# ‘SHADOW’ HABITATS REGULATION ASSESSMENT

## Report to Inform Habitat Regulations (1) Screening Assessment – Consideration of Potential Effects

**Ford Castle Residential Adventure and Activity Centre**

Prepared for: PGL Travel Limited

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# 1.0 Introduction

In November 2021, SLR Consulting Limited ('SLR') was commissioned by PGL Travel Limited (PGL) to provide a report to inform the Screening Stage (1) of a Habitats Regulation Assessment (HRA) in respect of development activities which are proposed at Ford Castle near Berwick-upon-Tweed, Northumberland (National Grid Reference: NT 94446 37543) and hereafter termed the "site".

PGL are proposing to take over the operation of the site as an outdoor adventure centre for children for which planning permission and listed building consent will be required. The site was run as such by previous operators, including Northumberland County Council, since 1956 before closing in 2020.

The site which PGL would operate principally comprises of the main castle itself and a separate activity field to the north-east. Other parts of the Castle such as the walled garden to the south of the activity field are currently excluded.

The site comprises of two planning application boundaries; the Castle and Courtyard itself (see Figure 1) and an activity field situated close by to the north-east and to the north of the walled garden (see Figure 2).

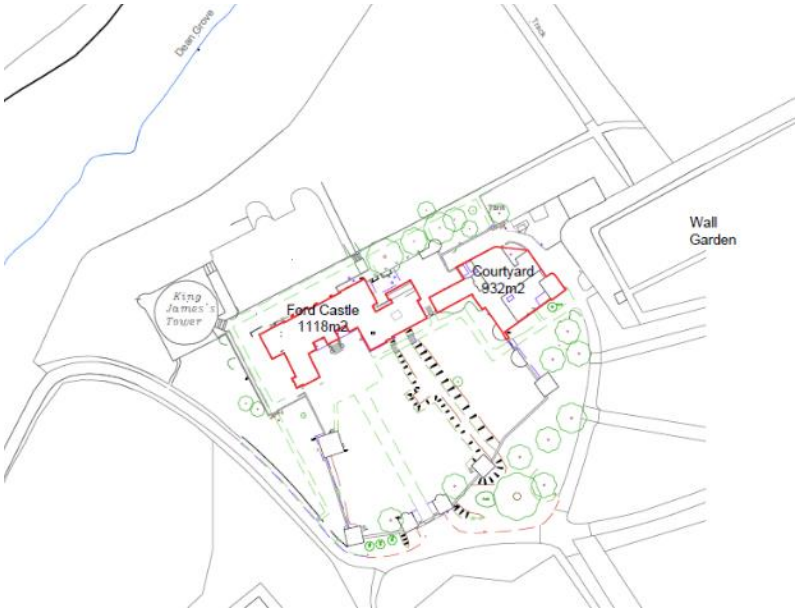


**Figure 1 – Ford Castle Application Boundary.**

## 1.1 General Description of the Site

The site is situated on rising ground to the east of the River Till within a rural area comprising pastureland, forestry, gardens and parkland. The site contains Ford Castle which forms the main focus for a larger estate with estate houses, post office, a school, dairy, forge, church and cottages. To the north is a steeply sloping wooded valley known as Dean Grove with a small stream which runs into the River Till. To the south-west is parkland and to the south is St Michaels and All Angels Church and a walled garden. To the east is a grazed field and public recreation ground and further clusters of buildings including the former stable block.

## 1.2 Brief Project Description

The proposed works comprise the refurbishment and upgrade of existing building facilities at the Castle itself and the siting of activity equipment (zip wire, Aeroballs, linear high ropes, air rifle ranges, challenge course and activity shelters) in an open field (1.47ha) to the north-east, as shown below in Figure 2. At present there are some derelict pieces of activity equipment present within the field.

A new activity pond will be created in this location as part of the proposed works with water level regulated by a combination of local groundwater levels, incident rainfall across the activity pond and run-off from associated hardstanding areas. The spoil arisings from construction will be re-used for the lake bunding.


**Figure 2 – Planning Application Boundary and Proposed Layout of Activity Equipment**

The project would utilise the existing services in respect of sewerage, power and water supply with no changes proposed to any utility services.

The proposed works will be limited to the site boundary. No works are therefore proposed within, above or within 25m of the banks of Dean Grove.

## 1.3 Purpose of the Report

This report provides supporting information to assist the Competent Authority (Northumberland County Council) to undertake the first (screening) stage of a Habitats Regulations Assessment (HRA), which principally aims to establish the potential for Likely Significant Effects on National Network Sites (formerly European designated sites e.g. Special Conservation Areas and Special Areas of Protection) to arise in respect of the development activities which are proposed (alone or in-combination) and to "sign post" any follow-on stages of assessment, as required.

This report does not constitute a 'screening assessment' and it is incumbent upon the Competent Authority to carry out the test for Likely Significant Effects as required under Article 6(3) of the Habitats Directive. The Competent Authority must undertake their own assessment and provide a decision to the project proponent.

This report provides site-specific details in respect of the proposed development and potential effects on the relevant National Network Sites that are present within a 2km radius of the Site. This distance is considered appropriate due to the localised nature of the proposed development and as it does not involve any emissions / discharges to air or new discharges to water.

No Ramsar sites are present within a 10km radius.

## 1.4 Objectives of Appropriate Assessment

The Habitats Directive promotes a hierarchy of avoidance, mitigation and compensatory measures to be addressed in the Appropriate Assessment (AA) process[1] as follows:

- Firstly, a plan / project should aim to avoid any negative impacts on National Network Sites by identifying possible impacts early and designing the project / plan to avoid such impacts;
- Secondly, mitigation measures should be applied during the AA process (after screening stage) to the point where no adverse impacts on the site(s) remain; and
- Thirdly a plan / project may have to undergo an assessment of alternative solutions. Under this stage of the assessment, compensatory measures are required for any remaining adverse effects, but they are permitted only if (a) there are no alternative solutions and (b) the plan / project is required for imperative reasons of overriding public interest (the 'IROPI test'). European case law highlights that consideration must be given to alternatives outside the plan / project boundary area in carrying out the IROPI test.

## 1.5 Evidence of Technical Competence and Experience

Mr Andy Law, a Principal Ecologist with SLR prepared this report to inform Habitats Regulation Assessment screening. Andy holds a BSc in Ecology from University of Worcester. He is a Chartered Ecologist and a Full member of the Chartered Institute of Ecology and Environmental Management with nearly 30 years' experience in ecological assessment.

Mr Martin Baines, a Technical Director within SLR's Hydrology & Hydrogeology Team, holds a BSc in Environmental Engineering and has over 20 years experience within the water sector. Martin's particular area of expertise includes undertaking Hydrology and hydrogeology impact assessment and preparing Construction Environmental Management Plans and is often the technical lead on Environmental Impact Assessments.

[1] Scott Wilson and Levett-Therivel, (2006). *Appropriate Assessment of Plans.* Scott Wilson, Levett-Therivel Sustainability Consultants, Treweek Environmental Consultants and Land Use Consultants.

# 2.0 Relevant Legislation and Planning Policy

## 2.1 European Nature Directives (Habitats and Birds)

The Habitats Directive (Council Directive 92/43/EEC on the Conservation of Natural Habitats and of Wild Fauna and Flora) forms the basis for the designation of Special Areas of Conservation. Similarly, Special Protection Areas are classified under the Birds Directive (Council Directive 2009/147/EEC on the Conservation of Wild Birds). Collectively, Special Areas of Conservation (SAC) and Special Protection Areas (SPA) are referred to as the Natura 2000 network. In general terms, they are considered to be of exceptional importance for rare, endangered or vulnerable habitats and species within the European Community. The sites designated for nature conservation under the Habitats and Birds Directives may be referred to as 'Natura 2000 sites' or 'European sites',

Under Article 6(3) of the Habitats Directive an Appropriate Assessment must be undertaken for any plan or project that is likely to have a significant effect on the conservation objectives of a Natura 2000 site. An Appropriate Assessment is an evaluation of the potential impacts of a plan or project on the conservation objectives of a Natura 2000 site, and the development, where necessary, of mitigation or avoidance measures to preclude negative effects.

Article 6, paragraph 3 of the EC Habitats Directive 92/43/EEC ('the Habitats Directive') states that:

> "*Any plan or project not directly connected with or necessary to the management of the site but likely to have a significant effect thereon, either individually or in combination with other plans or projects, shall be subject to appropriate assessment of its implications for the site in view of the site's conservation objectives. In the light of the conclusions of the assessment of the implications for the site and subject to the provisions of paragraph 4, the competent national authorities shall agree to the plan or project only after having ascertained that it will not adversely affect the integrity of the site concerned and, if appropriate, after having obtained the opinion of the general public".*

## 2.2 Conservation of Habitats and Species Regulations 2017 (as amended)

The Conservation of Habitats and Species Regulations 2017 (the Habitats Regulations) consolidate the Conservation of Habitats and Species Regulations 2010 with subsequent amendments. The Regulations transpose Council Directive 92/43/EEC, on the conservation of natural habitats and of wild fauna and flora (EC Habitats Directive), into national law and under this legislation a '*Habitats Regulations Assessment*' is required where a likely significant effect on the European site is predicted.

The main changes to the 2017 Regulations arising from the exit of the UK from the European Union are:

- the creation of a national site network within the UK territory comprising the protected sites already designated under the Nature Directives, and any further sites designated under these Regulations;
- the establishment of management objectives for the national site network (the 'network objectives');
- a duty for appropriate authorities to manage and where necessary adapt the national site network as a whole to achieve the network objectives;
- an amended process for the designation of Special Areas of Conservation (SACs);
- arrangements for reporting on the implementation of the Regulations, given that the UK no longer provides reports to the European Commission;
- arrangements replacing the European Commission's functions with regard to the imperative reasons of overriding public interest (IROPI) test where a plan or project affects a priority habitat or species; and
- arrangements for amending the schedules to the Regulations and the annexes to the Nature Directives that apply to the UK.

The 2017 Regulations (Regulation 9(1)), as amended by the 2019 Regulations, require the Secretary of State and Welsh Ministers to secure compliance with the requirements of the Nature Directives. Any new powers in the 2019 Regulations must be exercised in line with the Directives and retained EU case law up to 1 January 2021.

# 3.0 Assessment Methodology

## 3.1 Scope

The scope of this report considers the potential effects on National Network Sites arising from the proposed development. The scope at the screening stages excludes the consideration of any mitigation measures with the purpose of avoiding or minimising risk to a Ramsar and / or European site(s). These mitigation measures need to be considered at the Appropriate Assessment stage.

Good practice construction methods will be employed on site to ensure control of site activities in relation to local environmental receptors. The inclusion of these measures is considered to be embedded design rather than mitigation.

## 3.2 Desk Study

A desk study was carried out to collate information available on National Network Sites within the potential zone of influence. The Site and the surrounding area were viewed using satellite imagery[2].

The MAGIC[3] and Joint Nature Conservancy Committee (JNCC) websites[4] were accessed for information on the Ramsar and National Network Sites, and aerial imagery was used to understand the context of the application site(s) within the wider landscape and the potential for connectivity (impact pathways) to National Network Sites.

## 3.3 Zone of Influence (ZOI)

The '*zone of influence*' for a project is the area over which ecological features may be affected by biophysical changes as a result of the proposed project and associated activities. This is likely to extend beyond the project site, for example where there are ecological or hydrological links beyond the site boundaries. The zone of influence will vary for different ecological features depending on their sensitivity to an environmental change (CIEEM, 2018).

A 2km zone of influence has been used for the purpose of identifying National Network Sites that may need consideration for this proposed development.

## 3.4 Potential impacts

The potential impacts and effects on National Network Sites are identified by considering the nature and scale of the development, the location relative to the National Network Sites and any ecological connectivity[5] to the development site.

## 3.5 HRA Screening Report

The approach to preparing the report to inform the HRA screening is staged and is summarised below:

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2 environment/nature/ecosystems/docs/adaptation_fragmentation_guidelines.pdf" http://ec.europa.eu/environment/nature/ecosystems/docs/adaptation_fragmentation_guidelines.pdf

3 MAGIC. Available from https://magic.defra.gov.uk/

4 JNCC. Available from http://jncc.defra.gov.uk/

5 Structural connectivity is equal to habitat continuity and is measured by analysing landscape structure, independent of any attributes of organisms. This definition is often used in the context of metapopulation ecology. Functional connectivity is the response of the organism to the landscape elements other than its habitats (i.e. the non-habitat matrix). This definition is often used in the context of landscape ecology. (Kettunen *et al*. 2007) http://ec.europa.eu/environment/nature/ecosystems/docs/adaptation_fragmentation_guidelines.pdf

1. A first check to establish if the whole proposal is for the conservation management of the habitats or species for which the European site(s) has been designated; if not, then the following stages are required at screening;
2. Consideration of conservation and non-conservation management that could negatively affect a different feature or a different National Network Site. If so, then the following stages are required at screening;

a. Identification of the potential zone of influence of the project and the relevant National Network Sites within that zone;

b. Identification of the features of interest of the relevant National Network Sites and a review of their conservation objectives;

c. Review whether there is potential for the features of interest to be affected by the project based on information such as the vulnerabilities of the National Network Sites, proximity to the Site and the nature and scale of the works associated with the project;

d. Consider the likelihood of the identified potential impacts and effects occurring based on the information collated and professional judgement;

e. Consider the likelihood of cumulative effects arising from the project in-combination with other plans and projects;

f. Identify the likelihood of significant effects on National Network Sites occurring because of the project; and

g. Recommendations in respect of the next stage (Appropriate Assessment).

A significant effect is defined in paragraph 49 of the Waddenzee Case C-127/02 as follows "….. *pursuant to the first sentence of Article 6(3) of the Habitats Directive,* ***where a plan or project not directly connected with or necessary to the management of a site is likely to undermine the site's conservation objectives, it must be considered likely to have a significant effect on that site****. The assessment of that risk must be made in the light inter alia of the characteristics and specific environmental conditions of the site concerned by such a plan or project."* [Emphasis added]

# 4.0 Description of the Development

## 4.1 Consideration of Integral Design Features of Relevance to the Screening Decision

The proposed development comprises of the use of existing residential facilities in the Castle as an outdoor activity centre. The facilities will require upgrading in places, however, these are internal alterations and mainly involve improvements to plumbing and the layout of certain rooms etc.

It is proposed that outdoor activity equipment will be installed within an open grassland field to the north-east of the Castle itself. The field was previously used for this purpose, however, the equipment needs to be replaced and up-graded to meet the modern safety and operating requirements of the centre and the range of activities which are offered.

It is proposed that a small activity pond is constructed within a central location in the field (see Figure 2). This would measure c.30m x 40m and enable "wet" activities to take place. The location of the activity pond has been designed to avoid the root protection zones of adjacent trees. The spoil which arises from construction would be spread out in the adjacent field avoiding the root systems of any trees. Water levels in the activity pond would be regulated by local groundwater levels, incident rainfall across the activity pond and run-off from immediately surrounding land.

With reference to Section 4.2.5 of the Flood Risk Assessment (FRA) prepared by SLR in support of the Planning Application for the proposed development (SLR ref. 406.06654.00010 dated December 2021), Ford Castle and the wider estate is served by private drainage networks to manage surface water and foul flows.

No changes to the existing surface water drainage network serving the site is proposed. Roof drainage and drainage of hardstanding areas around the castle building will continue to be managed by the existing drainage network, with no change to current hydrological regimes. The existing surface water drainage network will be retained without any modifications.

It is understood that the castle is served by its own package treatment plant to treat foul flow from the castle and associated buildings and Ford village to the south east is also served by a small package treatment plant local to the site. Foul drainage from the site will continue to be managed by the existing drainage network and treatment plant, with no change to current regimes. The existing foul drainage arrangement will be retained without any modifications.

With reference to Section 5.5 of the FRA, surface water runoff resulting from the proposed development of the activity field will either:

- be minimal and will be allowed to drain onto the adjacent ground and there should be no net change in runoff rates;
- not require any formal drainage arrangements as any rainfall will runoff directly into the new activity pond feature; or
- be intercepted and attenuated within swales before infiltrating to ground.

Design of the activity field will include the management of surface water runoff some proposed structures (activity shelters, rifle range roofs, etc). There will be no change to hydrological regimes locally and no significant change in runoff to Dean Grove to the north of the activity field.

# 5.0 Habitats Regulation Assessment – Screening Stage

This section of the report identifies and provides information on National Network Sites within the potential zone of influence and sets out the potential impacts and the likelihood of significant effects.

## 5.1 Is the Plan or Project directly connected with or necessary for the conservation management of a European site(s) ?

The proposed development (plan or project) is not directly connected with or necessary for the conservation management of a National Network Site.

## 5.2 What is the risk of a significant effect on a European site(s) on its own or in combination with other proposals?

### 5.2.1 Identification of National Network Sites

In order to answer this question, the first step is to identify the potential spatial/geographical zone of influence of the project; then identify those National Network Sites within the zone; and finally consider, based on the reasons for their designation, those which have the potential to be affected by the project or in-combination with other projects.

It is important to consider the distances that some species may travel and that they often travel well beyond the boundary of designated sites.

For the purpose of this project a 2km buffer around a central grid reference point has been used on a precautionary basis as the potential ZOI (see Figure 3).

The National Network Sites identified as being within the potential zone of influence of the proposed development are described below.

### 5.2.2 Description of the National Network Sites

There is one National Network Site, the River Tweed SAC, situated within 2km of a central grid reference point (see Figure 3).

The River Tweed National Network Site is described in Table 5-1 below. The description of the site has been prepared and summarised using the supporting information available on the JNCC website.

Ford Moss SSSI and SAC, a lowland raised bog, is present 1.86km to the east of the closest part of the site, however, due to a central grid reference being used for the search this fell outside of the 2km radius. There are no potential impact pathways to Ford Moss due to the considerable separation distance which exists and as such this site is not considered further.

**Table 5-1-Summary of Internationally Designated Sites**

| Designated site | Site identification Code | Summary Description | Distance |
|---|---|---|---|
| River Tweed National Network Site (formerly Special Area of Conservation) | 0012691 | The SSSI/SAC is designated because the river has high ecological diversity and because it supports important populations of salmon and otter and also sea, brook and river lamprey. | 470m west |

Figure 3 shows the location of the River Tweed National Network Site in relation to the site.

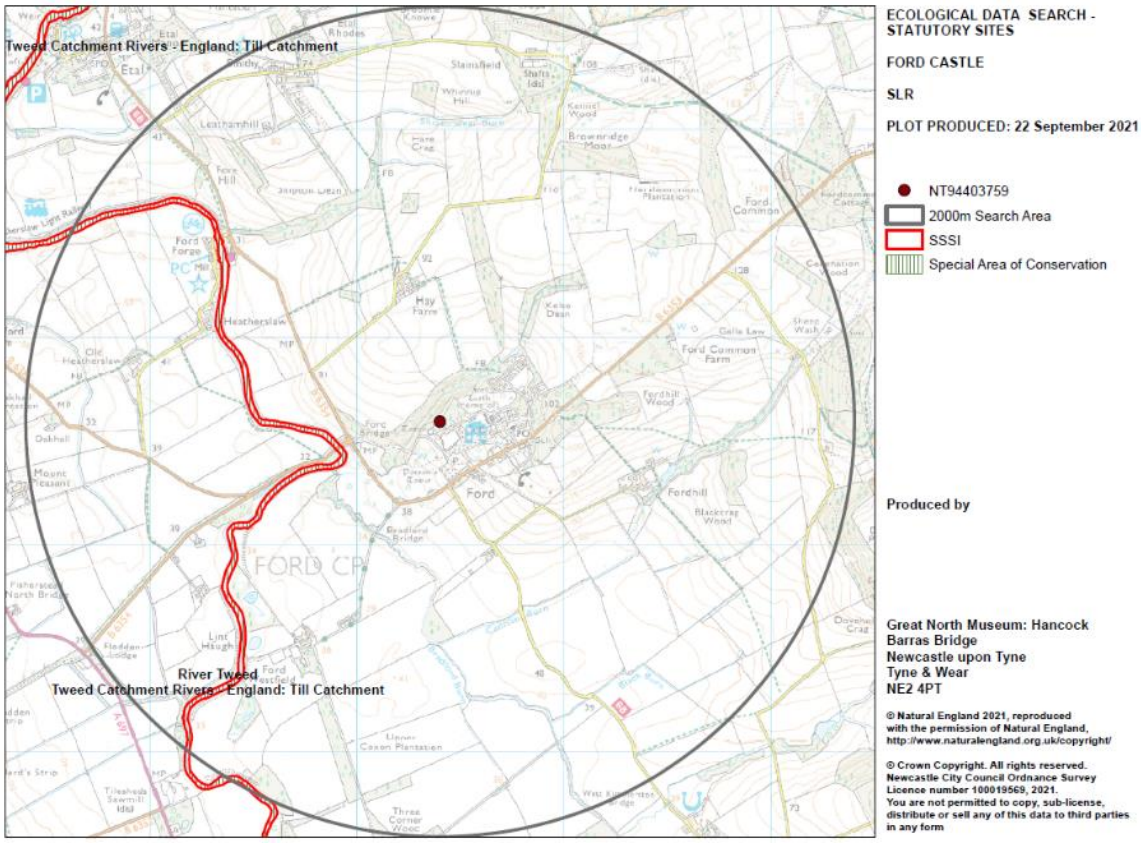


**Figure 3 – National Network Sites within 2km of a Central Grid Reference.**

Further details on the qualifying features and the conservation objectives of the River Tweed National Network Site are detailed below.

## River Tweed National Network Site (formerly SAC)

The river supports the following Annex I habitats that are a primary reason for selection of this site:-

- **3260 Watercourses of plain to montane levels with the Ranunculion fluitantis and Callitricho-Batrachion vegetation**

  The Tweed represents sub-type 2 in the north-eastern part of its range. It is the most species-rich example, by far, of a river with *Ranunculus* in Scotland, and is the only site selected for this habitat in Scotland. The river has a high ecological diversity which reflects the mixed geology of the catchment. Stream water-crowfoot *Ranunculus penicillatus* ssp. *pseudofluitans*, a species of southern rivers and streams, here occurs at its most northerly location as does fan-leaved water-crowfoot *R. circinatus*, along with river water-crowfoot *R. fluitans*, common water-crowfoot *R. aquatilis*, pond water-crowfoot *R. peltatus* and a range of hybrids. The Tweed is also the most northerly site for flowering-rush *Butomus umbellatus*.

Annex II species that are a primary reason for selection of this site:-

- **1106 Atlantic salmon** *Salmo salar*
  The River Tweed supports a very large, high-quality **salmon *Salmo salar*** population in a river which drains a large catchment on the east coast of the UK, with sub-catchments in both Scotland and England. The Tweed is the best example in Britain of a large river showing a strong nutrient gradient along its length, with oligotrophic conditions in its headwaters, and nutrient-rich lowland conditions just before it enters the sea at Berwick. The high proportion of the River Tweed accessible to salmon, and the variety of habitat conditions in the river, has resulted in the Scottish section of the river supporting the full range of salmon life-history types, with sub-populations of spring, summer salmon and grilse all being present. The extensive system supports a significant proportion of the Scottish salmon resource. In recent years, the salmon catch in the River Tweed is the highest in Scotland, with up to 15% of all salmon caught. Considerable work has been done by the Scottish Environment Protection Agency (and previously the Tweed River Purification Board) and the River Tweed Foundation in tackling pollution and easing the passage of salmon past artificial barriers in the river. This has reversed many of the river's historical problems with water quality and access for salmon.

- **1355 Otter** *Lutra lutra*
  This large river system contains extensive water and riparian habitat suitable for **otters *Lutra lutra***. The extensive tributary burns provide good feeding habitat. The area provides extensive suitable habitat for all the necessary aspects of otter's life cycle and the site is a good representative of the south-east lowlands of Scotland and the north-east of England.

- Annex II species present as a qualifying feature, but not a primary reason for site selection

  **1095 Sea lamprey** *Petromyzon marinus*
  **1096 Brook lamprey** *Lampetra planeri*
  **1099 River lamprey** *Lampetra fluviatilis*

In respect of the conservation objectives for the site these have been published by Natural England[6] as has supplementary guidance[7]. These are not reproduced in this report as they are mostly relevant to later stages of a HRA.

## 5.3 Potential Effects on the River Tweed National Network Site

### 5.3.1 Potential Effects

#### Construction

No significant external construction activity is proposed as part of the works to Ford Castle and there will be no modifications to the existing foul and surface water drainage arrangements present at Ford Castle as part of the proposed works. No changes to the volume, rate or quality of drainage from this part of the site is anticipated during the construction phase of works.

[6] http://publications.naturalengland.org.uk/publication/4964678031638528#:~:text=Downloads%20available%20for%20this%20record%20%20%20,Citation%2C%20PDF%2C%2090.7%20KB%20%20%202014%2F07%2F19%20

[7] http://publications.naturalengland.org.uk/publication/4964678031638528#:~:text=Downloads%20available%20for%20this%20record%20%20%20,Citation%2C%20PDF%2C%2090.7%20KB%20%20%202014%2F07%2F19%20

For the proposed works on the activity field, a Construction Environmental Management Plan (CEMP) or Construction Method Statement (CMS) will be prepared and implemented to minimise the risk of pollution through release of silts and sediments from the works associated with the construction of the new activity pond and erection of new activity structures. The document will include (but would not be limited to) the following measures in this regard:

- Excavated material will be placed in such a way as to prevent spillage into water features.
- Use of sediment fences where required, to prevent sediment being washed into watercourses.
- Covers will be used by lorries transporting materials to/ from site to prevent releases of dust/ sediment to watercourses or drains.
- If applicable, storage of stockpiled materials should be on an impermeable surface to prevent leaching of contaminants and covered when not in use to prevent materials being dispersed by wind or rainfall runoff.
- All fuel and chemical storage will comply with relevant storage regulations. Any refuelling of machinery will be undertaken within designated areas where spillages can be easily contained. The following measures will be implemented on site for the storage of materials:
    - All oil and diesel storage facilities would be at least 50m from Dean Grove watercourse;
    - A spill procedure will be documented and spill kits kept in the vicinity of potentially hazardous materials storage areas;
    - Spill kits and drip trays would be provided for all equipment and at locations where any liquids are stored and dispensed;
    - Storage facilities would be provided for solid materials to prevent deterioration of the materials and their escape;
    - Storage facilities would be kept secure to prevent acts of vandalism that could result in leaks or spills; and
    - All containers of any size would be correctly labelled indicating their contents and any hazard warning signs.

Taking due consideration of the embedded design measures detailed above, it is predicted that the impact on water quality from the construction works would be direct and of an intermittent nature and of short duration. Given the scale of development proposals and the setback distance from Dean Grove watercourse, the magnitude of any impact is deemed to be low given the embedded mitigation in place and that any direct pollution from spills would be small. The significance in relation to the downstream National Network Site during the construction phase is considered to be negligible.

### Operation

As discussed at Section 4.1 of this report, there will be no modifications to the existing foul and surface water drainage arrangements present at Ford Castle as part of the proposed works. Additionally, surface water runoff resulting from the proposed development at the activity field will either be captured by the new activity pond or infiltrate to ground.

The proposed works, once complete, will therefore not therefore significantly change the volume, rate or quality of flow to Dean Grove and River Till into which it flows. The significance in relation to the downstream National Network Site during the operation of the site is considered to be negligible.

### 5.3.2 In-Combination Effects

Cumulative effects can result from individually insignificant but collectively significant actions taking place over a period of time or concentrated in a location. Cumulative effects can occur where a proposed development results in individually insignificant effects that, when considered in-combination with effects of other proposed or permitted plans and projects, can result in significant effects (CIEEM, 2018[8]).

The potential for cumulative effects on National Network Sites due to other plans and projects acting in-combination with the proposed amendments must be considered.

No in-combination effects with other plans or projects have been identified.

# 6.0 Future Steps

This report to inform HRA screening, based on available scientific information and project details provided, indicates that the proposed development would not result in an adverse effect on the relevant National Network Site (River Tweed) alone or in combination with other projects.

As such, it is not considered that an Appropriate Assessment is required.

[8] CIEEM (2018) *Guidelines for Ecological Impact Assessment in the UK and Ireland; Terrestrial, Freshwater, Coastal and Marine. Chartered Institute of Ecology and Environmental Management, Winchester.*

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