.



The project will result in:

- 100% beneficial use of biosolids
- 80% reduction in land area required for biosolids processing at Black Rock water reclamation plant
- 40% reduction in greenhouse gas emissions when compared with biosolids treatment by long-term storage
- 60% less truck movements, reducing greenhouse emissions by more than 300 tonnes per year
- zero odour emissions arising from the treatment and application of biosolids.

## 1.2 Partnerships Victoria - A public private partnership

*Partnerships Victoria* aims to use the innovative skills and abilities of the private sector in a way that is most likely to deliver value for money and improved services to the community.

This document provides a summary of Barwon Water biosolids management as a *Partnerships Victoria* project. More detail is available from the full suite of contracts. The major contracts are published on [www.contracts.vic.gov.au](http://www.contracts.vic.gov.au). There is also further information on the website of the Barwon Region Water Corporation (BRWC) at [www.barwonwater.vic.gov.au](http://www.barwonwater.vic.gov.au).

The *Partnerships Victoria* framework is most useful for major and complex capital projects with opportunities for innovation and risk transfer.

The availability of capital funding for infrastructure is usually not a determining factor in the delivery method of an infrastructure project (e.g. traditional procurement versus a public private partnership - PPP). The decision to proceed with a PPP was based on value for money against a Public Sector Comparator (PSC). The project requirements called for innovative technology which was not readily available in Australia. Treatment and beneficial use of biosolids is not a core business for Barwon Water. Low capital cost air-drying operations currently in progress at Melbourne Water's water reclamation plant, which are not sustainable, are also being undertaken on a contract basis.

The private sector partner in the biosolids management project is Plenary Environment (Barwon) Pty Ltd, a special purpose company established by Plenary Group. The private sector partner is responsible for delivery of the project.

Plenary are utilising the expertise of Earth Tech Engineering Pty Ltd for the design, construction, operation and maintenance of the plant. Finance is being provided by Bank of Tokyo-Mitsubishi UFJ and Plenary Group.

## 1.3 Tender process

Barwon Water coordinated the process for selecting the successful consortium. A competitive tender process was implemented according to *Partnerships Victoria* principles to ensure that Barwon Water received the best value for money for the project. This involved conducting a market sounding, releasing an expression of interest document and short-listing three consortia. Two consortia (one withdrew from the process) then submitted bids which were evaluated. Following clarification with the parties the contract was executed with the winning consortium.

### **Assessment and selection**

Two highly competitive and very detailed bids were lodged on 12 April 2006 by the Plenary Environment consortium and the Pinnacle Environmental consortium. They required an intensive and critical appraisal by the project assessment team over a fifteen month period, which also involved clarification, and finalising documentation.

The rigorous assessment process included appropriate clarification and consultation with the bidders. The assessment was conducted under a comprehensive probity regime where confidentiality was paramount. The bid assessment process considered a range of matters including (though not in any particular order):

**Technical criteria**

The extent to which the Proponent's proposed approach and technical solution:

- Delivers the Project Objectives;
- Delivers the Service Specification;
- Complies with the requirements of the Project Deed;
- Complies with applicable laws, codes and Government policies; and
- Delivers the environmental aspects of the Project Objectives.

**Service delivery criteria**

- The extent to which the Proponent's proposed approach to delivering the Services would comply with applicable laws, regulations, codes and Government policies.
- The degree of certainty regarding the reliable delivery of the Services, including assessment of service and management method statements.
- The extent of innovation in the Proponent's approach to delivering the Services.

**Community and social criteria**

The extent to which the Proponent's approach:

- Recognises and takes account of the sensitivities of interfacing with the local community;
- Could deliver the social requirements of the Project, which are set out in the Proposal Schedules;
- Demonstrates the quality of the Proponent's Community Initiatives' Plan;
- Manages interfaces with other agencies and government departments, including the EPA and the Department of Sustainability and Environment; and
- Minimises the visual impact of the BRWRP site.

**Commercial Criteria**

- The extent of compliance with the terms of the Barwon Water Agreements, including the Proponent's proposed departures from the tender versions of those agreements;
- The certainty of delivery of the proposed commercial arrangements, including consistency between legal, financial and technical aspects of the Proposal;
- The Proponent's approach to risk management and the robustness of the allocation of risks among the members of the Proponent;
- The Proponent's acceptance of the principles and detail of the Payment Mechanism as provided in Schedule 2 of the tender version Project Deed, including the proposed key performance indicators;
- The Proponent's acceptance of the minimum security requirements during the construction phase, as set out in the tender version of the Project Deed;
- The Proponent's acceptance of the insurance requirements for this Project; and
- The appropriateness of the Proponent's strategy for dealing with taxation risks, including the potential application of Section 51AD of the *Income Tax Assessment Act 1936*.

**Financial Criteria**

- The value for money of the Proposal, including a comparison of the net present cost of the Monthly Payments due to the Project Company with the Public Sector Comparator, and including the associated financial and risk consequences;

- The financial strength of the Proponent, including risk-taking members and sub-contractors, and the robustness and sustainability of the costs and revenues bid;
- The level of certainty of the proposed funding structure, including the level of commitment and attached covenants, and the experience of the providers of debt, equity and other forms of finance;
- The suitability and straight-forward nature of the funding structure, and the likelihood of Barwon Water being involved in complex financing arrangements, or being party to additional or substantially different documentation; and
- The strategies proposed to move rapidly from the announcement of Preferred Proponent to Financial Close, and the strategies proposed to ensure that no additional departures are requested during this period.

### Tendering Process

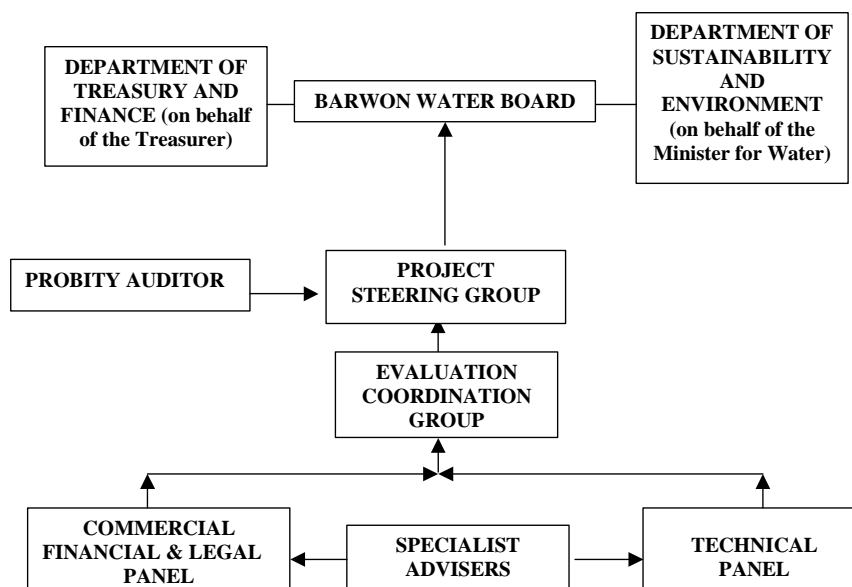
The Proponent's constructive and cooperative participation during the procurement process including:

- Fully considering and exploring solutions before raising issues with Barwon Water; and
- Managing the requirements of subcontractors, debt and equity financiers and other stakeholders, and providing a single point of contact for interaction.

## 1.4 Bid assessment parties

The evaluation coordination group (ECG) was the main vehicle for assessing the merits of each proposal. This group relied on a Commercial & Financial Panel and a Technical Panel for specialist advice. Recommendations made by the ECG were submitted to the Project Steering Group and the Barwon Water Board and ultimately to the Minister for Water, Environment and Climate Change and the Treasurer.

Figure 1.1 identifies the relationships of the bid assessment parties.



**Figure 1.1: Biosolids management project bid assessment parties**



Following *Partnership Victoria* requirements, a probity framework was established and a probity auditor from AFS & Associates was appointed. The project was conducted according to the probity framework and the probity plan.

Prior to Contract award inspections were completed of similar installations and pilot plant testing was completed to demonstrate the effectiveness of the process with the Barwon Water sludges.



**Figure 1.2: Biosolids Pilot Plant**

## 1.5 Value for money

Barwon Water considered a broad range of factors in assessing the value for money each bidder's proposal represented. The primary factors considered by Barwon Water included:

**Innovation with 24/7 Availability** – In order to enable ongoing improvements in efficiency of operation of Barwon Water's water reclamation plants it was essential that the new biosolids plant be available to receive sludge 24 hours per day, 7 days per week. This has required proponents to be innovative in determining the best mix of buffer storage and production capacity including sufficient backup for plant shut-downs and maintenance.

**Effective Process Selection** – The scale of the project enabled proponents to consider a wide range of technologies available in Australia and internationally. The methods for sludge treatment were not specified in the EOI or RFT documents. Proponents were required to meet performance requirements which included:

- Deliver a sustainable biosolids management solution servicing all Barwon Water's water reclamation plants, which is able to process biosolids from those plants without stockpiling for a period of 20 years.
- Produce 'T1' grade biosolids as defined by the EPA document titled "*Guidelines for Environmental Management – Biosolids Land Application*" April 2004 (EPA Guidelines).

- Maximise the potential for sustainable beneficial use of biosolids and minimise the risk of suitable markets being unavailable at any time in the future.
- Minimise the long-term risk of environmental contamination resulting from biosolids processing or beneficial use.
- No detectable odour at the boundary of the site.
- Compliance with the EPA's "Interim Guideline for Control of Noise from Industry in Country Victoria – N3/89".
- All site facilities enclosed within a building.

**Lowest whole-of-life costs** – Several project delivery options were considered in the Business Case. Traditionally, for a project of this nature, Barwon Water would have used a Design and Construct (D&C) delivery as the design of the plant is dependent upon process selection. The focus of D&C delivery is to deliver a plant with the lowest capital cost. Operation and maintenance costs are at best given secondary consideration. Design Build Operate (DBO) puts a greater focus on operating costs whilst maintaining a competitive capital cost. However, operation terms for this form of delivery are typically of short duration of 3 to 5 years.

The treatment of biosolids is continuously evolving. Barwon Water considered that it was unwise to commit to a particular technology for a period greater than 20 years. Implementing a Design Build Finance Operate (DBFO) delivery provides the benefits of the DBO delivery form in that it retains the focus on both capital and operating costs. In addition, as the facility must be removed at the end of the project term (20 years), it increases this focus on a whole-of-life approach.

**Revenue Gain Share** – In addition to service payments from Barwon Water, the Project Company can generate additional revenue by selling processed biosolids to end users such as farmers and this revenue can be shared with Barwon Water. The demand for biosolids may increase in future as a market for them develops, which could increase the value of biosolids. The Project Deed provides for different levels of sharing of the revenue earned by the Project Company as income reaches defined thresholds.

### Public Sector Comparator

An important aspect of the value-for-money assessment is the Public Sector Comparator (PSC). Constructing and applying a PSC during the tender evaluation process is a key component of the *Partnerships Victoria* policy (June 2000). The PSC estimates the risk-adjusted cost of the project if delivered by Barwon Water. The PSC also represents the amount that Barwon Water would be willing to pay for delivery of the project services. The PSC is developed according to the output specification and assumes the most likely and efficient form of conventional delivery by Barwon Water in the absence of a *Partnerships Victoria* model. A lower net present cost (NPC) in the preferred bid compared with the PSC is an indication that the bid represents value for money.

**Table 1.2: Value for Money Comparison between Public Sector Delivery and Private Sector Delivery (NPV \$ April 2007)**

Public Sector Comparator "PSC"		Private Sector Delivery
Hypothetical, risk adjusted estimate of the cost of the most efficient, likely and achievable form of public sector delivery		(at financial close - NPC of contract payments)
<b>Estimated net present value of the financial cost of the project (PSC)*</b> Mean of PSC cost estimates	\$82.2m	\$77.6m
*Excluding State Retained Risk <b>Estimated Savings through comparison with winning bid</b>	5.6%	

**Table 1.3: Headline components of the PSC (NPV \$m April 2007)<sup>1, 2</sup>**

Capital Costs		Operating Costs		Other Costs <sup>4</sup>		Raw PSC		Competitive Neutrality		Risks <sup>3</sup>		Total PSC
39.0	+	30.8	+	0.7	=	70.5	+	0.2	+	11.5	= \$	82.2

1. All amounts are expressed as present values at a base date of 1 April 2007
2. A real discount rate of 6.50% and an inflation rate of 2.50% were used to prepare these amounts
3. Excluding State Retained Risk
4. Other costs include insurance, decommissioning and transaction costs

## 1.6 Public interest test

Barwon Water undertook considerable analysis of the extent to which the biosolids management project was in the public interest. The analysis took specific account of *Partnership Victoria* guidelines that outline certain categories for evaluating whether a project meets the public interest.

PUBLIC INTEREST TEST		
Public Interest Element	Standard	Assessment
<p><b>Effectiveness</b></p> <p>Is the project effective in meeting government objectives;</p> <p>To manage biosolids produced at BRWRP and regional Water Reclamation Plants and comply with Barwon Water's corporate goals and all relevant legislation.</p>	<p>Barwon Water corporate goals and objectives.</p> <p>EPA Guidelines for Environmental Management – Biosolids Land Application, Publication 943, April 2004.</p> <p>Environment Protection Act.</p> <p>Planning and Environment Act 1987</p> <p>Environment Effects Act 1978</p> <p>EPA SEPP, Waters of Victoria</p> <p>EPA SEPP Groundwaters of Victoria</p> <p>EPA SEPP Ambient Air Quality</p> <p>EPA SEPP Air Quality Management</p> <p>EPA SEPP Prevention and Management of Contamination of Land</p> <p>EPA Industrial Waste Management Policy, Waste Minimisation</p> <p>DTF Partnerships Victoria Policy</p>	<p>The proposed project can meet all of the current guidelines standards required.</p> <p>Consultation with the EPA and DTF will ensure that all requirements are effectively met.</p> <p>The Works Approval Process will ensure that all EPA regulations are complied with.</p> <p>Site is zoned PUZ1 and does not require a planning permit.</p> <p>An assessment of referral criteria indicates that an EES is not required for the project.</p>

Public Interest Element	Standard	Assessment
<p><b>Accountability &amp; transparency</b></p> <p>Do the partnership arrangements ensure that:</p> <ul style="list-style-type: none"> <li>• The community can be well informed about the obligations of government and the private sector partner; and</li> <li>• That these can be oversighted by the Auditor-General?</li> </ul>	<p>Victorian Industry Participation Policy</p> <p>Ensuring Openness and Probity in Victorian Government Contracts.</p> <p>Compliance with requirements of the Auditor General.</p> <p>Partnerships Victoria</p>	<p>Complete VIPP statements in accordance with Government Guidelines</p> <p>Benchmarking of Barwon Water's Purchasing Manual against the Probity Policy Statement was completed.</p> <p>Barwon Water publishes details of contracts on its Internet page. Including detailed information for projects above \$10 million and summary information of contracts greater than \$100,000 and less than \$10 million. Including the name of the successful or recommended Tenderer, the value of the successful tender and the Contractor's name together with the general provisions of the Contract.</p> <p>A communications plan has been developed in conjunction with the preferred proponent.</p> <p>The project is following the Partnerships Victoria Principles and will comply with the Partnerships Victoria Public Disclosure Policy (March 2007).</p> <p>Probity Auditors AFS &amp; Associates have been appointed to ensure adequate probity and a probity plan has been developed for the project.</p> <p>In accordance with Government policy a Project Summary will be published within 3 months of Financial Close.</p>

Public Interest Element	Standard	Assessment
<p><b>Affected individuals and communities</b></p> <p>Have those affected been able to contribute effectively at the planning stages, and are their rights protected through fair appeals processes and other conflict resolution mechanisms?</p>	<p>The local communities (Breamlea and Connewarre) may be affected by the project and are concerned with environmental issues, primarily odour, dust, noise aesthetics and truck movements.</p>	<p>There has been extensive consultation to date with substantial input. The project has been formulated taking this input into account.</p> <p>A community reference group (BIG) was established and has met regularly during the project development and tender phases. The group established evaluation criteria for the project.</p> <p>Barwon Water has held a number of public meetings, an open day and information stalls at community events.</p> <p>A database of people interested in Biosolids has been established.</p> <p>Regular information bulletins about the project have been distributed.</p> <p>Any member of the community has the right to appeal any decision about this project to VCAT.</p>
<p><b>Equity</b></p> <p>Are there adequate arrangements to ensure that disadvantaged groups can effectively use the infrastructure or access the related service?</p>	<p>No disadvantaged groups can be identified, as the asset/service is not directly accessible to the public.</p>	<p>Not applicable</p>
<p><b>Public Access</b></p> <p>Are there safeguards that ensure ongoing public access to essential infrastructure?</p>	<p>Public access is not applicable as this service is not accessible to the public. However, open days will be held during and after construction to enable the community to view the project.</p>	<p>Continuity of service is key to the project and is dealt with in the risk section of this report.</p> <p>Project displays will be held at the BRWRP visitors centre which has full disabled access. Access to the construction site would be limited in accordance with OHS provisions.</p>

Public Interest Element	Standard	Assessment
<b>Consumer Rights</b>  Does the project provide sufficient safeguards for service recipients, particularly those for whom government has a high level of duty of care, and/or the most vulnerable?	Generally consumer rights are not applicable to this service as there are no direct recipients of this service.  Receivers of processed Biosolids are protected by EPA Guidelines for Environmental Management – Biosolids Land Application, Publication 943, April 2004.	The Energy and Water Industry Ombudsman is available to provide an independent channel of redress should an issue arise.  Testing and compliance with the Biosolids guidelines.
<b>Security</b>  Does the project provide assurance that community health and safety will be secured?	EPA Guidelines for Environmental Management – Biosolids Land Application, Publication 943, April 2004.  EPA SEPP Prevention and Management of Contamination of Land  EPA SEPP Ambient Air Quality  EPA SEPP Air Quality Mgmt.	The project improves the general level of safety and health associated with provision of sewerage services and shall meet all current regulatory standards.
<b>Privacy</b>  Does the project provide adequate protection of users rights to privacy?	Users of processed Biosolids  Information Privacy Act  EPA Guidelines for Environmental Management – Biosolids Land Application, Publication 943, April 2004.	Users enter into confidential agreements with the Biosolids provider. Users are also required to establish confidential “Environment Improvement Plans” with the EPA. Information for both documents are covered by the Information Privacy Act.  Users are required to display appropriate signage when using Biosolids.

Each issue of public interest was thoroughly considered. The project delivers critical infrastructure that is in the public interest.

## 1.7 Contract milestones

Project component	Date
Expressions of interest issued	24 May 2005
Request for proposal issued	24 October 2005
Bid submission date	12 April 2006
Contract execution	30 August 2007
Financial close	3 September 2007
Commercial Acceptance	On or before 2 June 2009
Service delivery/operations period	2 June 2009 to 1 June 2029
Concession termination date	1 June 2029



## Part Two: Key commercial features

This part of the Project Summary outlines the contractual relationships between the parties involved in the biosolids management project, including where risks will be allocated and the obligations of both Plenary Environment (Barwon) Pty Ltd and Barwon Water. In some areas, it provides more detail on processes discussed more generally in Part 1.

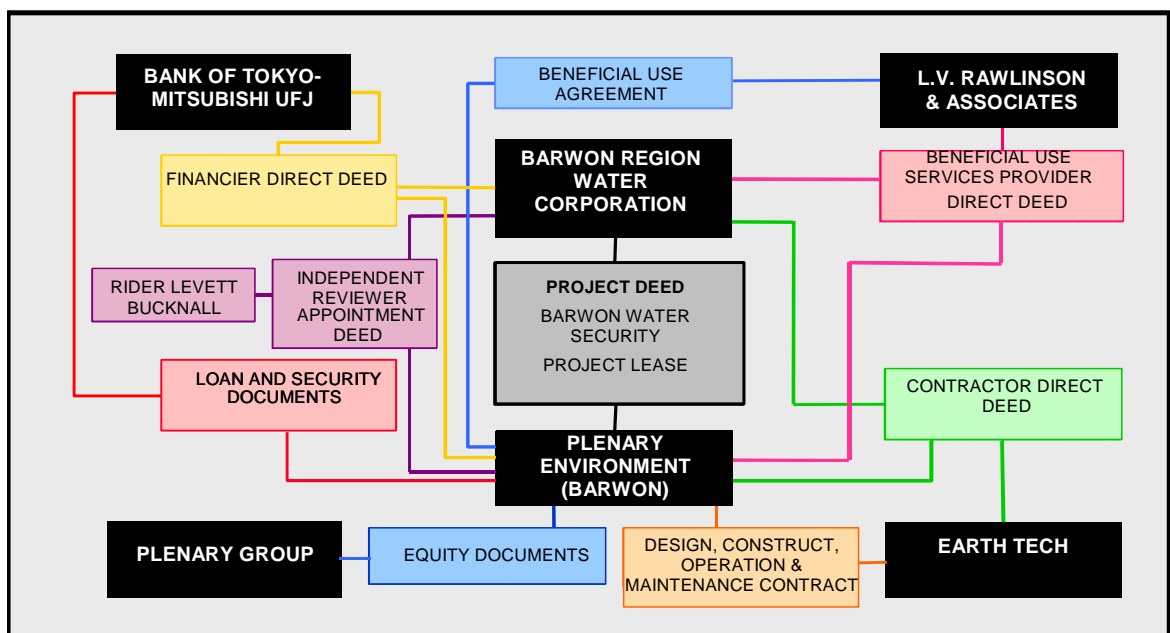
### 2.1 Parties to the contract

On 3 September 2007, Barwon Water announced that Plenary Environment (Barwon) Pty Ltd was the successful bidder for the Barwon Water biosolids management project. It was awarded the contract to finance, design, construct, commission, operate, maintain, repair and ultimately remove the biosolids processing plant at the end of the contract. Plenary Environment (Barwon) will ensure that biosolids produced by the plant are beneficially used in agriculture, as a fuel or in other environmentally sustainable products. The service delivery/operations period is 20 years.

Plenary Environment was formed by Plenary Group to bid for the project. Plenary Environment (Barwon) Pty Ltd (Project Company) was formed by Plenary for this contract. The Project Company entered into a design, construct, operation & maintenance contract with Earth Tech Engineering Pty Ltd. Finance is provided by Bank of Tokyo-Mitsubishi UFJ and Plenary Group.

Figure 2.1 outlines the relationship between Barwon Water and the Project Company and major arrangements put in place by the Project Company to deliver the project. It also identifies some of the major contractual arrangements between the parties.

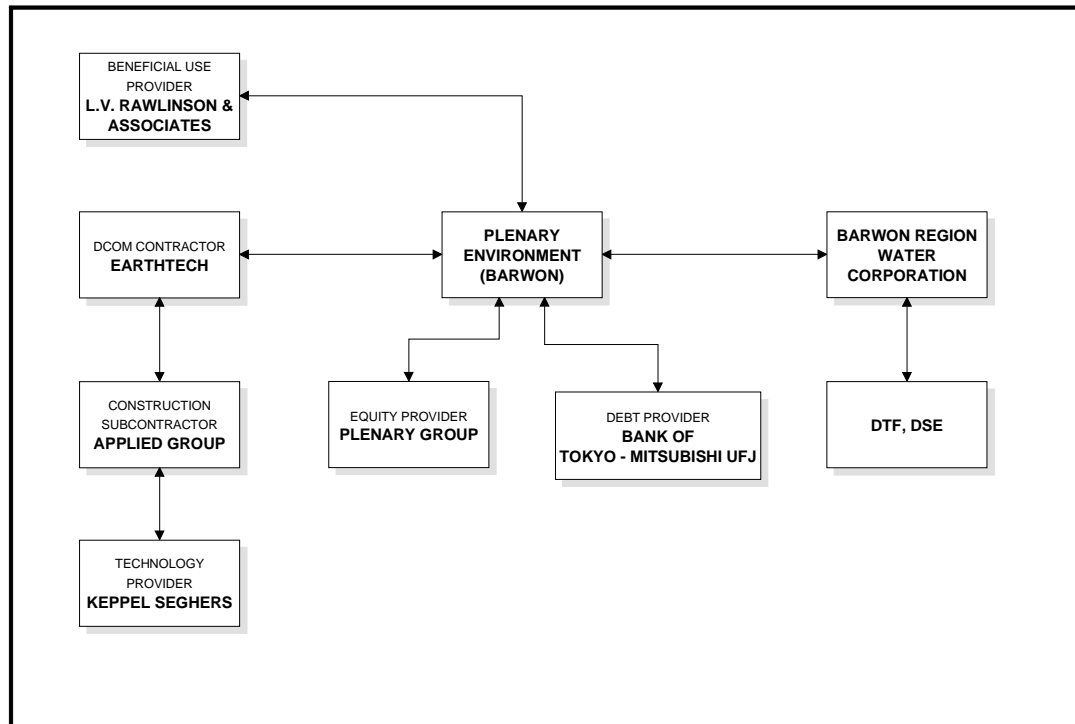
**Figure 2.1: Biosolids management project contractual relationships**



## 2.2 Contractual relationship of the parties

The relationship between Barwon Water, the Project Company and other related parties is detailed in the project deed and associated documentation. Figure 2.1 above shows the contract arrangements between the parties whilst figure 2.2 below shows the relationships between the parties.

**Figure 2.2: Biosolids management project relationships**



*Note: DCOM = design, construct, operation and maintenance*

The principal contractual arrangements between Barwon Water and the Project Company that need to be managed include:

- **The Project Deed:** sets out the requirements for the Project Company to design, construct, commission, finance, operate, maintain and repair, to beneficially use the biosolids, and to remove the plant and rehabilitate the land at the end of the contract period.
- **Schedules to the Project Deed:** These set out the service specifications, payment mechanisms, change compensation, review procedures, design requirements, commissioning and testing, project plans, management systems and other aspects relating to project implementation.
- **Finance Direct Deed:** between Barwon Water, the Project Company and its financiers; this document protects Barwon Water and details the protocols as between Barwon Water and the financiers in the event of default by the Project Company.
- **Primary Sub-Contract Direct Deed:** between Barwon Water, the Project Company and Earth Tech; this document details the protocols in the event of default involving the design, construction, operation and maintenance contract.

- **Barwon Water Security:** This provides Barwon Water with a first ranking fixed and floating charge over all of the Project Company's assets and undertakings as security for the performance of the Project Company under each Barwon Water Agreement.
- **Beneficial Use Services Provider Direct Deed:** Between Barwon Water, the Project Company and the beneficial use provider. This document details the protocols in the event of default involving the Beneficial Use Services Provider Agreement.
- **Lease:** Barwon Water has provided land to the Project Company for the biosolids operation. The lease on this land will expire on completion of the contract term.

## 2.3 Risk transfer

The risk allocation in the Project Deed is consistent with *Partnerships Victoria* policy. In *Partnerships Victoria* projects, the State seeks to minimise both project costs and the risks to the project by allocating particular risks to the party best able to manage them. This process results in various risks being:

- retained by the State
- transferred to the private sector, and/or
- shared by each party.

The Project Deed and associated documents establish the obligations of each party in managing these risks.

Table 2.1 broadly outlines the risk allocation for the project. It should be noted that while a risk may be allocated to both parties, they may not share that allocation equally. All risks are dealt with in detail in the project deed and associated documents.

**Table 2.1: Risk summary**

Risk Category	Description	Barwon Water	Private Party
<b>Planning Risks</b>			
Planning permits at the Black Rock site	Risk that planning permits for the use of the site will be refused or granted with onerous conditions		✓
<b>Site Risks</b>			
Development of site	Risks associated with the development of the chosen site		✓
Site unsuitable for technical solution	Risk that the Black Rock site is unsuitable for the Proponent's proposed technical solution		✓
Site has culture or heritage value	Risk that the Black Rock site has archaeological and cultural heritage value (above or below ground)	✓	
Native Title	Risk that the Black Rock site is the subject of a Native Title claim	✓	

Pre-existing contamination of site	Risk that the Black Rock site requires remediation work to address pre-existing contamination	✓	
Restoration of site	Risk that restoring the Black Rock site to its pre-existing condition is more complex than anticipated		✓
<b>Design, Construction and Commissioning Risks</b>			
Design and Construction Risk	The risk that the design and/or construction cannot be completed on time and/or to budget		✓
Commissioning	Risk that performance is not achieved which will result in delayed or reduced service to Barwon Water		✓
<b>Operational Risks</b>			
Asset Performance	Risk that the technical solution is incapable of delivering services at the required levels		✓
Compliance with EPA license requirements	Risk that the facility does not operate in accordance with the applicable license requirements set by the EPA		✓
Volume Risk	Risk of changes in the volume of biosolids required to be treated over the Project Term	✓	
Quality of biosolids	Risk that the biosolids generated by Barwon Water have a materially different make-up than anticipated	✓	
Odour	Risk of causing odour nuisance		✓
Maintenance Costs	Risk that maintenance costs exceed the budgeted cost		✓
Operational Costs	Risk that operational costs exceed the budgeted cost		✓
Input energy price	Risk of change in the price of the energy inputs used	✓	
Input energy volume	Risk of material decrease in the efficiency of the plant or increase in the volume of energy used per tonne		✓
<b>Asset Risk</b>			
Asset ownership and maintenance	Risks associated with the maintenance and ownership of assets		✓
Decommissioning Risk	Risks associated with the cost and timing of decommissioning		✓

<b>Market Risk</b>			
Availability of Beneficial Use markets	Risk that the demand and/or disposal cost for treated biosolids changes over the Project Term		✓
<b>Environmental Risks</b>			
EPA Works Approval	Risk that construction cannot commence as scheduled because the Environment Protection Authority (EPA) does not grant Works Approval	✓	✓
Contamination of land	Risk of contaminating land through the application of processed biosolids to downstream sites		✓
<b>Change in Law or Policy Risks</b>			
Changes in law and legislation	Risk that changes in law and legislation will impact on the Project Company	✓	✓
Tax Risk	Risk of changes in general tax law		✓
<b>Force Majeure</b>			
Force Majeure	Risk that technical solution cannot operate due to an uncontrollable event	✓	✓
<b>Finance Risk</b>			
Interest Rate Risk after Financial Close	Risk of movements in interest rates after financial close		✓
Residual Value	Risk that on expiry of the contract term the residual value of the asset is less than the value originally estimated		✓

## 2.4 General obligations of the contractor

Plenary Environment (Barwon) Pty Ltd (Project Company) has contracted with Barwon Water to finance, design, build, operate and maintain the project. All plant is to be removed at the end of the Contract Term at no additional cost to Barwon Water. Plenary Environment (Barwon) Pty Ltd is required to make good any damage to the project site, including contamination, caused or contributed by it or its associates prior to returning the site to Barwon Water.

The Project Company is required to:

- Be available to accept delivery of sludge from the BRWRP 24 hours a Day, 7 Days a week up to specified levels.

- Be available to accept delivery of sludge from regional water reclamation plants between 7am and 5pm from Monday to Saturday up to specified levels.
- Process input material to produce output material with a treatment grade of 'T1' as specified by the EPA.
- Ensure that the facilities and operations do not create an odour nuisance, noise or any visible discharge plume.
- Ensure that all output materials produced by the facility in any given year are applied to a beneficial use within 6 months of the end of that year.
- Produce a monthly performance report for each operating month.

Plenary Environment (Barwon) Pty Ltd's obligations and rights are more fully described in the Project Deed and associated project documents referred to previously.

## **2.5 General obligations of Barwon Water**

Barwon Water's specific rights and obligations in relation to the project are detailed in the set of project documents noted earlier.

Barwon Water is required to:

- Make service payments to the Project Company under the Project Deed. Service payments contain both fixed and variable components.
- Ensure that input material delivered to the Project Company is "In-Specification".
- Undertake the required checking, verification and review of the Project Company's information to achieve sign-off at critical milestones.

## **2.6 Barwon Water contributions**

The project is proceeding without a Barwon Water financial contribution to the Project Company, although the cost of pilot testing was shared equally by the Project Company and Barwon Water.

Barwon Water has made available to the Project Company, by lease agreement, 2 ha of land at the Black Rock water reclamation plant. The Project Company is required to maintain and fence the lease areas for the duration of the contract. At the conclusion of the contract the Project Company is required to remove all fixtures from the lease area, including fencing, and is to rehabilitate the site prior to returning the land to Barwon Water.

## **2.7 Payment Mechanism and Abatement Regime**

During the operating phase of the project the payment mechanism is the means by which the Project Company is remunerated for delivering the required services. It is the means by which the aims and objectives of Barwon Water, articulated through the Services Specification, translate into payments to the Project Company that provides a clear incentive for the Project Company to perform as required by the Project Deed. These are detailed in the Project Deed and in Schedules 1 and 2.

The payment mechanism provides monthly charges for availability, volume of biosolids processed and volume of biosolids beneficially used. The incentive for the Project Company to perform is incorporated in the payment mechanism through payment deductions when agreed performance service standards are not met.

The monthly availability charge reflects the Project Company availability to accept input materials 24 hours a day, 7 days a week. Up to 70% of this charge is subject to deductions for failing to accept delivery. Up to 30% of this charge is subject to quality failure deductions based on performance around service delivery in the following areas:

- Odour nuisance;
- Impact on Barwon Water Operations;
- Environmental impacts;
- Project site management;
- Fire or Explosion;
- Training and industrial relations;
- Measuring equipment, records and reporting;
- Beneficial use operations including transport and storage; and
- Complaints management and community relations.

Full details of the abatement regime are given in Schedule 1 of the Project Deed.

The monthly variable charge is based on the volume of biosolids processed at the monthly variable rate. The variable rate includes an energy adjustment at the end of each twelve-month period for the first three years to a maximum of the agreed caps. After the end of the third operating year a fixed energy amount will be determined on the basis of the first three years of operation.

The monthly beneficial use charge is based on the volume of biosolids beneficially used. The Project Company must ensure all output materials produced by the facility in any given operating year is applied to a Beneficial use within 6 months of the end of that operating year. Beneficial use means the use of the output material that takes advantage of the nutrients, calorific value, organic matter or moisture, including for example appropriate land use, co-generation use and energy source use, which does not create any adverse impacts. The quality failure deductions provides for a beneficial use deduction based on quantity of any output material not beneficially used.

## 2.8 Default, step in and termination regime

The project is protected by an extensive set of default, termination and step-in provisions. These are detailed in the Project Deed in clauses 51-54 and Schedule 4.

A breach of the Project Deed is referred to as a 'Default' and entitles Barwon Water to various remedies. If a Default occurs, Barwon Water must either give the Project Company an opportunity to cure the Default or (if the Default is not capable of being cured) give directions to the Project Company of its requirements.

If the Default is classified as a 'Major Default' and the Project Company has neither cured the Default or complied with Barwon Water's directions, this will constitute a 'Default Termination Event'. Other Termination Events include where the Project Company abandons the works or where it persistently and repeatedly fails to comply with its obligations. Default Termination Events entitle Barwon Water to terminate the Project Deed.

However, termination is still subject to the financier's right to 'step in' to the shoes of the Project Company in order to cure the Default. Alternatively, rather than terminating the Project Deed, Barwon Water may 'step in' to temporarily assume total or partial control of the Facility and the provision of Services under certain specified circumstances.

Where either a 'Voluntary Termination Event', a 'Default Termination Event' or a 'Force Majeure Termination Event' occurs, Barwon Water may terminate the Project Deed and

pay the relevant Termination Payment to the Project Company. The Project Company also may terminate the Project Deed when a 'Force Majeure Termination Event' occurs.

#### Termination Payments (Schedule 4)

Event	Method of Calculation
Default Termination	The 'Fair Market Value' less valuation costs and amounts owing by Project Company as at the Termination date
Voluntary Termination	The Debt as at Termination Date plus the Net Present Value of forecast equity cashflows, employee and Sub-contractor payments, finance agreement termination costs less amounts owing by the Project Company to Barwon Water and any sums payable for insurance and by financiers to the Project Company
Termination for Force Majeure	The Debt as at Termination Date plus finance agreement termination costs less amounts owing by the Project company to Barwon Water and any sums payable for insurance and by financiers to the Project Company less any equity that remains to be contributed and the amount calculated as if a Default Termination payment was due.

## 2.9 Finance and security arrangements

Finance for the project has been arranged by Plenary Group and comprises:

- A single tranche of senior debt with a tenor of 20.8 years, fully underwritten by Bank of Tokyo – Mitsubishi UFJ; and
- Equity, fully underwritten by Plenary Group and to be subscribed during the Project construction period by way of secured subordinated loans. Plenary Group's obligation to subscribe is supported by an unconditional bank guarantee, provided at Financial Close.

Uses	\$m	Sources	\$m	%
Construction costs	41.0	Equity	7.9	15.2
Transaction costs	2.7	Debt	44.0	84.8
Capitalised Interest and Fees	5.6			
Contingencies and Reserves	2.6			
Total	51.9	Total	51.9	100.0

Barwon Water has first ranking security (a fixed and floating charge) over the Project's assets in order to secure the Project Company's obligations under the Project Contract and



payments due to Barwon Water. The Barwon Water Security enables Barwon Water to appoint a Receiver over all or part of the secured assets.

The project financiers hold, via a Security Trustee, a suite of securities in relation to the project including a fixed and floating charge over the assets of the Project Company. The Security Trustee's rights to enforce the securities are subject to the Barwon Water Security described above; the rights and priorities as between Barwon Water and the Security Trustee are detailed in the Financier Direct Deed.

## **2.10 State rights at expiry of contract**

If the Project Deed is terminated before the expiry date the Project Company must surrender and return to Barwon Water all of the Project Company's right, title and interest in the facility and any portion of the project site licensed or leased to the Project Company free from any encumbrances, and the facility and project will immediately vest in and become the absolute property of Barwon Water and the Project Company will cease to have any interest in it.

Otherwise on expiry of the contract and within 120 days from the expiry date, the Project Company must at its sole cost remove the facility and all other plant and equipment and biosolids from the project site. Full details are provided in clause 72 of the project deed.

## **2.11 Process for modification of services/ facility**

The Project Deed provides for "Barwon Water Initiated Modifications" and "Project Company Initiated Modifications". The process for incorporating any amendments to the project (either at Barwon Water's instigation or at the Project Company's) is detailed in clause 43 of the Project Deed.

In relation to Barwon Water Initiated Modifications, once approved, the Project Company is entitled to receive reasonable compensation for the net incremental costs incurred in executing such modification and taking into account, a reasonable allowance for profit, overheads and administration expenses and any reasonable delay or prolongation costs.

For Project Company initiated modifications, the Project Company is not entitled to an extension to the relevant milestone or completion dates (unless Barwon Water otherwise agrees) and must bear all costs and expenses of the Project Company initiated modification. Barwon Water is entitled to a 50% share of any benefit or saving resulting from such modification.

## **2.12 Current Version**

This document may be updated, please check the *Partnerships Victoria* website at [www.partnerships.vic.gov.au](http://www.partnerships.vic.gov.au) for the current edition.

## Appendix 1: Useful references

- Project documentation [www.contracts.vic.gov.au](http://www.contracts.vic.gov.au)
- The Barwon Water Community Contact Line is 1300 656007.
- *Biosolids Bulletin* [www.barwonwater.vic.gov.au](http://www.barwonwater.vic.gov.au)
- The Biosolids Display Centre – Black Rock Water Reclamation Plant, Black Rock Road, Connewarre, Victoria, 3227
- Legislation: *Water Act 1989*, Act No. 80/1989
- The Barwon Water Annual Report is available via the Barwon Water website, [www.barwonwater.vic.gov.au](http://www.barwonwater.vic.gov.au)
- Partnerships Victoria policy guidance and project information [www.partnerships.vic.gov.au](http://www.partnerships.vic.gov.au)

## **Appendix 2: Contact details for project parties**

Barwon Region Water Corporation

Website: [www.barwonwater.vic.gov.au](http://www.barwonwater.vic.gov.au)

PO Box 659

Geelong.VIC.3220

Phone: 61 1300 656007

Fax: 61 3 52218236

Email: [postmaster@barwonwater.vic.gov.au](mailto:postmaster@barwonwater.vic.gov.au)

Plenary Environment (Barwon) Pty Ltd

Website: [www.plenarygroup.com.au](http://www.plenarygroup.com.au)

Level 29, 140 William Street

Melbourne.VIC.3000

Phone: 61 3 88887700 Fax: 61 3 88887701

Earth Tech Engineering Pty Ltd

Website: [www.earthtech.com.au](http://www.earthtech.com.au)

71 Queens Road

Melbourne.VIC.3004

Phone: 61 3 85179200

*Partnerships Victoria*

Website: [www.partnerships.vic.gov.au](http://www.partnerships.vic.gov.au)

Department of Treasury and Finance

Commercial Division

1 Treasury Place

Melbourne Victoria 3002

Phone: 61 3 9651 5111