Lancashire County Council

Sustainable Drainage Systems (SuDS)

Pro-Forma

This Pro-forma is endorsed by the North West Regional Flood and Coastal Committee (RFCC), including representatives from Lancashire County Council, as the Lead Local Flood Authority and Highway Authority, and by United Utilities and the Environment Agency

Lancashire County Council
PO Box 100, County Hall, Preston, PR1 0LD

When to use this pro-forma

The pro-forma may be a requirement of Local Planning Policy or the planning validation checklist for any planning application for major development.

The Lead Local Flood Authority expect the pro-forma to be submitted with all planning applications for major development with surface water drainage.

It supports applicants in summarising and confirming how surface water from a development will be managed sustainably under current and future conditions.

Your Local Planning Authority may have their own version of the pro-forma within policy, supplementary planning documents or validation checklists. Where such lists include alternative or additional requirements, both sets should be adhered to.

Your sustainable drainage system should be designed in accordance with **CIRIA The SuDS Manual C753** and any necessary adoption standards.

How to complete the pro-forma

Blue Box	Instructs or asks you to provide information
Grey Box	States the evidence required which you will need to submit
White Box	These are the boxes the applicant needs to complete in full

1. Complete ALL white boxes

2. Submit this pro-forma to the Local Planning Authority, along with:

- Sustainable Drainage Strategy
- Site Specific Flood Risk Assessment (if required)
- Minimum supporting evidence, as indicated in grey boxes of this pro-forma.

Guidance to support you

The pro-forma should be completed in conjunction with ‘Completing your SuDS Pro Forma Guide', found on our website.

The pro-forma can be completed using freely available tools such as **Tools for Sustainable Drainage Systems** or appropriate industry standard surface water management design software.

Section 1. Your Application and Development Details

a) Planning Application

Planning Application Reference *(if available)*	3/2021/1134
Select the type of planning application you will be submitting	Pre-application ☐ Outline ☐ Full ☒ Hybrid ☐ Reserved matters ☐

b) Development Site

Developer(s) Name	Barratt Homes Manchester
Consultant(s) Name	Barratt Homes Manchester
Development Address *(including postcode)*	Land east of Chipping Lane, Longridge, PR3 2NA
Development Grid Reference *(Eastings/Northings)*	360321; 437929

Total Development Site Area (Ha)	14.41Ha
Contributing Area (Ha) of Development ***Note:*** *Consideration should be given to manage surface water from both impermeable and permeable surfaces (including gardens and verges) likely to enter the drainage system.*	10.52Ha

Development Type		**State Proposed Number of Units**
Greenfield Site *Site is wholly undeveloped, and a new drainage system will be installed*	☒	322
Previously Developed / Brownfield Site *Site is already developed, and the entirety of the existing surface water drainage system will be used to serve the new development (evidence must be provided to prove existing surface water drainage system is reusable)*	☐	Click or tap here to enter text.

c) Details about Flood Risk and Sustainable Drainage Design

Please indicate the flood zone that your development is in. Select all that apply. *Based on the Flood Map for Planning and the relevant Local Authority Strategic Flood Risk Assessment (to identify Flood Zones 3a/3b).*	Flood Zone 1 ☒ Flood Zone 2 ☐ Flood Zone 3a ☐ Flood Zone 3b ☐
What is the surface water risk of the site? Select all that apply. *Based on the Risk of Surface Water Flooding Map.*	High ☐ Medium ☐ Low ☐ Very Low ☒

Have you submitted a Site-Specific Flood Risk Assessment (FRA)? *See separate guidance notes for clarification on when a FRA is required*	Yes ☒ No ☐
Have you submitted a Sustainable Drainage Strategy?	Yes ☒ No ☐
Select the minimum expected lifetime of development *(years)* *Refer to Planning Practice Guidance 'Flood Risk and Coastal Change' Paragraph 006*	100 years ☒ 75 years ☐ Other ☐

d) Multi-functional Benefits and Natural Flood Management

Select the benefits your sustainable drainage proposal will provide	Water quantity ☒ Water quality ☐ Amenity ☒ Biodiversity ☒
Summarise how your sustainable drainage system will provide the above benefits	Detention Basins will provide a betterment of flow and volumes within the existing watercourse. They will provide attractive basins within POS spaces. Where we will be able to plant a variety of species.

Does your sustainable drainage proposal provide multi-functional benefits via SuDS? *Refer to Paragraphs 055 and 059 of the Planning Practice Guidance*	Yes ☒ No ☐
Does your sustainable drainage proposal include measures to reduce the causes and impacts of flooding? *Refer to Paragraphs 059 and 063 of the Planning Practice Guidance*	Yes ☒ No ☐
Has the proposed sustainable drainage system been integrated with other aspects of the development such as open space or green infrastructure?	Yes ☒ No ☐

Do you propose to use natural flood management opportunities on your development? Select all that apply. *Refer to Paragraph 067 of the Planning Practice Guidance*	On-site ☐ Off-site ☐ No ☒
Have you assessed the impact of the proposed natural flood management within the site-specific flood risk assessment?	Yes ☒ No ☐ N/A ☐

Section 2: Impermeable Area and Existing Drainage

	Existing (E)	Proposed (P)	Change (P – E)
State Impermeable Area (Ha)	0	6.44	6.44
Evidence Required: Plans showing development layout, with existing and proposed impermeable areas.			☒

Are there existing sewers, watercourses, water bodies, flow paths, highway drains, soakaways, filter drains and/or other drainage features on the site?	Yes ☒ No ☐ Don't know ☐
Evidence Required: Plan(s) showing the existing site layout, to include all: • Natural catchments • Watercourses, both open and culverted • Water bodies – e.g. ponds, swales, wetlands etc. • Overland flow routes • Areas at risk of flooding from any source • Infiltration features – e.g. soakaways, filter drains, areas of sand/gravel etc. • Sewers, manholes and outfall locations (where known) • Highway drains, manholes and gullies (where known) Plans should be appropriately labelled with pipe sizes, dimensions and design levels	☒

Drainage Design ***Outline planning applications*** *should be able to demonstrate that a suitable drainage system is achievable.* ***All other type of planning application*** *should provide full details or reference to previous planning application where drainage details have been submitted or approved.*	
Select which design approach you are taking to manage water quantity *(refer to Section 3.3 of The SuDS Manual C753)* **Approach 1 – Volume control / Long Term Storage (Technical Standards S2/3, S4/5)** • *The attenuated runoff volume for the 1 in 100 year 6 hour event (plus climate change allowance) is limited to the greenfield runoff volume for the 1 in 100 year 6 hour event, with any additional runoff volume utilising long term storage and either infiltrated or released at 2 l/s/ha or less* • *The discharge rate for the critical duration 1 in 1 year event is restricted to the 1 in 1 year greenfield runoff rate* • *The discharge rate for the critical duration 1 in 100 year event (plus climate change allowance) is restricted to the 1 in 100 year greenfield runoff rate* **Approach 2 – Qbar (Technical Standards S6)** • *Justification has been provided that the provision of volume control/long term storage is not appropriate and an attenuation only approach is proposed. All events up to the*	☐ ☒

critical duration 1 in 100 year event (plus climate change allowance) are limited to Qbar (1 in 2 year greenfield rate) or 2 l/s/ha, whichever is the greater.	
Select the hydraulic method used in your calculations *Refer to Table 24.1 of The SuDS Manual*	FEH ReFH2 ☐ FEH Statistical Method ☒ Other (please state) ☐ Click or tap here to enter text.
Evidence Required: Plan(s) showing: • Existing flow routes, catchments, and flood risks • Modified flow routes, catchments, and flood risks • Contributing and impermeable areas • Current (if any) and proposed 'source control' and 'management train' locations of sustainable drainage components (C753 Chapter 7) • Details of drainage ownership • Details of exceedance routes (Technical Standards S9) • Topographic survey • Locations and number of existing and proposed discharge points ***Note:*** *Consideration should be given to manage surface water from both impermeable and permeable surfaces (including gardens and verges) likely to enter the drainage system.*	☒

Section 3: Peak Runoff RATES

Technical Standards S2, S3 and S6 (unless S1 applies)

Rainfall Event	Existing Rate (l/s)	Greenfield Rate (l/s)	Proposed Rate (l/s)
Qbar *(Approach 2)*	120.2	120.2	120.2
1 in 1 Year Event *(Approach 1)*	Click or tap here to enter text.	Click or tap here to enter text.	Click or tap here to enter text.
1 in 30 Year Event	Click or tap here to enter text.	Click or tap here to enter text.	Click or tap here to enter text.
1 in 100 Year Event* *(Approach 1)*	Click or tap here to enter text.	Click or tap here to enter text.	Click or tap here to enter text.

** Total discharge at the 1 in 100 year rate should be restricted to the greenfield runoff volume for the 1 in 100 Year 6 hour event with additional volumes (long-term storage volume) released at a rate no greater than 2 l/s/ha where infiltration is not possible. Climate change allowance should only be applied to the proposed rate and not the existing or greenfield rate.*

Evidence Required: Methodology used to calculate peak runoff rate clearly stated and justified.	☒
Impermeable areas plan, supported by topographical survey confirming positive drainage.	☒
Hydraulic calculations and details of software used.	☒

Section 4: Discharge VOLUME

Technical Standards S4, S5 and S6 (unless S1 applies)

Rainfall Event	Existing Volume (m^3)	Greenfield Volume (m^3)	Proposed Volume (m^3)
1 in 100 Year 6 Hour Event *(Approach 1)*	Click or tap here to enter text.	Click or tap here to enter text.	Click or tap here to enter text.

Does the below statement apply to your development proposal? Long term storage is not achievable on this site and, in accordance with S6 of the Non Statutory Technical Standards for SuDS, the surface water discharge rates for events up to and including the 1 in 100 year critical event are limited to Qbar (Approach 2)	Yes ☐ No ☐
Evidence Required: Approach to managing the quantity of surface water leaving the site clearly stated and justified	☐
Methodology used to calculate discharge volume clearly stated and justified.	☐
Hydraulic calculations and details of software used.	☐

Section 5: Storage

Technical Standards S7 and S8

State climate change allowance used (%) *Allowances must be applied when designing SuDS for both the 3.3% (1 in 30-year) and 1% (1 in 100-year) annual exceedance probability events*	3.3% AEP	0
	1% AEP	30
Have you applied a 10% urban creep allowance in accordance with British Standard BS 8582 / 2013.	Yes ☒ No ☐ N/A ☐	
Evidence Required: State / used in appropriate industry standard surface water management design software.	☒	

State storage volume required (m^3) *(excluding non-void spaces)* *Must include an allowance for climate change and urban creep. Must be consistent with the contributing area used to calculate the runoff rates and volumes.*	1265 for 1 in 100 year (+CC) return period
Have you incorporated interception into your design? *(Refer to Chapter 24 of The SuDS Manual C753)* *Where possible, infiltration or other techniques are to be used to try and achieve zero discharge to receiving waters for rainfall depths up to 5mm.*	Yes ☐ No ☒
Evidence Required: Drainage plans showing location of attenuation and all flow control devices and supporting calculations.	☒

Summarise how storage will be provided for the 1 in 30 year event on site (plus climate change and urban creep allowances). *Storage must be designed to ensure that no flooding occurs onsite in a 1 in 30 year event (plus climate change and urban creep allowances) except in areas designated to hold and/or convey water as part of the design **and** no flooding occurs offsite in a 1 in 100 year (plus climate change and urban creep allowances) event.*	Within oversized storage pipes and manholes
Summarise how storage will be provided for the 1 in 100 year event on site (plus climate change and urban creep allowances). *Where storage above the 1 in 30 year event (plus climate change and urban creep allowances) is provided in designated areas designed to accommodate excess surface water volumes, plans showing storage locations and surface water depths and supported by calculations used in appropriate industry standard surface water management design software. It is important to run a range of duration events to ensure the worst case condition is found for each drainage element on the site*	Within overflow detention basins

Evidence Required: Plans showing size and location of storage and supporting calculations. Where there is controlled flooding, extents and depths must be indicated.	☒

Section 6: Water Quality Protection

Contaminated surface water run-off can have negative impacts on the quality of receiving water bodies. The potential level of contamination will influence final the design of an appropriate treatment train as part of your sustainable drainage system.

Is the proposal site known to be or potentially contaminated?	Yes ☐ No ☒
If the site is contaminated, it should be demonstrated that the sustainable drainage system will not increase the risk of pollution to controlled waters though the mobilisation of contaminants and/or creation of new pollution pathways.	

Confirm the *Pollution Hazard Level* of the proposed development - Select ALL that apply

Refer to Pollution Hazard Indices for different Land Use Classifications in Table 26.2 of The SuDS Manual C753 for further guidance.

Pollution Hazard Level *Tick ALL that apply*		**Surface water run-off from the proposed development will drain from:**
VERY LOW	☒	• Residential roofs
LOW	☒	• Other roofs (typically commercial/industrial roofs) • Individual property driveways, residential car parks, low traffic roads (e.g. cul de sacs, home-zones and general access roads) • Non-residential car parking with infrequent change (e.g. schools, offices) i.e. < 300 traffic movements/day
MEDIUM	☐	• Commercial yard and delivery areas • Non-residential car parking with frequent change (e.g. hospitals, retail) • All roads except low traffic roads and trunk roads/motorways[1]
HIGH	☐	• Sites with heavy pollution (e.g. haulage yards, lorry parks, highly frequented lorry approaches to industrial estates, waste sites) • Sites where chemicals and fuels (other than domestic fuel oil) are to be delivered, handled, stored, used or manufactured • Industrial sites • Trunk roads and motorways[1]

If the development's Pollution Hazard Level is 'Very Low' or 'Low', has the sustainable drainage design been risk assessed and appropriate mitigation measures included?	Yes ☒ No ☐
• *If the proposed development has a very low or low polluting potential, you should design your sustainable drainage system to include an appropriate treatment train in accordance with The SuDS Manual C753*	

If the development's Pollution Hazard Level is 'Medium' or 'High', is the application supported by a detailed water quality risk assessment?	Yes ☐ No ☐

[1] Motorways and trunk roads should follow the guidance and risk assessment process set out in Highways Agency (2009).

	N/A ☒
• *If the proposed development has a high polluting potential, a detailed risk assessment <u>will</u> be required to identify an appropriate SuDS treatment train and ensure compliance with Paragraph 174 of the National Planning Policy Framework.* • *If the proposed development has a medium polluting potential, a detailed risk assessment <u>may</u> be required depending on the nature, scale and location of the development.*	

Has pre-application advice on water quality been obtained from the Environment Agency?	Yes ☐ No ☒
If YES, please provide details:	Click or tap here to enter text.

Section 7: Details of your sustainable drainage system

a) Function of your Sustainable Drainage System

Do your proposals store rainwater for later use (as a resource) using rainwater harvesting?	Yes ☐ No ☒
Evidence Required: Please provide a brief sentence in the adjacent white box to describe how this function has been achieved.	Click or tap here to enter text.

Do your proposals promote source control to manage rainfall close to where it falls? e.g. promoting natural losses through soakage, infiltration and evapotranspiration	Yes ☐ No ☒
Evidence Required: Please provide a brief sentence in the adjacent white box to describe how this function has been achieved.	Click or tap here to enter text.

b) Hierarchy of Drainage Options – Planning Practice Guidance

Method of discharge are set out in order of priority. Generally, the aim should be to discharge surface run off as high up the following hierarchy of drainage options as reasonably practicable, using as many options as possible as high up the hierarchy as you can.

i) Into the ground (infiltration)

Proposed method of surface water discharge		**Is this proposed?**	
Hierarchy Level 1: Into the ground (via infiltration)		Yes ☐ No ☒	
For full / reserved matters applications or outline applications where layout is <u>not</u> a reserved matter			
If YES – Evidence Required		**If NO – Evidence Required**	
☐	On-site ground investigation to demonstrate that the ground <u>is</u> free draining. Including infiltration test results in accordance with the methodology within BRE 365 (2016)	☒	On-site ground investigation to demonstrate that the ground <u>is not</u> free draining. Including infiltration test results in accordance with the methodology within BRE 365 (2016)
	AND		***OR***
☐	Completed Infiltration Checklist from The SuDS Manual (C753) Appendix B *An editable version of this form is available on [Susdrain website.]*	☐	Evidence to confirm that infiltration to ground would result in a risk of deterioration to ground water quality (e.g. a ground water source protection zone).
			OR
		☐	Geotechnical advice from a competent person* which determines that infiltration of

			water to ground would pose an unacceptable risk of geohazards to the site and/or local area. **Note: Competent person may include a Chartered Engineer, Chartered Geologists, Registered Ground Engineering Professionals (RoGEP).*
For outline applications where layout is a reserved matter or <u>where an applicant is unable to access a site</u> to conduct site investigations			
If YES – Evidence Required		**If NO – Evidence Required**	
☐	Thorough desk-based ground investigation e.g. a SuDS GeoReport or similar, making the best use of available resources including historical borehole logs and data available from the British Geological Survey ***AND*** ‘Plan B’ sustainable drainage plan and statement of approach with an alternative discharge method, in case infiltration proposals are proven not feasible upon further site-specific ground investigation e.g. to consider seasonal variations to groundwater.	☐	Thorough desk-based ground investigation e.g. a SuDS GeoReport or similar, making the best use of available resources including historical borehole logs and data available from the British Geological Survey

ii) To a surface water body

Proposed method of surface water discharge		**Is this proposed?**	
Hierarchy Level 2: To a surface water body *(select type)* ***NOTE:** Consent from LLFA or Permit from Environment Agency may be required – refer to guidance*		Yes ☒ No ☐ N/A ☐	
		Main River ☐ Ordinary Watercourse ☒ Canal ☐ Other water body ☐	
If YES - Evidence Required		**If NO – Evidence Required**	
☒	Surface water body / watercourse survey and report ***AND*** *(If the waterbody is off site or privately owned e.g. canal)* – evidence of an agreement with the appropriate landowner(s) to connect to the waterbody, **OR**, for outline applications, a 'plan b' sustainable drainage plan and statement of approach with an alternative discharge point	☐ ☐	Plan showing nearby watercourses and waterbodies ***AND*** Statement providing justification in your Sustainable Drainage Strategy ***Note:** Where discharge of any element in the hierarchy is discounted, an applicant should provide justification. If the reasoning for discounting a discharge of surface water to watercourse relates to issues associated with third party land or the securing of any other required consent, it may be necessary*

			for the applicant to provide evidence to the local planning authority to support their proposed approach.

iii) To a surface water sewer or highway drain

Proposed method of surface water discharge		**Is this proposed?**	
Hierarchy Level 3: To a surface water sewer or highway drain *(select type)*		Yes ☐ No ☒ N/A ☐	
		Surface water sewer ☐ Highway drain ☐	
If YES - Evidence Required		**If NO – Evidence Required**	
☐	Written correspondence from the Water and Sewerage Company / Highway Authority regarding proposed connection. ***AND*** *(If the sewer is off site)* – evidence of an agreement with the appropriate landowner(s) to connect to the sewer, ***OR***, for outline applications, a 'plan b' sustainable drainage plan and statement of approach with an alternative discharge point	☒ ☒	Plan showing nearby sewers and highway drains ***AND*** Statement providing justification in your Sustainable Drainage Strategy

vi) To a Combined Sewer

Proposed method of surface water discharge		**Is this proposed?**
Hierarchy Level 4: To combined sewer		Yes ☐ No ☒ N/A ☐
If YES - Evidence Required		**If NO – Evidence Required**
☐	Written correspondence from the Water and Sewerage Company ***AND*** *(If the sewer is off site)* – evidence of an agreement with the appropriate landowner(s) to connect to the sewer	***N/A***

c) Proposed SuDS Component Types

	Tick ALL that apply					
Within property boundary	☐ Rainwater harvesting	☐ Green/ blue roofs	☐ Pervious pavements *[**Type:** A ☐ B ☐ C ☐]*	☐ Soakaway	☐ Bio retention systems	☐ Water Butt

	Tick ALL that apply				
Within development site boundary *(not property)*	☐ Wetlands	☐ Infiltration basins	☐ Rain gardens	☐ Bio retention system	☒ Detention basins
	☐ Retention ponds	☐ Swales	☐ Filter strips, channels and rills	☐ Infiltration trenches	☐ Other (state below)
	If 'Other' please state: Click or tap here to enter text.				

Off site *(not within the boundary of the proposed development)*	**Please state:** Click or tap here to enter text.

I confirm that the above selected components have been designed in accordance with The SuDS Manual (C753).	I confirm ☒
I confirm that the management of flows resulting from rainfall in excess of a 1 in 100 year (plus climate change and urban creep allowances) rainfall event, and their exceedance route(s), has been fully considered in order to minimise the risks to people, property (new and existing) and infrastructure.	I confirm ☒

Section 8: Operation and Maintenance

Technical Standard S12 and National Planning Policy Framework

The applicant is responsible to ensure that ALL components selected in Section 7 can be maintained for the design life of the development. This information is required so the Local Planning Authority can ensure the maintenance and management of the sustainable drainage system. The Local Planning Authority will discuss how this will be secured (e.g. via planning condition or planning obligation).

Will any part of your sustainable drainage system use monitoring and operation technology?	Yes ☐ No ☒
Evidence Required: Please state what technology you propose to use and where we can find more details in your documents.	Click or tap here to enter text.

	Information Provided?
Management Plan	Yes ☒ No ☐
Evidence Required: **Plan/ drawing provided to show the position of the different SuDS components with:** • Key included to identify any of the adopting bodies that you will be offering your sustainable drainage components for adoption *(relates to maintenance and management arrangements below).* • Plan/ drawing to identify any areas where certain activities are prohibited, detailing reasons why. **Action plan for accidental pollutant spillages.**	☒ ☒

	Information Provided?
Maintenance Schedule	Yes ☒ No ☐
Evidence Required: A copy of the maintenance schedule including both: • **Proactive and preventative maintenance** Detailing regular, occasional and remedial maintenance activities including recommendations for inspection and monitoring. This should include recommended frequencies, advice on plant/ machinery required and an explanation of the objectives for the maintenance proposed and potential implications of not meeting them. • **Reactive and corrective maintenance** (e.g. product repair and replacement). Including advice on excavations, or similar works, in locations that could affect the SuDS components/ adjacent structures.	☒

	Information Provided?
Maintenance and Management Arrangements	Yes ☒ No ☐
Evidence Required: Evidence of formal agreement with the party responsible for undertaking maintenance. Please select any of the adopting bodies that you will be offering your sustainable drainage components for adoption. Tick all that apply. ☐ **Water and Sewerage Company** *Section 104 agreement (Water Industry Act 1991)* ☐ **Highway Authority** *Section 278/38 agreement (Highways Act 1980)* ☐ **Local Authority Public Open Space** *[Refer to Local Authority Policy]* Please select the arrangement(s) for all non-adopted sustainable drainage components. Tick all that apply. ☒ **Management Company** ☐ **Property Owner** *(for SuDS components within property boundary only)* ☐ **Other** (please state) Click or tap here to enter text.	☒

Your Evidence

Please list any relevant documents and or drawing numbers (including revision reference) to support your answers in this pro-forma.
Existing Topographical Survey showing zero existing impermeable areas SDL 2062-1 Site Survey Sheet 1, Rev D SDL 2062-2 Site Survey Sheet 2, Rev C SDL 2062-3 Site Survey Sheet 3, Rev C Proposed Impermeable area plan 459/ED/04 Impermeable Areas Plan, Rev B 459/ED/103 Impermeable Areas Plan, Rev B Existing site layout 459/ED/169 Existing Drainage Constraints, Rev – 459/ED/170 Existing Overland Flow Routes, Rev – Proposed site layout 459/ED/171 Modified Overland Flow Routes, Rev – 459/ED/34 Flood Routing Plan, Rev A 459/ED/115 Flood Routing Plan, Rev B 459/ED/02 Engineering Layout, Rev 24 459/ED/105 Section 104 Drainage Layout, Rev L Drainage Strategy Report on Drainage Strategy Phase 1, Rev 1 Report on Drainage Strategy Phases 2 & 3, Rev C

Declaration and Submission

This pro-forma has been completed using evidence from information which has been submitted with the planning application.

The information submitted in the Sustainable Drainage Strategy and site-specific Flood Risk Assessment (FRA), where submitted, is proportionate to the site conditions, flood risks and magnitude of development and I agree that this information can be used as evidence to this sustainable drainage approach.

Submitter Details

Completed by	Corinne Doyle		
Authorised by	Barratt Homes Manchester		
Date *(dd/mm/yyyy)*	07.09.23	**Company Name**	Barratt Homes Manchester

Client Details

Name	N/A	**Company Name**	Barratt Homes Manchester