

10 May 2004

WPG-2004-001\_001\_mt

Mr Hywel Phillips  
Department of Environment  
Westralia Square  
Level 8, 141 St Georges Terrace  
Perth Western Australia 6000

Dear Hywel,

**RE: BUFFER AND DRAINAGE ASSESSMENT – LOT 9  
BACKSHALL PLACE WANNEROO**

***Background***

Watson Property Group proposes to develop Lot 9 Backshall Place into ten residential lots with an associated drainage swale (within the POS) designed to attenuate stormwater from up to a 1:100 year rainfall event. Advice from the Department of Environment (DoE) for the site indicates that the development impacts on a Conservation Category Wetland (CCW) and its buffer and therefore was not supported.

This letter examines the status of the area mapped as a CCW on Lot 9 and assesses the potential for Lot 9 to be developed to protect Lake Joondalup and cater for drainage and Public Open Space (POS) requirements for the subdivision.

***The Study Site***

Lot 9 Backshall Place is bounded by residential development to the north and east, Backshall Place to the south and Yellagonga Regional Park to the west. The southern portion of Lot 9 fronting Backshall Place has been developed for a church and carpark. Yellagonga Regional Park contains a series of freshwater wetlands including Lake Joondalup, which lies immediately adjacent to Lot 9 Backshall Place.

ATA Environmental conducted a site visit of Lot 9 Backshall Place (29<sup>th</sup> April 2004) and found that the site was cleared of native vegetation apart from small isolated stands of *Juncus pallidus* growing among the Kikuyu along the western fence line. The site was generally degraded and contained numerous weed species particularly in the northwest corner (Plate 1 and 2).

The site is relatively flat, with a slight gradient towards the western boundary.

### ***Lake Joondalup and Associated Buffer***

Lake Joondalup is a Conservation Category Wetland (CCW) with high ecological values and the highest priority for protection. Lake Joondalup is recognised under objective one of the Wetlands Conservation Policy for Western Australia, as ‘valuable’ and therefore the minimum buffer distance from development recommended by the Department of Environment is 50m.

A very small portion of Lake Joondalup has been mapped as partially crossing over the northwestern corner of Lot 9 Backshall Place. The vegetation within the wetland on lot 9 is highly degraded as described above. In addition, the vegetation in the Regional Park immediately to the west of Lot 9 is predominantly kikuyu with discontinuous patches of remnant Flooded Gums (*Eucalyptus rudis*), and patches of native reeds and sedges (see aerial photo, Figure 1).

It is evident from the aerial photograph (Figure 1) and photographs taken on-site (Plates 1 and 2), the extent of the Kikuyu weed species (light green colour) growing within the Lake Joondalup buffer zone.

The 50m buffer area to the CCW on Lot 9 is also highly degraded.

### ***Drainage and POS Design***

The proposed POS is located parallel with the western boundary. The drainage system is located within the POS and consists of a linear swale.

The drainage design of Lot 9 Backshall Place has been formulated in accordance with City of Wanneroo standards, which does not allow for any discharge of stormwater run-off into the adjacent Yellagonga Regional Park. The drainage system for the development has been designed to exceed normal requirements for stormwater storage and will cater for the 1:100 year rainfall event, therefore preventing any overflow from the development into Lake Joondalup.

The POS and drainage swale include the small portion of CCW and some of the 50m buffer around the CCW. The wetland area is proposed to be rehabilitated with native reeds and sedges. The drainage swale will be grassed in accordance with Council requirements. The southern half of the POS between the basin and the lot boundary will also be grassed to provide an area for passive recreation. A dual use path (DUP) will need to be constructed between the swale and the rehabilitated wetland to allow access to the grassed area in the POS. This path could be constructed as part of the perimeter DUP that CALM has recommended around Yellagonga Regional Park.

Appropriately designed stormwater management structures have been previously approved within CCW buffers, where these buffers were degraded. For example, stormwater detention structures were constructed in a degraded portion of the buffer of the Shreeve Road Reserve wetland in the Brookland Reserve residential subdivision, Gosnells. Similarly, the residential development immediately to the north of Lot 9 Backshall Place contains stormwater management structures within the buffer to the Lake Joondalup wetland (Figure 2).

### ***Adjacent Housing Developments***

The boundaries of the CCW are clearly open to verification given that part of the housing development to the north is technically within the CCW (Figure 2).

### ***Approval for Bulk Earthworks***

The City of Wanneroo has granted approval for Bulk Earthworks to commence on Lot 9 Backshall Place under the provisions of the City of Wanneroo District Planning Scheme No. 2 and the Metropolitan Region Scheme. The Approval requires a number of conditions to be fulfilled including a Drainage and Nutrient Management Plan (DNMP). The DNMP will ensure that the design of the drainage swale within the POS will meet Council standards.

### ***Conclusions***

ATA Environmental endorses the development of Lot 9 Backshall Place Wanneroo, for the following reasons:

- The mapped portion of the CCW (Lake Joondalup) that overlaps the northwest corner of Lot 9 is highly degraded and contains unmanaged weed species such as Kikuyu.
- The nearest portion of Lake Joondalup that contains native vegetation in good condition is approximately 50m from the boundary of Lot 9 Backshall Place.
- The portion of CCW will be revegetated with native reeds and sedges.
- The Lot 9 drainage system for the proposed development has been designed to cope with 1:100 year rainfall events and attenuate stormwater on site rather than draining into the Lake Joondalup wetland and associated buffer.
- There are no Threatened Ecological Communities or significant flora within the northwestern corner of Lot 9 or within the portion of the Lake Joondalup buffer adjacent to Lot 9.

- Bulk Earthworks approval has been given to Watson Property Group by the City of Wanneroo under the provisions of the City of Wanneroo District Planning Scheme No. 2 and the Metropolitan Region Scheme.

I hope you appreciate the urgency to review this information Hywel. Please do not hesitate to contact me in the future regarding any issues.

Yours sincerely,

A handwritten signature in cursive script that reads "Matthew Todd".

**DR MATTHEW TODD**  
**Senior Environmental Scientist**

cc. Mr Brendan Acott  
Watson Property Group



**Plate 1: Western boundary fence of Lot 9 Backshall Place (northern end of the property). Note extensive coverage of the weed species Kikuyu within the Lake Joondalup wetland. *Juncus pallidus* can be seen growing within the northwest corner of Lot 9. The smaller Flooded Gum trees from the centre of the Plate to the right-hand side are planted trees on the adjacent property to Lot 9.**



**Plate 2: Western boundary fence of Lot 9 Backshall Place (northern end of the property). Note the degraded state of Lot 9 and the adjacent wetland.. *Juncus pallidus* (brown colour) can be seen growing within the wetland in the distance (approximately 50m from Lot 9). The light green vegetation is mainly Kikuyu. The tall trees on the right-hand side of the Plate are remnant Flooded Gum.**



**LEGEND**

--- Boundary of Study Area

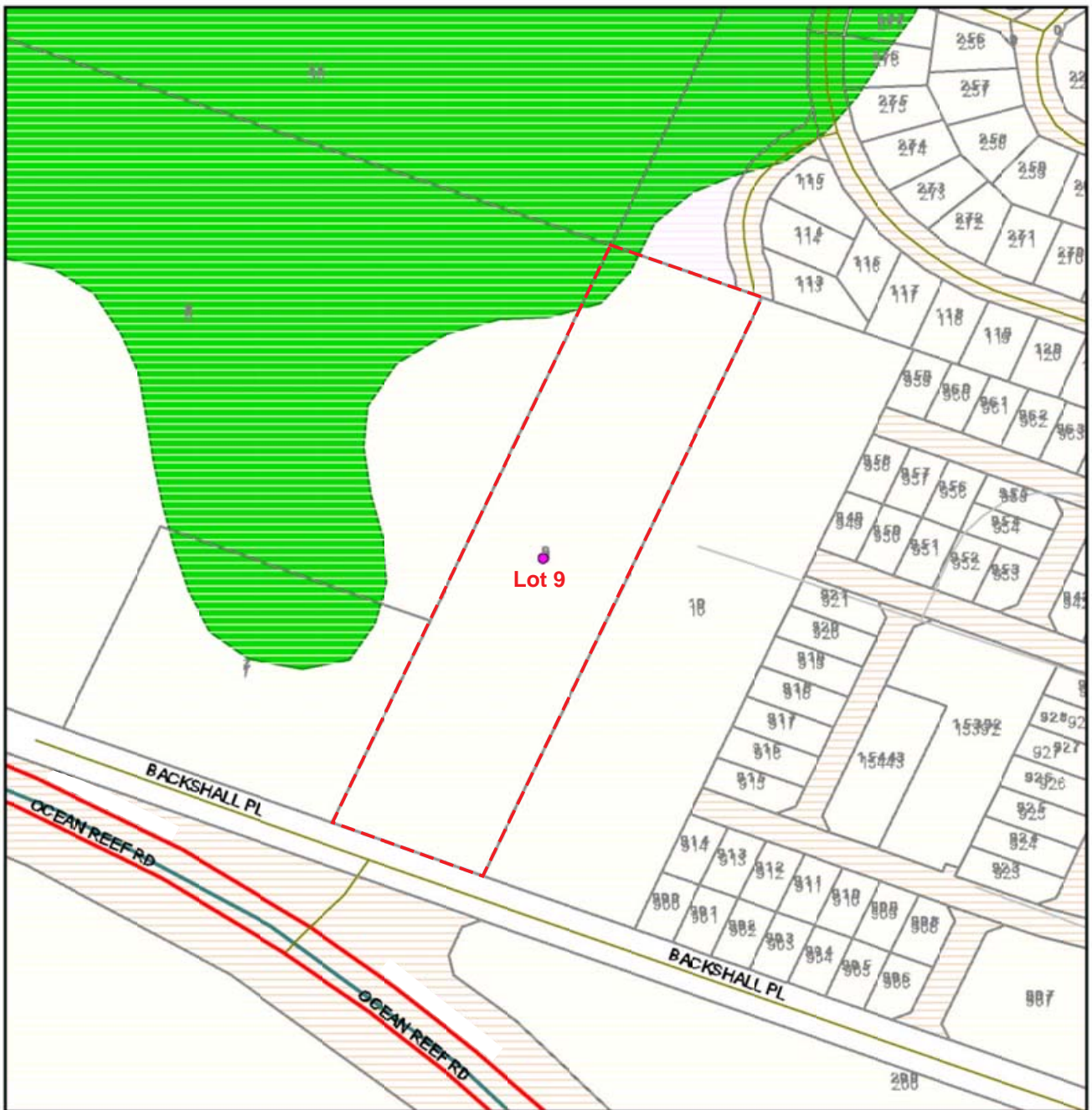


AP SOURCE: Watson Property Group Regent Glades Ltd, 2003



VEGETATION AND BUFFER ASSESSMENT  
 LOT 9 BACKSHALL PLACE, WANNEROO  
**AERIAL PHOTOGRAPH**

FIGURE 1



**LEGEND**

- Cadastre - DLI 1/03/04
- Local Rd - Other
- Local Rd - Sealed
- Main Road
- Suburbs - DOLA 05/99
- Conservation

Scale 1 : 3 000

Geocentric Datum of Australia 1994  
*Note: the data in this map have not been projected. This may result in geometric distortion or measurement inaccuracies.*

Prepared by: Phillip  
 Prepared for:  
 Date: Monday, 10 May 2004 15:51

Information derived from this map should be confirmed with the data custodian acknowledged by the agency acronym in the legend.

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BASE SOURCE: DoE, 10-5-04



VEGETATION AND BUFFER ASSESSMENT  
 LOT 9 BACKSHALL PLACE, WANNEROO  
**LAKE JOONDALUP BUFFER ZONE**  
 FIGURE 2