



Our Ref: 160-AA

environmental management consultants

12 June 2006

Att: John Mills  
Water Corporation  
Project Manager  
Project Management Group  
629 Newcastle Street  
Leederville WA 6007

Dear John

**Binningup Water Treatment Facility  
Proposal for Due Diligence Botanical Survey**

### **Introduction and Objectives**

360 Environmental is pleased to provide this proposal to the Water Corporation to undertake a spring flora assessment at the current Binningup Waste Water Treatment Plant (WWTP) site. We understand the location is being considered for a proposed Water Treatment Facility (the Project) and that the Project is currently in definition phase.

To adequately meet the needs of a due diligence assessment of flora and vegetation values at the Binningup WWTP site, a comprehensive flora and vegetation survey is required. In order to accurately map and understand the flora conservation values the survey must be undertaken during Spring (when growth and flowering dominates for certain species).

The purpose of the due diligence botanical survey (the Survey) is to assess the site for flora, vegetation, conservation or botanical values that could possibly prevent future infrastructure development. In this sense it is essential that the survey occurs in spring.

### **Assessment and Reporting**

To undertake the Survey it will be necessary to undertake the following:

- Determine the flora is present and whether the plant species are of particular conservation significance and if so, where they are located. This would require recording flora while sampling vegetation units (refer below) and undertaking a general rare flora search (during Spring) to ensure all habitats have been searched.
- Determine the vegetation units present and whether they are classified as Threatened Ecological Communities (TEC's) or otherwise rare vegetation. While Floristic Community Types may be inferred (allowing TEC's status to be identified) this method is not necessarily reliable as vegetation unit(s) may not always relate directly to the Swan Coastal Plain Floristic Community Types as

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they were based on a limited number of sampled vegetation units. Therefore, it has been recommended to collect a representative set of vegetation units so that a PATN analysis can be run to determine Floristic Community Types and hence TEC status.

- A vegetation map will be developed to demonstrate the distribution of the vegetation units, and therefore the distribution of any rare vegetation types. A vegetation map demonstrates that the vegetation has been comprehensively and systematically assessed.

In the interests of efficiency, a general (but comprehensive) survey for rare flora (rather than an intensive search) is recommended. If at the end of the field survey, once the range of habitat and vegetation types have been surveyed and the flora comprehensively sampled, more intensive rare flora searches may be considered necessary. If this is deemed necessary the additional work will be undertaken in consultation with the Water Corporation.

The Survey of the Project area will include:

- Conducting a search of the Department of CALM's rare flora and TEC databases.
- Sampling vegetation units using pegged quadrats (4 to 6 depending on condition/variation in the vegetation) and releve sites.
- Identifying species and producing a flora list for the area. Experts in their field will be engaged to assist with identifications as required.
- Producing a vegetation map for the area.
- Conducting a general rare flora search.
- Entering the site data into a database and running a PATN analysis to determine vegetation Floristic Community Types, and
- Providing a report on the survey that includes an assessment of the flora and vegetation values in the survey area.

This proposal is based on the understanding that the survey area is approximately 41 hectares and contains good-quality bushland (excepting the Binningup WWTP site itself) within the Quindalup Dune landform. Quindalup dunes generally have a limited species richness. It is understood that wetlands are not expected at the Project area (wetlands have much greater vegetation complexity).

## Timing

The proposal is based on conducting the initial survey in August or early to mid September with a follow up Spring survey in early October. It is proposed to provide a final report by the end of November 2006, after the Spring field survey is complete. Feedback on the initial August survey can be provided as required.

## Costs and Terms of Engagement

Commercial  
in Confidence

We trust this information is to your satisfaction and await your response in due course. We look forward to working with you on this exciting project. Please do not hesitate to contact Phoebe Short or the undersigned if you require any clarification or further information.

**For and on behalf of**  
**360 Environmental Pty Ltd**

**Tamara Smith**  
*Enc: 360 Environmental Pty Ltd Terms of Appointment: Issue 2*  
Cc: Toni Cowell