Stormwater Management Policy
Including Stormwater Audit Procedure
This document is intended for use by Dún Laoghaire-Rathdown County Council (DLRCC) Planners and Municipal Services Department, landowners, developers, and consultants and identifies requirements for stormwater management that DLRCC will expect when assessing planning applications.
General Requirements
The following requirements apply to all applications:

Climate Change
All developments must apply a factor of 1.3 to their drainage design and attenuation volumes to accommodate climate change.

Urban Creep
All developments must apply a factor of 1.1 to their drainage design and attenuation volumes to accommodate urban creep.

Assessment of Flood Risk
All developments require an assessment of flood risk. Applicants can contact Drainage Planning via the pre-planning process to seek further guidance on the level of assessment of flood risk, if any, required for their site.

Depending on the site and associated flood risk this can vary from a brief desktop exercise to an extensive Site-Specific Flood Risk Assessment requiring detailed modelling, all in accordance with the requirements of the Council’s Strategic Flood Risk Assessment Policy, Appendix 13.

Applicants must submit details of the proposed surface water drainage system in the event of blockage or partial blockage of the system, commenting on any surcharging or flood risk that may be identified, particularly in relation to freeboard used in the simulation analysis. The proposal must include a drawing confirming that safe overland flow routes do not negatively impact properties both within and without the site. The overland flow route plan should identify drop kerbs or ramps required for channelling the flow and address low point areas in the site and detail how properties, both within the development and on adjacent lands, will be protected in the event of excessive overland flows.
Utility Clash Check
The applicant must undertake a utilities clash check to ensure all utilities’ vertical and horizontal separation distances can be provided throughout the scheme. The applicant should demonstrate this with cross-sections at critical locations such as junctions, site thresholds and connection points to public utilities. Minimum separation distances must be in accordance with applicable Codes of Practice.

Wayleaves (Building over/near public sewers)
The Council policy requires a minimum wayleave of 6 metres (3 metres either side) for public sewers. This wayleave can increase with depth and size of the sewer. Developments must not encroach on the required wayleave. Where this is not possible then the applicant should contact the Council via the pre-planning process to discuss the feasibility of a diversion. Building over or near a public sewer would seriously impede the Council’s ability to access and maintain the sewer and would therefore be prejudicial to Public Health. Failure to comply with Council’s requirements will result in a recommendation of refusal.

Private Drains
Where an applicant’s land is crossed by a private drain, the applicant is responsible for acquiring any rights or permissions necessary to connect to, or to increase the discharge into, or to build over, or divert, or to ensure the adequate capacity is not exceeded, or otherwise alter any private drains not in their exclusive ownership or control, and for ensuring their adequacy.

Pumping of Surface Water
The pumping of surface water will be considered only on an exceptional basis. If pumping is deemed necessary, the proposal must meet all the criteria set out below to the satisfaction of Municipal Services:
- When it has been proved that all other possible gravity storage and discharge arrangements have been
considered and are not technically feasible. (Note: Municipal Services is of the opinion that a gravity solution can be achieved in almost any new build situation.)

- When the failure of the pumping system proposed will not impact on the Council’s network or any other property other than the applicant site.
- When it has been demonstrated that there are adequate duty and standby pumping arrangements are in place. A 3-pump arrangement will be required.
- When the pumped discharge rate is limited to 2l/s/ha or Qbar for that portion of the site being served by the proposed pumping arrangement. Provision should be made for storage for events up to and including the 0.1% AEP event.
- When a Flood Risk Assessment (in event of 3 pump failure) has satisfactorily addressed the risk to human life, the risk to basement (services), the risk to adjoining property, and emergency access and egress.
Single house or extensions
The following requirements, as a minimum, apply for a new single house or extensions to an existing property (additional site-specific requirements may also be required):

**Sustainable Drainage Systems (SuDS)**
In accordance with DLRCC County Development Plan 2016-2022 Section 8.1.2.5 Policy Objective EI4: Sustainable Drainage Systems, the proposal must demonstrate the requirements of the Greater Dublin Strategic Drainage Study (GDSDS) policies in relation to Sustainable Drainage Systems (SuDS). The design must incorporate SuDS measures appropriate to the scale of the proposed development such as soakpits, permeable paving, rainwater harvesting, rain gardens, etc. that minimise flows to the public drainage system and maximises local infiltration potential.
All SuDS measures must be designed in accordance with the relevant industry standards and the recommendations of The SuDS Manual (CIRIA C753).

**Hardstanding/Parking Areas**
All proposed parking and hardstanding areas must be constructed of a specifically designed permeable paving stone/asphalt system or gravel or drained directly to landscaped areas, in accordance with the requirements of Section 8.2.4.9 of the DLRCC County Development Plan 2016-2022.

**New Connections**
The applicant must obtain and study the sewer network records of from DLRCC to establish if a new connection to the public sewer is possible prior to submission of the planning application. The applicant may wish to consult with DLRCC Water Services if the connection is not self-evident.
All Other Developments

The following requirements apply to all developments greater than a single house (additional site-specific requirements may also be required):

**Sustainable Drainage Systems (SuDS)**

In accordance with DLRCC County Development Plan 2016-2022 Section 8.1.2.5 Policy Objective EI4: Sustainable Drainage Systems, the proposal must demonstrate the requirements of the Greater Dublin Strategic Drainage Study (GDSDS) policies in relation to Sustainable Drainage Systems (SuDS). The design must incorporate SuDS measures appropriate to the scale of the proposed development such as green roofs, bioretention areas, permeable paving, rainwater harvesting, swales, etc. that minimise flows to the public drainage system and maximises local infiltration potential.

The applicant should provide cross-sections and long-sections, and commentary that demonstrates all proposed SuDS measures have been designed in accordance with the relevant industry standards and the recommendations of The SuDS Manual (CIRIA C753).

**Infiltration**

The applicant should submit Site Investigation Report and results, including Infiltration tests, and a plan showing the trial pits/soakaway test locations across the site. The report should address instances where groundwater, if any, was encountered during testing and its impact.

**Hardstanding/Parking Areas**

All proposed parking and hardstanding areas should not be discharged to the public sewer but must be infiltrated locally, via a specifically designed permeable paving/porous asphalt system, in accordance with the requirements of Section 8.2.4.9 of the DLRCC County Development Plan 2016-2022.
**Basement**

If basement carparking is provided, then all incidental run-off from the basement should be shown to drain to the foul system and not the surface water system.

**Run-off Factors**

Where applicants propose to use reduced run-off factors (or reduced impermeable contributing areas) for areas of their site that drain to SuDS measures these factors must be agreed with Drainage Planning, preferable during the pre-planning process.

It should be noted that standard surface water simulation software uses default Cv values of 0.84 for Winter and 0.75 for Summer. If the applicant proposes to use their own reduced run-off rates, then the default Cv values should be amended to a value of 1.0. Maintaining the default Cv values in conjunction with the applicants proposed rates reduces the run-off in simulations of rainfall events, giving inaccurate simulation results which may lead to under sizing of the drainage system and attenuation storage required.

**Hydrological Parameters**

Applicants must use site specific or local data in their Qbar, attenuation volume and surface water system design such as:

- SAAR
- Soil Type
- Rainfall Return Period Table (available from MET Eireann)
- Rainfall intensity
- Other hydrological parameters

**Discharge Rate**

Surface Water discharge from a development must be restricted to 2 l/s/ha or the calculated Qbar, whichever is greater. The Qbar should be calculated using the NET area drained and not the GROSS area of the site (i.e. red line boundary).

This discharge rate should be marked on the drainage drawing on the manhole in which the flow restricting device
if located. The manhole in which the flow restricting device is located should not have a bypass pipe and, a penstock and silt trap should be provided.

Flow restricting devices with an orifice of less than 50mm in diameter should be avoided. Where this is not possible then the applicant must submit a robust maintenance regime to ensure blockages are avoided, to the satisfaction of DLRCC.

Applicants are recommended to use the HR Wallingford UKSuDS Greenfield runoff rate estimation tool to estimate Qbar for their site:

**Attenuation**

If an attenuation system is proposed it should, where possible, not be located under the internal roads but under a communal open area or parking. Attenuation systems must be inline. The preference is for attenuation systems that allow for infiltration and/or treatment within the site, such as arched systems. The applicant should note that certain landscaping items, such as trees, may not be compatible with attenuation systems.

The applicant must provide fully dimensioned plans and sections of the attenuation storage system. All relevant inlet and outlet levels, dimensioned clearances between other utilities, and actual depths of cover to the system should be provided. Details of the proposed inlet and outlet manholes and arrangements to facilitate draw down and maintenance should also be provided.

Applicants are recommended to use the HR Wallingford UKSuDS Surface water storage volume estimation tool to estimate the attenuation storage required for their site:
https://www.uksuds.com/drainage-calculation-tools/surface-water-storage
Green Roof
The proposal must meet the requirements of Appendix 16: Green Roof Policy of the County Development Plan 2016-2022.

Interception and Treatment
The applicant must demonstrate that required interception and/or treatment of surface water run-off is achieved in accordance with GDSDS policy. To be in compliance with GDSDS Volume 2 Section 6.3.3 Table 6.3 Criterion 1, interception of the first 5-10mm is required. If interception of first 5-10mm can’t be achieved, then treatment of first 15mm is required. The SuDS Manual (C753) Chapter 24, and specifically Table 24.6, gives guidance regarding suitable interception mechanisms.

The applicant should note that interception/treatment must be provided for the entire site area as according to HR Wallingford (UKSuDS website):
“*A high level of Interception provided for some parts of the site is not to be considered as adequate compensation for a low degree of interception provision for other locations. Compliance is required for the whole site, or at least paved areas, for it to be considered effective.*”

Stormwater Audit
A Stage 1 Stormwater Audit should be submitted as part of the planning submission.
A Stage 2 audit is required post grant/prior to construction.
A Stage 3 audit is required post construction.
Further information regarding requirement can be found in the DLRCC Stormwater Audit Procedure addended to this document.

Maintenance
Applicants must submit a post-construction maintenance specification and schedule for the drainage system, including SuDS measures and attenuation system to DLRCC for approval. This maintenance specification and schedule must be included in the Safety File.
New Connections
The applicant must confirm the exact location of the public sewers (surface water or foul) to establish if a new connection is possible prior to submission of the planning application. Slit trenches may be required to determine the exact location and invert levels. The applicant may wish to consult with DLRCC Water Services if the connection is not self-evident.
Wastewater

Although not under the remit of Stormwater Management, the following is additional information that the applicant should be aware of:

*Irish Water Assets*

As foul sewers, combined sewer and watermains are Irish Water owned assets, applicants should contact Irish Water directly to discuss any issues regarding the impact of the proposed development on their assets.

Applicant are advised to consult Chapter 8 of the DLRCC County Development Plan 2016-2022, specifically Section 8.1.2.3 Policy EI 2 Irish Water Enabling Policies for further guidance.
APPENDIX A
Stormwater Audit Procedure
Rev2 September 2020
Stormwater Audit Procedure

A Stormwater Audit is an on-going review process consisting of three distinct stages:
Stage 1 – Pre application stage
Stage 2 – Detailed Construction Design stage
Stage 3 – Development completion stage

A Stormwater Audit is required for:
  - Development with a site area greater than 0.5ha
  - Strategic Housing Development (SHD)

A suitably qualified Chartered Engineer, from the list of DLRCC Water Services approved auditors, must be engaged by the applicant to conduct the audit. This engineer must be independent of the development design team and will report directly to DLRCC Water Services.

Any suitably qualified Chartered Engineer wishing to be added to the list of approved auditors should contact DLRCC Water Services.
Scope of Audit

The scope of the Stormwater Audit process is to ensure the drainage proposals for the subject development is assessed for conformity with the recommendations of the following:
- Greater Dublin Strategic Drainage Strategy (GDSDS)
- The SUDs Manual (CIRIA C753)
- DLRCC Green Roof Policy document (Sept 2020)
- DLRCC Stormwater Management Policy (Sept 2020)
- Greater Dublin Regional Code of Practice for Drainage Works
- BRE Digest 365

The Audit will focus on the SuDS management train and whether the applicant has carefully considered all suitable SUDS techniques and applied the most appropriate type(s) for the site that will ensure improved water quality, biodiversity, a reduction of run-off rates, volume storage and volume control.

The Audit must be site specific. The details and technical complexity of the Audit will vary depending on the scale and nature of the development proposed. However, in general, the Audit should include:
- A review of local data used in the assessment including Soil Type, SAAR, Rainfall data, run-off factors, and climate change factors.
- Verification that interception and/or treatment has been provided across the entire site.
- Verification of the appropriateness of the SuDS measures proposed.
- Recommendation of potential measures that should be considered.
- Identification of issues.

The Stormwater Audit Report should contain the following:
- Review of previous Audit and/or planning permission conditions (if applicable) for the proposed site.
- Audit appropriate to the Stage of proposed scheme.
- Recommendations to be taken to the next audit Stage (if applicable)
- Designers Response/Feedback form
- Sign off from both the Auditor and Designer
At each Stage in the Audit process, once the Audit has been completed by the independent auditor and responses to each issue raised have been provided by the Design team, the Audit report must then be forwarded to DLRCC for approval. The Audit is not considered complete until DLRCC have been given an opportunity review and approve the Audit report.

The Stormwater Audit shall be carried out, as mentioned previously, at three distinct stages of the site’s development:

**Stage 1 – Pre-Planning Stage**
A Stage 1 Audit shall be carried out of the applicant’s proposed Stormwater drainage proposals based on the drawings submitted for planning approval.

The Stage 1 Audit report must be submitted to DLRCC for approval prior to lodging the planning application. All recommendations shall be complied with, unless otherwise agreed in writing with DLRCC.

In certain circumstances, where there has been a constructive engagement with Municipal Services on SuDS proposals from an early stage of the design process, consideration may be given for waiving the requirement of a Stage 1 Audit.

**Stage 2 – Detailed Construction Design Stage**
A Stage 2 Audit shall be carried out at the Detailed Design stage, prior to commencement of construction, to check the detail of all the SUDS elements and to ensure that any necessary amendments have been included in the Construction drawings.

The Stage 2 Audit report must be submitted to DLRCC for approval prior to commencement of the works. All recommendations shall be complied with, unless otherwise agreed in writing with DLRCC.
It should be noted that any proposed changes to the approved scheme must be submitted to DLRCC for formal compliance.

Any planning conditions can only be discharged by the Planning Department.

**Stage 3 - Completion Stage**

A Stage 3 audit shall be carried out within 3 months of substantial occupation of the development to ensure the SuDS measures were installed and working as designed, no misconnections have taken place and that damage has not occurred to any of the stormwater or foul drainage infrastructure during construction.

A site visit must be accommodated by the developer to the Stormwater Audit team. This Stage may require the installation of flow monitors and/or dye testing. The extent of monitoring will depend on the findings of the Audit. A CCTV survey shall be carried out of all stormwater pipes and foul pipes and the survey and report forwarded to DLRCC.

The Stage 3 Audit report must be submitted to DLRCC for approval. All recommendations shall be carried out by the developer, unless otherwise agreed in writing with DLRCC.

It should be noted that any proposed changes to the approved scheme must be submitted to DLRCC for formal compliance. Any planning conditions can only be discharged by the Planning Department.