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12 April 2023

South Dublin County Council
Planning Department
County Hall,
Tallaght,
D24 A3XC

RE: 132071 – Cuil Duin Creche and Community Facility
Further Information Request, reference SD22A/0398

Dear Sir / Madam

Further to Cuil Duin Creche and Community Facility planning submission, planning reference SD22A/0398, we outline our responses below to the Further Information engineering items relating to mainly access roads and drainage.

Item 2

(a) *The applicant is requested to submit a revised layout showing details of the pedestrian routes within the development along the car park area.*

Response: The main accesses for pedestrians are directly from Cuil Duin Avenue via links from the public footpath. From the car park, drop kerb accesses have been included to enable level access from this area to the building access points and to cycle parking. Figure 2a - 1 illustrates the pedestrian routes for the proposed development.

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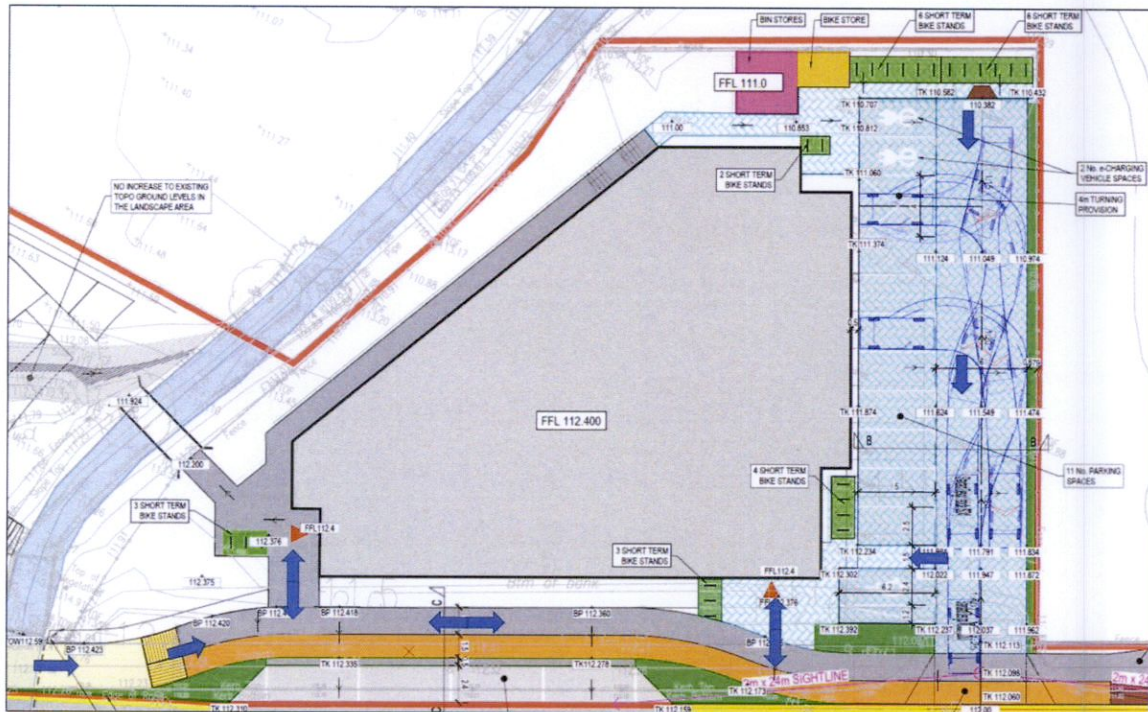


Figure 2a - 1: Proposed pedestrian routes within the development

- (b) *The applicant is requested to submit a revised layout of not less than 1:200 scale, showing a swept path analysis drawing (i.e. Autotrack or similar) demonstrating that fire tenders and large refuse vehicles can access/egress the site.*

Response: The development's waste collection strategy involves kerbside collection at its entrance. Domestic waste bins are transported from the bin store to the development's frontage at collection times (typically during off-peak hours). In light of this, it is not necessary to have a swept path analysis drawing for the movement of refuse vehicles within the site as they are not proposed to enter it.

The proposed fire strategy allows for the fire appliance vehicles to access two dry riser inlets located outside the escape stairs to the south and east of the proposed building. The south dry riser inlet will be accessible directly from Cuil Duin Avenue kerbside. The dry riser inlet is less than 12 meters away from the kerb edge and within sight of the fire appliance. The second dry riser inlet can be accessed via the development's access driveway to the east of the building. The fire appliance can enter the driveway and gain access to within 15

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meters from the dry riser inlet. The appliance can then reverse back to Cúl Dúin Avenue. This movement is in accordance with "Technical Guidance Document Part B chapter 5.2.4 Design of access routes and hard standings", which permits pump appliance vehicles to drive up to 20 meters into cul de sacs without providing turning facilities.

The Watermain Layout Drawing 132071-DBFL-CS-SP-DR-C-1002 has been updated to indicate the swept path analysis for the intended fire tender movements within the site.

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Item 3
(a)

The proposed attenuation provided of 21.1 m3 is undersized by approximately 70%. The applicant is requested to submit a revised drawing and report showing additional surface water attenuation provided by means of SuDS systems (Sustainable Drainage Systems). SuDS features could include but are not limited to: -

- Soakaway (Percolation test required)
- Bioretention basin
- Arched type attenuation system or equivalent
- Other such SuDS

Response:

The existing downstream constructed attenuation system has already allowed for impermeable area contributions from the creche site based on the originally permitted layout of the creche, the proposed amendments would result in a lower impermeable area than the permitted layout, therefore no additional attenuation is required (refer to summary below). Microdrainage calculations provided in the Infrastructure Design Report (IDR) refer only to a check of interception storage capacity for onsite SuDS elements.

The application is a proposed amendment to a previously permitted scheme, under reg ref SD14A/0121 (ABP-300555-18, ABP-300563-19), which included a creche building and associated parking/services. Figure 3A - 1 shows the orange site boundary which denotes the previously permitted (and constructed) development. It is important to note that the creche site was in abeyance and was not constructed as per the permitted plans. The red dashed outline indicates the boundary of the proposed crèche and community facility site. This includes the previous creche site and additional land to the west (the additional land to the west is green space only and does not discharge to the proposed drainage system).

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Figure 3A - 1: Site location (indicative red line boundary)

As indicated previously in Section 4.4.1 in the Infrastructure Design Report, The previously permitted surface water drainage for the larger Cúil Dúin development had allowed for discharge from the creche site in its stormwater network and attenuation design.

Figure 3A - 2 is an annotated extract from a site services layout for the previously permitted scheme. This indicates that the Attenuation system of the previously permitted scheme is located within the main open space area and consists of a partially underground storage system with a capacity of 1150 m3 and a partially aboveground storage facility with a capacity of 340 m3. This attenuation system has already allowed for a quantum of impermeable area from the creche site. Refer to Infrastructure Design report and drawing 132071-3001 submitted for planning (planning Ref SD14A/0121).

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Figure 3A - 2: Extract from Surface and Foul water site layout plan – For Permitted Development

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It was proposed to incorporate SUDS measures to ensure that stormwater run-off will not exceed previously permitted drainage design flows. These include;

- Green roof and part flat roof / terrace draining to underground drainage pipe network;
- Permeable paving for the private car-parking / shared surface also collecting run-off from adjacent bike parking and storage areas.
- Open space area and riverside / riparian strips are not drained.

The previously permitted and proposed sites catchment areas are shown in Figure 3A - 3 and Figure 3A - 4 below.

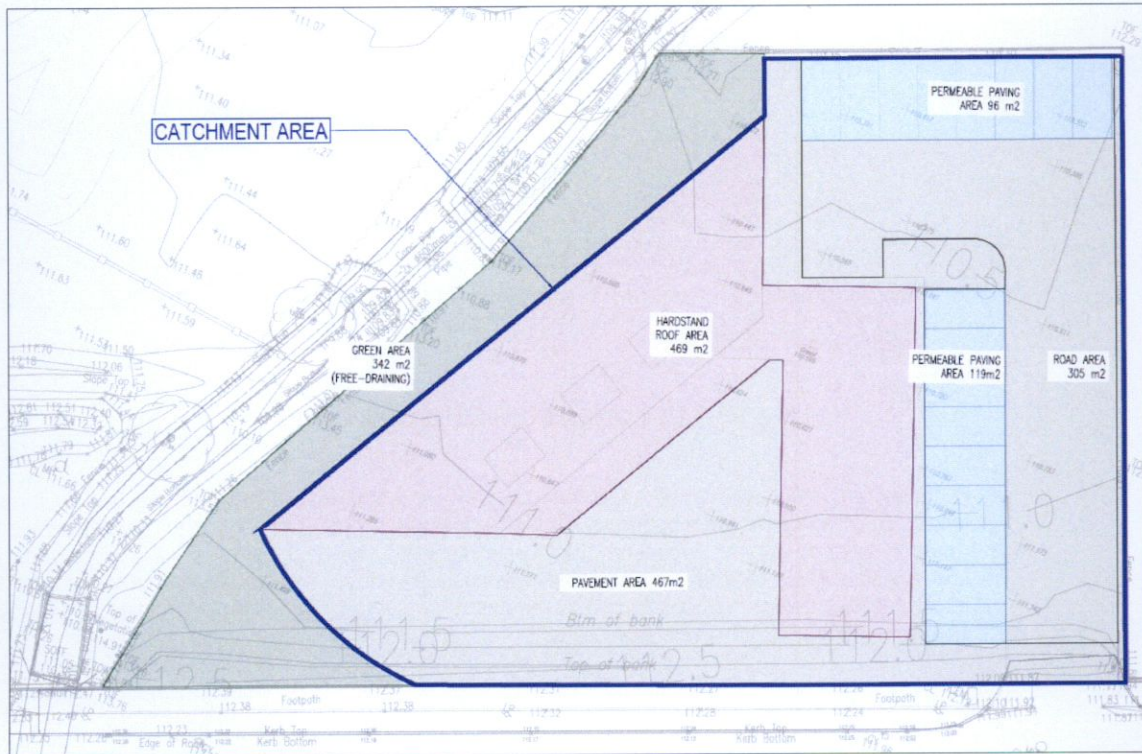


Figure 3A - 3: Previously permitted development catchment area

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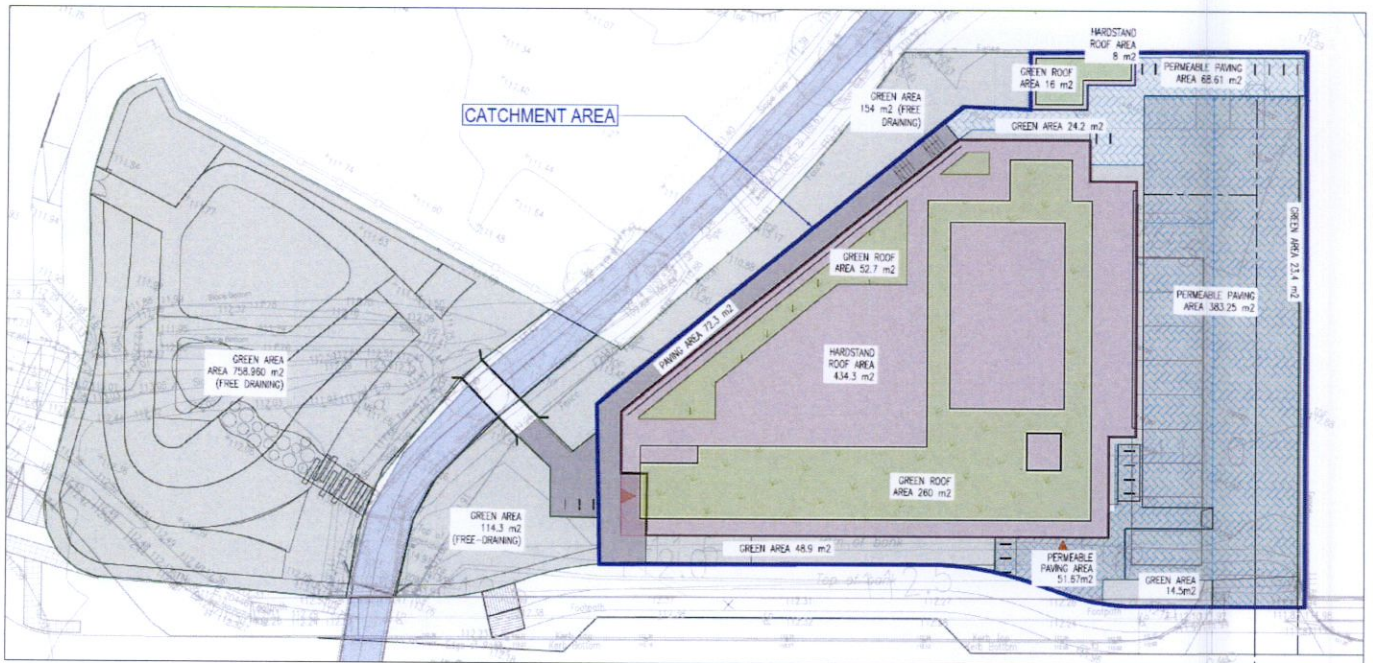


Figure 3A - 4: The proposed development catchment area

By maximizing the use of SUDs features, the surface water design has been revised to increase the landscape green factor, thereby reducing the effective impermeable area and thus reducing the amount of runoff generated by the proposed site. Table 1 below shows a comparative summary of effective impermeable areas for the proposed and previously permitted sites. It can be seen that the effective impermeable area has reduced from 0.131ha to 0.110ha. ***In comparison to the previously permitted site, the proposed site will generate less run-off.***

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	PROPOSED	PREVIOUSLY PERMITTED	Impermeability Factor
Roofs - Type 1 (Draining to gullies) (m ²)	442	469	1
Green Roofs (m ²)	328	0	0.85
Roads and Footpaths - Type 1 (Draining to gullies)	0	305	0.95
Paved Areas (m ²)	72	467	0.95
Permeable Paving (m ²)	504	215	0.5
Grassed Areas (m ²)	110.0	0	0.47
Overall catchment area (m²)	1456	1456	
Total Effective area (ha) [Sum of areas x Impermeability Factor]	0.110	0.131	

Table 1: Summary of Runoff areas [Proposed vs Previously permitted]

The proposed surface water drainage and SUDs layout is detailed on DBFL drawing 132071-DBFL-CS-SP-DR-C-1001. As demonstrated above, The existing downstream constructed attenuation system has already allowed for impermeable area contributions from the creche site based on the originally permitted layout of the creche, the proposed amendments would result in a lower impermeable area than the permitted layout, therefore no additional attenuation is required. Thus, the submitted scheme is consistent with stormwater requirements.

Should you have any queries or suggestions regarding the above proposals, please don't hesitate to contact us to discuss.

Yours sincerely

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