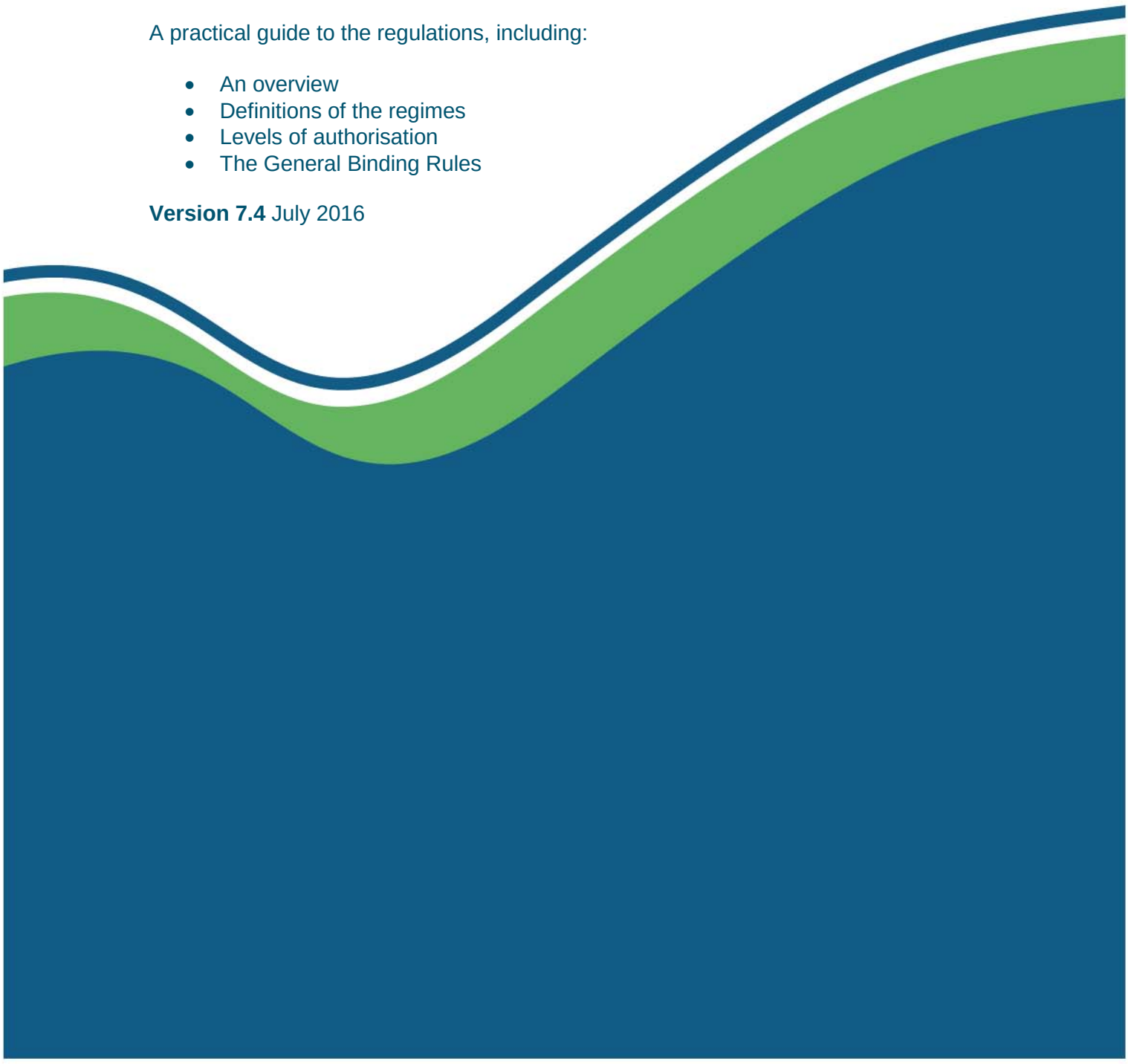
The Water Environment (Controlled Activities) (Scotland) Regulations 2011 (as amended)

A Practical Guide

A practical guide to the regulations, including:

- An overview
- Definitions of the regimes
- Levels of authorisation
- The General Binding Rules

Version 7.4 July 2016



Briefing note

The CAR practical guide, Version 7, July 2013

1. Background

This revised guide provides practical advice on the Water Environment (Controlled Activities) (Scotland) Regulations 2011 (as amended), or CAR. It details which activities are regulated by SEPA. The key changes to the guide are summarised in this briefing note. For further information on the regulations, visit the water regulation pages of the SEPA website.
Please note that the CAR Practical Guide is only available electronically.

2. Summary of changes

This revision is primarily to include the changes to CAR brought in by the Water Environment (Controlled Activities) (Scotland) Amendment Regulations 2013.

2.1 Pollution control regime

- GBR18 – The storage and application of fertiliser. Amendments have been made in relation to the minimum soil depth overlying gravel or fissured rock where fertiliser can be stored or applied. Organic fertiliser cannot be applied within 10 metres of any river, burn, ditch, wetland, loch, transitional water or coastal water.
- GBR19 - An amendment has been made requiring that livestock feeders are not positioned where run-off from the area could enter any river, burn, ditch, wetland, loch, transitional water or coastal water.
- GBR20 - Has been amended to clarify that the 2 metre no cultivation zone should be measured from the top of the bank.
- GBR23 - Has been amended and introduces rules relating to the storage, handling, preparation and application of pesticides primarily in respect to the distance the activity takes place from watercourses and the ground and weather conditions when applying.

2.2 Engineering regime

- GBR5 now requires that the watercourse is not widened by the activity, that there are no steps in the bed slope and that removed sediment is not used to heighten the banks.
- Construction and maintenance of surface water outfalls has been added to GBR6. Any outfall structure must be no larger than is necessary and not extend more than 20m along the length of the watercourse. There is also an added condition to ensure the activity does not result in pollution of the water environment.
- GBR13 allows for the removal of sediment within 5m of an outfall or inlet. The reference of risk to flooding has been removed and the numeric specification on where sediment can be returned is no longer stipulated.

Version 7.1, March 2014

Abstraction regime section updated with a new simple licence level of authorisation, for the construction of temporary boreholes of >200m in depth.

Version 7.2, March 2015

- Clarification that landfill leachate discharges will require either a simple or complex licence.
- Engineering works to partially or fully reinstate or replace failed or abandoned structures may require authorisation and that the applicant should contact SEPA for advice.

Version 7.3, June 2016

- Clarification of current requirements for borehole construction and operation authorisation.
- New registration level activity for the placement of trees or parts of trees in a watercourse to protect eroding banks.
- New registration level activity for operating any vehicle, plant or equipment in the water environment for the purposes of carrying out works to reinstate or replace failed or abandoned structures.

Version 7.4, July 2016

- Change to p31 to clarify the authorisation requirements of works to partially or fully reinstate or replace failed or abandoned structures.

Contents

1. Purpose of the guide

This guide provides practical advice on the Water Environment (Controlled Activities) (Scotland) Regulations 2011 (as amended), or CAR[1]. It details which activities are regulated by SEPA.

More detailed guidance on how SEPA has implemented CAR and background information on the Water Framework Directive (WFD) can be found at: www.sepa.org.uk/water.aspx

The CAR Practical Guide will help you determine which level of authorisation you need to apply for:

1. Refer to the relevant chapter to see if your activity requires authorisation.

2. If your activity falls under a General Binding Rule (GBR) you do not need to apply to SEPA for an authorisation, though you must ensure you comply with the conditions of the GBR. If your activity needs to be registered or licensed you will need to apply to SEPA. Application forms are available at: www.sepa.org.uk/water/water_regulation/car_application_forms.aspx

3. To work out the cost of the application, and to find out whether a subsistence (annual) fee applies, you will need to refer to the Charging Scheme Guidance at: www.sepa.org.uk/wfd/regimes/charging.htm

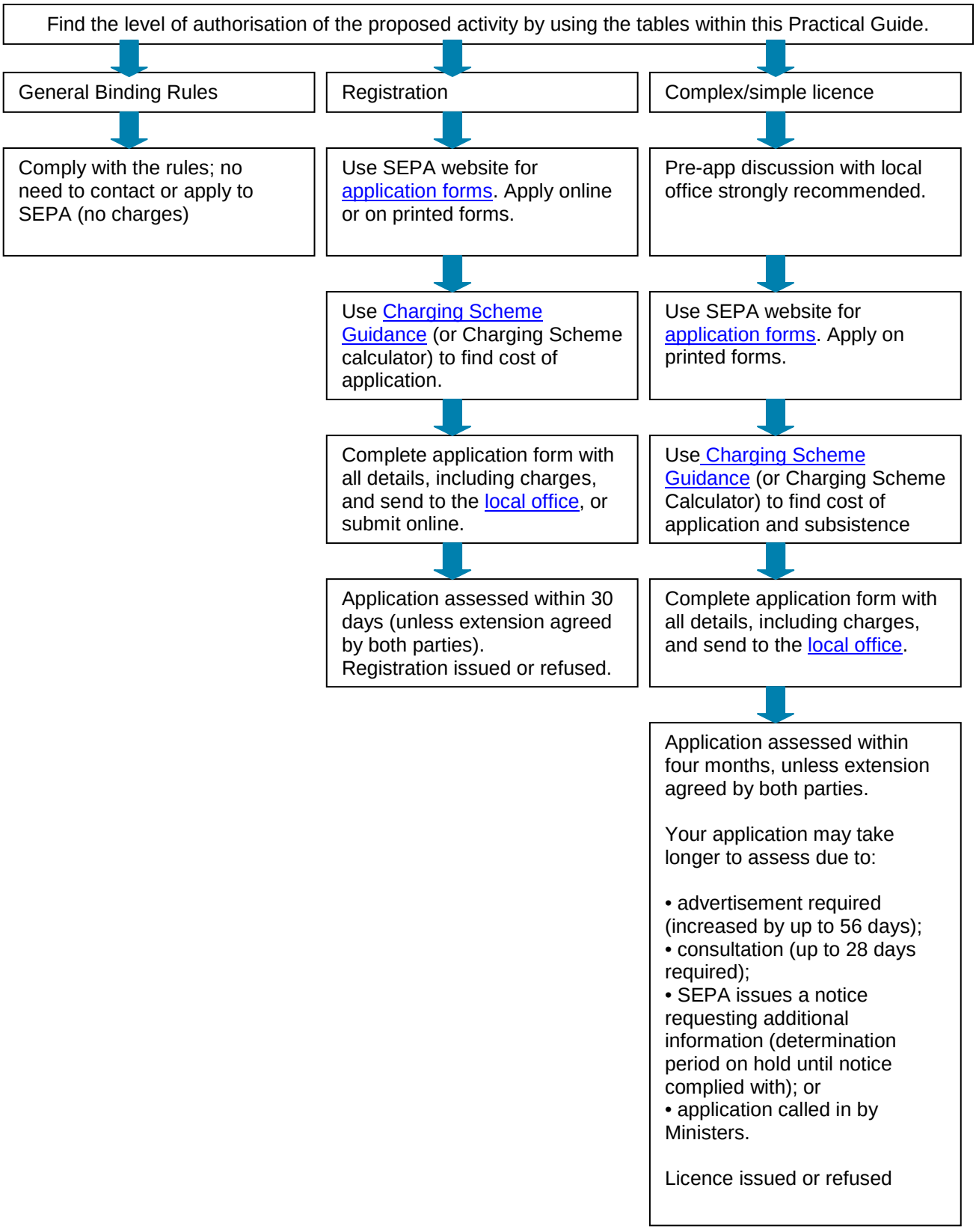
4. You can also use SEPA's online Charge Calculator to determine the fee (this will also calculate reduced application fees for multiple activities): www.sepa.org.uk/wfd/regimes/charging.htm

5. Submit the completed application form, with the correct application fee, to your local SEPA office: www.sepa.org.uk/contact

Note: If at any point you have a query, please contact your local SEPA office: www.sepa.org.uk/contact

[1] www.opsi.gov.uk/legislation/scotland/ssi2011/.htm

CAR authorising process[2]



[2] As required by the Water Environment (Controlled Activities) (Scotland) Regulations 2011 (as amended).

2. The Controlled Activities Regulations authorisation requirement

Since 1 April 2006 it has been an offence to undertake the following activities without a CAR authorisation:

- any activity liable to cause pollution of the water environment[3], including discharges of polluting matter and disposal of waste sheep dip and waste pesticides;
- abstraction of water from the water environment;
- construction, alteration or operation of impounding works (e.g. dams and weirs) in surface water[4] or wetlands[5];
- carrying out building or engineering works (a) in inland water[6] (other than groundwater) or wetlands; or (b) in the vicinity of inland water or wetlands and having or likely to have a significant adverse effect on the water environment;
- artificial recharge or augmentation of groundwater;
- the direct or indirect discharge, and any activity likely to cause a direct or indirect discharge, into groundwater of any hazardous substance or other pollutant;
- any other activity which directly or indirectly has or is likely to have a significant adverse impact on the water environment.

If any of these activities is already authorised by one of the following environmental regulatory regimes, it will already be considered to be authorised under CAR. You will not need to apply for separate authorisation:

- Radioactive Substances Act 1993
- Integrated Pollution Control (Part 1 of Environmental Protection Act 1990)
- The Pollution Prevention and Control (Scotland) Regulations 2000
- The Pollution Prevention and Control (Scotland) Regulations 2012
- Waste Management Licensing (Part II of Environmental Protection Act 1990)

CAR authorisation is intended to control impacts on the water environment, including mitigating the effects on other water users. Additional consents may be required from other authorities, such as planning permission or permission associated with conservation areas or protected species.
Throughout this guide there are references to new and existing activities. As a general rule, for the purposes of CAR, a new activity is one that started on or after 1 April 2006, while an existing activity is one that started before 1 April 2006.

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[3] the water environment' includes all surface water, groundwater and wetlands.
[4] 'surface water' means inland water (other than groundwater), transitional water (e.g. estuaries) and coastal water.
[5] 'wetland' means an area of ground the ecological, chemical and hydrological characteristics of which are attributable to frequent inundation or saturation by water and which is directly dependent, with regard to its water needs, on a body of groundwater or a body of surface water.
[6] 'inland water' means all standing or flowing water on the surface of the land (e.g. rivers, lochs, canals, reservoirs) and all groundwater.

2.1 Levels of authorisation

In order to allow for proportionate regulation based on the risk an activity poses to the water environment, there are three types of CAR authorisation:

- General Binding Rules (GBRs)
- Registrations
- Licences

2.2 General Binding Rules

GBRs represent a set of mandatory rules which cover specific low risk activities. Activities complying with the rules do not require an application to be made to SEPA, as compliance with a GBR is considered to be compliance with an authorisation. Since the operator is not required to apply to SEPA, there are no associated charges.

SEPA uses its statutory role in the land use planning system to highlight GBRs that may apply to a given proposal.

The individual GBRs are described in more detail in the appropriate regime-specific sections of this guide. They are numbered according to Schedule 3 of CAR.

Note: If you think you would be unable to comply with one or more of the general binding rules applicable to your proposed activity, you may still be able to carry out the activity by obtaining an authorisation from SEPA in the form of a registration or water use licence. SEPA will be able to determine whether the activity can be carried out under one of these forms of authorisation without posing a significant environmental risk. Please contact your local SEPA office for advice.

2.3 Registrations

These allow for the registration of small-scale activities that individually pose low environmental risk but, cumulatively, can result in greater environmental risk. Operators must apply to SEPA to register these activities. A registration will include details of the scale of the activity and its location, and there will be a number of conditions of registration that must be complied with. There is an application fee for registrations, though subsistence (annual) charges do not apply.

2.4 Licences

These allow for site-specific conditions to be set to protect the water environment from activities that pose a higher risk. Licences can cover linked activities on a number of sites over a wide area, as well as single or multiple activities on a single site. Application fees apply to all licences, and subsistence (annual) charges may
apply. SEPA has simple licences and complex licences for activities, for which different charges apply.

A key feature of CAR licences, unlike GBRs and registrations, is that they require the applicant to nominate a ‘responsible person’ (i.e. an individual/partnership/company) to be held accountable for securing compliance with the terms of the licence.

To determine which level of authorisation is required for an activity, please consult the regime-specific sections of this guide.

Information on charges and associated guidance is available at: Scottish Environment Protection Agency: Charging schemes - Current charging schemes (www.sepa.org.uk/about_us/charging_schemes/current_charging_schemes.aspx)

3. Pollution control regime

WEWS[7] and CAR provide a framework within which certain activities that may impact on the water environment may be authorised subject to conditions that adequately protect the water environment, but it may not be appropriate to authorise all activities e.g. a slurry spill in the vicinity of a watercourse is an activity liable to cause pollution of the water environment, but SEPA would not authorise it. SEPA routinely uses this framework to control point source discharges to the water environment as well as disposals to groundwater via land.

Pollution, in relation to the water environment, means the direct or indirect introduction, as a result of human activity, of substances (including bacteria and other pathogens) or heat into the water environment, or any part of it, which may give rise to any harm.

For these purposes, 'harm' means:

(a) harm to the health of human beings or other living organisms;

(b) harm to the quality of the water environment, including:

(i) harm to the quality of the water environment taken as a whole;

(ii) other impairment of, or interference with, the quality of aquatic ecosystems or terrestrial ecosystems directly depending on aquatic ecosystems;

(c) offence to the senses of human beings;

(d) damage to property; or

(e) impairment of, or interference with, amenities or other legitimate uses of the water environment.

The Water Environment (Diffuse Pollution)(Scotland) Regulations 2008 introduced a number of General Binding Rules (GBRs) to control specified activities that are liable to cause diffuse pollution, these changes are now incorporated in CAR and amend the Control of Pollution (Silage, Slurry and Agricultural Fuel Oil) (Scotland) Regulations 2003 to allow surface water run-off from some farm steading areas to be drained to a constructed farm wetland.

3.1 Point source pollution control

Point source discharges include:

- sewage and trade effluent discharges;
- surface water discharges from urban areas;
- abandoned mine discharges;
- disposals of waste sheep dip and other waste pesticides.

Such discharges will typically be made directly to the water environment. However, the regime also covers discharges to land that result in the indirect discharge of matter liable to cause pollution of groundwater.

In particular, SEPA authorises discharges of sewage and trade effluent to land (e.g. via a soakaway) and the disposal of waste sheep dip and other waste pesticides.
It is recognised that in certain circumstances a structure may have to be constructed before an authorised activity can be carried out (e.g. a new outfall pipe to facilitate a point source discharge or an intake structure to facilitate an abstraction). In these circumstances, SEPA

[7] The Water Environment and Water Services (Scotland) Act 2003

treats the construction (an engineering activity) as secondary to the primary activity and will normally authorise the construction activity in the same
authorisation document as the primary activity. This means that SEPA will not normally require two separate applications to be made or fees to be paid, however, SEPA will need details of any dependent activities to be submitted with the main application.

SEPA does not require authorisation for the following types of discharge:

- Discharges from vessels in coastal or transitional waters. These will continue to be controlled by the Maritime and Coastguard Agency (as set out in the Merchant Shipping Act 1995) and will not be covered by CAR. However, SEPA will consider taking enforcement action against vessels discharging sewage or trade effluent to rivers and lochs where this is liable to cause pollution.
- Occasional discharges from public water treatment works, and the water supply system, provided it is undertaken in accordance with the Water Supply Hygiene procedures (Scottish Water) or the Water (Scotland) Act 1980.
- Discharges of uncontaminated groundwater abstracted* directly through boreholes/well pointing and discharged without contact with any other drainage run-off, in order to dewater opencast coal sites/quarry/construction sites. It must be made very clear to the operator that this only applies to uncontaminated groundwater.
- Discharges from storage tanks/pipelines which are filled with clean water in order to test water tightness e.g. fish farm tanks, chemical/oil storage tanks.
- Discharges of uncontaminated rainwater which has collected in an oil storage bund. i.e. no visible sheen.
- Initial pumping out of water from a dry dock and also uncontaminated water which is released simply by the opening of gates.

* The initial abstraction may require authorisation.

Authorisation from SEPA will be required for the disposal to land of waste sheep dip or waste pesticides and pesticide washings.

3.2 Diffuse pollution control

Diffuse pollution is caused by releases of pollutants from a range of activities on land that individually may have little effect on the water environment, but cumulatively can have a significant impact across a (river) catchment.

The General Binding Rules (GBRs) for diffuse pollution are based on widely accepted standards of good practice, such as the Prevention of Environmental Pollution from Agricultural Activity (PEPFAA) Code, the 4 Point Plan and the Forests and Water Guidelines. Essentially, they provide a statutory baseline of good practice and are expected to contribute significantly to improvements in water quality.

Activities covered by the GBRs include the:

- storage and application of fertilisers;
- keeping of livestock;
- cultivation of land;
- discharge of surface water run-off;
- construction and maintenance of roads and tracks;
- storage and application of pesticide;
- operation of sheep dipping facilities.

3.3 Pollution control – levels of authorisation

Use Table 1 to determine the level of authorisation applicable for pollution activities. The notes below the table provide supporting information.

Table 1: Pollution control levels of authorisation

pe = population equivalent
CSO = combined sewer overflow

<table>
<tr><th>GBR</th><th>Registration</th><th>Simple licence</th><th>Complex licence</th></tr>
<tr><td colspan="4">Sewage and organic effluents</td></tr>
<tr><td></td><td>Organic effluents ≤15pe (including discharges to soakaways)</td><td>Organic effluents >15– 100pe</td><td>Organic effluents >100pe</td></tr>
<tr><td></td><td>Sewage (including discharges to soakaways): built before 1 April 2006 ≤50pe built after 1 April 2006 ≤15pe</td><td>Sewage: built before 1 April 2006 >50–100pe built after 1 April 2006 >15–100pe</td><td>Sewage >100pe</td></tr>
<tr><td></td><td></td><td>Low significance CSOs</td><td>Medium and high significance CSOs</td></tr>
<tr><td></td><td></td><td></td><td>Emergency overflows</td></tr>
<tr><td colspan="4">Fish farms</td></tr>
<tr><td></td><td>All non-commercial fish hatcheries for native fish</td><td>Freshwater cage fish farms ≤2 tonnes</td><td>Freshwater cage fish farms >2 tonnes</td></tr>
<tr><td></td><td></td><td>Marine cage/tank fish farms ≤50 tonnes</td><td>Marine cage/tank fish farms >50 tonnes</td></tr>
<tr><td></td><td>Tank fish farms/hatcheries ≤0.5 tonnes</td><td>Tank fish farms/hatcheries >0.5 tonnes</td><td></td></tr>
<tr><td colspan="4">Inorganic effluents and other trade effluents</td></tr>
<tr><td>Direct discharges into groundwater as a result of construction or maintenance works which come into contact with groundwater (e.g. pouring of concrete below the water table) [GBR16]</td><td>Inorganic effluents and other trade effluents (not landfill leachates)
<table><tr><td>Volume m^3/d</td><td></td><td>pe</td></tr><tr><td>≤10</td><td>and</td><td>≤15</td></tr></table></td><td>Inorganic effluents and other trade effluents, including those from mines and quarries and landfill leachate
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<table><tr><td>Volume m^3/d</td><td></td><td>pe</td></tr><tr><td>>100</td><td>or</td><td>>100</td></tr></table></td></tr>
<tr><td></td><td></td><td>Water treatment works discharges</td><td></td></tr>
<tr><td></td><td></td><td>Discharges from dry docks</td><td></td></tr>
</table>

GBR	Registration	Simple licence	Complex licence
Thermal effluents			
	Cooling water, with no chemical addition or Freshwater Fisheries Directive compliance implications	Cooling water with chemical addition, or Freshwater Fisheries Directive compliance implications	
		All boiler blow-down	
Surface water drainage			
Surface water discharges (except those defined under simple licence) [GBR10, GBR11 and GBR21]		Surface water discharges from >1,000 residential houses, >1,000 car park spaces, all industrial estates, drainage from major roads/motorways	
Construction and maintenance of waterbound roads and tracks [GBR22]			
Agricultural and forestry activities			
Storage/application of fertiliser, where not already covered by regulations [GBR18]			
Keeping of livestock [GBR19]			
Cultivation of land [GBR20]			
Storage/application of pesticide [GBR23]			
Operating sheep dipping facilities [GBR24]		Disposal to land of waste sheep dip or waste pesticides ≤20m^3/day	Disposal to land of waste sheep dip or waste pesticides >20m^3/ day

Points of note:

Registration activities

1. Organic effluents (including discharge to soakaways) that, prior to treatment, have an organic loading of 15 or less population equivalents (pe).

2. Sewage systems (including discharge to soakaways) built before 1 April 2006 that, prior to treatment, have an organic loading of ≤50pe.

3. Sewage systems (including discharge to soakaways) built after 1 April 2006 that, prior to treatment, have an organic loading of ≤15pe.

   For domestic housing, a minimum of 5pe is used for any house with up to and including three bedrooms.

   For houses with more than three bedrooms, a further 1pe is added for each additional bedroom. (Full details on how to calculate this can be found in the British Water Code of Practice Flows and Loads- Sizing Criteria, Treatment Capacity for Small

Wastewater Treatment Systems [Package Plants]: (www.britishwater.co.uk/Publications.aspx).

4. Effluents from non-commercial fish hatcheries rearing native fish for the enhancement of biodiversity.

5. Effluents from commercial fish hatcheries or tank farms with ≤0.5 tonnes of annual fish production.

6. Inorganic and other effluents with a maximum daily volume ≤10 m^3/day and ≤15pe. Landfill leachates must be authorised by either a simple or complex licence.

7. Effluents from cooling water processes into which no chemicals have been added and/or where there are no Freshwater Fisheries Directive compliance implications.

NB – Operators wishing to apply herbicide within 1 metre of any river, burn, ditch, wetland, loch, transitional water or costal water etc can apply to SEPA for authorisation using the existing online or paper application process for the application of herbicide in or near water.

Simple licence activities

1. Organic effluents that, prior to treatment, have an organic loading >15 and ≤100 population equivalents (pe).

2. Sewage systems built before 1 April 2006 that, prior to treatment, have an organic loading of >50 and ≤100pe.

3. Sewage systems built after 1 April 2006 that, prior to treatment, have an organic loading of >15 and ≤100pe.

4. Sewage effluent from combined sewer overflows (CSOs) and storm tank discharges, which are of low significance:

    - Low significance for inland waters means that a discharge is made only when the flow in the inlet sewer exceeds 'formula A' and the discharge receives at least eight times dilution (foul dry weather flow (DWF) at 5% low river flows) in the receiving environment and where there is no interaction with other discharges.

    - Low significance for coastal and transitional waters means not in EC-designated bathing waters, shellfish water, or other areas with specific water quality requirements and where there is no interaction with other discharges.

5. Freshwater cage fish farms that produce ≤2 tonnes of fish in any one year.

6. Marine cage fish farms or discharges from marine tanks that hold no more than 50 tonnes in weight of fish at any time.

7. Effluent from fish farm hatcheries or tank farms that produce >0.5 tonnes of fish in any one year.

8. Inorganic effluents and other effluents (including those from mines and quarries, landfill leachates and other effluents not defined elsewhere) that have a maximum daily volume of no more than 100m^3 per day, and an organic loading prior to treatment of no more than 100 pe and where it is above the registration criteria.

9. Effluents from water treatment works (e.g. backwash water and reject water). Occasional discharges from water treatment works site operations (e.g. safety shower, chlorine monitors) will normally be included in the single water use licence for the site and not require separate authorisation.

10. Effluents from the dewatering of dry docks.

11. Effluents from cooling water processes that involve the addition of chemicals and/or where there are Freshwater Fisheries Directive compliance implications.

12. Effluents from boiler blow-down.

13. Discharges of surface water arising from:

    - more than 1,000 houses[8];
    - more than 1,000 car park spaces[7];
    - industrial estates[9];
    - drainage from motorways/trunk roads[10].

    This applies to surface water discharges arising from the above activities which are new or enlarged. It does not apply to existing surface water discharges, unless SEPA considers that additional controls in the form of a licence are required.

14. All activities involving the disposal of waste sheep dip or waste pesticides onto or into land, where the proposed total volume is ≤20m^3 per day.

Complex licence activities

1. Sewage and organic effluents that, prior to treatment, have an organic loading more than 100 population equivalent (pe).

2. Sewage effluent from storm tanks and combined storm sewage overflows that are not considered to be of low significance (as defined above).

3. Effluent from emergency overflows.

4. Freshwater cage fish farms producing >2 tonnes of fish in any year.

5. Marine cage fish farms or effluents from marine tanks which hold >50 tonnes in weight of fish at any time.

6. Inorganic effluents and other effluents (including those from mines and quarries, landfill leachates and other effluents not defined elsewhere), that either have a maximum daily volume >100m^3 per day or an organic loading prior to treatment of >100pe.

7. All activities involving the disposal of waste sheep dip and waste pesticides onto or into land, where the proposed total volume is >20m^3 per day.

3.4 Pollution control – General Binding Rules

As described in Section 2, CAR contains General Binding Rules (GBRs) for specific low risk activities. When an activity complies with the relevant GBR, there is no need to contact SEPA or apply for a formal authorisation.

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[8] The requirement for licensing applies to >1,000 houses/car park spaces.

[9] 'Industrial estates' does not include business parks (offices) or retail parks (shops); these are considered on the basis of the number of car parking spaces. An industrial estate would normally include marshalling yards, lorry parks and distribution depots, including ports, but does not include developments of low significance consisting of one or several small units.

[10] Drainage from new or modified motorways, trunk roads or dual carriageways should be licensed if any one outfall drains a length of >1km. The requirement for licensing also covers drainage from major intersections from such roads, but not junctions of a major road, etc. and a minor road. 'Modified' in this context means major work, such as the addition of an extra lane and would not cover retarring of roads etc. Each outfall draining a length of >1km needs a licence. For example, a length of new motorway with 20 surface water outfalls, five of which drain lengths of >1 km, would require an application for a licence incorporating five associated activities.

Compliance with the GBR is treated as compliance with an authorisation under CAR. SEPA may ask to be satisfied that a GBR is appropriate for a given activity, when consulted as a statutory consultee on a planning application under the Town and Country Planning System.

The GBRs are outlined below. For ease of interpretation, the format and language in this practical guide may differ slightly from the exact wording in CAR. If you are unclear about a particular activity or its associated GBRs, you are advised to consult Schedule 3 of CAR.

GBR10: Discharge of surface water run-off from a surface water drainage system to the water environment from construction sites, buildings, roads, yards and any other built-up areas.

Rules:

a) If the surface water run-off is from areas constructed after 1 April 2007, the site must be drained by a Sustainable Urban Drainage System (SUDS). If the surface water run-off is from a construction site operated after 1 April 2007, the site must be drained by a SUD system or equivalent. The only exceptions are if the run-off is from a single dwelling and its curtilage, or if the discharge is to coastal water.

b) All reasonable steps must be taken to ensure that the discharge will not result in pollution of the water environment.

c) The discharge must not contain any trade effluent or sewage and must not result in visible discolouration, iridescence, foaming or sewage fungus in the water environment.

d) The discharge must not result in the destabilisation of the banks or bed of the receiving surface water.

e) The discharge must not contain any water run-off from any of the following areas constructed after 1 April 2007:

- fuel delivery areas and areas where vehicles, plant and equipment are refuelled;
- vehicle loading or unloading bays where potentially polluting matter is handled;
- oil and chemical storage, handling and delivery areas.

f) All treatment systems (including oil interceptors, silt traps and SUDS) must be maintained in a good state of repair.

g) All reasonable steps must be taken to ensure that any matter liable to block, obstruct, or otherwise impair the ability of the SUDS is prevented from entering the system.

h) The construction and maintenance of the outfall must not result in pollution of the water environment.

GBR11: Discharge into a surface water drainage system.

Rules:

a) Oil, paint thinners, pesticides, detergents, disinfectants or other pollutants must not be disposed of into a surface water drainage system or onto any surface which drains into it.

Rules (continued):

b) Any matter liable to block, obstruct or otherwise impair the ability of the surface water drainage system must not be disposed of into the system or onto a surface that drains into the system.

c) Sewage or trade effluent must not be discharged into any surface water drainage system.

d) On a construction site, the area of soil draining into a surface water drainage system must be minimised. The period of time within which this area drains into the system must also be minimised.

GBR16: Direct discharge of pollutants into groundwater as a result of construction or maintenance works in or on the ground, which come into contact with groundwater.

Rules:

a) No solid or liquid materials coming into contact with groundwater shall contain substances listed in CAR Schedule 2 (except drilling fluids used during the works, provided they do not result in pollution of the water environment).

b) No materials coming into contact with groundwater shall cause pollution of the water environment.

Pulverised Fuel Ash (PFA) is often a component of grout used to stabilise underground mine workings and operators should be aware that it may contain substances listed in Schedule 2 of CAR. SEPA therefore recommends that the operator or their agent assesses whether the use of PFA in grout will meet the requirements of GBR16. Acceptable assessments will be in line with the guidance document entitled 'BRE488 Stabilising Mine Workings with PFA Grouts – Environmental Code of Practice (2006)', which includes a methodology for assessing the risks to groundwater from PFA grouts.

GBR18: The storage and application of fertiliser (except where regulated under The Sludge (Use in Agriculture) Regulations 1989, Environmental Protection Act 1990, Waste Management Licensing Regulations 1994 or The Control of Pollution (Silage, Slurry and Agricultural Fuel Oil) (Scotland) Regulations 2003.

Rules:

a) Fertiliser must not be stored on land that:

- is within 10m of any river, burn, ditch, wetland, loch, transitional water or coastal water;
- is within 50m of any spring that supplies water for human consumption, or any well or borehole that is not capped to prevent the ingress of water;
- is waterlogged;
- has an average soil depth of less than 40cm and overlies gravel or fissured rock, except where the fertiliser is stored in an impermeable container; or

Rules (continued):

- is sloping, unless the fertiliser is inorganic or it is ensured that any run-off of fertiliser is intercepted (by means of a sufficient sized buffer or otherwise) to prevent it entering any river, burn, ditch, wetland, loch, transitional water or coastal water towards which the land slopes.

b) Rule (a) does not apply where the fertiliser is being stored in a building that is constructed and maintained to a standard that prevents run-off or seepage of fertiliser from the building.

c) Organic fertiliser must not be applied to land that:

- is within 10m of any river, burn, ditch, wetland, loch, transitional water or coastal water;
- is within 50m of any spring that supplies water for human consumption or any well or borehole that is not capped to prevent water ingress;
- has an average soil depth of less than 40cm and overlies gravel or fissured rock, except where the application is for forestry operations;
- is frozen (except where the fertiliser is farmyard manure) waterlogged, or covered with snow; or
- is sloping, unless it is ensured that any run-off of fertiliser is intercepted (by means of a sufficient buffer zone or otherwise) to prevent it from entering any river, burn, ditch, wetland, loch, transitional water or coastal water towards which the land slopes.

d) Inorganic fertiliser must not be applied to land that:

- is within 2m of any river, burn, ditch, wetland, loch, transitional water or coastal water;
- is within 5m of any spring that supplies water for human consumption or any well or borehole that is not capped to prevent water ingress;
- has an average soil depth of less than 40cm and overlies gravel or fissured rock, except where the application is for forestry operations;
- is frozen, waterlogged, or covered with snow; or
- is sloping, unless it is ensured that any run-off of fertiliser is intercepted (by means of a sufficient buffer zone or otherwise) to prevent it from entering any river, burn, ditch, wetland, loch, transitional water or coastal water towards which the land slopes.

e) Fertilisers must not be applied to land in excess of the nutrient needs of the crop.

f) Any equipment used to apply fertiliser must be maintained in a good state of repair.

g) Fertiliser must be applied on land in such a way and at such times that the risk of pollution to any river, burn, ditch, wetland, loch, transitional water or coastal water is minimised.

GBR19: Keeping of livestock.

Rules:

a) Significant erosion or poaching of any land that is within 5m of any river, burn, ditch, wetland, loch, transitional water or coastal water must be prevented.

Rules (continued):

b) Livestock must be prevented from entering any land that is within 5m of a spring that supplies water for human consumption or any well or borehole that is not capped to prevent water ingress.

c) Livestock feeders must not be positioned where run-off from around the feeders could enter any river, burn, ditch, wetland, loch, transitional water or coastal water, and in any case, positioned no closer than 10m from any river, burn, ditch, wetland, loch, transitional water or coastal water.

GBR20: Cultivation of land.

Rules:

a) Land must not be cultivated for crops if it is:

- within 2m of any river, burn, ditch, wetland or loch, as measured from the top of the bank, or within 2m of any transitional water or coastal water as measured from the shoreline;
- within 5m of any spring that supplies water for human consumption or any well or borehole that is not capped to prevent water ingress; or waterlogged.

b) Land sloping to any river, burn, ditch, wetland, loch, transitional water or coastal water with an overall gradient in excess of 4.5° must not be moled.

c) Land must be cultivated in a way that minimises the risk of pollution to any river, burn, ditch, wetland, loch, transitional water or coastal water.

GBR21: The discharge of water run-off via a surface water drainage system to the water environment (rural land activities).

Rules:

a) Run-off must be discharged in a way that minimises the risk of pollution to any river, burn, ditch, wetland, loch, transitional water or coastal water.

b) Drainage must not result in destabilisation of the banks, or bed of the receiving river, burn, ditch, wetland, loch, transitional water or coastal water.

GBR22: Construction and maintenance of waterbound roads and tracks.

Rule:

a) Material that will or is likely to result in metallic, sulphide rich or strongly acidic polluted run-off must not be used in the construction and maintenance work.

GBR23: The storage and application of pesticide.

Rules:

a) The preparation of pesticide for application and the cleaning or maintenance of pesticide sprayers must not be undertaken within 10m of any river, burn, ditch, wetland, loch, transitional water or coastal water, and done in a manner that prevents any spillages, run-off or washings from entering any river, burn, ditch, wetland, loch, transitional water or coastal water.

b) Pesticide spraying equipment must be maintained in a good state of repair such that there is no leakage and the sprayer is accurately calibrated to deliver the required application rate.

c) Pesticide sprayers must not be filled with water taken from any river, burn, ditch, wetland or loch unless:

- a device preventing back siphoning is fitted to the system; or
- the water is first placed in an intermediate container.

d) Pesticide-treated plants must not be stored or soaked in any river, burn, ditch, wetland, or loch.

e) Pesticide must be applied in accordance with the terms and instructions of the relevant product approval.

f) Pesticide must not be applied in, onto or over ground or allowed to drift onto or over ground that:

- is frozen, snow covered or waterlogged, except where the application in, onto or over waterlogged ground is necessary for the purpose of controlling fungal disease and all precautions are taken to minimise the risk of pesticide entering any river, burn, ditch, wetland, loch, transitional water or coastal water;
- is within 1m of any river, burn, ditch, wetland or loch, as measured from the top of the bank, or within 1m of any transitional water or coastal water as measured from the shoreline;
- is sloping, unless it is ensured that any run-off of pesticide is intercepted (by means of a sufficient buffer zone or otherwise) to prevent it from entering any river, burn, ditch, wetland, loch, transitional water or coastal water towards which the land slopes;
- is within 50m of any spring that supplies water for human consumption or any well or borehole that is not capped to prevent ingress of the pesticide;
- has an impermeable surface which drains directly to a surface water drainage system, unless measures are taken to minimise the risk of pesticides entering the drainage system; or
- along roads, railway lines, permeable surfaces or other infrastructure, unless measures are taken to minimise the risk of pollution of any river, burn, ditch, wetland, loch, transitional water, coastal water or surface water drainage system.

g) Application of pesticide must be carried out in such a way that the risk of pollution of any river, burn, ditch, wetland, loch, transitional water or coastal water is minimised, in particular, pesticide must not be applied during rainfall during conditions when there is a risk that spray will drift or be blown outwith the target area.

Rules (continued):

h) Pesticide, including packaging, must not be stored:

- within 10m of any river, burn, ditch, wetland, loch, transitional water or coastal water;
- within 50m of any spring that supplies water for human consumption or any well or borehole that is not capped to prevent ingress of the pesticide;
- on an impermeable surface draining to a surface water drainage system.

Except that rule h) does not apply when pesticide leakage and spillage cannot reach any river, burn, ditch, wetland, loch, transitional water, coastal water or a surface water drainage system.

GBR24: Operating sheep dip facilities.

Rules:

a) Sheep must be prevented from having access to any river, burn, ditch, wetland, loch, transitional water or coastal water while there is a risk of transfer of sheep dip fluid from its fleece.

b) Mobile sheep dipping facilities, or any part of a sheep dipping facility constructed after 1 April 2008, must not be located within 50m of any river, burn, ditch, wetland, loch, transitional water, coastal water, well, spring or borehole.

c) Sheep dipping facilities must not discharge underground, leak or overspill.

d) Sheep dipping facilities must not be filled with water taken from the water environment unless:

- a device preventing back siphoning is fitted to the system; or
- the water is first placed in an intermediate container.

e) Sheep dip facilities shall be emptied within 24 hours following completion of dipping. (Please be aware that disposal of any sheep dip requires appropriate authorisation under CAR).

It is also worth noting that the Control of Pollution (Silage, Slurry and Agricultural Fuel Oil) (Scotland) Regulations 2003 has been amended[11] to allow surface water run-off from certain areas of a farm steading to be drained to a constructed farm wetland (CFW). (See the amendment for full details of which areas are permitted).

A CFW is a series of one or more constructed shallow free-flowing vegetated ponds (known as cells) which are designed to receive and treat lightly contaminated surface water run-off, such that any discharge will not pollute the water environment. CFWs are not suitable for treating more nutrient-rich effluents or run-off containing pesticides or sheep dip. It is strongly recommended that expert advice is sought when considering installing a CFW to ensure that the discharge does not cause pollution of the water environment. The SEPA CFW design manual illustrates the design standards which SEPA recommends should be considered in order to construct a robust CFW.

[11] By the Water Environment (Diffuse Pollution) (Scotland) Regulations 2008

4. Abstraction regime

Abstraction means the doing of anything whereby any water is removed or diverted by mechanical means, pipe or any engineering structure or works from any part of the water environment, whether temporarily or permanently, including anything whereby the water is so removed or diverted for the purpose of being transferred to another part of the water environment.

We have also included borehole construction and operation in this section as it is often associated with abstraction, though not in all cases.

It is recognised that in certain circumstances a structure may have to be constructed before an authorised activity can be carried out (e.g. an intake structure to facilitate an abstraction or abstraction return structure). In these circumstances, SEPA treats the construction (an engineering activity) as secondary to the primary activity and will normally authorise the construction activity in the same authorisation document as the primary activity. This means that SEPA will not normally require two separate applications to be made or fees to be paid, however, SEPA will need details of any dependent activities to be submitted with the main application.
Surface water includes canals and lades. Abstractions from these are therefore controlled activities within the scope of the CAR. Note also that feeds and take-offs from watercourses into canals and lades are also classed as abstractions and therefore require to be authorised.

SEPA will not require authorisation for the following abstraction activities:

- Abstraction of water from the public water supply infrastructure.
- The removal or diversion of water as a result of land drainage works. During the construction phase, the abstraction of groundwater from the dewatering (passive or otherwise) of road, rail or other cuttings is regulated via GBR, registration or licence as any other abstraction would be. Once an operational final passive drainage system is in place for the cutting, such as a pipe network to collect run off and seepage, the activity will be treated as land drainage works and as such no further authorisation will be required.
- The temporary abstraction of water to enable working within a river, including the over pumping of water.
- Abstractions by vessels where the water is returned to the water environment from the vessel.
- Abstractions of water stored in off-line impoundments (see Section 5 for definition) and artificial storage ponds that receive their inflow from an already authorised abstraction. Note that an authorisation is required for an abstraction from a dug storage pond collecting water from field drains and/or groundwater.
- Abstractions from artificial treatment systems, including Sustainable Urban Drainage Systems (SUDS) and quarry settlement lagoons.
- Abstraction for the purposes of fire-fighting.
- Abstraction of rainwater from construction site excavations or quarries of volcanic or metamorphic rocks (e.g. basalt, granite and schist). Note that the abstraction of groundwater from excavations is a controlled activity to which GBR15 applies (see Sections 4.1 and 4.3) as is the abstraction of groundwater from quarries.

4.1 Abstraction and Borehole Construction and Operation – levels of authorisation

Use Table 2 and Table 3 to determine the level of authorisation applicable for abstraction activities. The notes below each table provide supporting information.

Table 2: Surface water abstraction levels of authorisation

GBR	Registration	Simple licence	Complex licence
Inland[12] abstractions			
Inland abstractions <10m^3/day [GBR2]	Inland abstractions ≥10 and ≤50m^3/day	Inland abstractions >50 and ≤2000m^3/day	Inland abstractions >2000m^3/day
	All abstractions from lochs where the full amount abstracted is returned to the same loch		
	All abstractions from offline impoundments (e.g. storage ponds) fed solely by field drains		
Abstraction from coastal[13] and transitional[14] waters			
Coastal and transitional water abstractions <10m3/ day [GBR2]	All coastal and transitional water abstractions ≥10m3/day		

Note: The rates of abstraction are the maximum peak daily abstraction on any given day.

Points of note:

Registration activities

1. Inland abstractions of 10-50m^3 surface water per day.
2. All abstractions from lochs where the full amount abstracted is returned to the same loch.
3. All abstractions from offline impoundments (e.g. storage ponds) fed solely by field drains.
4. All coastal and transitional water abstractions ≥10m^3 per day.

Simple licence activities

1. Inland abstractions of surface water >50 and ≤2000m^3 per day.

[12] Inland waters include all standing or flowing water on the surface of the land (other than transitional water) and all groundwater, within the landward limits of coastal water.
[13] Coastal waters are waters between the three-mile limit and the limit of the highest tide, or the seaward limit of transitional water.
[14] Transitional waters are waters, other than groundwater, in the vicinity of river mouths that are partly saline as a result of their proximity to coastal water but which are substantially influenced by freshwater flows.

Complex licence activities

1. Inland abstractions of surface water >2000m^3 per day.

Table 3: Borehole construction and operation and groundwater abstraction levels of authorisation

GBR	Registration	Simple licence	Complex licence
Borehole construction and operation			
The construction and operation of boreholes which will be or are intended to be < 200m deep and comply with GBR 3:	The construction and operation of a borehole which will be or is intended to be < 200m deep and where a registration level abstraction is planned (this is as part of the registration application for the abstraction)	The construction and operation of a borehole which will be or is intended to be < 200m deep and where the borehole is intended for a licence level abstraction (this is as part of the licence application for the abstraction).	
		The construction and operation of a borehole which will be or is intended to be greater than or equal to 200m in depth.	
Groundwater abstractions			
Groundwater abstractions <10m3/day [GBR2]	Groundwater abstractions ≥10 and ≤50m3/day	Groundwater abstractions >50 and ≤2000m3/day	Groundwater abstractions >2000m3/day
Temporary abstraction of groundwater from a construction site			
Dewatering an excavation [GBR15]			
Abstraction of groundwater for geothermal energy			
Abstraction and subsequent re-injection of groundwater for the purposes of extracting geothermal energy from the abstracted water [GBR17]			
Abstraction for the purpose of test pumping or sampling			
Abstraction from a borehole intended for the abstraction of <150m^3/yr if the abstraction is to test the yield or properties of the aquifer or to sample the water quality [GBR 4]			

Note: The rates of abstraction are the maximum peak daily abstraction on any given day.

Points of note:

Borehole construction

1. The construction of boreholes < 200m in depth not covered by GBR 3, and which are intended for the abstraction of >10m3/d should be applied for as part of the abstraction licence or registration, on the same application form. Where further investigations are required this may result in the issue of a time-limited licence to authorise the construction and testing of the borehole (or wellfield of boreholes). The licence may thereafter be varied to authorise the subsequent abstraction.

2. Because of the higher risk that deep boreholes pose to groundwater an application for a CAR licence will be required for the construction of a borehole which will be or is intended to be >200m in depth.

3. SEPA will consider if multiple borehole construction and operation can be treated as a CAR single activity where:
    a. The boreholes are drilled within a small geographic area (each borehole is within 150m of another borehole in the well-field)
    b. There are no lateral wells
    c. Activities associated with the boreholes are not likely to require further demonstration of the integrity of the borehole. For example boreholes subject to high pressure fracking or high levels of heat associated with underground coal gasification.

Groundwater abstraction

Registration activities
1. Abstractions of 10-50m3 groundwater per day.

Simple licence activities
1. Abstractions of groundwater >50 and ≤2000m3 per day.

Complex licence activities
1. Abstractions of groundwater >2000m3 per day.

4.2 Abstraction – General Binding Rules

As described in Section 2, CAR contains General Binding Rules (GBRs) for specific low risk activities. When an activity complies with the relevant GBR, there is no need to contact SEPA or to apply for a formal authorisation. Compliance with the GBR is treated as compliance with an authorisation under CAR.

The abstraction GBRs are outlined below. For ease of interpretation, the format and language may differ slightly from the GBRs presented in CAR. If you are unclear about a particular GBR or its rules/conditions, you are advised to consult Schedule 3 of CAR.

GBR2: Abstraction of less than 10m^3 of water in any one day.
Rules: a) There must be a means of demonstrating that the abstraction is less than 10m^3 in any one day (e.g. measuring the rate of abstraction) or a means of demonstrating that the maximum volume that could be abstracted cannot exceed 10m^3 in any one day.

Rules (continued):

b) Water leakage must be kept to a minimum by ensuring that all pipework, storage tanks and other equipment associated with the abstraction and the use of the water are maintained in a state of good repair.

SEPA assumes that the following controlled activities abstract less than $10m^3$ per day and fall within the scope of GBR2. Abstractions of water for:

- supplying solely domestic water to 50 people or less;
- filling water troughs for livestock;
- filling a pesticide sprayer.

GBR3: The construction or extension of any well, borehole or other works by which water may be abstracted, or the installation or modification of any machinery or apparatus to abstract additional quantities of water, where such works are:

- **not intended for the purpose of abstraction;**
- **intended for the abstraction of <10m³ water in any one day;**
- **intended for the abstraction of <150m³ water in any period of one year, where the purpose of abstraction is either to test for the yield of the borehole or well or the hydraulic properties of he aquifer, or to sample the water quality;**
- **intended to dewater one or more excavations at a construction site for roads, buildings, pipelines or at a site where maintenance of such developments is being undertaken.**
- **intended for the purpose of undertaking activity 17.**

Rules:

a) Subject to b and c below, the construction of the well or borehole must be carried out in a manner that ensures that any pollutant or water of a different chemical composition does not enter the body of groundwater.

b) If necessary, drilling fluids may be introduced into the well or borehole to facilitate the drilling of the well or borehole, provided this does not result in pollution of the water environment.

c) Potable water may be introduced into the well or borehole to test the hydraulic properties of the aquifer.

d) When the well or borehole is not being used for abstraction, it must be back-filled or sealed to avoid loss of groundwater from any aquifer.

GBR4: The abstraction from a borehole, and any subsequent discharge of abstracted water, where the total volume abstracted is less than 150m^3 in any one year, and the purpose of the abstraction is either to test the yield of the borehole or well or the hydraulic properties of the aquifer, or to sample the water quality.

Rules:

a) The abstraction must not cause pollutants or water of a different chemical composition to enter the body of groundwater.

b) When the borehole is not being used for abstraction, it must be back-filled or sealed to avoid loss of groundwater from any aquifer.

GBR15: The temporary abstraction of groundwater where roads, railways, buildings, pipelines, communication links are being constructed or maintained by means of pumping groundwater:

- **directly from any excavation(s) on the site; or**
- **from any well or borehole on the site, to help dewater any other excavation(s) on site.**
- **and where desired, the subsequent discharge of the abstracted groundwater to the water environment.**

Rules:

a) Groundwater may only be abstracted at the site for a maximum of 180 consecutive days, in geological strata where groundwater flow rates are low (e.g. silts).

b) Groundwater may only be abstracted at the site for a total of five separate days, in any 180 consecutive day period, where excavations, wells or boreholes that abstract groundwater are constructed in geological strata where groundwater flow is high (e.g. sands and gravels and sandstones).

c) Groundwater must not be abstracted from any excavations, wells or boreholes that are within 250m of a wetland

d) Groundwater must not be abstracted from any excavations, wells or boreholes that are within 250m of an abstraction that is not used solely for dewatering an excavation.

e) All reasonable steps must be taken to ensure that the quantity of sediment in the abstracted water is minimal.

f) Any subsequent discharge of the abstracted water from the excavation or run-off that has collected in the excavation must be via a surface water drainage system authorised under CAR, subject to the consent of the person having operational control of the system.

SEPA would generally consider that groundwater flow rates would be high where for unconsolidated strata the ‘principal soil type’ is sand or coarser, with the material having no apparent plasticity/cohesion. These characteristics should be determined in accordance with British Standard (BS5930: 1999, Code of Practice for Site Investigations), for bedrock aquifers the aquifer productivity is thought to be high or very high in accordance with SEPA’s aquifer map.

SEPA would generally consider that groundwater flow rates would be low where:

a) for unconsolidated strata the 'principal soil type' is clay, silt or sand with greater than 8% fines (silt and clay) in all samples;
b) for bedrock aquifer the aquifer productivity is thought to be moderate, low or very low in accordance with SEPA's aquifer map.

Authorisation by SEPA will be needed for dewatering operations not covered by GBR15.

GBR17: The abstraction and subsequent return of groundwater for the purposes of extracting geothermal energy from the abstracted water.

Rules:

a) Abstracted water must be returned to the same geological formation from which it was abstracted.

b) Any volume of water may be abstracted but the volume of water abstracted and not returned must not exceed $10m^3$ per day;

c) The chemical composition of the abstracted water must not be altered prior to its return to the geological formation.

d) There must be a means of demonstrating that the net abstraction is not more than $10m^3$ in any one day; and

e) Water leakage must be kept to a minimum by ensuring that all pipe work, storage tanks and other equipment associated with the abstraction and use of the water are maintained in a good state of repair.

GBR17 applies to open loop geothermal systems (i.e. where an abstraction from the water environment occurs). A licence will be required where the borehole will be or is intended to be >200m in depth.

5. Impoundment regime

'Impounding works' means in relation to surface water:

(a) any dam, weir or other works by which surface water may be impounded;

(b) any works diverting the flow of surface water in connection with the construction or alteration of any dam, weir or other works by which water may be impounded

'On-line' impounding works hold back flows in wetlands, rivers, lochs and estuaries. Consequently, they affect downstream water flows, sediment transport and migration of fish. 'Off-line' impoundments are built to store water (including surface run-off, groundwater, or land drainage) and are not on-line.

SEPA will use the impoundment regime to regulate the following aspects of on- line impoundments:

- engineering aspects involved in construction or alteration of a dam, weir or other works impounding water;
- management of a dam, weir or raised loch – particularly in terms of water levels, downstream flows and fish passage.

SEPA will only require authorisation for alterations to impounding works that have an impact on the water environment. For example, the addition of a gantry to a dam would not need authorisation. The retrospective fitting of a wave wall will also not require authorisation, as long as the overall height or volume of the water stored behind the dam is not increased. The new works must also not impact on any overflow structures or compensation flows.

Authorisation (new or variation) will be required for any works (either temporary or permanent) that alter the height of the dam or the maximum capacity impounded. Authorisation is also required if there are any impacts on structures that are for the purpose of fish passage.

The construction and operation of off-line impoundments do not require authorisation.

Examples include impoundments:

- that receive their inflow from an authorised abstraction (including impoundments constructed by farmers to hold water used for irrigation and firewater ponds/impoundments used by industry);
- that form part of an artificial treatment system;
- in canals and lades (including locks), which hold back flows within the canal or lade.

The placement and operation of temporary impoundments solely for the purpose of pollution control associated with construction and development sites do not require authorisation.

Off-line flood storage impoundments that collect water during flood conditions and then release this water when river levels fall, will require authorisation under the engineering regime (Section 6).

The removal of sediment behind a weir is covered in the engineering regime. GBR12 deals specifically with this activity (Section 6.2). Sediment management in rivers and lochs and other parts of the water environment is also dealt with in the engineering regime.

Bed or bank reinforcement directly associated with, and required for the structural integrity of impounding works is classed as a dependent activity. Engineering activities are classed as dependent where, in the opinion of SEPA, they are required for the structural integrity of the primary activity. Dependent engineering activities
will be authorised as part of the primary activity and details of dependent activities should be submitted with any application, however they will not be subject to additional application fees and will not require a separate authorisation.

5.1 Impoundment – levels of authorisation

Use Table 4 to determine the level of authorisation applicable for impoundments. The notes below the table provide supporting information.

Table 4: Impoundment levels of authorisation

GBR	Registration	Simple Licence	Complex Licence
Existing passive weirs ≤1m high that do not affect the passage of salmon or sea trout [GBR1]		All other existing weirs, dams, raised lochs and other impounding works	
		Removal or modification of an impoundment authorised under GBR1	
		Construction of new impoundments ≤1m high that do not affect passage of salmon or sea trout	The construction of all other new impoundments

Points of note:

Simple licence activities

1. All existing weirs, dams, raised lochs and other impounding works other than those authorised under GBR1.
2. Removal or modification of an impoundment authorised under GBR1.
3. Construction and operation of new impoundments ≤1m high which do not affect the passage of salmon or sea trout.

Complex licence activities

Construction and operation of new impoundments other than those ≤1m high which do not affect the passage of salmon or sea trout.

5.2 Impoundment – General Binding Rules

As described in Section 2, CAR contains General Binding Rules (GBRs) for specific low risk activities. When an activity complies with the relevant GBR, there is no need to contact SEPA or apply for formal authorisation. Compliance with the GBR is treated as compliance with an authorisation under CAR.

The impoundment GBR is outlined below. For ease of interpretation, the format and language may differ slightly from the GBR presented in the CAR. If you are unclear about a particular GBR or GBR condition, you are advised to consult Schedule 3 of CAR.

GBR1: The operation of any weir that is not capable of being operated to control the water level upstream, does not create a height differential of more than 1m between the upstream and downstream water surfaces and was constructed before 1 April 2006.

Rule:

a) The weir must not impede the free passage of salmon and sea trout during periods within which, in the absence of the weir, the flow of the river would be at a level expected to permit their migration.

6. Engineering activities

CAR requires authorisation for the carrying out of building or engineering works, or works other than impounding works in:

- inland surface water (other than groundwater) or wetlands;
- the vicinity of inland water or wetlands and having, or likely to have, a significant adverse impact on the water environment.

Engineering works in coastal and transitional waters are not regulated by SEPA under CAR. However such works are regulated by Marine Scotland, who should be contacted for further information on engineering in coastal and transitional waters.

SEPA will not normally require an authorisation for the following engineering activities:

- All works in inland wetlands, where the wetland is not directly associated with a river, loch or artificial water body.
- Maintenance of existing man-made structures where 'maintenance' means any routine, recurring work needed to keep structures in the state of repair necessary to ensure that they can continue to serve their normal, intended functions. It includes running repairs, such as re-pointing and replacement of worn or damaged parts (e.g. corroded debris screens or fixings) provided that the works do not extend the structures beyond their current footprints or change their structural characteristics (e.g. by using materials that are not the same or equivalent to those that they repair or replace).

Works to partially or fully reinstate or replace failed or abandoned structures, may require authorisation, please contact SEPA for advice. This will depend on the type and scale of the works and the length of time since the structure has failed or been abandoned.

If you require to operate vehicles or plant for the above activities in a watercourse shown on the 1:50,000 scale Ordnance Survey maps (Landranger series) an authorisation is required.

- The removal or management of in-stream or bank-side (riparian) vegetation. Before felling any trees you should consult local planning authorities to see if legal controls exist in the area e.g. Tree Preservation Orders and obtain any necessary permissions from other bodies e.g. a tree felling licence from Forestry Commission Scotland. See WAT-SG-44: Good Practice Guide – Riparian Vegetation Management Page 31
- The removal of in-stream debris/rubbish including fallen trees. This includes for example the removal of debris from culverts and screens for flood management purposes.
- Land drainage works that do not affect a natural watercourse.
- Construction and maintenance of road drains.
- Engineering activities on minor watercourses with the exception of culverting for land-gain, dredging and permanent diversions/realignments. A minor watercourse is not shown on the 1:50,000 scale Ordnance Survey maps (Landranger series).

You must ensure you do not cause pollution. If in doubt whether your activity requires authorisation under CAR, please contact your local SEPA office.

Guidance on activities in the vicinity of inland surface waters and activities affecting surface water dependent wetlands.
Building and development in the vicinity of inland surface waters and wetlands will not normally require authorisation, unless SEPA considers there is a likelihood of significant adverse impact on the water environment (including flood risk management), or third party interests. Activities that may require authorisation include activities that disconnect rivers from their floodplains e.g. land-raising, embankments and floodwalls. Activities that can directly affect the quality of surface water dependent wetlands that will require authorisation include drainage operations (dredging or excavation of drainage channels), removal of sediment through excavation, or changing elevations using fill material.

Dependent activities

It is recognised that in certain circumstances a structure may have to be constructed before an authorised activity can be carried out (e.g. a new outfall pipe to facilitate a point source discharge or an intake structure to facilitate an abstraction). In these circumstances, SEPA treats the construction (an engineering activity) as secondary to the primary activity and will normally authorise the construction activity in the same authorisation document as the primary activity. This means that SEPA will not normally require two separate applications to be made or fees to be paid, however, SEPA will need details of any dependent activities to be submitted with the main application.

The construction of a flood by-pass channel will be authorised as an engineering activity. When authorising the construction of a flood by-pass channel, the diversion of flood water into the by-pass channel will also be authorised. However this will not be subject to additional abstraction application fees (or abstraction subsistence charges) and will not require a separate authorisation.

6.1 Engineering – levels of authorisation

Use Table 5 to determine the level of authorisation applicable for engineering activities. The notes below the table provide supporting information.

Table 5: Engineering levels of authorisation

GBR	Registration	Simple licence	Complex licence
Sediment management			
Dredging in a previously straightened river, burn or ditch <1m wide [GBR5]	Removal of sand, silt or clay from the bed of previously straightened rivers and burns which are ≥1m and <5m wide. Up to 500m length along the bed may be removed		
	Sediment management in canals, lades and other artificial inland surface waters	All other sediment management ≤50m in length in rivers >3m wide	All other sediment management >50m in length in rivers >3m wide

GBR	Registration	Simple licence	Complex licence
Sediment management within 10m upstream of a Weir [GBR12]	Sediment management within 10m of a bridge	All other sediment management in rivers ≤3m wide and wetlands	
Sediment management within 10m of a closed culvert [GBR13]	Sediment management in open culverts ≤2m wide	All other sediment management ≤500m^2 in total area on lochs	All other sediment management >500m^2 in total area on lochs
Sediment management within 5m of an outfall or intake [GBR13]	Removal of sediment from individual and discrete areas of exposed sediment such as gravel bars within a length of river or burn not exceeding 1 kilometre		
Bank reinforcement, embankments, floodwalls and other bank modifications			
Green bank reinforcement or reprofiling ≤10m or ≤ one channel width in length (whichever is greater) [GBR8]	Green bank reinforcement or re-profiling ≤50m in length	All other green bank reinforcement or reprofiling	
	The placement of trees or parts of trees in a watercourse to protect eroding banks	Grey bank reinforcement, floodwalls and embankments ≤100m in length in rivers >3m wide and lochs	All other grey bank reinforcement, floodwalls and embankments in rivers >3m wide and lochs
		All grey bank reinforcement, floodwalls and embankments in rivers ≤3m wide	
		All set-back embankments and setback floodwalls	
Bridges and other types of crossing structures			
Minor bridges with no construction on bed or banks [GBR6]	Bridges with no construction on bed and ≤20m of total bank affected	All other bridges, fords and causeways	
Temporary bridges in rivers <5m wide [GBR6]	Closed culverts used for footpaths, cycle route, single track roads or railways in rivers ≤2m wide.	All other closed culverts used for crossings	
Pipeline or cable crossings by boring beneath the bed of inland surface waters [GBR7]	Pipeline or cable crossings beneath bed by isolated open-cut	All other pipeline or cable crossings, e.g. by direct open cut or laid on channel bed	

GBR	Registration	Simple licence	Complex licence
In-stream or in-loch structures			
Boulder placement in a river or burn (occupying <10% of channel width) [GBR14]	Bed reinforcement ≤10m in length downstream of closed culverts	All other in-stream structures in rivers >3m wide affecting ≤50m of river length	All other in-stream structures in rivers >3m wide affecting >50m of river length
		All other in-stream structures in rivers ≤3m wide	
	In-loch structures with total area ≤50m^2	In-loch structures with total area ≤500m^2	In-loch structures with total area >500m^2
Channel modifications			
		All diversions, realignment, flood by-pass channels and culverting for land gain on rivers ≤3m wide	All diversions, realignment, flood by-pass channels and culverting for land gain on rivers >3m wide
Other activities			
Construction and maintenance of a surface water drainage system outfall [GBR6]	Operating any vehicle, plant or equipment in the water environment for the purpose of carrying out works to reinstate or replace failed or abandoned structures	Other controlled engineering activities not defined elsewhere in the table	

Removal of structures
Removal of structures is a controlled activity and will require authorisation in accordance with the categories set out within this table (i.e. its level of authorisation will be the same as a new structure of the same type and scale). Please refer to charging guidance for details of reductions in application fee available for the removal of structures.

Points of note:

River width is the straight line distance measured between the toe of the banks of any watercourse, which spans the bed of the watercourse, including any exposed bars and vegetated islands.

For river crossings the total length of bank affected includes the total length of structures on both banks, this includes the length of bridge abutments and any dependant bank reinforcement. For example, for a registration bridge (≤ 20m total bank affected) the maximum length for each bridge abutment would be 10m.

Refer to the glossary for definitions of terms used in this section.

Registration activities

1. Removal of sand, silt and clay from the bed of artificially straightened or canalised rivers and burns which are ≥1 m and <5 m wide. Up to a total of 500m length along the bed may be removed (a single length of 500m or shorter lengths totalling 500m). Such rivers will have parallel or near parallel banks with unrippled and smooth water

flow and a bed dominated by sand, silt or clay. The works must be completed within 12 months of being registered, include measures to prevent pollution. They must not damage wetlands or lochs, widen the river channel, heighten the river banks, leave a step in the river bed or cause erosion. SEPA must be informed 1 week before work starts.

2. Sediment management in canals, lades and other artificial inland surface waters. This category covers dredging works required for the efficient operation of the canal, lade or other artificial water. This category does not include works within heavily engineered natural watercourses.

3. Sediment management within 10m of a bridge. This covers dredging works required to maintain the flood capacity or structural integrity of bridges.

4. Sediment management of open culverts ≤2m wide. Open culverts are defined as river channels which have beds and banks constructed of artificial and consolidated material such as concrete, block stonework or brickwork.

5. Removal of sediment from individual and discrete areas of exposed sediment such as gravel bars within a length of river or burn not exceeding 1 kilometre. Dry gravel can be removed from a third of the gravel bars over the 1km stretch; other restrictions include only 50% of the surface area being removed and a maximum of 30m length on any bar.

6. Green bank protection or re-profiling no more than 50m in total length along banks/shore, that are not captured under the conditions of GBR8 (Section 6.2). Green bank protection includes the use of materials such as rip-rap and log revetments restricted to the bank toe (i.e. should be submerged during normal flow conditions), and biodegradable geo-textiles.

7. The placement of trees or parts of trees, for the purpose of protecting eroding banks. Trees or parts of trees includes root wads, brash, stakes made of live willow, and willow spiling.

8. Bridges across rivers and lochs where no part of the structure encroaches on the bed (e.g. no piers or in-channel supports). In addition, the total length of structures on both banks should not be more than 20m. This category includes bottomless arch culverts.

9. Pipe and box culverts used for single-track roads and railways, footpaths and/or cycle routes, where the affected watercourse is not more than 2m wide.

10. Pipeline or cable crossings by isolated open-cut. This requires a trench to be excavated across the bed of the watercourse, and the area of working to be isolated (kept dry), using techniques such as over pumping and gravity-fed pipes.

11. Bed reinforcement not more than 10m in length immediately downstream of a pipe or box culvert using rip-rap. This covers reinforcement work that is deemed necessary to prevent scour immediately downstream of an existing culvert.

12. Loch structures where the total surface area of the structure is not more than 50m^2. This category includes small boat slips, piers, jetties and platforms.

13. Operating any vehicle, plant or equipment in the water environment for the purpose of carrying out works to reinstate or replace failed or abandoned structures.

Simple licence activities

1. Sediment management over a length of no more than 50m in watercourses greater than 3m wide. This includes sediment removal such as dredging, gravel extraction and sediment movement within the channel (e.g. pool maintenance works).

2. Sediment management in lochs within an area no more than 500m^2.

3. Sediment management over any length in watercourses no more than 3m wide.

4. Green bank protection or re-profiling along banks/shore for more than 50m. Green bank protection includes the use of materials such as rip-rap and log revetments restricted to the bank toe (i.e. should be submerged during normal flow conditions) and biodegradable geo-textiles.

5. Grey bank protection, floodwalls and embankments no more than 100m in total length in watercourses greater than 3m wide and lochs. Grey bank protection includes the use of materials such as rip-rap over the full height of the bank, gabion baskets, concrete, grouted stone, brick or block stonework, sheet piling, wood piling and non-biodegradable geo-textiles.

6. All grey bank protection, floodwalls and embankments in watercourses no more than 3m wide. Grey bank protection includes the use of materials such as rip-rap over the full height of the bank, gabion baskets, concrete, grouted stone, brick or block stonework, sheet piling, wood piling and non-biodegradable geotextiles.

7. All set-back embankments and set-back floodwalls. Set-back embankments and set-back floodwalls are situated at least 10m or one channel width (whichever is greater) away from the bank top.

8. All other bridges, fords and causeways. This category will include bridges affecting more than 20m total bank lengths, or bridges with in-stream supports. This category also includes all fords and causeways constructed across lochs and wetlands. Where multiple crossings of a ford are required within a short space of time a temporary bridge should be considered.

9. All other pipe or box culverts used for crossings. This category will include all pipe or box culverts used for multiple track/lane roads, and pipe or box culverts used for minor bridges on watercourses greater than 2m wide.

10. All other pipeline or cable crossings, e.g. by direct open cut or laid on the bed of the inland surface water. Direct open cutting requires a trench to be excavated across the bed of the watercourse and deals with situations where techniques such as over-pumping are not feasible and the working area therefore remains under water.

11. All other in-stream structures on watercourses no more than 3m wide. This includes bed reinforcement not associated with closed culverts (see registration activity), croys, groynes and other flow deflectors, and other in-stream structures (such as boulder placements not satisfying the GBR conditions). Where a structure impounds water, this will require authorisation according to the table set out in Section 5.

12. All other in-stream structures on watercourses greater than 3m wide affecting no more than 50m of total river length.

13. Loch structures with a surface area greater than 50m^2 but no more than 500m^2. This includes boat slips, piers, jetties, platforms, etc.

14. All forms of permanent diversion, channel straightening, channelisation, re-sectioning, re-meandering or culverting for land gain on watercourses no more than 3m wide.

15. Other engineering activities on or in the vicinity of inland surface waters and wetlands not described elsewhere in the levels of authorisation table.

Complex licence activities

1. Sediment management in watercourses greater than 3m wide over a length of more than 50m. This includes sediment removal such as dredging, gravel extraction and sediment movement within the channel (e.g. pool maintenance works).

2. Sediment management in lochs greater than 500m^2 in total area.

3. Grey bank protection, floodwalls and embankments greater than 100m in total length in watercourses greater than 3m wide and lochs. Grey bank protection includes the use of materials such as rip-rap over the full height of the bank, gabion baskets, concrete, grouted stone, brick or block stonework, sheet piling, wood piling and non-biodegradable geo-textiles.

4. In-stream structures on watercourses greater than 3m wide affecting more than 50m of total channel length. This would include large areas of bed reinforcement. Where a structure impounds water, this will require authorisation according to the table set out in Section 5 of this document.

5. Loch structures where the total surface area of the structure is more than 500m^2 e.g. large boat slips, piers, jetties, platforms, etc.

6. All forms of permanent diversion, channel straightening, channelisation, re-sectioning, re-meandering or culverting for land gain on watercourses greater than 3m wide.

6.2 Engineering – General Binding Rules

As described in Section 2, CAR contains General Binding Rules (GBRs) for specific low risk activities. When an activity complies with the relevant GBR, there is no need to contact SEPA or to apply for a formal authorisation. Compliance with the GBR is treated as compliance with an authorisation under CAR.

The engineering GBRs are outlined below. For ease of interpretation, the format and language may differ slightly from the GBRs presented in the CAR. If you are unclear about a particular GBR or GBR condition, you are advised to consult Schedule 3 of CAR.

It should be noted that GBR9 must be followed when operating a vehicle, plant or equipment for the purposes of undertaking any other engineering GBR activity.

GBR5: Dredging of previously straightened watercourses with an average width of less than 1m along the stretch to be worked.

Rules:

a) Vegetation may be removed from the banks only if the works cannot otherwise be reasonably carried out.

b) Vegetation that is removed must not be disposed of into the channel.

c) The activity must not result in the widening of the watercourse.

d) All reasonable steps must be taken to prevent the transport of sediments beyond the worked stretch.

e) Work must not be carried out when fish are likely to be spawning in the affected surface water, or in the period between spawning and the subsequent emergence of juvenile fish. (If in doubt about these times, you are advised to contact your local District Salmon Fishery Board or SNH for advice[15].)

[15] District Salmon Fisheries Boards and Fishery Trusts websites.
District Salmon Fisheries Boards: www.asfb.org.uk/members/
Trusts: www.rafts.org.uk/members/

Rules (continued):

f) All reasonable steps must be taken to avoid increased erosion of the banks and bed.

g) The bed of the worked stretch must be graded at a shallow angle to tie in with the bed level upstream and downstream and there must be no steps or sudden changes in the angle of the bed slope.

h) The removed sediment must not be left on the banks such that its placement heightens the banks.

SEPA does not intend to apply this GBR to man-made ditches formed where there was not previously a natural watercourse. However, during such works, operators should use best practice to ensure that pollution of the water environment downstream from the works (including silt pollution) is prevented. Similarly, SEPA does not intend to regulate engineering maintenance operations in road drainage ditches or equivalent, but does expect such work to be undertaken in a way which prevents pollution of downstream waters.

GBR6: Construction and maintenance:

- **of a minor bridge over a river, burn or ditch**
- **(or removal) of a temporary bridge over a river, burn or ditch that has a channel width of less than 5 metres**
- **of a surface water outfall**

Rules:

a) Vegetation may be removed from the banks only if the works cannot otherwise be reasonably carried out.

b) Vegetation that is removed must not be disposed of into the channel.

c) The works must not prevent the free passage of migratory fish.

d) The works must not result in the narrowing of the channel width or the heightening of any bank.

e) Work in the channel must not be carried out when fish are likely to be spawning in the affected surface water, or in the period between spawning and the subsequent emergence of juvenile fish. (If in doubt about these times, you are advised to contact your local District Salmon Fishery Board or Fishery Trusts[16] for advice.)

f) If necessary, a temporary culvert extending no more than 10m along the length of the river, burn or ditch may be installed to facilitate the works and any such culvert must be removed on completion of the works.

g) All reasonable steps must be taken to ensure that the works do not result in increased erosion of the bed and banks.

[16] District Salmon Fisheries Boards and Fishery Trusts websites.
District Salmon Fisheries Boards: www.asfb.org.uk/members/
Trusts: www.rafts.org.uk/members/

Rules (continued):

h) As far as reasonably practicable, within 12 months of the work starting, the bed and banks of the river, burn or ditch must be reinstated at least to their condition before the works started.

i) As far as reasonably practicable, within 12 months of removal of a temporary bridge, the bed and banks must be reinstated at least to their condition before the works started.

j) The activity must not result in pollution of the water environment.

k) Any outfall and associated works must be designed and constructed to be no larger than is necessary for the proper operation of the outfall, and in any case must not extend more than 20 metres along the length of the watercourse.

GBR7: Pipeline or cable laying by boring underneath a watercourse.

Rules:

a) The works must not result in any alterations to the bed and banks of the watercourse, except as permitted in rule (b) and (d) below.

b) Vegetation may be removed from the banks only if the works cannot otherwise be reasonably carried out.

c) Vegetation that is removed must not be disposed of into the channel.

d) As far as reasonably practicable, within 12 months of the works starting, the bed and banks must be reinstated at least to their condition before the works started.

GBR8: Controlling bank erosion by green bank reinforcement or re-profiling.

Rules:

a) All reasonable steps must be taken to ensure that the works do not result in increased erosion of the banks.

b) The works must not result in the destabilisation of the bed upstream or downstream of the works.

c) Vegetation may be removed from the banks only if the works cannot otherwise be reasonably carried out.

d) Vegetation that is removed must not be disposed of into the channel.

e) The revetment can only be constructed from vegetation, geotextiles, untreated wood, or non-grouted stone rip rap.

f) The length of any revetment must not exceed 10m or if the channel width is more than 10m, one channel width.

g) Where wood or stone rip-rap is used, use is limited to the toe of the bank.

h) Except for the purposes of repairing an existing revetment, bank protection works must not be carried out within five channel widths or 50m (whichever is the greater) of any existing bank protection works on either bank of the river, burn or ditch.

Rules (continued):

i) The work must not result in the heightening of the banks.

j) Work must not be carried out when fish are likely to be spawning in the affected surface water, or in the period between spawning and the subsequent emergence of juvenile fish. (If in doubt about these times, you are advised to contact your local District Salmon Fishery Board or Fishery Trusts[17] for advice).

k) The revetments must be maintained in a good state of repair to avoid erosion of the banks or destabilisation of the bed.

GBR9: Operating any vehicle, plant or equipment (machinery) when undertaking GBR activities 5, 6, 7, 8, 10, 12, 13 and 14.

Rules:

a) Machinery should only operate in water where it is impracticable for it to operate on dry land.

b) Refuelling must take place at least 10m away from any surface water.

c) Any static plant or equipment used within 10m of surface water must be positioned on a suitable drip tray with capacity for 110% of the fuel tank supplying the static plant or equipment.

d) Machinery used in or near surface water must not leak any oil.

e) Washing of any machinery must take place at least 10m away from any surface water and the washings must not be allowed to enter any surface water.

f) Machinery must not be operated in rivers, burns and ditches when fish are likely to be spawning in the affected surface water, or in the period between spawning and the subsequent emergence of juvenile fish. If in doubt about these times, you are advised to contact your local District Salmon Fishery Board or Fishery Trusts[17] for advice).

g) Machinery must not be operated in rivers, burns and ditches if there is a reasonable likelihood that there are freshwater pearl mussels within 50m of such operation.

h) Machinery must not be operated in rivers, burns and ditches during forestry operations.

GBR12: Removal of sediment from the area of impounded water upstream of a weir authorised under CAR, and where desired, return of that sediment to the watercourse.

Rules:

a) Sediment or other matter can only be removed within the stretch 10m upstream of the weir.

[17] District Salmon Fisheries Boards and Fishery Trusts websites.
District Salmon Fisheries Boards: www.asfb.org.uk/members/
Trusts: www.rafts.org.uk/members/

Rules (continued):

b) Only sediment which has recently been deposited (i.e. that which is reasonably expected to have been deposited within the three years preceding the date of removal) can be removed.

c) Sediment that has been removed may be returned to the watercourse, provided that:

- it is returned within the 10m stretch downstream of the weir;
- it does not cause sediment to accumulate in a manner likely to impede the free passage of migratory fish;
- all reasonable steps are taken to avoid increased erosion of the bed or banks of the watercourse; and
- it is not returned during periods in which fish are likely to be spawning, nor in the period between spawning and the subsequent emergence of the juvenile fish.
- no matter other than removed sediment is returned to the watercourse.

d) The removed sediment and other matter must not be placed on the bank of any watercourse.

e) The return or removal must not result in pollution of the water environment.

f) Vegetation may be removed from the banks only if the works cannot otherwise be reasonably carried out.

g) Vegetation that is removed must not be disposed of into the channel.

GBR13: Removal of sediment from the inside of a closed culvert or within 10m upstream or downstream of a closed culvert or within 5m of an outfall or inlet and if desired, its subsequent return.

Rules:

a) The removal or return of sediment must not result in the bed of the watercourse upstream of the culvert being lower than the upper surface of the base of the culvert.

b) The removal or return of sediment must not result in a vertical step between the upper surface of the base of the culvert and the bed of the watercourse into which it discharges.

c) Work must not be carried out when fish are likely to be spawning in the affected surface water, or in the period between spawning and the subsequent emergence of juvenile fish. (If in doubt about these times, you are advised to contact your local District Salmon Fishery Board or Fishery Trusts[18] for advice).

d) Vegetation may be removed from the banks only if the works cannot otherwise be reasonably carried out.

e) Vegetation that is removed must not be disposed of into the channel.

[18] District Salmon Fisheries Boards and Fishery Trusts websites.
District Salmon Fisheries Boards: www.asfb.org.uk/members/
Trusts: www.rafts.org.uk/members/

Rules (continued):

f) The removed sediment and other matter must not be placed on the bank of any watercourse.

g) Sediment that has been removed may be returned to the same watercourse, provided that:

- it is returned as close to the location of its removal as is practicable;
- its return does not result in an accumulation of sediment that impedes the free passage of migratory fish; and
- all reasonable steps are taken to avoid increased erosion of the bed or the banks.

h) The activity must not result in pollution of the water environment.

GBR14: Boulder placement in a river or burn.

Rules:

a) Individual boulders or groups of boulders must not occupy more than 10% of the river width.

b) Boulders must not be placed within 20m of any other natural or placed boulder or any other instream structure (croy, jetty, bridge pier etc.) which occupies more than 10% of the channel width.

c) Boulders must not be placed in a manner that results in the width occupied by in stream structures extending to greater than 10% of the channel width.

d) Boulders must not be placed against the banks unless the placement forms part of revetment works authorised under CAR.

e) The tops of the boulders must be submerged, except during periods of low flows.

f) Work must not be carried out when fish are likely to be spawning in the affected surface water, or in the period between spawning and the subsequent emergence of juvenile fish. (If in doubt about these times, you are advised to contact your local District Salmon Fishery Board or Fishery Trusts[18] for advice).

g) All reasonable steps must be taken to ensure that the boulder placement will not result in increased erosion of the bed or banks.

h) Boulders must not be placed at any location where there is a likelihood that freshwater pearl mussels are located within 50m of that specific location.

7. Glossary of terms and acronyms

Abstraction	In relation to a body of surface water or groundwater, means the doing of anything whereby any water is removed by mechanical means from that body of water, whether temporarily or permanently, including anything whereby the water is so removed for the purpose of being transferred to another body of water within the water environment.
Artificial water body	A body of surface water created by human activity in a location where no significant water body existed before and which has not been created by the direct physical alteration, movement or realignment of an existing water body.
Bank re-profiling	Changing the slope of a river or loch bank but the planform/course of the river is maintained. Does not include heightening of the bank. This can include a creation of a 2-stage channel.
Bank top embankment/flood wall	A structure that is 10m or one channel width (whichever is greater) from the bank-top to protect adjacent areas from flooding.
Bank top	The first major break in the slope of the bank of any body of inland surface water, beyond which cultivation or development would be possible.
Bank height	The height of the bank of any body of inland surface water measured vertically from the bank toe to the bank top, excluding any artificial heightening of the bank (e.g. embankments, retaining walls).
Bank toe	The lowest point on the bank of any body of inland surface water where the bank meets the bed of the body of inland surface water.
Bed reinforcement	Reinforcement of bed only, for minimising bed erosion.
Boulder placements	Boulders placed in rivers or lochs to manipulate flow. Usually for fisheries enhancement, can be used in restoration.
Bridge	Includes all span structures where a transport route (e.g. foot path, cycle path, road) crosses a watercourse, it should not impact the bed of the watercourse. Includes single span structures (including pre-cast culverts with no artificial floor/invert) and span structures with piers (in stream supports).
Bridging culvert	Closed culverts with artificial floor/invert where a transport route (e.g. foot path, cycle path, road) crosses a watercourse, but not for land gain. Impacts the bed and banks of watercourses. Please note, pre-cast culverts with no artificial floor/invert are classed as

	span structures and are included in the bridge category.
Causeway	Elevated transport route constructed across lochs or wetlands.
Closed culvert (bridging culvert for river crossing)	Closed culverts with artificial floor/invert where a transport route (e.g. foot path, cycle path, road) crosses a watercourse, but not for land gain. Impacts the bed and banks of watercourses. Please note, pre-cast culverts with no artificial floor/invert are classed as span structures and are included in the bridge category.
Coastal water	Water (other than groundwater) within the area extending landward from the three mile limit up to the limit of the highest tide or, where appropriate, the seaward limits of any bodies of transitional water, but does not include any water beyond the seaward limits of the territorial sea of the United Kingdom adjacent to Scotland.
Coastal water abstractions	Abstractions of water from coastal water.
Croys/groynes/ flow deflectors	Structures placed in rivers or lochs can manipulate flow. Can have many purposes e.g. fisheries enhancement, bank protection.
CSO	Combined sewer overflow.
Cultivated	Land prepared and used for raising crops.
Culverting for land gain	Permanent under-grounding of watercourses for land gain e.g. building a housing development on top of a watercourse. Excludes culverts for river crossings (e.g. where a transport route crosses a watercourse).
Dredging	Removal of bed material from watercourses from >50% of the channel width - usually the entire channel width. Generally results in channel deepening and/or widening (sometimes called resectioning).
Effluent	Any liquid, including particles of matter and other substances in suspension in liquid, usually derived from sewage or a trade process.
Embankment	Artificial raising of the natural bank height.
EO	Emergency overflow.
Fertiliser	Any substance containing nutrients that is utilised on land to enhance plant growth (i.e. manures, slurries and inorganic fertiliser).
Field drains	Field drains are an underground system of pipes and channels designed to remove surface and sub-surface water from a given area of land. Field drains should only run intermittently, primarily after prolonged periods of rainfall. Field drains do not include ditches.
Flood by-pass channel	Additional flow route that diverts high flows from one location and returns them to a different location to reduce overbank flows; normally associated with flood management projects.

Fords	River or loch crossing but is not raised, is at bed level. May be natural substrate or reinforced with artificial material.
Geothermal energy	Energy derived from the heat in the interior of the Earth.
Green bank reinforcement	Soft bank reinforcement. Includes the use of vegetation and biodegradable geotextiles over the full height of the bank. Also includes the use of rip rap and log/ timber restricted to the bank toe.
Grey bank reinforcement	Hard bank reinforcement. Includes the use of non-biodegradable materials over the whole height of the bank including rip rap, gabion baskets, concrete, grouted stone, brick or block stonework, sheet piling, wood piling and non biodegradable geotextiles. Does not include heightening of bank.
Groundwater	Water below the surface of the ground in the saturation zone and in direct contact with the ground or subsoil.
Impounding works/ Impoundment	a) Any dam, weir, or other works by which surface water may be impounded; or b) Any works diverting surface waters in connection with the construction or alteration of any dam, weir or other works falling within (a) above. Raising the level of an existing natural loch is also considered an impoundment. A pond or lake created by excavation below the pre-existing ground level (e.g. a dug pond or flooded quarry) is not included. 'On-line' impoundments hold back flows in the water environment (wetlands, rivers, artificial water bodies, lochs and estuaries) and consequently affect downstream water flows, sediment transport and migration of fish. 'Off-line' impoundments are built to store water (including surface run-off, groundwater, or land drainage) and are not on-line.
Inland abstraction	This includes both inland surface water and groundwater abstractions.
Inorganic effluent	Effluent that primarily does not contain matter from an animal or vegetable origin and does not exert a notable biochemical oxygen demand (BOD). Such effluent includes discharges from mines, quarries, water treatment works, etc.
In-stream structures	All structures that occupy a portion of the channel. Includes bed reinforcement not associated with closed culverts, jetties, platforms, marinas, croys, groynes and other flow deflectors.
In-loch structures	All structures that occupy a portion of a loch includes jetties, platforms, marinas, croys,

	groynes and other flow deflectors.
Jetties/platforms/marinas	This includes jetties (piers), fishing platforms, marinas and boat slips that extend into surface waters, can include solid and stilted structures.
Land drainage	A series of subsoil pipes or ditches, which are designed to drain an area of land to allow development or for agricultural use.
Loch	A body of standing inland surface water.
Moled	A cultivation method where an implement is used to open a conduit within the soil along which water may flow.
Off-line impoundment	See Impoundment.
On-line impoundment	See Impoundment.
Open culvert	River channels where the bed and banks are constructed of artificial consolidated material e.g. concrete, brickwork, block stonework.
Organic effluent	Effluent that primarily contains matter from an animal or vegetable origin and exerts a notable biochemical oxygen demand (BOD). This includes all sewage effluents, effluents from food and drinks manufacture, etc.
Other effluents	Effluents that may have a mixture of organic and inorganic content and/or which do not fit neatly into categories defined elsewhere within this document (i.e. landfill leachate contains both a significant organic and inorganic content).
p.e.	Population equivalent. A measure of the organic biodegradable load of an effluent prior to treatment. One population equivalent (1pe) has a five-day biochemical oxygen demand (BOD5) of 60 grams of oxygen per day. The load is calculated on the basis of the maximum average weekly load entering the treatment plant during the year, excluding unusual situations such as those due to heavy rain.
Pipeline/cable crossing	Location where a pipeline or cable crosses a surface water. Can be laid below the bed, submerged, or spanned above a surface water.
Point source discharge	A discharge of an effluent or other matter to the water environment or land by means of a fixed installation, pipe, outlet or otherwise.
Raised loch	A loch where the surface water level has been increased above its natural level. This is typically due to the installation of a physical structure, such as a small dam or an embankment, which has raised the natural level of the outflow from the loch.
Realignment/diversion	Includes any alteration to a rivers course or planform, from a natural state to a less natural state e.g. straightening of a watercourse. Any alteration to a rivers course or planform where the natural state of the river is maintained or improved. E.g. restoration of modified river to more natural

	channel pattern or diverting a channel and maintaining channel naturalness.
Reservoir	Reservoirs are artificial storage places for water (e.g. ponds, impoundments and raised lochs) from which the water may be withdrawn for such purposes as electricity generation, irrigation or water supply.
Rip-rap	Large coarsely broken rock placed on stream banks to reduce erosion by flowing water, or to support a slope embankment.
River width	The straight line distance measured between the toe of the banks of any watercourse, which spans the bed of the watercourse, including any exposed bars and vegetated islands.
Sediment management	Any works which involve moving, introducing or removing sediment from the channel of a river or bed of a loch (includes dredging).
Sediment removal	Removal of bed material from watercourses from 50% of the channel width. Includes any removal of bed material from lochs.
Set-back embankment/flood wall	Construction of embankment/floodwall set back >10m or one channel width (whichever is greater) from the bank top, to protect adjacent land from flooding.
Sewage effluent	Any effluent from sewage disposal or a sewerage works.
SUDS	Sustainable Urban Drainage System
Trade effluent	Any effluent produced in the course of any trade or industry.
Transitional waters	Means water (other than groundwater) in the vicinity of river mouths which is partly saline in character as a result of its proximity to coastal water but which is substantially influenced by freshwater flows
Waterbound road	A road constructed of coarse stone and fine aggregate to form a tightly bound semi-impervious surface.
Weir	An on-line overflow structure (i.e an impoundment across a watercourse) that is used for controlling upstream water level. Passive weir - any weir that is not capable of being operated to control the water level upstream of the weir.