

WATER QUALITY MANAGEMENT POLICY WITH REGARD TO THE MANAGEMENT OF AND CONTROL OVER CEMETERIES AS A SOURCE OF WATER POLLUTION

Several requests, including Ministerial enquiries, received by this office pertaining to the **impacts from cemeteries on the water resource**, refers.

There appears to be a perception among certain members of the public that cemeteries is a source of pollution which is neglected by the Department of Water Affairs and Forestry (DWAF), and that water supplies are being polluted because of being in the vicinity of cemeteries. This perception is incorrect, and the following policy, which have been formulated and were sanctioned by the Minister (see attached letter), should be brought to the attention of those approaching your officials in this regard:

The risk of pollution posed by cemeteries to the quality of the water resource, especially the quality of drinking water, is regarded as acceptable, and in most instances negligible, for the following reasons:

1. The process of decay of human bodies is much slower than, for example, the degradation of waste in a waste disposal site, and most disease-causing bacteria usually do not survive long outside a living human body, and will expire within days from burial, before it comes into contact with groundwater or even surface water. When degradation products of decaying bodies does come in contact with water, it will therefore have a low risk of containing disease-causing bacteria and, although high in nutrients, will be small in volume when compared with waste from, for example, a leaking sewerage pipeline.
2. The risk of pollution posed by cemeteries is an issue that is of low priority when compared with the pollution caused by activities resulting from other sources in municipal areas. Examples of this include the improper siting and inadequate operation of waste disposal sites, the use of pesticides in municipal gardens and parks, the illegal disposal of medical waste by amongst others general practitioners and hospitals, and improper management of sewage. The biggest threat of pollution in municipal areas originate from inadequate service delivery of local authorities regarding the management of sewage, and such pollution problems are exacerbated by *inter alia* the poor operation of sewage treatment works, incorrect siting of areas for the disposal of sewage sludge, leaking sewerage pipelines, stormwater contaminated with sewage due to blocked sewerage pipelines and drains, overflowing sewerage pumping stations, etc.
3. Within municipal areas, there are many factors that could therefore influence the quality of ground- and surface water. For this reason, local authorities are responsible to supply potable water for household use in residential areas through a reticulation system, originating from a facility where water is purified up to SABS Specifications.
4. The use of poorer quality groundwater (which may have been affected by any of the above-mentioned factors, including cemeteries) for purposes of, for example, gardening, would therefore constitute a low risk in relation to other environmental factors that can contribute to potential health problems.

Notwithstanding the above, the Department of Water Affairs and Forestry do recognise the potential for pollution caused by poorly sited cemeteries. Based on previous assessments funded by DWAF and conducted by specialists, amongst others the CSIR, the following measures have been put in place to address this potential risk:

1. In accordance with the definitions contained in the National Water Act, No 36 of 1998 (NWA), a cemetery constitutes a water use in terms of s21(g) of the NWA, which need to be authorised. However, due to the low pollution potential from cemeteries, very broad general authorisations are currently under preparation for the purpose of such authorisation. This would only apply to new cemeteries, as old cemeteries (some of which had been in existence for more than a century), are existing lawful uses in terms of section 33 of the Act, and should be addressed as set out in point 3 below.
2. Local authorities are responsible for the implementation of legislation governing land development objectives, and are therefore responsible for land use planning within areas of their jurisdiction, and the appropriate zoning of land, taking full cognisance of the environment. As co-operative governance must be promoted for water use authorisations, in terms of sections 22(3)

and 22(4) of the NWA, the Department of Water Affairs and Forestry (DWAF) could dispense with the requirements for such authorisation if local authorities would take cognisance of the requirements of DWAF in their planning ordinances as it relates to the siting of cemeteries. These requirements of DWAF are that graveyards should **not** be:

- *located below the 1 in 50 year floodline of a river;*
 - *in close proximity to water bodies such as wetlands, vleis, pans, estuaries and floodplains;*
 - *situated on unstable areas, like fault zones, seismic zones, dolomitic or karst areas where sinkholes and subsidence are likely;*
 - *situated in or near sensitive ecological areas;*
 - *situated in or on areas characterised by flat gradients, shallow or emergent groundwater;*
 - *situated in areas characterised by steep gradients, or shallow bedrock with little soil cover, where stability of slopes could be a problem;*
 - *situated in areas of ground water recharge on account of topography and/or highly permeable soils; and*
 - *situated on areas overlaying or adjacent to important or potentially important aquifers (Parsons aquifer classification), where such aquifers are to be use for water supply purposes.*
3. In cases where cemeteries are poorly sited, and are indeed causing an elevated risk to the users of ground- and/or surface water, this is mainly due to poor planning by local authorities, which implies that these local authorities did not take their responsibilities in terms of planning seriously. In such cases, as in other instances where we become aware of water pollution, action should be taken by DWAF Regional WQM officials in terms of the provisions contained in the National Water Act to ensure that the parties responsible for the pollution address and correct the situation accordingly.

Trusting that the above will assist you to address any enquiries you may have regarding this matter. Any further input in this regard, especially in relation to the general authorisations currently under preparation to address this matter, will be welcomed, and can be forwarded to the author.