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WATER NEUTRALITY REPORT

PROPOSED DEVELOPMENT

AT

BROOK HOUSE, MAPLEHURST ROAD, HORSHAM

WEST SUSSEX, RH13 6RB

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1. INTRODUCTION

1.1 This Water Neutrality Statement (WNS) has been prepared on behalf of Christine Fallah Designs 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 (HDC) require all new and reserved matters 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 WNS statement sets out the following:

- Baseline estimation 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. BACKGROUND

2.1 The proposed development is located to the east of Maplehurst Road, in Horsham, RH13 6RB.

2.2 The site consists of an existing main house building, an existing barn and associated garden and driveway.

2.3 The site proposals include the conversion of the barn into a 1-bedroom accommodation. A copy of the proposed site layout can be found in Appendix C.

3. BASELINE ESTIMATION

3.1 The existing site comprises a main house and a barn. The main house is not being modified. However, the barn will be converted into a 1-bedroom accommodation with associated facilities.

3.2 Water usage has been surveyed to provide a Part G Water calculation for the existing water consumption based on existing fixtures and fitting, as summarised in the table below. Refer to Appendix D for existing fixtures and fittings.

Installation type	Unit of measure	Capacity/ flow rate	Use factor	Fixed use (litres/ person/ day)	Litres/ person/day = [(1) × (2)] + (3)
WC (dual flush)	Full flush volume (litres)	6	4.42	0.00	26.52
Taps (excluding kitchen/utility room taps)	Flow rate (litres/minute)	3.50	1.58	1.58	7.11
Bath	Capacity to Overflow (litres)	185	0.11	0.00	20.35
Shower only	Flow rate (litres/minute)	4.6	4.37	0.00	20.10
Kitchen/utility room sink taps	Flow rate (litres/minute)	4	0.44	10.36	12.12
Washing machine	Litres/kg dry load	8.17	2.1	0.00	17.16
Dishwasher	Litres/place setting	1.25	3.6	0.00	4.5
	Total calculated use (litres/person/day)				107.86
	Normalisation factor				0.91
	Total Water Consumption (CSH) (litres/person/day)				98.15
	External water use				5.00
	Total Water Consumption (Part G) (litres/person/day)				103.15

Table 3.1 – Water Usage for main house

3.3 Based on the above table, the existing water usage is 103.15 litres/ person/day.

3.4 The calculations show that the estimated average daily water use for the existing house based on Horsham Districts Councils occupancy rates for a 3 bedroom dwelling, of 2.47 people would result in a total usage of 254.78 litres/day.

3.5 A copy of the existing fixtures and fittings to achieve the above water consumption can be found in Appendix D.

3.6 The occupancy levels for the existing dwelling has been taken as 2.47 people based on extrapolated census data. The property is in fact occupied by 3 people and so the calculation has also been undertaken for this occupancy.

3.7 Using the Part G water consumption figure of 103.15 litres per person per day and a population size of 2.47 it is estimated that the total water usage per day for the existing dwelling is 254.78 litres per day.

3.8 Using the Part G water consumption figure of 103.15 litres per person per day and a population size of 3 it is estimated that the total water usage per day for the existing dwelling is 309.45 litres per day.

4. ADDITIONAL DEMAND

4.1 The additional water usage from the conversion of the existing barn to a 1-bedroom accommodation is estimated in the table below.

Installation type	Unit of measure	Capacity/ flow rate	Use factor	Fixed use (litres/ person/ day)	Litres/ person/day = [(1) × (2)] + (3)
WC (dual flush)	Full flush volume (litres)	6	1.46	0.00	8.76
Taps (excluding kitchen/utility room taps)	Flow rate (litres/minute)	2.7	1.58	1.58	5.85
Shower only	Flow rate (litres/minute)	4.6	5.60	0.00	25.76
Kitchen/utility room sink taps	Flow rate (litres/minute)	4	0.44	10.36	12.12
Washing machine	Litres/kg dry load	8.17	2.1	0.00	17.16
Dishwasher	Litres/place setting	1.1	3.6	0.00	3.96
	Total calculated use (litres/person/day)				73.60
	Normalisation factor				0.91
	Total Water Consumption (CSH) (litres/person/day)				66.98
	External water use				5.00
	Total Water Consumption (Part G) (litres/person/day)				71.98

Table 4.1 – Additional Water Usage for converted accommodation

4.2 A water calculation in accordance with Building Regulations Part G has been carried out and confirms that the proposed development will achieve a water consumption of 71.98 litres per

person per day for the 1 new 1 bed accommodation, which includes an allowance of 5 litres per person per day for external water usage. A copy of the Part G calculation can be found in Appendix E.

4.3 A copy of the proposed fixtures and fittings to achieve the above water consumption can be found in Appendix F and where necessary flow restrictors will be incorporated to achieve the required flows.

4.4 The average occupancy levels for the additional converted barn is assumed to be 1.32 people as per extrapolated census data.

4.5 Using the Part G water consumption figure of 71.98 litres per person per day and a population size of 1.32 it is estimated that the total additional water usage per day for the proposed conversion is 95.01 litres per day.

4.6 Therefore, following the construction of the proposed development there will be increase in water demand of 95.01 litres per day.

5. WATER REDUCTION MEASURES

5.1 To mitigate the increase in water demand, it is proposed to incorporate rainwater harvesting into the proposed development. A rainwater harvesting tank will be included to collect water from the roof of the main house and the roof of the converted barn.

5.2 It is proposed to use rainwater harvesting tanks with a total volume of 36m3 capacity.

5.3 The water collected by the rainwater harvesting units will be utilised for flushing toilets and for the garden, and to provide additional water for the washing machine to the proposed accommodation .All other uses will be mains water fed.

5.4 The following table sets out the water uses, as detailed in the Part G calculation and shows the split between the mains water usage and water supplied by the rainwater water harvesting systems:

Land use	Water Usage (l/p/day)	Mains Water Usage (l/p/day)	RWH System Usage (l/p/day)
WC (full flush)	8.76		8.76
Taps (Excluding Kitchen)	5.85	5.85	
Shower	25.76	25.76	
Kitchen Taps	12.12	12.12	
Washing Machine	17.16		17.16
Dishwasher	3.96	3.96	
Total	73.61	47.69	25.92
Normalisation Factor	0.91	0.91	0.91
Total	66.98	43.40	23.59
External Water Use	5		5
Total	71.98	48.40	28.59

Table 5.1 – Water Usage for 1 bed accommodation

5.5 Table 5.1 above confirms that 28.59 litres per person per day will be supplied by the rainwater harvesting systems, which equates to 37.73 litres per day for the 1 bed accommodation assuming an occupancy of 1.32 people.

Land use	Water Usage (l/p/day)	Mains Water Usage (l/p/day)	RWH System Usage (l/p/day)
WC (single flush)	26.52		26.52
Taps (excluding kitchen/utility room taps)	7.11	7.11	
Shower only	20.10	20.10	
Bath	20.35	20.35	
Kitchen/utility room sink taps	12.12	12.12	
Washing machine	17.16	17.16	
Dishwasher	4.50	4.50	
Total	107.86	81.34	26.52
Normalisation Factor	0.91	0.91	0.91
Total	98.15	74.01	24.13
External Water Use	5.00		5
Total	103.15	74.01	29.13

Table 5.2 – Water Usage for main house

5.6 Table 5.2 above confirms that 29.13 litres per person per day will be supplied by the rainwater harvesting systems, which equates to 71.95 litres per day for the main house assuming an occupancy of 2.47 people or 87.39 Litres per day for an occupancy of 3 people.

5.7 Therefore the total volume of water required to be supplied by the rainwater harvesting to the whole development is (87.39+37.73) = 111.72 litres per day or 125.12 litres per day for an occupancy of 3 people.

5.8 The tanks have been sized using the calculations set out in BS8515 and will be large enough to store 9.6% of the Annual Water Demand. This will ensure that the tanks will provide at least 35 days of storage for periods of drought.

5.9 The calculations also confirm that the yield is sufficient to meet the demand for the whole site. The calculations are summarised in Table 5.3 below and can be found in full in Appendix F.

Unit	Number of Persons	Roof Area	9.6% Annual Rainwater Yield (litres)	9.6% Annual Water Demand (litres)	Tank size (litres)
1-bed	2	142	7,633.92	1,076.95	1,100
3-bed	3	70	3,763.20	2,518.25	2,600
		Total	11,397.12	3,595.20	3,600

Table 5.3 – Rainwater Harvesting Sizing Calculations

5.10 A typical layout for a rainwater harvesting system is shown in Appendix G. The illustration shows how the rainwater will be collected, filtered and then returned to the property for re-use.

5.11 Once rainwater harvesting has been incorporated into the proposals the mains water usage will be reduced to 238.04 litres per day. This is less than the water usage of the existing house, by 16.74 litres per day, and therefore the development demonstrates water neutrality.

6. OFFSETTING MEASURES

6.1 As the existing site water usage is greater than the proposed developments water use, the site can demonstrate water neutrality and therefore further offsetting are not required.

7. SUMMARY AND CONCLUSION

7.1 This Report sets out the water usage strategy for the proposed development at Brook House, Maplehurst Road, Horsham, West Sussex.

7.2 The proposal is to incorporate water efficient fixtures and fittings, as well as a rainwater harvesting system.

7.3 The proposed development can demonstrate water neutrality without further offsetting being required.

7.4 This strategy will minimise the impact of the new development on the Sussex North Water Supply Zone. The Water Usage Strategy confirms proposal will be water neutral once complete and therefore satisfying Natural England's requirements.

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Appendix A:

Natural England's Position Statement

vkhp ref: 585022
Address: Brook House, Maplehurst Road, Horsham, West Sussex, RH13 6RB

NATURAL ENGLAND

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.

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Appendix B:

Sussex North Water Supply Zone

vkhp ref: 585022
Address: Brook House, Maplehurst Road, Horsham, West Sussex, RH13 6RB

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.

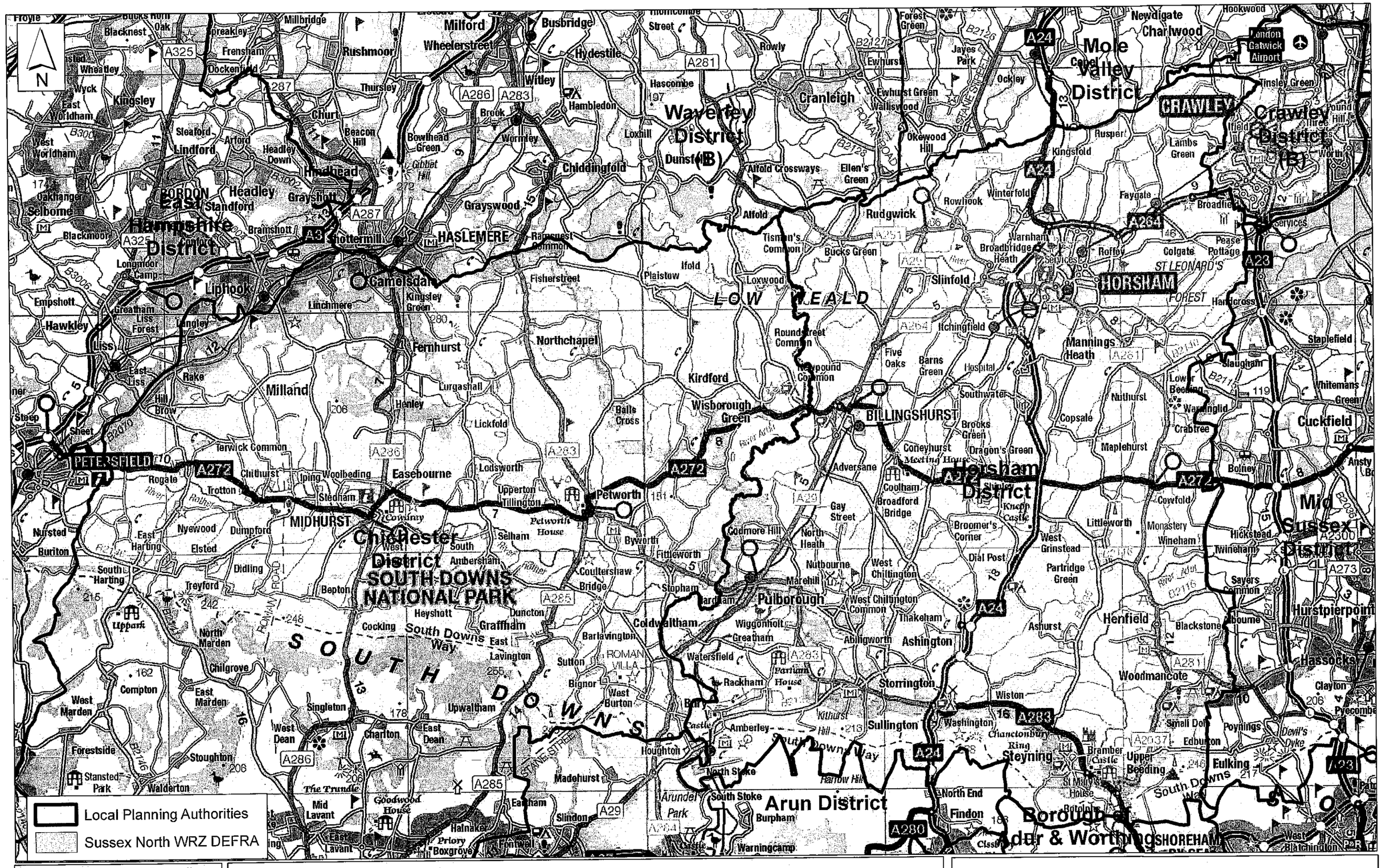
It will also need to be ensured that measures are not already proposed (for example in Southern Water's Management Plan) to avoid double-counting.

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.**



Horsham District Council

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

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Sussex North Water Resource Zone

Chichester Horsham Crawley

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

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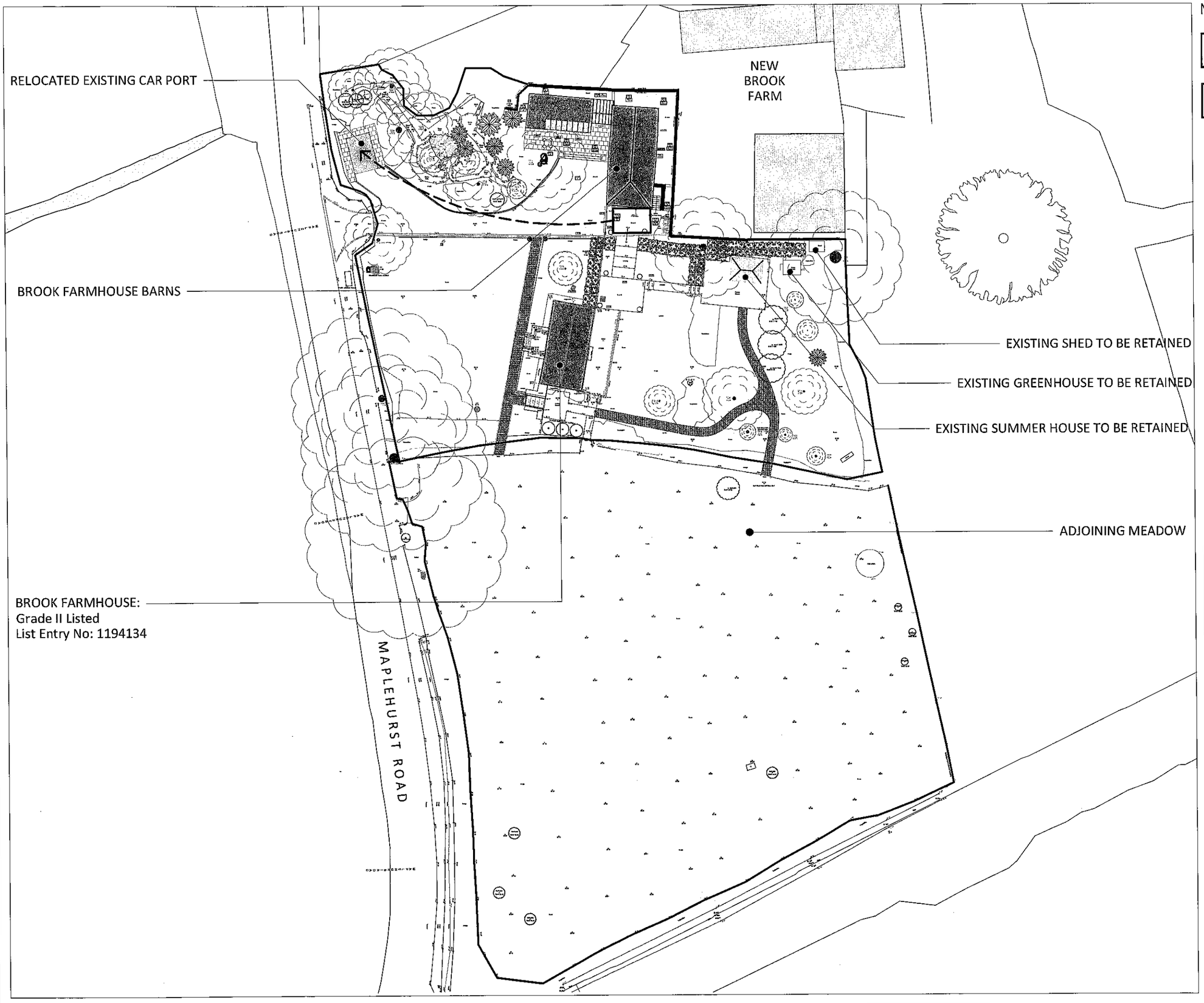
Appendix C:

Proposed Site Layout



NOTES:

: Existing Levels

: Proposed Levels

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PROJECT: BROOK HOUSE

FLOOR: GROUND

SUBJECT: PLAN

DRAWING TITLE: PROPOSED SITE PLAN WITH DESCRIPTION

FLOOR: G 0

DESIGNER: CHRISTINA FALLAH

PROJECT MANAGER: CHRISTINA FALLAH

DRAWING COORDINATOR email: harryk@christina-fallah-designs.com
HARRY KUMAR

DRAWN: HARRY KUMAR

SCALE (APPROX): 1:500@A3

DATE: 03.08.2022

PROJECT No. 912

DRG. No. CFD-912-BR022

REV. A

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NOTES:

: Existing Levels

: Proposed Levels

N W E S

Pond

Brick Wall Covered With Vegetation

Vegetation

Bench

Stone Path

Grass

Gravel

Hedge

ACER SAPLING T0.02 S0.50

T:0.10 S:2.0 H:4.30

T:0.32 S:6.6 H:12.40

T:0.20 S:4.6 H:12.50

T:0.05 S:1.4 H:2.75

T:0.09 S:2.4 H:5.60

C/B TIMBER FENCE

RETAINING WALL

ANCILLARY ACCOMMODATION FOR DOMESTIC HELP (7.5Sq.m)

DRY AND WET STORAGE

PANTRY(22.8 Sq.m)

ISLAND

SHOWER / WET ROOM (3.8Sq.m)

ENTRANCE HALL (6.5Sq.m)

ENTRANCE DOOR

SLIDING DOOR

EXISTING BEAM

LEVEL THRESHOLD

NEW GLAZED WINDOW IN EXISTING BARN DOOR OPENING

ANCILLARY OFFICE & LIVING ROOM (60 Sq.m)

BOOKCASE

FIRE PLACE

BOOKCASE

WINDOW SEAT

Glazed door

ORIGINAL DOOR FASTENED BACK

NEW FIXED GLAZED SCREEN IN EXISTING BARN DOOR OPENING

LEVEL THRESHOLD (SLOT DRAIN)

APEX 32.53

WINDOW IN FORMER DOOR OPENING

OLD ENTRANCE DOOR TO THE BARN RE-OPENED

PIVOT DOOR FORMED IN FORMER CART STORE OPENING

GARDEN STORAGE (17 SQ.m)

NEW WINDOW

Location Of Basement Wall

Down To The Plant Room

Other Store

Bin Store

STEPS UP/UP

24.31 24.41 24.17 -240mm 24.99 24.17 -820mm 25.38 24.47 -770mm 25.39 24.54 -850mm 24.16 24.16 +-00 24.32 -510mm 24.63 24.32 -310mm 24.68 24.32 -280mm 24.60 24.92 -480mm 25.40 24.60 24.15 -450mm 25.38 24.62 -760mm 24.29 24.92 -380mm 25.31 24.77 -320mm 25.09 25.16 24.33 -830mm 24.65 24.63 +- 0.00 24.63 24.48 -580 25.16 24.57 24.43 24.51 25.75 24.90 STONE 25.05 24.34 24.35 24.36 24.38 24.33 24.31 24.29 24.26 24.23 24.22 24.20 24.24 24.28 24.27 24.25 24.21 24.19 24.40 24.45 24.37 25.48 25.32 27.20 25.16 24.60

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PROJECT	BROOK HOUSE
FLOOR	GROUND
SUBJECT	PLAN
DRAWING TITLE	PROPOSED BARN LAYOUT PLAN (With Levels)
FLOOR	G 0
DESIGNER:	CHRISTINA FALLAH
PROJECT MANAGER:	CHRISTINA FALLAH
DRAWING COORDINATOR email: harryk@christina-fallah-designs.com	HARRY KUMAR
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DATE:	03.08.2022
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ASSUMED LOCATION OF EXISTING NEIGHBOURING POND

OVERFLOW FROM SITE POND TO NEIGHBOURING POND WITH NON RETURN VALVE SUBJECT TO EA APPROVAL

EXISTING WATER COURSE LOCATION. TBC

PROPOSED CHANNEL DRAIN

SITE EXISTING POND

ASSUMED CONNECTION BETWEEN EXISTING NEIGHBOURING POND AND EXISTING WATER COURSE. TBC

CONNECTION TO EXISTING POND

CONNECTION TO EXISTING POND

PROPOSED MAINS WATER

EXISTING CHANNEL DRAIN TO BE MAINTAINED. ASSUMED TO BE CONNECTED TO EXISTING DRAINAGE SYSTEM AND POND.

NOTES:
DRAINAGE LAYOUT AND DISCHARGE INDIRECTLY TO EXISTING WATER COURSE IS SUBJECT TO EA APPROVAL.

FOUL WATER TO CONNECT TO EXISTING SEWAGE TREATMENT SYSTEM

IRRIGATION TANK LOCATION TBC

PROPOSED CHANNEL DRAIN

ASSUMED LOCATION OF EXISTING SEWAGE TREATMENT SYSTEM

OVERFLOW FROM RAINWATER HARVESTING TANK

OUTLET FROM RAINWATER HARVESTING TANKS

ROOF DRAINAGE INLET TO RAINWATER HARVESTING TANKS

WATER MAIN SUPPLY FOR EVENTUAL TOP UP.

EXISTING CHANNEL DRAIN TO BE MAINTAINED. ASSUMED TO BE CONNECTED TO EXISTING DRAINAGE SYSTEM

PROPOSED RAINWATER HARVESTING TANK. LOCATION TBC

PIPE CONNECTING THE 2 RAINWATER HARVESTING TANKS

PROPOSED RAINWATER HARVESTING TANK. LOCATION TBC

DITCH

CATCHPIT MANHOLE

NOTES

1. Do not scale from this drawing
2. These drawings are to be read in conjuction with the Architects drawings
3. For setting-out dimensions of SVP's, RWP's etc, refer to Architect's or Mechanical Engineer's drawings. Positions shown are indicative and subject to final design.
4. Invert levels and positions of existing drains / chambers / sewers where new connections are to be made must be checked and confirmed to the engineer prior to the commencement of any works.
5. All drainage works shall be carried out in accordance with the requirements of the Local Authority, the Environment Agency and in conjunction with all relevant British Standards, Codes of Practice and Tenders for Adoption' 6th Edition and any subsequents as appropriate.
6. All drainage shall comply with the typical details and the requirements of BS EN 752 and Part H of the Building Regulations.
7. Any part of the existing drainage system to be retained as part of the new scheme shall be cleaned and inspected. Any structural defects shall be repaired using appropriate and approved means.
8. Refer to manhole schedules or drawings for manhole types, sizes, depths and invertlis requirements.
9. All foul connections shall be 100mm diameter Plastitorin or equivalent PVC-U pipes to BS EN 1401 unless otherwise specified.
10. All surface water drainage shall be 150mm diameter Plastitorin or equivalent PVC-U pipes to BS EN 1401 unless otherwise stated.
11. All precast concrete units used in the drainage works shall be manufactured using 40N/mm² minimum cement.
12. Manhole covers and frames shall be BS EN 124 and shall be Ductile Iron. Covers and frames shall be: heavy duty D400 in carriageways and vehicular areas and medium duty B125 in footways and soft landscaping. In blocked concrete paved areas covers shall be recessed fabricated steel.
13. Refer to structural drawings for details of manholes and sewers constructed within floor slabs and foundations.
14. Cover levels are to be adjusted exactly to suit finished ground levels.
15. At least one soil pipe at the head of each foul run shall vent to the atmosphere.
16. HEALTH AND SAFETY: The works shall be carried out by specialist competent and experienced contractors who are members of a recognised industry organisation.
17. Operatives shall have received full and appropriate training for the operations they are to undertake. All work shall be carried out in accordance with all pertinent Health and Safety Regulations.
18. Existing drainage to be removed is to be broken out to bed level and void backfilled with granular material, compacted in layers not exceeding 250mm.
19. All drain runs from Stack, stub stacks or rv outlets to be 450 at 1:40 gradient unless otherwise stated.
20. Access gullys are to be provided to all rainwater pipes, a min 300 x300 trapped ground level or to discharge into roadside trapped channel gullies.
21. All Gradients of drainage runs are indicative, runs to be laid invert to invert.
22. Generally pipes to have granular Bed & Surround (Type S) in accordance with manufacturers recommendations, including adequate protection with respect to depth and flotation. Drainage with less than 600m cover to have concrete bed and surround (type Z).
23. All gravity drainage to be laid to levels shown using flexible jointed pipes, either uPVC to BS 4660 and BS 5481 or vitrified stoneware to BS EN 295.
24. Depth and location of existing services to be traced prior to any construction.
25. All assumptions, buried obstructions encountered during the construction of Highway & Drainage Works are to be broken out to best level of invert and sewers, and the Contractor to supervise and advise any need to additional depth to allow for laying service company's mains and services.
26. Bybrd generally to satisfy the requirements of BRE Special Digest 1 w - NC-1 & Site Investigation Report.
27. Existing runs, etc are to be laid to manufacturers minimum cover and depth to allow adequate fall from adjoining unit.
28. Groundworker to ensure proposed finished ground profile is formed by evenly grading between the spot levels shown.

LEGEND

- Existing Private Foul Water
- Existing Public Surface Water
- Existing Public Foul Water
- Existing Private Surface Water
- 100mmø @ 1/100 — Private Foul Water (pipe Size @ Gradient)
- 100mmø @ 1/100 — Private Surface Water (pipe Size @ Gradient)
- Channel Drain
- Rainwater Harvesting Tank
- F2.1 — Private Foul Water Manhole (Type D)
- S2.1 — Private Surface Water Manhole (Type D)
- Silt Trap
- Flow Control
- rwp — Rainwater Pipe
- svp — svp/sov/ss

PRELIMINARY

Rev	Revision note	Date
-	Preliminary	

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Project
Brook House
Maplehurst Road
Horsham West Sussex RH13 6RB

Title
Drainage Layout

Drn By	Chk By	DRG NO	REV
MMH		585022-100	P
Date	Scale		
Oct 22	1:100		

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civil and structural

Appendix D:

Existing House Fixture and Fitting Schedule

vkhp ref: 585022
Address: Brook House, Maplehurst Road, Horsham, West Sussex, RH13 6RB

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Existing Building Fixures and Fitting Schedule

Appliance	Sink	Dishwasher	Washing Machine	WC	Wash Hand Basin	Shower	Bath
Utility			1	1	1		
Kitchen	2	1					
1st Floor Bathroom				1	1		
1st Floor Bathroom(2)						1	
Master Bedroom				1	2	1	1

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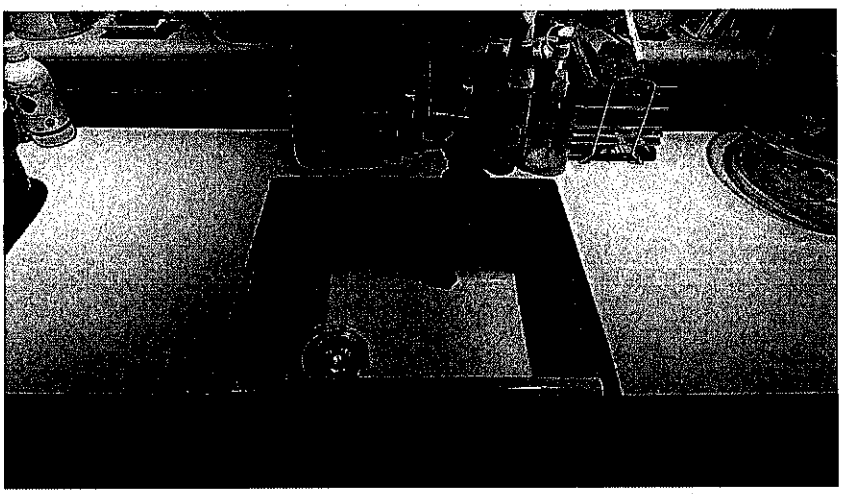
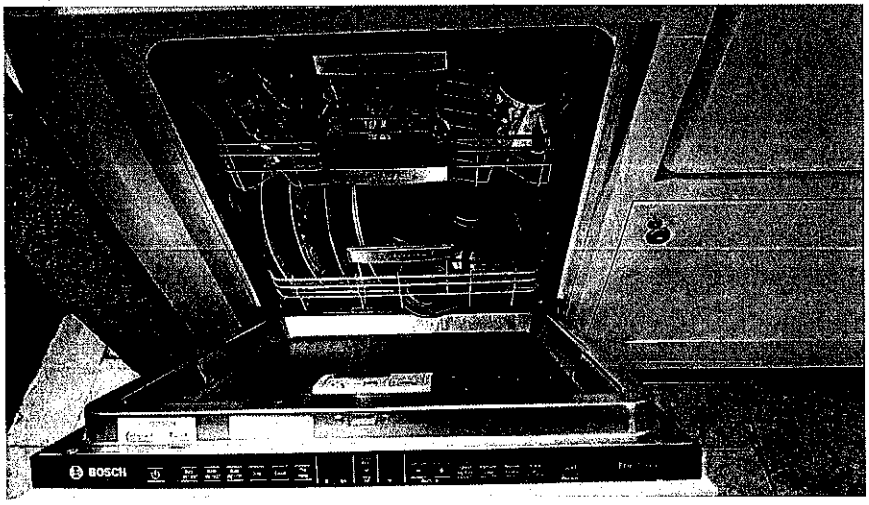
civil and structural

Kitchen Fittings





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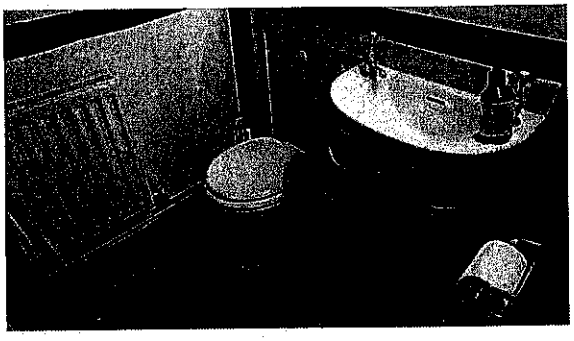
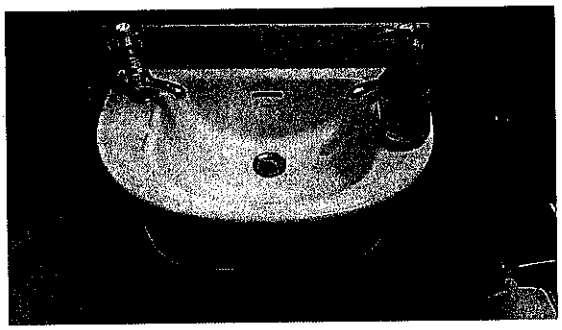
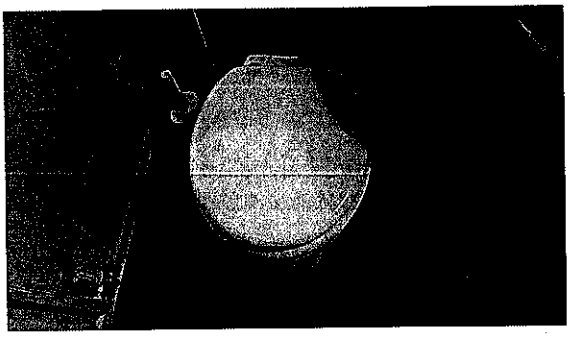
Utility Room Fittings







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Master Bathroom Fittings





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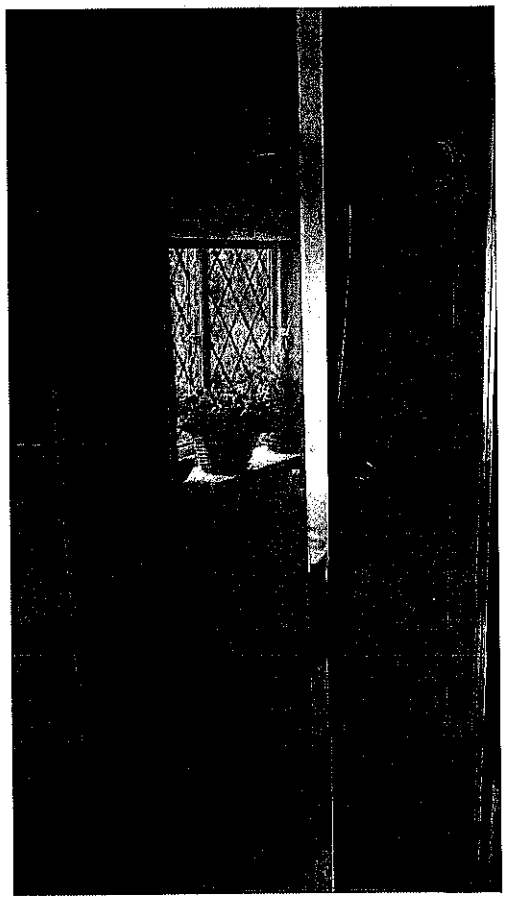
1st Floor Bathroom 1 Fittings



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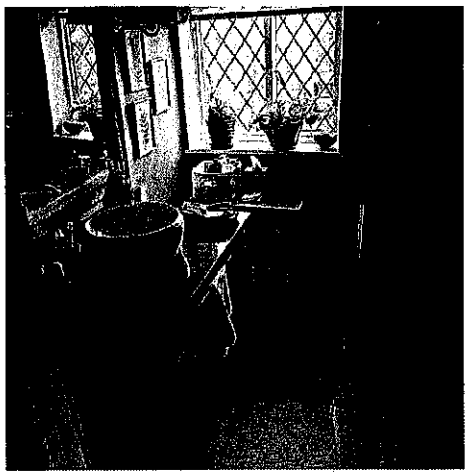
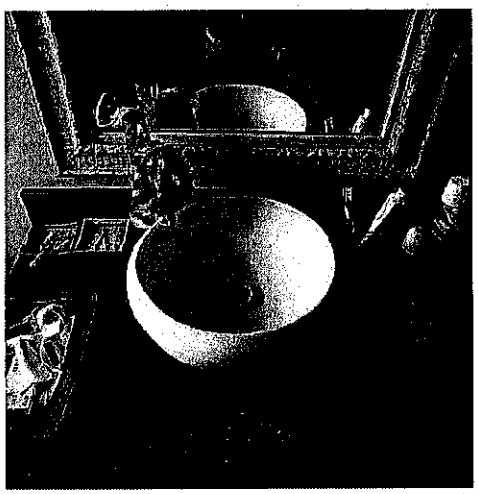
1st Floor Bathroom 2 Fittings







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Appendix E:

Proposed Fixtures and Fittings

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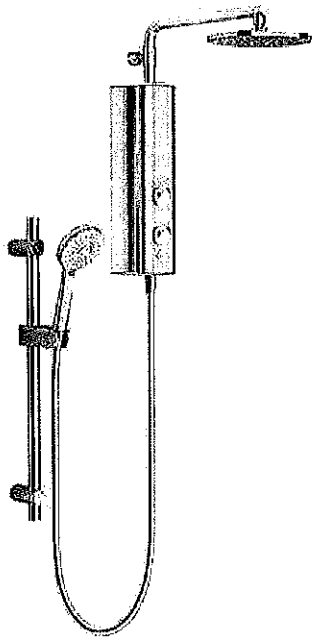
SHOP NOW

‹ Back to Home

Home › Showers › Electric Showers › AQUAS Electric Showers › AQUAS AquaMax Flex Manual Smart 9.5KW Full Chrome Electric Shower



AQUAS AquaMax Flex Manual Smart 9.5KW Full Chrome Electric Shower

Part No.: A000270

7 Reviews | Write a Review

£349.95

~~Was £399.95~~ SALE

IN STOCK

Choose Quantity: 1 ADD TO BASKET

Estimated Delivery Cost

Standard Delivery (2-7 working days) - £5.94

Next Day Delivery (1 Working Day) - £9.95

Orders over £499 - **FREE STANDARD DELIVERY**

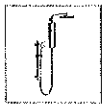
International Delivery Available

For delivery on Friday

Order in next

0day(s) | 23hrs | 53mins

Images Dimensions Instructions







EMAIL ME / SHARE

AQUAS

Bundle Deals | Product Info | Product Dimensions | Delivery Costs | Customer Questions | Returns Info | Finance Options

Description

AQUAS AquaMax Flex Manual Smart 9.5KW Full Chrome Electric Shower

2 Years

The powerful 9.5KW AQUAS AquaMax Flex Manual Smart Electric Shower comes with an overhead rainfall shower for a drenching. Want a more targeted stream? Switch seamlessly between fixed and handheld showerheads via the simple control unit. Flow limiters ensure a constant stream even during low-pressure fluctuations – you can even adjust the power to 5KW for an eco-friendly flow without compromising on your invigorating shower experience.

Two-Way Divertor
Features a Two-way ceramic divertor to switch between Overhead and Handshower.

Longer Reach
Extra long 400mm+ reach extending the shower head out further from the wall

Latest model now features two power settings for warm and cold seasons:

cooler season

Support

You may also like



£349.95



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0%
on orders over £250

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Product Details

Range: AQUAMAX
Name: Top Manual FLEX SMART
Colour: Chrome Face / Chrome Body
Handshower:
Handshower 100mm diameter, 3 spray pattern: rain, massage, mixed
Overhead shower: SMART 200mm
Slidebar:
Rail length 600mm with front load slider
Distance between rail brackets adjustable
Smooth silver hose 1,5m 1/2" x 1/2" twistfree non conductive
Shower arm 400mm with free fixation
Power Rating: 9.5kw
Minimum Flow required: 1.0 Bar
Temperature control:
Electricity leakage safety
High pressure protection
Temperature and flow stabilizer
Advantages:
Fiber reinforced Tank - less limescale, extended life, energy efficient, burst resistant
Controls:
Start/Stop button
Easy Grip - temperature control
Two-way ceramic divertor to switch between Overhead and Handshower
Installation:
Electrical connection
Water entry points right - top, bottom, back
All Indulge and AQUAMAX models have a water connection that is suitable for a "right" only water supply connection.
The water connection pipe is not reversible.
Use standard UK plumbing connections - compression - Push fit.
Cable entry points left hand side - top, bottom, back : right hand side - top, bottom, back
Outlet connection 1/2" compression and pushfit 1/2"
Power Input:
A Power Input of 240 V and 40 amp circuit breaker is required for max output (9.5 KW) anything less and the heater will not operate at max efficiency
Min-Max Working Pressure:
A Min Dynamic flow pressure of 100 K /Pa (15 ib / Sq In) - 1.0 BAR is required
A Max Static pressure of 500 K /Pa (75 ib / Sq In) - 5.0 BAR should not be exceeded
Approvals: BEAB, CE; ROHS

Frequently Asked Questions

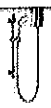
https://aquasshower.co.uk/en/customer-care/question-and-answers

Images are for illustration purposes only

Warranty: 2 years

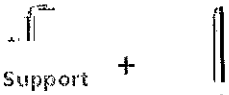
Gravity Fed Systems:
This AQUAS shower needs a minimum 1.0 bar of static water pressure feeding the shower, if the shower is being fitted to a gravity fed water tank from the loft (which we do not recommend) it needs to be fitted with a negative or universal head shower pump, this AQUAS shower is meant to have its own independent water feed from the mains.

DOWNLOAD INSTRUCTIONS



£449.95

Victorian Plumbing Bundles



Total Price if Purchased Separately:
£379.90

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Monza Waterfall Basin Tap

Part No.: WF001

175 Reviews | Write a Review

£54.95

IN STOCK

Choose Quantity: 1 ADD TO BASKET

Estimated Delivery Cost

Standard Delivery (2-7 working days) - £2.94

Next Day Delivery (1 Working Day) - £6.95

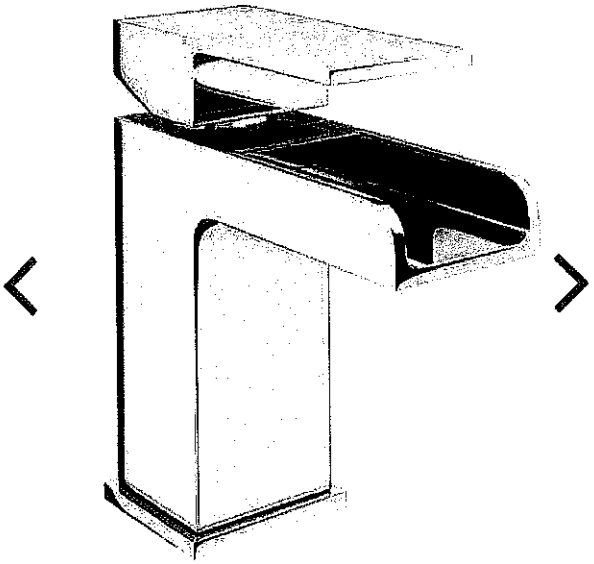
Orders over £499 - **FREE STANDARD DELIVERY**

International Delivery Available

For delivery on Friday

Order in next

0day(s) | 23hrs | 50mins



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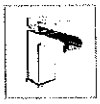




EMAIL ME / SHARE VIEW IN ROOM monza

Bundle Deals | Product Info | View Range | Product Dimensions | Delivery Costs | Customer Questions | Returns Info | Finance Options

Description

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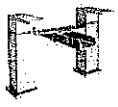
£99.95



£89.95

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Monza Waterfall Basin Tap - Chrome

5 Years

Choose this decadent waterfall basin tap from Monza to add contemporary flair to your one tap hole basin. Manufactured from durable brass with a polished chrome finish, the tap has an ultra-modern square design. One easy-to-use lever handle offers you complete control over water temperature and flow. What's more, the piece's distinctive open spout allows the water to cascade into your basin for a beautiful waterfall effect.

Product Details
Height: 138mm
Width: 54mm
Depth: 132mm
Lever Length: 100mm
High quality design and build
Material: Brass body
Colour/Finish: Chrome finish
Hot and cold indicators (H & C) on tap head
Easy installation
Deck Mounted
Working Pressure: 0.5 Bar - 5 Bar
Pipe Size: 15mm (1/2" BSP)
High water pressure systems may need to reduce the flow of water for waterfall effect to work effectively.

Waste not included.

Guarantee: 5 Year

All measurements are approximate

Product images are for illustrative purposes only.

Comprises

(1) Waterfall Basin Tap
(2) Flexi-Hose Pipes
(1) Installation Instruction with fixings

DOWNLOAD INSTRUCTIONS

Victorian Plumbing Bundles


+


IN STOCK £54.95 | IN STOCK £89.95

Total Price if Purchased Separately: **£144.90**
Bundle Saving: **£1.45**
Total Price: £143.45

View Bundle Details | ADD BUNDLE TO BASKET


+


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Bundle Saving: **£1.55**
Total Price: £153.35

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+


IN STOCK £54.95 | IN STOCK £179.95

Total Price if Purchased Separately: **£234.90**
Bundle Saving: **£2.35**
Total Price: £232.55

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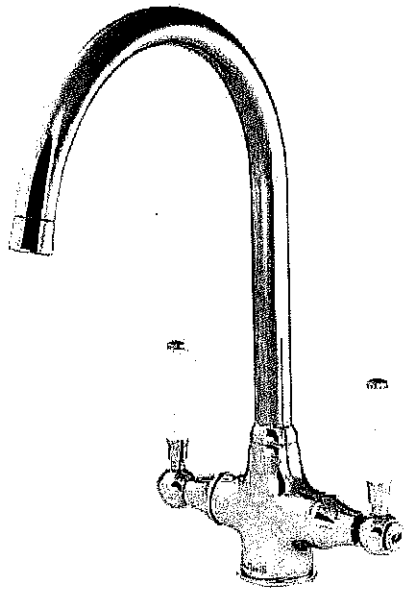

Reginox Elbe Traditional Dual Lever Kitchen Tap Mixer - Chrome - ELBE

Part No.: ELBE

46 Reviews | Write a Review

£101.64

IN STOCK

Choose Quantity: 1 ADD TO BASKET

Estimated Delivery Cost

Standard Delivery (2-7 working days) - £5.94

Next Day Delivery (1 Working Day) - £9.95

Orders over £499 - **FREE STANDARD DELIVERY**

International Delivery Available

For delivery on Friday

Order in next

0day(s) | 23hrs | 34mins

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REGINOX

Images Dimensions





Product Info | Product Dimensions | Delivery Costs | Customer Questions | Returns Info | Finance Options

Description

Reginox Elbe Traditional Dual Lever Kitchen Mixer - Chrome - ELBE

5 Years

For a fuss free traditional mixer, the Reginox Elbe Dual lever Chrome Kitchen Mixer Tap is a practical choice. The tall, arching spout reaches 210mm above your sink, with a swivel action that makes it ideal for double bowl sinks and busy kitchens. A fitted aerator helps shape the water stream to prevent splashing. Crafted from durable brass with ceramic plating on the two levers, this chrome mixer tap has a classic look that will last. Pair with a traditional basin like the Reginox White Ceramic 1.5 Bowl Kitchen Sink.

Product Details

Brand - Reginox
Product Code - ELBE
Finish - Chrome Plated
Dual lever Victorian Style designer kitchen mixer tap
High quality polished chrome plated finish on brass body
The swivel spout makes it ideal for 1.5 and double bowl sinks
Fitted with 1/4 turn ceramic disc technology for ease of use and durability
Hot tap turns clockwise to open / Cold tap turns anti-clockwise to open
Type: Monobloc mixer tap
Minimum operating water pressure is 0.2 bar
Fittings and flexi pipes included
Tap comes with aerator in the spout
Flow Rate - 0.2 bar - 4.2 lm / 1.0 bar - 10 lm

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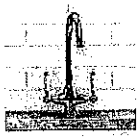
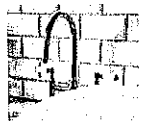


£69.95



£69.95



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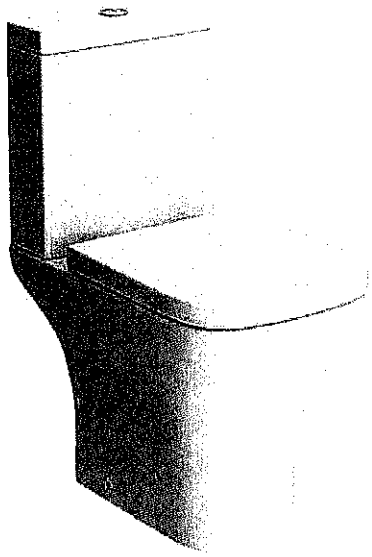
Venice Modern Toilet + Soft Close Seat



Part No.: VCCWC

10 Reviews | Write a Review

£199.95

IN STOCK

Choose Quantity: 1 ADD TO BASKET

Estimated Delivery Cost

Standard Pallet Delivery (2-7 working days) - £19.94

Next Day Pallet Service (1 Working Day) - £39.95

Orders over £499 - **FREE STANDARD DELIVERY**

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EMAIL ME / SHARE | VIEW IN ROOM | SPARE PARTS

Images | Dimensions | Instructions





VENICE

Bundle Deals | Product Info | Product Dimensions | Delivery Costs | Customer Questions | Returns Info | Finance Options

Description

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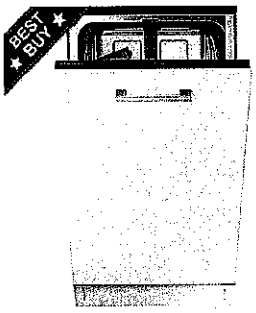

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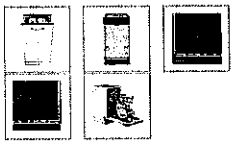

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Product data sheet

Samsung DW50R4060BB Fully Integrated Slimline Dishwasher - Black

£579

Collect 2,316 points

4.8 / 5 (16 reviews)

Add to basket

Dimensions (cm): (H)81.5 x (W)45.0 x (D)55.0

✓ Flexible Delivery Options Available

Aftercare
Protection plans from £7.49 per month More info

Reviews | Specification

4.8 out of 5 customer rating

Fits everything in after Sunday dinner no more chained to the sink, also it's reasonably quiet while in action and easy to use controls

Need it quickly?
Connection available for £100.00
Disconnection is not available on this product
Recycling available for £20.00
14 Day Returns guarantee
Price Match Promise

Samsung DW50R4060BB specification

Product Detail

Dimensions	(H)81.5 x (W)45.0 x (D)55.0
Brand	Samsung
Colour	Black
Category	Slimline Dishwashers
SKU	DW50R4060BB_BK
Dimensions With Packaging	(H)88.5 x (W)51 x (D)65 cm
Dishwasher Type	Slimline Dishwasher
Weight	43 Kg
Weight With Packaging	37.5 Kg
Country Of Origin	China
Maximum Energy Rating	A
Minimum Energy Rating	G

Product Overview

Childproof Lock	Yes
Control Type	Touch Control
Time Saver Function	No
Fascia Door Fixing Type	Fixed Door Fixing
Energy Rating	E
Cutlery Tray	No
Noise Level	44 dB
Drying Performance	A Rated

Product Overview

Number of Place Settings	9 Place Setting
Adjustable Plate Spikes (Lower Basket)	Yes
Anti Flood Devices	Yes
Audible End of Programme	No
Auto 3 In 1 Detection	Yes
Cutlery Basket	Yes
Delay Timer	Yes
Delay Timer Length	24 Hours
Drying Method	Auto Open
Half Load / Zone Wash Option	Yes
Height Adjustable Top Basket	Yes
Requires Own Furniture Door	Yes
Rinse Aid Indicator	Yes
Salt Level Indicator	Yes
Time to End of Programme	No
Display Type	LCD
Integrated appliance	Yes
Pre 2021 Energy Rating	A++

How Well Does It Perform?

Annual Energy Cost Based On 15.40p/Unit	£30.34
Annual Energy Consumption	197 Kwh
Water Consumption	9.9 Litres
Annual Water Consumption	2772 Litres
Washing Performance	A Rated

Standard Programmes

Economy Wash	Yes
Number of Wash Programmes	6
Intensive Cycle	Yes
Number of Wash Temperatures	6
Glass Care / Delicate Programme	Yes
Pre Rinse	No
Quick Wash	Yes
Quick Wash Time	38 Minutes

Warranty

Manufacturer Warranty	2 Year
Manufacturer Warranty Domestic Use Only	Yes
Manufacturer Warranty Registration Required	With Samsung within 90 days of purchase

Design

Interior Material	Stainless Steel

Features We Love

Aquastop	Yes
Auto Door Open™	Yes
Samsung SmartThings App Compatible	Yes

Installation

Water Supply	Cold Fill / Up To 60 Degrees

Hide full specification

Related Products

- Built In Slimline Dishwashers
- Samsung Slimline Dishwashers
- Black Slimline Dishwashers

£579

Collect **2,316** points

Add to basket

✓ Flexible Delivery Options Available

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Exact product specifications & images may occasionally differ as a result of changes made by the manufacturer.

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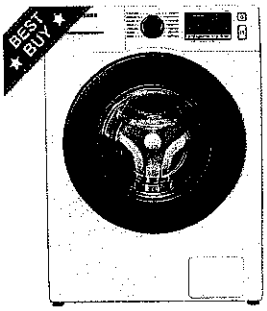

click to enlarge



A B G

Product data sheet

Samsung Series 5 ecobubble™ WW80TA046AE 8Kg Washing Machine - White

£449

4.8 / 5 (979 reviews)

Collect **1,796** points

Add to basket

✓ Flexible Delivery Options Available

8kg drum capacity means it'll easily tackle the laundry pile in a medium-sized household
- B energy rating is kind to the environment and to your utility bills
- Thanks to its maximum spin speed of 1400RPM, you'll never be waiting too long for items to dry
- Take your pick from 14 programmes, so you'll always find one that'll care for the fabrics you're washing

Samsung washing machines may be some of the more expensive models on the market, but they're stylish and loaded with all the best tech that the market has to offer. If you're the type of household to have a smart speaker in every room, this model is right up your street.

Dimensions (cm): (H)85.0 x (W)60.0 x (D)55.0

Aftercare
Protection plans from £7.99 per month More info

Reviews | Specification

4.8 out of 5 customer rating

Best washing machine we've owned. Very efficient and quiet. Even plays a little song when the load has finished.

Need it quickly?
Connection available for £25.00
Disconnection available for £10.00
Recycling available for £20.00
14 Day Returns guarantee
Price Match Promise

Samsung WW80TA046AE specification

Product Detail

Dimensions	(H)85.0 x (W)60.0 x (D)55.0
Brand	Samsung
Colour	White
Category	Washing Machines
SKU	WW80TA046AE_WH
Dimensions With Packaging	(H)89 x (W)67 x (D)66 cm
Weight	68 Kg
Weight With Packaging	70 Kg
Country Of Origin	Poland
Maximum Energy Rating	A
Minimum Energy Rating	G

Product Overview

Product Overview

Childproof Lock	Yes
Control Type	Buttons / Dial
Delay Timer Length	24 Hours
Display Type	LED
Max Spin Speed Varies Per Programme	Yes
Max Wash Load Varies Per Programme	Yes
Max Wash Temperature Varies Per Programme	Yes
Noise Level (Spin)	74 dB
Noise Level (Wash)	53 dB
Wash Load	8 Kg
Energy Rating	B
Wash Performance	A Rated
Spin Performance	A Rated
Max Spin Speed	1400 RPM
Delay Timer	Yes
Fuzzy Logic	Yes
Hand Wash	Yes
Large Porthole	Yes
Requires Own Furniture Door	No
Time Saver Function	Yes
Time to End of Programme	Yes
Variable Spin	Yes
Variable Temperature	Yes
Wide Opening Door	Yes
Water Remaining After Spin	44 %
Pre 2021 Energy Rating	A+++

How Well Does It Perform?

Annual Energy Cost Based On 15.40p/Unit	£17.86
Annual Energy Consumption	116 Kwh
Annual Water Consumption	8100 Litres

Standard Programmes

Cotton Programme	Yes
Dark Wash	No
Economy Wash	Yes
Intensive Cycle	No
Mixed Load	No
Number of Wash Programmes	14
Quick Wash Time	15 Minutes
Silk Wash	No
Spin And Drain	Yes
Sports Programme	No
Super / Extra Rinse	Yes
Synthetics	Yes
Half Load Function	No
Pre Wash	Yes
Quick Wash	Yes

Standard Programmes	
Rinse Hold	Yes
Wool Programme	Yes
Delicate Wash	Yes
Warranty	
Manufacturer DD Motor Warranty	10 Year
Manufacturer Warranty	5 Year
Manufacturer Warranty Domestic Use Only	Yes
Manufacturer Warranty Registration Required	With Samsung within 90 days of purchase
Features We Love	
Easy Iron Function	Yes
Anti Allergy	Yes
Bubble Soak	Yes
Digital Inverter Motor	Yes
Drum Clean	Yes
ecobubble™	Yes
Fabric Care Drum	Yes
Hygiene Steam	Yes
Smart Check	Yes
Stay Clean Drawer	Yes

Hide full specification

Related Products

- Free Standing Washing Machines
- Samsung Washing Machines
- White Washing Machines

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Appendix F:

Rainwater Harvesting Calculations

vkhp ref: 585022
Address: Brook House, Maplehurst Road, Horsham, West Sussex, RH13 6RB

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Rainwater Harvesting System (BS8515-Intermedite Approach)

SAAR	800	Standard Average Annual Rainfall
e	0.7	yield coefficient
h	0.7	hydraulique filter
Pd1	39.77	Daily requirement per person for barn
Pd2	71.95	Daily requirement per person for main house

UNIT	Type	No Beds	No Units	Population Assumed	Roof Area	9.6% Annual Rainwater Yield (Litres)	9.6% Annual Water Demand (Litres)	Tank Size (Litres)
1 Bed	Converted barn	1	1	1.32	142	7633.92	1076.95	1100
3 Bed	Existing House	3	1	2.47	70	3763.2	2518.25	2600
TOTAL					212	11397.12	3595.2	3600

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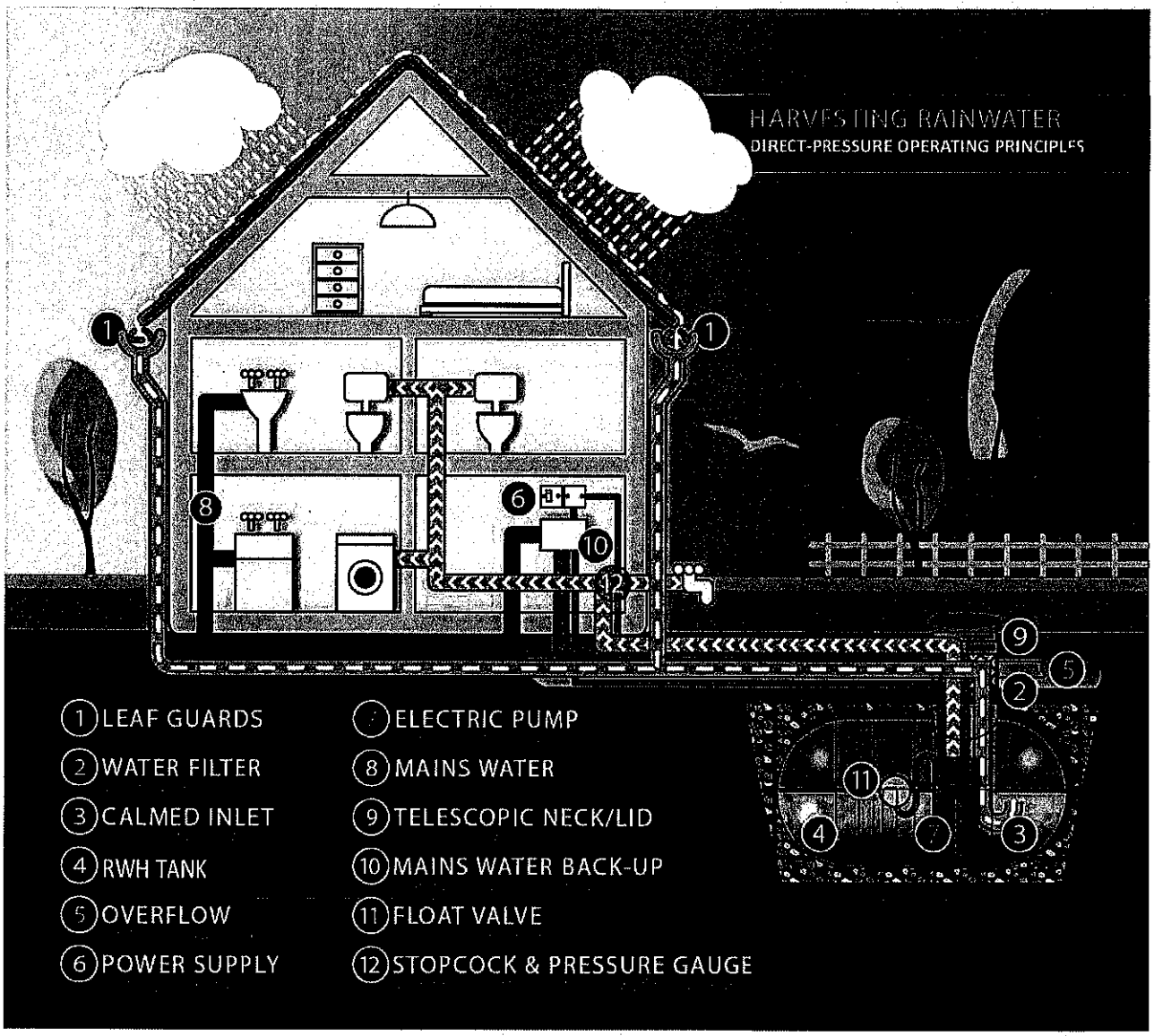
Appendix G:

Typical Rainwater Harvesting System

vkhp ref: 585022
Address: Brook House, Maplehurst Road, Horsham, West Sussex, RH13 6RB


HARVESTING RAINWATER
DIRECT-PRESSURE OPERATING PRINCIPLES
1 LEAF GUARDS
2 WATER FILTER
3 CALMED INLET
4 RWH TANK
5 OVERFLOW
6 POWER SUPPLY
7 ELECTRIC PUMP
8 MAINS WATER
9 TELESCOPIC NECK/LID
10 MAINS WATER BACK-UP
11 FLOAT VALVE
12 STOPCOCK & PRESSURE GAUGE

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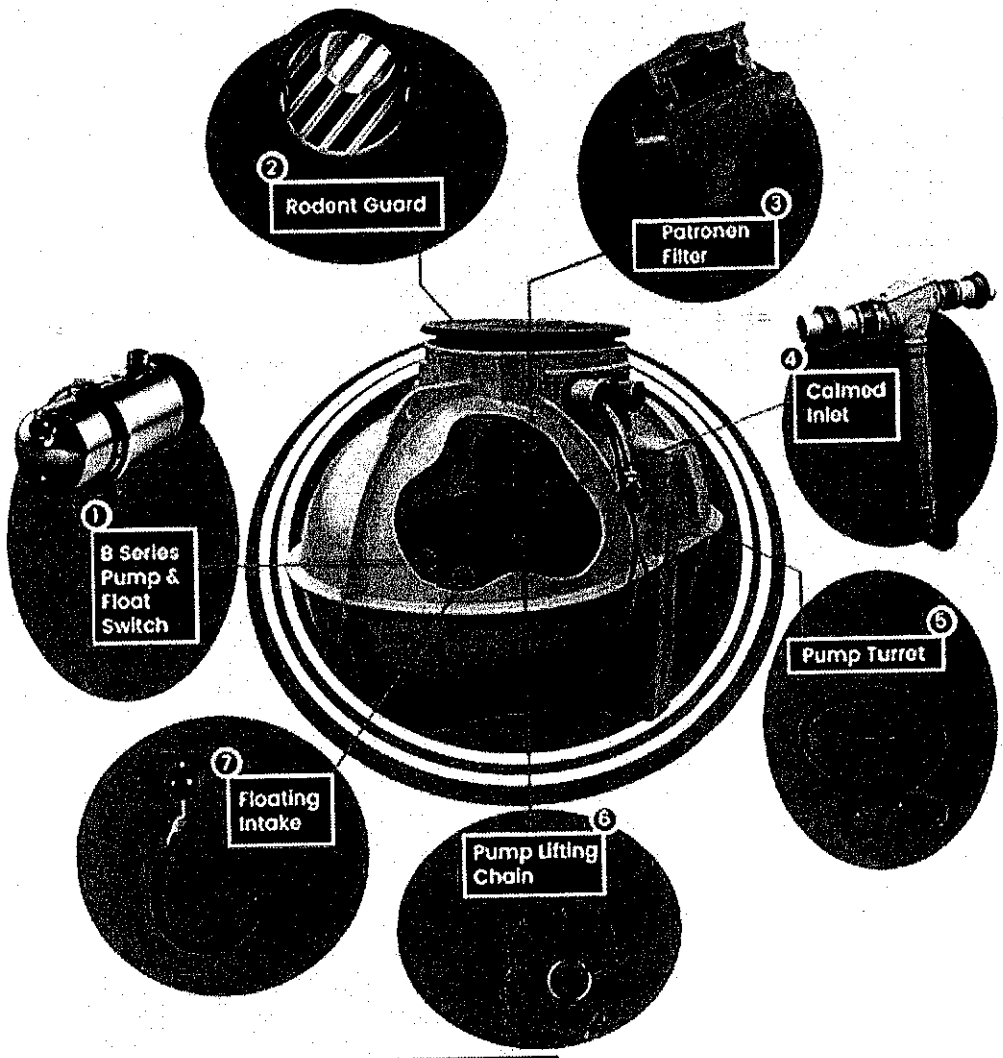
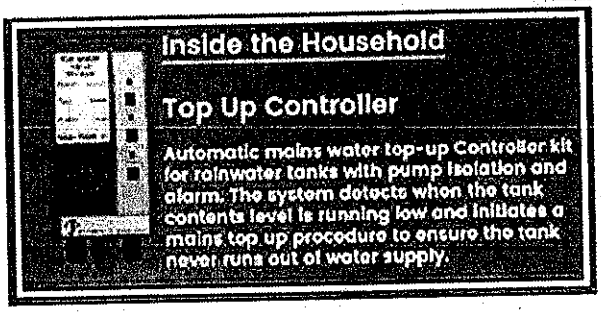
Water Infrastructure Systems

DIRECT PRESSURE SYSTEM HOME & GARDEN





Inside the Household

Top Up Controller

Automatic mains water top-up Controller kit for rainwater tanks with pump isolation and alarm. The system detects when the tank contents level is running low and initiates a mains top up procedure to ensure the tank never runs out of water supply.

sdslimited.com

SDS Ltd, Clearwater House, Castlemills, Biddisham, Somerset, BS26 2RE

T: +44 (0)1934 751303

E: info@sdslimited.com

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SYSTEM:

A Direct Pressure System is the most popular, cost effective and risk-free option for rainwater harvesting. It can be used for both garden and household applications, for example, it can be used in buildings with a small block of toilets, and for garden irrigation and machine washdowns. The system sends pressurised water straight from the external tank directly to the application. If the water level in the tank gets too low, the top up controller will activate a mains top up so the tank doesn't empty.

COMPONENTS

P Series pumps are stainless steel pumps with plastic coverings and are suitable for domestic water systems, rainwater harvesting, tanks, surface irrigation and tank transfer.

The rodent guard protects the internal water from rodents and large debris which could contaminate the water entering via the overflow.

The PF filter is designed with a level drop, this along with its very smooth surface structure allows excess dirt to be rinsed straight through to the overflow. The filter cartridge mesh is stainless steel within plastic housing and is self-cleaning, though regular inspection is recommended.

The calmed inlet removes the kinetic energy from the water as it enters the tank. This means that as the water enters it doesn't stir up the contents of the tank.

The turret set provides the connection between the pump and the pipework leading to the various external applications. They are made from a flexible plastic so can easily deal with the pressurised water coming from the pump.

The pump lifting chain aids in servicing the pump as it allows the pump to be easily pulled up towards the top of the tank.

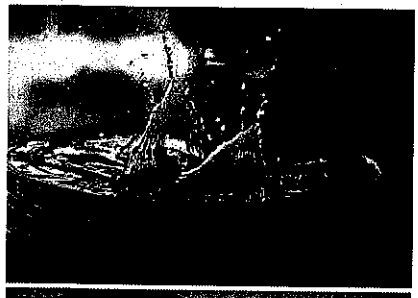
A floating intake ensures that no water from either the bottom or the surface of the tank is taken in. Meaning only clean water passes through the system and is pumped into the household.

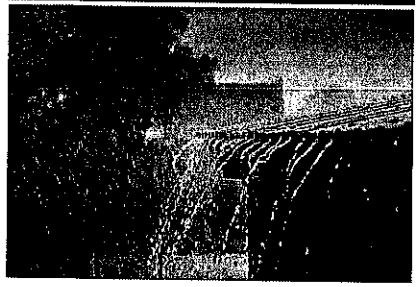
ADDITIONAL SPECIFICATIONS

- Service duct
- Delivery hose (Options available)
- Top up controller
- Tanks sold separately
- Extra overflow on tanks 5600 – 10000

POPULAR USE:

- Garden irrigation
- Cleaning the car
- Washing windows
- Power washing drive/patio
- Outside tap and hosepipe
- Flushing toilets
- Drinking water (if tank is potable)
- Washing machine





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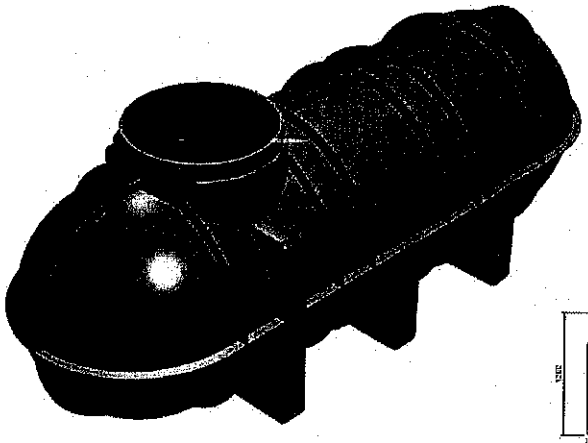
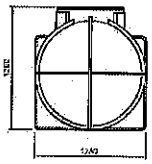
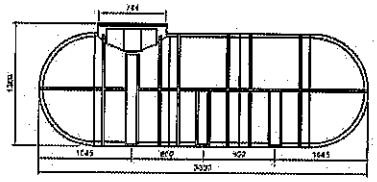
SDS 3,400 Litre Rainwater Harvesting Tank

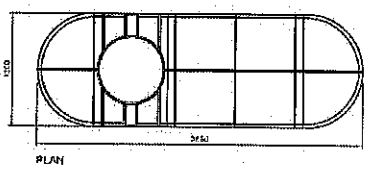




END ELEVATION



SIDE ELEVATION



PLAN

Client	SDS	Details
Project Name	3,400 Litre Tank	
Type	Standard Detail	
Date	-	
Drawing no.	-	
Revision	A	

Notes:

This Drawing is to be read in conjunction with all relevant Architect, Engineers and Specialists drawings and specifications.

Do not scale from the drawing in either paper or digital form. Use written dimensions only.

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