Collyers The Street Slinfold Horsham
Demolition of existing garage and erection of a detached single storey annexe building with home office, dog wash area and log store

DC/22/0902

Water Neutrality Statement – Rev E

Pre-Commencement (Slab Level) Condition: No development above ground floor slab level shall commence until full details of the water efficiency measures required by the approved water neutrality strategy (Melin, Design Stage Water Neutrality Report dated 13th July 2022) have been submitted to and approved in writing by the Local Planning Authority.

Reason: To ensure the development is water neutral to avoid an adverse impact on the Arun
Valley SACSPA and Ramsar sites in accordance with Policy 31 of the Horsham District
Planning Framework (2015), Paragraphs 179 and 180 of the National Planning Policy
Framework (2021), its duties under the Conservation of Habitats and Species Regulations
2017 (as amended), and s40 of the NERC Act 2006 (Priority Habitats & Species).

Background

Collyers is a family house in the centre of Slinfold. The proposal for Collyers was divided into 2 parts. The annex – which has been fitted with eco taps etc in line with the water neutrality report approved at planning and the main house works. The Main House, however, was initially thought to need new taps throughout. This was shown in The Melin water neutrality report. However, in discussion with various plumbers it transpires that there is no need to replace the taps and that flow restricting cartridges can be fitted. The reason for this application is to satisfy the condition and to also get approval for the cartridges so that the work can be finished.

Baseline Calculations

The attached water bill was used in The Melin base line calculations.

Appliance	Qty.	Average Water Usage	
Kitchen/Utility Mixer taps	2	11.5 litres per minute	
All Other Mixer taps	4	9 litres per minute	
Baths	1	180 capacity in litres	
Showers	1	12 litres per minute	
Dual flush toilets	3	Part (capacity in litres)	Full (capacity in litres)
		3	6
Dishwashers	1	1.25 litre per place setting	
Washing machine	1	8.17 litres per dry kg load	
Total water consumption: 134.9		litres per person per day	



Page 1 of 3

WATER for LIFE from Southern Water

MR M GIBSON & MRS C GIBSON
COLLYERS
THE STREET
SLINFOLD
RH13 0RR

Making amends – we're deeply sorry
We've reduced your wastewater charges till 2025 to make up for failings in managing and reporting compliance at our wastewater treatment works. We agreed with Ofwat that customers will receive £123m and our shareholders will pay a £3m fine. Your charges may rise with inflation and depending on your water use, but they will be less than they would have been without that agreement. For more information see **southernwater.co.uk/making-amends.**

Visit our website for live chat or to log into your account
southernwater.co.uk/help

0330 303 0277
Weekdays - 8am to 7pm
Saturday - 8.30am to 2pm

Your customer number
10861546

Your payment reference
1896 0735 00013

Dear Mr M GIBSON & Mrs C GIBSON,

Here's your latest bill based on the meter reading we estimated on 13 September 2021. You currently pay by Direct Debit, so you don't need to do anything – your payments will be taken automatically.

Meter reading
Water used in cubic metres
86 m³
One cubic metre = 1,000 litres
This is equivalent to: 11 baths, 31 (4 min) showers, or 165 toilet flushes

Meter number: 8109311
Latest reading: 13 Sep 2021
19600 70
Previous reading: 19 Feb 2021
18750 10
Your next meter reading is scheduled to take place by 28 Mar 2022

Previous bill's usage
65.10 m³

Charges
£330.93
Bill date
17 Sep 2021

Billing period
From: 20 February 2021
To: 13 September 2021

Bill type
Metered - Direct Debit

Previous bill's charges
£246.01

Future payments
Next monthly payment
£51.30
15 Oct 2021

For full list of future payments, see Your payment summary.

Struggling to pay? See p. 3

Previous bill's payments
£38.40 monthly

Water

Period: 20 February 2021 to 31 March 2021			
Variable Rate	£1.426 x	16.60m³ =	£23.67
Standing Charge		=	£2.23
Period: 01 April 2021 to 13 September 2021			
Variable Rate	£1.487 x	69.00m³ =	£102.60
Standing Charge		=	£9.78
Total Water			**£138.28**

Wastewater

Period: 20 February 2021 to 31 March 2021			
Variable Rate	£1.998 x	15.36m³ =	£30.69
Standing Charge		=	£5.89
Period: 01 April 2021 to 13 September 2021			
Variable Rate	£2.045 x	63.82m³ =	£130.51
Standing Charge		=	£25.56
Total Wastewater			**£192.65**

Standing Charge:
This covers essential service costs such as sending bills, collecting payments and dealing with enquiries.

Wastewater charges:
Wastewater is charged at 92.5% of the volume of water supplied. These costs are higher as treatment and disposal of wastewater costs more than supplying fresh water.

Total water consumption per day, including external water, is therefore 134.9 litres/person/day.

This figure is then multiplied by the average occupancy of 2.86 totalling **385.81 litres/day**

Water meter readings have been provided as evidence of existing water usage (see appendix 2) including a photograph of the meter reading taken by the applicant on Monday 11th July 2022 showing between 19th February 2021 and 11th July 2022, 211 m^3 of water was used. This amounts to 211,000 litres. Divided by the number of days the reading relates, which is 507 days, equates to **416.17 litres per day**

Proposal Demand

For details of water demand see below:

Annex – proposed works

The table below provide a summary of the appliances water consumption as well as providing the overall *'design stage'* water consumption (litres/person/day) of the annex. This demonstrates that provided the sanitary fittings are specified following the maximum consumptions outlined below a Total Water Consumption of 80.2 litres/person/day should be achieved at *'as built'* stage. The value in the tables also includes the 5 litres/person/day required by Building Regulations for external water usage in a domestic dwelling.

Appliance	**Qty.**	**Average Water Usage**	
Kitchen tap*	1	6 litres per minute – see details below	
Wash Hand Basin taps	2	3 litres per minute -	
Showers*	1	6 litres per minute	
Dishwasher*	1	1.25 litres per place setting	
Washing Machine	1	8.17 litres/kg of dry load	
Dual flush toilets	2	Part (capacity in litres)	Full (capacity in litres)
		2.6	4

* No kitchen proposed, but a tap, dishwasher and washing machine have been included in the calculation to account for potential addition later in the lifetime of the building.

Total water consumption per day, including external water, is therefore 85.18 litres/person/day.

This figure is then multiplied by the average occupancy of 1.32 totalling **112.46 litres/day**

Main House – proposed works

The table below provides a summary of the appliances water consumption as well as providing the dwellings overall water consumption (litres/person/day) after water saving measures have been fitted to the existing dwelling. The value in the tables also includes the 5 litres/person/day required by Building Regulations for external water usage in a domestic dwelling.

Appliance	**Qty.**	**Average Water Usage**	
Kitchen/Utility Mixer taps	2	Proposed 6 litres per minute regulated by in line cartridge – see details below	
All Other Mixer taps	4	4 litres per minute – regulated by in line cartridge see details below.	
Baths	1	180 capacity in litres – same a before	
Showers	2	8 litres per minute – regulated by valve built into shower is lower than described in report	
Dual flush toilets	3	Part (capacity in litres)	Full (capacity in litres)
		3	6
Dishwashers	1	1.25 litre per place setting	
Washing machine	1	8.17 litres per dry kg load	
Total water consumption: 100.54		litres per person per day	

Total water consumption per day, including external water, is therefore 100.54 litres/person/day.

This figure is then multiplied by the average occupancy of 2.47 totalling 248.33 **litres/day**

Total water consumption for the proposed development is therefore **360.79 litres/day including Annex figures**

Water Reduction Measures

No water reduction measures are required

Offsetting measures

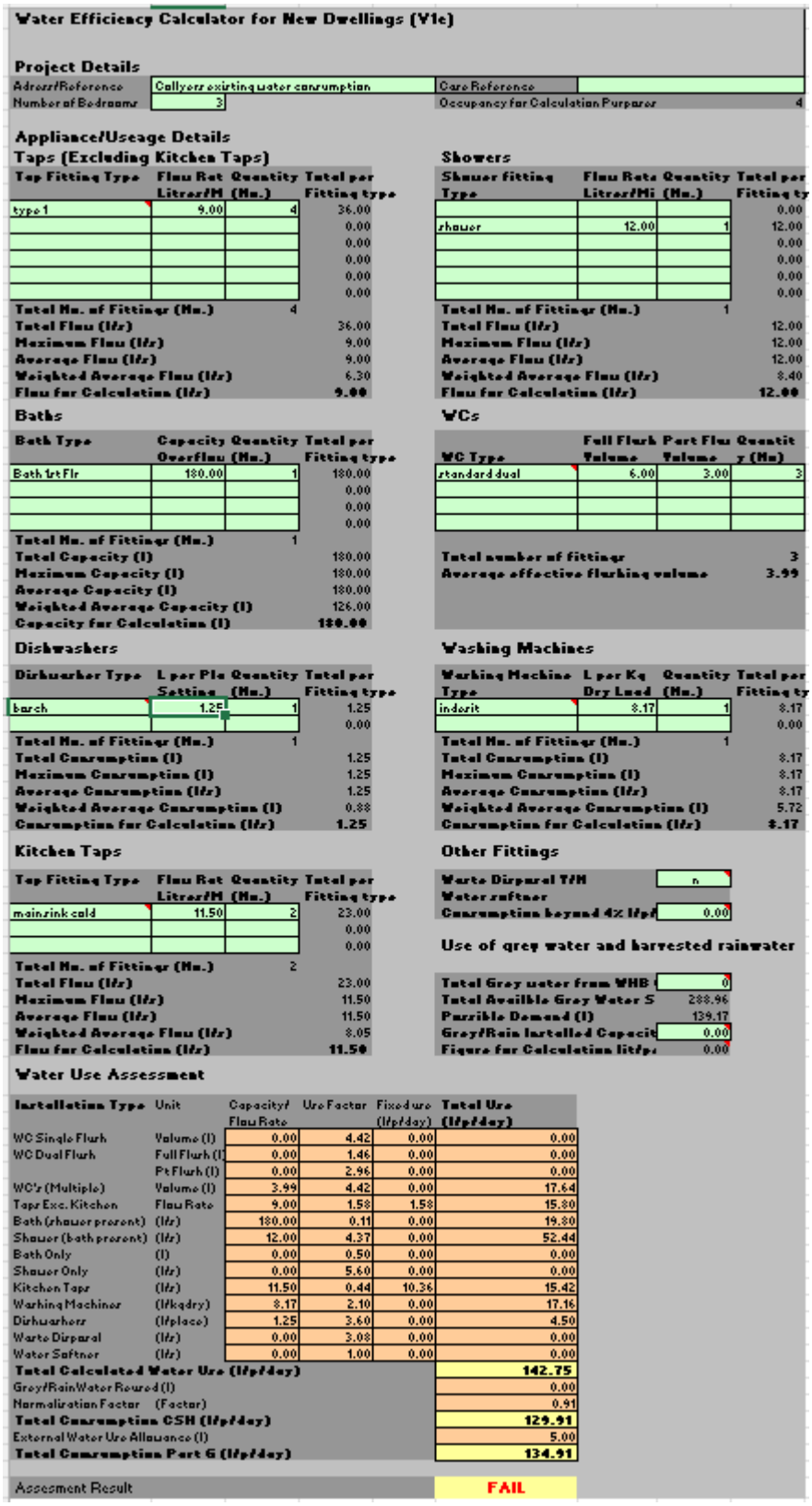
No Offsetting measures are required.

Conclusion;

The water consumption is less than that proposed in the report by Melin and therefore the proposals comply with the requirements of condition 3.

Appendix A

Existing Main House water calculation



Water Efficiency Calculator for New Dwellings (V1e)

Project Details

Address/Reference	Callyerr existing water consumption	Case Reference	
Number of Bedrooms	3	Occupancy for Calculation Purposes	4

Appliance/Useage Details

Taps (Excluding Kitchen Taps)

Tap Fitting Type	Flow Rate Litres/Min	Quantity (No.)	Total per Fitting type
type 1	9.00	4	36.00
			0.00
			0.00
			0.00
			0.00
			0.00
Total No. of Fittings (No.)		4	
Total Flow (l/s)			36.00
Maximum Flow (l/s)			9.00
Average Flow (l/s)			9.00
Weighted Average Flow (l/s)			6.30
Flow for Calculations (l/s)			9.00

Showers

Shower fitting Type	Flow Rate Litres/Min	Quantity (No.)	Total per Fitting ty
			0.00
shower	12.00	1	12.00
			0.00
			0.00
			0.00
			0.00
Total No. of Fittings (No.)		1	
Total Flow (l/s)			12.00
Maximum Flow (l/s)			12.00
Average Flow (l/s)			12.00
Weighted Average Flow (l/s)			8.40
Flow for Calculations (l/s)			12.00

Baths

Bath Type	Capacity Overflow	Quantity (No.)	Total per Fitting type
Bath 1st Flr	180.00	1	180.00
			0.00
			0.00
			0.00
Total No. of Fittings (No.)		1	
Total Capacity (l)			180.00
Maximum Capacity (l)			180.00
Average Capacity (l)			180.00
Weighted Average Capacity (l)			126.00
Capacity for Calculations (l)			180.00

WCs

WC Type	Full Flush Volume	Part Flu Volume	Quantit y (No)
standard dual	6.00	3.00	3
Total number of fittings			3
Average effective flushing volume			3.99

Dishwashers

Dishwasher Type	L per Pla Setting	Quantity (No.)	Total per Fitting type
bosch	1.25	1	1.25
			0.00
Total No. of Fittings (No.)		1	
Total Consumption (l)			1.25
Maximum Consumption (l)			1.25
Average Consumption (l/s)			1.25
Weighted Average Consumption (l)			0.88
Consumption for Calculations (l/s)			1.25

Washing Machines

Washing Machine Type	L per Kg Dry Load	Quantity (No.)	Total per Fitting ty
indesit	8.17	1	8.17
			0.00
Total No. of Fittings (No.)		1	
Total Consumption (l)			8.17
Maximum Consumption (l)			8.17
Average Consumption (l/s)			8.17
Weighted Average Consumption (l)			5.72
Consumption for Calculations (l/s)			8.17

Kitchen Taps

Tap Fitting Type	Flow Rate Litres/Min	Quantity (No.)	Total per Fitting type
main sink cold	11.50	2	23.00
			0.00
			0.00
Total No. of Fittings (No.)		2	
Total Flow (l/s)			23.00
Maximum Flow (l/s)			11.50
Average Flow (l/s)			11.50
Weighted Average Flow (l/s)			8.05
Flow for Calculations (l/s)			11.50

Other Fittings

Waste Disposal Y/N	n
Water softner	
Consumption beyond 4% l/p/	0.00

Use of grey water and harvested rainwater

Total Grey water from WHB (	0
Total Availble Grey Water S	288.96
Possible Demand (l)	139.17
Grey/Rain Installed Capacit	0.00
Figure for Calculations litre/	0.00

Water Use Assessment

Installation Type	Unit	Capacity/ Flow Rate	Use Factor	Fixed use (ltr/day)	Total Use (ltr/day)
WC Single Flush	Volume (l)	0.00	4.42	0.00	0.00
WC Dual Flush	Full Flush (l)	0.00	1.46	0.00	0.00
	Pt Flush (l)	0.00	2.96	0.00	0.00
WC's (Multiple)	Volume (l)	3.99	4.42	0.00	17.64
Tapr Exc. Kitchen	Flow Rate	9.00	1.58	1.58	15.80
Bath (shower present)	(ltr)	180.00	0.11	0.00	19.80
Shower (bath present)	(ltr)	12.00	4.37	0.00	52.44
Bath Only	(l)	0.00	0.50	0.00	0.00
Shower Only	(ltr)	0.00	5.60	0.00	0.00
Kitchen Tapr	(ltr)	11.50	0.44	10.36	15.42
Washing Machines	(ltr/kgdry)	8.17	2.10	0.00	17.16
Dishwashers	(ltr/place)	1.25	3.60	0.00	4.50
Waste Disposal	(ltr)	0.00	3.08	0.00	0.00
Water Softner	(ltr)	0.00	1.00	0.00	0.00
Total Calculated Water Use (ltr/day)					**142.75**
Grey/Rain Water Reused (l)					0.00
Normalisation Factor	(Factor)				0.91
Total Consumption CSH (ltr/day)					**129.91**
External Water Use Allowance (l)					5.00
Total Consumption Part G (ltr/day)					**134.91**

Assessment Result: **FAIL**

Existing Main House proposed water calculation after restricting flow cartridges

Water Efficiency Calculator for New Dwellings (V1e)

Project Details

Address/Reference	Collyers Prepared water consumption	Case Reference	
Number of Bedrooms	3	Occupancy for Calculation Purposes	4

Appliance/Useage Details

Taps (Excluding Kitchen Taps)

Tap Fitting Type	Flow Rate Litres/Min	Quantity (No.)	Total per Fitting type
type 1	4.00	4	16.00
			0.00
			0.00
			0.00
			0.00
			0.00
Total No. of Fittings (No.)		4	
Total Flow (l/s)			16.00
Maximum Flow (l/s)			4.00
Average Flow (l/s)			4.00
Weighted Average Flow (l/s)			2.80
Flow for Calculations (l/s)			4.00

Showers

Shower fitting Type	Flow Rate Litres/Min	Quantity (No.)	Total per Fitting type
			0.00
shower	8.00	1	8.00
			0.00
			0.00
			0.00
			0.00
Total No. of Fittings (No.)		1	
Total Flow (l/s)			8.00
Maximum Flow (l/s)			8.00
Average Flow (l/s)			8.00
Weighted Average Flow (l/s)			5.60
Flow for Calculations (l/s)			8.00

Baths

Bath Type	Capacity Overflow	Quantity (No.)	Total per Fitting type
Bath 1st Flr	90.00	1	90.00
			0.00
			0.00
			0.00
Total No. of Fittings (No.)		1	
Total Capacity (l)			90.00
Maximum Capacity (l)			90.00
Average Capacity (l)			90.00
Weighted Average Capacity (l)			63.00
Capacity for Calculations (l)			90.00

WCs

WC Type	Full Flush Volume	Part Flush Volume	Quantity (No)
standard dual	6.00	3.00	3
Total number of fittings			3
Average effective flushing volume			3.99

Dishwashers

Dishwasher Type	L per Place Setting	Quantity (No.)	Total per Fitting type
bosch	1.25	1	1.25
			0.00
Total No. of Fittings (No.)		1	
Total Consumption (l)			1.25
Maximum Consumption (l)			1.25
Average Consumption (l/s)			1.25
Weighted Average Consumption (l)			0.88
Consumption for Calculations (l/s)			1.25

Washing Machines

Washing Machine Type	L per Kg Dry Load	Quantity (No.)	Total per Fitting type
indesit	8.17	1	8.17
			0.00
Total No. of Fittings (No.)		1	
Total Consumption (l)			8.17
Maximum Consumption (l)			8.17
Average Consumption (l/s)			8.17
Weighted Average Consumption (l)			5.72
Consumption for Calculations (l/s)			8.17

Kitchen Taps

Tap Fitting Type	Flow Rate Litres/Min	Quantity (No.)	Total per Fitting type
main sink cold	6.00	2	12.00
			0.00
			0.00
Total No. of Fittings (No.)		2	
Total Flow (l/s)			12.00
Maximum Flow (l/s)			6.00
Average Flow (l/s)			6.00
Weighted Average Flow (l/s)			4.20
Flow for Calculations (l/s)			6.00

Other Fittings

Waste Disposal Y/N	n
Water softner	
Consumption beyond 4% l/s	0.00

Use of grey water and harvested rainwater

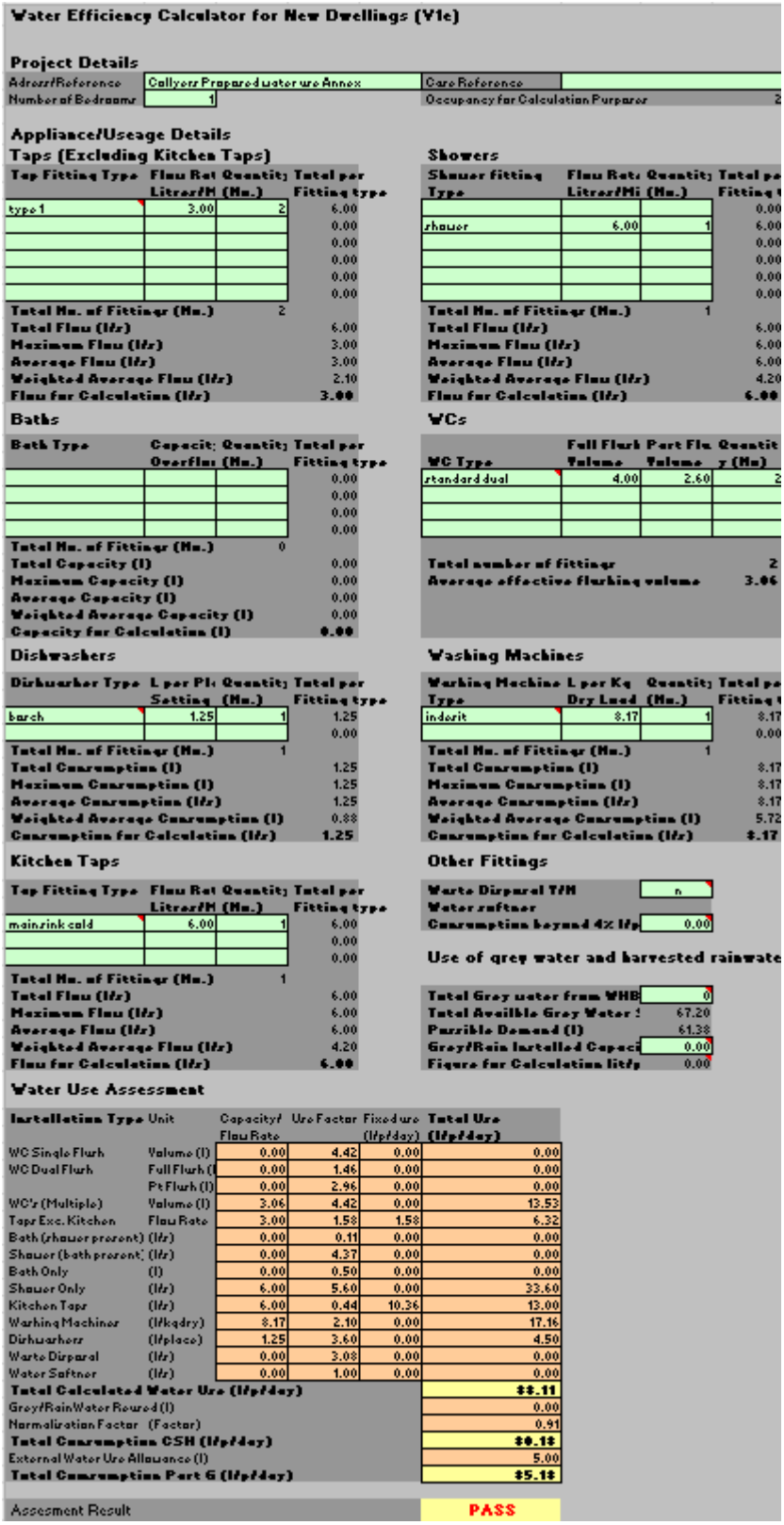
Total Grey water from WHE	0
Total Availble Grey Water	179.44
Possible Demand (l)	139.17
Grey/Rain Installed Capac	0.00
Figure for Calculation l/d	0.00

Water Use Assessment

Installation Type	Unit	Capacity/ Flow Rate	Use Factor	Fixed use (ltr/day)	Total Use (ltr/day)
WC Single Flush	Volume (l)	0.00	4.42	0.00	0.00
WC Dual Flush	Full Flush (l	0.00	1.46	0.00	0.00
	Pt Flush (l)	0.00	2.96	0.00	0.00
WC's (Multiple)	Volume (l)	3.99	4.42	0.00	17.64
Taps Exc. Kitchen	Flow Rate	4.00	1.58	1.58	7.90
Bath (shower present	(ltr)	90.00	0.11	0.00	9.90
Shower (bath present	(ltr)	8.00	4.37	0.00	34.96
Bath Only	(l)	0.00	0.50	0.00	0.00
Shower Only	(ltr)	0.00	5.60	0.00	0.00
Kitchen Taps	(ltr)	6.00	0.44	10.36	13.00
Washing Machines	(ltr/kg dry)	8.17	2.10	0.00	17.16
Dishwashers	(ltr/place)	1.25	3.60	0.00	4.50
Waste Disposal	(ltr)	0.00	3.08	0.00	0.00
Water Softner	(ltr)	0.00	1.00	0.00	0.00
Total Calculated Water Use (ltr/p/day)					**105.05**
Grey/Rain Water Reused (l)					0.00
Normalisation Factor	(Factor)				0.91
Total Consumption CSH (ltr/p/day)					**95.60**
External Water Use Allowance (l)					5.00
Total Consumption Part G (ltr/p/day)					**100.60**

Assesment Result	**PASS**

Annex water calculations



Water Efficiency Calculator for New Dwellings (V1e)

Project Details

Address/Reference	Cellyorr Prepared water ure Annex	Case Reference	
Number of Bedrooms	1	Occupancy for Calculation Purposes	2

Appliance/Useage Details

Taps (Excluding Kitchen Taps)

Tap Fitting Type	Flow Rate Litres/Min	Quantity (No.)	Total per Fitting type
type1	3.00	2	6.00
			0.00
			0.00
			0.00
			0.00
			0.00
Total No. of Fittings (No.)		2	
Total Flow (l/s)			6.00
Maximum Flow (l/s)			3.00
Average Flow (l/s)			3.00
Weighted Average Flow (l/s)			2.10
Flow for Calculation (l/s)			3.00

Showers

Shower fitting Type	Flow Rate Litres/Min	Quantity (No.)	Total per Fitting t
			0.00
shower	6.00	1	6.00
			0.00
			0.00
			0.00
			0.00
Total No. of Fittings (No.)		1	
Total Flow (l/s)			6.00
Maximum Flow (l/s)			6.00
Average Flow (l/s)			6.00
Weighted Average Flow (l/s)			4.20
Flow for Calculation (l/s)			6.00

Baths

Bath Type	Capacity Overflow	Quantity (No.)	Total per Fitting type
			0.00
			0.00
			0.00
			0.00
Total No. of Fittings (No.)		0	
Total Capacity (l)			0.00
Maximum Capacity (l)			0.00
Average Capacity (l)			0.00
Weighted Average Capacity (l)			0.00
Capacity for Calculation (l)			0.00

WCs

WC Type	Full Flush Volume	Part Flu Volume	Quantity (No)
standard dual	4.00	2.60	2
Total number of fittings			2
Average effective flushing volume			3.06

Dishwashers

Dishwasher Type	L per Place Setting	Quantity (No.)	Total per Fitting type
bosch	1.25	1	1.25
			0.00
Total No. of Fittings (No.)		1	
Total Consumption (l)			1.25
Maximum Consumption (l)			1.25
Average Consumption (l/s)			1.25
Weighted Average Consumption (l)			0.88
Consumption for Calculation (l/s)			1.25

Washing Machines

Washing Machine Type	L per Kg Dry Load	Quantity (No.)	Total pe Fitting t
indesit	8.17	1	8.17
			0.00
Total No. of Fittings (No.)		1	
Total Consumption (l)			8.17
Maximum Consumption (l)			8.17
Average Consumption (l/s)			8.17
Weighted Average Consumption (l)			5.72
Consumption for Calculation (l/s)			8.17

Kitchen Taps

Tap Fitting Type	Flow Rate Litres/Min	Quantity (No.)	Total per Fitting type
mainsink cold	6.00	1	6.00
			0.00
			0.00
Total No. of Fittings (No.)		1	
Total Flow (l/s)			6.00
Maximum Flow (l/s)			6.00
Average Flow (l/s)			6.00
Weighted Average Flow (l/s)			4.20
Flow for Calculation (l/s)			6.00

Other Fittings

Waste Disposal T/M	n
Water softner	
Consumption beyond 4x l/p	0.00

Use of grey water and harvested rainwate

Total Grey water from WHB	0
Total Availble Grey Water	67.20
Possible Demand (l)	61.38
Grey/Rain Installed Capaci	0.00
Figure for Calculation l/d/p	0.00

Water Use Assessment

Installation Type	Unit	Capacity/ Flow Rate	Use Factor	Fixed use (l/p/day)	Total Use (l/p/day)
WC Single Flush	Volume (l)	0.00	4.42	0.00	0.00
WC Dual Flush	Full Flush (	0.00	1.46	0.00	0.00
	Pt Flush (l)	0.00	2.96	0.00	0.00
WC's (Multiple)	Volume (l)	3.06	4.42	0.00	13.53
Taps Exc. Kitchen	Flow Rate	3.00	1.58	1.58	6.32
Bath (shower present)	(l/s)	0.00	0.11	0.00	0.00
Shower (bath present)	(l/s)	0.00	4.37	0.00	0.00
Bath Only	(l)	0.00	0.50	0.00	0.00
Shower Only	(l/s)	6.00	5.60	0.00	33.60
Kitchen Taps	(l/s)	6.00	0.44	10.36	13.00
Washing Machines	(l/kg dry)	8.17	2.10	0.00	17.16
Dishwashers	(l/place)	1.25	3.60	0.00	4.50
Waste Disposal	(l/s)	0.00	3.08	0.00	0.00
Water Softner	(l/s)	0.00	1.00	0.00	0.00
Total Calculated Water Use (l/p/day)					**88.11**
Grey/Rain Water Reused (l)					0.00
Normalisation Factor	(Factor)				0.91
Total Consumption CSH (l/p/day)					**80.18**
External Water Use Allowance (l)					5.00
Total Consumption Part G (l/p/day)					**85.18**
Assessment Result					PASS

COTTAM & PREEDY

CP961®

FLOW REGULATING

ISOLATION VALVE

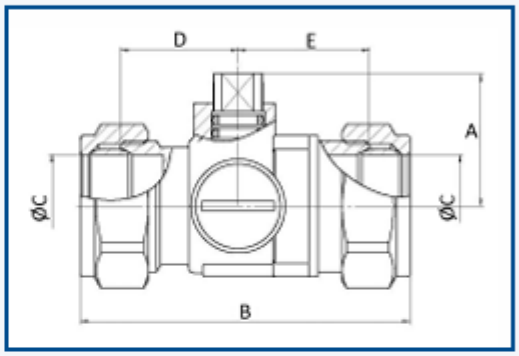
0 °C to +85 °C

PN16



CP961®

MATERIALS	
Access Port Cap:	Nickel Plated Brass DZR CW602N
Ball:	Hard Chrome Plated Brass CW617N
Body:	Nickel Plated Brass DZR CW602N
End Cap:	Nickel Plated Brass CW602N
Stem:	Nickel Plated Brass CW617N
O-Rings:	EPDM
Seal:	PTFE



SIZE	15mm	22mm		
A (mm)	28.2	28.2		
B (mm)	65.8	70.2		
C (mm)	15.0	22.0		
D (mm)	23.0	25.0		
E (mm)	27.0	28.0		
Rating	PN16	PN16		
Weight (kg)	0.180	0.220		

CARTRIDGE RANGE (Ltrs / Min) Standard Pressure					CARTRIDGE RATING	CONNECTIONS
2.5 (Green)	4 (Grey)	6 (Black)	8 (White)	10 (Blue)	PN10	Compression x Compression
12 (Red)	15 (Lime)	18 (Green)	26 (Pink)			

CARTRIDGE RANGE (Ltrs / Min) Low Pressure						FILTERS
3.0 (Brown)	4 (Grey)	6 (Black)	8 (White)	10 (Blue)	14 (Red)	30 Mesh or 60 Mesh

Optimum Pressure Range:	0.2 - 10 Bar (Accuracy +/- 10% Open Outlet)
Optimum Pressure Range (Low):	0.2 - 4 Bar (Accuracy +/- 15% Open Outlet)
Optional Lever Operator:	Black, Blue, or Red
Patent:	European Patent No. 0840188

Pressure and temperature ratings are minimum and maximum values only and actual performance will be dependant upon application.

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View General Precautions

In line cartridges installed in main house