Our Ref.	:	21-055.017 lsl/md
Your Ref.	:	
E-mail	:	m.duignan@waterman-moylan.ie
Date	:	04 September 2024

South Dublin County Council,
Land Use Planning & Transportation Dept,
County Hall,
D24 A3XC

Re : **Clonburris, Adamstown, Lucan, Co. Dublin – Reg. Ref. SDZ23A/0004**
Compliance 15(b) Refers to SuDS and Surface Drainage Network

To whom it may concern,

We refer to the Compliance 15(b) for SuDS and Surface Drainage Network, issued by South Dublin County Council in respect of Clonburris Development, Planning Register Reference SDZ23A/0004.

Compliance 15(b) is set out below (in bold Italics) with our response provided beneath.

Compliance 15(b)

All works for this development shall comply with the requirements of the Greater Dublin Regional Code of Practice for Drainage Works.

Response:

We note that the proposed drainage design is in accordance with the GDSDS and all surface water works will be comply with the requirements of the Greater Dublin Regional Code of Practice for Drainage Works.

It this regard, all proposed SuDS and attenuation devices and strategies will be constructed in accordance with the approved engineering planning drawings and reports.

The approved and proposed SuDS are outlined below. This includes one SuDS device amendment from the submitted planning. It is now proposed to replace the previously proposed raingarden gardens detail with rear garden filter drains which will allow for rainwater from rear garden downpipes to infiltrate into the ground. These filter drains will be surrounded with 150mm filter stone and will allow for first flush and low rainfall events to infiltrate into the ground. These filter drains will ultimately be connected to the main surface water sewers in the road for heavier rain fall events and the infiltration rates on the site do not allow for 100% infiltration.

This amendment has resulted from the detail design of the raingardens being unsuitable and would not work for the following reasons:

1. The landscaped areas within the front of the garden are very small to fit a suitable rain garden as per attached.
2. These rain gardens do not fit in with the Landscape Architects design for the gardens with regard to planted species, levels and maintenance.

3. The levels in the gardens are not suitable for most of the houses for a rain gardens as the slop of the garden would not fall away from the house and this would pose a localised flood risk to the houses.
4. Poor maintenance of these rain gardens will leave sodden poorly managed landscaped area and would then pose a localised flood risk to the house.

The above amendment was issued to Brain Harkin of SDCC on 19 July 2024 and was approved in principle by Brian Harkin on 25 July 2024.

Rear Garden Filter Drains will be implemented where possible as a replacement for the rain gardens. These filter drains will provide effective water management and treatment, reducing the risk of waterlogging and flooding of rear gardens, while also contributing to the overall drainage network by reducing the amount of surface water runoff and slowing the rate of runoff during rainfall events. Please refer to accompany drainage drawings T1201 and T1202 for the proposed extent of filter drains.

A summary of the other proposed SuDS devices is provided below:

Swale Enhancements:

The design of the swales has been revised to allow for a minimum 1m width at the base of the swale, with a total width of 2.7m as per SDCC Guidelines.

Swales are vegetated channels proposed to run parallel and adjacent to selected roads throughout the site. Rainfall from the road surface will be directed to gaps in the road kerbing and will flow to the swales. The swales will be linked back to the drainage network to prevent flooding in extreme weather events, where the volume of rainfall exceeds the percolation capacity of the swales.

Vegetated swales enhance surface water runoff quality as they slow down water flow, allowing suspended particles to filter and settle out of suspension.

The proposed vegetated swales incorporate filter drains which will provide infiltration, optimise the retention time, and provide quality improvement to the storm water runoff, in particular the first flush from hardstanding areas. The proposed perforated pipes connect to the proposed surface water sewer network.

Permeable Surfaces:

Use of permeable paving in private driveways and parking courts throughout the development to allow for natural infiltration of rainwater. Downpipes from the front of the houses and apartments will drain to filter drains beneath the permeable paving to facilitate maximum infiltration of surface water from driveways and roof areas.

The goal of permeable paving is to control stormwater at the source to reduce runoff. In addition to reducing surface runoff, permeable paving has the dual benefit of improving water quality by trapping suspended solids and filtering pollutants in the substrata layers.

Green / Sedum Roof:

It is proposed to introduce sedum roofing as a source control device on the Apartment Blocks 1 & 2. The sedum roofing typically consists of 75mm substrate with a sedum blanket.

The substrate and the plant layers in a green roof absorb large amounts of rainwater and release it back into the atmosphere by transpiration and evaporation. They also filter water as it passes through the layers, so the run-off, when it is produced, has fewer pollutants. Rainfall not retained by green roofs is detained, effectively increasing the time to peak, and slowing peak flows.

A sedum roof can reduce annual percentage runoff by between 40% and 80% through this retention and evapotranspiration, with the impact dependent on a range of factors including the depth of substrate, the saturation of substrate at the onset of a rain event, the angle of the roof, the range of vegetation growing, intensity of rainfall and the time of year.

Roadside Bio-retention Tree Pits:

It is proposed to provide roadside trees throughout the development. Trees can help control storm water runoff because their leaves, stems, and roots slow rain from reaching the ground and capture and store rainfall to be released later. Trees help to attenuate flows, trap silts and pollutants, promote infiltration and prevent erosion. Incorporating tree planting offers multiple benefits, including attractive planting features, improved air quality and increased biodiversity whilst helping to ensure adaptation to climate change.

Planting and Landscaping:

Incorporation of native plant species in swales and other landscape areas to support local wildlife, enhance the visual appeal of the development, and improve the ecological function of the SuDS.

The revised plans are in strict adherence to the SDCC SuDS Guide. The integration of filter drains, and enhanced swales aligns with the best practices outlined for effective stormwater management, water treatment, and promotion of biodiversity.

The proposed revisions demonstrate our commitment to implementing a robust and effective SuDS strategy that meets SDCC's requirements. We believe these adjustments will not only address the technical aspects of water management but also contribute positively to the environmental and aesthetic quality of the development.

We trust that the above proposals and revisions are satisfactory and look forward to your approval. Should you require any further information/clarification, please do not hesitate to contact us.

Yours sincerely,

Mark Duignan

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Mark Duignan
Associate Director
Waterman Moylan