East Ayrshire Council
Comhairle Siorrachd Àir an Ear

Appendix 3

East Ayrshire Minerals Local Development Plan 2020

Non Statutory Guidance

Peat, Excess Soils and Sewage Sludge

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1.0 Context and purpose of Supplementary Guidance

1.1 Policy context

East Ayrshire benefits from a diverse environment, with its wide breadth of natural environment features helping to shape the character of the area. The Minerals Local Development Plan 2020 (MLDP) aims to protect and conserve the natural environment, whilst at the same time promoting high quality restoration schemes which result in more resilient and attractive places.

The aim of this non-statutory guidance is to support the implementation of the MLDP by:

- Providing information on the importance of peatlands and guidance on how to assess potential impacts on peat as a result of minerals development;
- Providing direction in terms of soil storage, handling and transfer; and
- Supporting the responsible use of sewage sludge in supplementing other available soils.

There are four policies which specifically relate to this guidance (the policy text can be found in each subject chapter):

- Policy MIN ENV1: Peat and other Carbon Rich Soils
- Policy MIN ENV3: Reuse of Excess Soils
- Policy MIN ENV4: Sewage Sludge

All applications that come under the remit of the Minerals LDP, which involve the movement of peat or other carbon rich soils, the reuse of excess soils and the use of sewage sludge as part of restoration schemes should comply with the policies listed above and this guidance, as well as all other relevant policies of the MLDP.

1.2 National Policy Context

As well as supporting the policies set out within the MLDP, this guidance conforms to the objectives of the following key documents:

- Scottish Planning Policy (SPP)
- Scotland's Fourth National Planning Framework Position Statement (Nov 2020)
- National Planning Framework (NPF) 3

- National Peatland Plan
- Update to the Climate Change Plan 2018-2032: Securing a green recovery on a path to net zero

1.3 How to use the guidance

This guidance is non-statutory in nature. However, as a non-statutory document, it represents a material consideration in the determination of planning applications.

Applicants/developers are encouraged to refer to this guidance at the earliest opportunity.

Where relevant, applicants should seek pre-application advice from the planning authority to identify and address potential issues and avoid unnecessary delays in the planning process.

2.0 Peat and carbon rich soils

2.1 What is Peat?

Peat (as a material) is a diverse mixture of more or less decomposed plant material that has slowly accumulated at the surface in a water-saturated environment and in the absence of oxygen. Those conditions are usually associated with peat forming vegetation in peatland habitats. Peat material consists of more than 60% of organic matter with half of the organic matter mass being carbon. Peat soils also referred to as organic soils are defined in Scotland as any soil with a peat surface layer of at least 50cm depth. With peat less than 50cm, soils will be described as peaty.

2.2 What are carbon rich soils?

Carbon rich soils are any soil type with a surface organic (peat) layer. In Scotland this is referred to as peaty soil (peat layer < 50cm) and peat soil (peat layer > 50cm). This is not a standard term used in the Soil Survey for Scotland classification and so carbon-rich soils are not mapped directly. However, the Scottish soil classification system identifies the presence or absence of peat with additional information on average depth of peat layer (i.e. the carbon-rich layer) available for most soil types on the Scottish Soils Knowledge and Information Base.

2.3 The importance of Peatland

Scotland has about 60% of the UK's peatlands and 4% of Europe's total peat carbon store. A peatland is an area with or without vegetation with a naturally accumulated peat layer at the surface. It contains the highest reserve of soil carbon in its peat deposits. Peatland is a sensitive landform which varies in terms of physical characteristics depending on several factors; locational context, climate, local landform and management

Peatlands have an important role to play in climate change mitigation. Healthy peatlands act as carbon-sinks, storing carbon annually, and helping to reduce net carbon emissions. Disturbed or degraded peatlands can release large amounts of carbon dioxide, contributing to climate change.

In addition to their carbon retention qualities, peatlands are highly valuable for the number and range of habitats and species they support, many of which are of national significance. Healthy peatlands can also play a role in natural flood management, by retaining water and reducing the risk of flooding elsewhere in river catchments.

2.4 Key Issues

Peatlands can be disturbed and damaged through development and a range of poor land management practices. In peat and peaty soils, changes to water level and exposure to oxygen following drying or erosion events increase the rate of

decomposition of organic matter in peat material and shift carbon balance towards loss of carbon into the wider environment (greenhouse gases (GHG), dissolved organic carbon). It ultimately leads to a degradation and destabilisation of the peat body mass and associated peatland habitats and a further reduction in their ability to sequester new carbon

Damage can range from a slow lowering of water levels which might not have an obvious effect for many years, to complete removal of the vegetative layer with bare peat left subject to severe erosion.

2.5 Peatland in East Ayrshire

East Ayrshire hosts large areas of carbon rich soils; approximately 22% of the authority area is covered in peat soil, supporting peatland habitats. A further 16% is covered in peat and peaty soils, which may or may not support peatland habitats. This includes lowland raised bogs as well as upland blanket bogs. Historically, large areas of peat would have been disturbed in order to make way for forestry, mining and other agricultural uses. However, within East Ayrshire significant quantities of peat remain and are undisturbed, and many areas have been enhanced by landowners and organisations such as the East Ayrshire Coalfield Environment Initiative.

While commercial peatland extraction is not permitted in East Ayrshire, peat has been disturbed through other development and extraction. The significant amount of wind farm development and surface coal extraction which has taken place in East Ayrshire has, in some instances, involved the displacement or removal of peat. None of this peat has been exploited commercially.

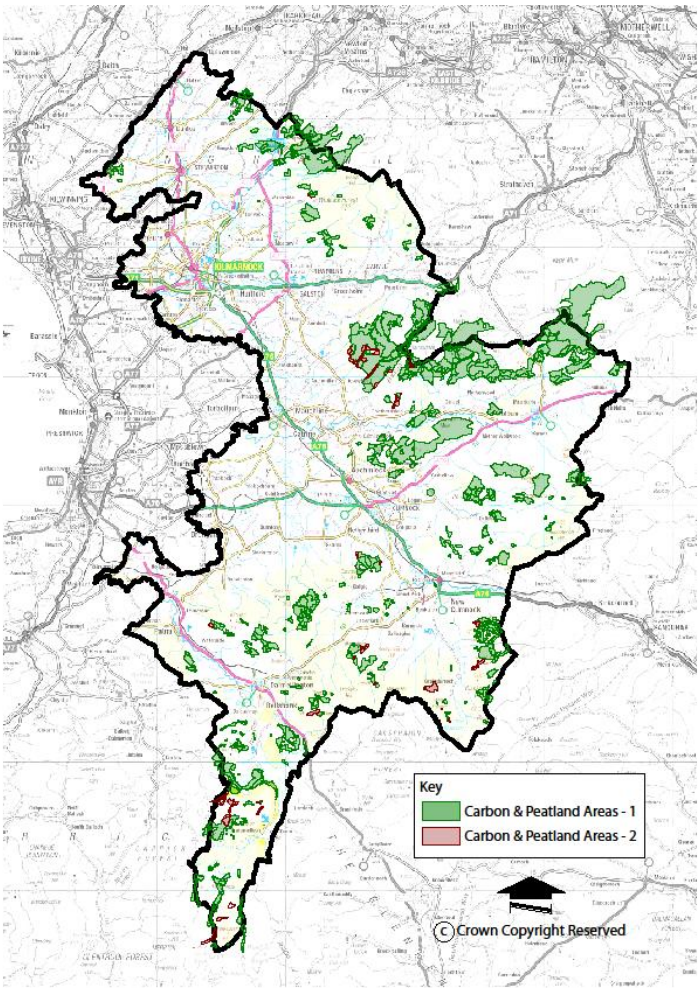
The MLDP sets out policy MIN ENV1: Peat and other Carbon Rich Soils as follows:

Policy MIN ENV1: Peat and other Carbon Rich Soils

There will be a presumption against the disturbance and/or removal of peat, within designated Special Protection Areas, Special Areas of Conservation, Sites of Special Scientific Interest, Local Nature Conservation Sites, Potential Peatland Enhancement Sites, Protected Built Resources and Water Catchment Areas.

Where peat and other carbon rich soils are present, the likely effects of their removal on carbon dioxide emissions are required to be comprehensively assessed and fully justified and submitted to the Council as part of any proposed minerals development. A detailed site specific survey of peatland habitats and peat depths across a site will also be required. Any detailed survey work must fully consider those areas identified as Class 1 and 2 areas of carbon rich soil, deep peat and priority peatland habitat by NatureScot (see Map 1).

Map 1: Peat and Carbon Rich Soils



Further guidance and access to the digital copy of the Carbon and Peatland 2016 Map and other soil maps is available from Scotland soil website https://soils.environment.gov.scot/maps/

2.6 How to assess potential impacts of minerals development on peat

In order to support policy ENV1, the following guidance sets out what information should be submitted with any application and how to assess potential impacts on peat and peatland as a result of minerals development.

Information to assist the determination of a planning application

Pre-application engagement is strongly encouraged where possible. It is important that applicants provide as much information as possible to assist the planning process. To meet the requirements of MIN ENV1, applicants will be required to (i) provide a detailed site survey of peatland habitats and peat depths and (ii) an assessment of the removal of peat soils and other carbon-rich soils and their associated peatland habitats on carbon loss.

Site Survey

A detailed site survey should be carried out to ensure there is an accurate understanding of the baseline conditions on site. The detailed site survey should provide the following information, some of which may be contained within an EIA where relevant:

- A description of carbon rich soil and peat depth across the site along with statistical measures of its variability (even when less than 50cm thickness);
- details of peat characteristics such as surface vegetation, drainage patterns, bulk density, carbon content, erosion features and slope stability.

- The results of the site survey should then be used to help provide the following information:A statement which shows how peat has been taken into account in site selection and in the design / layout of the development to avoid or minimise disturbance;

- Where the disturbance of peat is unavoidable, an assessment of the likely effects of the removal of peat and other carbon rich soils on carbon emissions. This should include the identification of appropriate mitigation measures to offset the release of stored carbon.

- Detailed information on areas to be removed or moved (quantities, depth etc), and how this will be undertaken (including machinery specifications and movement / handling arrangements and which recognises constraints in terms of weather conditions);

- Information on the location of any storage areas (if applicable) (topography, stability, soil type, erosion, drainage patterns / arrangements), how the peat will be stored and for how long;

- Information on the receiving site (if permanent) to ensure compatibility (presence of contaminants, soil type, drainage patterns, erosion and stability);

- Aftercare or maintenance arrangements;

- Habitat management and restoration information, which shows how peat and peatland habitats will be managed in the long term as part of wider restoration proposals; and,

- If applicable, a records management plan to ensure future effective restoration of the site post-development.

Further guidance can be found within the Scottish Government's publication ***Developments on Peatland: Site Surveys & Best Practice***. Detailed site surveys should be undertaken through a combination of: desktop-based investigation, site walk-over surveys, and ground investigations which are more 'intrusive' following the stages set out within SEPA's ***Guidance on the Assessment of Peat Volumes, Reuse of Excavated Peat and the Minimisation of Waste.***

The following documents may also be of assistance:

- Guidance on Developments on Peatland: Peatland Survey (2017) – Publication by Scottish Government, NatureScot and SEPA
- Peatland Condition Assessment – Publication by NatureScot
- Peatland Action - 2021-22 - GUIDANCE - Peat depth and peatland condition survey guidance.pdf (nature.scot) Publication by NatureScot

The assessment process

The information, noted above, will be used by the planning authority as an important part of the planning application assessment process. The impact on peatlands will be balanced against the assessment against all other relevant MLDP policies and applicable material considerations. The more comprehensive the information submitted, the more informed the decision process can be.

Proposals are more likely to be supported when they can clearly demonstrate that (i) all options to firstly avoid and secondly minimise disturbance to peat have been explored; and (ii) where some disturbance is necessary, proposals are set out within the planning application to undertake works to off-set the impact.

3.0 Reuse of Excess Soils

3.1 The importance of soil

Soil is a biologically active complex mixture of weathered minerals, organic and inorganic compounds, living organisms, air and water which provides the foundation for life in ecosystems. Soils provide a wide range of environmental, economic and societal benefits. Soils provide food, biomass and raw materials and they store, filter and transform many substances including water, nutrients and carbon. They serve as a platform for human activity and landscape and as an archive of heritage and play a key role as a habitat and gene pool.

Soils and climate are intimately linked. Climate has a direct influence on processes of soil formation and partially determines the extent to which soils can perform individual functions. Soils also have the potential to influence climate through, carbon retention as described in section 2 of this guidance in relation to peatlands.

Some of the most significant impacts on soils occur as a result of activities associated with construction. SPP sets out that the planning system should protect soils from damage such as erosion or compaction.

In Scotland there is a significant body of policy in place relevant to soils, providing some direct or indirect protection of soils. However, no single legislative or policy tool has been developed specifically with the protection of soil in mind. Where policy or legislation does relate to soil, the extent is generally limited to the protection of a specific impact or function of that soil.

Against this background, the Scottish Soil Framework was developed in 2009 in conjunction with advice from key stakeholders. Its vision is that soils are recognised as a vital part of our economy, environment and heritage, to be safeguarded for existing and future generations. The main aim of the Framework is to promote the sustainable management and protection of soils consistent with the economic, social and environmental needs of Scotland. It sets out a range of threats to soils, many of which could be triggered by the movement of soils, for example soil erosion and compaction. The Scottish Soil Framework is a good resource for finding out more about why soils are important and the different threats to soils. The Framework and additional information, Scotland's soil resources, collected since its publication in 2009 are available at https://soils.environment.gov.scot/soils-in-scotland/our-soils/

3.2 Managing excess soils through the MLDP

For the purpose of this document, "excess soil" is soil that has been excavated, mainly during construction activities, that cannot or will not be reused at the location where the soil was excavated and must be moved off site. In some cases, excess soil may be temporarily stored at another location before the excess soil is brought back to be used for a beneficial reuse at the site.

The reuse of excess soils is supported by the Council through the application of Policy MIN ENV3 of the Minerals Local Development Plan 2020, in specific circumstances, as outlined below:

Policy MIN ENV3: Reuse of Excess Soils

There will be a presumption against the removal of soils from sites. However, where this is not feasible and soils are destined for landfill, the Council will support the exportation of any excess soils on a site to other local projects where there is a deficit of material.

In line with this, proposals for soil importation to sites with a deficit of material will be supported where it can be proven that the imported material is surplus.

Operators should consult with other agencies such as SEPA and SNH to ensure all regulatory obligations are met. Details of the handling, storage and spreading of the material should reflect current best practice. There will be a presumption against the movement of excess soils from sites where they will eventually be required.

In order to comply with the provisions of MIN ENV3, the guidance below should be followed, where it is proposed to import or export soils to or from development sites. The following guidance will assist developers to properly consider the movement of soil on any site, whether it is associated with its removal off site or its temporary movement within a site. Specifically, it should be evidenced as part of relevant planning applications that:

- The soil to be imported or exported is compatible with the soil in situ at its intended destination;
- A soil management plan is in place to ensure safe soil handling, transfer, storage and use.

3.3 Assessing the compatibility of soil and receiving sites

Whenever soil is moved to another site, it is important to understand the composition of that soil to avoid potential adverse impacts upon the receiving site. Equally, it is important to understand the soil quality of the receiving site. This will require detailed site investigations. Investigations should provide the necessary information to delineate, quantify and characterise the topsoils and subsoils of a site prior to these materials being excavated for reuse on or off-site.

Excess soil reuse is appropriate when chemical analyses of soil at the donor and receiving sites determine that the soil is suitable to be reused at the receiving site.

Analysis of suitability should consider:

- The soil type of the donor soils and the receiving site soils (including pH, salinity, particle size analysis, nutrients, organic matter);
- Identification of whether the soils contain any potential contaminants;
- The topography and stability of the site;
- The planning history of both sites; and
- Intended use of the receiving site.

Professional expertise will be required to inform the analysis.

Evidence of this analysis should be included with any planning application, which includes proposals to import soils or remove soils for use elsewhere.

3.4 Soil handling & transfer

Careful handling is required to retain the quality of the soil. The following guiding principles should be taken into account:

- ❖ plant movements and haul distances should be minimised;
- ❖ double handling should be avoided;
- ❖ reuse should occur as soon as possible after excavation where practicable;
- ❖ soils should be moved when weather conditions are dry to avoid compaction;
- ❖ Extra care should be taken when handling peat material.

A soil management plan (including various maps) can assist in managing the movement of soils. It could include:

- ❖ Areas and types of soil to be removed
- ❖ Methods of removal
- ❖ Haul routes to minimise distance transported
- ❖ How stockpiles will be separated and identified
- ❖ Schedule of volumes for each stockpile

- The creation of a record keeping system to store written documentation that tracks each incoming load of excess soil and maps its destination

- How erosion and run-off will be controlled to prevent impacts to drainage and sediment discharge to nearby nearby watercourse or stormwater systems, and to ensure materials remain where placed

- A soil placement/segregation protocol sufficient to identify where excess soil has been placed

3.5 Soil storage

When storing soil, it is important to identify risks and how they will be managed. Soil storage proposals should be included in the soil management plan noted above. Key activities to ensure soils are protected include:

- Avoiding covering soils with impermeable materials;

- Avoiding spillages which run off into soil stockpiles;

- Avoiding over-compaction of soil through the use of heavy machinery or by storing things on top of it;

- Not mixing soil with waste or mixing topsoil with subsoil.

Good practice includes:

- Storing soil in an area of the site where it can be left undisturbed by site operations;

- Clearing any vegetation and waste from ground to be used for storing topsoil;

- Stripping topsoil from any land to be used for storing subsoil;

- Locating stockpiles away from watercourses;

- Seeding with grass to help avoid erosion if the stockpile will be in situ longer than a few weeks; and

- Regrading stockpiles to a smooth gradient to reduce water infiltration

3.6 EIA/SEA process

Two of the main instruments used by the planning system to identify whether a proposal is likely to have significant environmental effects on soil are Environmental Impact Assessments (EIA) and Strategic Environmental Assessments (SEA).

In both types of assessment, the likely impacts on soils are a consideration. The Scottish Environmental Protection Agency (SEPA) and NatureScot have guidance on the consideration of soils in Strategic Environmental Assessment which can be accessedhere:

https://www.sepa.org.uk/media/162986/lups-sea-gu2-consideration-of-soil-in-sea.pdf

https://www.nature.scot/professional-advice/planning-and-development/environmental-assessment/strategic-environmental-assessment

4.0 Sewage sludge

4.1 What is sewage sludge?

'Sewage sludge' is defined for the purposes of this non-statutory guidance document, as a residual waste, an organic by-product from sewage plants and the domestic and/or urban waste-water treatment process. For clarity, sludge is not untreated faecal matter, nor is it industrial waste. Sludge is considered to be a non-hazardous waste product, which if appropriately managed, stored and spread, does not present a risk to human health or indeed the natural environment. Conversely, sewage sludge can have many environmental benefits.

This by-product is useful in agriculture as well as land reclamation. Sewage sludge is produced on a daily basis by Scottish Water (20%) and Public Finance Initiative (PFI) contractors (80%) through sewage treatment works from sewage treatment centres throughout Scotland.

Sewage water is separated into liquid and solid during the sewage treatment process and the solid material is known as sludge.

4.2 The benefits of using sewage sludge

There are various benefits to using sewage sludge, in restoration projects for example, as it has a number of valuable properties, as outlined by the **Scottish Government (2016)**, it is:

- An alternative soil-building material which is readily accessible
- Nutrient rich, containing value trace elements essential to plant and animal growth (e.g. nitrogen, phosphate, potash, magnesium and sulphur)
- A sustainable alternative to manufactured and inorganic fertilisers
- A fertiliser as it is high is phosphates
- A source of slow-release nitrogen which can help with the restoration of land
- It can be used as a substitute for peat for land reclamation projects, by way of adding organic matter, reducing potentially detrimental impacts on peat by alleviating the requirement to remove peat from landscapes.

As long as sludge is well managed, the use of sewage sludge allows recycling that is safe and environmentally beneficial and promotes a circular economy.

4.3 The use of sewage sludge in restoration

The appropriate use of sewage sludge as a method of site restoration is supported by the Council through the application of Policy MIN ENV4 of the Minerals Local Development Plan 2020, in specific circumstances, where it is used correctly. Whilst the Planning Authority recognise the potential value in the use of sewage sludge to supplement restoration, it is important to outline that the Council consider this to be an *additional* method for operators to utilise for site restoration. It should supplement other available methods; not form the ***only*** method.

Policy MIN ENV4: Sewage Sludge

The Minerals Local Development Plan supports the responsible use of sewage sludge where it can be conclusively shown to the Council that its use:

(i) Meets all of the requirements of this and any other relevant policy of the Minerals LDP;

(ii) During the operational and post operational and monitoring phases of work, meets the requirements of SEPA and;

(iii) Positively contributes to the achievement of specific objectives detailed within an approved restoration plan.

In all cases the use of sewage sludge will be an additional method of site restoration, supplementing other available soils, rather than an alternative method.

The operator/applicant should provide appropriate information on the details of any temporary storage of sewage sludge (location, method, infrastructure required etc), how it will be transported to site and proposed routes and vehicle movements, the method and phases of spreading, the quantity of sludge to be used in proportion to the use of other soils on site and the type of sludge to be used. Any storage of sewage sludge on site should be located away from sensitive receptors and the planning authority will consider the need for a buffer zone dependent on the specific characteristics of individual sites.

4.4 Information to assist the determination of a planning application

In order to meet the provisions of policy MIN ENV4, should developers propose to use sewage sludge as part of their site restoration proposals, information will be required to support it. Supporting information should include:

- A restoration plan, which clearly demonstrates how sewage sludge will be used within the context of the wider site restoration;

- A statement explaining why sewage sludge is required in terms of the composition and quality of the soil on site and the benefits that importing sewage sludge will have for the restoration and future use of the site;

- Details of how it will be transported to site and proposed routes and vehicle movements. This will require to be agreed with the Ayrshire Roads Alliance; and

- A method statement outlining:
  - The type of sludge to be used
  - The quantity of sludge to be used, including as a proportion of overall a soil on site
  - how the material will be spread
  - detail of how the works will be phased
  - measures to mitigate against potential impacts on existing soils that may arise through handling and machinery movements.
  - proposals for any temporary on-site storage of sludge, in advance of it being utilised on site. This should include the location of storage, method of storage and any infrastructure requirements.

Sludge may contain potentially toxic elements (PTE) which are safe if they are below set limits. Before using sludge, operators/applicants must know the levels of PTE within the sludge and the site in question and also be aware of what, if anything, has recently been spread on the soil.

4.5 The Role of Scottish Environmental Protection Agency (SEPA)

Separate from the planning process, all proposals to spread sewage sludge must be supported by a licence from SEPA under the Waste Water Management Licensing (Scotland) Regulations (2011) For further detail, applicants/operators should reference SEPA's Technical Guidance Note: Paragraph 8(2) Exemption; The storage and spreading of Sludge on non-agricultural land. In addition to obtaining planning consent, it is the responsibility of the applicant to ensure they have met with all the requirements of SEPA before importing sewage sludge onto their site.

SEPA has also contributed to research into how sewage sludge have been utilised to meet restoration achievements for former opencast coal mines, which applicants should refer to for best practice examples.

Glossary of terms

Bog	➔	A wetland that accumulates peat, a deposit of dead plant material

Blanket bog	➔	Bogs developed over large areas of ground hollows or undulating ground, where rainfall is high and evapotranspiration is low.
Carbon calculator	➔	A tool to calculate the carbon impact of a development
Ecosystems services	➔	The benefits people obtain from ecosystems; these include provisioning services such as food, water, timber and fibre; regulating services that affect climate, floods, disease, waste and water quality; cultural services with recreational, aesthetic, and spiritual benefits; and supporting services such as soil formation, photosynthesis and nutrient cycling.
Raised bog	➔	Dome-shaped bogs that have developed over former loch or lake basins.
Sensitive receptor	➔	Aspect of the environment likely to be significantly affected by a development, which may include for example, population, fauna, flora, soil, water, air, climatic factors, material assets, landscape and the interrelationship between these factors.

Links

Carbon calculators

https://informatics.sepa.org.uk/CarbonCalculator/index.jsp

https://www.gov.scot/publications/calculating-carbon-savings-wind-farms-scottish-peat-lands-new-approach/pages/6/

Scottish Soil Framework

https://www.gov.scot/binaries/content/documents/govscot/publications/advice-and-guidance/2009/05/scottish-soil-framework/documents/0081576-pdf/0081576-pdf/govscot%3Adocument/0081576.pdf

Soil Maps

https://soils.environment.gov.scot/maps/soil-maps/national-soil-map-of-scotland/

https://soils.environment.gov.scot/maps/risk-maps/

https://soils.environment.gov.scot/maps/soil-maps/soil-map-of-scotland-partial-cover/

Consideration of soils in the SEA process (SEPA)

https://www.sepa.org.uk/media/162986/lups-sea-gu2-consideration-of-soil-in-sea.pdf