

**The Water Environment (Controlled Activities) (Scotland) Regulations 2011**

**Licence Application Form B1**

**Discharge of Sewage (Foul only)**

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SEPA regulates the discharge of effluent from sewage treatment systems to the water environment. This is the correct application form:

1. For discharges of treated sewage effluent with no surface water contribution and no emergency overflow and
2. If the sewage treatment system is new (less than two years old) and serves more than 3 domestic properties or a population equivalent**[[1]](#footnote-2)** of greater than 15 or
3. If the sewage system is existing (older than two years) and serves more than 9 domestic properties or a population equivalent of greater than 50. (In this case complete as much of this form as practicable).
4. If the discharge is of any size and is in the Loch Leven (Perth and Kinross), Lunan Lochs or Loch Flemington catchments.

To complete your application you must:

1. complete Form A and submit it with this form
2. answer the following application questions and
3. submit a plan as detailed in section 1.

Failure to provide all this information may result in your application being refused.

|  |  |
| --- | --- |
| **For new sewage treatment systems, please state why connection to sewer for sewage effluent is not practicable:** |  |

# Site Plan

The site plan requested in Form A should clearly illustrate the location and position of the:

1. sewage treatment system
2. sampling point (for P.E.>200)
3. partial soakaway (if applicable) and
4. discharge point (where the discharge exits the treatment system and ‘meets’ the soakaway or waterbody)

|  |  |
| --- | --- |
| **Plan reference name:** |  |

# Sampling Point (only applicable for discharges greater than 200 P.E.)

National grid references must be 10-figure (e.g. AB 1234 5678). You can use our [SEPA NGR Tool](https://map.sepa.org.uk/ngrtool/).

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **National grid reference of the sampling point:** |  |  |  |  |  |  |  |  |  |  |

# Discharge Point

National grid references must be 10-figure (e.g. AB 1234 5678).

You can use our [SEPA NGR Tool](https://map.sepa.org.uk/ngrtool/).

|  |  |  |
| --- | --- | --- |
| **Where does the treatment system discharge to?** | Indirectly to groundwater via soakaway[ ] **Complete part 3.1** | To surface water (i.e., river / loch / coast)[ ] **Complete part 3.2** |

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **National grid reference of the discharge point:** |  |  |  |  |  |  |  |  |  |  |

## Discharge Indirectly to Groundwater via Soakaway

This is the preferred environmental option for discharges up to 50 P.E. where soil conditions allow.

**Please also complete the Ground Investigation information in Annex 1**

|  |  |
| --- | --- |
| **Type of soakaway:** | Soakaway [ ]  |
| Mound soakaway [ ]  |
| **What is the percolation value[[2]](#footnote-3) (Vp) of the soil?**(measured in seconds per millimetre) | Less than 15 s / mm [ ]  | **What size is the soakaway?** |  (m2) |
| 15 to 100 s / mm [ ]  |
| 100 – 140 s / mm [ ]  |
| More than 140 s / mm [ ]  |

## Discharge to Surface Water

This is a less preferable environmental option for discharge up to 50 P.E. A discharge indirectly to groundwater via soakaway should be explored first.

|  |  |
| --- | --- |
| **Why is a discharge indirectly to groundwater via soakaway not possible?**  |  |
| **Is there a partial soakaway[[3]](#footnote-4)?** | Yes [ ]  | **What size is the partial soakaway?** |  m2 |
| No [ ]  |
| **Where does the treatment system discharge to?** | River / stream / burn [ ]  |
| Freshwater loch [ ]  |
| Coastal / Estuary [ ]  | **Is the discharge point below MLWS[[4]](#footnote-5)?** | Yes [ ] No [ ]  |
| **What is the name of the waterbody?**(e.g. River Clyde, Loch Long, Firth of Forth, North Sea) |  |

# Treatment System

|  |  |
| --- | --- |
| **What population equivalent1 does the treatment system serve?** |  |
| **What is the maximum flow of sewage (in cubic metres per day)?[[5]](#footnote-6)** |  |
| **How will mechanical failures of the treatment facilities be detected (e.g. telemetry, alarms)?** |  |
| **What is the type of treatment system?** | Septic tank | [ ]  |  |
| Package treatment plant | [ ]  | Go to Part 5 |
| Proprietary filtration system with bio-fibrous material (e.g., coir or peat) | [ ]  | Go to Part 5 |
| Proprietary filtration system with any other material | [ ]  | Go to Part 5 |
| Other (please specify) | [ ]  | Go to Part 5 |
| **Is there a constructed reed** **bed / wetland[[6]](#footnote-7)** | Yes [ ]  |
| No [ ]  |

# Discharge Standards (not to be completed for septic tanks)

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **What are the discharge standards the treatment system will produce?** * Provide Mean standards for ≤200P.E. (See manufacturers certificate (EN12566-3) of treatment system)
* Provide 95%ile standards for >200P.E.
 | Biochemical Oxygen Demand (BOD) |  mg/l | Ammoniacal Nitrogen (as N) |  mg/l |
| Other standards as appropriateEg Total Phosphorus, microbiological |  mg/l |  |  |

**ANNEX 1: Ground Investigation**

Part 1 of Annex 1 is to be completed for all discharges of sewage effluent to soakaway. Part 2 of Annex 1 is only to be filled out for discharges of ≥50pe or for discharges of <50pe where there is a sensitive receptor close by.

See Form B1 Guidance Notes for information relating to the numbering 1 to 7.

|  |
| --- |
| **PART 1 (to be completed for all discharges)** |
| a) Attach a **scale map** showing * Location and layout of the infiltration system
* The location of the trial pits, boreholes / piezometers (if applicable) & percolation test holes
* The location of any well, springs or boreholes (mark with ‘W’, ‘S’ or ‘B’ for Well, Spring, or Borehole) within 500m of the discharge
* The location of surface water features within 200m of the discharge.
* The location of any field drains within 50m.1
* The boundary of the plot
* The direction of North.
* A scale bar.
 | Document reference |
| b) Attach a **scale drawing** showing the detailed design of infiltration system and associated pipework including the length and width of the infiltration system and the depth of the base of the discharge point below ground surface.  | Document reference |
| c) Location of groundwater abstractions within 500m.2 | Location Description (e.g. Bog Farm)  | NGR (e.g. NO1234 5678) (You can use our [SEPA NGR Tool](https://map.sepa.org.uk/ngrtool/)) | Type of supply (e.g. well used for drinking) |
| 1.   |   |   |
| 2.   |   |   |
| 3.   |   |   |
| e) Slope3 | Steep (>1:5)  | [ ]  | Shallow (1:5-1:20) | [ ]  | Relatively Flat (<1:20) | [ ]  |
| f) Attach trial pit logs (A Trial Pit Details template is provided below) | Document reference  |
| g) Depth to groundwater4 |  metres below ground levelDate(s) measured  |
| h) Vp values (seconds/mm) from each test | 1. | 2. | 3. |
| i) Subsoil type5 (trial pit logs should be provided) | Sands and gravels | [ ]  |
| SAND | [ ]  |
| Silty, SAND or silty clayey SAND | [ ]  |
| Sandy SILT | [ ]  |
| Peat | [ ]  |
| Clay | [ ]  |
| Other | Please specify   |

|  |  |
| --- | --- |
| j) Thickness of superficial deposits6 |  metres from ground surface |
| **PART 27 (to be completed for sewage effluent discharges >50pe, also note that for all discharges of ≤50pe where there is a sensitive receptor close by SEPA may also request some of this information. Where this is the case, please discuss with SEPA.**  |
| k) Please attach a hydrogeological risk assessment which should include:* Details of the boreholes or piezometers
* Groundwater levels and flow direction
* Permeability and nature of the strata and details of testing carried out.
* Background groundwater quality.
* A quantitative assessment of the impact that the discharges will have on groundwater and other receptors.
* Proposals for ongoing monitoring

  | Document reference |
| l) Please attach borehole logs and analysis sheet from groundwater quality testing | Document reference   |

**TRIAL PIT DETAILS**

The hole should be at least 1.5m deep below the bottom of the proposed depth of the discharge pipe.

|  |  |  |
| --- | --- | --- |
| Depth of Trial Hole (m):   | Date and time of excavation:   | Date and time of examination:   |
| Depth from ground surface to bedrock (m): |   |
| Depth from ground surface to water table (m): |   |
|  | Subsoil description | Colour\* | Preferential flow paths |
| 0.1m |   |   |   |
| 0.2m |   |   |   |
| 0.3m |   |   |   |
| 0.4m |   |   |   |
| 0.5m |   |   |   |
| 0.6m |   |   |   |
| 0.7m |   |   |   |
| 0.8m |   |   |   |
| 0.9m |   |   |   |
| 1.0m |   |   |   |
| 1.1m |   |   |   |
| 1.2m |   |   |   |
| 1.3m |   |   |   |
| 1.4m |   |   |   |
| 1.5m |   |   |   |
| 1.6m |   |   |   |
| 1.7m |   |   |   |
| 1.8m |   |   |   |
| 1.9m |   |   |   |
| 2.0m |   |   |   |
| 2.1m |   |   |   |
| 2.2m |   |   |   |
| 2.3m |   |   |   |
| 2.4m |   |   |   |
| 2.5m |   |   |   |

\*All signs of mottling should be recorded

X Additional Document submitted with application

|  |
| --- |
| **X ADDITIONAL INFORMATION SUBMITTED** |
| Please reference additional supporting documents submitted as part of this application  | Document name:Document reference: |    |
| Document name:Document reference: |    |
| Document name:Document reference: |    |
| Document name:Document reference: |    |

1. **What is population equivalent?**

Population equivalent (P.E) is a measure of the organic biodegradable load that is served by a treatment system.

**How to calculate Population Equivalent**

Population equivalent for domestic housing should be determined using the number of bedrooms as referred to in the [British Water Code of Practice – Flows and Loads](https://cdn.ymaws.com/www.britishwater.co.uk/resource/resmgr/publications/codes_of_practice/flows_and_loads___bw_cop_18..pdf).

To calculate P.E for commercial premises, multiply the number of people using the system by the Biochemical Oxygen Demand (BOD) load and divide by 60. The BOD load for different types of commercial premises can be found in the [British Water Code of Practice – Flows and Loads](https://cdn.ymaws.com/www.britishwater.co.uk/resource/resmgr/publications/codes_of_practice/flows_and_loads___bw_cop_18..pdf) (Table of loadings for sewage treatment systems).

$$\frac{\left(Number of people using the system× BOD load \right)}{60}$$

 [↑](#footnote-ref-2)
2. **What is percolation value?**

Percolation value is a measure of how long it takes liquid to filter through the surrounding soil. It is important that the percolation value of the soil is suitable: too quick and the discharge may impact groundwater; too slow and the discharge may not drain away. Further information on percolation value, including how to measure it, is available in the [Scottish Government Building Standards Technical Handbook](https://www.gov.scot/publications/building-standards-technical-handbook-2020-domestic/3-environment/3-9-private-wastewater-treatment-systems-infiltration-systems/). [↑](#footnote-ref-3)
3. **What is a partial soakaway?**

A soakaway is a below-ground structure that stores treated sewage effluent and allows it to ‘soak’ into the surrounding land and groundwater. A partial soakaway also does this but is fitted with a high-level overflow that allows some effluent to be discharged to a waterbody. The partial soakaway must be <10m from the waterbody. [↑](#footnote-ref-4)
4. **What is MLWS (Mean Low Water Springs)?**

MLWS is the average throughout the year of two successive low waters, during a 24-hour period in each month when the range of the tide is at its greatest (Spring tides). This information can be found on an Ordnance Survey (OS) map, which can be accessed using our [NGR Tool](https://map.sepa.org.uk/ngrtool/). [↑](#footnote-ref-5)
5. Maximum Flow should be determined using the [British Water Code of Practice – Flows and Loads](https://cdn.ymaws.com/www.britishwater.co.uk/resource/resmgr/publications/codes_of_practice/flows_and_loads___bw_cop_18..pdf). [↑](#footnote-ref-6)
6. Any reed bed or wetland must be designed and constructed in accordance with:

The Good Building Guide – Reedbeds: Application and Specification (Part 1) and Design, Construction and Maintenance (Part 2). *J Griggs and N J Grant (2000).*; or

Constructed Wetland Association Guidelines: Constructed Wetlands to Treat Domestic Septic Tank Effluent. *Constructed Wetland Association (2017)*. [↑](#footnote-ref-7)