

3 2017 09 02 P

Sewage – Calder Farm Caravan Site.

A single glamping pod is proposed as a replacement for a caravan pitch at Calder Farm Caravan Site. The pod is located in the southwestern corner of the site. See Site Plan as Appendix A.

A Clearwater package treatment unit will be used to deal with sewage and foul water. The system is Certified to EN 12566 and compliant with Building Regulations. (Appendix B)

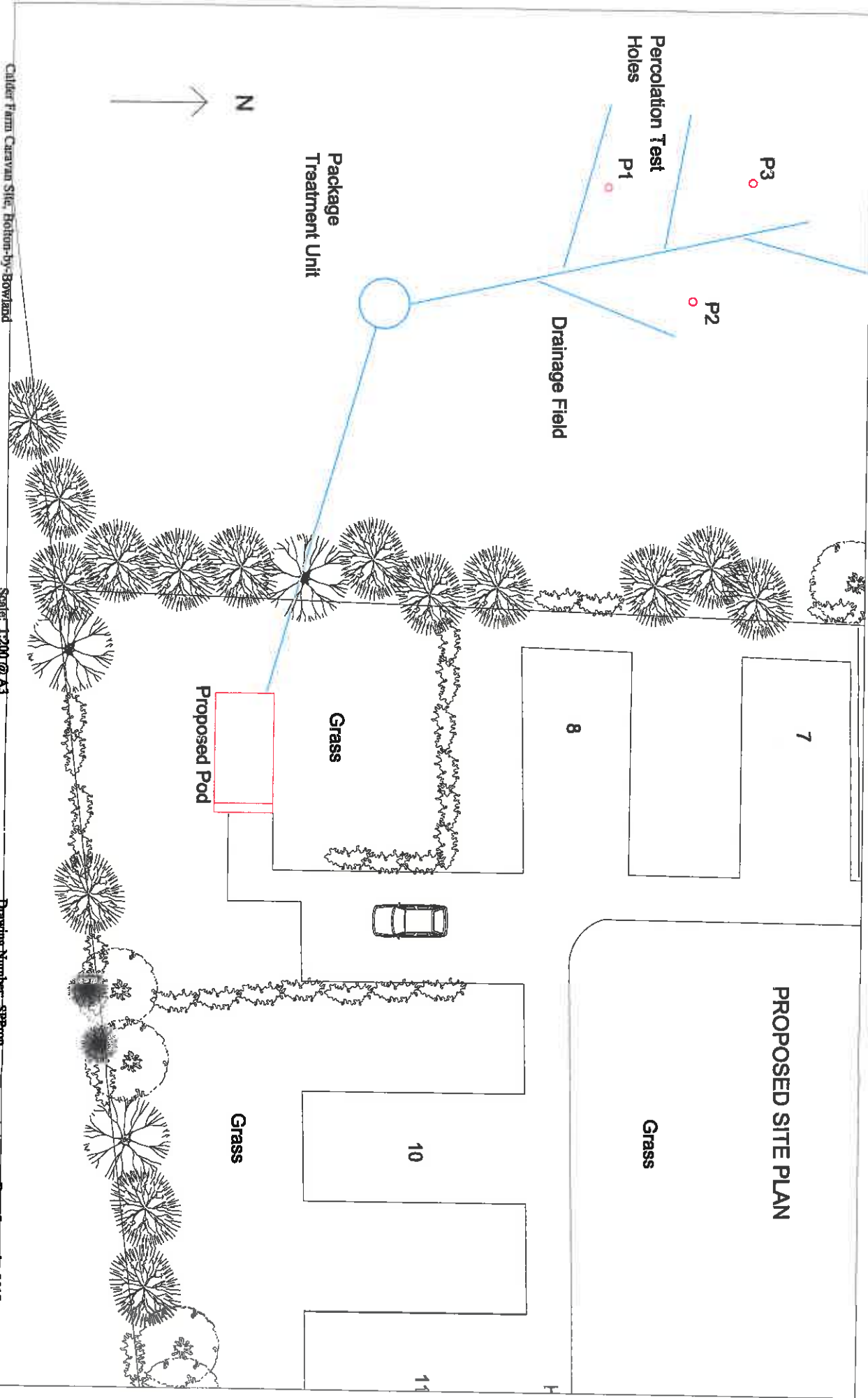
The capacity of the septic tank system was calculated using British Water Codes of Practice – Flows and Loads 4; Sizing Criteria, Treatment Capacity for Sewage Treatment Systems. (Appendix C)

The flow has been calculated using figures for a fully serviced mobile home or static caravan with a flow rate of 150 litres/person/day. The pod will accommodate a maximum of 4 people.

$$150 \times 4 = 600\text{litres} = 0.6\text{m}^3/\text{day}$$

Percolation tests have been carried out at the site in order to calculate the drainage field required to deal with water outlet. The results of the tests are shown as Appendix D.

An environmental permit Part B6.5 – Discharging treated domestic sewage effluent (no trade) of up to 15m³ a day to ground will be applied for using Form EPB to the Environment Agency.



Sewage Treatment Systems

From new builds to renovation projects and commercial premises - there's only one clear option

Clearwater Sewage Treatment Systems are a reliable and cost-effective solution using natural biological processes for the treatment of sewage. Clearwater treatment systems are for a wide range of applications and are available in a range of sizes.

Quick and easy to install, a Clearwater Sewage Treatment System is a compact, reliable and cost-effective solution for a wide range of applications and is designed for low cost and low maintenance.

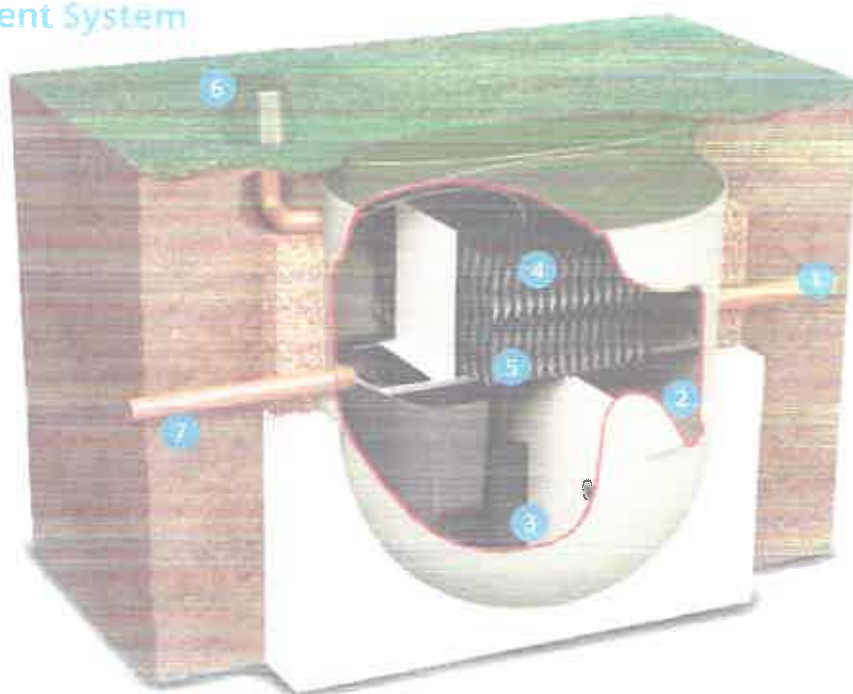
E-Range Sewage Treatment System

Features

- Certified to EN 12566 standard and compliant with EU Urban Regulations
- Subject to consent and site conditions the system can discharge directly to a watercourse
- Fully mechanical, no moving components (except the system fan) - low running and maintenance costs
- Long life expectancy - up to 20 years
- Controlled ventilation - minimises odour and noise
- Easy to install and maintain - no need for desludging / emptying

Key

- 1. Inlet
- 2. Inlet Invert
- 3. Media
- 4. Filter
- 5. Sludge
- 6. Outlet
- 7. Outlet Invert



	Daily Flow (m ³ /day)	BOD Load (kg/day)	Weight Empty (kg)	Outside Diameter (m)	Depth (m)	Inlet Invert (m)	Inlet Invert to Base (m)	Outlet Invert (m)	Motor Rating (watts)
E006	1.2	0.35	195	0.8	2.2	1.0	1.1	1.2	50
E006 IPS	1.2	0.35	225	0.8	2.2	1.0	1.2	1.2	50
E012	2.4	0.72	215	0.8	2.2	1.0	1.1	1.2	50
E012 IPS	2.4	0.72	245	0.8	2.2	1.0	1.2	1.2	50
E018	3.6	1.08	245	1.0	2.2	1.0	1.1	1.2	50
E018 IPS	3.6	1.08	275	1.0	2.2	1.0	1.2	1.2	50
E025	6.0	1.80	385	1.2	2.2	1.0	1.1	1.2	100
E025 IPS	6.0	1.80	415	1.2	2.2	1.0	1.2	1.2	100

For more information on the E-Range Sewage Treatment System, please contact us on 01203 254000 or visit our website at www.clearwater-sewage-treatment.co.uk. We can arrange for a site visit to discuss your requirements and provide a quotation. We can also arrange for a site visit to discuss your requirements and provide a quotation. We can also arrange for a site visit to discuss your requirements and provide a quotation.

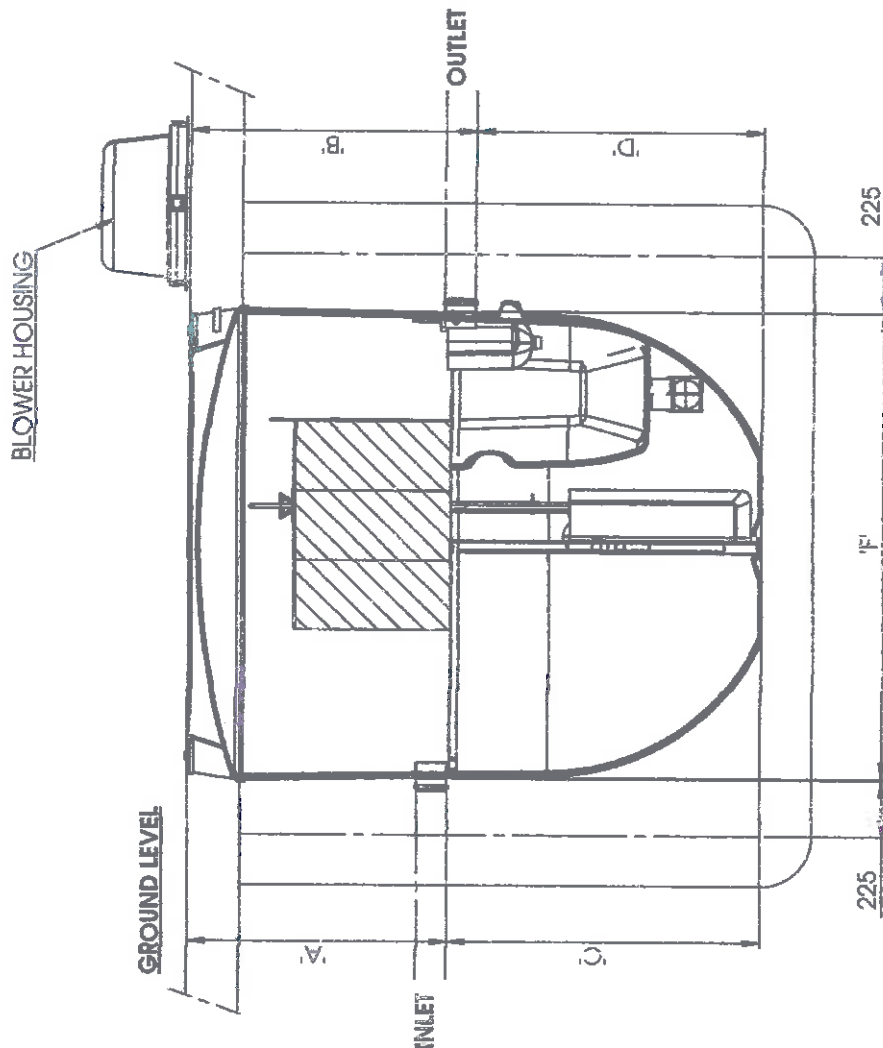
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Notes:

1. This drawing is for 'Dimensional Information Only'. It is essential that this drawing is read in conjunction with the 'Installation Guidelines' supplied with the unit. (Copies available from our sales department).
2. All pipe connections are $\phi 110.0\text{mm}$ PVCu.
3. All units require appropriate 'Cover' & 'Frame' to suit site loadings (standard cover supplied).
4. Blower assembly mounted externally, within 10m of treatment plant.
5. Isolator mounted close to treatment plant so power failure light is visible, wiring from isolator to be fed back to blower housing.
6. $\phi 160\text{mm}$ Inlet Option - By External Adaptor Only.

Unit Dimension Chart

Unit	Dim 'A' (mm)	Dim 'B' (mm)	Dim 'C' (mm)	Dim 'D' (mm)	Dim 'E' (mm)	Dim 'F' (mm)	Dim 'G' (mm)	Unit Weight (Kgs)
E006G10AK	1000	1100	1200	1100	2200	1850	500	250
E006G15AK	1500	1600	1200	1100	2700	1850	500	270
E012G10AK	1000	1100	1700	1800	2700	1850	500	275
E012G15AK	1500	1600	1700	1800	3200	1850	500	295



Please check with Kingspan Environmental that this drawing is the latest issue

Issue	Date	Drawn by/Approved by	Description	Material	Various
03	11/09/12	JMCM	CC1048	Finish:	
02	11/10/10	JMCM	CC901 - Amend Weights	Weight:	See Table

All dimensions in mm

Scale: Not to scale

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Drawing : DS0968P - E6 & E12 Gravity Page 1 of 1

E6 & E12 TREATMENT PLANTS (GRAVITY)

Table of Loadings for Sewage Treatment Systems

Per person / activity / day (unless otherwise specified)

	FLOW (Litres)	BOD (Grams)	Ammonia as N
DOMESTIC DWELLINGS (Grams)			
Standard residential	150	60	8
Mobile home (gas, sewerage, hot & cold services)	150	60	8
INDUSTRIAL			
Office / Factory without canteen	50	25	5
Office / Factory with canteen	100	35	5
Open industrial site, e.g. construction, quarry, without canteen	60	25	5
Part-time Day Staff	60	35	5
*Part-time Staff (4 hr shift)	45	25	3
SCHOOLS			
Non-residential with canteen cooking on site	90	38	5
Non-residential without a canteen	50	25	5
Boarding school (i) residents	175	60	8
(ii) day staff (inc. mid-day meal)	90	38	5
HOTELS, PUBS & CLUBS			
Hotel Guests (Prestige hotels)	300	105	12
Hotel Guests (12" & 14" hotels)	250	94	10
Guests (Bedroom only - no meals)	80	60	6
Non-residential Touring Caravan (gas, sewerage, hot & cold services)	150	60	8
Non residential Conference Guest	60	25	2.5
Diner	12	15	4
Holiday camp chalet resident	227	94	10
Resident Staff	150	75	10
Restaurants - Full Meals - luxury catering	30	38	4
- pre-prepared catering	25	30	2.5
- Snack Bars & bar meals	15	19	2.5
- Function Rooms including buffets	15	19	2.5
- Fast Food i.e. (roadside restaurants)	12	12	2.5
- Fast Food Meal (burger chain and similar)	12	15	4
Bar (Full service - no food)	100	60	8
AMENITY SITES			
Toilet Blocks (per use)	10	12	2.5
Toilet (WC) (per use)	10	12	2.5
Toilet (Urinal) (per use)	5	12	2.5
Toilet Blocks in large day-centre or temporary works (per use)	10	19	4
Shower (per use)	40	19	2
Car Wash	100	19	4
Local community sports club, e.g. squash, rugby & football	40	25	8
Swimming pool (a separate pool block without an associated sports ground)	40	12	2.5
Health Club/Sports Centre	50	19	4
Caravan Sites - (i) Touring not serviced	100	44	8
(ii) Static not serviced	100	44	8
(iii) Static fully serviced	150	60	8
HOSPITALS & RESIDENTIAL CARE HOMES			
Small hospitals	450	140	Assees
Large hospitals	350	110	Assees individually

*Staff figures also apply to other applications

APPENDIX D

Percolation Tests - Results and Drainage Field Calculation Form

I, (name) John Meredith on behalf of (applicant) Peter Simpson have carried out percolation tests in accordance with the guidance provided with this form on (date).....in respect of premises at:

CALDER FARM CARAVAN SITE
BOLTON-BY-BOWLAND
CLITHEROE
BB7 4NT

The overall depth of the trial holes dug were: (state in metres/millimetres)

Trial Hole 1	Trial Hole 2	TH 3
600mm	600mm	600mm

I confirm that the water table did not rise to within 1 metre of the invert of the proposed land irrigation scheme.

The weather conditions on the day were Dry

The results of the percolation tests were:

Trial Hole 1				Trial Hole 2				TH 3	
	Time in seconds		Vp		Time in seconds		Vp	Soils	Vp
Test 1	14 400	+150	96	Test 1	13 700	+150	91.33	14000	93.3
Test 2	14 100	+150	94	Test 2	14 200	+150	94.67	14200	94.6
Test 3	13 800	+150	92	Test 3	13 500	+150	90	13900	92.6
Trial Hole 1 - Average Vp			94	Trial Hole 2 - Average Vp			92		93.8
Average Vp of Trial Holes 1 & 2									

Use this averaged Vp figure in the following formula $P \times Vp \times 0.25 = A_t$

where

P = no of people served by the tank

A_t = floor area of the drainage field in square metres)

$$P \times Vp \times 0.25 = A_t$$

$$4 \times 93.55 \times 0.25 = 93.55 \text{ m}^2 \text{ of drainage field.}$$

Assuming a 600mm wide drainage trench then $93.55 \text{ m}^2 \div 0.6 = 160$ linear metres.