

Planning Scheme Amendment C188 to the Whittlesea Planning Scheme (Amendment)

2nd February 2016

Expert Evidence Report of Leigh Holmes

1.0 Introduction

1. I, Leigh Holmes, Civil Engineer, am a Principal with Spiire Australia, working at their Melbourne office at Level 4, 469 LaTrobe Street. I have been with Spiire since mid-2006.
2. I am a qualified civil engineer with 11 years' experience in the land development and stormwater industry in Melbourne. During my career, my role has encompassed design and project delivery of water engineering elements of residential and industrial subdivisions, preparation of stormwater management strategies, design of stormwater harvesting schemes, waterway and wetland design, training through Clearwater and integrated water management strategies. My curriculum vitae is provided in attachment 1.
3. I have been instructed to prepare an expert witness report within the scope of my expertise as above relating to the Planning Scheme Amendment C188 to the Whittlesea Planning Scheme (Amendment). My report will outline matters relating to:
 - Melbourne Water Drainage Strategy vs Drainage Scheme
 - Review the current proposed wetland location within the Stockland property and investigate a potential alternate location within the PAO area.

2.0 Background

In compiling my expert evidence report I have considered the following information/documents:

- All submissions to the Planning Scheme Amendment C188 to the Whittlesea Planning Scheme (Amendment)
- MPA - C188 – Quarry Hills PSP – MPA Part A submission
- MPA - Quarry Hills PSP – April 2015
- Quarry Hill PSP Background Studies.

3.0 Intent of Expert Evidence Report

The main issues I will address are as follows:

- Review and comment on the appropriateness of the Quarry Hills Drainage Strategy Study (Appendix 9 to the MPA's revised Part A submission);
- Review the current proposed wetland location within the Stockland property and investigate a potential alternate location within the PAO area.

4.0 Review of the Melbourne Water Development Services Strategy

- In my review of this revised drainage strategy for Quarry Hill, the equity across the lands owners has been resolved based on earlier versions as now each land owner has a water quality treatment asset located on their own site to cater for their sites stormwater flows in accordance with best practice guidelines. I note that the sizing of these assets is conceptual only, however should be deemed the maximum land take. Upon further investigations and assessment of potential alternatives as outlined in the Spiire (Formerly CPG) integrated water management strategy for Quarry Hill, the land take associated with each asset should be subject to change. Section 3.8 Item R97 should include “sizing of the assets depicted in Plan 13 are conceptual only, however should be deemed the maximum land take to meet best practice stormwater quality treatment standards”.
- Based on the Spiire (Formerly CPG) integrated water management strategy for Quarry Hill it was recommended that no retardation within Quarry Hills was required. Any retardation done on Quarry Hill will have little bearing to the magnitude of peak flows within Darebin Creek due to the timing in peak flow events from the Quarry Hill site and the overall Darebin Creek catchment which have little coincidence. I believe the very small contribution of flows by the Quarry Hill catchment to the overall Darebin Creek catchment also does not warrant retardation. Section 3.8 item R97 should remove the following words “and retardation assets”.
- Given the space allocation to the PAO I believe there is adequate flexibility to co-locate the wetland in the Stockland property within the PAO and conservation area. Given the future road will be most likely elevated within the vicinity of this area I would expect that the proposed alignment to easily cross or avoid the wetland in an alternate location further to the west. The alternate location as depicted below in figure 1 aligns best with the flattest topography of the site which is best suited to stormwater treatment assets. I note other stormwater assets in Plan 13 have been located in the conservation area where topography suits. The PSP should add the following in section 3.8 “*Stormwater treatment assets locations shall be deemed indicative only in Plan 13. Where agreed by the relevant authorities to be located within the PAO and GGF conservation area the developer shall demonstrate no adverse impact to flood levels and/or loss of key GGF habitat.*”

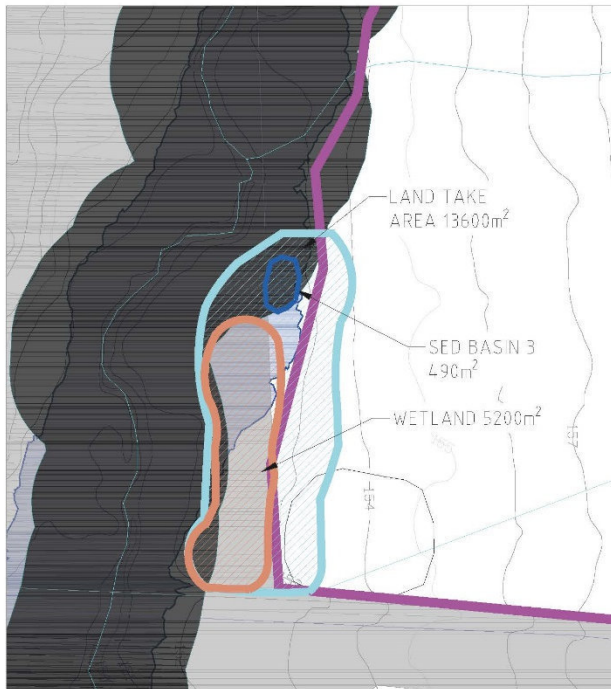


Figure 1 - Potential alternate wetland location

5.0 Summary of Opinion

Melbourne Water Development Services Strategy

- MPA should update the PSP as follows:
 - Section 3.8 Item R97 should include “sizing of the assets depicted in Plan 13 are conceptual only, however should be deemed the maximum land take to meet best practice stormwater quality treatment standards”.
 - Section 3.8 item R97 should remove the following words “and retardation assets”.
 - The PSP should add the following in section 3.8 “Stormwater treatment assets locations shall be deemed indicative only in Plan 13. Where agreed by the relevant authorities to be located within the PAO and GGF conservation area the developer shall demonstrate no adverse impact to flood levels and/or loss of key GGF habitat.”

6.0 Expert Declaration

I have made all the inquiries that I believe are desirable and appropriate and no matters of significance which I regard as relevant have to my knowledge been withheld from the Panel.



Qualifications

Bachelor of Engineering (Civil)
(Honors), Victoria University 2004

Certificate 4 Engineering, Goulburn
Valley Institute of TAFE

Further Training

Clearwater, Implementing Water
Sensitive Urban Design

Advanced RORB Training course

Contract Administration (Internal)

PRINCE2 Certified Practitioner

Affiliations

Member of the Institute of Engineers
Australia

Registered Building Practitioner, BCA

Stormwater Victoria Member
(Secretary)

Leigh Holmes

BEng (Civil) (Hons) MIEAust, RBP

Principal Consultant | Water Engineering

Profile

Leigh is a qualified Civil Engineer with over 10 years professional experience. Leigh's major field of expertise is in urban stormwater management which includes integrated water management strategies, flood modelling, stormwater harvesting, water sensitive urban design, urban drainage and waterway design.

Leigh's enthusiasm for water started back in his final year at University where he was involved in the Footscray Park Stormwater Harvesting project, a combined initiative with the Maribyrnong Council.

Leigh recognises that the management of urban stormwater is an evolving science and ensures he is at the forefront of this industry change through his involvement with Stormwater Victoria, consultation with authorities and research bodies. Leigh is also involved with the Clearwater capacity building program where he trains industry professionals in WSUD techniques.

Leigh strives for continuing professional development and brings a valuable perspective from his involvement in the industry led international study tour 'Water Sensitive Cities 09'. This study tour has provided Leigh with valuable leadership skills and further enhanced his knowledge in integrated water management.

Leigh has now been involved in many stormwater, water and wastewater projects where he has worked closely with various clients ensuring the latest design innovations are being implemented. Through his pursuit of excellence he has been the recipient of multiple Stormwater Victoria awards.

Employment Summary

2006 – Present	Principal Consultant, Spiire (formerly CPG)
2004 – 2006	Graduate Engineer, GMR Engineering
2003 – 2004	Works Inspector, Hobsons Bay City Council
1998 – 2001	Structural Draftsman, Blue Frame Buildings

Professional Experience

2006 – Present

Principal Consultant, Spiire (formerly CPG)

Leigh currently manages Spiire's water division where he performs a range of project management duties, provides technical advice to clients and staff, quality assurance, contract management and implementation of new design innovations. A list of various projects Leigh has been involved in during his time at Spiire is listed below in which demonstrates his diverse skills in the water sector:

Integrated Water Management / Drainage Strategies

- Melbourne Airport Drainage Strategy
- Wollert & Quarry Hill IWMS
- Wyndham North PSP SWMS
- Rockbank North Estate IWMS
- Bayside City Council Sustainable Water Management Strategy
- Glenferrie Oval Precinct Water Management Strategy
- Forrest Hill Precinct Water Sensitive Cities Strategy
- Minta Farm Drainage Strategy
- Ivanhoe Grammar School Drainage Strategy

Stormwater Harvesting

- Geelong Eastern Park stormwater harvesting system, City of Greater Geelong
- Rippleside stormwater harvesting system, City of Greater Geelong
- Queen Victoria Market stormwater recycling project, City of Melbourne
- Pembroke Secondary College stormwater harvesting and infiltration, Little Stringybark Creek Project
- George Pentland Botanic Gardens stormwater harvesting system, Frankston City Council
- Bayside City Council stormwater harvesting concept plans, Bayside City Council
- VCA Stage 2 rainwater harvesting system, Melbourne University
- Brimbank City Council Depot, Brimbank City Council
- Grices Road stormwater harvesting system

Water Sensitive Urban Design

- Melbourne Water 10,000 Rain garden – Rain garden Technical Notes
- Melbourne Water 10,000 Rain gardens – Downpipe Disconnection Technical Notes
- DSE/MWC Six Star – Allotment Scale DTS
- Bayview on the Bellarine Raingarden / RB
- Elwood Foreshore WSUD Project and beach rehabilitation program
- Plenty River Wetland
- George Pentland Botanic Gardens Wetland and Rain gardens
- Were Street Rain garden
- Tarneit Rise Wetland / RB
- Hereford Road Infiltration Basin
- Stringybark Blvd Infiltration basin
- Pembroke Secondary College Infiltration Basins
- Koonung Creek Reserve Wetland Design
- VCA Rain garden Design
- Cascade Reserve Aquila Street Bioretention System
- Featherbrook Wetland
- Leeds Street Bioretention Tree Pits
- Carlisle Street Bioretention Tree Pits

Infrastructure Projects

- Melbourne Airport Functional Drainage Design – Steele Creek North
- Findon Creek & Darebin Creek Pedestrian Bridges
- Featherbrook Estate Stormwater infrastructure
- Plenty River Estate Stormwater Infrastructure
- Mitchells Run Drainage Corridor
- Edgars Creek, Aurora Estate
- Eynesbury Estate Flood modeling

Professional Experience

- Armstrong Creek Urban Growth Plan Review – RORB Hydrologic Modeling
- Henderson Creek, South Morang – Floodway Analysis and Design
- Officer Development – Retardation Basin Design
- Bolinda Road Outfall Structure
- Davis Creek Main Drain, Leakes Road
- Aurora Stage 7, 100 year ARI Main Drain Design
- Bassetts Road Drain, 100 year ARI Main Drain Design

Sewer and Water Design

- Eynesbury Estate, Sewer Pumping Station Design and Documentation
- Eynesbury Estate, Water Pumping Station Design and Documentation
- Bellevue Estate SPS & Rising main
- Featherbrook Eduction design
- Doreen Branch Sewer and Rising Main
- Rangeview estate water reticulation design

2004 – 2006

Graduate Engineer, GMR Engineering

- Structural Design
- Road and Drainage Design
- Surveying

2003 – 2004

Works Inspector, Hobsons Bay City Council

- Works Inspector (Assets and Maintenance Department)
- Inspection of Councils Road and Drainage Assets

1998 – 2001

Structural Draftsman, Blue Frame Buildings

- Structural Drafting
- Structural Draftsman for large industrial sheds
- Purchasing officer
- Building set out and site survey