

23.06.2014

Adam Loel

By email

Dear Adam,

RE: CERTIFICATION OF OSD SYSTEM: 1039 OXFORD FALLS ROAD, OXFORD FALLS

Martens and Associates have completed a review of the Works as Executed (WAE) plans, previous hydraulic modelling completed for the proposed OSD system and service levels provided by the client for the road reserve adjacent to the above site. We advise that the proposed system, as shown on the attached WAE plan including typical sections, complies with Warringah Council's OSD Technical Specification (July 2000), in that it shall generally, with modifications below, reduce the peak developed flow rate from the site in the 1 in 5 year ARI, 1 in 20 year ARI and 1 in 100 year ARI storm events to pre development rates:

- A new 375 mm pipe is to be constructed from the discharge control pit to the Council drainage pit located on the southern side of Oxford Falls Road West (see attached plans).
- The outlet pipe is to be directed via a new 900 x 900 change of direction pit located adjacent to the site boundary. The stormwater pipe is to go under the water main located by Australian Utility Services, with levels continued through the pot hole provided by the client, refer to Attachment B for drawing.
- Refer below to Table 1 for a comparison of the pre-development vs post-development flows for the 1 in 5 year ARI, 1 in 20 year ARI and 1 100 year ARI storm events.
- A 50 mm orifice plate with centreline invert at 81.875mAHD is to be placed on the wall of the stormwater discharge pit chamber, adjacent to the OSD, and discharges to the 150mm PVC line to the change of direction pit.

A site plan showing the proposed alignment of the stormwater outlet pipe and position of the new pit is provided as Attachment A. This outlet position is recommended in preference to the approved pipe and headwall east of Spicer Road North as the propose discharge pit is in close proximity to the OSD tank and provides an appropriate discharge point.

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Table 1: **Pre-development and post-development catchment flows.**

ARI	Pre-Development (m³/s)	Post-Development (m³/s)	Increase in flow (m³/s)
5	0.44	0.43	0.01
20	0.83	0.78	-0.05
100	1.05	0.99	-0.06

Based on the analysis completed the proposed OSD has adequate volume to satisfy Council speciation and requirements.

If you require any further information, please do not hesitate to contact the writer.

For and on behalf of

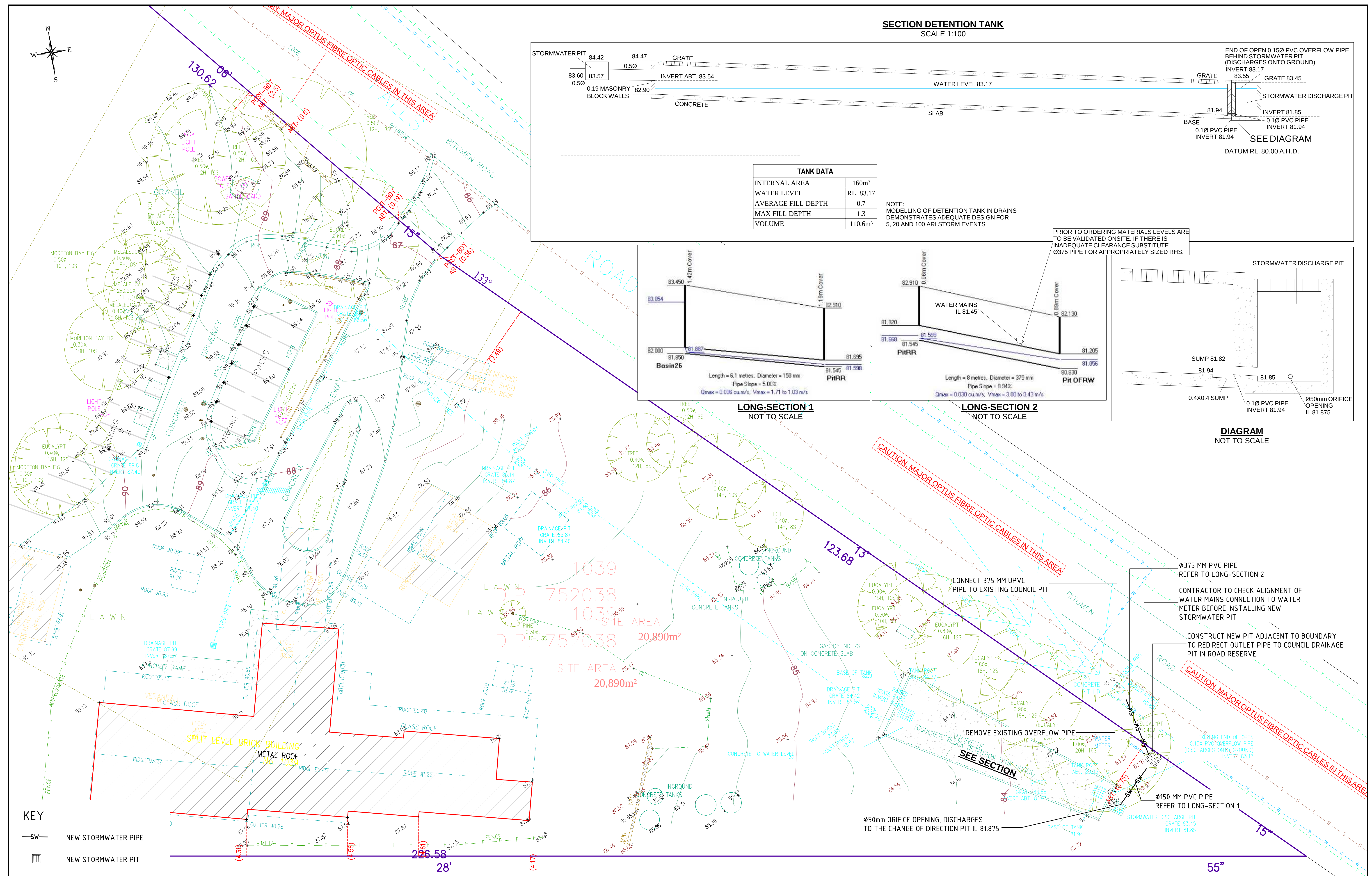
MARTENS & ASSOCIATES PTY LTD



DARREN GALIA

Civil Engineer

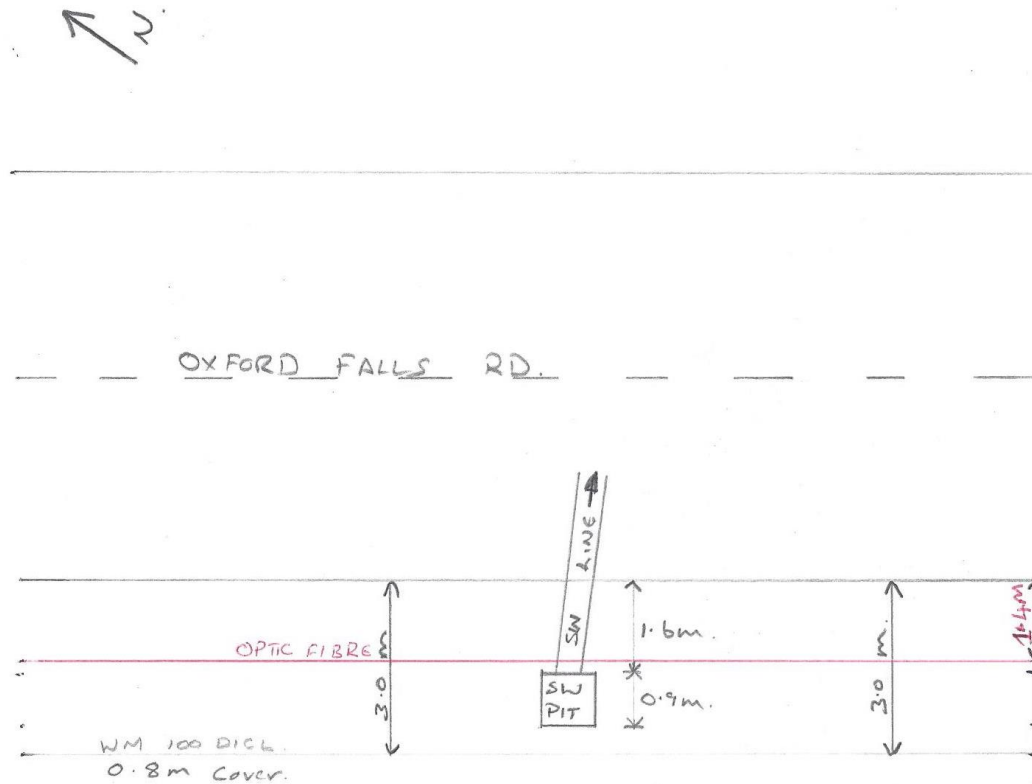
ATTACHMENT A – SITE PLAN



REV.	DESCRIPTION	DATE	ISSUED	048121620 UNITS - METRES (C) Copyright Martens & Associates Pty Ltd This drawing must not be reproduced in whole or part without prior written consent of Martens & Associates Pty Ltd	DESIGNED:	DATUM:	CLIENT / PROJECT	<
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**ATTACHMENT B – UTILITY DRAWING BY AUSTRALIAN UTILITYIES MANAGEMENT PROVIDED BY
CLIENT**

Survey Report : 1039 Oxford Falls Road, Oxford Falls



Property : 1039 Oxford Falls Rd.

Note:
Alignments and
depths are
approximate and
all services
must be potholed
prior to mechanical
excavation.

Michael Kelly
AUM P/L