ADDENDUM TO FRESHWATER ASSESSMENT FOR THE PROPOSED DEVELOPMENT OF ERF 511, WETTON IN CAPE TOWN

February 2020

Background

This addendum report provides freshwater specialist input on the final layout plan (Dated February 2018, see Figure 1 below). The input is in direct response to the following comment from the Department of Environment Affairs and Development Planning:

Freshwater Specialist Study:

"3.1 The Freshwater Impact Assessment Report (dated October 2016 and compiled by BlueScience) only assessed the impacts on the wetlands associated with the initial alternative that was identified.

3.2 An assessment of the impacts on wetlands as a result of the preferred alternative was not included in the Freshwater Impact Assessment Report. However, an updated risk assessment for the preferred alternative was undertaken by the Freshwater specialist.

3.3 The Freshwater Impact Assessment Report must be updated to include an assessment of the above and must confirm whether the preferred alternative will result in the infilling of the wetland located on the proposed site.

Since the original freshwater assessment report was compiled in 2016 and was followed by an addendum report, it was felt that, for consistency sake, it would be best to respond to the above in an additional addendum report.

Figure 1. The proposed final layout for Erf 511, Wetton

The final development proposal comprises of 19 dwelling units, parking and internal roads and a large open space that would incorporate the required wetland offset area for the site. It is proposed that for the installation of the sewer pipeline within the development, the pipeline will be excavated and a manhole (concrete base, precast manhole rings, with cover and frame and backfill) constructed. To minimise the potential environmental impact of the sewer pipeline, the manhole base can be constructed from precast concrete.

The proposed stormwater system within the site will receive some additional stormwater runoff to be discharged into the wetland from the developed areas, but no construction will take place in the wetland area.

The installation of the roadworks will not have any impact on the adjacent wetland on ERF 509.

In terms of the proposed landscaping within the site (See Appendix A for the proposed landscape plan), the following activities are anticipated:

- Removal of any alien vegetation, building rubble and refuse by hand and with hand-held tools;
- Removal of a 300mm topsoil layer with a light machine prior to construction that will be stored on site;
- Shaping of the shallow wetland area with flat banks with a light machine to tie into the stormwater in and outflows as per levels provided by the engineer;
- Placement of the 300mm topsoil layer, shaping by hand with hand-held tools and covering with 50mm coarse organic topsoil layer by hand (only above winter water level);
- Planting of ex-open and 6 pack size plants at a density of 5/m^2 in three different zones (dry wetland banks, marginal areas - prone to seasonal flooding and the base of the wetland - inundated during winter months); and
- Maintenance of the area to remove weeds and alien vegetation by hand for a period of 12 months after which maintenance is handed over to the homeowners.

Freshwater Impact Assessment

The intent for the final layout for the proposed development was to avoid loss of wetland habitat within the site and to limit the need to offset or recreate the wetland as far as possible but rather to improve and consolidate the existing wetland area. In the original freshwater assessment report, a wetland offset determination was undertaken. The existing wetland areas within the site were indicated to consist of approximately 860 m^2 of permanently wet area and 180 m^2 of seasonally wet area, giving a total wetland area within the site of 1040 m^2. The wetland is considered to be largely modified and of low ecological sensitivity and importance, providing some goods and services in helping to attenuate flooding and capture sediment, phosphates, nitrates and toxicants.

The final layout will result in some infilling of mapped wetland habitat within the site but allows for more than 1000 m^2 of open space for the recreation of wetland habitat as well as rehabilitation of the remainder of wetland habitat that is associated with the stormwater channel that passes through the site. The wetland that will be created within the site will thus be of the same or greater extent, will have improved ecological condition and will still be associated with the stormwater channel that feeds water onto the site and then connects with the wetland habitat on the adjacent property. An improvement in wetland habitat and functionality can thus be expected. For this reason, it can also

be expected that the potential freshwater impact will be less than that originally assessed for the development layout considered in the October 2016 report.

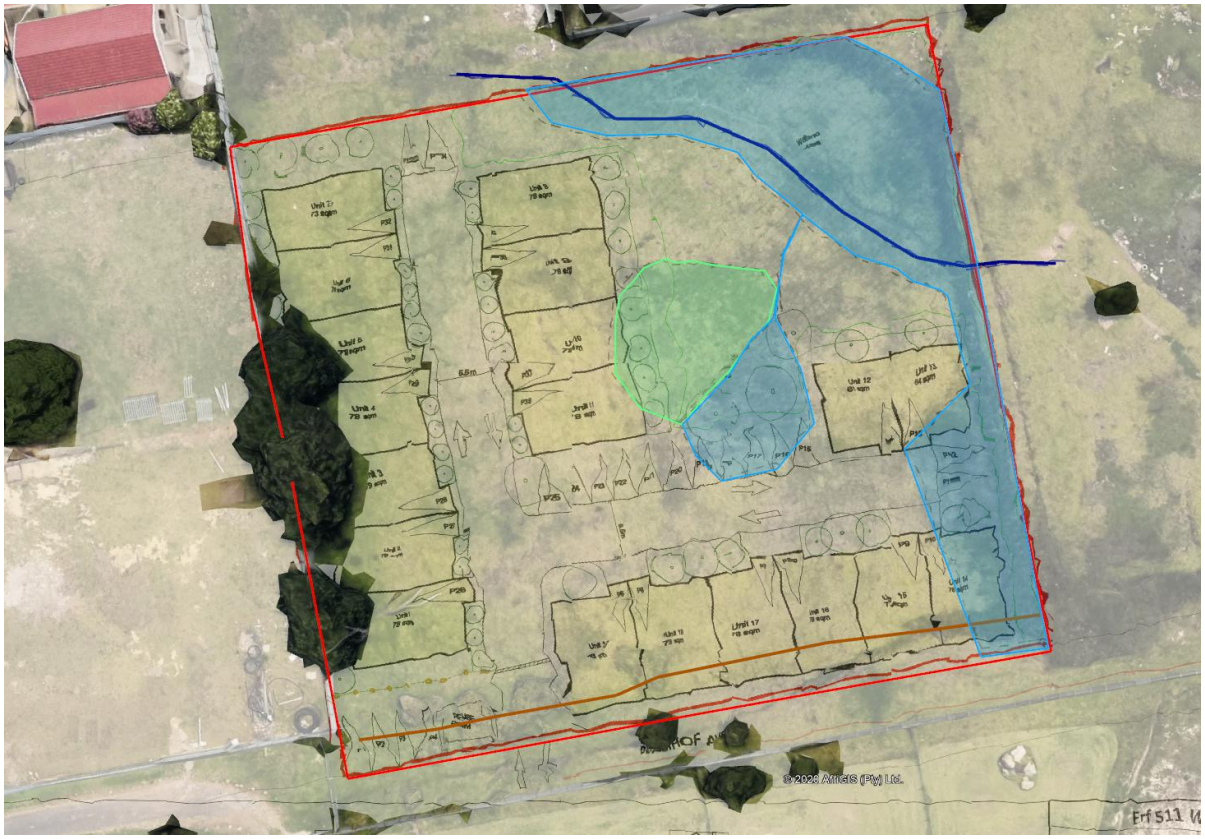

Figure 2. Final layout plan for the site, overlaid in Google Earth, together with the mapped wetlands within the site where the green polygon comprises of seasonal, grass dominated wetland and the blue polygons more permanently wet and bulrush dominated wetlands

The impact assessment of October 2016 determined the potential loss of wetland habitat as a result of the proposed development, with mitigation, to be **Low to very low** and the water quality impacts to be **Low**. With the final proposed layout, the significance of these potential impacts could be expected to be reduced to **Very Low**. The recommended mitigation measures would remain largely as were originally recommend, that is:

- The construction should take place in the drier summer seasons as this will reduce the runoff into the adjacent wetland areas from the construction site. Prevention of any contaminated runoff from impacting on the aquatic features at the construction site should be managed in terms of the Environmental Management Plan for the Project.
- The recreation and rehabilitation of the wetland area should be undertaken by a suitably quality horticulturalist / rehabilitation specialist with input from an aquatic ecologist.
- A pond should be created within the wetland habitat that is large enough to ensure adequate retention time on the site to allow for the settling of sediment and removal of nutrients and toxicants.
- *Pennisetum clandestinum* or kikuyu grass should be kept out of the wetland area. The newly designed wetland should contain both permanently inundated areas such as the channel and pond

as well as a wider seasonal wetland areas which should vegetated with appropriate wetland species such as the indigenous sedges and rushes (*Pycreus polystachyos*, *Eleocharis limosa*, *Cyperus textilis, Schoenoplectus scirpoideus* and *Juncus effuses*), arum lilies *Zantedeschia aethiopica,* watsonias *Watsonia meriana* and red hot pokers *Kniphofia uvaria*, kweek *Cynodon dactylon*. The seasonal wetland should aid with the attenuation of larger storm flows. The wider seasonal wetland should be managed as a wetland area and not mowed to establish a lawn as this will facilitate the dominance of *P. clandestinum*.

Concluding Remarks

The revised layout plan for the development has largely taken into account the delineated wetland areas within the site and as such will have an impact of Very Low significance on the aquatic features within the area, both during the construction and operation phases of the project. Given the above findings, I am of the opinion that there should not be any reason from a freshwater perspective, that the proposed development should not be approved provided that the recommended mitigation measures are implemented.

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