

Our Ref: X10135-01_Addendum



Jennie Buchanan
Principal Planner
JBA Planning
Level 7, 77 Berry Street, North Sydney
PO Box 375 North Sydney, NSW 2059

12 June 2012

Attention: Ms Jennie Buchanan

Dear Jennie,

Re: Stormwater Management at the residential interfaces to the east and south of Lot A Burley Road, Horsley Park.

In 2010 BROWN Consulting prepared the Stormwater Management and Trunk Drainage Strategy Report. This letter provides an addendum to the 2010 report and should be read in conjunction with the BROWN report. This letter addresses the stormwater management at the residential interfaces to the east and south of the proposed development – Lot A Burley Road, Horsley Park Employment Precinct

It is understood that an earth/vegetated mound has been proposed along the lower east and south boundaries of the proposed development to provide screening and aesthetic visual impact for the site. It will be necessary to incorporate drainage to accommodate the existing runoff upstream of the mound. Drainage will be required at three locations along the mound including:

- The sag area located at the rear of property number 38 Greenway Place (approximately at RL 85m);
- The sag area located at the rear of property number 21-26 Greenway Place (approximately at RL 84); and
- The sag area located just outside the south east corner of the proposed development and to the rear of property number 1-5 Greenway Place (approximately at RL 83 and next to an existing water dam).

Refer to the attached Figure 1 for more detail of the locations of the sag points.

An *XP-RAFTS* model has been developed to estimate the quantity of flows towards the aforementioned sag locations. The following drainage is proposed at these locations:

- Providing 3x600mm diameter pipe culvert through the proposed vegetated mound at the 1st sag location to allow overland flow of up to 100 year ARI ($Q_{100} = 0.6\text{m}^3/\text{s}$) from Greenway Place to drain through the proposed development and bypass Basin 4 to Ropes creek downstream.

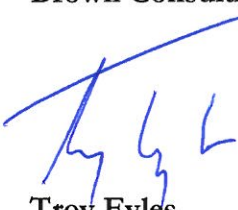
- Provide 6x600mm diameter pipe culvert through the proposed vegetated mound at the 2nd sag location to allow overland flow of up to 100 year ARI ($Q_{100} = 1.05\text{m}^3/\text{s}$) from Greenway Place to drain through the proposed development and bypass Basin 3 to Ropes creek downstream.
- Construct a vegetated swale of 2m base width, 0.5m depth and 1 in 4 batter slope with a longitudinal slope between 1% and 1.5% to direct overland flow of up to 100 year ARI ($Q_{100} = 1.35\text{m}^3/\text{s}$) at the 3rd sag location around the south-east corner of the proposed development and toward west and then allow it to discharge to existing surface area beyond property number 14 Captitol Hill Drive.

The overland flows from Greenway Place discharge from existing upstream catchment areas and are currently discharging to Ropes creek through the proposed developing site. The pre- and post-development stormwater flows reported in BROWN report (2010) will remain unchanged, refer to Table 5 of the Stormwater Management and Trunk Drainage Strategy report. The stormwater discharge flows from the site (including Basins 3 and 4) for the post-development condition will remain less than the pre-development's discharge flows. In addition, the Horsley Park Employment Precinct is proposed to be completed in a number of stages with stage 1 focused on the northern part of the site and hence the stormwater flows for the southern part of the site will remain as the existing condition until development occurs at this southern end.

Should you require any further information please contact Khoa Le or the undersigned on 8808 5000

Yours sincerely

Brown Consulting (NSW) Pty Ltd



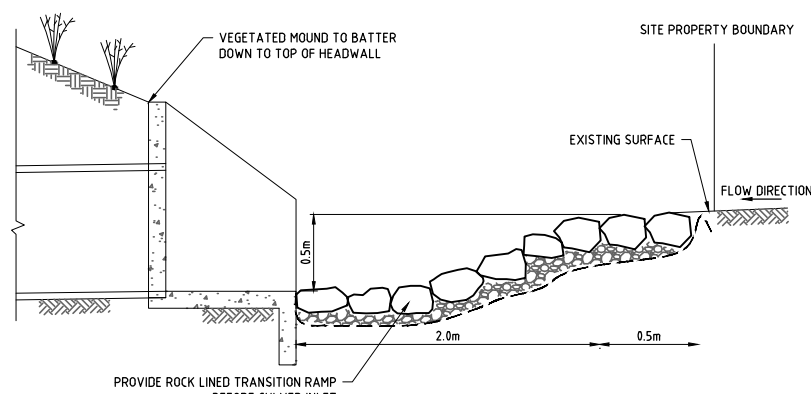
Troy Eyles

Senior Engineer – Water & Environment

Encl. Figure 1



- LANDSCAPE SECTIONS
- PHOTO MONTAGE VIEW POINTS BY ARCHITECT
- CONCEPT FOR PROPOSED WAREHOUSES
- FUTURE HOUSES, ASSUMED LOCATION
- EXISTING CONTOURS
- PROPOSED CONTOURS AND SPOT HEIGHTS
- PROPOSED RETAINING WALL
- EXISTING TREES RETAINED
- PROPOSED SPECIMEN TREES (Leptospermum & Melaleuca) Shown at 5 year maturity size
- PROPOSED SMALL TREE (Acacia) Shown at 5 year maturity size
- PROPOSED LOW LEVEL MIXED NATIVE VEGETATION - Max height of 2m
- DRAINAGE WATER BODY



TYPICAL CULVERT INLET - SECTION VIEW
SCALE: NTS



TITLE		
STORMWATER MANAGEMENT AT RESIDENTIAL INTERFACES		
DRAWING	FIGURE 1	DATE
		08/06/2012
REV		01