Slides set up with notes pages so this can be used as a training resource.

Content

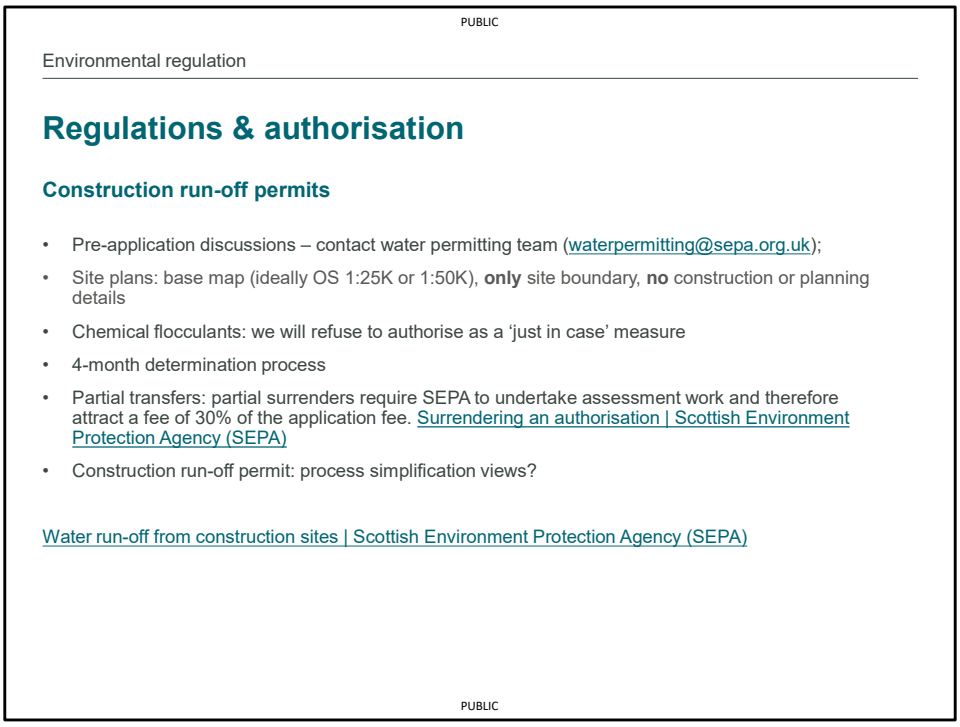
Regulations and authorisation

Regulatory issues:

- Surface water run-off
  - Why silt is an issue
  - How to avoid silt issues
  - Case studies
  - How you can stay compliant
- Engineering
  - Preparing
  - Case studies
- Waste / PPC
  - What is waste / waste hierarchy
  - Duty of care
  - Case studies

Compliance / Enforcement

Guidance



Site plans: can delay permit determination as many don't show the key aspects we're looking for.

- SEPA needs to be able to place the site in the surrounding environment, and planning or construction drawings that show the site out of context are not suitable. It's really just about getting a plan that shows the area where work is happening and allows SEPA to determine which catchments the run-off will be flowing into.
- SEPA is looking at improving the guidance here and are considering standardising on OS 1:25K or 1:50K

Chemical flocculants: chemical flocculants pose an increased environmental risk and we will only authorise them where they are justified. We will refuse to authorise them as a 'just in case' measure as we expect other non-chemical methods to be tried first e.g. silt-buster, though for certain soil conditions such as colloidal clays they may be justified.

Justification might include jar tests demonstrating the soils wouldn't settle over a protracted period – say, 8 hours – and additional chemical tests to demonstrate the choice of chemical is the one that best balances effectiveness with environmental

risk. We don't want to see a proposal to use cationic polyaluminium chloride when a tannin-based product will do the job. Nor do we want to see a proposal to use chemicals because a site is constrained unless the soils would not respond to mechanical settling, such as with a lamella tank.

Construction run-off permit (CRP): SEPA are about to commence a review, with a view to further simplifying the process. Any feedback send to email address listed on slide.

You need a licence for construction sites that discharge water run-off to the water environment and:
a) cover an area greater than 4 hectares; or
b) contain a road (or track) greater than 5 kilometres in length; or
c) include any land with an area greater than 1 hectare that has a slope more than 25 degrees; or
d) include any road (or track) with a length greater than 500 metres that has a slope more than 25 degrees
will be authorised under a licence. You must apply for, and be granted a licence, before the activity can take place.

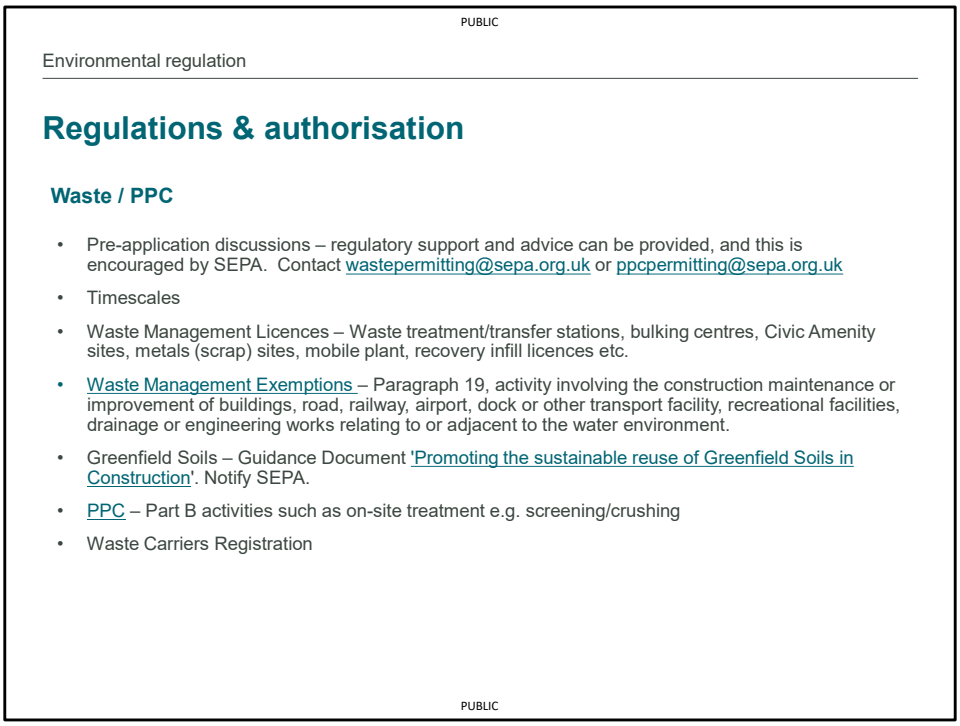
Permitting for construction run-off:
- Revised Form N (construction run off specific application form);
- External guidance on construction site plan boundaries
- External guidance (WAT-SG-75)

CAR licence determination:
Up to 4 months from date of submission, providing all the required information is submitted;
- SEPA strongly encourage pre-application discussions with the water permitting team (waterpermitting@sepa.org.uk);
- Pre-application discussion is particularly valuable:
    - To agree appropriate maps for use in the licence;
    - Where chemical treatment is proposed. SEPA discourage the use of chemical additives (flocculants, coagulants or other settling / clarifying agents) and require suitable justification to authorise their use. If the justification is not acceptable then your application will be refused;

Regulations & authorisation

Engineering

- CAR Practical Guide details activities and authorisation levels car-a-practical-guide.pdf (sepa.org.uk)
- Pre-application discussions – design and regulatory process and opinion support can be provided, and this is encouraged by SEPA. Pre-app can also confirm application fees, activities being carried out and enhance application quality which can reduce determination time. Contact waterpermitting@sepa.org.uk
- 1:50000 map scale rule – engineering activities other than permanent realignments, diversions and culverting for land gain DO NOT require authorisation on rivers not on the 1:50000 map scale
- 4-month statutory determination period (factor this into development programme)
- New permit reform approach does not require drawings or method statement approval in many cases



The Waste Management Licensing (Scotland) Regulations 2011

Timescales for Waste Management Licence:
- New licence - 4 months determination period.
- Transfer and modifications - 2 months.
- Surrender - 3 months.

Timescales for complex Waste Management Exemptions e.g. Paragraph 19
- 21 days

Waste Management Exemptions
Paragraph 19 most common exemption associated with housing sites.

In order to be able to constitute an 'exempt activity' under Paragraph 19 of Schedule 1, the type and quantity of waste used and the methods of recovery must meet the relevant objectives set out in paragraph 6 of schedule 4
https://www.legislation.gov.uk/sdsi/2011/9780111012147/schedule/4

- The amount used must not be more than the minimum amount needed to complete the work.

- Paragraph 19 activity storage and use of waste in construction or other relevant works.
- Relevant works include: The construction, maintenance or improvement of a building, road, railway, airport, dock or other transport activity using specified waste, or the use of waste for drainage
- Waste must be suitable for the relevant work. Paragraph 19 cannot include work involving land reclamation. (see additional guidance on drainage and land reclamation and what is permitted *https://www.sepa.org.uk/media/356731/wst_g_54_para_19_drainage.pdf*)
- Deposits of waste **not** normally expected to be **more than 2m deep**, with the exception of noise bunds which will be engineered on a site-specific basis.

Greenfield soils
Excess soils from development sites are generally regarded as waste and so their use or disposal requires a waste management licence or a registered exemption. But given the desire to promote the reuse of greenfield soils, SEPA has adopted this regulatory position so that, in certain circumstances, it will not require a licence or exemption for the use of such soils. This guidance document sets out the circumstances in which this regulatory position applies. **Note: this guidance relates solely to natural topsoil and subsoil from "greenfield" sites.**

PPC Regulations 2012: https://www.legislation.gov.uk/ssi/2012/360/contents/made

Crushing and screening treatment activities covered by schedule 1, Chapter 3, Section 3.5 (*Other mineral activities)*, Part B (a), (c) and (d) –

(a)Unless falling within any other description in any Part A of this Schedule, the crushing, grinding or other size reduction (other than the cutting of stone), or the grading, screening or heating of any designated mineral or mineral product, except where the operation of the activity is unlikely to result in the release into the air of particulate matter.

(c)The crushing, grinding or other size reduction, with machinery designed for that purpose, of bricks, tiles or concrete.

(d)Screening the product of any such activity as is described in paragraph (c).

<u>Considerations</u>
- Water required for dust suppression and run-off needs to be controlled.
- Noise also needs to be controlled

Space constraints may require the transfer of waste to another site to be treated - waste transfer notes required and the receiving site needs an appropriate

authorisation for storage and treatment (exemptions or if greater tonnage then WML, if special waste PPC)
Activities exempt from waste management licensing | Scottish Environment Protection Agency (SEPA)

Treatment to reduce/remove chemical contamination may be possible on site or at another site using a WML for mobile plant.

Other wastes i.e. wood, cardboard, plastic wrap should be separately collected for treatment at another site – minimise contamination on site.

Surface water run-off

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Surface water run-off

Why is silt an issue?

- Some of our most threatened species, such as **Atlantic salmon** and **freshwater pearl mussels** rely on clean rivers.
- Silt can **smother river beds**, reducing habitat and killing invertebrates living there.
- Juvenile salmonids (salmon and trout) feed on invertebrates. Without this important part of their diet, mortality increases.
- 40% of returning adult salmon continue to feed on invertebrates in freshwater.
- Silt can also damage the gills of salmon and trout, leading to further mortalities.
- Only around 2-3% of juvenile salmon survive to return as adults – any increase in mortality could have a devastating impact on population numbers in our rivers.
- Angling is a major financial contributor in parts of Scotland, and pollution incidents can cause significant damage to the local economy.

www.pearlmusselproject.ie

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Silt **IS** a pollutant!
It has ecological AND economic impacts.

- Release of fine sediments during the construction phase can **pollute watercourses** leading to loss of, or damage to, protected species and habitats such as fish spawning areas
- **Entering public drainage** – has caused sewer networks and wastewater treatment works to choke and then fail to treat sewage, resulting in raw sewage entering watercourses and an expensive clean-up. Even if operators get permission from Scottish Water to discharge to sewer (e.g. in constrained urban sites), Scottish Water will want the water treated first to avoid this.

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Surface water run-off

How to avoid silt issues

PLAN AHEAD

- Take sufficient time prior construction, to plan and install appropriate treatment for the construction phase. Don't use permanent SUDs for construction phase drainage. Produce a PPP for each site.
- Identify potential sensitive receptors around the site and incorporate site specific mitigation measures.
- Check previous site use and the potential for uncharted drainage systems or groundwater sources/emergence.

AVOID UNNECESSARY WORKS

- Don't remove vegetation or clear site if it's not going to be worked immediately.

USE APPROPRIATE TREATMENT

- Settlement is the main way of treating silty water.
- Other elements such as silt fences, catch pits and silt bales should be considered as secondary measures and not all are suitable for all sites.
- Flocculant can only be used where justified.
- If an area of site is complete, **then** it can drain to permanent SUDS.

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- Permanent SUDS are designed to make a built-up site with areas of impermeable ground behave like a greenfield site when it rains.
- Construction phase drainage is there primarily to treat water for silt removal before it leaves the site. **These are very different things with different requirements.**
- Not all elements will be suitable for all sites and some cause additional problems:
    - Check dams will not help for fine clays
    - Catch pits will not help where there is significant groundwater emergence
    - Silt fences are a back-up best used to help direct flows, not a primary filter option.
    - Straw bales can cause major problems when removed, and release humic acid when in place. This can be mistaken for oil.
    - Witch's hats* can (and mostly do) block and cause water to divert around the drainage altogether.
    - Filter bags can explode.

As much effort should be put into designing the temporary construction drainage, not just the final SUDs design. Are treatment areas in correct location?

- Dilution and flood risk are factors for receiving watercourse.
- Sensitive receptors - abstractions, amenity sites, designations, fisheries etc – need

additional mitigation measures for protection.
- Uncharted drainage systems/water sources should be identified and intercepted before major groundworks commence.

*A witch's hat is something like a coffee filter made of woven material that can be put into a gully pot or catch pit. They are primarily to absorb oils, but they also filter very fine particles. This is okay if you don't have very much silt, but as soon as there is any significant quantity, they blind, fill up, and the water finds another way to go.

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Surface water run-off

How to avoid silt issues

KEEP CLEAN WATER CLEAN

- Use interceptor ditches/conveyance trenches and stabilise or protect bare earth (e.g. using geotextile or re-seeding)*

  *especially when the ground is sloped or close to a watercourse.

SIZE DRAINAGE APPROPRIATELY

- Calculate for slowest settling soil, clay-rich soils take longer to settle out.
- Calculate likely rainfall - use a reasonable storm return period i.e. at least 1 in 20 year flood (plus climate change), 1 in 200 for larger infrastructure projects.
- **Get it planned before work starts**. It can affect siting and build-out plans.
- Retrofitting construction drainage is really difficult to do and very expensive to get right.

ACT QUICKLY WHEN SOMETHING GOES WRONG

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"Reasonable" storm return periods – what does that mean?

- 1 in 200 + climate change is the standard requirement for infrastructure projects.
- For a small-scale housing project "Reasonable" means AT LEAST the lifetime of the build-out, with a decent buffer. For a 2-5 year build, 1 in 20 year is deemed reasonable. Intense storms are happening more and more frequently, and the return periods aren't necessarily accurate.

Settlement pond sizing

$$Settlement\ Time\ T_s = \frac{Depth}{Velocity}$$

Depth (m)	Fine clay 0.001mm/s	Fine silt 0.02 mm/s	Medium silt 0.05 mm/s	Coarse sand 30mm/s	Flocculated silt 10mm/s
0.5	6 days	7 hours	3 hours	16 s	50 s
1	11 days	14 hours	5.5 hours	33 s	2 min
2	23 days	1 day	11 hours	1 min	3 min

Residence time (T_R) is the length of time a given "water parcel" spends inside the pond.

i.e. if a pond has a volume (V) of 1m^3 (1000l) and the flow rate into the pond (Q) is 10l/s, then the residence time of that pond is:

T_R=V/Q =1000/10=100s

i.e. water will only remain in the pond for 100s (1min 40s). If that pond is 1m deep, then anything smaller than coarse sand will fail to settle.

Shallow, large area ponds are more effective at settling than deep, low area ponds.

If the developer does not know the type of soil or how much rain will fall, they will not know what area the ponds should be. **Effective residence time CANNOT be increased by making ponds deeper.**

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Surface water run-off

Silt pollution case study

Good…

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The sizing of the final treatment is modelled based on rainfall, land area, percolation etc, the same care should be taken when sizing the construction drainage. Particle size will also determine the size and number of settlement lagoons required. Silt socks over inlet pipe can prevent silt disturbance, don't place inlet pipe too high. High level overflow to convey settled surface water only.
Keep an eye on the weather and plan ahead. If site is shared, work together to ensure there is sufficient treatment for the whole site, can have separate sample points. Can split run-off to different discharge points.

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Surface water run-off

Silt pollution case study

Bad…

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Construction sites are dynamic and things change, so construction phase drainage might have to move. However please don't scrimp on space and location, so the drainage becomes inadequate. The phasing of the build and subsequent changes to temporary drainage should be planned out before construction begins. Ideally the temporary settlement lagoons should be kept in situ and the cut-off ditches etc draining into them can change.
The ground here has been reprofiled into a steeper slope i.e. higher risk of silt mobilisation, with even less storage/settlement provided (which is already full). No cut off trenches or silt fencing to capture runoff at the foot of the slope.

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Surface water run-off

Silt pollution case study

Slopes and exposed soils

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- **Slope of site** - water will run down a slope and mobilise silt if the ground is stripped. Collect runoff water at the bottom of a slope and direct it to a treatment system.
- Silt fencing often not enough.
- Once graded can a slope be seeded? Matting required along/above riverbanks.

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Surface water run-off

Silt pollution case study

Keep clean water clean…

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Uncharted drainage systems on site can convey silty water directly to a watercourse by-passing treatment. Greenfield sites often have clay tile drains and these should be identified (often by digging a deep trench along the site boundary) and intercepted before major groundworks commence.

In this example excavations uncovered a spring, clean fresh water was picking up silt from site and running off into receiving watercourse, should have been piped to burn or diverted elsewhere. Keep clean water clean!

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Surface water run-off

Silt pollution case study

Poor practice

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Even with the best SWMP/PPP ‘on paper’, any silt mitigation measures need to be installed properly and then routinely checked and maintained.

Silt fencing can easily collapse and be rendered useless, should also be dug under the ground so it’s a sealed barrier.

- Make sure it spans the whole risk area.
- Make check sheets part of the daily routine, check ditches/lagoons/fencing and the receiving watercourse.
- Keep a record, SEPA may ask you for them, also helps if there are any complaints.
- Take samples, even for a visual check of the water clarity.
- Have an action plan in place so clear plan if a silt breach does occur.
- Cut off valve/sluice if water is too silty, over pump through a silt buster, over pump to vegetated ground, additional trenches/lagoons.

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Surface water run-off

Silt pollution case study

Poor practice

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Silt fence had certainly helped, but this is the last line of defence, there should have been cut off ditches or an adequately sized lagoon to capture the silt before it reached the site boundary.

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Surface water run-off

Silt pollution case study

The result…

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As the construction phase drainage was not adequate and the fencing had not been checked/maintained, a section of the silt fence failed and silty water/silt slurry escaped beyond the site boundary, into a ditch and into a small burn.

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Surface water run-off

Silt pollution case study

The result...

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This led to discoloured water in the receiving watercourse > consent limit and an accumulation of silt that had to be removed by hand i.e. dug out.

Prefer to work with operators and education, but enforcement action by SEPA can be necessary, warning letter/EN/VMP/FMP/EU/PF case, can impose a CAR licence. Work with LA Planning officers.

SEPA inspections routine part of Performance Assessment Scheme

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Surface water run-off

Site preparation

Bad practice

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Case study – large site, two housing developers:
Adjacent to watercourse where high risk of causing pollution from surface water runoff split into different sections for stages of development.
First section of development, groundworks undertaken without installation of any containment of surface water. The operator installed a soil bund at bottom of site, surface water eventually found its way around the bund and caused pollution to the watercourse.

Construction phase drainage had a low flow channel directly connecting the inlet and outlet, so silty water was running straight through and not being allowed to settle out on the floor of the basin. After the basin, a linear swale conveyed silty water directly to a piped discharge to the watercourse. Operator had to make changes to the design of their construction phase drainage which included removing the low flow channel in the basin and installing check dams to reduce the flow in the swale

Above photos show the basin, the swale (after check dams added), and the discharge point to the watercourse.

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Surface water run-off

Site preparation

Good practice

PUBLIC

On the same site, the other operator made decision to install check dams (first photo) along the length of the development adjacent to the watercourse prior to undertaking any groundworks to capture surface water runoff from all stages of the development. Water went through the dams into three settlement beds (second photo) before discharging via a soakaway where the vegetation would also act as extra filtration.

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Surface water run-off

Common GBR breaches – offences under Reg 44 (1)(b) of CAR

- Starting work (including stripping land) prior to installing drainage: GBR10D(f).
- Drainage is inadequately sized and/or lacking elements to properly treat surface water run-off: GBR10D(f).
- Drainage causes pollution of receiving water: GBR 10D(a) and (b).
- Drainage elements inadequately installed and/or maintained: GBR 10D(g)
- Drainage is used for disposal of concrete washout: GBR 11(a) and (c).
- Soil left exposed for periods in excess of the minimum required to do the work: GBR 11(d).
- Use of chemical assistance e.g. flocculants without authorisation, which is an offence under 44 (1) (a) of CAR.

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Pretty much every single condition of GBRs 10D and 11 are regularly breached on construction sites. It is important to note that breaching the conditions of a General Binding Rule isn't just a wee oops, it's an offence. We can and will take enforcement action, and if the incident is serious enough or there is evidence of deliberate criminality or significant financial gain, this can result in a prosecution.

Surface water run-off

In short...

- **Plan ahead -** Design appropriate construction drainage. Don't use permanent SUDS, they are designed primarily for attenuation, not silt removal.
- **Avoid unnecessary works -** don’t remove vegetation or clear site too quickly.
- **Use appropriate treatment -** soil types and settlement rates will tell you how big your ponds need to be, high groundwater levels will need to be considered.
- **Keep clean water clean -** the less water you need to treat, the more likely you are to be able to treat it adequately.
- **Size drainage appropriately -** settlement ponds are your main tool in treating silty water, calculate using particle size and rainfall.

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How to stay compliant

Daily site checks

Monitoring

- Visual checks of ALL receptors, not just drainage on site, but also receiving watercourse.
- Use a daily record sheet, develop an action plan if a silt breach is detected.
- Turbidity meters/sampling can be useful to alert of something is wrong, but it should not replace visual checks.
- Visual checks of refuelling areas, oil and chemical storage.
- Dust suppression - think about water source - recirculated, mains, abstractions from rivers (<10m^3/day GBR).
- Concrete batching plants and wash-out areas *(*must be impermeable and solid and liquid fractions both disposed of appropriately*)*.
- Welfare facilities e.g. septic tank discharges.
- Access and haulage roads…..material, topography etc (cross drains can help), impact on public highway.

Pollution response

- What emergency procedures are in place (spill kits etc)
- Call us before we call you
- Incident reporting & tracking

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Onus on operators to comply and come up with mitigation measures/solutions.

We are looking for operators to have thoroughly explored all the ways their activities might cause harm, to have identified realistic risk, and to have put in place mitigation. Do we expect a site to be completely clean and release no sediment at all? SEPA is pragmatic and we understand that is not tenable in certain circumstances. If the operator has done everything they reasonably can (and "reasonably" *doesn't* mean "without spending any money") to mitigate that risk using the standard avoid-minimise-compensate hierarchy, then we will work with that operator rather than taking enforcement action. Our level of expectation for a national operator with plenty of resource will be higher than that for a one-person-and-their-digger outfit, but it remains the case that we expect an operator to do everything that it is within their gift in order to minimise the risk of harm *at the very minimum*.

Risk

- Have you calculated the size and type of drainage facilities that will be needed for that specific site or just built a pond that looks like every other pond you've ever built?
- Are you putting the environment at the heart of what you do, and planning specific protection for this specific site?

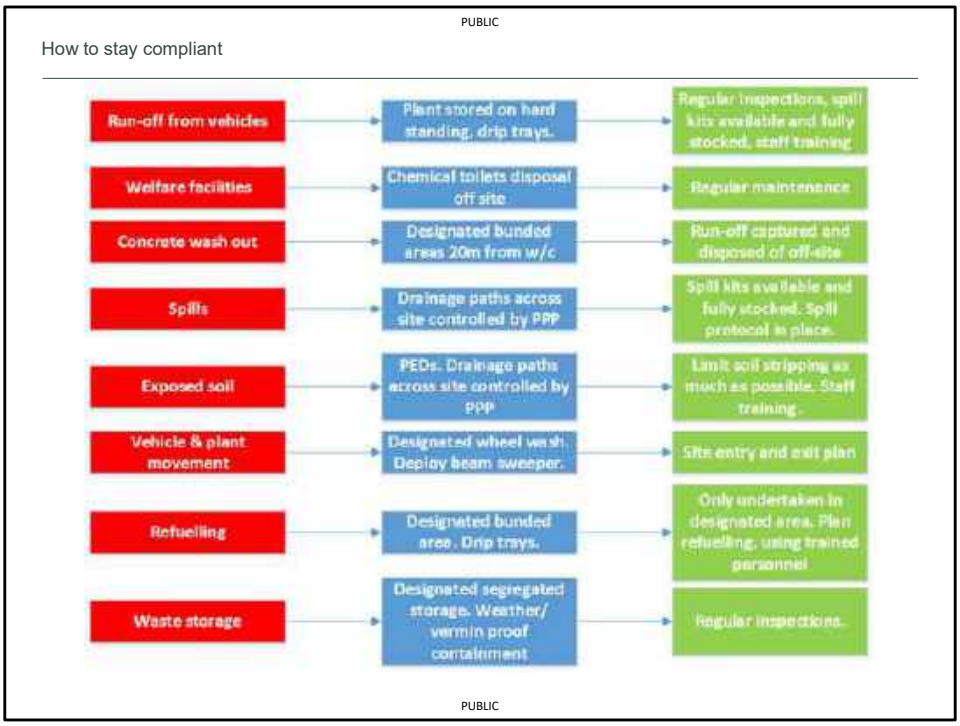
- Best way to manage risk is to have a well thought out and site-specific pollution prevention plan. We don't require this in our permits anymore, because the onus is on how to comply with your permit, but if we find you are causing silt pollution and you don't have one, we are likely to require one via a Statutory Notice.
- If the site requires anything which potentially has an increased pollution risk such as lime stabilisation/grouting, pre-app discussions with SEPA are highly recommended.

PPPs

- Are they informed, bespoke, considered, robust, pertinent, well-communicated?
- Are they in place early enough to be useful?
- Have they been implemented?
- Are they kept up to date?

Monitoring

- Are you checking that watercourses are clean, is the site drainage doing what it's supposed to do, is material being kept out of the waste stream where possible?

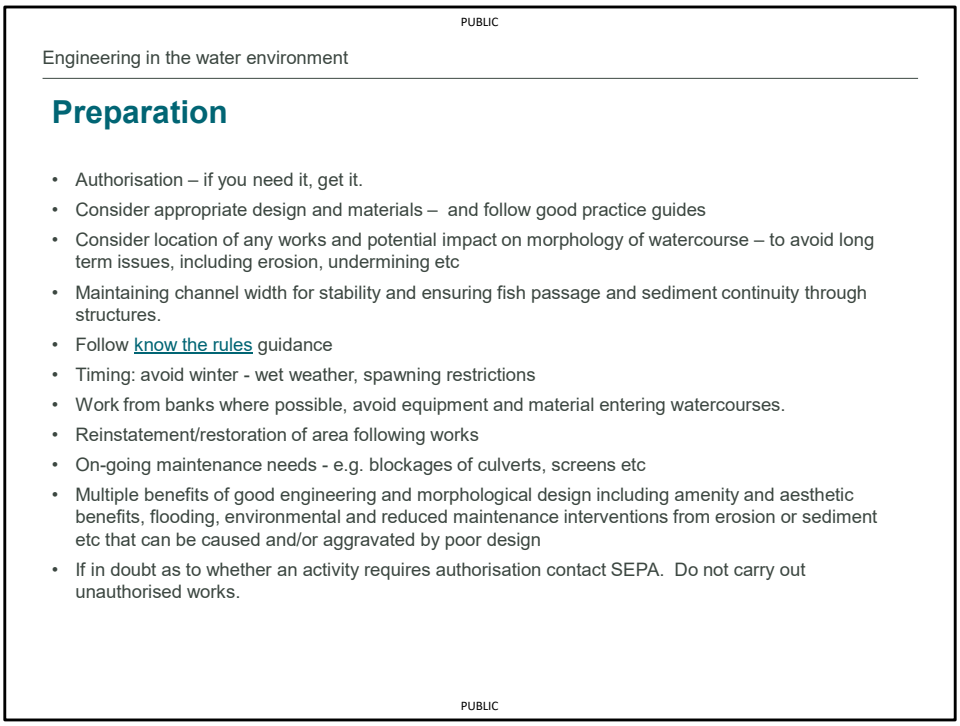


Tool/approach that can be used to help catalogue all the potential areas of risk and then design physical and behavioural mitigation.

Red = potential pollution sources
Blue = physical mitigation measures
Green = behavioural mitigation measures

PEDs= pre-earthwork drainage ditches.
PPP = pollution prevention plan.

Engineering in the water environment



Authorisation

- Permanent realignments, diversions and culverting for land gain will **ALWAYS require authorisation**, **even if not shown on 1:50000 OS map.**
- 1:50000 map scale rule – If it's on the 1:50000 map, talk to SEPA.
- Know what is covered under GBR and what requires Registration or Licence
- Ensure engineering works (bridges, culverts, bank works etc) are appropriately authorised

Location and impact

- River type will determine the best engineering solution – passive rivers work differently to active rivers.
- Consider employing the services of a qualified hydromorphologist. It can save you money down the line – bank erosion and scour, or conversely sediment accumulation, clogging and flooding, which can both be caused by inappropriate engineering can be expensive to fix, but can be avoided with the right design and construction.

Questions to ask yourself

Construction methodology

Think about-

- How will you construct engineering activity?
- How will you reduce risk of pollution during construction phase?
- Will any 'temporary' work be required?
- How will site be reinstated?
- Where will you store equipment/materials?
- How & where will you access site and watercourse?
- What are the contingency plans if something goes wrong? (pumps, weather etc)
- End date for engineering & spawning times

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Unauthorised engineering

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Image: Unauthorised engineering.

Consequences: Enforcement – Fixed Monetary Penalty. Would be Variable Monetary Penalty if activity meets the requirements of a complex CAR licence.

What they should have done: applied for a CAR licence

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Unauthorised engineering

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Picture:
GBR level construction site where stripping vegetation has resulted in instability of banks and then developer has attempted to fix without authorisation (river on the 1:50000 OS map).

Potential for silt pollution too as steep, vegetation stripped bank

What they should have done:
- Maintained vegetation cover where possible, especially riparian buffer strips to protect bank and provide buffer between working area and river.
- Got an authorisation if they still needed to put in bank protection

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Good practice design

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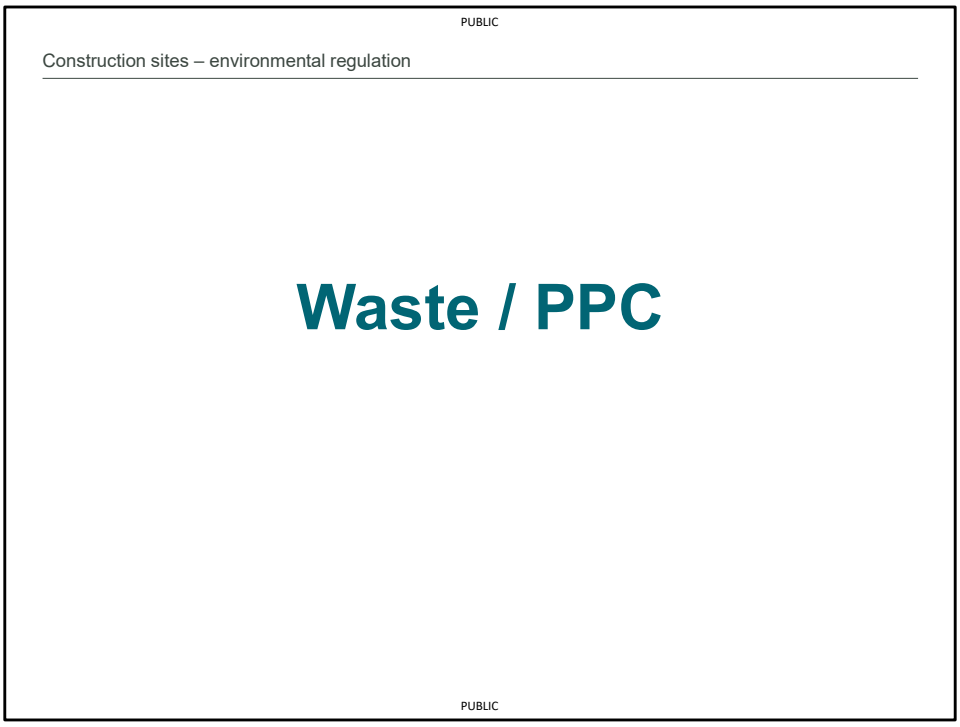
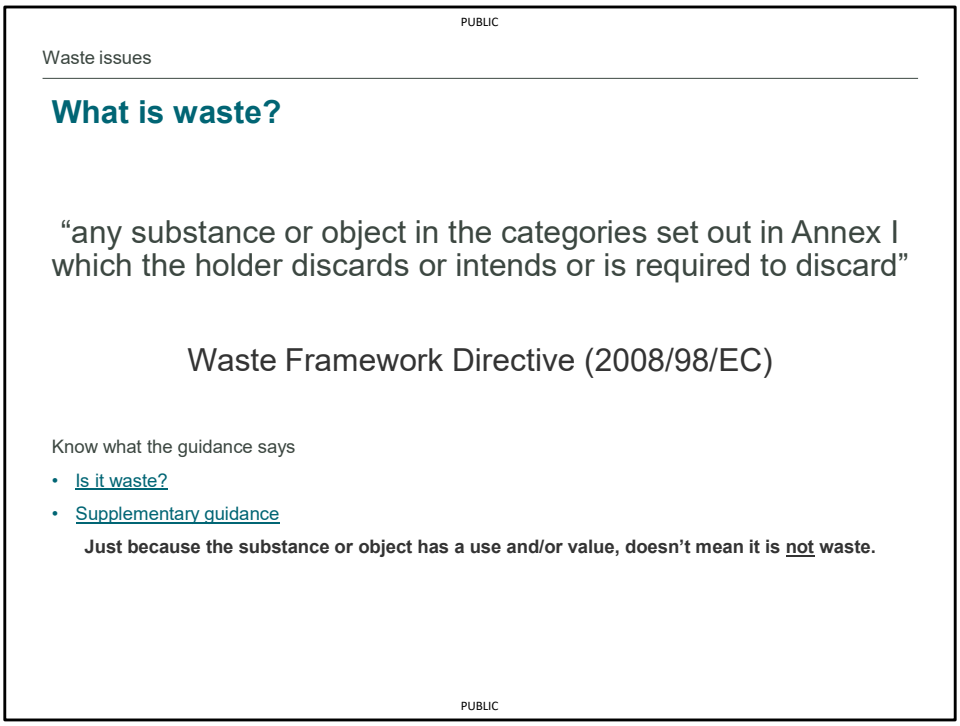
Why is it good?

- Leaves bed undisturbed
- Protects fish/fauna/sediment passage/fish passage
- Pollution control measures
- Allows crossing for heavy gear to fit permanent solution.



Issue: Huge amounts of waste produced by the sector, associated environmental impact and risk, and will likely have significant financial implications on the sector for disposal.



What is waste? Waste is hard to define, but is generally anything that you discard, intend to discard or are required to discard. This covers more than just objects and substances you have decided to dispose of. Material being recovered, eg sent for recycling or prepared for reuse, is also waste.

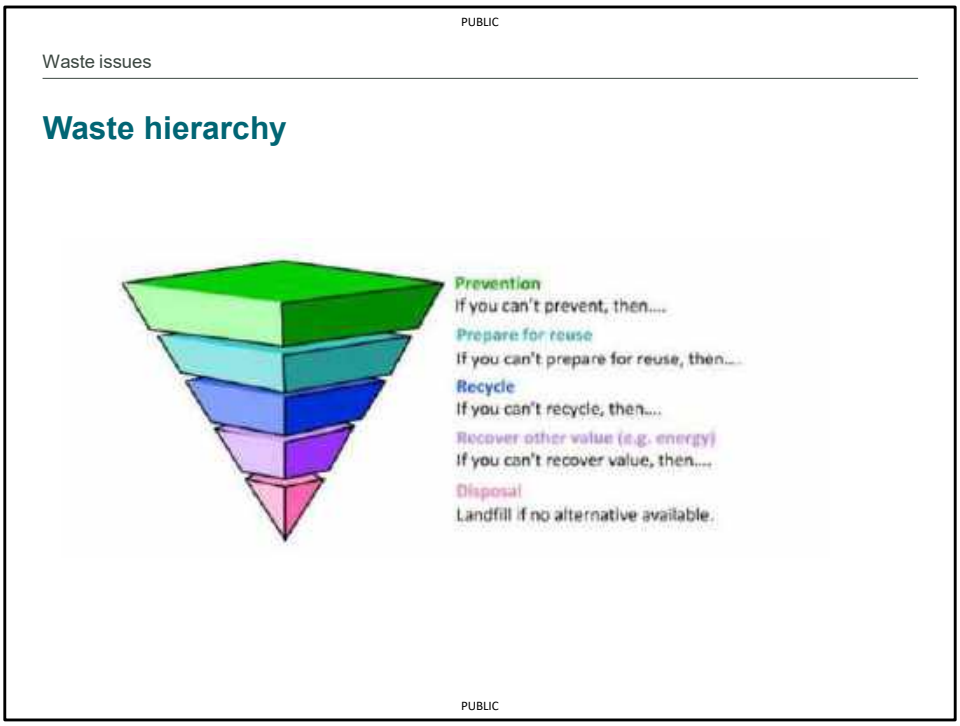
Guidance

https://www.sepa.org.uk/media/154077/is_it_waste.pdf
https://www.sepa.org.uk/media/154090/isitwaste_supplementary.pdf

Waste Framework Directive
https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A02008L0098-20180705

Consideration needs to be given to:

- Site history – previous uses, potential contaminants present;
- Site investigation reports - interpretation of analysis results;
- Planning permission – e.g. requirement for excavated soils in the development.



It is your duty to take all reasonable steps to apply the waste hierarchy (prevention, reuse, recycle, recover and then disposal). The benefit is that applying this hierarchy reduces disposal costs.

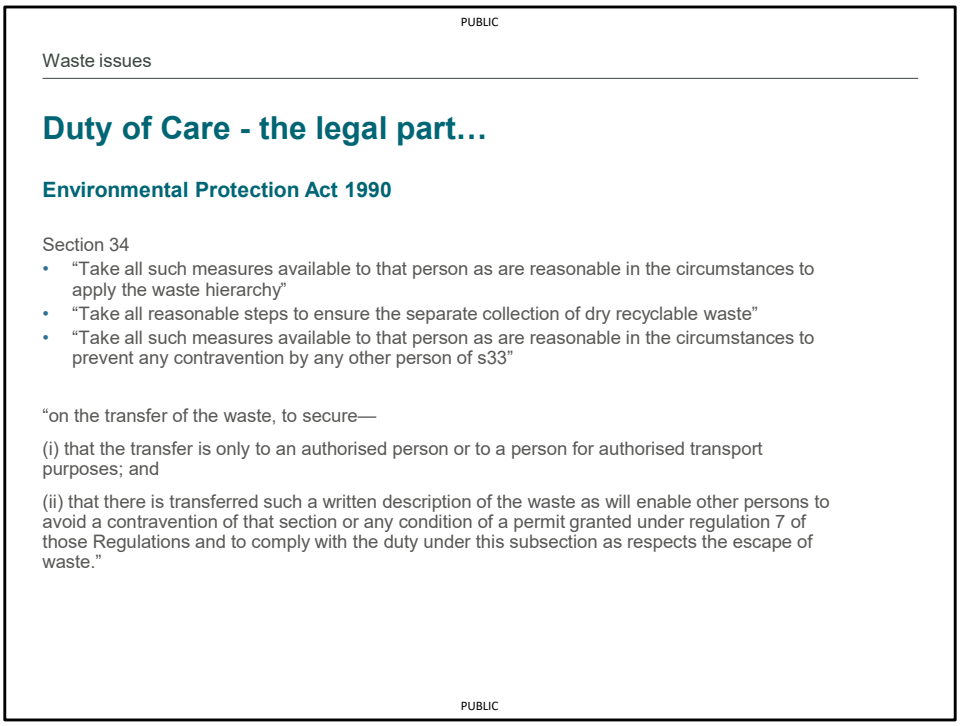
Prevent/reduce: good housekeeping - store purchased materials to minimise damage from weather and site machinery, use the materials efficiently. Minimise amount of ground excavated.

Reuse: purchased materials and goods (managing the industry standard purchased excesses and using in next job), and with the right legal permissions (planning, waste legislation) using materials such as excavated soil and stones across sites.

Recycle: treat waste to meet required standards for use or to meet end of waste case - engineering and contamination standards (plastic, wood, chemical etc).

Recover: can it go to energy from waste? Wrap around pallets can go for low value recovery. Wood – biomass

Disposal: landfill



As a business, you have a legal responsibility to ensure that you produce, store, transport and dispose of your business waste without harming the environment. This is called your duty of care.

Duty of care key issue and an area where SEPA find significant non-compliance

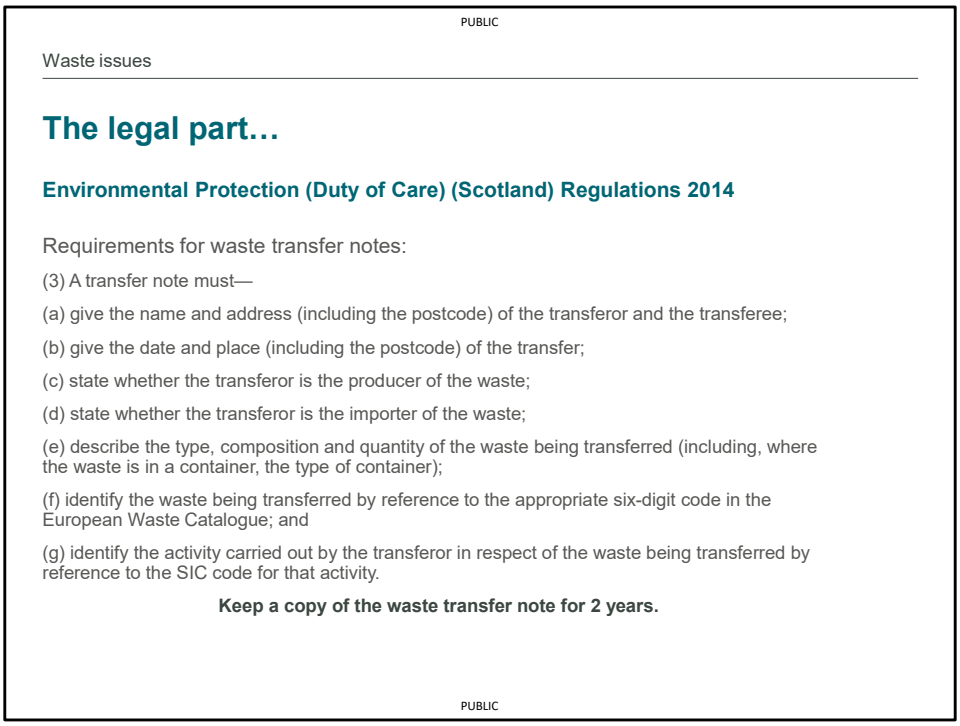
Under Section 34 of the Environmental Protection Act 1990, you have duty of care requirements to

- "Take all such measures available to that person as are reasonable in the circumstances to apply the waste hierarchy"
- "Take all reasonable steps to ensure the separate collection of dry recyclable waste"
- **"Take all such measures available to that person as are reasonable in the circumstances to prevent any contravention by any other person of section 33 of** Environmental Protection Act 1990 (**unauthorised or harmful deposit, treatment or disposal of waste**)"

In terms of the transfer of the waste, you need to ensure

(i) that the transfer is only to an **authorised person or to a person for authorised transport purposes**; and
(ii) that there is transferred such a **written description of the waste as will enable other persons to avoid a contravention** of that section or any condition of a permit granted under regulation 7 of those Regulations and to comply with the duty under this subsection as respects the escape of waste."

The waste producer is responsible for ensuring the waste is described properly to prevent harm or pollution.



Regulations: https://www.legislation.gov.uk/ssi/2014/4/contents/made

A written description of the waste is commonly known as a Duty of Care note can mean either a Waste Transfer Note or a Special Waste Consignment Note.

For a waste transfer note, there are requirements set out for what must be contained within the note. A transfer note must contain:

- Outline who is the transferor and transferee of the waste (address and postcode)
- Date and place (address and postcode) of where the transaction took place
- If the transferor od the producer or the importer of the waste
- **Description:** “Muck”, “Soil and stones” are not appropriate descriptors, try and ensure this matches the European Waste Codes description e.g. 17 05 04, Soil arising from construction activities. It should describe the type, composition and quantity (& container)
- Use appropriate **European Waste Codes** (EWC codes). There are 17 codes for waste leaving construction sites. https://www.sepa.org.uk/media/163421/ewc_guidance.pdf
- Ensure **Standard Industry Classification (SIC)** code is detailed on note. This describes what industry the waste is arising from. "construction of domestic

buildings" = 41202

Operator should try to set up template Waste Transfer Notes so that it contain space for their staff to enter the required detail to help them comply with these requirements. Staff involved in transactions of waste should be provided training to ensure they are clear on what their obligations are to help ensure you comply.

Failure to comply with these requirements may leave both the operator and the driver or responsible person for the transaction open to potential enforcement action.

Special Waste Regulations 1996 -
https://www.legislation.gov.uk/uksi/1996/972/contents
Special waste guidance – https://www.sepa.org.uk/regulations/waste/special-waste/

Special Waste Consignment Notes are used for movements of special / hazardous waste instead of waste transfer notes.

Duty of Care: A Code of Practice

Statutory guidance issued by the Scottish Government

- Explains the duties that apply to anyone who produces or manages waste in Scotland.
- It is set out based on different roles – for example if you are a waste producer you can refer to the section for waste producers to understand your full responsibilities.
- The Code is statutory guidance – which means it is admissible as evidence in court when assessing whether a Duty of Care offence has been committed.
- Duty of Care - A Code of Practice (www.gov.scot)

PUBLIC

Waste issues

Waste disposal - tax liability

- When is a disposal taxable?
- Definition of "landfill" for Scottish Landfill Tax purposes
- What does this mean for waste produced at housing sites?
- What are the penalties?

PUBLIC

When is a disposal taxable?

A disposal is a taxable disposal if:

- it is a disposal of material as waste
- it is made by way of landfill, and
- it is made at a landfill site.

Definition of "landfill" for Scottish Landfill Tax purposes

For the purposes of Scottish Landfill Tax "disposal by way of landfill" does not require the waste to be covered or sealed away in any fashion, a deposit of waste is sufficient to meet the criteria of "landfill". Additionally, for the purposes of Scottish Landfill Tax **a landfill site is any waste deposit location where there is, or should be, a requirement to have a licence, permit or authorisation to allow disposals in or on the land under the relevant environmental legislation.**

What does this mean for waste produced at housing sites?

The person liable to pay the tax charged on a taxable disposal made at an unauthorised landfill site is any person who made the disposal, or knowingly permitted the disposal to be made. If there are two or more persons liable based on these criteria then those persons are jointly and severally liable to pay the tax. This could mean that waste producers and carriers could be as liable for any unpaid

Scottish landfill tax as those individuals directly undertaking the unauthorised disposals.

What are the penalties?

Revenue Scotland has the power to charge penalties for as much as 100% of the outstanding tax liability as well as interest from the time the tax was due to be paid. This could effectively more than double the cost of legitimately disposing of the waste at an authorised landfill site. This makes it even more important for house builders to ensure that destination sites, including exempt sites, are appropriately authorised and the waste is suitable to be accepted at the destination.

PUBLIC

Waste issues

Waste treatment

PUBLIC

Excavated waste can be treated on site or removed off site.

Treatment: crushing and screening – permit required.

PPC Regulations 2012: https://www.legislation.gov.uk/ssi/2012/360/contents/made
SECTION 3.5 *Other mineral activities, Part B*

Water required for dust suppression and run-off needs to be controlled.

Space constraints may require the transfer of waste to another site to be treated, **waste transfer notes required and the receiving site needs an appropriate authorisation for storage and treatment** (exemptions or if greater tonnage, then WML, if special waste PPC)
Activities exempt from waste management licensing | Scottish Environment Protection Agency (SEPA)

Treatment to reduce/remove chemical contamination may be possible on site or at another site using a WML for mobile plant.

Other wastes i.e. wood, cardboard, plastic wrap should be separately collected for treatment at another site – minimise contamination on site.

PUBLIC

Waste issues

End of waste

Treatment of waste to a standard that it can be used or has value does not mean that it is no longer waste – certainty of use is required.

production-of-recycled-aggregates.pdf (sepa.org.uk)

Must meet specification with relevant certificates:

- grading,
- compaction,
- frost heave (if required),
- physical contamination: glass, bituminous content, asphalt content plastic, wood, paper,
- **chemical specification,**

- **and there must be a guaranteed use**

But…this material continues to be waste until used.

PUBLIC

If a waste carrier was to temporarily store this material elsewhere until use it is vital they carry the correct duty of care paperwork to continue to record as waste or they will be non-compliant.

PUBLIC

Waste issues

Soil movements

PUBLIC

One of the more common wastes handled by the sector is soil. When disposing of soil or looking to accept soil to a development site, ensure that the soil is only moved to sites within the terms of the appropriate authorisation in place.

Soils usually can be accepted / moved via complying with the terms set out in SEPA's "Sustainable reuse of greenfield soils in construction" guidance **or** as a waste through a Paragraph 19 Exemption. In appropriate circumstances, soils can also be accepted at certain sites with a Paragraph 9 Exemption set up for restoration, where the soil will require sampling to demonstrate that it is suitable for use at that site.

It is known that soils are being moved mis-using greenfield notification (source soil not appropriate, not obtained relevant planning consent for specific purpose) which may appear to be an evasion of a paragraph 19 exemption (waste for construction or other relevant work).

PUBLIC

Waste issues

Inadvertent creation of waste

PUBLIC

Picture
Subsoil (which could have been used on the site) stored at side of development, became contaminated with construction waste from the building. Increase in financial costs for disposal, instead of the brick, concrete, cables, metals, packing straps going into the site skip, the entire load / mixed waste in soil had to be removed for treatment to remove contaminates.

Common issue with mismanagement of waste and product will likely lead to increased disposal costs, including wasting products that could have been utilised on site. This may involve storing topsoil at the wrong location (such as next to waste compound) and over time waste stockpile contaminates the topsoil with litter or other materials, meaning topsoil should not be used within developments. Financial implications for the site is increase disposal cost along with costs for accruing more appropriate soil to use. Will also have impact of any internal reporting for waste management and disposal that operator may conduct.

It is good practice to set up the site and processes up in a way that can help reduce the risk of causing waste. (Topsoil away from the construction site; Waste compound and delivery area near access road to site; Consideration into waste storage location (not next to soils, watercourse or at boggy area of site); Organised waste disposal

point from each dwelling to reduce amount falling to ground, Segregating waste at source to reduce disposal costs (wood, metals, aggregates, cables, plasterboard), Having someone's role dedicated to waste management for the development).

Developer didn't adhere to waste hierarchy (a requirement of Waste Framework Directive) as failed to prevent creation of waste in the first place.
Developer wasted significant amount of money

PUBLIC

Waste issues

When quality materials become waste

PUBLIC

Insulation wool and panels.
Operator had brought in too much material, too early.
Wet weather impacted products meaning they were damaged and could not be used within dwellings.
Developer had to dispose of this material as well as reordering products when needed.

Developer didn't adhere to waste hierarchy (a requirement of Waste Framework Directive) as failed to prevent creation of waste in the first place.
Developer wasted significant amount of money

PUBLIC

Waste issues

When quality materials become source of pollution

PUBLIC

Bricks and concrete set aside for construction of a dwelling on unsuitable ground.
Wet weather and storage location caused damage to products meaning they could not be used on the dwelling and disposed of from the site.
This area of the site required a clean-up where the developer also had to remove contaminated soil.

Developer didn't adhere to waste hierarchy (a requirement of Waste Framework Directive) as failed to prevent creation of waste in the first place.
Developer wasted significant amount of money

PUBLIC

Waste issues

Case study

PUBLIC

Case study

5000 tonnes of excavation-type waste (mainly soils) from housing development.
Poor advice from consultants with respect to what waste is / isn't – consultant advised that met highways fill standard so not waste but this only counts if soils are actually being used as highway fill!
Soils were illegally tipped to restore an area of the quarry, part of which had been previously infilled under a paragraph 9 waste management exemption some years previously for reclamation or improvement of land.
No current paragraph 9 WMX, but wouldn't have qualified anyway as mis-use of P9 which only permits 4-6 metres depth.
No duty of care paperwork (waste transfer notes) used for the waste movements.

What should the housebuilder have done?

House-builder has producer responsibilities and should have done the following:

- Known themselves what is or isn't waste – develop industry guidance that you all adhere to. If you're not sure – **ask SEPA BEFORE disposing of it.**
- Work with reputable consultants
- Ensured duty of care paperwork in place for the uplift of their waste
- Checked **where** the haulier was taking the waste and ensured receiving site licensed to accept

- SEPA keeps a register of waste carriers that can be checked to ensure hauliers are registered: https://www2.sepa.org.uk/wastecarriers/
- SEPA is also working to produce a tool to allow builders to identify appropriately authorised destination sites which should be ready soon. Working in partnership with Robertson to develop tool.

PUBLIC

Waste issues

Case study

What went wrong?

- Accepting site not authorised to accept waste
- No waste duty of care or waste assessment was in place.
- The producer failed to describe their waste in a way that allowed the next holder to know how to manage it

Potential impact?

- Risk to human health from mishandled contaminated soils.
- Pollution to the environment e.g. surface and ground water from mobilisation of contaminants

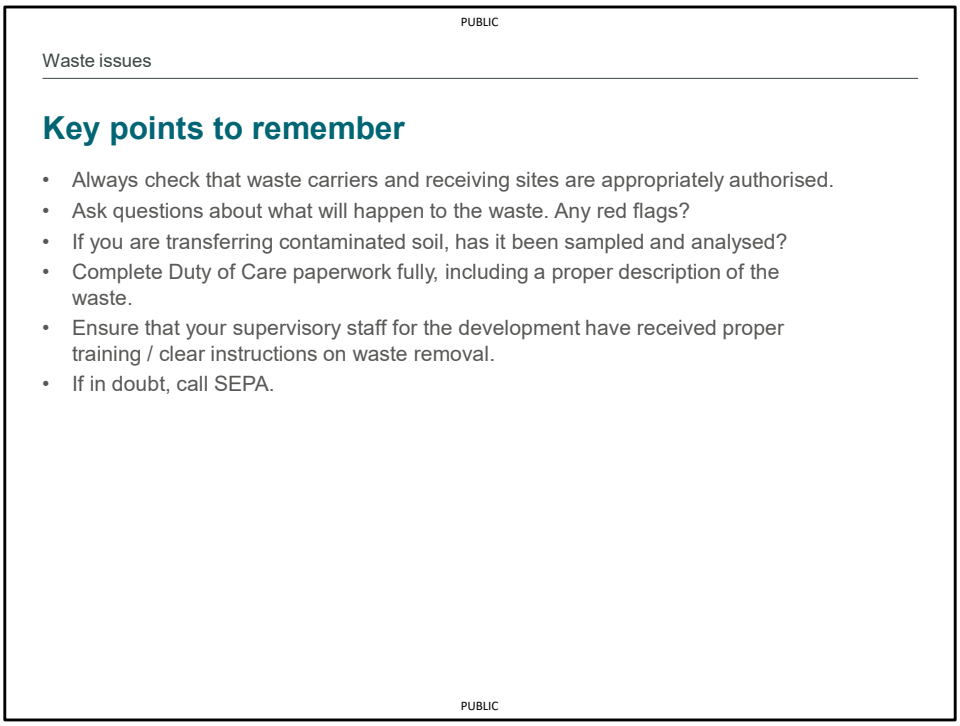
How was it resolved?

- Enforcement action taken against the accepting site, house builder and groundworks contractor to secure compliance.

PUBLIC

Potentially contaminated soils were removed from a housing development site to a former opencast colliery site.

Planning permission and EIA made clear there were potentially contaminated soils on the site. WM3 testing and classification to ensure that you are consigning the waste with the appropriate EWC code.



Check site has appropriate authorisation - not enough just to check if there is a licence number, need to ensure that the site is able to accept the waste you are looking to dispose at that location.
Is licence live? A site may hold a licence but not be authorised to accept waste because under partial suspension, closed landfill etc
Is operator compliant? If a receiving site is non-complaint with their environmental authorisation this should be a red flag. Speak to SEPA if any concern or doubt about an operator or their practices

Sites may only be able to accept specific quality of soil and appropriate level of sampling may be required to demonstrate soil is suitable for the next destination. Ensure that waste you are sending to the location matches the waste sampled and described on any duty of care note.

Know what you are transferring. The receiving site should have a Waste Acceptance Criteria – use WM3 classification to ensure that you are consigning the waste with the appropriate EWC code. This will help you understand what paperwork is requirement for the transaction of waste (ie is waste hazardous or non-hazardous and if you need to complete a waste Transfer Note or a Special Waste Consignment Note)

Find out what is going to happen to the waste once it leaves your control

Have responsible person to manage waste transaction to ensure you are complying.

Ensure that your supervisory staff for the development have received proper training / clear instruction for the waste transaction, including correctly completing paperwork.

Check paperwork is complete properly and meets the legal requirements

Compliance assessment and tackling non-compliance

Replacement to compliance assessment scheme – Performance Assessment Scheme

Enforcement:
- Enforcement policy
- Enforcement guidance

Options
- Advice and guidance
- Warning letters
- Fixed Monetary Penalties
- Variable Monetary Penalties
- Enforcement Undertaking
- License suspension
- Report to procurator fiscal

Guidance

Know the rules – working in or near rivers and lochs

Good Practice Guides (GPGs)

- WAT-SG-25 'River Crossings'
- WAT-SG-29 ' Construction Methods'
- WAT-SG-31 'SEPA special Requirements for Civil Engineering Contracts for the Prevention of Pollution'
- Engineering Guidance and Regulatory Method webpage - Engineering guidance | Scottish Environment Protection Agency (SEPA)
- SNH 'Good Practice during Wind Farm construction'
- SNH/FC 'Floating roads on peat'
- Scottish Renewables/SEPA 'Developments on Peatland'

Guidance

Pollution Prevention Guidance (Netregs)

PPG 5 'Works and Maintenance in or near water'

PPG 6 'Working at Construction or demolition sites' (updated version due end August 2023)

Factsheets in development:

- earthworks,
- groundworks,
- duty of care,
- working in / near water

CIRIA guides

- Control of water pollution from construction sites. Guidance for consultants and contractors (C532)
- Control of water pollution from linear construction projects. Technical Guidance (C648)

Thank you