## NORTH WEST SuDS PRO-FORMA

This pro-forma is a requirement for any planning application for major development<sup>1</sup>.

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

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

#### **HOW TO COMPLETE**

Blue Box	Instruction/ Question
Orange Box	Evidence Required
White Box	To be completed by Developer / Consultant

- 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 orange boxes of this pro-forma.

#### **GUIDANCE TO SUPPORT YOU**

The pro-forma should be completed in conjunction with 'Completing your SuDS Pro Forma Guide.'

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

<sup>&</sup>lt;sup>1</sup> as defined in Section 2 of <u>Statutory Instrument 2015 No. 595</u> or on sites of 0.5 hectares in Critical Drainage Areas.

## SECTION 1. APPLICATION & DEVELOPMENT DETAILS

Planning Application Reference (if available)		
State type of planning application i.e. Pre-application, Outline, Full, Hybrid, Reserved Matters* *Information only required if drainage is to be considered as part of reserved matters application	FULL	
Developer(s) Name:	Lancashire Cou	nty Council
Consultant(s) Name:	BDP	
Development Address (including postcode)	Woodcock Esta Hall, Farington,	-
Development Grid Reference (Eastings/Northings)		
Total Development Site Area (Ha)	13.66	
Drained Area (Ha)* of Development	11.35 (Greenfie 3.925 (imperme	-
Please indicate the flood zone that your development is in. Tick all that apply.  Based on the Environment Agency Flood Map for Planning and the relevant Local Authority Strategic Flood Risk Assessment (to identify Flood Zones 3a/3b).	Flo Flo	ood Zone 1 🗵 ood Zone 2 🗵 od Zone 3a 🗆 od Zone 3b 🗆
What is the surface water risk of the site? Tick all that apply.  Based on the Environment Agency Surface Water Flood Map.		High □ Medium ⊠ 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 □
Does your drainage proposal provide multi-functional benefits via SuDS?	Yes ⊠	No □
Expected Lifetime of Development (years) Refer to Planning Practice Guidance "Flood Risk and Coastal Change" Paragraph 026	100	
Development Type:		State Proposed Number of Units
Greenfield Site  • Site is wholly undeveloped, and a new drainage system will be installed	$\boxtimes$	
Site is wholly undeveloped, and a new drainage system will be installed  Previously Developed/ Brownfield Site		
<ul> <li>Site is already developed, and the <u>entirety</u> 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); <u>OR</u></li> </ul>		
<ul> <li>Where records of the previously developed system are not available so that the hydraulic characteristics of the system cannot be determined or where the drainage system is not in reasonable working order i.e. broken, blocked or no longer operational for other reasons, then one of the approaches outlined in Section 24.5 of The SuDS Manual (C753) should be adopted.</li> </ul>		
Please list any relevant document and or drawing numbers (including revision reference) to support your answers to Section 1.	P3000932-LCC- C-1000 P1 'Floo Assessment'	

P3000932-LCC-BDP-XX-XX-RP-
P3000932-LCC-BDP-XX-XX-RP- C-1001 P1 'Sustainable
Drainage Strategy'

#### SECTION 2: IMPERMEABLE AREA AND EXISTING DRAINAGE

	Existing €	Proposed (P)	Change (P – E)
State Impermeable Area (Ha)	0	3.925	3.925
Evidence Required: Plans showing development layout of site with existing and proposed impermeable areas.			

Are there existing sewers, watercourses, water bodies, highway drains, soakaways or filter drains on the site?	Yes ⊠ No □ Don't Know □
Evidence Required:	
Plan(s) showing existing layout to include all:	$\boxtimes$
Watercourses, open and culverted	
Water bodies – ponds, swales etc.	
Sewers, including manholes	
Highway drains, include manholes, gullies etc.	
Infiltration features - soakaways, filter drains etc.	

#### **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 SuDS Manual) 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 The discharge rate for the critical duration 1 in 1 year event is restricted to the 1 in 1 year greenfield runoff 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) X 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 greater. **Evidence Required:** Plans showing: $\boxtimes$ Existing flow routes and flood risks Modified flow routes 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.

P3000932-LCC-BDP-XX-XX-RP-C-1000 P1 'Flood Risk Assessment' Please list any relevant document and or drawing numbers (including revision reference) to support your answers to Section 2. P3000932-LCC-BDP-XX-XX-RP-C-1001 P1 'Sustainable Drainage Strategy'

## SECTION 3: PEAK RUNOFF RATES - TECHNICAL STANDARDS S2, S3 AND S6 (UNLESS S1 APPLIES)

Rainfall Event	Existing Rate (I/s)	Greenfield Rate (I/s)	Proposed Rate (I/s)  Previously developed sites - In line with S3 should be equivalent to Greenfield runoff rates – discuss with LLFA if this is not achievable pre-application	
<b>Qbar</b> (Approach 2)	81.9	81.9	81.9	
1 in 1 Year Event (Approach 1)				
1 in 30 Year Event				
1 in 100 Year Event* (Approach 1)				
* 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 I/s/ha where infiltration is not possible. The 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.		$\boxtimes$		
Hydraulic calculations and details of software used.		$\boxtimes$		
State the hydraulic method used in your calculations (Refer to Table 24.1 of The SuDS Manual)			IH 124	

State the hydraulic method used in your calculations (Refer to Table 24.1 of The SuDS Manual)	IH 124

P3000932-LCC-BDP-XX-XX-RP-Please list any relevant document and or drawing numbers (including revision C-1001 P1 'Sustainable reference) to support your answers to Section 3. Drainage Strategy'

# **SECTION 4:** DISCHARGE <u>VOLUME</u> – TECHNICAL STANDARDS S4, S5 AND S6 (UNLESS S1 APPLIES)

Rainfall Event	Existing Volume (m³)	Greenfield Volume (m³)	Proposed Volume (m³)
1 in 100 Year 6 Hour Event (Approach 1)		3,602	2,473
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.		$\boxtimes$	
Hydraulic calculations and details o	f software used.		$\boxtimes$

Place list any relevant decument and or drawing numbers (including rev	P3000932-LCC-BDP-XX-XX-	BDP-XX-XX-
Please list any relevant document and or drawing numbers (including rev	RP-C-1001 P1 'Sustainable	Sustainable
to support your answers to Section 4.	Drainage Strategy'	gy'

## SECTION 5: STORAGE - TECHNICAL STANDARDS S7 AND S8

State climate change allowance used (%)	40%
State housing density (houses per ha)	N/A
State urban creep allowance used (%)	Not technically required due to type of development however, allowance of 5% included for future expansion of car park areas.
Evidence Required: State / used in appropriate industry standard surface water management design software.	
State storage volume required (m³) (excluding non-void spaces)	1.450

State storage volume required (m³) (excluding non-void spaces)  Must include an allowance for climate change and urban creep	1,450
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 1 in 30 year event on site.  Storage must be designed to ensure that at no flooding occurs onsite in a 1 in 30 year event except in designed areas and no flooding occurs offsite in a 1 in 100 year (plus climate change allowance) event.	Storage will be provided within sub-base below permeable pavements, filter trenches, piped systems and the SW attenuation pond/basin. No surface flooding occurs in the 30 year event.
Summarise how storage will be provided for 1 in 100 year (plus climate change) event on site.  Where storage above the 1 in 30 year rainfall event 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	Primary storage provided within the attenuation pond/basin. Some flooding occurs around the County Cricket pitch during the 30 minute 100 year +40% event (23m³), however this will be safely retained on the surface before draining back into the system.
Evidence Required: Plans showing size and location of storage and supporting calculations. Where there is controlled flooding, extents and depths must be indicated.	$\boxtimes$

Diagon list any valouant document and ay drawing numbers (including vavision	P3000932-LCC-BDP-XX-XX-RP-
reterence) to support your answers to Section 5.	C-1001 P1 'Sustainable
	Drainage Strategy'

#### 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 proposa	il 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 P	ollution Haz	ard Level of the proposed development - Tick ALL that apply				
Refer to Pollut guidance.	ion Hazard I	ndices for different Land Use Classifications in Table 26.2 of Th	e SuDS N	Aanual C753 j	for further	
Pollution Haz Tick <u>ALL</u> the		Surface water run-off from the proposed development will	drain fro	om:		
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					
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 motorways¹						
· ·		ition Hazard Level is 'Very Low' or 'Low', has the sustainable assessed and appropriate mitigation measures included?		Yes ⊠	No□	
	•	ment has a very low or low polluting potential, you should design propriate treatment train in accordance with The SuDS Manual (C	•	tainable drain	age	
		tion Hazard Level is 'Medium' or 'High', is the application atter quality risk assessment?		Yes □	No□	
<ul> <li>If the proposed development has a high polluting potential, a detailed risk assessment will be required to identify an appropriate SuDS treatment train and ensure compliance with Paragraph 170 of the National Planning Policy Framework.</li> <li>If the proposed development has a medium polluting potential, a detailed risk assessment may be required depending on the nature, scale and location of the development.</li> </ul>						
Has pre-application advice on water quality been obtained from the Environment Agency? Yes □ No⊠						
If YES, provide details:						
		cument and or drawing numbers (including revision ranswers to Section 6.		932-LCC-BDP- P1 'Sustainal		

<sup>&</sup>lt;sup>2</sup> Motorways and trunk roads should follow the guidance and risk assessment process set out in Highways Agency (2009).

#### 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)?	Yes □ No ⊠
Evidence Required:	
Please provide a brief sentence in the adjacent white box to describe how this function has	
been achieved.	

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 ⊠
<b>Evidence Required:</b> Please provide a brief sentence in the adjacent white box to describe how this function has been achieved.	Where possible SuDS measures have been employed to drain impermeable/ permeable areas of the site. However, infiltration is very poor and cannot be relied up.

reference) to support your answers to section 7a.	Drainage Strategy'
reference) to support your answers to Section 7a.	C-1001 P1 Sustamable
Please list any relevant document and or drawing numbers (including revision	C-1001 P1 'Sustainable
Disease list any valouent decompant and ay droving pumphous (including variety	P3000932-LCC-BDP-XX-XX-RP-

## b) Hierarchy of Drainage Options – Planning Practice Guidance

The proposed method of discharge are set out within 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.

Proposed method of surface water discharge			Is this proposed?	
Hierarch	y Level 1: Into the ground (via infiltration		Yes □ No ⊠	
	If YES - Evidence Required			If NO — Evidence Required  Tick <u>ALL</u> that apply
	Completed Infiltration Checklist from The SuDS Manual (C753) Appendix B     An editable version of this form is available on SusDrain website.      B. British Geological Survey (BGS)		A. B.	Site investigation to demonstrate that the ground is not free draining.  Test results to be provided in accordance with:  • The methodology within BRE 365 (2016), <u>OR</u> • Falling head permeability tests BS EN ISO 22282-2: 2012  NOTE: where an applicant is unable to access a site to
_	Infiltration SuDS Map	_		undertake testing, e.g. where unable to access a site for an outline application, they can submit a <u>SuDS GeoReport</u> or similar.
	C. Infiltration testing to BRE 365 (2016) or falling head permeability tests to BS EN ISO 2228-2: 2012 (optional for outline)		C.	Evidence to confirm that infiltration to ground would result in a risk of deterioration to ground water quality.
	'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.		D.	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.

	e.g. to consider seasonal variations to groundwater.		*Note: Competent person may include a Chartered Engineer, Chartered Geologists, Registered Ground Engineering Professionals (RoGEP).				
Proposed	d method of surface water discharge		Is this proposed?				
Hierarchy Level 2: To a surface water body (select ty		type)		Yes ⊠ No □ N/A □			
	NOTE: Consent from LLFA or Permit from Environment Agency   ☐ Canal						
may be re	equired – refer to guidance	l		☑ Ordinary watercours			
	If YES - Evidence Required			If NO – Evidence Tick <u>ALL</u> that	•		
	Surface water body / watercourse survey	$\boxtimes$	Plan sho	owing nearby watercourses			
	and report		AND				
		$\boxtimes$	Stateme	ent providing justification in	your Sustainable Drainage Strategy		
			Note: W	/here third party land is cite	d as a barrier, you should provide		
			visibility	of discussions held to date	with the riparian landowner of the		
			waterbo	oay.			
					. 12		
Proposed	d method of surface water discharge			is tr	nis proposed?		
Hierarchy Level 3: To a surface water sewer or highway drain			Yes □	No ⊠ N/A □			
	(select type)  Surface water sewer   Highway drain						
	If YES - Evidence Required			If NO — Evidence Required  Tick <u>ALL</u> that apply			
	Written correspondence from Water and	$\boxtimes$	Plan sho	owing nearby sewers and hi	ghway drains		
	Sewerage Company/ Highway Authority regarding proposed connection.		AND				
		$\boxtimes$	Stateme	ent providing justification in	your Sustainable Drainage Strategy		
		l					
Proposed	d method of surface water discharge			ls th	nis proposed?		
Hierarch	y Level 4: To combined sewer			Yes □	No ⊠ N/A □		
		ı					
	If YES - Evidence Required		If NO – Evidence Required				
	Written correspondence from Water and Sewerage Company	N/A					
Please lis	st any relevant document and or drawin	g numl	pers (inc	luding revision	P3000932-LCC-BDP-XX-XX-RP-		
	e) to support your answers to Section 7	_			C-1001 P1 'Sustainable		
					Drainage Strategy'		

## c) Proposed SuDS Component Types

	Tick ALL that apply					
Within property boundary	☐ Rainwater harvesting	☐ Green/ blue roofs	□ Pervious pavements     ☐ Type: A □ B □ C □     ☐     ☐	□ Soaka	away	☐ Bio retention systems
			Tick ALL that apply			
	☐ Infiltration system	า	TICK ALL CHAC apply			
Within	[ <b>Type:</b> $\square$ Surface le		⊠ Filter strips	⊠ Filter	drains	☐ Swales
development site boundary	☐ Bio retention system	☐ Detention basins	<ul><li>☑ Ponds and wetlands</li><li>☐ Attenuation tanks/ Oversized pipes</li></ul>		☐ Other (state below)	
(not property)	If 'Other' please stat	te:				
Off sites	Diamas states					
Off site (not within the boundary of the proposed development)	Please state:					
I confirm that the above selected components have been designed in accordance with The SuDS Manual (C753). □ Confirm □						
I confirm that the management of flows resulting from rainfall in excess of a 1 in 100 year plus climate change 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.						
Please list any relev reference) to suppo		or drawing numbers Section 7c.	s (including revision			2-LCC-BDP-XX-XX-RP- 1 'Sustainable Strategy'

# **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).

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

	Information Provided?
Maintenance Schedule	Yes ⊠ No □
Evidence Required:	
A copy of the maintenance schedule including:	$\boxtimes$
1. 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.	
2. 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 ⊠
<b>Evidence Required:</b> 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)	

Please list any relevant document and or drawing numbers (including revision	
reference) to support your answers to Section 8.	

#### **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	Andy James	Email Address	andy.james.t3@bdp.com	
		Telephone Number(s)	07854263010	
Signed off by	Phil Simcock	Accreditation(s) and/or Qualification(s) of Signatory	BSc (Hons), MSc	
Date (dd/mm/yyyy)	12/01/22	Company	BDP	

Client Details			
Name		Company	Lancashire County Council