



water & sanitation

Department:
Water and Sanitation
REPUBLIC OF SOUTH AFRICA

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LICENCE IN TERMS OF CHAPTER 4 OF THE NATIONAL WATER ACT, 1998 (ACT NO. 36 OF 1998) (THE ACT)

I, **Trevor Balzer**, in my capacity as Deputy Director-General: Special Projects in the Department of Water and Sanitation: and acting under authority of the powers sub- delegated to me by the Acting Director- General of Water and Sanitation, hereby authorizes the following water uses in respect of this licence.

SIGNED:

DATE:

Trevor Balzer
23/07/2019

LICENCE NO: 01/G40A/CI/9068

FILE NO: 27/2/2/G440/4/3

- 1 Licensee: CITY OF CAPE TOWN METROPOLITAN MUNICIPALITY :
Groundwater Distribution and Discharge Infrastructure
in Steenbras
Postal Address: PO Box X9181
Cape Town
8001

2 Water Uses

- 2.1 Section 21 (c) of the Act: Impeding or diverting the flow of water in a watercourse subject to the conditions as set out in Appendices I and II
- 2.2 Section 21(i) of the Act: Altering the bed, banks, course or characteristic of a watercourse, subject to the conditions as set out in Appendices I and II

3 Properties in respect of which this licence is issued

- 3.1 The properties in respect of which this licence is issued are listed in **Table 1** below.

Table 1: Properties included in the licence

Property Description	Title Deed Number	SG CODE
Farm 307 Portion 0, Caledon RD	CAF3-11/1922	C01300000000030700000
Farm 310 Portion 0, Caledon RD	T27911/2015	C01300000000031000000
Farm 310 Portion 1, Caledon RD	T27911/2015	C01300000000031000001 B09080
Farm 309 Portion 5 ,Caledon RD	T5189/1923	C01300000000030900005

4 Registered owners of the Properties

4.1 Registered owner of the property is shown in **Table 2**.

Table 2: Registered Owner of the property

Property Description	Title Deed Number	Owners Detail
Farm 307 Portion 0, Caledon RD	CAF3-11/1922	CITY OF CAPE TOWN
Farm 310 Portion 0, Caledon RD	T27911/2015	CITY OF CAPE TOWN
Farm 310 Portion 1, Caledon RD	T27911/2015	CITY OF CAPE TOWN
Farm 309 Portion 5, Caledon RD	T5189/1923	CITY OF CAPE TOWN

5 Licence and Review Period

This licence is valid for a period of five (5) years from the date of issuance and it may be reviewed at intervals of not more than two (2) years.

6. Definitions

Any terms, words and expressions as defined in the National Water Act, 1998 (Act 36 of 1998) shall bear the same meaning when used in this licence.

"The Regional Head" means Chief Director: Western Cape, Department of Water and Sanitation, Private Bag X16, Sanlamhof, Bellville, 7532.

"Responsible Authority" means the Department of Water and Sanitation or Catchment Management Agency.

"Extent of the watercourse" means the outer edge of the 1:100 year floodline or the delineated riparian habitat, whichever is the greatest.

"Regulated area of a wetland" is the use of water for section 21 c and i water uses within 500m radius from the boundary of any wetland.

A wetland means land which is transitional between terrestrial and aquatic systems where the water table is usually at or near the surface, or the land is periodically covered with shallow water, and which land in normal circumstances supports or would support vegetation typically adapted to life in saturated soil.

The characteristics of a watercourse/s mean the flow regime, water quality, habitat (including the physical structure of the watercourse/s and associated vegetation) and biota found within the extent of the watercourse/s. The Resource Quality characteristics as defined in the National Water Act, 1998 (Act 36 of 1998).

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7. Description of activity

The City of Cape Town intends to develop infrastructure in the Steenbras Well-field which will help with collecting and transporting groundwater from the boreholes into the Steenbras Dam. This water would help in addressing the current water supply shortage within the City of Cape Town municipal jurisdiction due to the drought conditions being experienced in the Western Cape. The Section 21(c) & (i) Licence must be read together with the existing City of Cape Town: Table Mountain Group Aquifer (Steenbras) Section 21(a) licence (01/G40A/A/7276 and File number :27/2/1/G140/513/2) of 57 million cubic metres groundwater abstraction through boreholes. The activities trigger Section 21(c) and (i) in terms of the National Water Act, Act 36 of 1998 and falls within G40A Quaternary Catchment under the City of Cape Town's municipal jurisdiction. The figure 1 below indicates the MU reference for the location of the water uses.

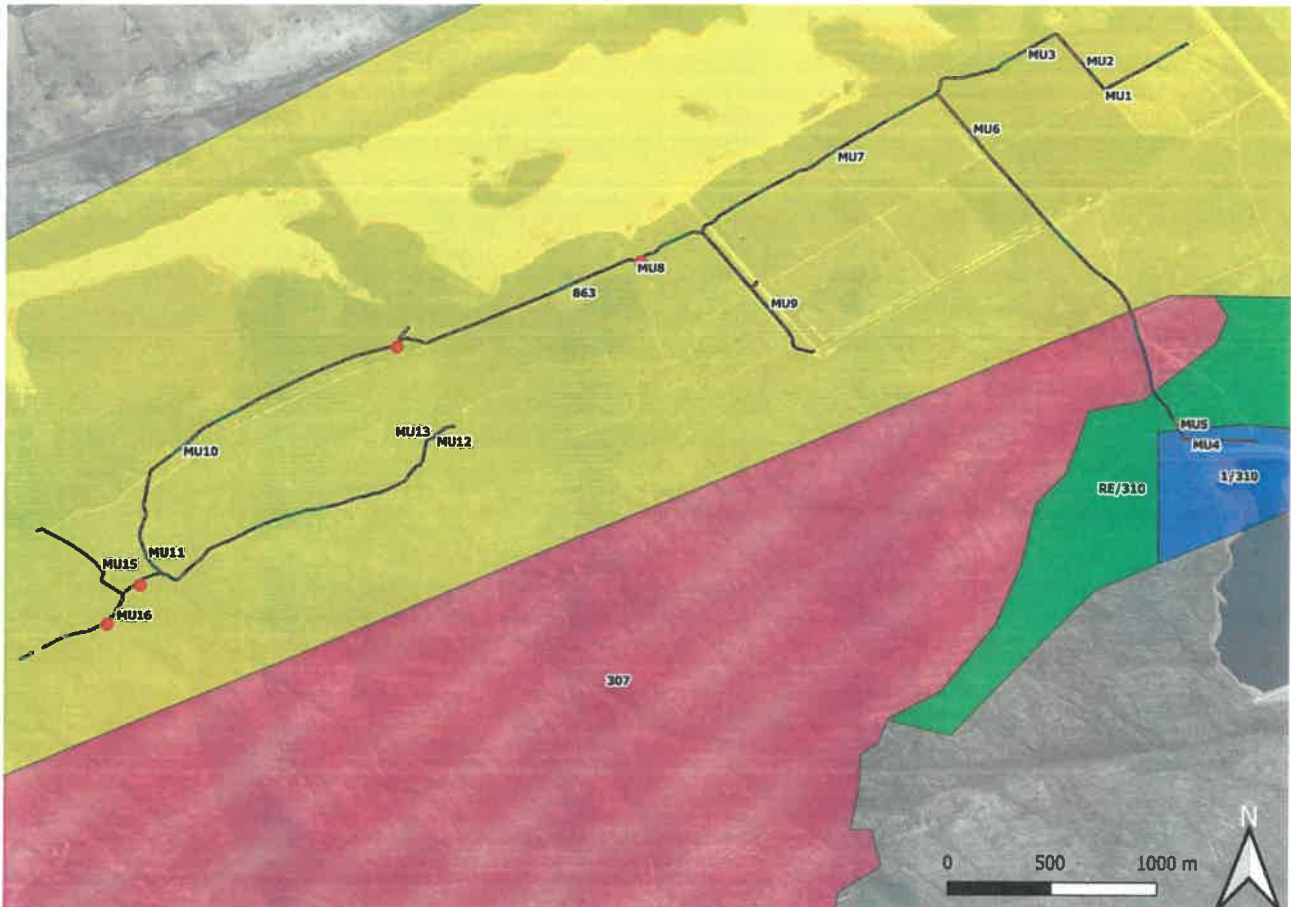


Figure 1: Steenbras Well field.

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APPENDIX I

General Conditions for the Licence

1. This licence is subject to all applicable provisions of the National Water Act, 1998 (Act 36 of 1998).
2. The responsibility for complying with the provisions of the licence is vested in the Licensee and not any other person or body.
3. The Licensee must immediately inform the Regional Head of any change of name, address, premises and/or legal status.
4. If the property in respect of which this licence is issued is subdivided or consolidated, the Licensee must provide full details of all changes in respect of the properties to the Regional Head within 60 days of the said change taking place.
5. If a Water User Association is established in the area to manage the resource, membership of the Licensee to the Association is compulsory. Rules, regulations and water management stipulation of such association must be adhered to.
6. The Licensee shall be responsible for any water use charges and/or levies imposed by a Responsible Authority.
7. While effect must be given to the Reserve as determined in terms of the Act, where a lower confidence determination of the Reserve has been used in issuance of this licence, the licence conditions may be amended should a higher confidence reserve be conducted.
8. The licence shall not be construed as exempting the Licensee from compliance with the provisions of any other applicable Act, Ordinance, Regulation or By-law.
9. The licence and amendment of this licence are also subject to all the applicable procedural requirements and other provisions of the Act, as amended from time to time.
10. The Licensee shall conduct an annual internal audit on compliance with the conditions of this licence. A report on the audit shall be submitted to the Regional Head within one month of the finalization of the audit.
11. The Licensee shall appoint an independent external auditor to conduct an annual audit on compliance with the conditions of this licence. Both these audits may be subjected to external audit.
12. Any incident that causes or may cause water pollution must be reported to the Regional Head or a designated representative within 24 hours.
13. The Department accepts no liability for any damage, loss or inconvenience, of whatever nature, suffered as a result of / amongst other things.
 - 13.1 Shortage of water;
 - 13.2 Inundation of flood;
 - 13.3 Any *force majeure* event;
 - 13.4 Siltation of the river or dam basin; and
 - 13.5 Required Reserve releases.

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APPENDIX II

Section 21(c) of the Act: Impeding or diverting the flow of water in a watercourse and

Section 21(i) of the Act: Altering the bed, banks, course or characteristic of a watercourse

1. GENERAL

1.1 This licence authorises the Steenbras Infrastructure development and distribution of groundwater into Steenbras Dam in Western Cape for Section 21(c) and (i) water use activities as set out in **Table 3** within quaternary catchment G40A and in the water use licence application reports submitted to the Department (refer condition 1.2):

Table 3: Section 21(c) and (i) water uses

Water Use Activity	Purpose	Properties	Co-ordinates
Water use: Section 21(c)& (i)			
Trenching for laying of pipelines	Construction of pipelines, electrical infrastructure, borehole chambers and pump structures (MU1) within a Wetland	Farm 309 Portion 5 ,Caledon RD	34° 9' 41.71" S 18° 56' 39.63" E
Trenching for the laying of pipelines	Construction of pipelines, electrical infrastructure, borehole chambers and pump structures (MU2) within a wetland	Farm 309 Portion 5 ,Caledon RD	34° 9' 40.36" S 18° 56' 26.96" E
Trenching for the laying of pipelines	Construction of pipelines, electrical infrastructure, borehole chambers and pump structures (MU10) within a wetland	Farm 309 Portion 5 ,Caledon RD	34° 10' 34.23" S 18° 54' 18.9" E
River crossing	River Crossing Bridge Repairs	Farm 309 Portion 5 ,Caledon RD	34° 10' 18.5"S 18° 55' 4.88" E
Trenching for laying of pipelines	Construction of pipelines, electrical infrastructure, borehole chambers and pump structures (MU 8) within a wetland	Farm 309 Portion 5 ,Caledon RD	34° 10' 7.65" S 18° 55' 23.3" E
Trenching for laying of pipelines	Construction of pipelines, electrical infrastructure, borehole chambers and pump structures (MU7) within a wetland	Farm 309 Portion 5 ,Caledon RD	34° 9' 52.2" S 18° 55' 50.74" E
Trenching for laying of pipelines	Construction of pipelines, electrical infrastructure, borehole chambers and pump structures (MU 14) within a wetland	Farm 309 Portion 5 ,Caledon RD	34° 11' 16.37" S 18° 53' 34.04" E



Trenching for laying of pipelines	Construction of pipelines, electrical infrastructure, borehole chambers and pump structures (MU 3) within a wetland	Farm 309 Portion 5 ,Caledon RD	34° 9' 41.61" S 18° 56' 12.59" E
Trenching for laying of pipelines	Construction of pipelines, electrical infrastructure, borehole chambers and pump structures (MU 5 – 863) within a wetland	Farm 309 Portion 5 ,Caledon RD	34° 10' 19.65" S 18° 56' 29.28" E
Trenching for the laying of pipelines	Construction of pipelines, electrical infrastructure, borehole chambers and pump structures (MU 16) within a wetland	Farm 309 Portion 5 ,Caledon RD	34° 11' 27.51" S 18° 53' 22.98" E
Trenching for the laying of pipelines	Impeding or diverting the flow of water in a watercourse (c) - Construction of pipelines, electrical infrastructure, borehole chambers and pump structures (MU 4) within a wetland	Farm 310 Portion 1,Caledon RD	34° 10' 51.65" S 18° 56' 54.34" E
Trenching for the laying of pipelines	Construction of pipelines, electrical infrastructure, borehole chambers and pump structures (MU 15) within a wetland	Farm 309 Portion 5 ,Caledon RD	34° 11' 13.48" S 18° 53' 20.08" E
Trenching for the laying of pipelines	Construction of pipelines, electrical infrastructure, borehole chambers and pump structures (MU 5 - 1/310) within a wetland	Farm 310 Portion 1,Caledon RD	34° 10' 50.81" S 18° 56' 47.09" E
Trenching for the laying of pipelines	Construction of pipelines, electrical infrastructure, borehole chambers and pump structures – (MU 5 - RE/310) within a wetland	Farm 310 Portion 0,Caledon RD	34° 10' 46.12" S 18° 56' 44.48" E
Trenching for the laying of pipelines	Construction of pipelines, electrical infrastructure, borehole chambers and pump structures (MU 11) within a wetland	Farm 309 Portion 5 ,Caledon RD	34° 11' 7.04" S 18° 53' 31.88" E
Trenching for the laying of pipelines	Construction of pipelines, electrical infrastructure, borehole chambers and pump structures (MU 6) within a wetland	Farm 309 Portion 5 ,Caledon RD	34° 9' 58.86" S 18° 56' 11.12" E
Trenching for the laying of pipelines	Construction of pipelines, electrical infrastructure, borehole chambers and pump structures (MU 5 – 307) within a wetland	Farm 307 Portion 0, Caledon RD	34° 10' 42.75" S 18° 56' 41.69" E

Trenching for the laying of pipelines	Construction of pipelines, electrical infrastructure, borehole chambers and pump structures – (MU 12) within a wetland	Farm 309 Portion 5 ,Caledon RD	34° 10' 50.26" S 18° 54' 28.13" E
Trenching for the laying of pipelines	Construction of pipelines, electrical infrastructure, borehole chambers and pump structures (MU 13) within a wetland	Farm 309 Portion 5 ,Caledon RD	34° 11' 7.58" S 18° 53' 56.01" E
Trenching for the laying of pipelines	Construction of pipelines, electrical infrastructure, borehole chambers and pump structures- (MU 17) within a wetland	Farm 309 Portion 5 ,Caledon RD	34° 10' 41.08" S 18° 54' 30.18" E
Trenching for laying of pipelines	Construction of pipelines, electrical infrastructure, borehole chambers and pump structures (MU 1) within a wetland	Farm 309 Portion 5 ,Caledon RD	Start 34° 9' 35.09" S 18° 56' 44.66" E End 34° 9' 46.75" S 18° 56' 1.09" E
Trenching for laying of pipelines	Construction of pipelines, electrical infrastructure, borehole chambers and pump structures (MU 6) within a wetland	Farm 309 Portion 5 ,Caledon RD	Start 34° 10' 12.52" S 18° 56' 22.27" E End 34° 9' 46.91" S 18° 56' 0.96" E
Trenching for laying of pipelines	Construction of pipelines, electrical infrastructure, borehole chambers and pump structures (MU 16) within a wetland	Farm 309 Portion 5 ,Caledon RD	Start 34° 11' 16.1" S 18° 53' 33.67" E End 34° 11' 35.68" S 18° 53' 8.47" E
Discharge of water into Steenbras dam	Surface water augmentation	Farm 309 Portion 5 ,Caledon RD	34° 9' 19.69" S 18° 56' 20.6" E
Trenching for laying of pipelines	Construction of pipelines, electrical infrastructure, borehole chambers and pump structures (MU 4) within a wetland	Farm 310 Portion 1,Caledon RD	Start 34° 10' 51.84" S 18° 57' 1.24" E End 34° 10' 51.58" S 18° 56' 47.7" E
Trenching for laying of pipelines	Construction of pipelines, electrical infrastructure, borehole chambers and pump structures (MU 3) within a wetland	Farm 309 Portion 5 ,Caledon RD	Start 34° 9' 35.46" S 18° 56' 22.59" E End 34° 9' 46.65" S 18° 56' 0.36" E

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Trenching for laying of pipelines	Construction of pipelines, electrical infrastructure, borehole chambers and pump structures (MU 15) within a wetland	Farm 309 Portion 5 ,Caledon RD	Start 34° 11' 21.08" S 18° 53' 28.9" E End 34° 11' 8.92" S 18° 53' 11.1" E
Trenching for laying of pipelines	Construction of pipelines, electrical infrastructure, borehole chambers and pump structures (MU 7) within a wetland	Farm 309 Portion 5 ,Caledon RD	Start 34° 9' 46.82" S 18° 56' 0.09" E End 34° 9' 57.79" S 18° 55' 41.3" E
Trenching for laying of pipelines	Construction of pipelines, electrical infrastructure, borehole chambers and pump structures (MU 14) within a wetland	Farm 309 Portion 5 ,Caledon RD	Start 34° 11' 17.22" S 18° 53' 35.47" E End 34° 11' 14.93" S 18° 53' 32.65" E
Repairs to bridge crossings	To repair bridge crossings in a stream	Farm 309 Portion 5 ,Caledon RD	34° 11' 27.02" S 18° 53' 24.79" E
Trenching for laying of pipelines	Construction of pipelines, electrical infrastructure, borehole chambers and pump structures (MU 5 – 863)	Farm 309 Portion 5 ,Caledon RD	Start 34° 10' 29.49" S 18° 56' 37.43" E End 34° 10' 11.6" S 18° 56' 22.31" E
Trenching for laying of pipelines	Construction of pipelines, electrical infrastructure, borehole chambers and pump structures (MU 11) within a wetland	Farm 309 Portion 5 ,Caledon RD	Start 34° 10' 59.28" S 18° 53' 34.02" E End 34° 11' 14.97" S 18° 53' 32.7" E
Trenching for laying of pipelines	Construction of pipelines, electrical infrastructure, borehole chambers and pump structures (MU 5 – 307) within a wetland	Farm 307 Portion 0, Caledon RD	Start 34° 10' 42.76" S 18° 56' 41.68" E End 34° 10' 27.96" S 18° 56' 36.81" E
Trenching for laying of pipelines	Construction of pipelines, electrical infrastructure, borehole chambers and pump structures (MU 5 - RE/310) within a wetland	Farm 310 Portion 0,Caledon RD	34° 10' 46.1" S 18° 56' 44.5" E
Trenching for laying of pipelines	Construction of pipelines, electrical infrastructure, borehole chambers and pump structures (MU 17) within a wetland	Farm 309 Portion 5 ,Caledon RD	Start 34° 10' 46.99" S 18° 54' 31.99" E End 34° 10' 39.22" S 18° 54' 30.15" E

Trenching for laying of pipelines	Construction of pipelines, electrical infrastructure, borehole chambers and pump structures (MU 13) within a wetland	Farm 309 Portion 5 ,Caledon RD	Start 34° 10' 51.16" S 18° 54' 26.53" E End 34° 11' 17.74" S 18° 53' 35.95" E
Trenching for laying of pipelines	Construction of pipelines, electrical infrastructure, borehole chambers and pump structures (MU 10) within a wetland	Farm 309 Portion 5 ,Caledon RD	Start 34° 10' 17.72" S 18° 55' 3.68" E End 34° 10' 57.94" S 18° 53' 33.55" E
Trenching for laying of pipelines	Construction of pipelines, electrical infrastructure, borehole chambers and pump structures (MU 5 - 1/310) within a wetland	Farm 310 Portion 1,Caledon RD	Start 34° 10' 50.8" S 18° 56' 47.1" E End 34° 10' 50.8" S 18° 56' 47.1" E
Trenching for laying of pipelines	Construction of pipelines, electrical infrastructure, borehole chambers and pump structures (MU 8) within a wetland	Farm 309 Portion 5 ,Caledon RD	Start 34° 9' 56.76" S 18° 55' 41.23" E End 34° 10' 18.05" S 18° 55' 3.22" E
Trenching for laying of pipelines	Construction of pipelines, electrical infrastructure, borehole chambers and pump structures (MU 2) within a wetland	Farm 309 Portion 5 ,Caledon RD	Start 34° 9' 46.38" S 18° 56' 31.46" E End 34° 9' 34.76" S 18° 56' 22.96" E
Trenching for laying of pipelines	Construction of pipelines, electrical infrastructure, borehole chambers and pump structures (MU 12) within a wetland	Farm 309 Portion 5 ,Caledon RD	34° 10' 50.28" S 18° 54' 28.12" E
Stream Crossings			
Water use: Section 21(c) & (i)			
Below Trenching for laying of pipelines	Construction of pipelines, electrical infrastructure, borehole chambers and pump structures within a wetland (MU1)	Farm 309 Portion 5 ,Caledon RD	Start 34° 9'37.24"S 18°56'47.23"E End 34° 9'38.06"S 18°56'46.09"E
Below Trenching for laying of pipelines	Construction of pipelines, electrical infrastructure, borehole chambers and pump structures within a wetland (MU1)	Farm 309 Portion 5 ,Caledon RD	Start 34° 9'40.58"S 18°56'41.35"E End 34° 9'41.51"S 18°56'39.92"E

Below Trenching for laying of pipelines	Construction of pipelines, electrical infrastructure, borehole chambers and pump structures within a wetland (MU1)	Farm 309 Portion 5 ,Caledon RD	Start 34° 9'45.42"S 18°56'32.69"E End 34° 9'45.29"S 18°56'31.25"E
Below Trenching for laying of pipelines	Construction of pipelines, electrical infrastructure, borehole chambers and pump structures within a wetland (MU2)	Farm 309 Portion 5 ,Caledon RD	Start 34° 9'42.79"S 18°56'29.05"E End 34° 9'40.98"S 18°56'27.45"E
Below Trenching for laying of pipelines	Construction of pipelines, electrical infrastructure, borehole chambers and pump structures within a wetland (MU3)	Farm 309 Portion 5 ,Caledon RD	Start 34° 9'36.39"S 18°56'21.08"E End 34° 9'37.38"S 18°56'19.32"E
12 m above pipeline crossing	Construction of pipelines, electrical infrastructure, borehole chambers and pump structures within a wetland (MU3)	Farm 309 Portion 5 ,Caledon RD	Start 34° 9'42.05"S 18°56'11.95"E End 34° 9'42.26"S 18°56'11.33"E
Below Trenching for laying of pipelines	Construction of pipelines, electrical infrastructure, borehole chambers and pump structures within a wetland (MU7)	Farm 309 Portion 5 ,Caledon RD	Start 34° 9'46.90"S 18°56'0.04"E End 34° 9'52.06"S 18°55'50.96"E
8 m above pipeline crossing	Construction of pipelines, electrical infrastructure, borehole chambers and pump structures within a wetland (MU7)	Farm 309 Portion 5 ,Caledon RD	Start 34° 9'52.15"S 18°55'50.83"E End 34° 9'53.73"S 18°55'48.19"E
Below Trenching for laying of pipelines	Construction of pipelines, electrical infrastructure, borehole chambers and pump structures within a wetland (MU7)	Farm 309 Portion 5 ,Caledon RD	Start 34° 9'54.91"S 18°55'45.88"E End 34° 9'55.29"S 18°55'45.31"E

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Below Trenching for laying of pipelines	Construction of pipelines, electrical infrastructure, borehole chambers and pump structures within a wetland (MU7)	Farm 309 Portion 5 ,Caledon RD	Start 34° 9'55.56"S 18°55'44.87"E End 34° 9'56.60"S 18°55'43.14"E
Below Trenching for laying of pipelines	Construction of pipelines, electrical infrastructure, borehole chambers and pump structures within a wetland (MU7 & 8)	Farm 309 Portion 5 ,Caledon RD	Start 34° 9'57.01"S 18°55'42.46"E End 34° 9'58.04"S 18°55'40.77"E
Below Trenching for laying of pipelines	Construction of pipelines, electrical infrastructure, borehole chambers and pump structures within a wetland (MU8)	Farm 309 Portion 5 ,Caledon RD	Start 34° 9'58.19"S 18°55'40.38"E End 34°10'0.31"S 18°55'37.43"E
Below Trenching for laying of pipelines	Construction of pipelines, electrical infrastructure, borehole chambers and pump structures within a wetland (MU8)	Farm 309 Portion 5 ,Caledon RD	Start 34°10'1.37"S 18°55'35.02"E End 34°10'1.95"S 18°55'33.61"E
Below Trenching for laying of pipelines	Construction of pipelines, electrical infrastructure, borehole chambers and pump structures within a wetland (MU8)	Farm 309 Portion 5 ,Caledon RD	Start 34°10'2.45"S 18°55'32.69"E End 34°10'3.39"S 18°55'31.06"E
Below Trenching for laying of pipelines	Construction of pipelines, electrical infrastructure, borehole chambers and pump structures within a wetland (MU8)	Farm 309 Portion 5 ,Caledon RD	Start 34°10'4.67"S 18°55'28.69"E End 34°10'5.96"S 18°55'26.29"E
Below Trenching for laying of pipelines	Construction of pipelines, electrical infrastructure, borehole chambers and pump structures within a wetland (MU8)	Farm 309 Portion 5 ,Caledon RD	Start 34°10'7.13"S 18°55'24.08"E End 34°10'8.52"S 18°55'21.86"E

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Below Trenching for laying of pipelines	Construction of pipelines, electrical infrastructure, borehole chambers and pump structures within a wetland (MU8)	Farm 309 Portion 5 ,Caledon RD	Start 34°10'9.08"S 18°55'20.96"E End 34°10'9.60"S 18°55'20.16"E
Below Trenching for laying of pipelines	Construction of pipelines, electrical infrastructure, borehole chambers and pump structures within a wetland (MU8)	Farm 309 Portion 5 ,Caledon RD	Start 34°10'10.59"S 18°55'18.91"E End 34°10'10.59"S 18°55'18.91"E
Below Trenching for laying of pipelines	Construction of pipelines, electrical infrastructure, borehole chambers and pump structures within a wetland (MU8)	Farm 309 Portion 5 ,Caledon RD	Start 34°10'13.12"S 18°55'14.39"E End 34°10'16.39"S 18°55'8.10"E
11 m above pipeline crossing	Construction of pipelines, electrical infrastructure, borehole chambers and pump structures within a wetland (MU8)	Farm 309 Portion 5 ,Caledon RD	Start 34°10'17.30"S 18°55'5.99"E End 34°10'18.25"S 18°55'3.62"E
Below Trenching for laying of pipelines	Construction of pipelines, electrical infrastructure, borehole chambers and pump structures within a wetland (MU10)	Farm 309 Portion 5 ,Caledon RD	Start 34°10'22.58"S 18°54'52.98"E End 34°10'25.16"S 18°54'46.66"E
17 m above pipeline crossing	Construction of pipelines, electrical infrastructure, borehole chambers and pump structures within a wetland (MU10)	Farm 309 Portion 5 ,Caledon RD	Start 34°10'33.29"S 18°54'19.77"E End 34°10'34.70"S 18°54'17.70"E
Below Trenching for laying of pipelines	Construction of pipelines, electrical infrastructure, borehole chambers and pump structures within a wetland (MU10)	Farm 309 Portion 5 ,Caledon RD	Start 34°10'42.64"S 18°53'56.33"E End 34°10'10.59"S 18°55'18.91"E

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Below Trenching for laying of pipelines	Construction of pipelines, electrical infrastructure, borehole chambers and pump structures within a wetland (MU10)	Farm 309 Portion 5 ,Caledon RD	Start 34°10'52.05"S 18°53'40.36"E End 34°10'55.38"S 18°53'36.27"E
Below Trenching for laying of pipelines	Construction of pipelines, electrical infrastructure, borehole chambers and pump structures within a wetland (MU11)	Farm 309 Portion 5 ,Caledon RD	Start 34°11'1.96"S 18°53'31.96"E End 34°11'3.68"S 18°53'31.69"E
Below Trenching for laying of pipelines	Construction of pipelines, electrical infrastructure, borehole chambers and pump structures within a wetland (MU11)	Farm 309 Portion 5 ,Caledon RD	Start 34°11'5.18"S 18°53'31.72"E End 34°11'5.62"S 18°53'31.86"E
Below Trenching for laying of pipelines	Construction of pipelines, electrical infrastructure, borehole chambers and pump structures within a wetland (MU11)	Farm 309 Portion 5 ,Caledon RD	Start 34°11'8.83"S 18°53'31.03"E End 34°11'9.74"S 18°53'30.84"E
Below Trenching for laying of pipelines	Construction of pipelines, electrical infrastructure, borehole chambers and pump structures within a wetland (MU11)	Farm 309 Portion 5 ,Caledon RD	Start 34°11'10.80"S 18°53'30.92"E End 34°11'14.01"S 18°53'32.10"E
Below Trenching for laying of pipelines	Construction of pipelines, electrical infrastructure, borehole chambers and pump structures within a wetland (MU14)	Farm 309 Portion 5 ,Caledon RD	Start 34°11'15.22"S 18°53'32.84"E End 34°11'16.99"S 18°53'34.71"E
Below Trenching for laying of pipelines	Construction of pipelines, electrical infrastructure, borehole chambers and pump structures within a wetland (MU13)	Farm 309 Portion 5 ,Caledon RD	Start 34°11'17.61"S 18°53'35.80"E End 34°11'15.94"S 18°53'40.54"E
Below Trenching for laying of pipelines	Construction of pipelines, electrical infrastructure, borehole chambers and pump structures within a wetland (MU13)	Farm 309 Portion 5 ,Caledon RD	Start 34°11'9.17"S 18°53'51.60"E End 34°11'8.03"S 18°53'54.10"E

Below Trenching for laying of pipelines	Construction of pipelines, electrical infrastructure, borehole chambers and pump structures within a wetland (MU13)	Farm 309 Portion 5 ,Caledon RD	Start 34°11'7.20"S 18°53'56.37"E End 34°11'5.37"S 18°54'3.05"E
Below Trenching for laying of pipelines	Construction of pipelines, electrical infrastructure, borehole chambers and pump structures within a wetland (MU17)	Farm 309 Portion 5 ,Caledon RD	Start 34°10'46.49"S 18°54'30.19"E End 34°10'45.55"S 18°54'29.72"E
Below Trenching for laying of pipelines	Construction of pipelines, electrical infrastructure, borehole chambers and pump structures within a wetland (MU17)	Farm 309 Portion 5 ,Caledon RD	Start 34°10'39.48"S 18°54'30.15"E End 34°10'39.48"S 18°54'30.15"E
Below Trenching for laying of pipelines	Construction of pipelines, electrical infrastructure, borehole chambers and pump structures within a wetland	Farm 309 Portion 5 ,Caledon RD	Start 34°11'15.68"S 18°53'32.17"E End 34°11'17.96"S 18°53'31.60"E
13 m above pipeline crossing	Construction of pipelines, electrical infrastructure, borehole chambers and pump structures within a wetland (MU16)	Farm 309 Portion 5 ,Caledon RD	Start 34°11'19.20"S 18°53'30.93"E End 34°11'20.44"S 18°53'28.65"E
Below Trenching for laying of pipelines	Construction of pipelines, electrical infrastructure, borehole chambers and pump structures within a wetland (MU16)	Farm 309 Portion 5 ,Caledon RD	Start 34°11'23.23"S 18°53'27.22"E End 34°11'25.09"S 18°53'26.09"E
15 m above pipeline crossing	Construction of pipelines, electrical infrastructure, borehole chambers and pump structures within a wetland (MU16)	Farm 309 Portion 5 ,Caledon RD	Start 34°11'26.31"S 18°53'25.20"E End 34°11'27.05"S 18°53'23.99"E
Below Trenching for laying of pipelines	Construction of pipelines, electrical infrastructure, borehole chambers and pump structures within a wetland (MU16)	Farm 309 Portion 5 ,Caledon RD	Start 34°11'28.29"S 18°53'21.11"E End 34°11'28.84"S 18°53'18.62"E
13 m above pipeline crossing	Construction of pipelines, electrical infrastructure, borehole chambers and pump structures within a wetland (MU16)	Farm 309 Portion 5 ,Caledon RD	Start 34°11'28.98"S 18°53'17.92"E End 34°11'30.44"S 18°53'14.58"E

Below Trenching for laying of pipelines	Construction of pipelines, electrical infrastructure, borehole chambers and pump structures within a wetland (MU16)	Farm 309 Portion 5 ,Caledon RD	Start 34°11'32.21"S 18°53'11.05"E End 34°11'33.67"S 18°53'8.43"E
Below Trenching for laying of pipelines	Construction of pipelines, electrical infrastructure, borehole chambers and pump structures within a wetland	Farm 309 Portion 5 ,Caledon RD	Start 34°11'34.31"S 18°53'7.29"E End 34°11'34.77"S 18°53'6.00"E
6 m above pipeline crossing	Construction of pipelines, electrical infrastructure, borehole chambers and pump structures within a wetland	Farm 309 Portion 5 ,Caledon RD	Start 34°11'35.83"S 18°53'3.41"E End 34°11'36.44"S 18°53'1.47"E
Below Trenching for laying of pipelines	Construction of pipelines, electrical infrastructure, borehole chambers and pump structures within a wetland	Farm 309 Portion 5 ,Caledon RD	Start 34°11'37.06"S 18°52'59.24"E End 34°11'37.30"S 18°52'58.59"E
Below Trenching for laying of pipelines	Construction of pipelines, electrical infrastructure, borehole chambers and pump structures within a wetland	Farm 309 Portion 5 ,Caledon RD	Start 34°11'37.35"S 18°52'58.47"E End 34°11'38.85"S 18°52'53.45"E
Below Trenching for laying of pipelines	Construction of pipelines, electrical infrastructure, borehole chambers and pump structures within a wetland	Farm 309 Portion 5 ,Caledon RD	Start 34°11'39.46"S 18°52'52.16"E End 34°11'41.37"S 18°52'47.63"E
Below Trenching for laying of pipelines	Construction of pipelines, electrical infrastructure, borehole chambers and pump structures within a wetland	Farm 309 Portion 5 ,Caledon RD	Start 34°11'41.85"S 18°52'46.33"E End 34°11'42.10"S 18°52'45.66"E
Below Trenching for laying of pipelines	Construction of pipelines, electrical infrastructure, borehole chambers and pump structures within a wetland	Farm 309 Portion 5 ,Caledon RD	Start 34°11'42.70"S 18°52'44.31"E End 34°11'42.94"S 18°52'41.71"E
Below Trenching for laying of pipelines	Construction of pipelines, electrical infrastructure, borehole chambers and pump structures within a wetland	Farm 309 Portion 5 ,Caledon RD	Start 34°11'43.84"S 18°52'36.28"E End 34°11'44.88"S 18°52'34.68"E



Below Trenching for laying of pipelines	Construction of pipelines, electrical infrastructure, borehole chambers and pump structures within a wetland	Farm 309 Portion 5 ,Caledon RD	Start 34°11'45.40"S 18°52'33.94"E End 34°11'46.19"S 18°52'32.15"E
Below Trenching for laying of pipelines	Construction of pipelines, electrical infrastructure, borehole chambers and pump structures within a wetland (MU15)	Farm 309 Portion 5 ,Caledon RD	Start 34°11'20.70"S 18°53'27.02"E End 34°11'19.10"S 18°53'24.32"E
Below Trenching for laying of pipelines	Construction of pipelines, electrical infrastructure, borehole chambers and pump structures within a wetland (MU15)	Farm 309 Portion 5 ,Caledon RD	Start 34°11'16.30"S 18°53'23.46"E End 34°11'15.84"S 18°53'23.01"E
Below Trenching for laying of pipelines	Construction of pipelines, electrical infrastructure, borehole chambers and pump structures within a wetland (MU15)	Farm 309 Portion 5 ,Caledon RD	Start 34°11'14.40"S 18°53'21.44"E End 34°11'9.05"S 18°53'12.59"E
Below Trenching for laying of pipelines	Construction of pipelines, electrical infrastructure, borehole chambers and pump structures within a wetland (MU15)	Farm 309 Portion 5 ,Caledon RD	Start 34° 9'32.77"S 18°56'26.05"E End 34° 9'32.77"S 18°56'26.05"E

1.2. The Licensee must carry out and complete all the activities listed under condition 1.1 according to the following:

1.2.1 Reports submitted to the Department or the Regional Head, specifically:

- 1.2.1.1 FRESHWATER AND BOTANICAL SPECIALIST REPORT prepared by Justin Ewart-Smith and Charlie Boucher dated March 2019.
- 1.2.1.2 FRESHWATER ECOLOGICAL INPUT TO DESIGN AND CONSTRUCTION Report prepared by Justin Ewart-Smith and Charlie Boucher dated November 2019.
- 1.2.1.3 TMGA Water Use Licence Application Hydrogeological and Motivation Report prepared by Umvoto Africa (Pty) Ltd dated November 2017.
- 1.2.1.4 Emergency Repair OR Replacement for Stream Crossing Structures At Steenbras Environmental Method Statement prepared by Amandla Construction dated May 2019.
- 1.2.1.5 Steenbras Planning District Table Mountain Group Aquifer Well Field COMBINED Environmental Method Statement prepared by Hidro-Tech System (Pty) Ltd dated May 2019.

- 1.3 Conditions of this licence; and
- 1.4 Any other written directive issued by the Regional Head in relation to this licence.
- 1.5 No activity must take place within the 1:100 year flood line or the delineated riparian habitat, whichever is the greatest, or within 500 m radius from the boundary of any wetland unless authorised by this licence.
- 1.6 The conditions of the authorisation must be brought to the attention of all persons (employees, sub-consultants, contractors etc.) associated with the undertaking of these activities and the Licensee must take such measures that are necessary to bind such persons to the conditions of this licence.
- 1.7 A copy of the water use licence and reports set out under condition 1.2 of this Appendix must be on site at all times.
- 1.8 A suitably qualified person(s), appointed by the Licensee, and approved in writing by the Regional Head, must be responsible for ensuring that the activities are undertaken in compliance with the specifications as set out in reports submitted to the Department or the Regional Head and the conditions of this licence.
- 1.11 A layout plan confirming that the 1:100 year floodline of the watercourse upstream of the dam wall do not affect any public property must be submitted to the Department within 30 days of issuance of water use licence.

2. FURTHER STUDIES AND INFORMATION REQUIREMENTS

2.1 For water use activities in Table 3:

- 2.1.1 Detailed design drawings of all the infrastructure of impeding and/or diverting flow of watercourses on the property must be submitted to the Regional Head within three (3) months after the date of issuance. The foregoing must indicate the regulated activities, marking the limits of disturbance in relation to the impacted watercourse; morphology of the watercourse; site specific impacts; and environmental management, particularly erosion and sediment, controls and measures;
- 2.1.2 No fundamental alterations of the site design plan(s) and drawings are allowed, unless a modification is requested and granted by the Regional Head in writing; and
- 2.1.3 No site activities must occur beyond the proposed site location of the erosion and sedimentation controls and marked limits of disturbance.
- 2.2 If the Licensee is not the end user/beneficiary of the water use related infrastructure and will not be responsible for long term maintenance and management of the infrastructure, the Licensee must provide a programme for hand over to the successor-in-title including a brief management/maintenance plan and the agreement for infrastructure along with allocation of responsibilities, within three (3) months of the date of issuance of this licence.
- 2.3 An Environmental Management Plan (EMP) and rehabilitation plan for the decommissioning of any of the water use activities listed in **Table 3** must be submitted five (5) years before commencing with closure to the Regional Head for a written approval.

- 2.4 For all the activities listed under condition 1.1, **Table 3**, "as-built" plan(s) and engineering drawing(s) prepared by a registered professional engineer, must be submitted to the Regional Head within three (3) months after the date of issuance of this licence. These plan(s) and drawing(s) must indicate the watercourse including wetland boundaries and layout and structure location(s) of all infrastructure impeding and/or diverting flow of the watercourse as well as alterations to the watercourse on the property.
- 2.5 A Storm Water Management Plan must be updated and drawn up on A1 paper and submitted to the Regional Head for written approval within 3 months of licence being issued. Clean water and dirty water must be separated.
- 2.6 Storm Water management plan should be designed in a way that aims to ensure that post-development run-off does not exceed pre-development values in:
- 2.6.1 Peak discharge for any given storm,
 - 2.6.2 Total volume of run-off for any given storm,
 - 2.6.3 Frequency of run-off volumes,
 - 2.6.4 Pollutant and debris concentrations reaching watercourses,
 - 2.6.5 Demonstrate minimal soil and vegetation clearance practices,
 - 2.6.6 Demonstrate an effective re-vegetation campaign for bare areas,
 - 2.6.7 Velocity of outgoing storm water shall not exceed the velocities of incoming water in order to reduce erosion impacts, and
 - 2.6.8 Increase in run-off due to a higher water table resulting from tree clearing practices.

3. PROTECTIVE MEASURES

3.1 Storm Water Management

- 3.1.1 Storm water management practices must be constructed, operated and maintained in a sustainable manner throughout the project and for the water use activities set out in condition 1.1 and must include but are not limited to the following:
- 3.1.1.1 Increased runoff due to vegetation clearance (promoting limiting vegetation clearance at all times) and/or soil compaction must be managed, and steps must be taken to ensure that storm water does not lead to bank instability and excessive levels of silt entering the watercourse(s);
 - 3.1.1.2 Storm water must be diverted from construction works, access roads, linear infrastructure and reptile ponds and must be managed in such a manner as to disperse runoff and to prevent the concentration of storm water flow; and
 - 3.1.1.3 The velocity of storm water discharges must be attenuated and the banks of the watercourses protected;

3.2 Structures and Materials

- 3.2.1 Necessary erosion prevention measures must be employed to ensure the sustainability of all structures.
- 3.2.2 The height, width and length of structures must be limited to the minimum dimension necessary to accomplish the intended function.
- 3.2.3 Structures must not be damaged by floods exceeding the magnitude of floods occurring on average once in every 100 years.



- 3.2.4 Structures must be non-erosive, structurally stable and must not induce any flooding or safety hazard.
- 3.2.5 Structures must be inspected regularly for accumulation of debris, blockage, erosion of abutments and overflow areas - debris must be removed and damages must be repaired and reinforced immediately.
- 3.2.6 Any access roads, bridges, pathways or other linear crossings should be:
- 3.2.6.1 Non-erosive, structurally stable and should not induce any flooding or safety hazard;
 - 3.2.6.2 Any damage is repaired immediately to prevent further damage;
 - 3.2.6.3 Non-polluting with respect to silt and litter that can be deposited into a watercourse;
 - 3.2.6.4 Watercourse crossings to facilitate the movement of aquatic and non-aquatic organisms and fauna;
 - 3.2.6.6 Crossing surfaces must be tarred, paved or concreted along the extent of the watercourse and extent at least 100m beyond the extent of the watercourse to minimise impacts on the characteristics of the watercourse;
 - 3.2.6.7 Where any road is within the 100m buffer zone of the watercourse, this portion of the road shall be concreted, paved or tarred; and
 - 3.2.6.8 Not consist of any polluting material.
- 3.2.7 Landscape maintenance plan must be submitted for approval by Regional Head within 6 months of licence being issued.

3.3 Water Quality

- 3.3.1 The Licensee shall sample the water quality monthly for the mentioned variables (Table 5) at least at the monitoring points both upstream and downstream of the activities (Table 5) and report to the Regional Head within thirty (30) days after the results of each sampling event is received:

Table 5: Water quality parameters relevant for sampling.

Variable	Limit
Flow (l/s)	Condition 3.4.8
Temperature (°C)	<10% variation
pH	6.0 – 8.5
Electrical conductivity (EC) (mS/m)	<70
Suspended solids (SS) (mg/l)	<25
Dissolved oxygen (mg/l)	>6
Turbidity (NTU)	<5
Alkalinity (mg CaCO ₃ /l)	<100
PO ₄ (mg/l)	<0.5
NO ₃ /NO ₂ (as N) (mg/l)	<6
NH ₃ (as N) (mg/l)	<10
BTEX, TPH (mg/l)	<1
Faecal coliforms (counts/100ml)	<130

The variables may be amended on discretion of the Regional Head. Only an accredited (SANS 17025) laboratory to be used for analysis.

- 3.3.2 Monitoring must continue for ten (10) years after the issuance of this licence for the activities listed in condition 1.1
- 3.3.3 Monitoring must be undertaken as set out in section 5.

- 3.3.4 Activities that lead to elevated levels of turbidity of any watercourse(s) must be prevented, reduced, or otherwise remediated. Activities must be scheduled to take place during the dry seasons when flows are lowest where reasonably possible. If this is not possible and if management measures have not been provided for in the reports submitted to the Regional Head, the Licensee must submit such to the Regional Head for a written approval before these activities commence. Natural in stream hydrology is to be used to determine which months constitute the low flow months.
- 3.3.5 The Licensee must ensure that the quality of the water to downstream water users does not decrease because of the of the water use activities listed under condition 1.1.
- 3.3.6 Pollution of and disposal/spillage of any material into the watercourse must be prevented, reduced, or otherwise remediated through proper operation, maintenance and effective protective measures.
- 3.3.7 Vehicles and other machinery must be serviced well above the 1:100 year flood line or delineated riparian habitat, whichever is the greatest. Oils and other potential pollutants must be disposed off at an appropriate licensed site, with the necessary agreement from the owner of such a site.
- 3.3.8 Any hazardous substances must be handled according to the relevant legislation relating to transport, storage and use of the substance and all storage facilities must be equipped with large, clearly readable Material Safety Data Sheets (MSDS).
- 3.3.9 All reagent storage tanks and reaction units must be supplied with a bunded area built to cater for at least 110% of the capacity of the facility and provided with sumps and pumps to return the spilled material back into the system. The system must be maintained in a state of good repair and standby pumps must be provided.
- 3.3.10 The Licensee shall actively participate in any Catchment Management Agency's related activity.
- 3.3.11 The Licensee has to indicate to the Responsible Authority within sixty (60) days after issuance of this licence, the strategic placement of bio-swale, bio-filters, silt, litter and hydrocarbon (oil) traps to minimise the risk of pollutants entering the natural drainage system of the area.

3.4 Flow

- 3.4.1 The Licensee must determine flood lines (1:50 and 1:100 year) to ensure risks are adequately managed. Flood lines must be clearly indicated on the site plan(s) and drawings along with all wetland boundaries.
- 3.4.2 The activities must be conducted in a manner that does not negatively affect catchment yield, hydrology and hydraulics. The Licensee must ensure that the overall magnitude and frequency of flow in the watercourse(s) does not decrease, other than for natural evaporative losses and authorised attenuation volumes.
- 3.4.3 Appropriate design and mitigation measures must be developed to minimise impacts on the natural flow regime of the watercourse i.e. through placement of structures/supports and to minimise turbulent flow in the watercourse.
- 3.4.4 Structures must be designed in a way to prevent the damming of stream/river water and not impact on the flow of the water, during the construction and operational phases of all developments.



- 3.4.5 The development may not impede natural drainage lines.
- 3.4.6 The diversion structures may not restrict river flows by reducing the overall river width or obstructing river flow.
- 3.4.7 The characteristics of streambed are likely to be altered locally. In particular the rock and rubble created during the construction process is likely to have sharp edges, and not smooth surfaces that are typically associated with river rocks and pebbles. All rock and rubble must be removed from the watercourse once construction has been completed. Any rock placed in the watercourse to enhance the dissolved oxygen content of the water must adhere to the same criteria, namely only smooth rock surfaces to be placed within the watercourse.
- 3.4.8 The Licensee shall determine flow requirements for endemic aquatic organisms and the associated habitat (riparian and in-stream) by a registered, professional, independent and qualified aquatic ecologist and hydrologist within one (1) year after the issuance of this licence and submit the report to the Regional Head for a written approval. Reporting on the flow requirements as per condition 3.3.1 of this Appendix.

3.5 Riparian and Instream Habitat (Vegetation and Morphology)

- 3.5.1 Activities (including spill clean-up) must start up-stream and proceed into a down-stream direction, so that the recovery processes can start immediately, without further disturbance from upstream works.
- 3.5.2 Operation and storage of equipment must not take place within the 1:100 year flood line or delineated riparian habitat, whichever is the greatest unless authorised in this license.
- 3.5.3 Activities must not occur in sensitive riffle habitats.
- 3.5.4 Indigenous riparian vegetation, including dead trees, outside the limits of disturbance indicated in the site plans must not be removed from the area.
- 3.5.5 Alien and invader vegetation must not be allowed to further colonise the area, and all new alien vegetation recruitment must be sustainably eradicated or controlled according to a respective management plan as formally approved by the Regional Head in writing within one (1) month after the issuance date of this licence.
- 3.5.6 Existing vegetation composition must be maintained or improved by maintaining the natural variability in flow fluctuations. Rehabilitated areas shall have vegetation basal cover of at least 15% at all times.
- 3.5.7 Recruitment and maintaining of a range of size classes of dominant riparian species in perennial channels must be stimulated.
- 3.5.8 Encroachment of additional exotic species and terrestrial species in riparian zones must be discouraged.
- 3.5.9 Accumulation of woody debris on terraces by periodic flooding must be discouraged.
- 3.5.10 Existing flood terraces and deposition of sediments on these terraces to ensure optimum growth, spread and recruitment of these species must be maintained.



- 3.5.11 All reasonable steps must be taken to minimise noise and mechanical vibrations in the vicinity of the watercourse. Noise levels (noise resulting from the activities listed in Table 2 and associated activities) to be below 35dB from 18:00 – 06:00 daily.
- 3.5.12 Necessary erosion prevention mechanisms must be employed to ensure the sustainability of all structures and activities and to prevent instream sedimentation.
- 3.5.13 Soils that have become compacted through the water use activities must be loosened to an appropriate depth to allow seed germination.
- 3.5.14 Slope/bank stabilisation measures must be implemented with a 1:3 ratio or flatter and vegetated with indigenous vegetation immediately after the shaping.
- 3.5.15 Stockpiling of removed soil and sand must be stored outside of the 1:100 flood line or delineated riparian habitat, whichever is the greatest, to prevent being washed into the river and must be covered to prevent wind and rain erosion.
- 3.5.16 The indiscriminate use of machinery within the instream and riparian habitat will lead to compaction of soils and vegetation and must therefore be strictly controlled.
- 3.5.17 The overall macro-channel structures and mosaic of cobbles and gravels must be maintained by ensuring a balance (equilibrium) between sediment deposition and sediment conveyance maintained. A natural flooding and sedimentation regime must thus be ensured as far as reasonably possible.
- 3.5.18 As much indigenous vegetation growth as possible should be promoted within the proposed development area in order to protect soil and to reduce the percentage of the surface area which is paved/hardened/compacted.
- 3.5.19 Run-off from paved/hardened/compacted surfaces should be slowed down by the strategic placement of berms.
- 3.5.20 The Licensee shall protect the banks of the watercourse against instability and erosion and ensure a healthy and sufficient bank side vegetation cover. A specific management program addressing this concern shall be developed by a professional, qualified, independent and registered ecologist and aquatic specialist and submitted to the Regional Head for written approval within three (3) months after the issuance of this licence.
- 3.5.21 Plant Species Plan must be drawn up in conjunction with a landscape architect or botanist and approved by Regional Head and implemented within 6 months of licence being issued.

3.6 Biota

- 3.6.1 The Licensee must take all reasonable steps to allow movement of aquatic species, including migratory species. The Licensee shall appoint a professional, qualified, independent and registered ecologist and aquatic specialist to determine the impact of the weirs on aquatic biota migration and submit a report for written approval to the Regional Head within six (6) months after the issuance of the licence. The Licensee shall implement the recommendations endorsed by the Regional Head. Reporting on biota component must be captured separately in the reporting requirement of condition 5.1 of Appendix IV. The report must also assess the reintroduction of endemic aquatic species in this environment (note condition 5.1 REC value).
- 3.6.2 All reasonable steps must be taken not to disturb the breeding, nesting and/or feeding habitats and natural movement patterns of aquatic biota.

- 3.6.3 The current level of diversity of biotopes and communities of animals, plants and microorganisms must be maintained.

4 REHABILITATION AND MANAGEMENT

- 4.1 The Licensee must embark on a systematic long-term rehabilitation programme to restore the watercourse to environmentally acceptable and sustainable conditions, which must include, but not be limited to the rehabilitation of disturbed and degraded riparian areas to restore and upgrade the riparian habitat integrity to sustain a bio-diverse riparian ecosystem.
- 4.2 All disturbed areas must be re-vegetated with an indigenous seed mix in consultation with an indigenous plant expert, ensuring that during rehabilitation only indigenous shrubs, trees and grasses are used in restoring the biodiversity.
- 4.3 An active campaign for controlling invasive species must be implemented within disturbed zones to ensure that it does not become a conduit for the propagation and spread of invasive exotic plants.
- 4.4 Rehabilitation must be concurrent with construction.
- 4.5 Topsoil must be stripped and redistributed.
- 4.6 Compacted and disturbed areas must be shaped to natural forms and to follow the original contour. In general cut and fill slopes and other disturbed areas must not exceed 1:3 (v:h) ratio, it must be protected, vegetated, ripped and scarified parallel with the contour.
- 4.7 The Regional Head must sign a release form indicating that rehabilitation was done satisfactory according to specifications as per this license.
- 4.8 A photographic record must be kept as follows and submitted with reports as set out in section 5:
- 4.8.1 Dated photographs of all the sites to be impacted before construction commences;
- 4.8.2 Dated photographs of all the sites during construction on a monthly basis; and
- 4.8.3 Dated photographs of all the sites after completion of construction, seasonally.
- 4.9 Rehabilitation structures must be inspected regularly for the accumulation of debris, blockages instabilities and erosion with concomitant remedial and maintenance actions.
- 4.10 Rehabilitation Plan must be updated and drawn on a drawing for approval by Regional Head within 6 months of licence being issued.
- 4.11 Experienced environmental rehabilitation personnel as well as the correct equipment for environmental rehabilitation must be available.

5 MONITORING AND REPORTING

- 5.1 A comprehensive and appropriate environmental assessment and monitoring programme (including bio-monitoring and eco-toxicology) to determine the impact, change, deterioration and improvement of the aquatic system associated with the activities listed under condition 1.1 and other existing activities as well as compliance to these water use licence conditions must be developed and submitted to the Regional Head for a written approval before commencement and must subsequently be implemented



- 5.3 A qualified and responsible scientist must be retained by the Licensee who must give effect to the various licence conditions and to ensure compliance thereof pertaining to all activities impeding and/or diverting flow of watercourses as well as alterations to watercourses on the property as set out in condition 1.1.
- 5.4 The Licensee shall conduct an internal and external audit as per condition 11 and 12 of Appendix 1 and the audit report must include:
 - 5.4.1 Reporting in respect of the monitoring programme referred to in condition 5.1 of Appendix II and all other reporting and compliance conditions outlined in this licence;
 - 5.4.2 A record of implementation of all mitigation measures including a record of corrective actions; and
 - 5.4.3 Compensation measures for damage where mitigation measures have failed to adequately protect the in-stream and riparian habitat or any other characteristic of the watercourses.
- 5.5 The Licensee must apply in writing to the Regional Head for alternative reporting arrangements for which written approval must be provided.
- 5.6 A comprehensive ground water and surface water monitoring and remediation plan must be provided within 6 months of licence being issued. Such plan must detail how the possible pollution effects from the dirty water impoundment facilities that do not have a barriers system that complies with the requirements of the current Regulations will be remediated and how future pollution from the same facilities will be prevented, in accordance with the requirements of section 19 of the National Water Act (1998).

6 OTHER WATER USERS

- 6.1 The Licensee must attempt to prevent adverse effect on other water users. All complaints must be investigated by a suitable qualified person and if investigations prove that the Licensee has impaired the rights of other water users, the Licensee must initiate suitable compensative measures.

7. POLLUTION PREVENTION, INCIDENTS AND MALFUNCTIONS

- 7.1 If surface and/or groundwater pollution has occurred or may possibly occur, the Licensee must conduct, and/or appoint specialists to conduct necessary investigations and implement additional monitoring, pollution prevention and remediation measures to the satisfaction of the Regional Head.
- 7.2 The Licensee shall keep all records relating to the compliance or non-compliance with the conditions of this licence in good order. Such records shall be made available to the Regional Head within 14 (fourteen) days of receipt of a written request by the Department for such records.
- 7.3 The Licensee shall keep an incident report and complaints register, which must be made available to any external auditors and the Department.

8 BUDGETARY PROVISIONS

- 8.1 The water user must ensure that there is a budget sufficient to complete and maintain the water use and for successful implementation of the rehabilitation programme as set out in this licence.



- 8.2 The Department may at any stage of the process request proof of budgetary provisions for rehabilitation and closure of project.

9 SITE SPECIFIC CONDITIONS

- 9.1 This licence must be read together with City of Cape Town: Table Mountain Group Aquifer (Steenbras) Section 21(a) licence (01/G40A/A/7276 and File number: 27/2/1/G140/513/2) granted in year 2017.
- 9.2 The conditions within this Licence are only applicable under the emergency and or declared disaster area status for the Western Cape. Once this status has been re-evaluated, all work must be halted and an impact assessment on the resource quality characteristics (flow, water quality, geomorphology, habitat and biota), must be carried out and submitted to this Department within three (3) months from the works being ceased, to identify all impacts associated with the drilling, construction and operational phases of the project.
- 9.3 The licensee must submit a wetland offset plan within three (3) months after the issuance of this licence but before the commencement of any activity.
- 9.4 The project scope must be re-evaluated after July 2019 to identify if the need for this project is crucial. If not, then the various scenario and impact reports must be completed prior to the commencement of any activity and must be submitted to this Department within three (3) months after July 2019.
- 9.5 A rehabilitation plan for the Steenbras Catchment must be submitted to this Department, after the issuance of this Licence but before the commencement of any activity. This must include, but not be limited to, the removal of alien invasive trees and or plantations within the catchment area as it will aid in the provision to the water supply system for the City of Cape Town as well as the recovery of both dry and wet lands. Please note that the rehabilitation activities must commence concurrently with construction and operation activities.
- 9.6 An alien removal clearing programme must be submitted to this Department to eradicate all aliens within the project catchment area within a period of three (3) years. This programme must achieve 70% clearing of alien invasive species by the end of the three (3) year term as this will aid in the additional water supply. This programme must be implemented concurrently to the commencement of any activity.
- 9.7 The total area and functionality lost through this project must be recovered through a wetland offset plan. This plan must be submitted to this Department for approval, after the issuance of this Licence but prior to the commencement of any new activities. This is in aid to ensure optimal ecosystem functioning of the Steenbras catchment for resource quality characteristics (flow, water quality, geomorphology, habitat and biota).
- 9.8 The conditions of this Licence are only applicable to the sixteen (16) borehole details which were available at the time of reviewing this application. Once a change in location is expected for the proposed boreholes, an amendment application together with the relevant impact studies will be required from this Department before any activity can commence.
- 9.9 The impact assessment report which assesses the effects of the discharge of groundwater into the surface water dam must be submitted to this Department after the issuance of this Licence but prior to the commencement of any activity.
- 9.10 Seven (7) of the sixteen (16) boreholes are monitoring boreholes which must be representing the formation being targeted through drilling and how the surrounding water



resource quality characteristics (flow, water quality, geomorphology, habitat and biota) will be impacted upon. This information together with the analysis must be submitted to this Department on a quarterly basis. An annual breakdown of the results is required within the annual report.

- 9.11 Baseline data (taken prior to the commencement of the proposed activities); and the associated breakdown of the results, together with the annual reports must be reviewed every six (6) months after the first annual report has been submitted.
- 9.12 Crossings of watercourses must take place at the best recommended area which will be recommended by the freshwater specialist.
- 9.13 No concrete piers are allowed within the in-stream environment.
- 9.14 The relationship on the interactions between surface, ground and interflow water must be investigated immediately and must be updated on a monthly basis as a minimum requirement. Updated reports showing the results must be submitted to this Department on a six-monthly basis.
- 9.15 Foreign materials must not be brought into any phase of this project as this will have negative impacts on the water quality of the area.
- 9.16 Within Management Unit (MU) 1, the pipeline must be routed upstream of the existing road, which will be within an existing pine plantation area.
- 9.17 Within MU 2, the proposed pipeline route must take place on the upstream side of the existing road, which is currently within mature pine plantations.
- 9.18 The down-cutting being experienced within MU 3, must be rectified through rehabilitation. The rehabilitation activities must be maintained and managed. This activity must commence in parallel to construction activities.
- 9.19 The overhead powerline must make use of spanning as far as possible to avoid highly sensitive and pristine habitats, especially within watercourses, which includes wetlands. The freshwater specialist must provide specific recommendations regarding the sites affected.
- 9.20 The existing road together with the areas that will be upgraded for crossings must ensure that flow from upstream areas are not modified and that flows up to a 1 in 100 year flood can pass un-impeded.
- 9.21 Stockpiles must be removed and stored outside the floodline of any of the watercourses. Existing firebreaks can be used. Measures to curb effects of wind erosion must be implemented.
- 9.22 All search and rescue activities for flora and fauna must take place prior to the commencement of any activities. Furthermore, search and rescue together with seed collection must take prior to construction of the specific MU.
- 9.23 The road within MU 15 must be upgraded to ensure flow is allowed to pass from the upstream catchment to the downstream catchment, through diffuse flow.
- 9.24 The flow concentrations must be allowed to pass from upstream watercourses to downstream watercourses without causing any stagnant pools or the drying and or draining of any of the watercourses that the flow driver is connected to.

- 9.25 Water quality and quantity monitoring must take place on a weekly basis. Changes specifically in phosphates (Total P and PO₄ [mg/l]), nitrates (NO₂, NO₃ and NH₃), iron, magnesium and pH must be reported on and updated accordingly.
- 9.26 Trench excavations must take place in short sections.
- 9.27 Top material and the soil profile must be replaced to the same habitat and the same manner as it was removed.
- 9.28 Bed material and top soil must not be compacted. Furthermore, no raised mounds are allowed along the pipeline route.
- 9.29 The infrastructure route must be rehabilitated with indigenous vegetation species of the area.
- 9.30 The sumps and or trenches being proposed for the boreholes must be lined with plastic. This must be implemented prior to the commencement of any activity.
- 9.31 Borehole and pump testing must take place in the wet winter months. This will aid in dilution.
- 9.32 The discharge of groundwater into the dam must take place via a pipe system.
- 9.33 Discharge into the dam must take place during the wet winter months. This will aid in the seasonality of the ecosystem functionalities.
- 9.34 The proposed pump stations must be placed outside of the permanently wet zone of the watercourses (this includes wetlands).
- 9.35 The proposed treatment facility must be placed outside of the temporary and permanently wet areas of the watercourses (this includes wetlands). This facility must be moved into an area that has an existing plantation and or the area between the existing building infrastructure and exit roads.
- 9.36 The Department must be informed on how the effluent from the treatment facility will be managed. This must be submitted to this Department after the issuance of this Licence but prior to the commencement of any activity.
- 9.37 Contaminated stormwater and or waste from the treatment facility must be managed so that it does not enter any watercourse.
- 9.38 The area being used for the machine camp must be subject to rehabilitation, maintenance and management activities.
- 9.39 Ground, surface, and interflow must not be impeded in any way as a result of the road construction activities and or operational activities.
- 9.40 The stabilisation of banks along watercourses and or landscaping must only commence after the written approval from the freshwater specialist.
- 9.41 Above ground construction for watercourse crossings must take place during the dry summer months.
- 9.42 The working footprint of the drilling, pumping, construction and operational activities must be confined to the designated area and must be demarcated prior to the commencement of any activity.



- 9.43 Watercourses impacted by dug drainage ditches must be rehabilitated, maintained and managed to re-instate hydrological functions to ensure ecosystem functions are optimal
- 9.44 Ecological thresholds must inform all activities related to this project. Furthermore, ecological thresholds must be developed and agreed upon before the commencement of any activities, which includes drilling.
- 9.45 A monitoring plan for groundwater, surface water and interflow must be submitted to this Department after the issuance of the Licence but prior to the commencement of any activity.
- 9.46 An independent specialist committee must be in place to review all reports and data analysis before being submitted to this Department. This must include but not limited to a geo-hydrologist, groundwater specialist, hydro-pedologist and freshwater specialist.
- 9.47 All pollution incidents must be reported to this Department immediately together with the plan of action programme.
- 9.48 All pollution incidents must be recorded in a pollution incident register and must be kept updated.
- 9.49 The clean-up procedures after spills must allow for all effluent, especially in a solid state, to be agitated and collected from the environment within five (5) days after the pollution incident.
- 9.50 In cases where the vegetation and habitat dies and becomes infertile, the area must be subjected to immediate rehabilitation, maintenance and management actions.
- 9.51 Where spills cannot be contained, emergency clean ups must be undertaken immediately.
- 9.52 The Recommended Ecological Category (REC) for the watercourse on track 125 in MU 1, must be rehabilitated, maintained and managed within a C category as a minimum requirement (Table 4.1, page 24 of *Ewart-Smith & Boucher report*). Rehabilitation, maintenance and management activities must take place in parallel to the commencement of construction activities.
- 9.53 The REC for the watercourse on track 126 in MU 1, must be rehabilitated, maintained and managed within a C category as a minimum requirement (Table 4.1, page 24 of *Ewart-Smith & Boucher report*). Rehabilitation, maintenance and management activities must take place in parallel to the commencement of construction activities.
- 9.54 The REC for the watercourse on way point 157 in MU 1, must be rehabilitated, maintained and managed within a B category as a minimum requirement (Table 4.1, page 24 of *Ewart-Smith & Boucher report*). Rehabilitation, maintenance and management activities must take place in parallel to the commencement of construction activities.
- 9.55 The REC for the watercourse on track 127 in MU 1, must be rehabilitated, maintained and managed within a C category as a minimum requirement (Table 4.1, page 24 of *Ewart-Smith & Boucher report*). Rehabilitation, maintenance and management activities must take place in parallel to the commencement of construction activities.
- 9.56 The REC for the watercourse on track 128 in MU 1, must be rehabilitated, maintained and managed within a C category as a minimum requirement (Table 4.1, page 24 of *Ewart-Smith & Boucher report*). Rehabilitation, maintenance and management activities must take place in parallel to the commencement of construction activities.



- 9.57 The REC for the watercourse on way point 159 in MU 1, must be rehabilitated, maintained and managed within a B category as a minimum requirement (Table 4.1, page 24 of *Ewart-Smith & Boucher report*). Rehabilitation, maintenance and management activities must take place in parallel to the commencement of construction activities.
- 9.58 The REC for the watercourse on track 129 in MU 1, must be rehabilitated, maintained and managed within a C category as a minimum requirement (Table 4.1, page 24 of *Ewart-Smith & Boucher report*). Rehabilitation, maintenance and management activities must take place in parallel to the commencement of construction activities.
- 9.59 The REC for the watercourse on track 132 in MU 1, must be rehabilitated, maintained and managed within a C category as a minimum requirement (Table 4.1, page 24 of *Ewart-Smith & Boucher report*). Rehabilitation, maintenance and management activities must take place in parallel to the commencement of construction activities.
- 9.60 The REC for the watercourse on way point 160 in MU 1, must be rehabilitated, maintained and managed within a C category as a minimum requirement (Table 4.1, page 24 of *Ewart-Smith & Boucher report*). Rehabilitation, maintenance and management activities must take place in parallel to the commencement of construction activities.
- 9.61 The REC for the watercourse on tracks 134 and 135 in MU 2, must be rehabilitated, maintained and managed within a C category as a minimum requirement (Table 4.2, page 28 of *Ewart-Smith & Boucher report*). Rehabilitation, maintenance and management activities must take place in parallel to the commencement of construction activities.
- 9.62 The REC for the watercourse on track 136 in MU 2, must be rehabilitated, maintained and managed within a C category as a minimum requirement (Table 4.2, page 28 of *Ewart-Smith & Boucher report*). Rehabilitation, maintenance and management activities must take place in parallel to the commencement of construction activities.
- 9.63 The REC for the watercourse on track 138 in MU 3, must be rehabilitated, maintained and managed within a D category as a minimum requirement (Table 4.3, page 32 of *Ewart-Smith & Boucher report*). Rehabilitation, maintenance and management activities must take place in parallel to the commencement of construction activities.
- 9.64 The REC for the watercourse on track 139 in MU 3, must be rehabilitated, maintained and managed within a C category as a minimum requirement (Table 4.3, page 32 of *Ewart-Smith & Boucher report*). Rehabilitation, maintenance and management activities must take place in parallel to the commencement of construction activities.
- 9.65 The REC for the watercourse on track 141 in MU 3, must be rehabilitated, maintained and managed within a D category as a minimum requirement (Table 4.3, page 32 of *Ewart-Smith & Boucher report*). Rehabilitation, maintenance and management activities must take place in parallel to the commencement of construction activities.
- 9.66 The watercourses on way points 165 and 169 in MU 3, must be re-instated, rehabilitated, maintained and managed to allow for diffuse flow through the habitat.
- 9.67 The REC for the watercourse on way point 166 and track 142 in MU 3, must be rehabilitated, maintained and managed within a C category as a minimum requirement (Table 4.3, page 32 of *Ewart-Smith & Boucher report*). Rehabilitation, maintenance and management activities must take place in parallel to the commencement of construction activities.
- 9.68 The REC for the watercourse on way point 193 and track 164a in MU 4, must be rehabilitated, maintained and managed within a C category as a minimum requirement

(Table 4.4, page 36 of *Ewart-Smith & Boucher report*). Rehabilitation, maintenance and management activities must take place in parallel to the commencement of construction activities.

- 9.69 The REC for the watercourse on track 165 in MU 4, must be rehabilitated, maintained and managed within a B category as a minimum requirement (Table 4.4, page 36 of *Ewart-Smith & Boucher report*). Rehabilitation, maintenance and management activities must take place in parallel to the commencement of construction activities.
- 9.70 The REC for the watercourse on track 168 in MU 5, must be rehabilitated, maintained and managed within an A category as a minimum requirement (Table 4.5, pages 38-39 of *Ewart-Smith & Boucher report*). Rehabilitation, maintenance and management activities must take place in parallel to the commencement of construction activities.
- 9.71 The REC for the watercourse on track 170 in MU 5, must be rehabilitated, maintained and managed within a C category as a minimum requirement (Table 4.5, pages 38-39 of *Ewart-Smith & Boucher report*). Rehabilitation, maintenance and management activities must take place in parallel to the commencement of construction activities.
- 9.72 The REC for the watercourse on track 171 in MU 5, must be rehabilitated, maintained and managed within an A category as a minimum requirement (Table 4.5, pages 38-39 of *Ewart-Smith & Boucher report*). Rehabilitation, maintenance and management activities must take place in parallel to the commencement of construction activities.
- 9.73 The watercourse on way point 200 in MU 5, must be rehabilitated, maintained and managed to allow for diffuse flow from upstream habitats to downstream habitats. Furthermore, no water can be used from this watercourse for the purpose of construction and no contaminated water is allowed to enter this watercourse.
- 9.74 The REC for the watercourse on track 172 in MU 5 must be rehabilitated, maintained and managed within a B category as a minimum requirement (Table 4.5, pages 38-39 of *Ewart-Smith & Boucher report*). Rehabilitation, maintenance and management activities must take place in parallel to the commencement of construction activities.
- 9.75 The REC for the watercourse on track 173 in MU 5, must be rehabilitated, maintained and managed within a D category as a minimum requirement (Table 4.5, pages 38-39 of *Ewart-Smith & Boucher report*). Rehabilitation, maintenance and management activities must take place in parallel to the commencement of construction activities.
- 9.76 The REC for the watercourse on track 176 in MU 5 must be rehabilitated, maintained and managed within a B category as a minimum requirement (Table 4.5, pages 38-39 of *Ewart-Smith & Boucher report*). Rehabilitation, maintenance and management activities must take place in parallel to the commencement of construction activities.
- 9.77 The REC for the watercourse on track 180 in MU 5 must be rehabilitated, maintained and managed within a B category as a minimum requirement (Table 4.5, pages 38-39 of *Ewart-Smith & Boucher report*). Rehabilitation, maintenance and management activities must take place in parallel to the commencement of construction activities.
- 9.78 The REC for the watercourse on track 181b in MU 6, must be rehabilitated, maintained and managed within a B category as a minimum requirement (Table 4.6, page 42 of *Ewart-Smith & Boucher report*). Rehabilitation, maintenance and management activities must take place in parallel to the commencement of construction activities.
- 9.79 The REC for the watercourse on way point 213 in MU 6, must be rehabilitated, maintained and managed within a B category as a minimum requirement (Table 4.6, page 42 of *Ewart-*



Smith & Boucher report). Rehabilitation, maintenance and management activities must take place in parallel to the commencement of construction activities. Flow from upstream must be allowed to downstream watercourses to ensure and maintain ecosystem functioning.

- 9.80 The REC for the watercourse on track 144 in MU 7, must be rehabilitated, maintained and managed within a D category as a minimum requirement (Table 4.7, page 46 of *Ewart-Smith & Boucher report*). Rehabilitation, maintenance and management activities must take place in parallel to the commencement of construction activities.
- 9.81 The watercourse on way points 170 and 171 in MU 7, must be re-instated, rehabilitated, maintained and managed to ensure diffuse flow from upstream watercourse to downstream watercourses to ensure ecosystem functioning.
- 9.82 The REC for the watercourse on track 145 in MU 7, must be rehabilitated, maintained and measured within a C category as a minimum requirement (Table 4.7, page 46 of *Ewart-Smith & Boucher report*). Rehabilitation, maintenance and management activities must take place in parallel to the commencement of construction activities.
- 9.83 The RECs for the watercourses on way points 173 and 173 in MU 7, must be rehabilitated, maintained and managed within a C category as a minimum requirement (Table 4.7, page 46 of *Ewart-Smith & Boucher report*). Rehabilitation, maintenance and management activities must take place in parallel to the commencement of construction activities.
- 9.84 The RECs for the watercourses on tracks 147 and 148 in MU 7, must be rehabilitated, maintained and managed within a C category as a minimum requirement (Table 4.7, page 46 of *Ewart-Smith & Boucher report*). Rehabilitation, maintenance and management activities must take place in parallel to the commencement of construction activities.
- 9.85 The REC for the watercourse on way point 174 in MU 7, must be rehabilitated, maintained and managed within a C category as a minimum requirement (Table 4.7, page 46 of *Ewart-Smith & Boucher report*). Rehabilitation, maintenance and management activities must take place in parallel to the commencement of construction activities. The down-cutting erosion and diffuse flow must be addressed with recommendations from the freshwater specialist.
- 9.86 The REC for the watercourse on track 150 in MU 7, must be rehabilitated, maintained and managed within a D category as a minimum requirement (Table 4.7, page 46 of *Ewart-Smith & Boucher report*). Rehabilitation, maintenance and management activities must take place in parallel to the commencement of construction activities.
- 9.87 The REC for the associated riparian habitat on track 205 in MU 8, must be rehabilitated, maintained and managed within a B category as a minimum requirement (Table 4.8, pages 50-51 of *Ewart-Smith & Boucher report*). Rehabilitation, maintenance and management activities must take place in parallel to the commencement of construction activities.
- 9.88 The REC for the watercourse on way point 227 in MU 8 must be rehabilitated, maintained and managed within an A/B category as a minimum requirement (Table 4.8, pages 50-51 of *Ewart-Smith & Boucher report*). Rehabilitation, maintenance and management activities must take place in parallel to the commencement of construction activities.
- 9.89 The REC for the watercourse on track 206 in MU 8 must be rehabilitated, maintained and managed within a B category as a minimum requirement (Table 4.8, pages 50-51 of *Ewart-Smith & Boucher report*). Rehabilitation, maintenance and management activities must take place in parallel to the commencement of construction activities.
- 9.90 The REC for the watercourse on track 208 in MU 8 must be rehabilitated, maintained and managed within a C category as a minimum requirement (Table 4.8, pages 50-51 of *Ewart-*



Smith & Boucher report). Rehabilitation, maintenance and management activities must take place in parallel to the commencement of construction activities.

- 9.91 The watercourses on way points 228 and 229 in MU 8, must be rehabilitated, maintained and managed to ensure flow from upstream watercourses are allowed to downstream watercourses through diffuse flow.
- 9.92 The REC for the watercourse on track 209 in MU 8, must be rehabilitated, maintained and managed within a D category as a minimum requirement (Table 4.8, pages 50-51 of *Ewart-Smith & Boucher report*). Rehabilitation, maintenance and management activities must take place in parallel to the commencement of construction activities.
- 9.93 The REC for the watercourse on track 163a in MU 8, must be rehabilitated, maintained and managed within a D category as a minimum requirement (Table 4.8, pages 50-51 of *Ewart-Smith & Boucher report*). Rehabilitation, maintenance and management activities must take place in parallel to the commencement of construction activities.
- 9.94 The REC for the watercourse on way point 182 in MU 8 must be rehabilitated, maintained and managed within a C category as a minimum requirement (Table 4.8, pages 50-51 of *Ewart-Smith & Boucher report*). Rehabilitation, maintenance and management activities must take place in parallel to the commencement of construction activities.
- 9.95 The RECs for the watercourses on way points 181 and 179; as well as on tracks 162, 160, 158 and 156 in MU 8 must be rehabilitated, maintained and managed within a B category as a minimum requirement (Table 4.8, pages 50-51 of *Ewart-Smith & Boucher report*). Rehabilitation, maintenance and management activities must take place in parallel to the commencement of construction activities. Flow from upstream watercourses must be allowed to downstream watercourses through diffuse flow to ensure ecosystem functionality.
- 9.96 The REC for the watercourse on way point 180 in MU 8, must be rehabilitated, maintained and managed within a D category as a minimum requirement (Table 4.8, pages 50-51 of *Ewart-Smith & Boucher report*). Rehabilitation, maintenance and management activities must take place in parallel to the commencement of construction activities.
- 9.97 The REC for the watercourse on track 154 in MU 8 must be rehabilitated, maintained and managed within a B category as a minimum requirement (Table 4.8, pages 50-51 of *Ewart-Smith & Boucher report*). Rehabilitation, maintenance and management activities must take place in parallel to the commencement of construction activities.
- 9.98 The RECs for the watercourses on way points 178 and 177 in MU 8, must be rehabilitated, maintained and managed within a B category as a minimum requirement (Table 4.8, pages 50-51 of *Ewart-Smith & Boucher report*). Rehabilitation, maintenance and management activities must take place in parallel to the commencement of construction activities.
- 9.99 The REC for the watercourse on way point 176 in MU 8, must be rehabilitated, maintained and managed within a B category as a minimum requirement (Table 4.8, pages 50-51 of *Ewart-Smith & Boucher report*). Rehabilitation, maintenance and management activities must take place in parallel to the commencement of construction activities.
- 9.100 The REC for the watercourse on track 152 in MU 8, must be rehabilitated, maintained and managed within a B category as a minimum requirement (Table 4.8, pages 50-51 of *Ewart-Smith & Boucher report*). Rehabilitation, maintenance and management activities must take place in parallel to the commencement of construction activities.



- 9.101 The REC for the watercourse on track 151 in MU 8, must be rehabilitated, maintained and managed within a D category as a minimum requirement (Table 4.8, pages 50-51 of *Ewart-Smith & Boucher report*). Rehabilitation, maintenance and management activities must take place in parallel to the commencement of construction activities.
- 9.102 MU 9 must be subjected to rehabilitation, maintenance and management activities to ensure that the REC is functioning within a C category as a minimum requirement (Table 4.9, page 54 of *Ewart-Smith & Boucher report*). Rehabilitation, maintenance and management activities must take place in parallel to the commencement of construction activities.
- 9.103 The watercourses on way points 142, 146, 147, 149, 151, 152 and 224 in MU 10 must be rehabilitated, maintained and managed to ensure water from upstream watercourses are allowed into downstream watercourses through diffuse flow to ensure ecosystem functionality.
- 9.104 The REC for the watercourse on way point 143 in MU 10 must be rehabilitated, maintained and managed within a D category as a minimum requirement (Table 4.10, pages 60-61 of *Ewart-Smith & Boucher report*). Rehabilitation, maintenance and management activities must take place in parallel to the commencement of construction activities.
- 9.105 The REC for the watercourse on track 116 in MU 10 must be rehabilitated, maintained and managed within a D category as a minimum requirement (Table 4.10, pages 60-61 of *Ewart-Smith & Boucher report*). Rehabilitation, maintenance and management activities must take place in parallel to the commencement of construction activities.
- 9.106 The REC for the watercourse on way point 144 in MU 10 must be rehabilitated, maintained and managed within a D category as a minimum requirement (Table 4.10, pages 60-61 of *Ewart-Smith & Boucher report*). Rehabilitation, maintenance and management activities must take place in parallel to the commencement of construction activities. Please note that all work relating to reshaping must be under the recommendation of the freshwater specialist.
- 9.107 The REC for the watercourse on way point 145 in MU 10 must be rehabilitated, maintained and managed within a D category as a minimum requirement (Table 4.10, pages 60-61 of *Ewart-Smith & Boucher report*). Rehabilitation, maintenance and management activities must take place in parallel to the commencement of construction activities.
- 9.108 The RECs for the watercourses on tracks 117 and 119 in MU 10 must be rehabilitated, maintained and managed within a D category as a minimum requirement (Table 4.10, pages 60-61 of *Ewart-Smith & Boucher report*). Rehabilitation, maintenance and management activities must take place in parallel to the commencement of construction activities.
- 9.109 The REC for the watercourse on way point 150 in MU 10 must be rehabilitated, maintained and managed within a D category as a minimum requirement (Table 4.10, pages 60-61 of *Ewart-Smith & Boucher report*). Rehabilitation, maintenance and management activities must take place in parallel to the commencement of construction activities.
- 9.110 The REC for the watercourse on track 121 in MU 10 must be rehabilitated, maintained and managed within a C category as a minimum requirement (Table 4.10, pages 60-61 of *Ewart-Smith & Boucher report*). Rehabilitation, maintenance and management activities must take place in parallel to the commencement of construction activities.
- 9.111 The REC for the associated riparian habitat on track 122 must be rehabilitated, maintained and managed within an A/B category as a minimum requirement (Table 4.10, pages 60-61

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of *Ewart-Smith & Boucher report*). Rehabilitation, maintenance and management activities must take place in parallel to the commencement of construction activities.

- 9.112 The REC for the watercourse on track 123 in MU 10 must be rehabilitated, maintained and managed within an A/B category as a minimum requirement (Table 4.10, pages 60-61 of *Ewart-Smith & Boucher report*). Rehabilitation, maintenance and management activities must take place in parallel to the commencement of construction activities.
- 9.113 The REC for the watercourse on track 124 in MU 10 must be rehabilitated, maintained and managed within a C category as a minimum requirement (Table 4.10, pages 60-61 of *Ewart-Smith & Boucher report*). Rehabilitation, maintenance and management activities must take place in parallel to the commencement of construction activities.
- 9.114 The RECs for the watercourses on tracks 200 and 201 in MU 10 must be rehabilitated, maintained and managed within a D category as a minimum requirement (Table 4.10, pages 60-61 of *Ewart-Smith & Boucher report*). Rehabilitation, maintenance and management activities must take place in parallel to the commencement of construction activities.
- 9.115 The RECs for the watercourses on tracks 098, 100 and 103 in MU 11 must be rehabilitated, maintained and managed within an A category as a minimum requirement (Table 4.12, page 64 of *Ewart-Smith & Boucher report*). Rehabilitation, maintenance and management activities must take place in parallel to the commencement of activities.
- 9.116 The RECs for the watercourses on tracks 110 and 111a in MU 11 must be rehabilitated, maintained and managed within a B category as a minimum requirement (Table 4.12, page 64 of *Ewart-Smith & Boucher report*). Rehabilitation, maintenance and management activities must take place in parallel to the commencement of construction activities.
- 9.117 The REC for the watercourse on way point 045 in MU 12 must be rehabilitated, maintained and managed within a C category as a minimum requirement (Table 4.13, page 67 of *Ewart-Smith & Boucher report*). Rehabilitation, maintenance and management activities must take place in parallel to the commencement of construction activities.
- 9.118 The REC for the watercourse on track 012 in MU 12 must be rehabilitated, maintained and managed within a C category as a minimum requirement (Table 4.13, page 67 of *Ewart-Smith & Boucher report*). Rehabilitation, maintenance and management activities must take place in parallel to the commencement of construction activities. Furthermore, it is noted that a threatened ecosystem type is associated with this watercourse. This must be made aware to all and demarcated as such.
- 9.119 The RECs for the watercourses on track 013 and way point 048 in MU 13 must be rehabilitated, maintained and managed within an A/B category as a minimum requirement (Table 4.14, page 73 of *Ewart-Smith & Boucher report*). Rehabilitation, maintenance and management activities must take place in parallel to the commencement of construction activities.
- 9.120 The RECs for the watercourses on track 014 and on way points 049, 050, 051, 052 in MU 13 must be rehabilitated, maintained and managed within an A category as a minimum requirement (Table 4.14, page 73 of *Ewart-Smith & Boucher report*). Rehabilitation, maintenance and management activities must take place in parallel to the commencement of construction activities.
- 9.121 The RECs for the watercourses on tracks 015, 015a and 016 in MU 13 must be rehabilitated, maintained and managed within an A/B category as a minimum requirement (Table 4.14, page 73 of *Ewart-Smith & Boucher report*). Rehabilitation, maintenance and

management activities must take place in parallel to the commencement of construction activities. Please note that water from upstream watercourses must be allowed to reach downstream watercourses through diffuse flow.

- 9.122 The RECs for the watercourses on tracks 018, 021, 022 and 023 in MU 13 must be rehabilitated, maintained and managed within an A category as a minimum requirement (Table 4.14, page 73 of *Ewart-Smith & Boucher report*). Rehabilitation, maintenance and management activities must take place in parallel to the commencement of construction activities.
- 9.123 The REC of the watercourse on way point 063 in MU 13 must be rehabilitated, maintained and managed within an A category as a minimum requirement (Table 4.14, page 73 of *Ewart-Smith & Boucher report*). Rehabilitation, maintenance and management activities must take place in parallel to the commencement of construction activities.
- 9.124 The REC for the watercourse on way point 067 in MU 13 must be rehabilitated, maintained and managed within a C category as a minimum requirement (Table 4.14, page 73 of *Ewart-Smith & Boucher report*). Rehabilitation, maintenance and management activities must take place in parallel to the commencement of construction activities. Re-shaping and landscaping must be recommended and guided by the freshwater specialist.
- 9.125 The RECs of the watercourses on tracks 025, 026, 030 and on way point 073 in MU 13; must be rehabilitated, maintained and managed within an A category as a minimum requirement (Table 4.14, page 73 of *Ewart-Smith & Boucher report*). Rehabilitation, maintenance and management activities must take place in parallel to the commencement of construction activities.
- 9.126 The RECs for the watercourses on tracks 032, 034, 035 and 036 in MU 13 must be rehabilitated, maintained and managed within an A category as a minimum requirement (Table 4.14, page 73 of *Ewart-Smith & Boucher report*). Rehabilitation, maintenance and management activities must take place in parallel to the commencement of construction activities.
- 9.127 The REC for the watercourse on track 033 in MU 13 must be rehabilitated, maintained and managed within a B category as a minimum requirement (Table 4.14, page 73 of *Ewart-Smith & Boucher report*). Rehabilitation, maintenance and management activities must take place in parallel to the commencement of construction activities.
- 9.128 The RECs for the watercourses on way points 075 and 076 in MU 13 must be rehabilitated, maintained and managed within an A category as a minimum requirement (Table 4.14, page 73 of *Ewart-Smith & Boucher report*). Rehabilitation, maintenance and management activities must take place in parallel to the commencement of construction activities.
- 9.129 The REC for the watercourse on track 037 in MU 13 must be rehabilitated, maintained and managed within a B category as a minimum requirement (Table 4.14, page 73 of *Ewart-Smith & Boucher report*). Rehabilitation, maintenance and management activities must take place in parallel to the commencement of construction activities.
- 9.130 The RECs for the watercourses on track 039 and way point 077 in MU 14, must be rehabilitated, maintained and managed within an A category as a minimum requirement (Table 4.15, page 76 of *Ewart-Smith & Boucher report*). Rehabilitation, maintenance and management activities must take place in parallel to the commencement of construction activities.
- 9.131 The RECs for watercourses on tracks 083, 085, 086, 087 and 088 in MU 15, must be rehabilitated, maintained and managed within an A category as a minimum requirement



(Table 4.16, page 79 of *Ewart-Smith & Boucher report*). Rehabilitation, maintenance and management activities must take place in parallel to the commencement of construction activities.

- 9.132 The REC for the watercourse on track 084 in MU 15 must be rehabilitated, maintained and managed within an A/B category as a minimum requirement (Table 4.16, page 79 of *Ewart-Smith & Boucher report*). Rehabilitation, maintenance and management activities must take place in parallel to the commencement of construction activities.
- 9.133 The rocky outcrops that are highly sensitive and pristine on track 089 must be avoided.
- 9.134 The RECs for the watercourses on tracks 092, 095, and 096 in MU 15 must be rehabilitated, maintained and managed within an A category as a minimum requirement (Table 4.16, page 79 of *Ewart-Smith & Boucher report*). Rehabilitation, maintenance and management activities must take place in parallel to the commencement of construction activities.
- 9.135 The RECs for the watercourses on tracks 093 and 097 in MU 15 must be rehabilitated, maintained and managed within a B category as a minimum requirement (Table 4.16, page 79 of *Ewart-Smith & Boucher report*). Rehabilitation, maintenance and management activities must take place in parallel to the commencement of construction activities.
- 9.136 The RECs for the watercourses on tracks 041, 042 and on way point 083 in MU 16; must be rehabilitated, maintained and managed within an A category as a minimum requirement (Table 4.17, pages 85-87 of *Ewart-Smith & Boucher report*). Rehabilitation, maintenance and management activities must take place in parallel to the commencement of construction activities.
- 9.137 The RECs for the watercourses on way points 080, 081, 082, 084, 085, 088, 089 and 090 in MU 16 must be rehabilitated, maintained and managed within an A category as a minimum requirement (Table 4.17, pages 85-87 of *Ewart-Smith & Boucher report*). Rehabilitation, maintenance and management activities must take place in parallel to the commencement of construction activities.
- 9.138 The RECs of the watercourses on way points 086 and 087 in MU 16 must be rehabilitated, maintained and managed within a B category as a minimum requirement (Table 4.17, pages 85-87 of *Ewart-Smith & Boucher report*). Rehabilitation, maintenance and management activities must take place in parallel to the commencement of construction activities.
- 9.139 The RECs of the watercourses on tracks 043b, 045, 046, and 047a-c in MU 16 must be rehabilitated, maintained and managed within an A category as a minimum requirement (Table 4.17, pages 85-87 of *Ewart-Smith & Boucher report*). Rehabilitation, maintenance and management activities must take place in parallel to the commencement of construction activities.
- 9.140 The RECs for the watercourses on way points 091, 092, 093, 094, 095, 096, 101, 111, 113, 114, 115, 118 and 119 in MU 16; must be rehabilitated, maintained and managed within an A category as a minimum requirement (Table 4.17, pages 85-87 of *Ewart-Smith & Boucher report*). Rehabilitation, maintenance and management activities must take place in parallel to the commencement of construction activities.
- 9.141 The RECs for the watercourses on tracks 049, 050, 051, 052, 054, 055, 058, 059, 062, 065, 066, 068 and 070 in MU 16; must be rehabilitated, maintained and managed within an A category as a minimum requirement (Table 4.17, pages 85-87 of *Ewart-Smith & Boucher report*). Rehabilitation, maintenance and management activities must take place in parallel to the commencement of construction activities.

- 9.142 The REC for the watercourses on way points 098 and 099 in MU 16 must be rehabilitated, maintained and managed within an A/B category as a minimum requirement (Table 4.17, pages 85-87 of *Ewart-Smith & Boucher report*). Rehabilitation, maintenance and management activities must take place in parallel to the commencement of construction activities.
- 9.143 The REC for the associated riparian habitat on track 056 in MU 16, must be rehabilitated, maintained and managed within an A category as a minimum requirement (Table 4.17, pages 85-87 of *Ewart-Smith & Boucher report*). Rehabilitation, maintenance and management activities must take place in parallel to the commencement of construction activities.
- 9.144 The REC for the watercourse on way point 109 in MU 16 must be rehabilitated, maintained and managed within a B category as a minimum requirement (Table 4.17, pages 85-87 of *Ewart-Smith & Boucher report*). Rehabilitation, maintenance and management activities must take place in parallel to the commencement of construction activities. It is further noted that the existing culvert must be upgraded to allow for all flows to pass from upstream watercourses to the downstream situated watercourses.
- 9.145 The REC for the watercourse on way point 110 in MU 16 must be rehabilitated, maintained and managed within an A/B category as a minimum requirement (Table 4.17, pages 85-87 of *Ewart-Smith & Boucher report*). Rehabilitation, maintenance and management activities must take place in parallel to the commencement of construction activities. It is further noted that maintenance in terms of culvert clearing is required. Please note that this must be guided by the freshwater specialist.
- 9.146 The REC for the watercourse and associated dry land on track 060 in MU 16, must be rehabilitated, maintained and managed within an A category as a minimum requirement (Table 4.17, pages 85-87 of *Ewart-Smith & Boucher report*). Rehabilitation, maintenance and management activities must take place in parallel to the commencement of construction activities.
- 9.147 The REC for the watercourse on way point 117 in MU 16 must be rehabilitated, maintained and managed within an A/B category as a minimum requirement (Table 4.17, pages 85-87 of *Ewart-Smith & Boucher report*). Rehabilitation, maintenance and management activities must take place in parallel to the commencement of construction activities.
- 9.148 The REC of the associated riparian habitat on track 071 in MU 16, must be rehabilitated, maintained and managed within an A category as a minimum requirement (Table 4.17, pages 85-87 of *Ewart-Smith & Boucher report*). Rehabilitation, maintenance and management activities must take place in parallel to the commencement of construction activities.
- 9.149 The REC for the watercourse on way point 122 in MU 16 must be rehabilitated, maintained and managed within an A/B category as a minimum requirement (Table 4.17, pages 85-87 of *Ewart-Smith & Boucher report*). Rehabilitation, maintenance and management activities must take place in parallel to the commencement of construction activities.
- 9.150 The REC for the watercourse on track 072 in MU 16 must be rehabilitated, maintained and managed within an A category as minimum requirement (Table 4.17, pages 85-87 of *Ewart-Smith & Boucher report*). Rehabilitation, maintenance and management activities must take place in parallel to the commencement of construction activities.
- 9.151 The REC for the watercourse and associated dry land on track 074 in MU 16, must be rehabilitated, maintained and managed within an A category as a minimum requirement



(Table 4.17, pages 85-87 of *Ewart-Smith & Boucher report*). Rehabilitation, maintenance and management activities must take place in parallel to the commencement of construction activities.

- 9.152 The RECs for the watercourses on tracks 075 and 076 in MU 16 must be rehabilitated, maintained and managed within a B/C category as a minimum requirement (Table 4.17, pages 85-87 of *Ewart-Smith & Boucher report*). Rehabilitation, maintenance and management activities must take place in parallel to the commencement of construction activities.
- 9.153 The REC for the watercourse and the associated riparian habitat on track 077 in MU 16 must be rehabilitated, maintained and managed within an A/B category as a minimum requirement (Table 4.17, pages 85-87 of *Ewart-Smith & Boucher report*). Rehabilitation, maintenance and management activities must take place in parallel to the commencement of construction activities.
- 9.154 The REC for the watercourse on way point 125 in MU 16 must be rehabilitated, maintained and managed within an A/B category as a minimum requirement (Table 4.17, pages 85-87 of *Ewart-Smith & Boucher report*). Rehabilitation, maintenance and management activities must take place in parallel to the commencement of construction activities.
- 9.155 The RECs for the watercourses on track 213 and way point 280 in MU 17 must be rehabilitated, maintained and managed within a C category as a minimum requirement (Table 4.18, page 90 of *Ewart-Smith & Boucher report*). Rehabilitation, maintenance and management activities must take place in parallel to the commencement of construction activities.
- 9.156 The RECs for the watercourses on tracks 214, 217, 220, 221 and 226 in MU 17 must be rehabilitated, maintained and managed within a D category as a minimum requirement (Table 4.18, page 90 of *Ewart-Smith & Boucher report*). Rehabilitation, maintenance and management activities must take place in parallel to the commencement of construction activities. It is noted that these areas are impacted by alien invasive species. Please note that all alien vegetation must be removed in a phased approach and be re-vegetated with indigenous species.
- 9.157 The RECs for the watercourses on way points 282, 283 and 284 in MU 17, must be rehabilitated, maintained and managed within a D category as a minimum requirement. Furthermore, it will require landscaping under the guidance of the freshwater specialist to ensure habitat diversity is restored. (Table 4.18, page 90 of *Ewart-Smith & Boucher report*). Rehabilitation, maintenance and management activities must take place in parallel to the commencement of construction activities.

[END OF LICENCE]