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SuDS Maintenance Plan

Lidl Ireland GmbH

Proposed Development of Lidl Store at Newcastle, Dublin

November 2022

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DOCUMENT REF: *P:\2022\22058 - Lidl Ireland - Newcastle, Dublin, Services Design\Design\SuDS Maintenance Plan*

REVISION HISTORY

Revision	Purpose / Description	Originated	Checked	Authorised	Date
1	*Issued for Planning*	*SG*	*MM*	*MM*	*16/11/2022*

1.0 INTRODUCTION

SuDS are a new environmentally friendly approach to managing rainfall that uses landscape features to deal with surface water. SuDS aim to:

- Control the flow, volume and frequency of water leaving a development area,
- Prevent pollution by intercepting silt and cleaning runoff from hard surfaces,
- Provide attractive surroundings for the community,
- Create opportunities for wildlife.

2.0 SUDS IMPLEMENTATION

The SuDS are designed to prevent flooding of the proposed development site in Newcastle, and control the flow of water using attractive landscape features, such as:

- Rainwater gardens, which are placed throughout the site to assist in treating surface water at source, whilst also providing an element of aesthetic benefit,
- Previous paving, implanted to provide a surface suitable for pedestrian and vehicle traffic, while allowing rainwater to infiltrate through to the surface and into the underlying layers,
- Tree pits, which are beneficial for bioretention as they intercept precipitation, allow water to evaporate from relief surfaces, and facilitate infiltration and groundwater recharge due to their root systems,
- A green roof, comprising a multi-layered system covering the roof of a building with vegetation cover, over a drainage layer,
- An attenuation tank, which is essentially a modular plastic geo-cellular system with a high void ratio, used to create a below-ground storage structure.

3.0 SUDS MANAGEMENT

The SuDS implemented at the proposed development site in Newcastle have been designed for ease of maintenance, with a host of maintenance methods for each SuDS feature being outlined below. Within this section Figures 3.1, 3.2, and 3.3 illustrate the proposed services within the site, the existing surface water flow plan, and the proposed surface water flow plan, respectively.

TABLE OF CONTENTS

RAINWATER GARDEN

Rainwater gardens are to be watered regularly to promote plant growth, primarily in instances of dry spells. They should also be inspected at regular intervals, especially following rainfall events. Moreover, rainwater gardens are to be weeded to maintain appearance.

PERVOIUS PAVING

Pervious paving should ideally be washed with clean, high-pressure water, which often proves effective in cleaning both organic clogging along with sandy clogging. Vacuum sweeping is also a recommended maintenance option for pervious paving.

TREE PITS

Tree pits are to be regularly weeded to prevent weed build-up. Additionally, only hand tools should preferably be used within the tree pit to avoid damaging tree roots. When maintaining tree pits, every attempt should be made to ensure plants are not damaged.

GREEN ROOF

A green roof should be inspected at least twice a year for weeds and seeds, before removing unwanted vegetation manually. This practice should preferably be carried out in spring and autumn. Additionally, a well-rooted green roof should require no additional water, and the green roof should only be provided with water in very dry conditions.

ATTENUATION TANK

Attenuation tanks are commonly cleaned via pressure washers, discharging high-pressure water the inside of the tank surface to remove any debris that have potentially been collected within the tank, reducing the likelihood of any silt or debris blocking the tank or flow control in future.

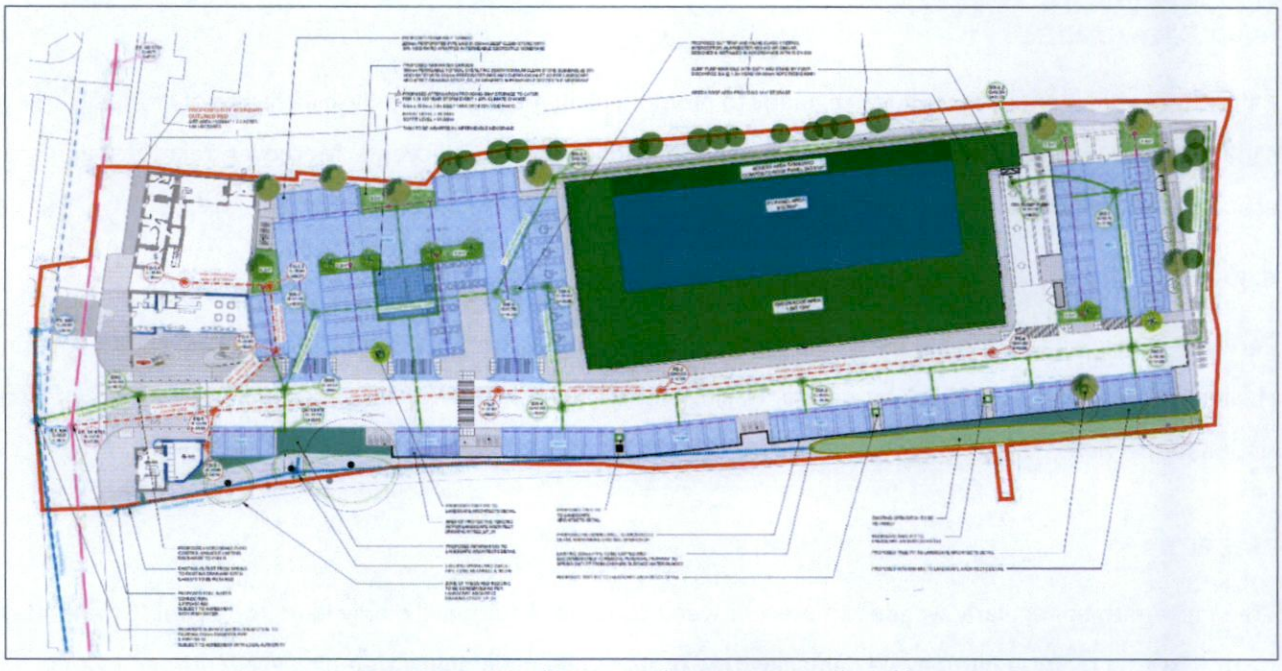

Figure 3.1: Proposed Services within site at Newcastle, Dublin

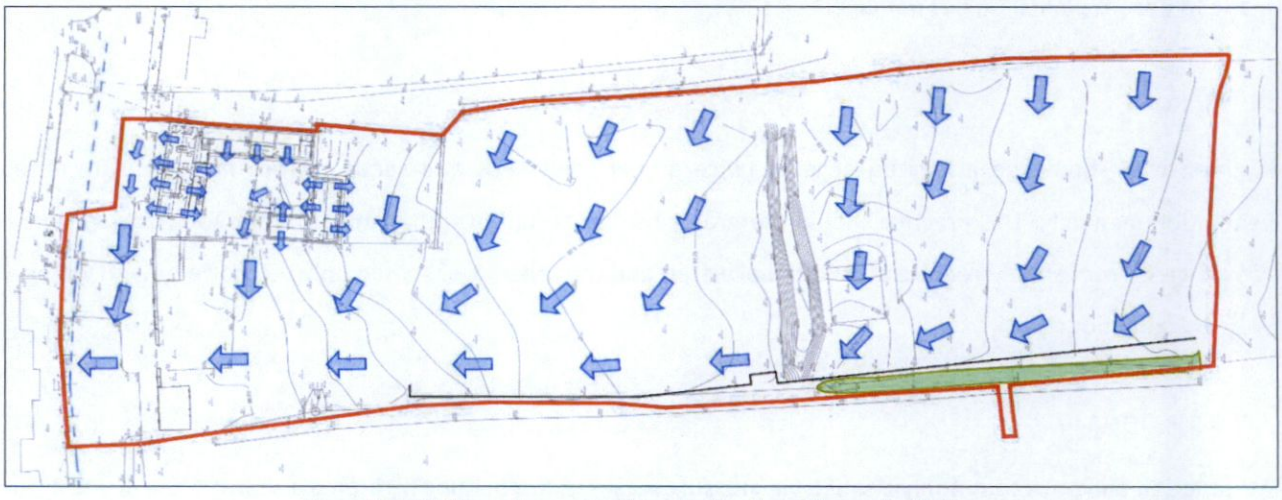

Figure 3.2: Existing surface water flow plan for site at Newcastle, Dublin

Figure 3.3: Proposed surface water flow plan for site at Newcastle, Dublin

Table 3.1: Summary of SuDS and Landscape Maintenance

		FREQUENCY
REGULAR MAINTENANCE		
1	**Litter Management**	
1.1	Pick up all litter in SuDS and landscape areas and remove from site.	As required or monthly
2	**Grass Maintenance (Rainwater Garden)**	
2.1	Mow all grass verges, paths and amenity at 35-50mm with 75mm max. leaving grass in situ.	As required or monthly
2.2	Mow all margins to all flow channels and other SuDS features at 100mm with 150mm max.	4-8 visits as required annually
2.3	Wildflower areas strimmed between 40mm and 100mm in August, or strimmed between 40mm and 100mm on a 3-year rotation, strimming 33% each year.	1 visit annually
3	**Inlets and Outlets (Attenuation Tank)**	
3.1	Inspect monthly, removing silt and debris when required. Strim 1m around inlet/outlet for access purposes.	12 visits annually
4	**Hard Surfaces (Pervious Paving)**	
4.1	Sweep all paving regularly. Sweep and suction brush pervious paving in autumn after leaf fall.	1 visit monthly
5	**Green Roof**	
5.1	Inspect twice annually for weeds and seeds, before removing unwanted vegetation manually.	2 visits annually
OCCASIONAL TASKS		
6	**Inspection and Control Chambers**	
6.1	Annual inspection, remove silt when required and checking free flow.	1 visit annually
7	**Silt Management**	
7.1	Inspect attenuation tank, pervious paving, and rainwater gardens annually for silt accumulation.	1 visit annually
8	**Native Planting**	
8.1	Remove lower branches where necessary to ensure good ground cover to protect soil profile from erosion	1 visit annually
REMEDIAL WORK		
9	**General Maintenance**	
9.1	Inspect SuDS systems regularly to check for damage or failure, along with undertaking remedial work as required.	As required

4.0 EMERGENCY ACTION REGARDING SPILLAGE

Most spillages on development sites are or compounds that do not pose a serious risk to the environment if they enter the drainage network in a slow and controlled manner with time available for natural breakdown in a treatment system. Therefore, small spillages of oil, milk, or other known organic substances should be removed where possible using soak mats, as recommended by the Environment Agency, with residual spillage allowed to bio-remediate in the drainage system.

In the event of a serious spillage, either by volume or of unknown or toxic compounds, then the spillage should be isolated with soil, turf, or fabric, and outlet pipes should subsequently be blocked from chambers downstream of the spillage with bungs (a bung for blocking pipes may be made by wrapping soil/turf in a plastic/fabric sheet).

In the occurrence of such an event, contact the Environment Agency immediately.

5.0 QUERIES REGARDING DESIGN FEATURES

In the event of a concern or failure f a SuDS design feature, please contact SDS (Structural Design Solutions) Ltd, Unit No. 9, N5 Business Park, Castlebar, Co. Mayo, F23 E283.

Email: info@structuraldesign.ie

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