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Verification of the Wetland Delineation and required Buffer Zones for the Kusile 10-year Ash Dam

Wetland Consulting Services (Pty.) Ltd. (WCS) was requested by Prime Africa Consultants to verify the wetland delineation of wetlands falling within and immediately adjacent to the Kusile 10-year Ash Dam construction footprint, and to verify the correct placement of the fence along the edge of the recommended buffer zone. WCS has previously undertaken the delineation and assessment of the wetlands within the 10-year Ash Dam footprint, and also recommended a buffer zone, based on eco-hydrological modeling, that would be required in order to ensure the continued survival of the pan.

The following is addressed in this memo:

1. Verify that the fence installed around the pan wetland adequately excludes the entire wetland and its recommended buffer zone from the development footprint;
2. Verify the wetland delineation, specifically the hillslope seepage wetlands along the southern and north western edge of the 10-year Ash Dam footprint; and
3. Provide shapefiles of the buffer zone to be fenced off surrounding the hillslope seepage wetlands as required by the Water Use License (*Section 3.5.20; License No: 04/B20F/CGI/1836*).

1. A site visit was undertaken on the 11 December 2012 and the 8 January 2013 during which the full length of the installed fence around the pan was walked and marked using a handheld GPS device. The marked waypoints were compared with the recommended buffer zone in GIS using ArcMap 10 (see Figure 1). The fence was found to accurately coincide with the recommended buffer zone.

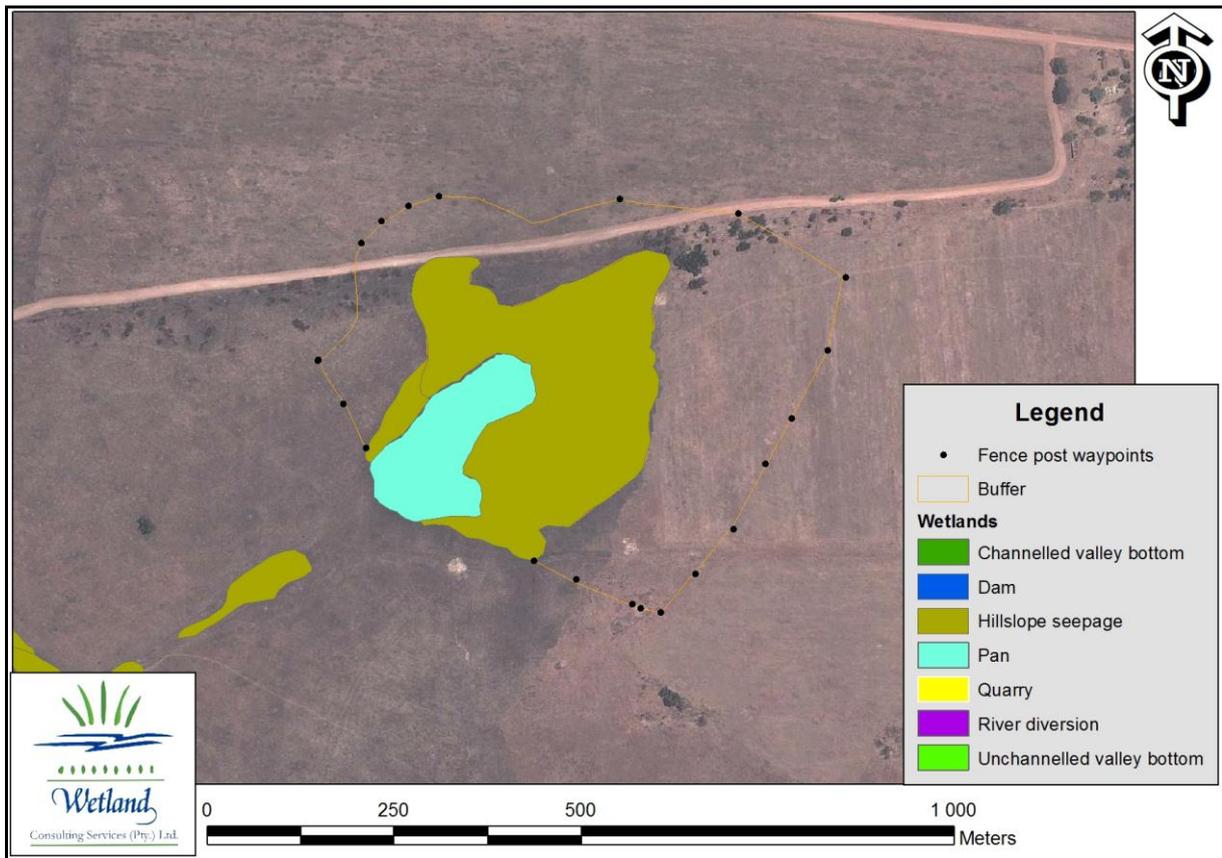


Figure 1. Map showing the recommended buffer zone and the corner posts of the actual fence on site as verified on the 11 December 2012.

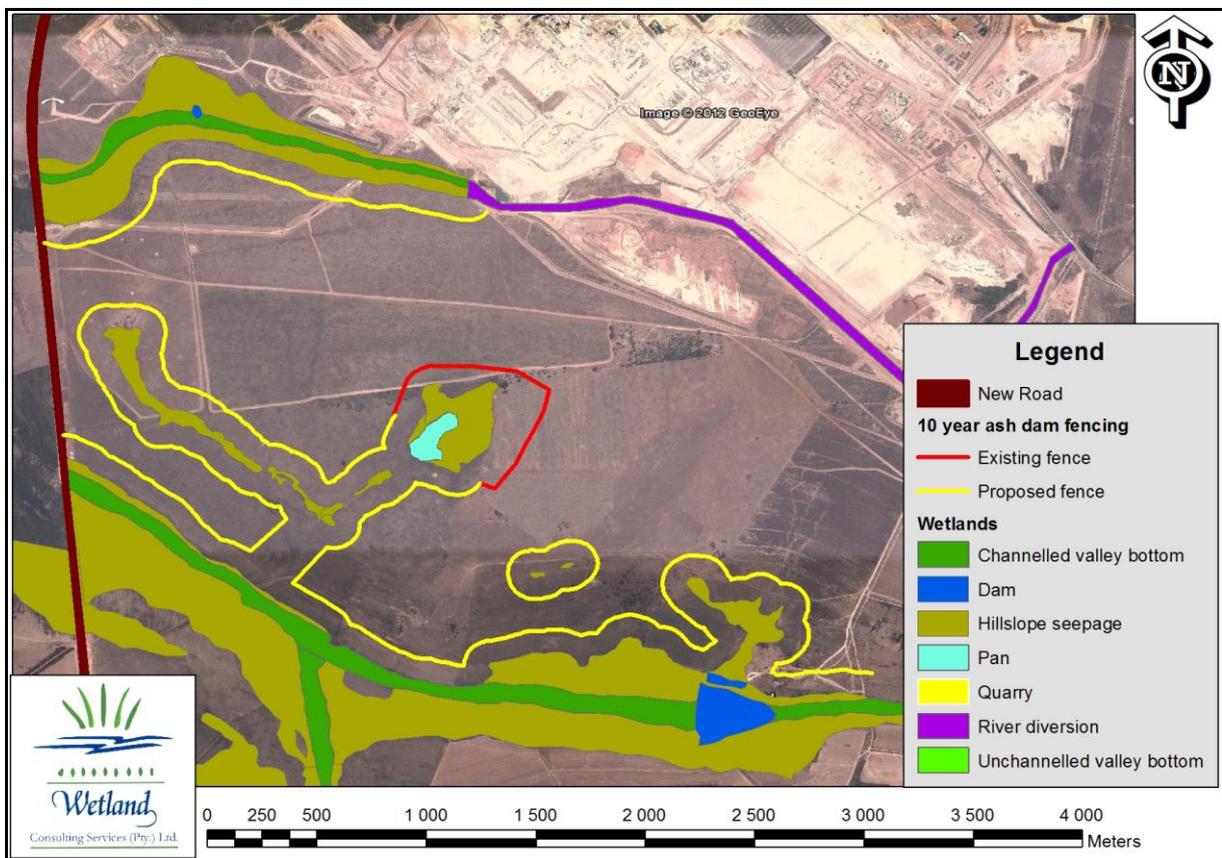


Figure 2. Map showing the updated wetland delineation as well as the required 100m buffer zone along which additional fencing should be installed. The section of fence to be removed is also shown.

2. The wetland delineation was extended to all hillslope seepage wetlands adjacent to the proposed ash dam site and the boundaries verified. The eastern hillslope seepage wetland was found to be less extensive than initially indicated in the desktop delineation. However, a further two small contact seeps were identified and delineated, while the boundaries of the contact seeps immediately to the south west of the pan were also slightly adjusted. See Figure 2 above and the attached shapefiles. All of these wetlands should be fenced off as well. ***For the purpose of the fence, a 100m buffer zone is required as per the license conditions (Section 3.5.20; License No: 04/B20F/CGI/1836).***

3. Shapefiles and .dxf files of the delineated wetlands and the required 100m buffer zone are attached to this letter. It is recommended that the same procedure be followed as was implemented to install the fence along the pan buffer zone, as it is clear that the procedure worked. The attached shapefiles are as follows:

- 10 year ash dam wetlands.shp
- 10 year ash dam fencing.shp

The shapefiles are in projected co-ordinate system UTM Lo29, WGS84 Datum.

Please feel free to contact us should you have any questions.

Regards,

Dieter Kassier

Wetland Consulting Services (Pty.) Ltd.