

Ref. TCTA 08-008/11.3.3/03

28 January 2015

The South African Heritage Resources Agency
PO Box 4637
Cape Town
8000
South Africa

Dear Sir / Madame,

RE: REQUEST APPROVAL FOR IN TERMS OF SECTION 38 OF THE NATIONAL HERITAGE RESOURCES ACT (ACT 25 OF 1999) FOR THE CONSTRUCTION OF A POTABLE WATER PIPELINE IN SPRINGS, GAUTENG, AS PART OF THE WITWATERSRAND GOLD FIELDS ACID MINE DRAINAGE PROJECT

Acid Mine Drainage (AMD) is currently the biggest environmental threat on the Witwatersrand. The depletion of, predominantly, gold reserves led to a cessation of mining activities at numerous mines on the Witwatersrand. Dewatering activities were subsequently also stopped and resulted in flooding of the mine shafts. AMD is generated when ore and other mining waste containing sulphides are exposed to oxygen and water. Water in the mine shafts, therefore, turned acidic and was contaminated by heavy metals after being exposed to the ores and mining waste. The rising AMD level threatens, among other risks, to contaminate shallow groundwater and decant into the natural environment negatively impacting the ecology of rivers and other water systems.

Due to the urgency of the AMD problem, the Department of Environmental Affairs issued an exemption (DEA Reference: 12/12/20/2403) to TCTA to commence with the construction of the AMD water management and treatment infrastructure to prevent uncontrolled surface decant of acidic water from mine voids. The Witwatersrand Gold Fields AMD Project aims to abstract and neutralise acidic water before release into the environment. The project entails the construction of AMD treatment plants in the Randfontein Estates area (Western Basin), the ERPM South-West Vertical Shaft area (Central Basin) and the **Grootvlei Mine Shaft No. 3 area in Springs (Eastern Basin)**. Construction activities at these locations will entail acid water abstraction and treatment infrastructure around the respective shafts. In addition, high density sludge treatment plants, pipelines for sludge, clear water disposal and potable water delivery will be constructed. Construction of the Eastern Basin AMD treatment plant commenced on 17 June 2014.

AECOM, on behalf of its client TCTA, wish to construct a potable water pipeline to connect the **AMD water treatment plant in the Eastern Basin to the Springs municipal water line**. The commencement of construction of the pipeline is urgently required for the completion of the AMD plant.

As per the requirements of section 38 (1) of the Heritage Resources Act (Act No. 25 of 1999), this letter serves as notification to the heritage authority of the intended construction of the water pipeline. For reasons detailed below, AECOM is of the opinion that the construction of the pipeline will not have any impact on heritage or cultural features in the area.

The HDPE pipeline will be 0.25 m in diameter, 3.5 km long from connection at the municipal water line until final connection with the AMD treatment plant and buried to a depth of approximately 1.5 m (note

the depth is variable). The Eastern Basin AMD water treatment plant is situated approximately 4.6km east of the Springs CBD. The site is accessible via the R29 Ermelo Road and Grootvaly Road through the suburb of Casseldale. The location of the route is depicted in Figure 1 in Appendix A. The water pipeline route is located in an urban area and within the road reserve for 3.3 of the total 3.5 km. A detailed description of the route is provided in Appendix A and B.

A summary of the route is as follows:

- The pipe will connect to the municipal potable water pipeline at the corner of Driehoek and Clydesdale Road.
- From the connection point until Mc Comb Road the pipe is routed along public sidewalks and pavements.
- The route then traces approximately 100 m across a small, public park.
- From the park, it continues along public pavements until the corner of Partridge and Grootvaly Road.
- From the corner of Partridge and Grootvaly Road, the route runs adjacent Partridge Road along an undeveloped parcel of land for approximately 800m, but still within the road reserve. The road reserve is maintained by the municipality on a regular basis.
- After traversing the undeveloped land, the route moves, once again, along public pavements through an industrial area. It turns left onto Donnelly Road, still along a pavement. It then turns right onto the Dyer Road servitude.
- The route continues for approximately 800 m within the road reserve between the road and a storm water channel.
- It then crosses the channel and a railway line and connects to the AMD treatment plant.

No visible heritage or culture features were evident along the route. As the line is located within urban, previously disturbed areas it is unlikely that such features or objects will be encountered. If heritage objects are unearthed during construction, works will be stopped immediately, and a heritage specialist contacted to assess the findings and prescribe the correct procedure to be followed, adhering to all legal requirements.

Please refer to Appendix A for the route orientation of the pipeline. Pictures and a description of the pipe route are included in Appendix B. Based on the information above and that detailed in Appendixes A and B, AECOM's Environmental Division has no reason to believe heritage resources will be affected by the development. Should you require further information or clarity please do not hesitate to contact the AECOM Environmental Department as per the details on the letterhead, or the Environmental Control Officer, Mr Julian Warbreck, who is based on the AMD treatment plant construction project on 074 219 1572 or julian.warbreck@aecom.com.

Yours faithfully,



Dr David de Waal
For AECOM SA (Pty) Ltd

Received: _____

Date: _____

APPENDIX A: POTABLE WATER PIPELINE – ROUTE ORIENTATION



Figure 1: Google Earth image of the proposed potable water pipeline from the connection point at the municipal water to the pipe to the Acid Mine Drainage treatment plant. The numbers in the image correspond to the images below, depicting the location at which the photographs were taken

APPENDIX B: PHOTOGRAPHIC SURVEY OF THE POTABLE WATER PIPELINE ROUTE

The locations at which the photographs (depicted below) were taken are presented in Figure 1. Each photograph number corresponds to the respective number on the map in Figure 1. The approximate location of the pipeline is drawn onto the photographs in yellow and the servitude boundary in orange while the storm water channel adjacent Dyer Road is drawn blue. For ease of reference the route is divided into the following sections:

- Clydesdale Road.
- Lake Road.
- Athlone Avenue and the public park.
- Partridge Road: Public park to Grootvaly Road.
- Partridge Road and Donnelly Road: From the intersection of Partridge Road and Grootvaly Road to, and including, Donnelly Road.
- Dyer Road.
- Stormwater channel and railway line crossing.

CLYDESDALE ROAD



Photo 1: Connection point of the pipeline.



Photo 2: From the connection point the pipe will run parallel to Clydesdale Road, between the fence and trees.



Photo 3: A small, fenced off game park is located adjacent the public walkway and proposed pipeline route.



Photo 4: The pipeline will cross Ermelo Road.

LAKE ROAD



Photo 5: After crossing Ermelo Road the pipeline is routed on the pavement along Lake Road.



Photo 6: Route along Lake Road.



Photo 7: The route turns right, crosses Lake Road and continues along the pavement adjacent Athlone Avenue.

ATHLONE AVENUE AND THE PUBLIC PARK



Photo 8: The route is situated on the pavement along Athlone Avenue.



Photo 9: The route along Athlone Avenue crossing Hansom Road.



Photo 10: The route along Athlone Avenue crossing Deyssel Avenue.



Photo 11: The route crosses Mc Comb Road and a small urban park.

PARTRIDGE ROAD: PUBLIC PARK TO GROOTVALY ROAD



Photo 12: After crossing the park the route turns slightly left and continues along the pavement on Partridge Road.



Photo 13: The route along Partridge Road crossing Sutherland Avenue at the bottom of the photograph and Grootvaly Road at the top.

PARTRIDGE ROAD AND DONNELLY ROAD: FROM THE INTERSECTION OF PARTRIDGE ROAD AND GROOTVALY ROAD TO, AND INCLUDING, DONNELLY ROAD



Photo 14: After crossing Grootvaly Road, the route continues adjacent the road on an open portion of land. In some sections, residents opposite the open land (and proposed route alignment) have established small, simple gardens.



Photo 15: The route along Partridge Road.



Photo 16: The route along Partridge Road.



Photo 17: The route along Partridge Road.



Photo 18: After traversing the open land, the route enters a small, industrial area, the alignment still on the pavement adjacent Partridge Road.



Photo 19: From Partridge Road the route turns left onto Donnelly Road and then bends right (as seen in the above photograph) onto Dyer Road.

DYER ROAD



Photo 20: The route along Dyer Road. An unlined, storm water channel runs parallel to the route and Dyer Road (the pipeline route (blue line) is located between the channel and road.



Photo 21: The route along Dyer Road.



Photo 22: A number of exotic tree species including willow and pine trees lie in the pipeline route servitude. These trees will not be felled during construction of the pipeline



Photo 23: A number of exotic tree species lie in the pipeline route servitude.



Photo 24: A railway line runs parallel to storm water channel, pipeline route and road.



Photo 25: A railway line runs parallel to storm water channel, pipeline route and road.



Photo 26: The route along Dyer Road.



Photo 27: The route along Dyer Road.

STORMWATER CHANNEL AND RAILWAY LINE CROSSING



Photo 28: Area where the pipeline route turns left and cross the storm water channel and railway line as it moves toward the AMD treatment plant



Photo 29: The pipeline route crosses the storm water channel.



Photo 30: An existing pipe crosses the storm water channel 5 – 10 m upstream of the proposed potable water pipeline crossing.



Photo 31: View of the proposed pipeline route from the top of the banks of the storm water channel looking toward the AMD treatment plant.



Photo 32: Crossing of the railway line.



Photo 33: After the railway line the route will cross a small area of vegetation.



Photo 34: The route will then cross the access road and enter the AMD plant.