General Binding Rules Compliance Report

Dirk Daude Wastewater Consultancy Services t: +44 (0) 7903 296772 e: dirk@dirkdaude.com

Site Details			
Site Name:	Engine House STP	Contract/Ref.:	PC1121
Site Address:	Leonardslee Lakes & Gardens, Brighton Rd, Horsham, RH13 6PP	Date:	18 April 2024
Site Contact:	Derran Holden		

General

The Engine House at Leonardslee Lakes & Gardens is a small café located at the bottom of the valley next to the lakes, and is planned to be upgraded to include a single WC. The WC will serve the café guests, staff and other garden guests.

Due to the geographical location and the distance to the main facilities, it is not economical feasible to pump the wastewater from the café WC to the main foul drainage network at the top of the hill. Similarly, installing a cesspool and then transporting the wastewater using a small sludge tanker is neither practical nor economical viable. This leaves the option of treating the wastewater on site and discharging it locally.

Compliance with General Binding Rules for SSDs (see appendix A)

The general binding rules consist of the conditions together with technical requirements specified by the Environment Agency in guidance to operators, compliance with which is part of the conditions. These will apply to anyone who has a septic tank or sewage treatment plant that makes a small sewage discharge, from January 2015. The general binding rules set out the conditions that septic tanks and sewage treatment plants need to meet in order to be used without an environmental permit (Rules #1 to #14). In addition, any new installation that started on or after 1 January 2015 will have to comply with Rules #15 to #21.

The following table list all rules relevant to the proposed sewage treatment system at the above site, i.e. all rules relating to "Discharges to surface water". Rules relating solely to "Discharges to ground" (incl. rules #1, #5, #7 and #18) are not relevant.

Rule	General Binding Rule	Compliance
#2	The discharge must be 5 cubic metres or less per day in volume.	**Yes** – the maximum anticipated discharge from the café WC is 1.54m3 per day using British Water CoP, see appendix B and C).
#3	The sewage must only be domestic.	**Yes** – domestic type waste from a WC only.
#4	The discharge must not cause pollution of surface water or groundwater.	**Yes** – subject to the STP being maintained and operated in accordance with the manufacturer's guidelines.
#6	The sewage must receive treatment from a sewage treatment plant.	**Yes** – sewage will receive treatment from a STP.
#8	For discharges in tidal waters, the discharge outlet must be below the mean spring low water mark.	**Yes** – not applicable as no discharge into tidal waters.
#9	All works and equipment used for the treatment of sewage effluent and its discharge must comply with the relevant design and manufacturing standards ie the British Standard that was in force at the time of the installation, and guidance issued by the appropriate authority on the capacity and installation of the equipment.	**Yes** – subject to the new proposed STP being compliant with BS EN 12566-3.
#10	The system must be installed and operated in accordance with the manufacturer's specification.	**Yes** – subject to the new STP being installed in accordance with manufacturer's specification.
#11	Maintenance must be undertaken by someone who is competent.	**Yes** – subject to the new STP being maintained by a professional service provider.
#12	Waste sludge from the system must be safely disposed of by an authorised person.	**Yes** – subject to the new STP being maintained by a professional service provider who arranges sludge removal by a licensed waste carrier (i.e. tanker).

General Binding Rules Compliance Report

Dirk Daude Wastewater Consultancy Services t: +44 (0) 7903 296772 e: dirk@dirkdaude.com

#13	If a property is sold, the operator must give the new operator a written notice stating that a small sewage discharge is being carried out, and giving a description of the waste water system and its maintenance requirements.	**Yes** – subject to this report and new STP documents being given to the new homeowner/operator.
#14	The operator must ensure the system is appropriately decommissioned where it ceases to be in operation so that there is no risk of pollutants or polluting matter entering groundwater, inland fresh waters or coastal waters.	**Yes** – not relevant at this time as new STP being installed at this time.
#15	New discharges must not be within 30 metres of a public foul sewer.	**Yes** – the nearest public foul sewer is more than 30m away.
#16	For new discharges, the operator must ensure that the necessary planning and building control approvals for the treatment system are in place.	**Yes** – subject to the operator/planning consultant obtaining all required planning and building control approvals for the new STP.
#17	New discharges must not be in or within: 500 metres of a Special Area of Conservation (SAC), Special Protection Area (SPA), Ramsar site, biological Site of Special Scientific Interest (SSSI), freshwater pearl mussel population, designated bathing water, or protected shellfish water; 200 metres of an aquatic local nature reserve; 50 metres of a chalk river or aquatic local wildlife site.	**Yes** – there are none of these special conservation areas within 500m, nor an aquatic local nature reserve within 200m, nor a chalk river/aquatic local wildlife site within 50m of the proposed new discharge (see appendix D).
#19	New discharges must be made to a watercourse that normally has flow throughout the year.	**Yes** – the discharge will be made to a watercourse that flows throughout the year.
#20	For new discharges, any partial drainage field must be installed within 10 metres of the bank side of the watercourse.	**Yes** – not applicable as there will be no partial drainage field. The discharge will be made directly to a watercourse.
#21	New discharges must not be made to an enclosed lake or pond.	**Yes** – the discharge will be made to a cascading lake system that has a through flow throughout the year.

In summary, the proposed new STP (subject to conforming to BS EN 12566-3) at the Engine House Cafe will comply with the current EA General Binding Rules for SSDs.

Study undertaken and report written by:

(Dr Dirk Daude)

General Binding Rules Compliance Report

Dirk Daude Wastewater Consultancy Services t: +44 (0) 7903 296772 e: dirk@dirkdaude.com

Appendix A – EA General Binding Rules for SSDs

Department for Environment, Food and Rural Affairs

Reform of the regulatory system to control small sewage discharges from septic tanks and small sewage treatment plants in England

General binding rules for small sewage discharges (SSDs) with effect from January 2015

The following general binding rules apply to all small sewage discharges:

#	Discharges to surface water	Discharges to ground	General binding rule
1		X	The discharge must be 2 cubic metres or less per day in volume.
2	X		The discharge must be 5 cubic metres or less per day in volume.
3	X	X	The sewage must only be domestic.
4	X	X	The discharge must not cause pollution of surface water or groundwater.
5		X	The sewage must receive treatment from a septic tank and infiltration system (drainage field) or a sewage treatment plant and infiltration system.
6	X		The sewage must receive treatment from a sewage treatment plant.
7		X	The discharge must not be within a groundwater Source Protection Zone 1 or within 50 metres from any well, spring or borehole that is used to supply water for domestic or food production purposes.
8	X		For discharges in tidal waters, the discharge outlet must be below the mean spring low water mark.

#	Discharges to surface water	Discharges to ground	General binding rule
9	X	X	All works and equipment used for the treatment of sewage effluent and its discharge must comply with the relevant design and manufacturing standards ie the British Standard that was in force at the time of the installation, and guidance issued by the appropriate authority on the capacity and installation of the equipment.
10	X	X	The system must be installed and operated in accordance with the manufacturer's specification.
11	X	X	Maintenance must be undertaken by someone who is competent.
12	X	X	Waste sludge from the system must be safely disposed of by an authorised person.
13	X	X	If a property is sold, the operator must give the new operator a written notice stating that a small sewage discharge is being carried out, and giving a description of the waste water system and its maintenance requirements.
14	X	X	The operator must ensure the system is appropriately decommissioned where it ceases to be in operation so that there is no risk of pollutants or polluting matter entering groundwater, inland fresh waters or coastal waters.

For a new discharge, which is one that was started on or after 1 January 2015, the following general binding rules also apply:

#	Discharges to surface water	Discharges to ground	General binding rule
15	X	X	New discharges must not be within 30 metres of a public foul sewer.
16	X	X	For new discharges, the operator must ensure that the necessary planning and building control approvals for the treatment system are in place.
17	X		New discharges must not be in or within: 500 metres of a Special Area of Conservation (SAC), Special Protection Area (SPA), Ramsar site, biological Site of Special Scientific Interest (SSSI), freshwater pearl mussel population, designated bathing water, or protected shellfish water; 200 metres of an aquatic local nature reserve; 50 metres of a chalk river or aquatic local wildlife site.
18		X	New discharges must not be in, or within 50 metres of, a Special Area of Conservation (SAC), Special Protection Area (SPA), Ramsar site, or biological Site of Special Scientific Interest (SSSI), and must not be in an Ancient Woodland.
19	X		New discharges must be made to a watercourse that normally has flow throughout the year.
20	X		For new discharges, any partial drainage field must be installed within 10 metres of the bank side of the watercourse.
21	X		New discharges must not be made to an enclosed lake or pond.

Explanatory Note

General binding rules is a term given to legally binding requirements in regulations that set the minimum standards or conditions which apply. In this case the conditions are set in the **Environmental Permitting (England and Wales)(Amendment)(England) Regulations 2014.**

The general binding rules consist of the conditions together with technical requirements specified by the Environment Agency in guidance to operators, compliance with which is part of the conditions. These will apply to anyone who has a septic tank or sewage treatment plant that makes a small sewage discharge, from January 2015.

The general binding rules set out the conditions that septic tanks and sewage treatment plants need to meet in order to be used without an environmental permit.

Further information on the new approach to how we will regulate small sewage discharges is available on Gov.uk.

January 2015

General Binding Rules Compliance Report

Dirk Daude Wastewater Consultancy Services t: +44 (0) 7903 296772 e: dirk@dirkdaude.com

Appendix B – British Water Code of Practice (Flow and Loads 4)

BRITISH WATER
expertise worldwide

SEPA Scottish Environment Protection Agency

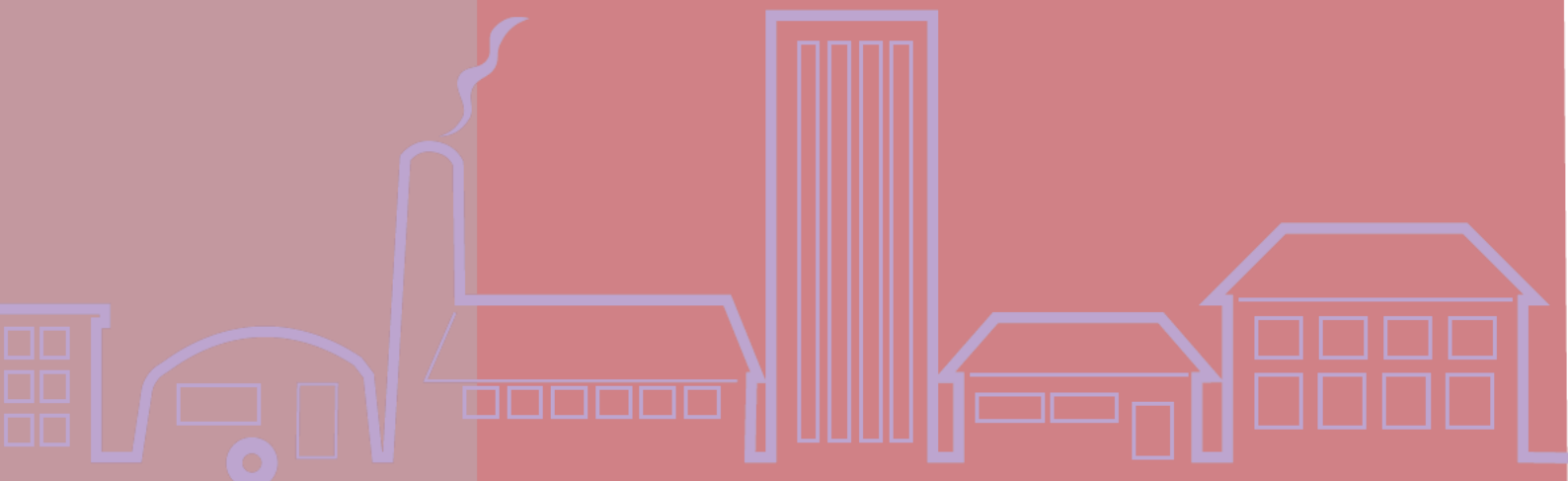
Environment Agency

NIEA Northern Ireland Environment Agency

Code of Practice

Flows and Loads – 4

Sizing Criteria, Treatment Capacity for Sewage Treatment Systems



Southbank House
Black Prince Road
London SE1 7SJ
www.britishwater.co.uk

BW COP: 18.11/13

ISBN 978-1-903481-10-3

Code of Practice

Flows and Loads – Sizing Criteria, Treatment Capacity for Sewage Treatment Systems

This code of practice was prepared by the British Water Package Sewage Treatment Plant Focus Group comprising manufacturers, suppliers and service companies of all types of small wastewater treatment systems.

The Environment Agency, the Northern Ireland Environment Agency and the Scottish Environment Protection Agency support the use of this code of practice, but the Agencies do not specifically endorse any particular manufacturer's product.

This code of practice provides a table of loadings which allows the total daily sewage load from properties to be calculated and it is recommended that all designers should use this table when sizing and designing non-mains sewage treatment systems. The flows and loads values given represent current best knowledge within the UK but may change with time in line with per capita water use.

Where proposed alternative usage rates or methods of sizing might be more appropriate for a particular application this should be supported by the collection of data or additional site specific evidence to validate the proposal. Professional judgment is required and may be used to compare alternatives especially when assessing sewage strengths and treatability.

Guidance is provided to assist the user to identify the various sources of sewage, to consider the nature of the sewage to be treated and to make users aware of issues which may affect treatability and system performance. Each manufacturer is aware of the capabilities of their own systems with respect to different situations.

The table of loadings may be used to design all sizes of sewage treatment systems serving up to 1000 population.

Use of this code of practice by all UK manufacturers and system designers will:

- help to clearly define site activity and sewage sources
- promote a consistent approach to collecting accurate and complete loading information
- provide consistent information about problem effluents and treatability, and
- promote the design and installation of appropriate treatment systems and so reduce the problem of undersized systems causing environmental contamination.

The loadings in this code of practice are more comprehensive than in previously published guidance, they are generally higher and include values for ammonia.

1 Scope

The purpose of this code of practice is to provide an appropriate table of loadings (volumes and loads) to allow the total daily load entering a treatment system to be calculated.

2 Regulations

Early contact with the Regulator to discuss the proposed discharge of sewage effluent is advisable.

- Planning requirements, eg *DETR Circular 3/99, site survey, etc.*
- Building regulations, eg part H *DTLR England & Wales, part M Scotland, Water (Northern Ireland) Order 1999 and Northern Ireland building regulations.*
- A Permit, Authorisation or Consent to discharge will be required from the environmental regulators (the Agencies).
- Planning permission (Local Authority Planning Guidance).

3 Definitions of terms

- **Population (P)** – number of people the system will serve.
- **Biochemical oxygen demand (BOD_5)** – Mass concentration of dissolved oxygen consumed under specified conditions (5 days at 20° C with nitrification inhibition) by the biological oxidation of organic and/or inorganic matter in water.
- **Ammonia expressed as mg/l N** – Ammonia is NH_3, Ammonium is NH_4OH. In wastewater we frequently refer to and use the word/symbol, ammonia/NH_3. The term ammonia usually includes ammonium as well.

4 Selection considerations – all applications

- Values and conditions required by any regulatory permit or consent.
- Loading figures for each specified load are given for Flow, BOD and NH_3.
- The user/purchaser of the system must declare **ALL ACTIVITIES** to enable all loads entering the treatment system to be identified and evaluated. The user/purchaser should be made aware that there is a risk of poor performance from the equipment if loads are understated. The accuracy of the declared loads is of paramount importance.
- Guidance points given under each category suggest questions to enable the specifier to recognise variable or unusual loads, particular to that site, to improve correct system selection and design.
- Total daily loadings are calculated based on the anticipated final maximum capacity of the site. New sites initially may have a reduced business level but the system suggested should reflect the full business potential, e.g. a system suggested for a hotel or caravan site or any other application, with an average 80% occupancy rate should be designed to handle 100% occupancy. The equipment selected by the specifier should reflect the maximum potential of the site. Where a specifier is instructed to use lower occupancy rates, this should be recorded. Flow balancing should be considered where appropriate
- Excess disinfectants, chemicals, etc can affect the biological processes as can specific toxic substances from site activities e.g. photographic chemicals, weed killers, motor oils. It is assumed that these substances are excluded from the wastes to be treated.
- Some water treatment equipment effluents eg softeners, chlorinated backwashes may not be acceptable; system designers should specifically accept or exclude their use. Many treatment system designs will accept regenerants into their units, however this must be checked and agreed.
- Water saving devices affect sewage strength, the impact of their installation should be identified.
- Laundries affect sewage strength and treatability; their proportion should be identified.
- Surface/storm water is not permitted as part of the wastewater stream and must be excluded.
- It is assumed, unless stated, that waste disposal units (WDU) are not in use.
- Undersizing of equipment is to be avoided as it is always better to have a plant slightly oversized, rather than on the limit or undersized.

The owner of the treatment system holds the permit, consent or authorisation to discharge and should be aware that he is responsible for the effluent quality discharged. Thus all sources of discharge into the system must be declared. It is an offence if the effluent fails to comply with the regulators requirements.

(continued on page 4)

BRITISH WATER
expertise worldwide

Table of Loadings for Sewage Treatment Systems

Per person / activity / day (unless otherwise specified)	FLOW (Litres)	BOD (Grams)	Ammonia as N (Grams)
DOMESTIC DWELLINGS			
Standard residential	150	60	8
Mobile home type caravans with full services	150	60	8
INDUSTRIAL			
Office / Factory without canteen	50	25	5
Office / Factory with canteen	100	38	5
Open industrial site, e.g. construction, quarry, without canteen	60	25	5
*Full-time Day Staff	90	38	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 (3^H & 4^H hotels)	250	94	10
Guests (Bedroom only – no meals)	80	50	6
Residential Training/Conference Guest (inclusive all meals)	350	150	15
Non residential Conference Guest	60	25	2.5
Drinkers	12	15	5
Holiday camp chalet resident	227	94	10
Resident Staff	180	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
Students (Accommodation only)	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 long stay car parks/lorry parks (per use)	10	19	4
Shower (per use)	40	19	2
Golf Club	20	19	5
Local community sports club, e.g. squash, rugby & football	40	25	6
Swimming (where a separate pool exists without an associated sports centre)	10	12	2.5
Health Club/Sports Centre	50	19	4
Tent sites	75	44	8
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			
Residential old people / nursing	350	110	13
Small hospitals	450	140	Assess
Large hospitals	Assess individually		

*Staff figures also apply to other applications

- *After installation, if the system is overloaded, due to activities that were not previously identified by the owner/ purchaser of the system, then the manufacturer may not be able to assist with meeting the legal obligations of the permit provided by the regulator. The regulator has the right to review permits and change them if necessary.*
- *All sewage treatment system should be maintained according to the manufacturer's instructions by a certified engineer trained in accordance with the British Water Maintenance and Service Code of Practice.*

5 Domestic housing

- A treatment system for a single house with **up to and including 3 bedrooms** shall be designed for a minimum population (P) of 5 people.
- The size of a treatment system for a single house with more than 3 bedrooms shall be designed by **adding 1 P** for **each additional bedroom** to the **minimum single house value of 5 P,** eg:
  - house with 3 bedrooms = **minimum 5 P system**
  - house with 4 bedrooms = **minimum 6 P system (5+1)**
  - house with 6 bedrooms = **minimum 8 P system (5+3).**
- For groups of small 1 and 2 bedroom houses or flats
  - flat with 1 bedroom = **allow 3 P**
  - flat with 2 bedrooms = **allow 4 P**
- A treatment system serving a group of houses shall be designed by adding together the P values for each house calculated independently, eg:
  - for a group of two houses (3 and 4 bedrooms, respectively) the system shall be for a minimum of 11 P (5+6)
- **If the calculated total P for a group of houses exceeds 12 P then some reduction may be made** to allow for the balancing effects on daily flow of a group of houses (round UP not down)
  - **Where the total is 13-25 P** multiply the total by 0.9 to give an adjusted P value, e.g. if there are four four-bedroom houses the total P will be 24 P (4 x 6) and the adjusted P will be 22 P (24 x 0.9 = 21.6)
  - **Where the total is 26-50 P** multiply the total by 0.8 to give an adjusted P value, e.g. if there are four three-bedroom houses and three four-bedroom houses the total P will be 38 P (4 x 5 and 3 x 6) and the adjusted P will be 31 P (38 x 0.8 = 30.4)
- Where there are larger groups of houses, the P should be estimated using both the expected total load and the flow, considering both peak and total flow
- These are minimum recommended population (P) loads, they should not be modified downwards, upward modification may be necessary because of particular characteristics of each property or groups of properties.
- The above assessments of population (P) should be used for both existing and new properties

- *Larger luxurious houses tend to have greater loads and increased water consumption with variability.*
- *Holiday homes tend to have higher occupancies, with perhaps, lounges also acting as bedrooms. Holiday lets and second homes may be used intermittently*
- *Check for unusual water uses such as spa baths, home brewing or home photo processing.*
- *Waste disposal units increase biological load.*
- *Laundry chemicals and toxic substances will affect the performance. (See below) It is assumed that laundry is not brought in, i.e. Team strips.*

6 Commercial Premises

- Identify **ALL** the sources of waste.
- Identify final maximum site usage/business expectations.
- The individual values provided for each function within the table assume that 100% of every application and load is quantified. **DO NOT** reduce values based on reduced expectations.
- All catering applications require the installation of adequately sized grease separators, removal or retention systems up-stream of the biological treatment equipment.

7 Catering premises

- Establish maximum (and minimum) daily load based on a 24 hour cycle.
- Check period of operation.
- Identify dates of maximum loads, e.g. Mothering Sunday, Easter, Bank holidays, Fridays etc.
- Identify load peaks, usually at lunch or evening.

- *Flow balancing may provide an appropriate solution.*
- *Where WDU and potato peelers are to be used calculate/document the load.*
- *Identify the nature(s) of the catering in order to select the correct loading, eg*

- Bar snacks - ploughmans, sandwiches, basket meals, etc.
- Pre-prepared catering - frozen and chilled meals (not prepared on site).
- Home cooked meals - fresh soups, fresh vegetables, casseroles, etc.
- Luxury catering - fully prepared on site with cream sauces, home made desserts.
- Takeaways - Indian, Chinese, fish and chips, etc.
- Fast food - roadside restaurants, burger chains, etc.
- Function room catering - Establish "normal" style, may be sandwiches, or full buffet, home cooked meals, conference, wedding banquets, etc.

- *The biological unit must be protected from grease and fats. Modern cooking uses light oils, which may not separate. The collection and containment of all forms of grease prior to the biological equipment is vital. Operate any grease system in full accordance with the manufacturer's instructions.*
- *Individual kitchen practices affect loads, i.e. leftovers on plates may be scraped into bins, or wet rinsed into system, the former to be encouraged, the latter should be discouraged or factored into the treatment plant design.*
- *Premises serving beers may produce toxic caustic effluents due to the hygiene and cleaning regimes.*
- *The proportion of wastes from some sources can produce an effluent, which is difficult to treat, e.g. some Drive Through Fast Food establishments can have an effluent with a low organic content.*

8 Hotels & Residential Centres

- Establish "style and type" of hotel e.g. Prestige (5^{M}), Bedroom only accommodation, Conference Centres, Resort Hotels with Sports and Spas, Treatment Centres, etc.
- Calculate total loading based on occupancy of at least 2 people per room.

- *Some hotels regularly have 4 occupants per room.*

- Consider and add other hotel activities and waste functions.

The volume/BOD figures are based on an expectation that guests have an evening meal, drink and breakfast and that good kitchen practices are in place.

- Add all other loads, considering non-resident uses, ie Lunches, Functions, Visiting Drinkers, Diners, etc.
- Consider periodicity of loads.
- Ensure residential and training centre loadings reflect the complete meal plan, i.e. allow for lunch and afternoon tea, sports, etc.
- Special Events. Check provision of temporary facilities, e.g. summer marquees and allow for appropriate loading.
- Consider any loads from outside catering.

9 Laundries

- **Excepting domestic premises, it is assumed that all laundry** functions are additional.
- For each premises, identify which laundry items are done in house or sent off site.
- Calculate the laundry load on the basis of the number of machines and the period of use.
- Sites with laundries must fit and maintain lint filters.

The chemical load (detergents) inhibits biological treatment, the laundry waste percentage of the normal maximum Flow usually needs to be less than 30% of the total load.

Where the laundry percentage >30%, manufacturers select equipment on a different basis.

As a guide, where the hydraulic load from laundries is between 1-10%, system size increases by 10%, 11-20% increases by 20%, 21-30% increases by 30%.

Excess/surplus detergents (above the recommended quantities) can affect the biological process.

Discharge quality may be improved if operators use low/zero phosphate detergents.

10 Toilet Blocks

- Figures can also be assessed according to the sanitary equipment and control system installed.

Automatically flushed urinals use 10 litres per hour; a single flush should not use more than 1.5 litres.

Consider ladies and gents toilet facilities separately.

11 Sports Clubs

- Calculate loadings on 100% usage for the sporting facility. The figure provided includes showering and toilet use by the sports person.
- Consider also the non-sporting uses, i.e. spectators' toilet use.
- Add drinkers, social members and staff.
- Add values for catering facilities.
- Check normal and exceptional catering provisions.
- A swimming pool with no associated sports centre may be calculated using the number of swimmers, assume a toilet use per person, and by adding values for showers and spectators. Check duration of visits and modify for extended use.

Consider separate treatment or disposal of backwash waters from ancillary equipment, such as types of filtration and disinfectant removal in swimming pools.

12 Golf Clubs

- The values within the data table allow for light snacks and toilet use.
- Calculate additional allowances for showers.
- Add values for other catering facilities (if other than light snacks).

13 Hospitals

- The nature of the facility affects the design values. Some nursing homes have very high hydraulic loads as a result of the use of bedpans and their sanitation. Consider any disinfection equipment installed.
- With drugs and hygiene requirements of hospitals adjust the equipment size to compensate for treatability factors.

Disposal of unused/waste medicines is not permitted via the treatment facility.

14 Caravan Sites

- Establish nature of communal blocks, i.e. toilet, shower usage, laundry, etc.
- Where laundry equipment is installed, count the number of machines on site and period of use. Where possible, identify specific commercial machine details for volume and wash cycle duration.

Hydraulic loads of 100 litres per hour for 12 hours are not unusual.

- Loading figures quoted assume that wastes from chemical toilets do not enter the system as they must not be allowed to enter into the treatment plant.

A cesspool may be installed to receive chemical toilet waste for separate disposal.

15 Installation

The following may affect which equipment is offered.

- The site.
- Location of treatment plant within the site.
- Invert depth of installation (where possible, locate to permit gravity flow into and out of the system).
- Pumping equipment.
- Installation requirements.

Refer to manufacturer's specifications and installation manual.

- Access for maintenance and servicing.

Refer to manufacturer's specifications and maintenance instructions.

- The need for a sample chamber.
- Discharge point.
- Soil percolation area or other tertiary treatment.

16 Documentation

Records of the loads used to select and recommend the type and size of treatment systems should be maintained by the specifier and the customer. A typical example follows.

Treatment system enquiry sizing sheet

Our Ref. 123456 **Date** 10th August 2003 **Site** ABC Hotel 3* Hotel **Client** New Architects & Consultants

SOURCE OF WASTE				FLOW LITRE / DAY		BOD GRAMS / DAY		NH_3	
Description	No of rooms	Occupancy	No	Per Head	TOTAL	Per Head	TOTAL	Per Head	TOTAL
Rooms	80	2	160	250	40000	94	15040	10	1600
Bar drinkers			120	12	1440	15	1800	5	600
Non resident luxury meals			150	30	4500	38	5700	4	600
Staff, full-time day staff			30	90	2700	38	1140	5	150
Staff, part-time			20	45	900	25	500	3	60
Laundry – all sent off site Domestic washing machine for tea towels only				800					
Total load(s)					**50340**		**24180**		**3010**
Effluent quality requested					**20 mg/l BOD**		**30 mg/l SS**		**20 mg/l NH_3 N**

Suggested type of plant: XYZ. **Invert:** 1.0m. **Power:** 3-phase. **Surface water:** all to be excluded from foul sewer. **Consent to discharge:** to be obtained from the Regulator. **Waste Disposal Units:** assumed that none are fitted.
Grease trap: required size "125".

Notes

Swimming pool – present, used for guests only, all backwash wastes to be excluded. No function rooms or catering

Further information and guidance can be obtained from the British Water website – **www.britishwater.co.uk**

First edition published 2004; revised 2005, amended 2008, revised 2009, revised 2013

Tel: +44 (0)20 3567 0950 e:info@britishwater.co.uk

General Binding Rules Compliance Report

Dirk Daude Wastewater Consultancy Services t: +44 (0) 7903 296772 e: dirk@dirkdaude.com

Appendix C – Flow and Load Calculations

Influent Loadings

Influent design loadings are based on the information provided by the client and using British Water Code of Practice, Flow and Loads 4 (2013).

The Engine House Café is served by a single WC.

Application	No.	Hydraulic Load [l/d]		Organic Load [$gBOD_5/d$]		Ammonia Load [gNH_3/d]	
		per Head	Total	per Head	Total	per Head	Total
Café users (simple café food & drinks)	80	12	960	12	960	2.5	200
Additional toilet users	40	10	400	12	480	2.5	100
Staff (part-time)	4	45	180	25	100	3	12

Summary Loadings:	**1,540**	l/d	**1,540**	$gBOD_5/d$	**312**	gNH_3/d
	10	pe	**26**	pe	**39**	pe
			1,000	mg/l	**203**	mg/l

Notes:

1) The above maximum number of users is restricted due to the fact that the café site only has a single WC available to all guests and staff.
2) The café will only serve kiosk-style food/cakes & drinks (coffee/tea) and does not have any cooking facilities.
3) The proposed new STP must be tested and fully compliant with BS EN 12566-3 (up to 50pe).

General Binding Rules Compliance Report

Dirk Daude Wastewater Consultancy Services t: +44 (0) 7903 296772 e: dirk@dirkdaude.com

Appendix D – Excerpt from Magic Map showing special conservation areas within the larger region and local area

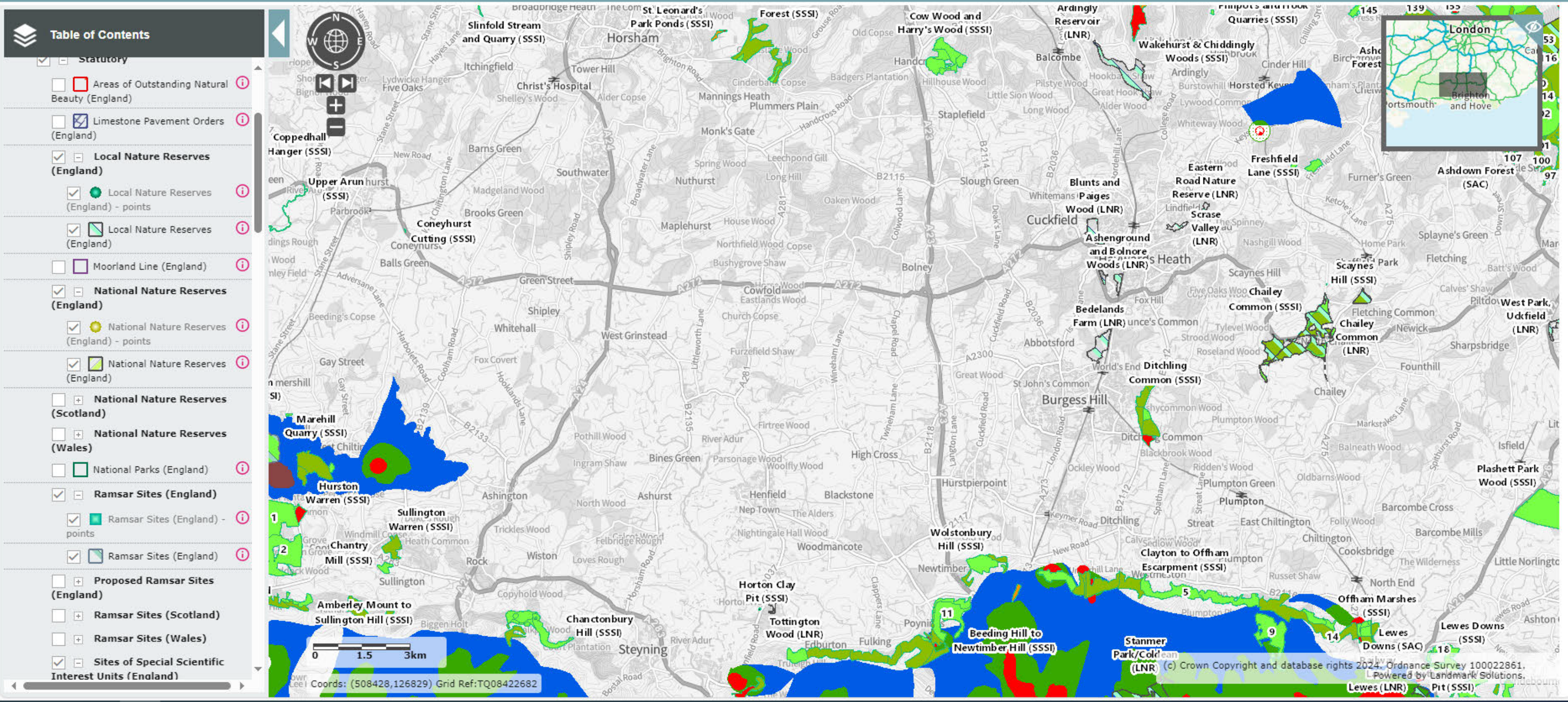
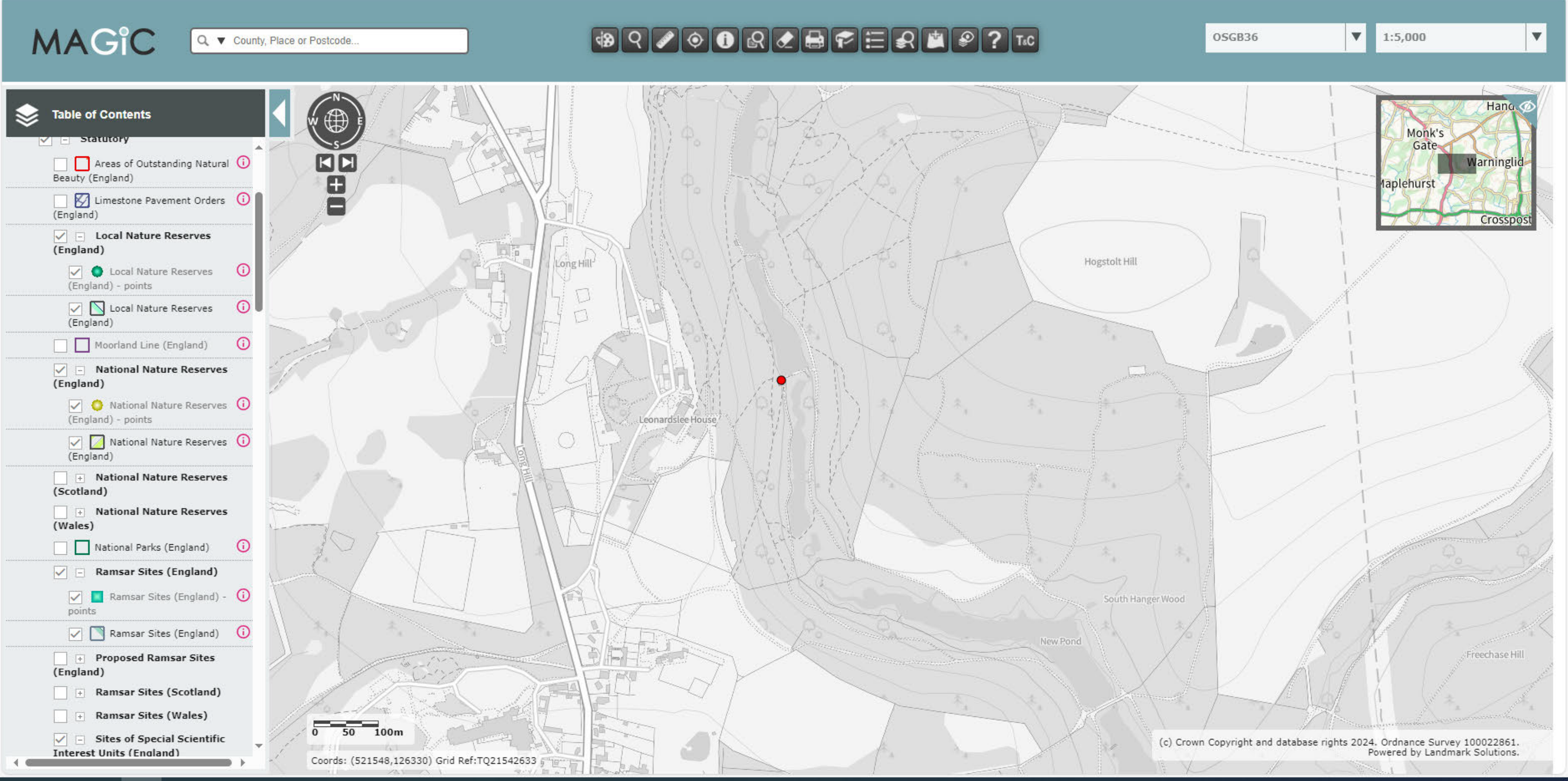


Table of Contents
Statutory
Areas of Outstanding Natural Beauty (England)
Limestone Pavement Orders (England)
Local Nature Reserves (England)
Local Nature Reserves (England) - points
Local Nature Reserves (England)
Moorland Line (England)
National Nature Reserves (England)
National Nature Reserves (England) - points
National Nature Reserves (England)
National Nature Reserves (Scotland)
National Nature Reserves (Wales)
National Parks (England)
Ramsar Sites (England)
Ramsar Sites (England) - points
Ramsar Sites (England)
Proposed Ramsar Sites (England)
Ramsar Sites (Scotland)
Ramsar Sites (Wales)
Sites of Special Scientific Interest Units (England)
Horsham
Cuckfield
Burgess Hill
Haywards Heath
Slinfold Stream and Quarry (SSSI)
St Leonard's Park Ponds (SSSI)
Forest (SSSI)
Cow Wood and Harry's Wood (SSSI)
Ardingly Reservoir (LNR)
Wakehurst & Chiddingly Woods (SSSI)
Philpots and Hook Quarries (SSSI)
Upper Arun (SSSI)
Coneyhurst Cutting (SSSI)
Blunts and Paiges Wood (LNR)
Eastern Road Nature Reserve (LNR)
Freshfield Lane (SSSI)
Ashdown Forest (SAC)
Ashenground and Bolnore Woods (LNR)
Scrase Valley (LNR)
Scaynes Hill (SSSI)
Chailey Common (SSSI)
Bedelands Farm (LNR)
Chailey Common (LNR)
Ditchling Common (SSSI)
Marehill Quarry (SSSI)
Hurston Warren (SSSI)
Sullington Warren (SSSI)
Chantry Mill (SSSI)
Amberley Mount to Sullington Hill (SSSI)
Chanctonbury Hill (SSSI)
Horton Clay Pit (SSSI)
Tottington Wood (LNR)
Beeding Hill to Newtimber Hill (SSSI)
Wolstonbury Hill (SSSI)
Clayton to Offham Escarpment (SSSI)
Offham Marshes (SSSI)
Lewes Downs (SSSI)
Lewes Downs (SAC)
Stanmer Park/Coldean (LNR)
Plashett Park Wood (SSSI)
London
Brighton and Hove
0 1.5 3km
Coords: (508428,126829) Grid Ref:TQ08422682
(c) Crown Copyright and database rights 2024. Ordnance Survey 100022861.
Powered by Landmark Solutions.


MAGiC
County, Place or Postcode...
OSGB36
1:5,000
Table of Contents
Statutory
Areas of Outstanding Natural Beauty (England)
Limestone Pavement Orders (England)
Local Nature Reserves (England)
Local Nature Reserves (England) - points
Local Nature Reserves (England)
Moorland Line (England)
National Nature Reserves (England)
National Nature Reserves (England) - points
National Nature Reserves (England)
National Nature Reserves (Scotland)
National Nature Reserves (Wales)
National Parks (England)
Ramsar Sites (England)
Ramsar Sites (England) - points
Ramsar Sites (England)
Proposed Ramsar Sites (England)
Ramsar Sites (Scotland)
Ramsar Sites (Wales)
Sites of Special Scientific Interest Units (England)
Long Hill
Hogstolt Hill
Leonardslee House
South Hanger Wood
New Pond
Freechase Hill
Monk's Gate
Warninglid
Crosspost
0 50 100m
Coords: (521548,126330) Grid Ref:TQ21542633
(c) Crown Copyright and database rights 2024. Ordnance Survey 100022861.
Powered by Landmark Solutions.