

# TERMS OF REFERENCE

## NEW WATER PROJECTS: DEVELOPMENT OF TMG AQUIFER: ENVIRONMENTAL WORKING GROUP

### 1 PURPOSE & MISSION STATEMENT

The City of Cape Town is experiencing one of its worst droughts in history. It's considered critical to develop additional water resources that can reduce the short-term pressure and that will be sustainable long-term solutions that will reduce the City's current risk of solely relying on surface water schemes.

The Table Mountain Group (TMG) Aquifer has been studied by the City of Cape Town since 2002 as a potential resource that could increase the system yield and reduce the City's risks. The City has also embarked on a long-term monitoring program from as early as 2006.

The positions of borehole sites are predominantly being determined based on hydrogeological considerations, i.e. boreholes are positioned to deliver the maximum possible yield, but other factors such as environmental considerations, infrastructure requirements and financial impacts all form part of the final decision making to ensure that long-term sustainable wellfields could be developed and maintained. As such, the City requires the inputs of various specialists and or working groups to provide inputs to this process.

The purpose of this Environmental Working Group (EWG) will be to undertake the environmental screening of the borehole locations and the associated wellfield infrastructure in order to finalise the proposed groundwater development program. Apart from the screening process, this working group will also provide advice regarding potential impacts – how these can be effectively managed, mitigated and or rehabilitated.

It is the City's expectation that the knowledge and understanding of all the EWG stakeholders will result in an environmentally responsible approach to the implementation of this groundwater resource.

### 2 KEY FOCUS PROJECT AREAS

Borehole drilling locations into the TMG aquifer have been selected within the following areas:

- Steenbras;
- Wemmershoek;
- Berg River;
- Theewaterskloof;
- Southern Planning District;
- Voëlvlei; and
- Helderberg.

The Water Use License is likely to make provision for the implementation of the TMG Aquifer in three phases with Phase 1 having a target yield of 115 Ml/d (42 Mm<sup>3</sup>/a). The City's short-term priority, as part of the current drought, is to develop at least 50 Ml/d from the TMG Aquifer but with the option to increase the yield to the licenced amount. In order to develop a yield of 115 Ml/d, it's expected that a minimum of 100 boreholes would be required with the maximum number of boreholes being approximately 250.

The EWG will have certain key focus areas which will guide the planning and screening process. Information on the geohydrology / geology, engineering / infrastructure and water treatment considerations for each target area will be presented to the EWG as background information to the proposed siting of boreholes and its associated infrastructure. The EWG is then expected to consider the following with respect to the proposed wellfields:

- Impacts on the receiving environment during exploration drilling;
- Impacts on the receiving environment for production boreholes, including all associated infrastructure (power supply, pipelines, access roads, pumps, transformers, etc.);
- Impacts on the receiving environment during test pumping;
- Drilling within threatened ecosystems;
- Drilling within protected areas of National / International interest;
- Drilling within protected areas of Provincial / Regional / Local interest;
- Drilling close to surface water resources (including wetlands);
- Vegetation sensitivity;
- Cumulative environmental impacts;
- Short and long term environmental monitoring;
- Water use authorisation; and
- Environmental authorisations required.

### **3 WORKING GROUP ATTENDANCE / STRUCTURE**

Mr Barry Wood, head of the City's Bulk Water Department, will chair the EWG. The following specialists and representatives from indicated organisations will serve on the EWG:

- City of Cape Town – Water and Sanitation (Bulk Water)
- City of Cape Town – Environmental Management / Biodiversity
- Aurecon – Consultant
- Umvoto – Groundwater sub-consultant
- Western Cape Government: Department of Environmental Affairs & Development Planning
- Department of Environmental Affairs (National)
- Department of Water and Sanitation (Regional)
- SANParks – Scientific Services
- CapeNature – Scientific Services
- South African National Biodiversity Institute (SANBI)
- Justine Ewart-Smith (Freshwater Consulting)
- Nick Helme (Botaneek)
- Charlie Boucher (Independent botanist)
- Cate Brown (Southern Waters Ecological Research and Consulting).

Additional specialists and advisors may be requested to attend the EWG on an ad hoc basis.

### **4 RESPONSIBILITIES OF THE ENVIRONMENTAL WORKING GROUP**

The EWG will serve in an advisory capacity to the City's Bulk Water Department and the project team. Representation by the appropriate specialists is considered critical as the information compiled by this working group might well be shared with the general public.

## 5 ADMINISTRATION

Minutes and outcomes from the EWG meetings will be compiled and distributed by Aurecon to all parties involved and reported to the City of Cape Town’s Environmental Monitoring Committee (EMC) by the EWG Chair.

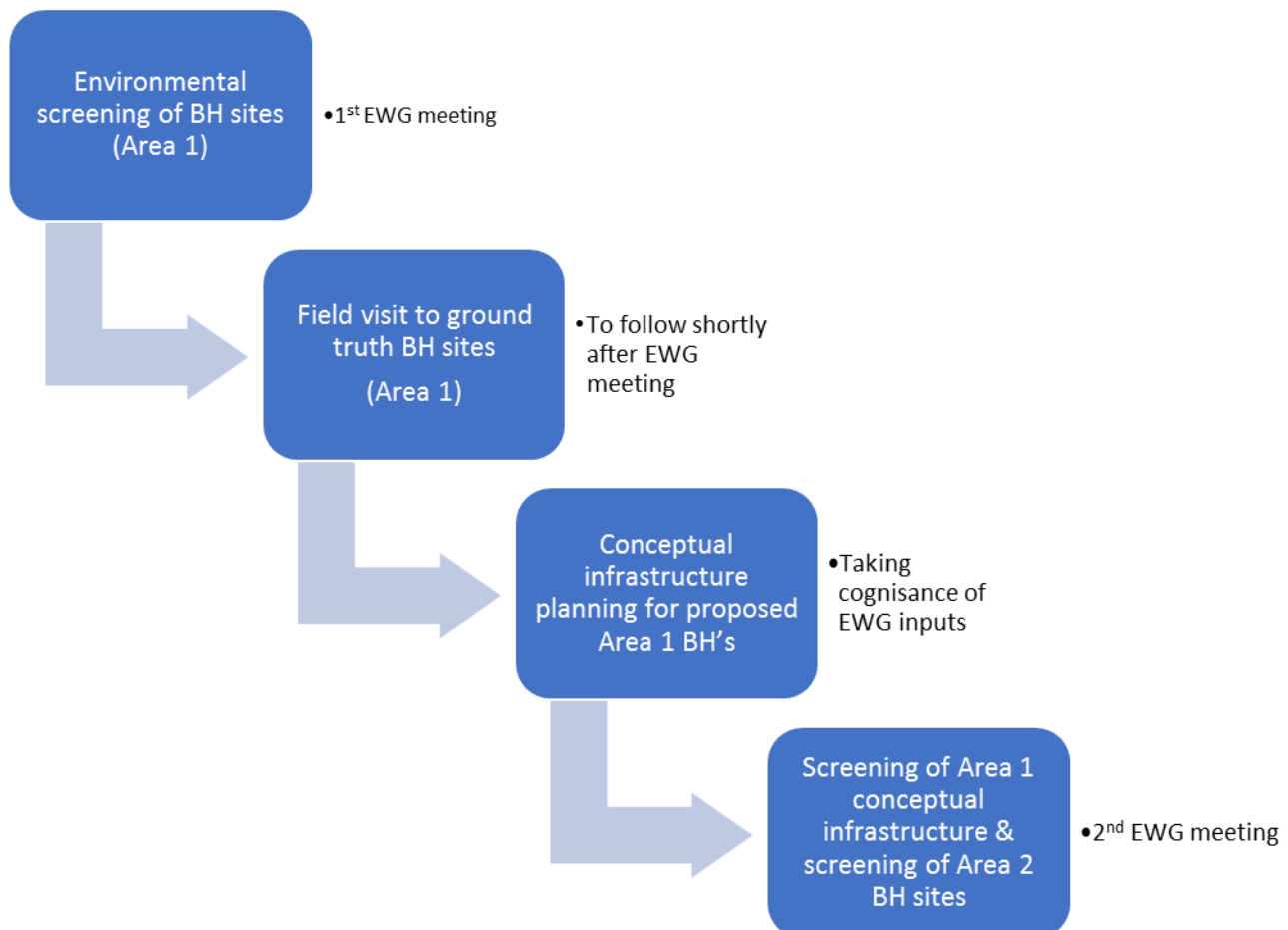
Any queries relating to the EWG can be addressed to Jeanne-Louise Wiese at [Jeanne-louise.wiese@aurecongroup.com](mailto:Jeanne-louise.wiese@aurecongroup.com) or 021 526 6024.

### 5.1 TIMEFRAME

The EWG will be established on 20 March 2018 during the first meeting. It is envisaged that the EWG will actively function until the completion of at least the short-term requirement of 50 Ml/d. The borehole siting for this short-term phase should preferably be completed within the next four months. It is, however, envisaged that the EWG could become the Monitoring Committee as required by the Conditions of the Water Use License. A review of this Terms of Reference (ToR) will be undertaken during the second and or third EWG meetings based on inputs from the members.

### 5.2 MEETING ARRANGEMENTS

The EWG will meet on a regular basis, determined by the need for borehole location selection within the project areas specified in Section 2. Meetings will consist of desktop screenings and in-office meetings, as well as on-site meetings. The flow diagram below indicates the proposed structure to be followed.



The agreed sites will have search, rescue and rehabilitation plans compiled for inclusion into the site specific Environmental Management Programmes (EMPr's). The site specific EMPr will be circulated for comment and then finalised for implementation by the contractors.