

Water Use Assessment Form

Lower Schoonberg Farm 1/108, Quaternary Catchment J34E

The Water Use License to be applied for relates to the upgrade and enlargement of an existing dam (known as Bosse Dam), as well as clearing of wetland vegetation and modification to the bed and banks below the dam wall. Bosse Dam is located on Lower Schoonberg Farm Portion 1 of No. 108, in the Langkloof Valley approximately 50 km from George, Western Cape. The dam was originally constructed in the early 1920s. Maintenance and upgrades to the dam were made in lieu of relevant environmental authorisations according to the National Environmental Management Act as well as the National Water Act. The applicant is therefore engaged in a Section 24G rectification process as well as the WULA.

Table 1 Property Owner Details

Company Name:	Langkloof Plase (Pty) Ltd
Trading Name:	Langkloof Plase (Pty) Ltd
Title Deed Number:	T51710/2018
Company Registration Number:	2018/054585/07
Date Company Established:	02/02/2018
Equity Status:*	None
Is the majority of the company owned by women/a woman?	No
Company Contact Person:	Hein Jonker (Director)
Contact Number (cell and/or landline):	082 6527416 or 044 2033200
Contact email address:	Hein.jonker@opsa.co.za
Postal Address:	PO Box 689, Oudtshoorn, 6620
Physical Address:	Schoonberg Farm, Langkloof, Herold, 6615

***White: BBBEEE (Historically Advantaged Individual owned company complying with BBBEE standards- Proof required)**

Catchment description

The site is in Quaternary catchment J34E and falls within the Gouritz Water Management Area (WMA). The dam is situated instream on the Suikerboslaagte stream, originating in the Outeniqua Mountains, and flows into the Brak River approximately 1km downstream (Figure). The site is in Sub-Quaternary Reach (SQR) 8910, within a National Freshwater Ecosystem Priority Area (NFEP) categorised as an Upstream Management Area. These are areas where human activities need to be managed to prevent degradation of downstream FEPAs and Fish Support Areas (Nel et al., 2011). The Mean Annual Precipitation for this area is 426 mm.

The property is located in vegetation identified as Langkloof Shale Renosterveld which has a protection status of *Critically Endangered*. The area has been under agricultural development for many decades, resulting in modified vegetation and landscapes. Portions of the property upstream of the dam are classified as Critical Biodiversity Areas 2 (CBA2; Degraded), whilst areas surrounding and below the dam wall are classified as Ecological Support Areas 2 (ESA2; Restore). These ESAs are important for supporting CBAs and delivering ecosystem services.

The study area is located in the Garden Route Biosphere Reserve, a section in the Gouritz Cluster Biosphere Reserve and water use is regulated by the Breede-Gouritz Catchment Management Agency (BGCMA).



Figure 1 Location of Lower Schoonberg Farm and Bosse Dam

Description of activities on site

According to the applicant, the dam wall was leaking and in need of repair. In 2018 the applicant commenced with repairing the dam wall. This involved grading out sediment accumulated in the dam basin to reinforce the dam wall. Vegetation below the dam wall was cleared around the same time. This was in part due to a wild fire that burnt the area in 2018, leaving dead wood and debris. The vegetation, mostly alien *Eucalyptus* sp., was removed and graded over which altered the bed and banks of the watercourse which is classified as a wetland (Fig.2).

The owner intends to apply for increased storage of water in the dam (Setion 21b), due to increased capacity. The farm has an Existing Lawful Use of 200 000 m³ per annum for irrigation.



Figure 2. Aerial pictures depicting Bosse Dam in 2016 and post-maintenance in 2019 including an outline of the original dam area.

Identification of water uses

According to the National Water Act (Act No. 36 of 1998) activities for which a WUL needs to be applied under Section 21 are as follows:

- **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 characteristic of a watercourse.

Validation and Verification

The Existing Lawful Use (ELU) for Section 21a and 21b water use on portion 1/108 was determined by the CSIR (April, 2021), who have been appointed by the BGCMA to undertake a Water Management Area-wide Validation and Verification (V & V) of historical water use. The ELU determined for storage and irrigation on the property are as follows:

Section 21a (taking of water for irrigation) = 200 000 m³ / annum

Section 21b (storage of water in 3 instream dams) = 168 400 m³

Bosse Dam Current Dimensions

Bosse dam was registered as an “Existing Dam” with the Dam Safety Office after the recent upgrading of the dam wall. **Error! Reference source not found.** shows Bosse Dam’s current dimensions based on a detailed survey completed in September 2020.

Table 2 Bosse Dam current dimensions

Location	33°49'06" S	22°37'40" E	
Wall type	Earthfill	Wall height	10.5 m
Storage capacity	163 500 m ³	Spillway type	Bywash
Crest length	273 m	Crest width	9m

Historic Dam Dimensions

Unfortunately, little information is available for detailed dimensions recorded prior to the upgrade and maintenance work.

The only documented volume was produced as part of a historical (circa 1980s) water affairs survey of dams in the area which provides a contour survey volume of 59 450 m³ (Fig. 3). This was conducted as part of the historical declaration of the area as a Government Controlled Area.

Kontoer: (a)	Area: (Ha)	Volume: (MI)	Kun Vol: (MI)	Totale Vol: (MI)
94	.02	.1	.1	
95	.08	.8	.9	
96	.45	4.5	5.4	
97	1.01	10.1	15.5	
98	1.48	14.8	30.3	
99	1.83	18.3	48.6	
100	2.17	10.85	59.45	59.45

Figure 3. Clipped image from contour dam survey.

The same document provides volumes for all three dams on 1/108 which are shown in Figure 4 together with a total combined volume of 168 350 m³. This is close to what was determined in the V & V.

The difference between the historical volume of 59 450 m³ and the current volume of 163 500 m³ is **104 050 m³**, which is the amount to be applied for in the WULA.

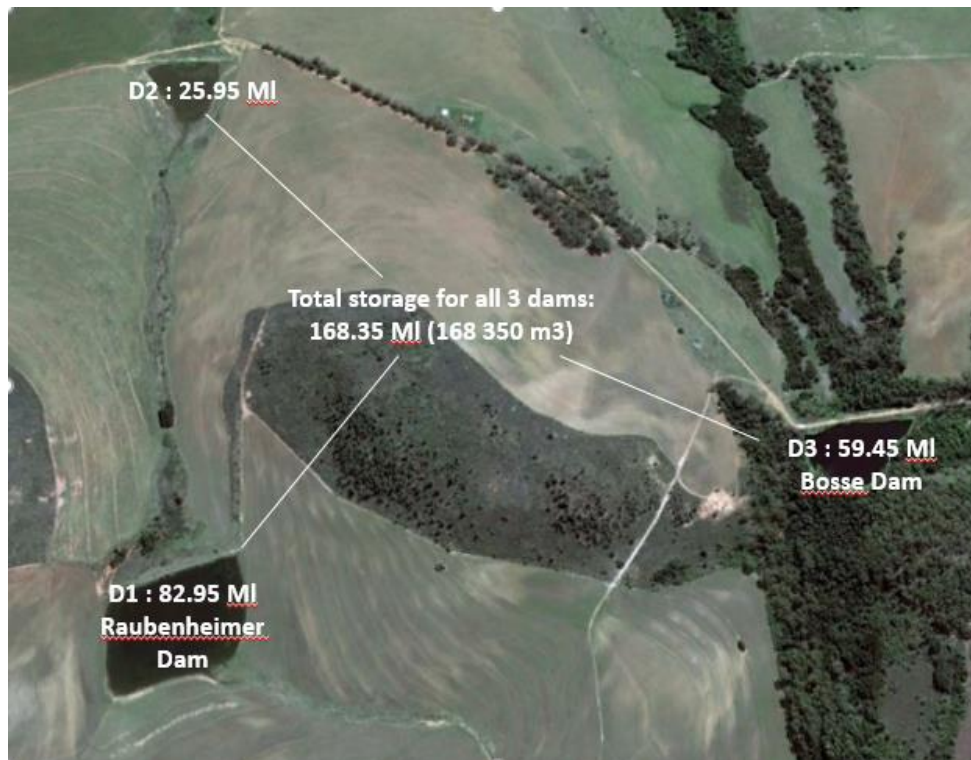


Figure 4. Contour survey volumes from water affairs document (D3 = Bosse Dam)

Expected timelines

According to GN R.267 in GG40713 of 24 March 2017 the process of water use license application, consideration and decision shall be undertaken within a period of 300 days of submitting such an application (Table).

Table 4 Timeframe for Water Use License Application

Summary of steps & timeframes for processing a Water Use License Application (according to GN No. R. 267 – Regulations Regarding the Procedural Requirements for Water Use License Applications and Appeals)							
Phase	Task	Description	Responsibility	Max. Days Allocated	Cumulative Days	Status	Date Completed
Phase 1: Submission of Pre-application	0	Project Inception	Confluent	0	0	Complete	2020
	1	Site Visit (within 1 week of project inception)	Confluent	7	7	Complete	2020
	2	Pre-Application meeting	DWS & Confluent	7	14	Complete	2020
	4	Submit pre-application to DWS	Confluent	1	15	Complete	2020
	5	Type of authorisation determined	DWS	1	16	Complete	2020
Phase 2: Submission of WULA	6	Submit WUL application forms and supporting documents	Confluent	1	17	Complete	2020
	7	DWS acknowledges receipt of the application	DWS	10	27	Complete	2020
	8	Confirm arrangements for site inspection with DWS	Confluent	5	32	Complete	2020
	9	Site inspection to confirm water uses, determine information requirements and the need for public participation	DWS & Confluent	20	52	Complete	November 2020
	10	Confirm requirements for water use license application technical	DWS	5	57	Complete	January 2021

		<i>report based on site inspections</i>					
Phase 3: Submission of Technical Reports	11	<i>Compilation, consultation and submission of water use license application technical report by applicant</i>	<i>Confluent</i>	105	162	Incomplete	<i>In progress</i>
	12	<i>Accept or reject Technical Report/s</i>	<i>DWS</i>	10	172	Incomplete	
	13	<i>Assessment of Technical Report</i>	<i>DWS</i>	139	311	Incomplete	
	14	<i>Decision and communication to applicant</i>	<i>DWS</i>	5	316	Incomplete	

References

Nel, J.L., Murray, K.M., AM Maherry, A.M., Petersen, C.P., Roux, D.J., Driver, A., Hill, L., van Deventer, H., Funke, N., Swartz, E.R., Smith-Adao, L.B., Mbona, N., Downsborough, L. and Nienaber, S. (2011). *Technical Report for the National Freshwater Ecosystem Priority Areas project*. WRC Report No. 1801/2/11. Water Research Commission, Pretoria, South Africa.