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Pages:		7
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Impacts on SEPP14 Wetlands and Surrounding Waters: Impacts of Filling Water Bodies
MP06_0034
Preferred Project Report
Department of Planning issue no. 3
Proposed Tourist and Commercial Development
Goodnight Island and Greenwell Point

Prepared for:-
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c/- studiointernational pty limited
Paddington, NSW 2021

May, 2009

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IMPACTS ON SEPP14 WETLANDS AND SURROUNDING WATERS: IMPACTS OF FILLING THE WATER BODIES

INTRODUCTION

This report is written to support the Preferred Progress Report (PPR) for the above development, in light of the information request by the Department of Planning (DoP) dated 17/12/2009, undersigned by Ms Heather Warton. Under Point 3, DoP have requested that additional information be supplied with regards to the impact of filling a number of existing water bodies on surrounding SEPP14 wetlands. Specifically DoP have found that;

"Insufficient information is provided about these water bodies and their interaction with the estuary and the surrounding wetland to determine the potential impact on filling them"

This information was not previously covered in our original reports (P0601331JR05_v5 (April, 2008), P0601331JR10_v1 (March, 2007) and P0601331JR11_v5 (March 2008)). Our response is provided in the following sections.

EXISTING PONDS

Seven (7) ponds currently occur on the site including;

- 3 ponds located within mapped SEPP14 wetland area. These are constructed ponds previously used as fish traps (ponds 1, 2 and 3).
- 3 ponds located at elevations above 1.5 mAHD within residual areas on the main Island (ponds 4, 5 and 6). These ponds are located outside the SEPP14 wetland area and are believed to have been built for the small, informal private golf course that was formerly operated on the Island.
- 1 pond (pond 7) located to the east of pond 6 at 1.5 mAHD, also believed to have also been built for the private golf course.

Pond localities are included on Figure 1.

AMENDED PROPOSAL

In an effort to avoid earthworks within the SEPP14 wetland, it is no longer proposed that any earthworks on the 3 lower ponds within the wetlands are undertaken. Pond 7 will also remain as it currently is for conservation purposes.

The proposed works only require the filling of the 3 higher ponds (Ponds 4 – 6) located outside the wetland area. These are of shallow depth (< 0.75m ponded water) and clay lined with broad works described as follows;

- Pond 4: Located at 1.5 mAHD and is predominately clay lined with standing water depth of approximately 0.5m. The existing clay liner is of low quality. There is some evidence of former filling in the vicinity of the dam. Dimensions are approximately 12 m long and 11 m wide with a surface area of 112 m^2. A photo of pond 4 is provided in Figure 2.

  Given that standing water level in the pond varies between 0.5m and 1.5 mAHD, the pond is not hydraulically linked to the estuary or SEPP14 wetland other than drainage water would flow to both. Given the clay lining, minimal drainage losses occur with primary processes including collection and storage of surface runoff and evaporation from the pond surface.

- Pond 5: Located at 15.5 mAHD and is clay lined with standing water depth of approximately 0.5m. The dam is surrounded by bushland on its southern side. Dimensions are approximately 5 m long and 6 m wide with a surface area of 24.5 m^2. A photo of Pond 5 is provided in Figure 3.

  Given the height of the pond and the shallow depth, the pond is not hydraulically linked to the estuary or SEPP14 wetland other than drainage water would flow to both. Given the clay lining, minimal drainage losses occur with primary processes including collection and storage of surface runoff and evaporation from the pond surface.

- Pond 6: Is a 'figure 8' shaped pond, located at approximately 5.5 mAHD and is clay lined with standing water depth of 0.5m. Dimensions are approximately 7 m wide at each ends, 2 m wide through the centre and 18 m long with a surface area of 88.5 m^2. A photo of Pond 6 is provided in Figure 4.

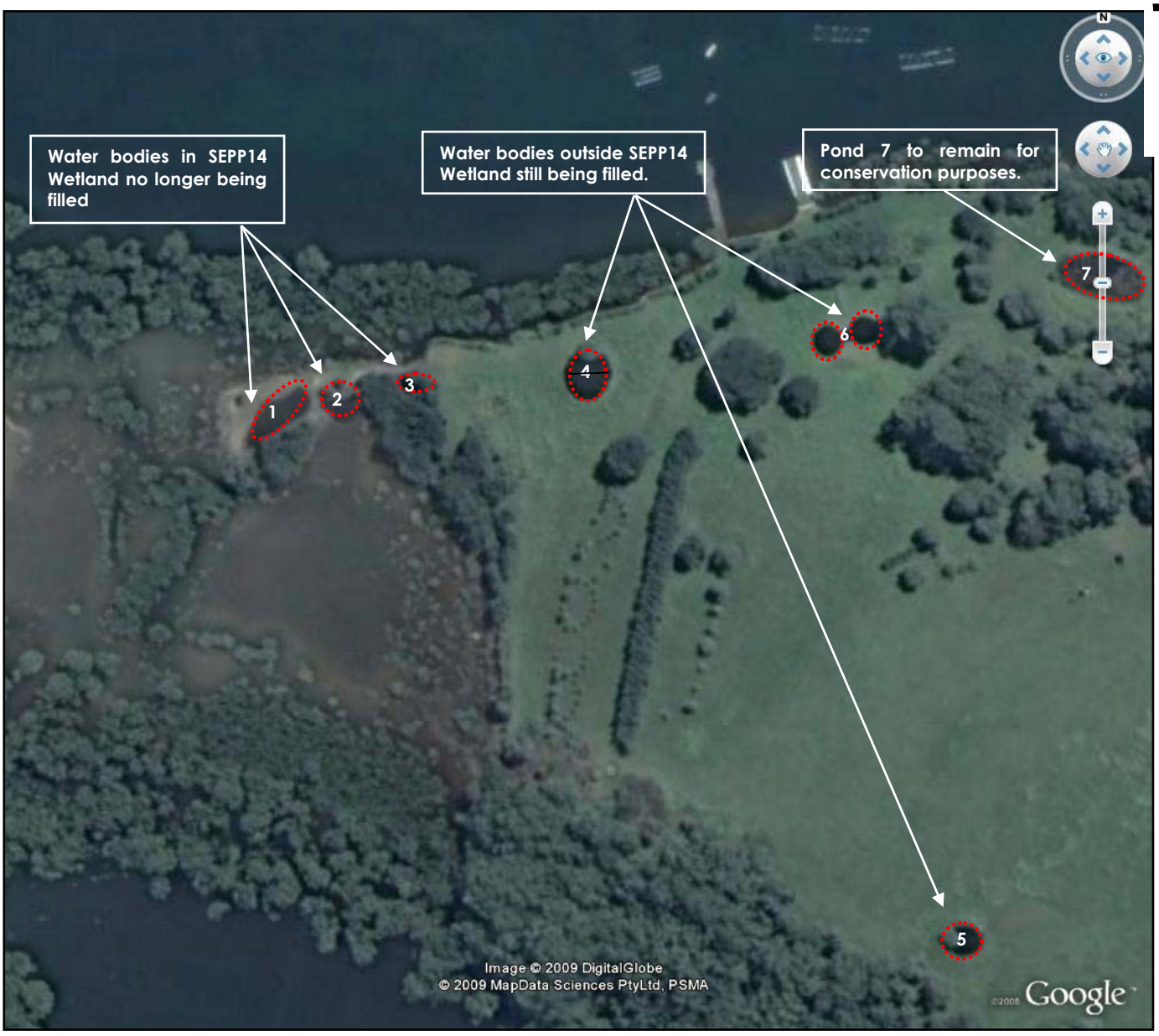
  Given the height of the pond and the shallow depth, the pond is not hydraulically linked to the estuary or SEPP14 wetland other than drainage water would flow to both. Given the clay lining, minimal drainage losses occur with primary processes including collection and storage of surface runoff and evaporation from the pond surface.

IMPACTS

As discussed above, there is no 'two-way' hydrologic connection between ponds 4 – 6 and the SEPP14 wetlands or the estuary. The ponds are manmade, serve little environmental purpose and, given their shallow depth and relatively small size, have no significant habitat or environmental value. Therefore, filling of these constructed and elevated ponds will have no detrimental impact on the estuary or wetland ecosystem.

RECOMMENDATIONS

We recommend the ponds be filled with VENM which resembles that of the existing site soils. Fill is to be placed in accordance with Australian Standards AS:3798 (2007) *Guidelines on Earthworks for Commercial and Residential Developments*.



Martens & Associates Pty Ltd ABN 85 070 240 890		**Environment | Water | Wastewater | Geotechnical | Civil | Management**	
Drawn:	MLB	**PONDS IN THE VACINITY OF THE DEVELOPMENT PROPOSAL.**	Drawing No: **FIGURE 1**
Approved:	DM		
Date:	18.05.09		
Scale:	1:1800 (approx)	Source: Google Earth, 2009	Job No: P0601331

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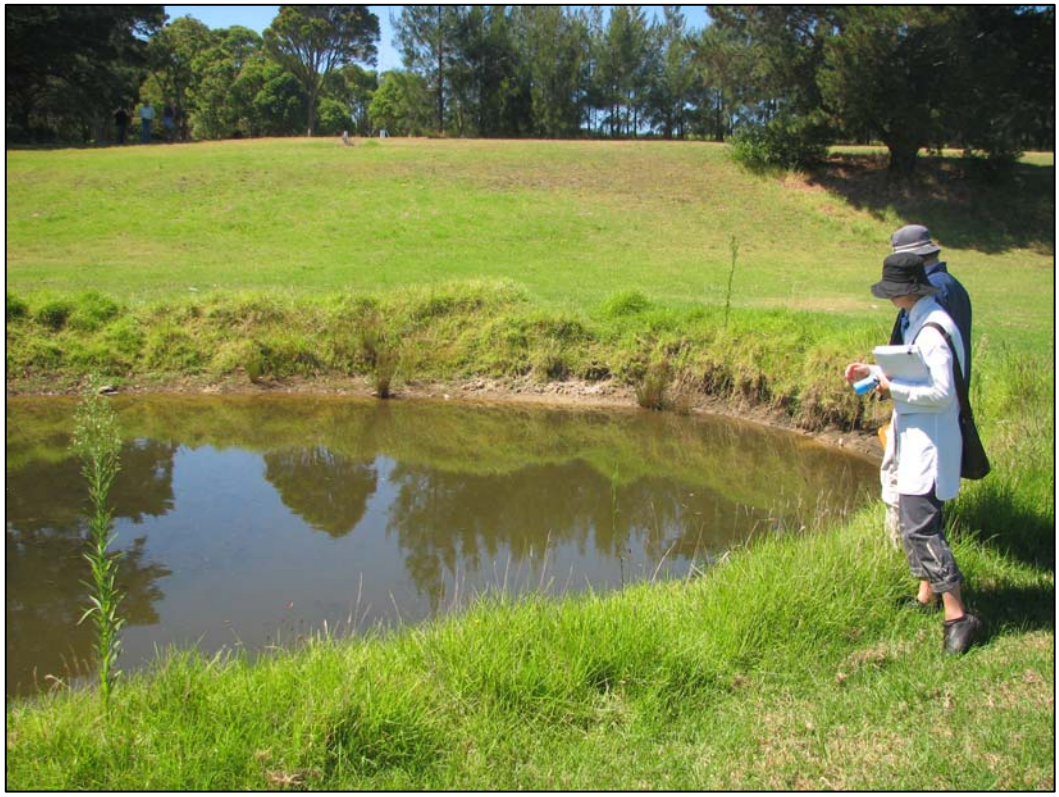

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Drawn:	NA	**POND 4 (28/02/2006)**	Drawing No: **FIGURE 2**
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Date:	18.05.09		
Scale:	NA		Job No: P0601331

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Drawn:	NA	**POND 5 (13/11/06)**	Drawing No: **FIGURE 3**
Approved:	DM		
Date:	18.05.09		
Scale:	NA		Job No: P0601331

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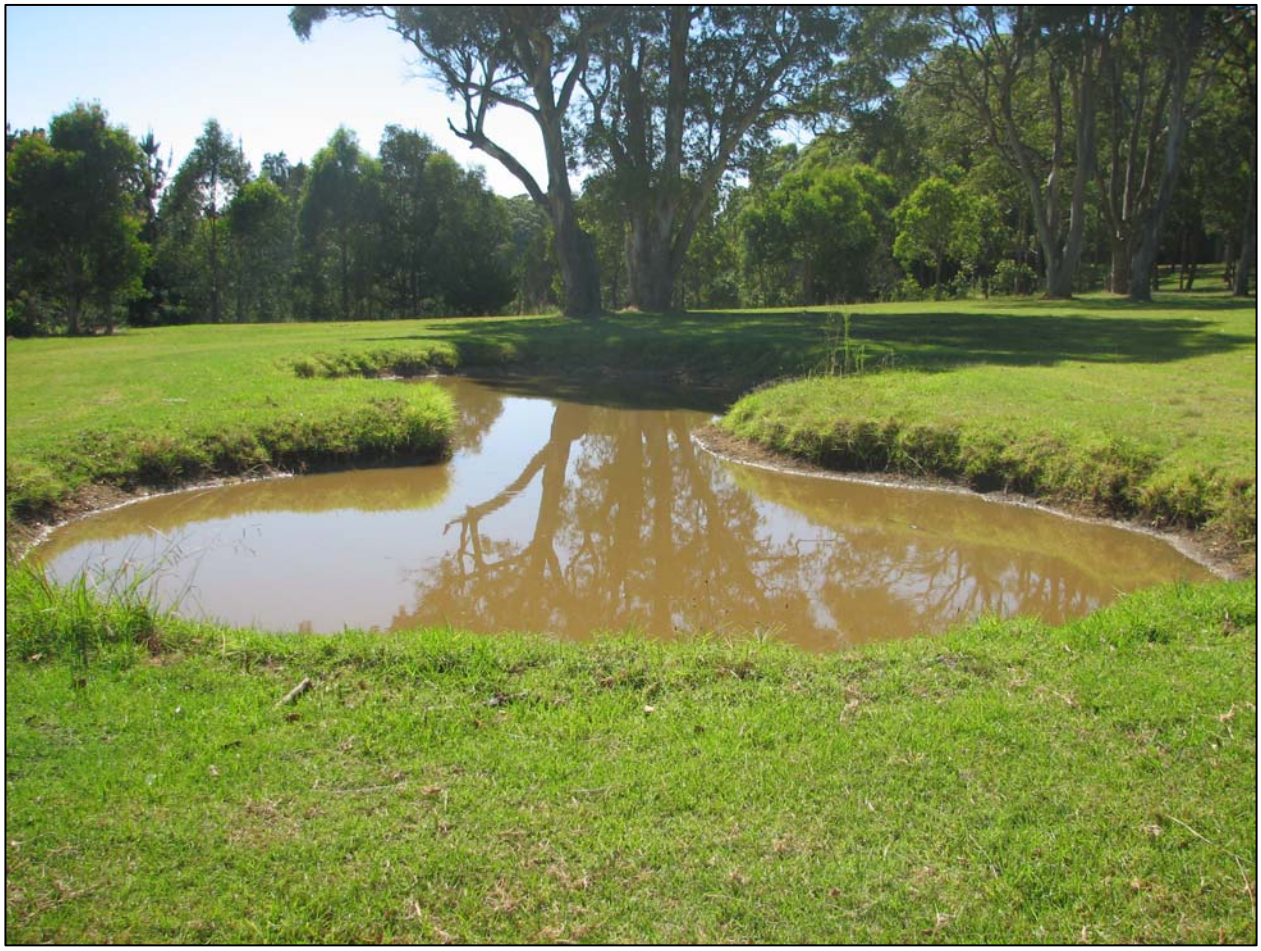

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Drawn:	NA	**POND 6 (28/02/06)**	Drawing No: **FIGURE 4**
Approved:	DM		
Date:	18.05.09		
Scale:	NA		Job No: P0601331