Newbridge Road
Billingshurst

Water Neutrality
Technical Note
S73 Water Credit Option

Issue 1

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REVISIONS

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1	**S73 Application - Water Credit Option**	**13/03/2025**

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1.0 INTRODUCTION

This technical note has been prepared to support the S73 application in connection with the proposed amendments to the Water Neutrality strategy consented under Outline Planning Application no. DC/22/0518.

The consented Water Neutrality Assessment (WNA), ref: 784-B033993 P04, dated July 2022 (copy in Appendix 2), proposes that the entire water deficit calculated for the development, i.e. all potable & non-potable water demands, based on B1 class site occupancy at 262 people, would be met by rainwater harvesting.

Rainwater harvesting systems are predominantly used to provide grey water for toilet flushing, they are rarely used to provide potable water due to the significant health and safety risks posed by the potential variability of airborne particulates and the inconsistency of contaminants within the collected rainwater which makes treatment to potable standards extremely difficult.

On this basis we are seeking to apply for Water Credits from the emerging Water Credits Scheme as an alternative to the above for the development's potable water use. Rainwater harvesting would continue to be adopted to provide grey water for WC flushing.

We are also seeking to amend the design occupancy figures used within the water demand calculations to reflect the size of buildings now proposed and their expected use.

2.0 PROPOSED AMENDMENTS TO THE WATER NEUTRALITY STRATEGY

General

The key amendments proposed to the water neutrality strategy from the approach taken within the consented WNA (ref: 784-B033993 P04, dated July 2022) submitted with the Outline Planning Application No. DC/22/0518, are as follows:

No. of Units

Consented: 14no. speculative B1/B2/B8 units.
Proposed: 9no. speculative B2/B8 units.

Occupancies

Consented: 262 based on OffPAT employee density guidance for B1 usage (B1 usage being the worst case).
Proposed: 123 based on HCA Employment Density Guide for B2 usage (B2 usage being the worst case).

Estimated Water Consumptions [(1)]

Consented: Calculations based on a site occupancy of 262 (derived as above)
Proposed: Calculations based on a site occupancy of 123 (derived as above)

Water Consumption Met by Rainwater Harvesting

Consented: The potable & non-potable water demands for the site would be met through rainwater harvesting with 35 days storage.
Proposed: The potable water demand for site would be met by mains cold water supplies using Water Credit Scheme. 75% of the non-potable water demand for the site would be met through rainwater harvesting with 35 days storage.

Summary of Proposed Amendments

	Previously	Proposed
No. Units	14	9
Use Class for Water Consumption Calcs	B1	B2/B8/E(g)(iii)
GIA (m^2)	4,627	4,627
Occupants	262	123
Est. Water Consumption Rate (l/p/day) [(1)]	24.18	23.85
• Non-Potable Component (l/p/day)	n/a	13.50
• Potable Component (l/p/day)	n/a	10.35
Est. Daily Water Consumption (l/day) [(1)]	6,335	2,934
• Non-Potable Component (l/day)	n/a	1,661
• Potable Component (l/day)	n/a	1,273
Est. Annual Water Consumption (litres) [(1)]	2,312,275	1,070,910
• Non-Potable Component (litres)	n/a	606,265
• Potable Component (litres)	n/a	464,645
Consumption met by RWH	**2,312,275**	**606,265**
RWH Storage Volume (litres)	**220,000**	**58,135**
Consumption met by Mains Water Supplies	**n/a**	**464,645**

[(1)] *Water consumptions established using BREEAM Wat 01 Calculator (including fixed uses) following the principle adopted in the consented WNA as detailed below:*

	Litres/person/day	m^3/person/yr
Water consumption - modelled baseline performance benchmark (excludes fixed uses)	32.79	8.29
Microcomponent Water consumption - modelled performance (excludes fixed uses)	22.27	5.63
Modelled water demand met via greywater and rainwater sources	13.50	3.42
If greywater/rainwater systems specified has the minimum % efficiency improvement for component specifications been met	Yes	
Net modelled water consumption (excludes fixed uses)	8.77	2.22
Percentage improvement	73.26%	
Total Wat 01 BREEAM credits achieved	5 credits	
Total Wat 01 BREEAM Exemplary credits achieved	1 innovation credit achieved	
Key performance indicator - use of freshwater resource (includes fixed uses)	10.35	2.62

3.0 APPLICATION FOR WATER CREDITS

Summary of Potable Water Consumptions

The application for water credits would be for the potable water use for the development fed via mains cold water services.

The estimated potable water consumptions for the development are summarised below:

Daily Potable Water Consumption (litres/day/person)	**10.35**
Daily Potable Water Consumption (litres/day)	**1,273**
Annual Potable Water Consumption (litres/year)	**464,645**

Predicted BREEAM Wat01 Credits

It is understood that a minimum of 3no. credits are required under BREEAM Wat01 to be eligible for the Water Credits Scheme.

The predicted credits for the strategy applied for under this S73 application is **5no. credits** plus **1no. exemplary credit** as can be seen from the results of the BREEAM Wat01 calculation tool in Section 2.0 above.

4.0 PROPOSED RAINWATER HARVESTING SYSTEM

A central rainwater harvesting system is proposed to utilise rainwater collected from the building roof areas to provide grey water for toilet flushing.

The underground storage tank shall be sized to cater for 75% of the grey water demand of the development for a period of 35 days without rainfall.

An external above ground rainwater treatment/pumping plantroom would be located on-site as indicatively shown on the site plan in Appendix 1.

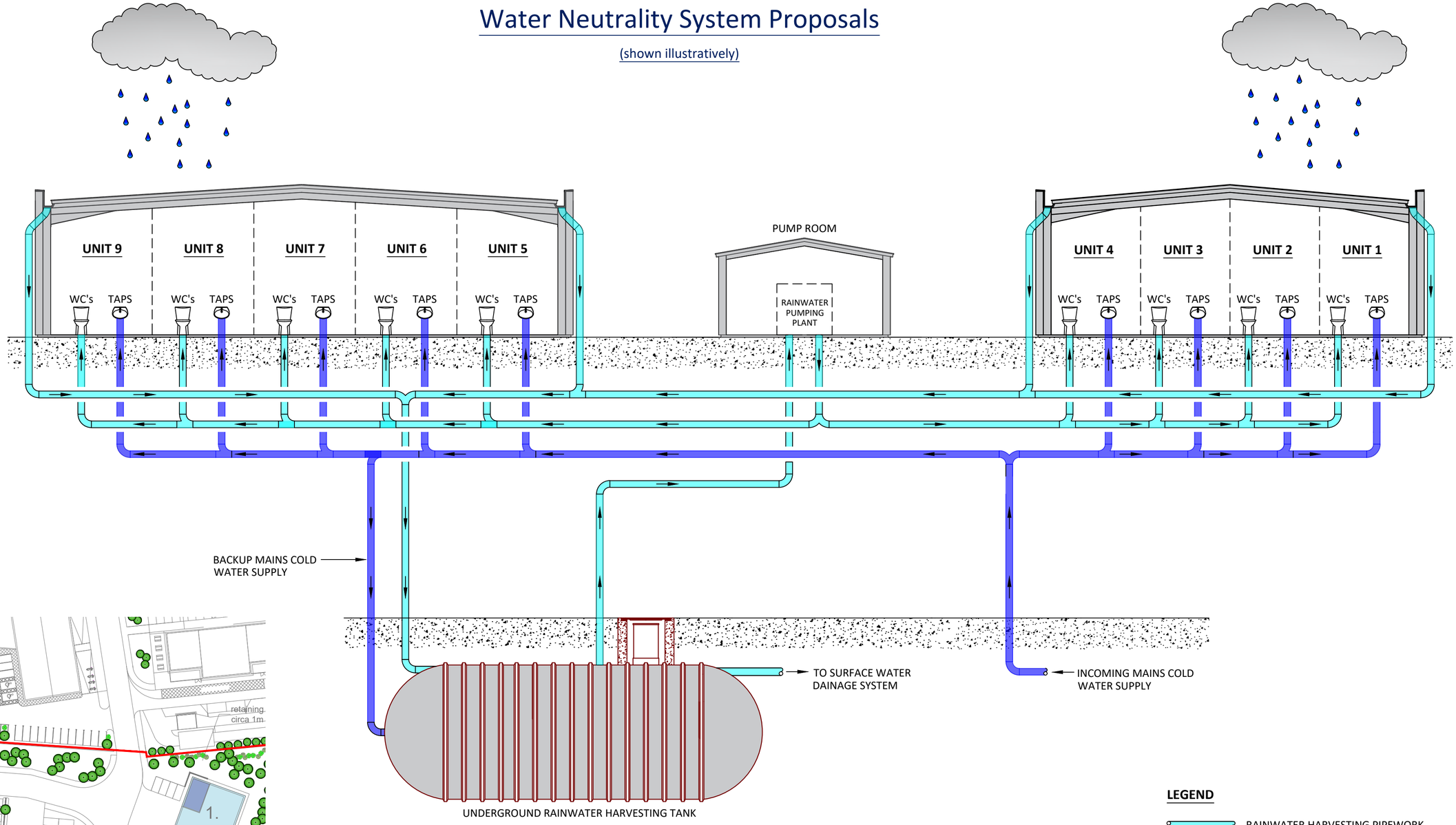
The system would provide a separately metered grey water supply into each unit. A backup water supply for the grey water rainwater harvesting system would be provided from the borehole abstraction system.

Refer to the illustrative system arrangement in Appendix 1.

APPENDIX 1 – Illustrative Water Neutrality System Layout

Water Neutrality System Proposals

(shown illustratively)





SITE PLAN HIGHLIGHTING PROPOSED RAINWATER HARVESTING PUMP ROOM LOCATION

LEGEND

- RAINWATER HARVESTING PIPEWORK
- MAINS COLD WATER SUPPLY PIPEWORK