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Natural Resources Wales

Ein cyf/Our ref:
Eich cyf/Your ref: WG 24179

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Water Branch (Energy, Water and Flood Division)
Welsh Government
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CF10 3NQ

30th April 2015

Dear Sir/Madam,

CONSULTATION ON THE PROPOSED INTERIM NON-STATUTORY STANDARDS FOR SUSTAINABLE DRAINAGE SYSTEMS (SUDS) IN WALES

Thank you for consulting Natural Resources Wales on the proposed interim non-statutory standards for Sustainable Drainage Systems (SuDS) in Wales. This follows on from our extensive work with the Welsh Government to help inform the standards and guidance being proposed.

Natural Resources Wales supports the Welsh Government's proposals and we enclose our response to the consultation questions.

Natural Resources Wales works as a regulator, partner and advisor to businesses, non-governmental organisations, local authorities and communities to help deliver Welsh Government and European Union policies and priorities. We take an ecosystem approach to promoting sustainable development that delivers environmental, economic and social benefits to the people of Wales.

Many existing conventional drainage systems can cause problems of flooding, pollution and damage to the environment. Furthermore, many are not proving to be sustainable in the context of wider challenges from climate change, population growth and urbanisation. SuDS approaches include consideration of long-term environmental, economic and social factors in decisions on drainage options.

Natural Resources Wales recognises the need to deliver a drainage approach that can cope with current and future challenges. By learning from international examples and working in partnership with a range of stakeholders, we are supporting large-scale delivery of SuDS both for new development and retrofitting existing developments.

SuDS are known to be more adaptable and flexible than conventional solutions, allowing future modification to cope with climate and other changes in urban areas. We believe this approach can create greener, cleaner and more sustainable communities now and for future generations, while delivering a more integrated and sustainable management of natural resources.

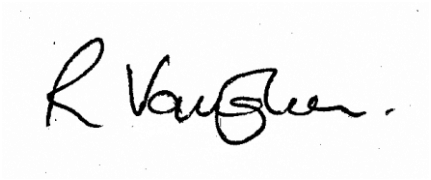
With this in mind, Natural Resources Wales welcomes the decision to propose interim non-statutory standards for SuDS in Wales prior to the commencement of Schedule 3 of the Flood and Water Management Act (2010).

We believe this approach will allow all relevant stakeholders to test the interim non-statutory standards where reasonably practicable, and help develop a more consistent approach to SuDS delivery across Wales. We hope this will pave the way for subsequent implementation of statutory standards for SuDS in Wales.

Increasing the uptake of SuDS across Wales is one of the biggest challenges we face. We look forward to continuing our work with the Welsh Government to implement and review the proposed interim non-statutory standards, and with other stakeholders to promote sustainable drainage solutions across Wales.

Please contact martyn.evans@naturalresourceswales.gov.uk if you wish to discuss any aspect of our response in more detail.

Yours sincerely,



Robert Vaughan
Sustainable Land Use Manager
Natural Resources Wales

Response to the Consultation Questions

Question 1: Are the proposed National Standards and related guidance clear to understand and practical to implement?

1.1 The layout is clear, easy to understand and is set out in a logical sequence. The section "*How the National Standards work*" (page 4) provides a concise summary that sets out exactly what to expect throughout the proposed standards.

1.2 Natural Resources Wales is pleased that the proposed standards take account of flood risk, the quantity and quality of runoff, and the amenity and aesthetic value of surface water in the urban environment.

1.3 The criterion set in Standard 2 (surface water runoff hydraulic control), and associated guidance, refers to the 1 in a 100 year return period for the assessment of surface water flood risk and the consequences of flooding. For practical implementation, we suggest this return period reflects existing national policy for surface water flooding, such as TAN15. Please refer to our response to Question 4 for additional detail.

Question 2: Are there any additional aspects of sustainable drainage which you believe should be included in the standards?

<u>Biodiversity and Amenity</u>

2.1 We welcome Standard 4 on increasing the benefits to biodiversity and amenity, and the overarching principle to "*add social, economic and environmental value by improving the quality of urban design, adding enhanced amenity space and providing habitats and wildlife corridors*".

2.2 We believe this standard could emphasise further the specific role trees can play in the management train. Trees and rain gardens play a vital role in intercepting rainfall at source, temporarily storing water and attenuating discharge, before allowing infiltration to ground, improving water quality. The tree canopy also provides natural shade and mitigates urban heat effects, while extensive root systems act as an effective sponge within saturated soils.

2.3 These particular qualities, along with their multiple societal and economic benefits, place trees as quite distinct components of green infrastructure. Ongoing retrofit SuDS schemes in Llanelli and Grangetown (Cardiff) exemplify the integrated approach, where trees play a prominent role within particular design specifications.

2.4 With this in mind we believe the proposed standards require more detailed guidance on this matter, to equip developers and engineers with the information

to design, plant and maintain robust and effective trees and vegetated grass, field and shrub layers.

Maintenance and adoption

2.5 To be truly sustainable systems, we believe SuDS should be both environmentally and financially sustainable. This includes long-term maintenance and adoption agreements.

2.6 The introduction of interim non-statutory standards will provide a platform for ensuring that those involved in the drainage approval and adoption process will be able to undertake their duties effectively upon commencement of Schedule 3 of the Flood and Water Management Act (2010).

2.7 We believe the proposed standards should reinforce the need for all stakeholders to agree their long-term responsibilities for specific SuDS developments.

Early consideration in the planning process

2.8 We support the view that the provision of SuDS requires early consideration in the planning process.

2.9 However, we acknowledge that some technical considerations, such as inspection and maintenance arrangements, adoption agreements, and setting and applying intricate technical assessments, are difficult to make at an early stage in the planning process. This may be due to the lack of detailed design, and the impracticality of entering into a legal agreement for something that does not yet have planning permission.

2.10 We suggest that Guidance 4.10 (page 51) of the proposed standards are amended to reflect this.

Retrofitting existing developments

2.11 We recognise that new developments offer important opportunities to manage surface water better than conventional methods. However, new developments form only a small part of the current urban environment.

2.12 Natural Resources Wales believes that national standards for SuDS in Wales should include retrofitting existing developments. Continuing our current approach to managing surface water in our existing urban areas, through the building or upsizing of conventional systems such as sewers, is perpetuating unsustainable solutions that are not adaptable to a changing future.

Flood Risk Management

2.13 We support the reference made to TAN15 for flood risk from rivers and the sea, and the requirement to submit a Flood Consequences Assessment (FCA). However, the proposed standards do not include several references on how TAN15 considers surface water flooding and advocates the use of SuDS.

2.14 We strongly advice that reference is made to the following sections of TAN15.

- A1.17, Part 5 and Part 12: The need for a FCA to include an assessment of the risk of surface water flooding.
- Section 2.11: New developments should make provision for future changes in flood risk. For example, taking account of climate change. This could include ensuring appropriate drainage systems are in place to accommodate more frequent or heavier rainfall events.
- Section 11.9: Reference to run-off considerations.
- Section 11.3: Developers must make adequate provision for the future maintenance of surface water drainage systems.

Water Resources Management

2.15 The proposed standards do not full recognise the importance of water resources management in SuDS components.

2.16 We believe the proposed standards could emphasise the need for relevant stakeholders to encourage water reuse and efficiency, reduce demand and allow water companies to better address affordability issues with customers.

Rural SuDS

2.17 The proposed standards do not full recognise the importance of rural SuDS components.

2.18 In rural environments, SuDS approaches can help manage the detrimental impact of rainfall on fields where run-off is a major threat to the flora, fauna and chemical status of our surface waters. By intercepting run-off and trapping sediment before it leaves fields, rural SuDS help maintain and manage the provision of good water quality by preventing the loss of soil, chemicals, nutrients and faecal organisms.

2.19 A further benefit of rural SuDS is their ability to temporarily capture water and slow down flow, as demonstrated in the Pontbren project. This can reduce localised flooding and provide valuable aquatic habitats in the form of micro-wetlands for farmland wildlife, and will encourage the downward movement of water to recharge aquifers.

Question 3: The guidance contains references to a number of additional sources of information on SuDS. Are you aware of any additional references which could be included?

3.1 Guidance 1.21 states "*An assessment of potential risks should be made in accordance with Planning Policy Wales guidance on dealing with unstable and contaminated land*". We advise that this section makes reference to '*Development management and contaminated land*' from Planning Policy Wales. This details the risk assessment process and introducing changes to a site which may result in land being determined as contaminated land.

3.2 Only Guidance 3.19 of the proposed standards mentions the possible need for an environment permit. We suggest tables G3.3 and G3.4 (page 41) also make reference to permits and the Environment Permitting Regulations (2010).

3.3 Guidance 3.19 references Environment Agency guidance on the Environmental Permitting Regulations (2010) and a link to the Environment Agency website. We suggest the Natural Resources Wales guidance is referenced.

3.4 Guidance 3.19 (page 35) states that "*the discharge of surface runoff from sites of high (H) hazard in accordance with Table G3.3 may not be allowed and Natural Resources Wales must be consulted for guidance on the requirements for protecting the environment, which may require an environmental permit*". We advise that this references table G3.4, as the need for a permit is equally valid for discharges from high hazard areas that may reach groundwater.

3.5 Table G3.2 provides sources of information on sensitivity. For Source Protection Zones the link shown is to the Environment Agency's '*What's in your backyard?*' web page. Please note that Natural Resources Wales will soon launch its own external map viewer to display this information for Wales.

3.6 Standard 3.5 (page 116) refers to integrating trees in SuDS. We suggest this section makes reference to the Trees and Design Action Group guidance '*Trees in Hard Landscapes*'. This explores the challenges and solutions to integrating trees in urban areas, while detailing process, design and technical options.

3.7 We advise that reference is made to the Environment Agency's '*Groundwater protection: Principles and practice*', commonly referred to as GP3. These principles also apply to Natural Resources Wales. This includes position statements relating to the use of SuDS in certain sensitive locations.

3.8 We suggest that reference is made to the Environment Agency's 'Rural SuDS' (July 2012). This document also applies to Natural Resources Wales.

Question 4: We have asked a number of specific questions. However, if you have any related issues which we have not specifically addressed, please enter any comments here.

4.1 The proposed standards make several references to the term “groundwater bodies”. We wish to clarify that “groundwater body” is a specific term under the Water Framework Directive. We believe the proposed standards should apply to all groundwater in Wales. We suggest removing the terms “body” or “bodies” unless specific reference is made to the Water Framework Directive

4.2 We advise that reference is made to our position statement on the use of deep infiltration systems for surface water and effluent disposal. Natural Resources Wales is concerned about their use as the discharge can bypass the soil layers and can allow pollutants to directly infiltrate into groundwater. Our position statement sets out the parameters by which we will agree to their use. This can be found in ‘*Groundwater protection: Principles and practice*’ (page 87).

4.3 Guidance 1.14 (page 10): The proposed standards make several references to “extreme” events. Natural Resources Wales considers this event as a 0.1% (1 in 1000 year) flood event, in accordance with TAN15.

4.4 We suggest that “extreme” in the context of this document is replaced with “significant”. Other sections in the proposals where “extreme” is stated include:

- Page 20 (S2 – Points 3 and 4)
- Page 29 (G2.37 and G2.40)
- Page 31 (G2.47)

4.5 Guidance 1.8 (page 9): Reference is made to an “appropriate” return period. We suggest that the Welsh Government considers a specific critical return period for designing infiltration devices.

4.6 Standard 2, Point 5 (page 20): We believe this should be reworded to state: “*for events up to and including the 1% (1 in 100 year) with an allowance for climate change over the development lifetime should be evaluated for their impact*”.

4.7 Guidance 2.23 (page 27): This should state the 1% (1 in 100 year) with an allowance for climate change over the development lifetime.

4.8 Guidance 2.24 (page 27): Natural Resources Wales asks that the proposals clarify what level of return period the consequences of flooding should be assessed against for temporary flood storage systems. The proposals state an “appropriate range”, but we believe an upper limit would be beneficial. Furthermore, the range of return periods would need to specify “up to and including the 0.1% (1 in 1000 year) flood event”, in accordance with the requirements of TAN15.

4.9 Guidance 2.28 (page 28): We believe this section could seek alternative options than underground storage. Underground systems may in theory seem sensible, but in practice can be inefficient due to limited volumes of water being able to easily enter the system, as well as potential access and maintenance issues.

4.10 Guidance 2.37 (page 29): The management of surface water flooding within the development boundaries should assess the risks up to and including the 0.1% (1 in 1000 year) event for flooding consequences and manageability. On site

storage (open) is typically designed to accommodate the 1 % (1 in 100 year) event.

4.11 Guidance 3.13 (page 34): We advise that the word “approximately” is deleted from the sentence: “*For rainfall events greater than approximately the 1 in 1 year return period*”.

4.12 Guidance 3.2 (page 37): We believe reference should be made to the Water Framework Directive when information is sought on the ecological status of waterbodies.

4.13 Standard 4 states the need not to introduce invasive species in to SuDS designs. However, the proposals do not take into account actions that may be required to control invasive species already present on site, which may spread as a result of increased connectivity.