

6<sup>th</sup> August 2019

Brisbane City Council  
Email: [Peter.Kuras@brisbane.qld.gov.au](mailto:Peter.Kuras@brisbane.qld.gov.au)

**Attention: Peter Kuras**

Dear Peter,

**RE: STORMWATER QUALITY IMPROVEMENT DEVICE EVALUATION PROTOCOL**

Ocean Protect is committed to protecting the health of our oceans and waterways and subsequently fully supports a national protocol.

As you may be aware, Stormwater Australia recently released their National Stormwater Quality Improvement Device Evaluation Protocol (SQIDEP), which aims to provide a uniform set of criteria against which stormwater quality improvement devices (SQIDs) can be field-tested and their treatment performance reported.

Ocean Protect supports a national framework for evaluating stormwater treatment measures. However, we believe that SQIDEP (in its current form) has significant deficiencies which, if allowed to remain without amendment, will produce exaggerated or over-estimated treatment performance results for SQIDs – and, ultimately, reduced ‘actual’ protection of the health of our waterways.

The key objectives of this correspondence are to:

- provide some background to SQIDEP and the involvement of Ocean Protect to date;
- identify recommended changes for SQIDEP (and explain the rationale for these recommended changes);
- identify questions that we believe should be asked of Stormwater Australia executives in relation to its development, implementation and oversight of SQIDEP; and
- Outline actions that we would like your organisation to consider in relation to SQIDEP.

**Background**

The development of SQIDEP was initiated over six (6) years ago by Stormwater Australia, Ocean Protect and some other SQID manufacturers. Stormwater Australia has issued several versions of their SQIDEP, and the latest version (Version 1.3) is available on the Stormwater Australia website<sup>1</sup>.

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<sup>1</sup> <https://www.stormwater.asn.au/sqidep>

Ocean Protect staff members had been involved in, and support, the development of SQIDEP for the betterment of the industry, with the aim of removing misleading and unfounded claims by manufacturers and reducing undue pressure on local government authorities in meeting water quality design objectives. Whilst the SQIDEP is not perfect, it is certainly a step in the right direction for solving these problems within the industry.

Unfortunately, we consider that Ocean Protect's endeavours to amalgamate policy and promote best practice have been met with resistance, ranging from outright refusal and dissemination of misinformation, to, in some cases, what Ocean Protect considers to be an attack on the reputation of its brand.

Commercially, all manufacturers stand to gain from having a national framework for evaluating technologies. The larger players in the market, including Ocean Protect, that have been field testing for quite some time, stand to gain a commercial advantage in seeing SQIDEP being endorsed in its current form. Ethically, however, we understand that this may not be the best outcome for the environment. Consequently, we have chosen to outline the facts of the situation and provide you with information to assist you to make an informed decision on your organisation's support or otherwise of SQIDEP, and any associated evaluation.

### **Recommended changes to SQIDEP**

There are several issues that currently exist with the current SQIDEP and evaluation framework that we feel need to be modified. Several technical modifications should be made to the protocol, not to make compliance more difficult, but to close existing loopholes, stop potential "gaming" of the system in the form of overestimated performance claims, and consolidating relevant standards. The modifications that we would suggest are:

- Change the number of qualifying storms (for single and multiple sites) from 15 to 12, but introduce a requirement for sequential complying storms:
  - We consider this is essential to avoid manufacturers 'cherry picking' data. For example, SQIDEP (in its current form), permits a company to collect 50 storms from one site and pick their best 15, which Ocean Protect considers leaves open the potential for results to be skewed or unrepresentative of the full picture;
- Provide more detail about sampling locations and equipment setup requirements:
  - We consider this is necessary to ensure results across technologies are consistent, comparable and conservative.
  - For example, a company could make a stormwater pit obtain reductions in pollutants by simply facing the inlet sample suction line upstream to capture as much influent pollutant load as possible, and then face the effluent suction line downstream to avoid sampling as much effluent pollutant load as possible;
- Add a requirement that test sites have a minimum level of Dissolved Inorganic Nitrogen (DIN):
  - We consider this would be desirable so as not to overestimate technology performance claims obtained from sites with high levels of particulate forms of nitrogen;
  - We recommend a minimum DIN requirement of 25 to 40%, to be consistent with protocols for SQIDS enacted by the City of Gold Coast and other councils within the Sydney metropolitan area. As a comparison, the City of Gold Coast (2015) protocol "*Development Application Requirements and Performance Protocol for Proprietary Devices*" requires a minimum DIN of 40%.
- Change some sampling criteria to ensure minimums are met, including: (i) 100% compliance with minimum storm coverage; (ii) minimum of 50% hydrograph coverage; and (iii) minimum of eight aliquots per storm:

- We consider this is necessary to remove the 'noise' and inconsistency in data that can affect performance claims, and is consistent with the existing City of Gold Coast (2015) protocol.
- Order the performance metrics in an appropriate hierarchy:
  - This is recommended to ensure that manufacturers cannot simply choose or argue the performance metric method for a particular data set that provides them the best result.
  - We recommend that if the 'efficiency ratio' (ER) and median 'concentration reduction efficiency' (CRE) differ by more than 10%, then use average ER and median CRE; and
- Add requirements and reporting for Maintenance to ensure there is not a disconnect between system sizing and associated maintenance frequencies that can disproportionately skew performance claims.

These changes have been proposed to strengthen SQIDEP, and are consistent with The City of Gold Coast evaluation (2015) protocol that has been in effect for the last two years.

Ocean Protect understands some of the largest regulators on the East coast of Australia are currently using the SQIDEP, but with additional criteria or overlay, which renders the process redundant and the \$22,750 to \$26,500 + GST spend per technology verification less worthwhile.

## Questions in relation to conflicts of interest

In Ocean Protect's view, technical changes to SQIDEP, the determination of the verification program, and the setting of application fees have not been undertaken in thorough consultation with either regulators or manufacturers. Ocean Protect understands Stormwater Australia's Secretary and President have elected to make these decisions themselves.

In these circumstances, in the course of critically evaluating the SQIDEP and its potential improvement, Ocean Protect encourages you to consider whether an actual or perceived conflict of interest exists for Stormwater Australia executives in the making of their decisions relating to the SQIDEP. Relevant enquiries might be:

- whether or not a Stormwater Australia executive owns an interest in a company that develops SQIDs; and
- whether or not a Stormwater Australia executive has previously provided professional advice or services in relation to field testing for any SQID manufacturer – and, if so, the content of that advice and to whom and when that advice was provided.

It is Ocean Protect's view that, in the interests of transparency and good corporate governance, Stormwater Australia's President and Secretary must disclose any circumstances that do or might give rise to an actual or perceived conflict of interest relevant to the development and implementation of the SQIDEP.

## Actions for your organisation to consider

Given the ethical, procedural and technical issues highlighted above, we ask that you consider undertaking the following actions to assist you to make an informed decision about the merits of, and your support for, SQIDEP and the associated evaluation framework:

1. Ask Stormwater Australia to include the aforementioned recommended changes to be made to SQIDEP<sup>2</sup>;

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<sup>2</sup> Contact details for Stormwater Australia are available at <https://www.stormwater.asn.au/contact-us>

2. Consider whether you believe Stormwater Australia executives might be conflicted in the development and implementation of the SQIDEP, and make the enquiries set out above;
3. Liaise directly with your state association in relation to the contents of SQIDEP<sup>3</sup>;
4. Liaise directly with personnel from other regulatory organisations such as Blacktown City Council, WaterNSW, Stormwater New South Wales, Melbourne Water, The City of Gold Coast and Brisbane City Council in relation to the protocols enacted in those jurisdictions. We can provide you with contact details for suitable staff from these groups upon request; and
5. Meet with myself (and other stakeholders, if you consider appropriate) to discuss this correspondence.

I trust this is suitable for your current purposes. Just let me know if you have any questions or would like to discuss anything further.

Yours faithfully,



**Michael Wicks**  
**Technical Director**

**Attached:** City of Gold Coast (2015). *Development Application Requirements and Performance Protocol for Proprietary Devices*. Originally Prepared by DesignFlow. Peer Reviewed and Amended by E2DesignLab.

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<sup>3</sup> Contact details for Stormwater Queensland are available at <http://stormwaterqueensland.asn.au/contact/>  
Contact details for Stormwater NSW are available at <http://stormwaternsw.asn.au/contact/>  
Contact details for Stormwater Victoria are available at <https://www.stormwatervictoria.com.au/contact>  
Contact details for Stormwater South Australia are available at <https://www.stormwatersa.asn.au/contact-us>  
Contact details for Stormwater Western Australia are available at <https://www.stormwaterwa.asn.au/>