Technical Note 1: Water Neutrality Statement

Site: Aglands Farm, Cowfold
Prepared by: Laura Jagiela
Approved by: Neil Jaques
Date: 12 December 2024

motion
84 North Street
Guildford
GU1 4AU

Tel: 01483 531300
www.motion.co.uk

1.0 Introduction

1.1 This Water Neutrality Statement (WNS) has been prepared on behalf of South Lodge Estate to demonstrate how the proposed development will achieve water neutrality.

1.2 Following the issue of Natural England's (NE's) Position Statement on Water Neutrality within the Sussex North Water Supply Zone (SNWSZ) it is understood that Horsham District Council require all new and reserved matter planning applications to demonstrate that the development is water neutral and/or that they do not result in a significant effect. NE's Position Statement can be found in full within **Appendix A**.

1.3 The SNWSZ covers part of the Horsham District, as well as parts of the neighbouring Chichester, Arun and Crawley Districts. A plan showing the supply area can be found in **Appendix B**.

1.4 This statement sets out the following:

- Baseline calculations for the existing development;
- Additional demand as a result of the proposed development;
- Water reduction measures, such as water efficient fixtures and fittings and rainwater harvesting; and
- Measures to offset any remaining deficit following the above.

2.0 Background

2.1 The site is located in Cowfold, West Sussex and is part of the South Lodge Estate.

2.2 The existing site consists of an agricultural building (780m^2).

2.3 The proposed development is for the conversion of half of an agricultural building to B8 storage. The proposal will include a small office and a toilet block consisting of 2 WC's and 2 wash hand basin. A copy of the proposed site plans can be found in **Appendix C**.

3.0 Existing Demand

3.1 The existing site does not have any existing water use. Therefore, no baseline data will be taken in the water neutrality calculations.

4.0 Additional Demand

4.1 The proposed development is for the conversion of half of an agricultural building to B8 storage (390m^2) with a small office (16m^2). The proposal will include a toilet block, consisting of 2 WC's and 2 wash hand basin. This toilet block will serve the proposed B8 storge use and the other half of the agricultural building (discussed in section 5).

4.2 Details of the proposed toilet block can be found in **Appendix D**, and it will be fitted with water efficient toilets and wash hand basins. Toilets will be for staff use only, they will not be available for customer use.

4.3 Employment Densities have been taken from the OffPAT Employment Densities Guide. The guide states that there will be one full time employee (FTE) per 80m^2, this equates to 5.08 employees for development.

4.4 Water usage calculations for the development are based in the BREEAM 2016 Water Calculator. A copy of the calculations and the table summarising the flow restrictions per use are provided in **Appendix E**. The calculations show that there is a water usage of 19.00 litres per person per day for the proposed facilities.

4.5 Therefore, the proposed water usage for the B8 storage equates to 96.52 litres per day based on a population of 5.08 people. At this stage, the proposed development cannot be considered to be water neutral.

5.0 Water Reduction

5.1 In line with the NE Position Statement, it is proposed to minimise water usage through the incorporation of water efficient fixtures and fittings to the proposed toilet block.

6.0 On-site Offsetting

6.1 To ensure the development can demonstrate water neutrality in accordance with the NE Position Statement 96.52 litres per day will need to be offset.

6.2 The client is proposing to offset the development against the removal of an existing toilet and retrofitting flow restricting valve to three taps in neighbouring buildings. All of which are within the clients ownership

6.3 Theses existing facilities are used by 6 people, 7 days a week. In addition to this in the winter months there are 'Shoot days' where there will be around 40 people per day on site. There are 28 shoot days, which are distributed over the year, gives an average of 3.07 people per day. This gives a total existing population of 9.07 people who use the current facilities.

6.4 A flow survey was undertaken by the client to determine the existing water usage of the toilet and taps. A copy of the flow survey can be found in **Appendix F**.

6.5 Water usage calculation for the existing facilities are based on the BREEAM 2016 Water Calculator. A copy of the calculations and the table summarising the flow restrictions per use are provided in **Appendix G**.

6.6 The calculations show that the water usage is 31.11 litres per person per day, which equates to 282.12 litres per day based on a daily population of 9.07 people.

6.7 The removal of the toilet means that the existing population will use the new toilet block and therefore will have a water usage of 19.00 litres per person per day. The taps around the site will be retrofitted with water restricting valves.

6.8 Table 6.1, below, shows the water saving on the existing population.

	Daily Water Usage (litres)
Existing Flow Survey	282.12
Retrofit	172.30
Saving	109.82

Table 6.1 – Water saving on existing

6.9 Therefore, the calculations show that the water usage of the facilities can be reduced from 282.12 litres per day to 172.30 litres per day. This will provide 109.82 litres per day spare capacity for the proposed development. Since 96.52 litres per day is needed for the proposed development, there will be 13.30 litres per day net reduction for the site as a whole.

6.10 The client is going to keep 5% of the net water reduction reserved as a buffer for the proposed development, this equates to 4.83 litres per day.

6.11 Therefore, the remaining water saving of 8.47 litres per day will be banked by the client and used to offset future developments (13.30 – 4.83).

7.0 Summary and Conclusions

7.1 This Technical Note sets out the water usage strategy for the proposed development at Aglands Farm, Cowfold.

7.2 The proposal is to incorporate water efficient fixtures and fittings in the new toilet block.

7.3 Following the incorporation of the above measures the increase in water demand will be offset against the removal of an existing WC and retrofitting flow restricting values to taps.

7.4 This strategy will minimise the impact of the new development on the SNWSZ. This WNS confirms the proposal will be water neutral once complete and therefore satisfying NE's requirements.

Appendix A

Natural England's Position Statement

Natural England's Position Statement for Applications within the Sussex North Water Supply Zone

September 2021 – Interim Approach

Please take the following as Natural England's substantive advice for all applications which fall within Sussex North's Water Supply Zone.

Sussex North Water Supply Zone

Arun Valley SPA, SAC and Ramsar Site- Sussex North Water Supply Zone

The Sussex North Water Supply Zone includes supplies from a groundwater abstraction which cannot, with certainty, conclude no adverse effect on the integrity of;

- Arun Valley Special Area Conservation (SAC)
- Arun Valley Special Protection Area (SPA)
- Arun Valley Ramsar Site.

As it cannot be concluded that the existing abstraction within Sussex North Water Supply Zone is not having an impact on the Arun Valley site, we advise that developments within this zone must not add to this impact. This is required by recent caselaw, Case C-323/17 People over wind and Sweetman. Ruling of CJEU (often referred to as sweetman II) and Coöperatie Mobilisation for the Environment and Vereniging Leefmilieu Case C-293/17 (often referred to as the Dutch Nitrogen cases).

Between them these cases require Plans and Projects affecting sites where an existing adverse effect is known (i.e. the site is failing its conservation objectives), to demonstrate certainty that they will not contribute further to the existing adverse effect or go through to the latter stages of the Regulations (no alternatives IROPI etc).

Developments within Sussex North must therefore must not add to this impact and one way of achieving this is to demonstrate water neutrality.

In addition, the Gatwick Sub regional Water Cycle Study concluded that water neutrality is required for Sussex North to enable sufficient water to be available to the region.

The definition of water neutrality is the use of water in the supply area before the development is the same or lower after the development is in place.

Strategic approach

Natural England has advised that this matter should be resolved in partnership through Local Plans across the affected authorities, where policy and assessment can be agreed and secured to ensure water use is offset for all new developments within Sussex North. To achieve this Natural England is working in partnership with all the relevant authorities to secure water neutrality collectively through a water neutrality strategy.

Whilst the strategy is evolving, Natural England advises that decisions on planning applications should await its completion. However, if there are applications which a planning authority deems critical to proceed in the absence of the strategy, then Natural England advises that any application needs to demonstrate water neutrality. We have provided the following agreed interim approach for demonstrating water neutrality;

Minimising water use of new builds.

- Complete a water budget (based on occupancy)
- All new builds to demonstrate that they can achieve strict water targets (e.g., 85L/pp/day*)

  This can be achieved by measures such as:

- Grey water recycling (advantage of being reliable in hot dry weather);
- Rainwater harvesting;
- Water efficient fixings (such as shower aerators) to demonstrably reduce demand-this would need to be suitably certain.

In addition, water offsetting is required

- One way to achieve this is retrofitting of council owned properties/commercial buildings-located within Sussex North. Examples include:

- Grey water recycling- (for example there are clear opportunities for commercial properties).
- Rainwater harvesting of commercial settings;
- Installation of water reduction fittings in Council-owned buildings.

These measures need to be implemented until such time as a more sustainable water supply has been secured.

It will also need to be ensured that measures are not already proposed (for example in Southern Water's Management Plan) to avoid double-counting.

Any mitigation must be suitably certain in order to comply with the Habitats Regulations and Caselaw.

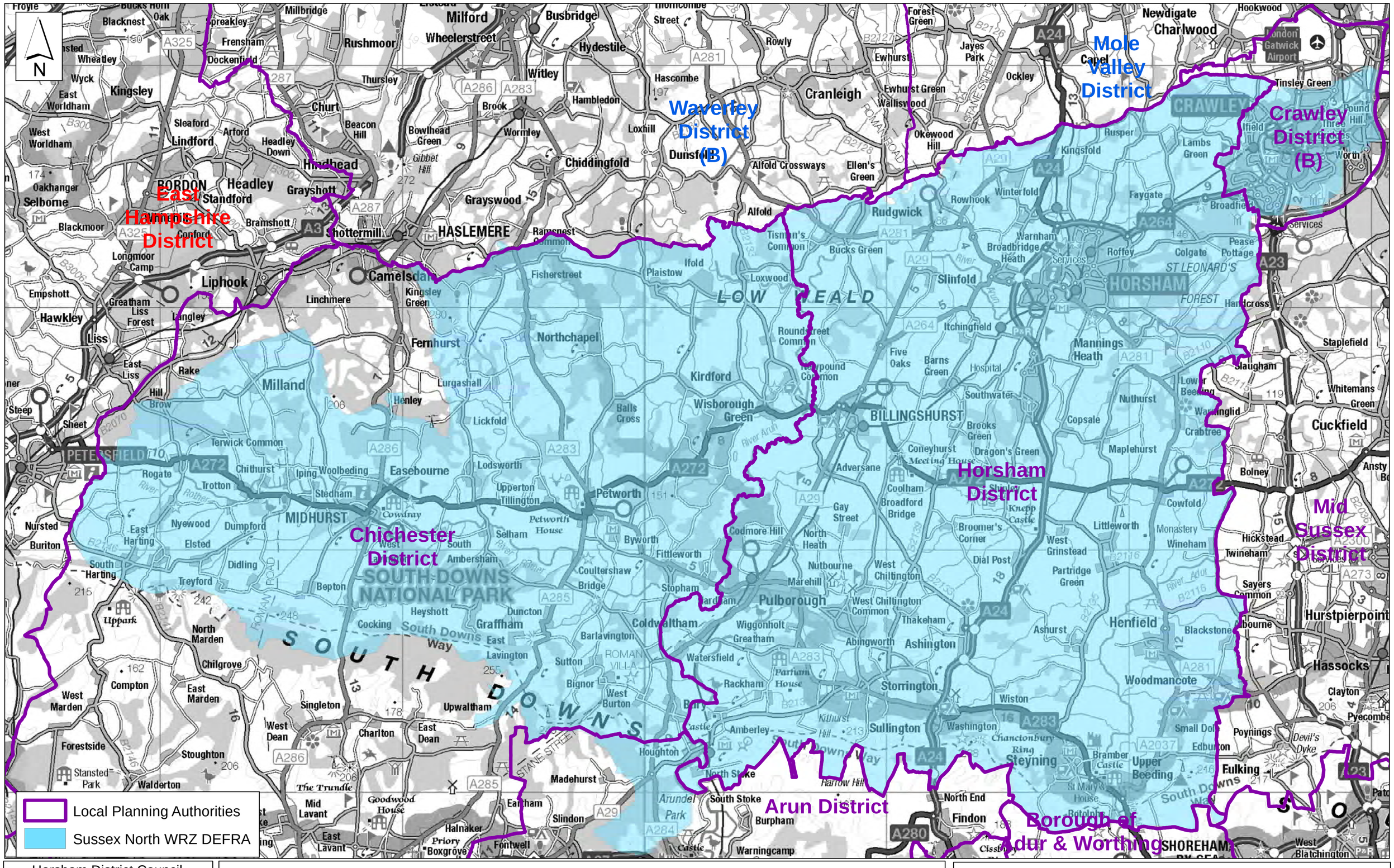
If the application cannot demonstrate, through an appropriate assessment, the required water neutrality, we advise that it is either revised to achieve this in line with the above or awaits completion of the strategic approach.

The securing of water neutrality is a matter which needs to be resolved at a strategic level and Natural England is working with the relevant authorities and the water company to achieve this. In light of this, Natural England will not be engaging with individual planning applications whilst the strategy is evolving.

***This this is the reasonably achievable figure with the above measures based on the early data from the strategic solution and may be subject to change as the strategic solution evolves.**

Appendix B

Sussex North Water Supply Zone Map



Sussex North Water Resource Zone

Chichester Horsham Crawley

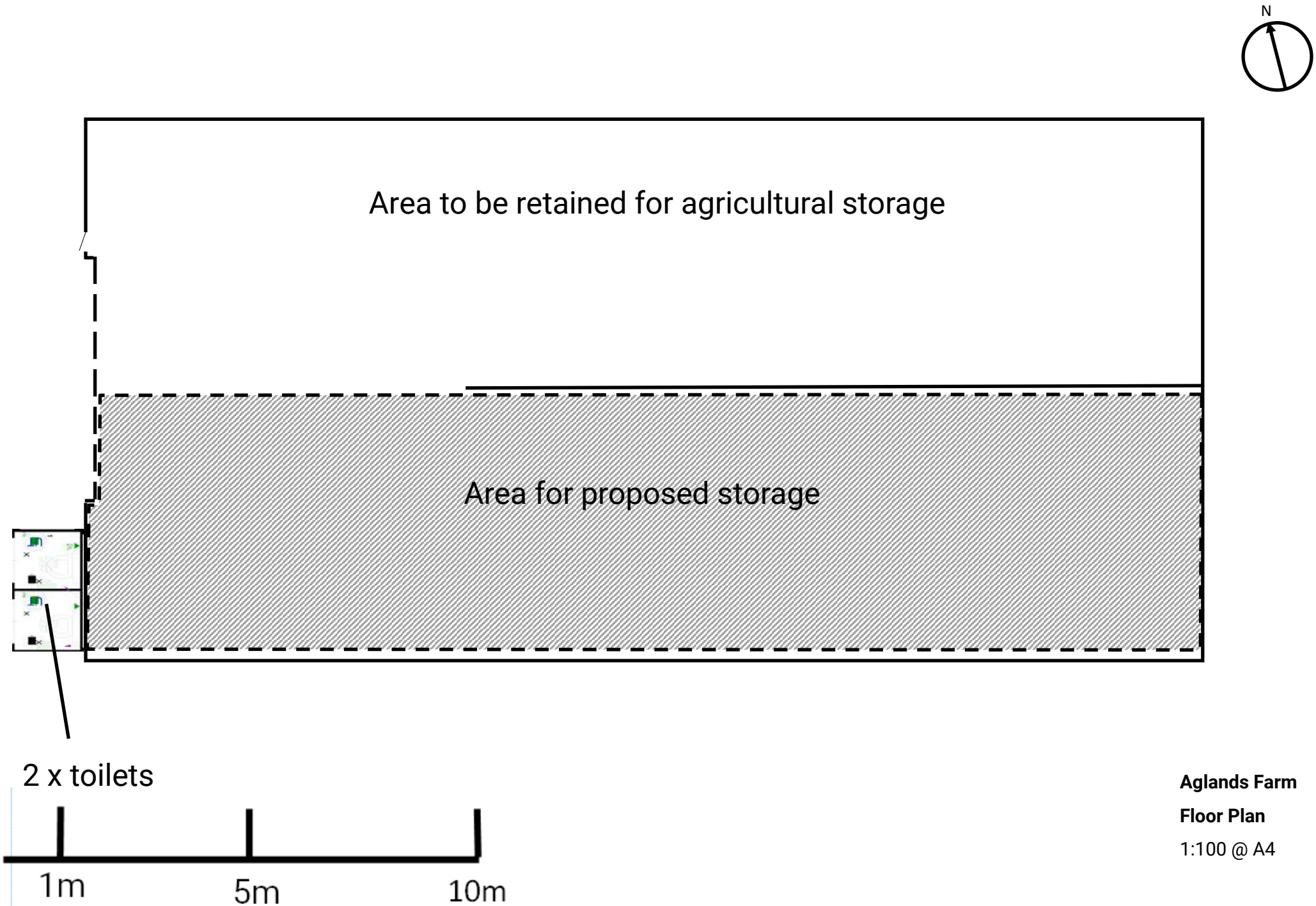
Horsham District Council
Parkside, Chart Way, Horsham
West Sussex RH12 1RL.
Barbara Childs : Director of Place

Reproduced by permission of Ordnance Survey map on behalf of HMSO. © Crown copyright and database rights (2021). Ordnance Survey Licence.100023865

Reference No :		Date : 23 November 2021	Scale : 1:3,000 at A2
Drawing No:	Drawn :	Checked :	Revisions :

Appendix C

Proposed Plans



Aglands Farm

Floor Plan

1:100 @ A4

Appendix D

Proposed Toilet Block Details

Mini-Steel WC Cabins



Standard Mini Toilets & Showers Range

Our standard Mini-Steel WC Cabins range consists of 4 standard types of unit. Single and Double Mains Toilets, a Single Mains Shower and a Combination Toilet/Shower. All of these units are generally held as a standard stock item except for the single mains shower.

The standard colour range is Gentian Blue (RAL5010), Moss Green (RAL6005) and Light Grey (RAL7035). We can supply these units in other RAL colours to special order, please call for prices & availability.

4 Standard Unit Types:

1.2m x 1.4m Single Mains Toilet Unit
2.4m x 1.4m Double Mains Toilet Unit
2.4m x 1.4m Combination Toilet/Shower Unit
2.4m x 1.4m Single Mains Shower Unit

Dimensions (mm)							
	External			Internal			
Size	length	width	height	length	width	height	weight
1.2 x 1.4m	1200	1400	2540	1055	1255	2200	350kg
2.4 x 1.4m	2400	1400	2540	2255	1255	2200	570kg

Technical Specifications

FLOOR:
- cold rolled frame, welded steel profiles, 2mm thick
- 4 welded container feet, fork pockets
- steel cross members with omega profiles = 2.5mm
- insulation: 60 mm mineral wool slabs (density 16 - 24 kg/m³)
- subfloor: 0.63mm thick, galvanised steel sheets
- internal floor: 3mm alu checker plate screwed to 22mm chipboard

ROOF:
- cold rolled frame, welded steel profiles, 2mm thick
- wooden cross members l x w = 80 x 40mm
- 2 or 4 lifting eyes
- roof cover: 0.63mm thick, galvanised steel sheet (riveted)
- insulation: 160mm mineral wool slabs (density 16 - 24 kg/m³)
- ceiling: 10 mm chipboard (V 20), laminated on both sides, white

WALL PANELS:
- PU panels; 45mm polyurethane (PU), (density 35 - 40 kg/m³)
- external cladding: corrugated, galvanised and coated steel sheet 0.6mm thick, blue RAL5010
- internal cladding: galvanised steel 0.5mm, white RAL9010

DOORS:
- right hand hinged, 875 x 2,000mm (811 x 1,968mm)
- steel door & frame, galvanised on both sides with 40mm insulation and integrated wire glazing 500 x 450mm
- cylinder lock: lockable from inside by turning handle

ELECTRICAL:
- 230V distribution board, light, wall heaters, water heaters and shower boilers; depending on unit type

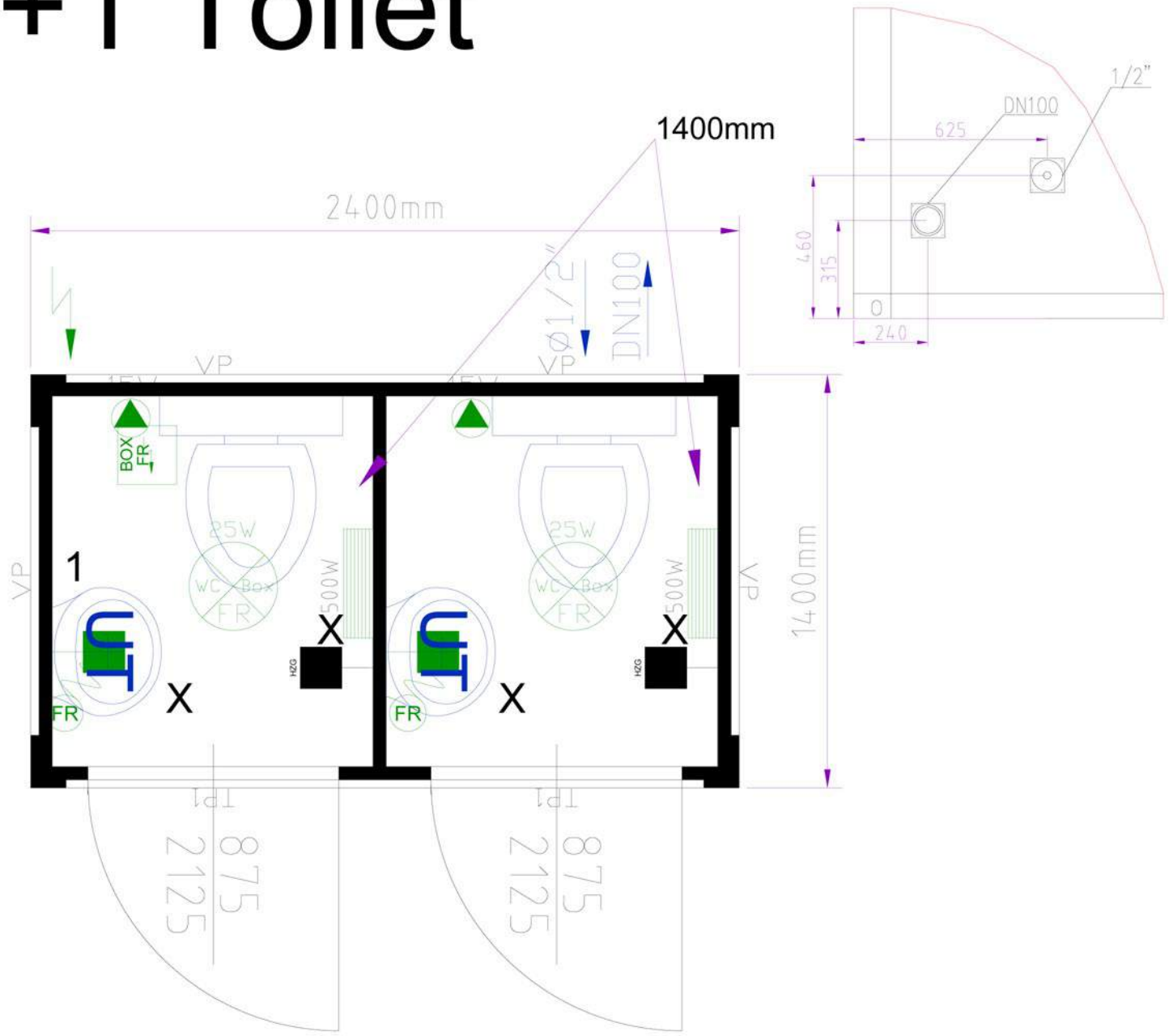
PLUMBING:
- water supply: ½" pipe through the cabin wall at the rear side
- waste water: collected in 50mm & 110mm waste pipes

INSULATION:
- floor: thickness = 60 mm U= 0.54 W/m² K
- roof: thickness = 160 mm U= 0.25 W/m² K
- external wall: thickness = 45 mm polyurethane U= 0.489 W/m² K

PAINT:
- paint system with high weather and ageing resistance, suitable for urban and industrial atmospheres
- wall panels: 25 µm paint thickness
- frame: 20-40 µm primer, 40-50 µm topcoat

Cabins and Containers
08454 98 91 98
sales@cabinsandcontainers.co.uk

1+1 Toilet



2.4m x 1.4m Double Mains Toilet

Electric GB (230V/32A/3-poles)

Internal finish: white

X.... (electrical itends connected through spurs)

Totra pipework (GB)

Cabins and Containers
08454 98 91 98
sales@cabinsandcontainers.co.uk

Appendix E

BREEAM Water Calculations: Proposed

Water Usage Calculations

Proposed

Fittings	Baseline	Remarks (l/p/d)
WC's	6 l/flush	12.00
WHB	8 l/min	5.42
Fixed Water Use	n/a	1.58
	Total Demand	**19.00**

Water Usage

	Population	Water Usage (l/p/d)	Total Water Usage (l/d)
Proposed	5.08	19.00	96.52

BREEAM 2016 International Wat 01 Water consumption calculator - Industrial buildings

Building details

Building name:	Aglands Farm
BRE Assessment Reference No.	
Precipitation zone:	Please select

Building type	Description of building type	Default occupancy	Default annual days/operation	Default daily hours of operation
Industrial - typical business hours of operation	General and specialist industrial and warehouse and storage units operating 24 hours a day 7 days a week.	5.8024	253	10

Main building activity areas	Description of activity area	Activity area present in building?	Net Floor Area (m^2)
Industrial - Process area	Main process based operational/manufacturing/workshop area	No	
Industrial - Laboratory area	Large or small category 1 laboratory area.	No	
Industrial - Warehouse storage	Permanently or intermittently occupied warehouse storage areas.	Yes	390
Industrial - Office areas	Cellular or open plan office space, including staff kitchen where present/adjacent and reception areas. Exlcude meeting rooms, visitor waiting or circulation areas.	Yes	16
Industrial - Staff canteen dining area	Seated dining areas that accompany a permanently staffed kitchen preparing food for consumption on the premises (excludes small un-staffed kitchen's used by office staff to re-heat food, make tea etc.)	No	
Industrial - Fitness suite/gym (with changing facility and showers)	A fitness suite or gym that is part of the office building/development and used by the building's employees only. The gym will have its own changing facility with showers.	No	

Water Consumption - Building Microcomponent

WC component - all activity areas	units	Specification	Usage/person/day	Usage factor	Consumption (L/person/day)
WC - male (no urinals installed)	Effective flush volume (Litres)	6.00	4.00	1.00	12.00
WC - female	Effective flush volume (Litres)		4.00	1.00	0.00

Urinal component - all activity areas	units	Specification	No. of cisterns	Flushing frequency (flushes/hour)	Consumption (L/person/day)

	units	Specification	Usage/person/day	Usage factor	Consumption (L/person/day)

	units	Specification	Usage/person/day	Usage factor	Consumption (L/person/day)

	units	Specification	Usage/person/day	Usage factor	Consumption (L/person/day)
Taps components (personal hygiene) - all activity areas					
Wash hand basin taps	Flow rate (litres/min)	8.00	4.00	0.25	5.42
Shower use	Flow rate (litres/min)		0.030	5.60	0.00
Fixed use - vessel filling	Litres/person/day	-	-	-	1.58
Tap components (cleaning) - staff kitchenette					
Kitchen taps - kitchenette	Flow rate (litres/min)		1.00	0.67	0.00
Dishwasher	Litres/cycle		0.04	1.00	0.00
Tap components (cleaning and food preparation) - staff canteen food preparation area					

	Microcomponent Consumption (L/person/day)
Total	19.00

Appendix F

Client Flow Survey

From: Clare Bartlett <[redacted]>
Sent: 03 July 2024 14:49
To: Laura Jagiela; pippa.[redacted]
Cc: Neil Jaques; Charlotte Catton-Giltinane
Subject: RE: WNS: Aglands Farm, Cowfold (South Lodge Estate)

Follow Up Flag: Follow up
Flag Status: Completed

Hi Laura

Below is the information I have about existing flow rates:

- Toilet - 7.6l per flush (this toilet is to be removed)

	Time taken to fill 1litre	Litres per minute
Barn back room	2.7	22.22222222
Green Chiller	2.6	23.07692308
Workshop	3.3	18.18181818

Hopefully Pippa can assist with the other information you need.

Kind regards

Clare

Clare Bartlett MRTPI PIEMA
Partner | Planning
[redacted]

batchellermonkhouse.com

From: Laura Jagiela <[redacted]>
Sent: Tuesday, July 2, 2024 4:30 PM
To: pippa.[redacted]
Cc: Neil Jaques <[redacted]>; Clare Bartlett <[redacted]>; Charlotte Catton-Giltinane <[redacted]>
Subject: FW: WNS: Aglands Farm, Cowfold (South Lodge Estate)

Hi Pippa,

Following my email below, are you able to provide us with the flow rates for the existing fixtures at Aglands Farm?

We will also need to understand how these facilities are/will be used as I understand the toilets will serve the B8 use and the wider agricultural yard. Do you have any idea of how many people use the existing facilities? and then how many will use the proposed facilities? This will be used to determine the proposed increase in water demand.

Should you have any questions please do not hesitate to contact me.

Kind regards,

Laura Jagiela | Engineer

motion | 84 North Street, Guildford, GU1 4AU
[redacted]
LinkedIn | X



From: Laura Jagiela
Sent: Friday, June 21, 2024 12:00 PM
To: pippa.[redacted]
Cc: Neil Jaques <[redacted]>; [redacted]
Subject: WNS: Aglands Farm, Cowfold (South Lodge Estate)

Hi Pippa,

I will be working on the water neutrality statement for your planning application at South Lodge Estate.

I have been told by Charlotte at Batcheller Monkhouse that you have flow rates for the existing fixtures, are you able to send them over to me?

I also need to understand how these facilities are/will be used as I understand the toilets will serve the B8 use and the wider agricultural yard. Do you have an idea of how many people use the existing facilities? and then how many will be using the proposed facilities? I just need to understand the proposed increase in water demand.

Should you have any questions please do not hesitate to contact me.

Kind regards,

Laura Jagiela | Engineer

motion | 84 North Street, Guildford, GU1 4AU
[redacted]
LinkedIn | X

The information in this email is confidential and is intended solely for the addressee(s). Access to this email by anyone else is unauthorised. If you are not an intended recipient, you must not read, use or disseminate the information contained in this email. Any views expressed in this message are those of the individual sender, except where the sender specifically states them to be the views of Motion. Any personal information we obtain will be processed in accordance with the relevant Privacy Notice which can be accessed at our website under data subject privacy

Appendix G

BREEAM Water Calculations: Flow Survey

Water Usage Calculations

Offsetting - Flow Survey

Fittings	Baseline	Remarks (l/p/d)
WC's	7.6 l/flush	15.20
WHB	21.16 l/min	14.33
Fixed Water Use	n/a	1.58
	Total Demand	**31.11**

Water Usage

	Population	Water Usage (l/p/d)	Total Water Usage (l/d)
Existing facilities	9.07	31.11	282.12

BREEAM 2016 International Wat 01 Water consumption calculator - Industrial buildings

Building details

Building name:	Aglands Farm
BRE Assessment Reference No.	
Precipitation zone:	Please select

Building type	Description of building type	Default occupancy	Default annual days/operation	Default daily hours of operation
Industrial - typical business hours of operation	General and specialist industrial and warehouse and storage units operating 24 hours a day 7 days a week.	5.8024	253	10

Main building activity areas	Description of activity area	Activity area present in building?	Net Floor Area (m^2)
Industrial - Process area	Main process based operational/manufacturing/workshop area	No	
Industrial - Laboratory area	Large or small category 1 laboratory area.	No	
Industrial - Warehouse storage	Permanently or intermittently occupied warehouse storage areas.	Yes	390
Industrial - Office areas	Cellular or open plan office space, including staff kitchen where present/adjacent and reception areas. Exlcude meeting rooms, visitor waiting or circulation areas.	Yes	16
Industrial - Staff canteen dining area	Seated dining areas that accompany a permanently staffed kitchen preparing food for consumption on the premises (excludes small un-staffed kitchen's used by office staff to re-heat food, make tea etc.)	No	
Industrial - Fitness suite/gym (with changing facility and showers)	A fitness suite or gym that is part of the office building/development and used by the building's employees only. The gym will have its own changing facility with showers.	No	

Water Consumption - Building Microcomponent

WC component - all activity areas	units	Specification	Usage/person/day	Usage factor	Consumption (L/person/day)
WC - male (no urinals installed)	Effective flush volume (Litres)	7.60	4.00	1.00	15.20
WC - female	Effective flush volume (Litres)		4.00	1.00	0.00

Urinal component - all activity areas	units	Specification	No. of cisterns	Flushing frequency (flushes/hour)	Consumption (L/person/day)

	units	Specification	Usage/person/day	Usage factor	Consumption (L/person/day)

	units	Specification	Usage/person/day	Usage factor	Consumption (L/person/day)

	units	Specification	Usage/person/day	Usage factor	Consumption (L/person/day)
Taps components (personal hygiene) - all activity areas					
Wash hand basin taps	Flow rate (litres/min)	21.16	4.00	0.25	14.33
Shower use	Flow rate (litres/min)		0.030	5.60	0.00
Fixed use - vessel filling	Litres/person/day	-	-	-	1.58
Tap components (cleaning) - staff kitchenette					
Kitchen taps - kitchenette	Flow rate (litres/min)		1.00	0.67	0.00
Dishwasher	Litres/cycle		0.04	1.00	0.00
Tap components (cleaning and food preparation) - staff canteen food preparation area					

	Microcomponent Consumption (L/person/day)
Total	31.11