

## **Background Information Document**

### ***Water Use License Application for Redhaus Portions 1 and 4 consolidated (now known as 66/232) and Portion 9 of Redford Farm 232, Knysna Quaternary catchment K60E, Western Cape Province***

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## **1 INTRODUCTION**

Confluent Environmental (Pty) Ltd were appointed to facilitate the Water Use License Application (WULA) in terms of the National Water Act (NWA; Act 36 of 1998) and provide aquatic specialist inputs for a Section 24G rectification application process in terms of the National Environmental Management Act (NEMA; Act 107 of 1998). The property concerned is Portion 9 / 232 and consolidated Portions 1 and 4 / 232, Redford Farm (consolidated property is 66/232).

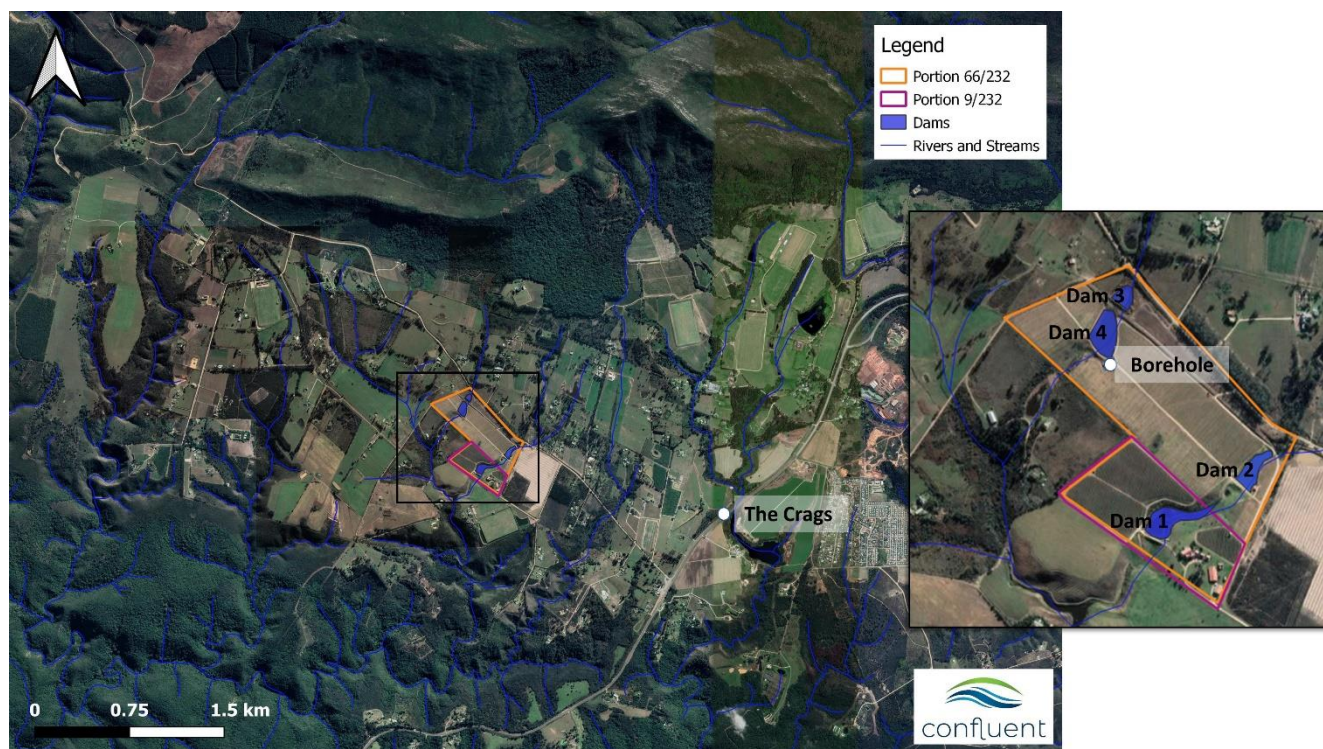
Water uses took place following the clearing of sediment and littoral vegetation from four instream dams on Redhaus Farm. The clearing process resulted in enlargement of three of the dams. No environmental authorisations were obtained for enlargement of the dams or the completed maintenance work in terms of the National Environmental Management Act or the National Water Act. This application also relates to the taking of water from a new borehole. The applicant is now applying for the authorisation of water uses in terms of Section 21 of the NWA as follows:

- Section 21 (a); Taking water from a water resource
- Section 21 (b); Storing water,
- Section 21(c); Impeding or diverting the flow of water in a watercourse and
- Section 21 (i); Altering the bed, banks, course or characteristics of a watercourse

The Breede-Gouritz Catchment Management Agency (BGCMA) is the competent authority.

## 2 SITE FEATURES

The property is in the Gouritz Water Management Area, within Quaternary catchment K60E, near The Craggs area of Plettenberg Bay in the Western Cape. (Figure 1)



*Figure 1: Location of the dams and borehole on Farm 232, Redhaus*

The dams have each been constructed in one of two valley-bottom wetlands, which appear to be unchannelled. The watercourses have been disturbed by vegetation clearing and enlargement of Dams 2, 3 and 4. The borehole on Portion 66/232 is at a depth of 156m and is proposed to abstract 24 000 m<sup>3</sup>/a. (See Table 1 for coordinates of where water uses occur)

**Table 1 - Location of each dam and the borehole**

Dams & Borehole	Coordinates
Dam 1	33.9465 S, 23.4587 E
Dam 2	33.9459 S; 23.4609 E
Dam 3	33.9417 S; 23.4575 E
Dam 4	33.9423 S; 23.4570 E
Borehole	33.9435 S; 23.4570 E

### 3 DESCRIPTION OF WATER USE

Approximately 4ha of Almond Orchards are planted currently. A total of 20ha of Almond Orchards are planned on agricultural fields at Redhaus Farm. These orchards will be irrigated from the water stored in the dams. There are two watercourses that cross Redhaus Farm, with 2 instream dams on each watercourse. All the watercourses drain in a South-Westerly direction into the Whiskey Creek River, which is a tributary of the Keurbooms River.

There are three instream dams on Portion 66. Dam 2 and Dam 4 were constructed pre-1998, Dam 3 was constructed by the previous owners between 2004 and 2009 without authorisation. The instream dam on Portion 9 (Dam 1) was constructed between 2000 and 2004 by the previous owner, without authorisation.

The proposed Existing Lawful Use excludes Dam 1 and Dam 3 as they were constructed after the Qualifying Period between 1996 to 1998. Increased volumes for Dams 2 and 4 are included in the Water Use License Application as they were built pre-1998, pending approval as an Existing Lawful Use.

Section 21 (a) water use would need to account for the Existing Lawful Use, with the difference applied for in the WULA. (See Table 2 and Table 3 below for a summary of the Water Use Volumes to be applied for by the applicant). Section 21 (b) water use will be applied for the storage of water in the 4 dams.

In addition to the above water uses, the WULA will include Section 21 (c) and (i) water uses given the existing and proposed future clearing of soil and vegetation within the dam basin, as well as modifications to the dam wall.

The land owner was informed that authorisations in terms of the National Water Act (1998) should have been obtained for the clearing and enlargement of the dams, when making enquiries for the abstraction of borehole water. The applicant voluntarily undertook the necessary rectification processes in terms of both the NWA and NEMA for their water uses.

**Table 2 - Summary of Storage in Dams**

	Dam 1	Dam 2	Dam 3	Dam 4	Total
<b>21 (b) Storage</b>	17 552 m <sup>3</sup>	4 659 m <sup>3</sup>	5 805 m <sup>3</sup>	10 047 m <sup>3</sup>	<b>38 063 m<sup>3</sup></b>

**Table 3 - Summary of Water Use Volumes**

	Portion 9/232	Portion 66/232
<b>Irrigation Requirement for 20ha Almonds</b>	60 000m <sup>3</sup> /a	
<b>Existing Lawful Use 21 (a) Taking</b>	19 796m <sup>3</sup> /a	36 764m <sup>3</sup> /a
<b>Existing Lawful Use 21 (b) Storage</b>	--	3 315m <sup>3</sup>
<b>Section 21 (a): Abstraction of surface runoff</b>	60 000m <sup>3</sup> /a	
<b>Section 21 (a): Abstraction of borehole water</b>	--	24 000 m <sup>3</sup> /a

The values reported in Table 3 do not take the ELU into account. The actual volumes to be applied for in the WUL will take this into account as shown below:

Total 21 (a) taking for Portion 9 and 66/232 = (Borehole + Surface runoff) – ELU = **27 440 m<sup>3</sup>/a**

Total 21 (b) storing for Portion 9 and 66/232 = Current Storage – ELU = **34 748 m<sup>3</sup>**

The Hydrological Assessment of Dams and Irrigation of Almonds on Portions 66 and 9 of Farm 232 Redford, compiled by Dr James Dabrowski (Confluent Environmental) concluded the following:

*Based on the analyses presented in this report an annual abstraction of 60 000 m<sup>3</sup> from the Redhaus catchments and 24 000 m<sup>3</sup> abstraction from a borehole will ensure security of supply for irrigation of 20 hectares of almonds over the medium to long term.*

#### 4 RELEVANT WARMS INFORMATION

The property currently has no water uses registered on the Water Allocation and Resource Management System (WARMS). This will be the first application for any water use on Portions 66/232 and 9/232 Redford Farm, Knysna.

#### 5 TECHNICAL REPORTS

Technical reports relevant to the WULA are available as indicated in Table 44.

**Table 4 - Summary of relevant technical reports**

Title	Author
Aquatic Specialist Impact Assessment for the Section 24G and Water Use License Applications required for Portions 4 and 9 / 232 Redford Farm, Knysna	Confluent Environmental Dr. Jackie Dabrowski
Report on Drilling and Pump Testing of Borehole drilled on farm near the Craggs, Western Cape	DHS Groundwater Consulting Services, Divan Stroebel
Water Use License Application, Geohydrological Assessment	DHS Groundwater Consulting Services, LE Stroebel & DH Stroebel
Hydrological Assessment of Dams and Irrigation of Almonds on Portions 1, 4 and 9 of Farm 232 Redford, The Craggs, Western Cape.	Confluent Environmental Dr. James Dabrowski
Dam surveys	Suid-Kaap Besproeing, Byron La Trobe

#### 6 RELEVANT CONTACTS

Registration as an Interested and Affected Party (I&AP) for the NEMA and NWA processes is through Eco Route Environmental Consultancy, contact Janet Ebersohn, (email: janet@ecoroute.co.za). Any

queries related to the water uses or WULA can be directed to Sonia Jordaan at Confluent, (email: [sonia@confluent.co.za](mailto:sonia@confluent.co.za)).