**Offshore Wind Farms**

**EAST ANGLIA ONE NORTH**
**PINS Ref: EN010077**
**and**
**EAST ANGLIA TWO**
**PINS Ref: EN020078**

**Issue Specific Hearings 14 (ISHs14)**
**Post-hearing submission**
**HABITATS and BIODIVERSITY**

# The case against open trenching of the River Hundred

**by**

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**EA1N – EN010077 / SEAS ID no 2002 4494**
**EA2 – EN010078 / SEAS ID no 2002 4496**

**Summary**

1 Open cut crossing as an unacceptable copy-and-paste procedure

2 The specific impact of damming and open cut crossing on the River Hundred, its ecology and the SSSI

3 River Hundred as a protected environment inadequately assessed by the Applicant

4 Biodiversity net loss

5 Exploration of microtunnelling, examples of its use, and the Applicant's reluctance to use it

6 Conclusions - best practice should be prioritised over cost; if there really is no alternative crossing point then the project should be refused.

SUFFOLK ENERGY ACTION SOLUTIONS

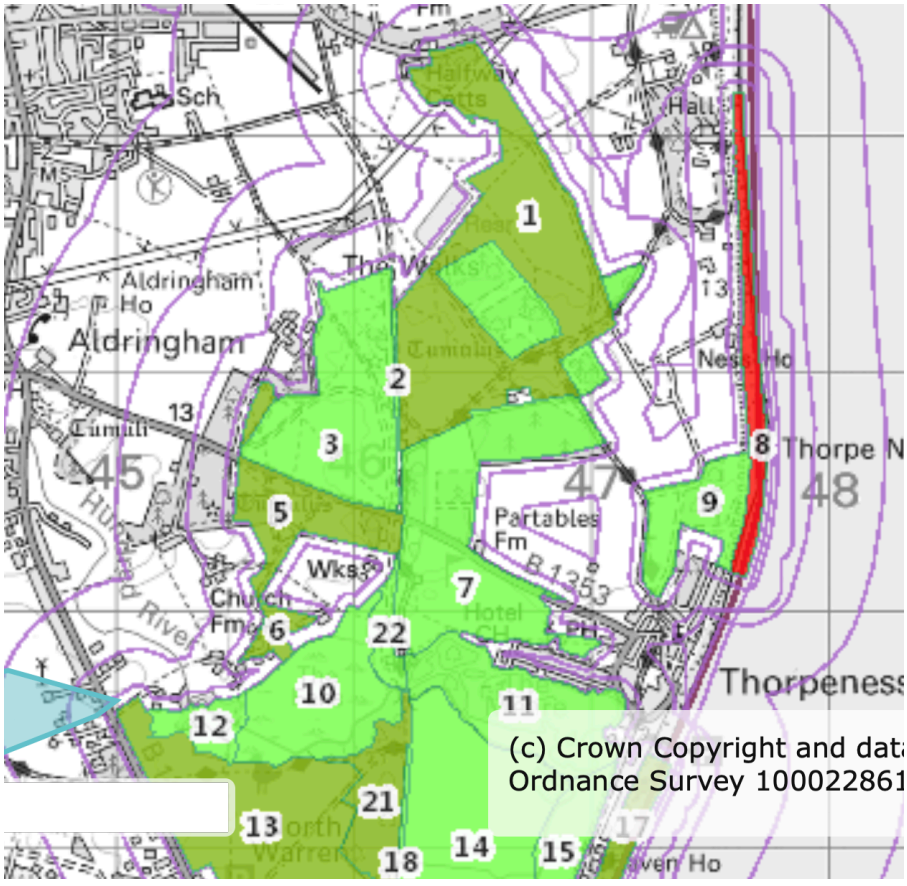
**1.0** The following summary is taken from a failed NSIP application: Yorkshire and Humber CCS Cross Country Pipeline, National Grid Carbon Ltd., June 2014, source: infrastructure.planninginspectorate.gov.uk

> "*1.1 OPEN CUT CROSSINGS*
> *Watercourses – Dry Open Cut*
>
> - *1.1.1 Most minor watercourse/ditch crossings will be carried out using a dry open cut trench methodology. In dry open cut methods water flow is maintained by damming and over pumping or using temporary "flume" pipes installed in the bed of the watercourse."*

**2.0** The technique is the same as that proposed by SPR to cross the River Hundred, which is a minor water course in breadth at the crossing point. This shows that, in proposing a standard, copy-and-paste engineering solution for a ditch, the River Hundred's characteristics have not been properly assessed.

2.1 The River Hundred is a vital river for the area and the SPA.

2.2 The crossing of the River Hundred impacts the Aldeburgh-Leiston SSSI because of its proximity East and West to this statutorily protected area. The map generated by DEFRA below illustrates where and how far these impacts travel, and their intensity.




**Impact Risk Zones (DEFRA)**

Key: Green areas have statutory protection.

Lilac lines show impact dynamics on areas with statutory protection

2.3 To the South East of the proposed crossing is the designated Lapwing Conservation Area, which will also be impacted.

2.4 The flow north to south of the river, and east/west,west/east through its catches, will spread any LSE and AEOI into areas both downstream (the SSSI) and in the broader valley through the water catches and high water table in this area (the protected meadows).

2.5 Flooding mitigation will be removed by the felling of riparian woodland, which is currently protected by mature alder, poplar and willow from bank degradation.

2.6 The protection provided by the shade of the woodland from heating of the water source will be removed and impact the SSSI's extensive wetlands: fen, catches, rush beds and lagoons.

2.7 The role of riparian species of trees in removing pollutants from the water and improving water quality will be lost and cause LSE in the SPA.

2.8 Indicator species in situ (e.g., otter, heron, egret, bat, swift, dragonfly, butterfly, snake) show that the river provides prey, habitat, refuge, hibernation zones, commuting corridors and connectivity corridors for creatures from the SPA. These will be lost.

**3.0** The River as aquatic environment has not been adequately assessed by the Applicant's surveys and its vital contribution to the SSSI has been overlooked.

3.1 In fact there is no evidence that habitat surveys were carried out prior to SPR's original selection of the Aldringham watercourse and road crossing in 2017.

3.2 The Applicant's surveys at EIA and since have failed in that they have not assessed nor properly accounted for the riparian environment here at risk from the development.

3.3 The River Hundred passes through a protected riparian woodland which may also be wet, most likely in the NVC W6 category. Again, a proper survey of this woodland by the Applicant has not been carried out.

It is currently being logged by local volunteer experts.

3.4 The Applicant has not proposed mitigation for the River, nor for the protected meadow on the east bank, nor for the riparian woodland. A marginally narrower pair of trenches is not acceptable mitigation for the sacrifice of the river, meadow and woodland (currently, according to verbal presentations at ISH 14, the trenching is 2 x 34 = 68m, but wider at the river**)**.

**4.0** Open trenching is an unacceptable solution as it will permanently destroy, without mitigation, vital habitats and resources, on both sides of, and including, the River, which are protected. There can be no biodiversity net gain here.

**5.0** The Applicant has been reluctant to consider any form of microtunnelling as they seem to conflate microtunnelling with HDD.

5.1 The Applicant's Outline Method Statement does not provide evidence as to the reasons why a trenchless technique could not be used. Appendix 4 offers general constraints and technical considerations, but does not consider, in comparative or specific terms, alternative, trenchless methods.

5.2 Since the favourable evocation of the success of EA1 has been a common event in these hearings, it is only fair to revisit that project now.

5.3 Volker Trenchless was commissioned by the Applicant to tunnel beneath a large number of roads, watercourses, etc., for East Anglia ONE. Their website mentions only HDD.

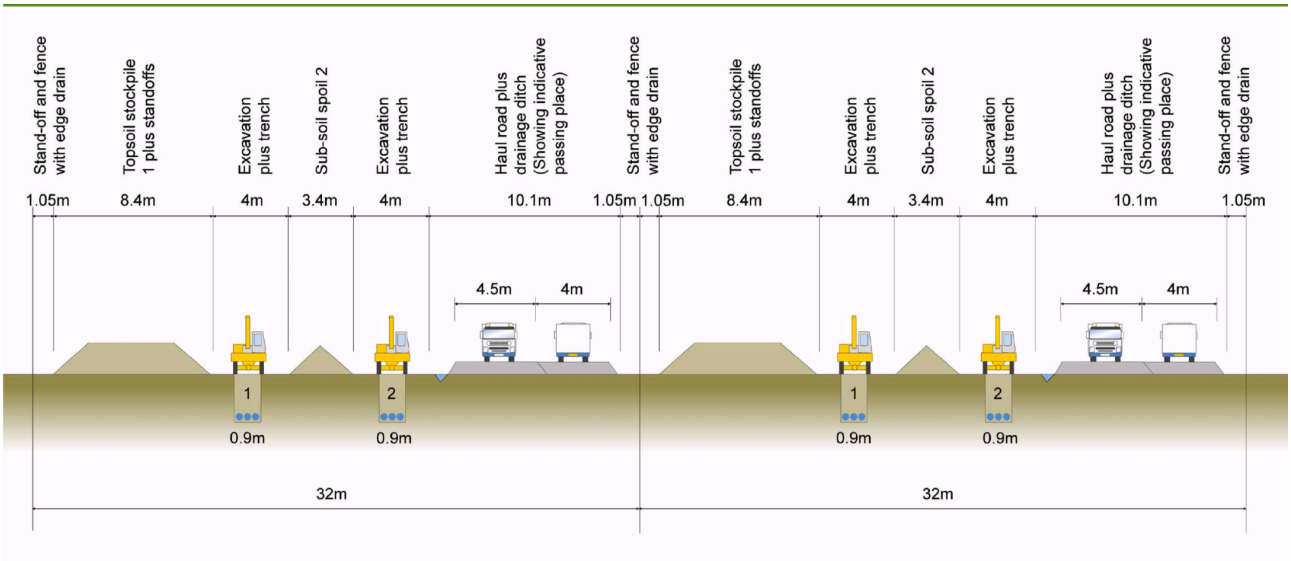
5.4 Paolo Pizzola said tunnelling would require much more land and equipment. HDD does require compounds and spoil heaps at the start of the tunnelling location as well as room for a descent to the desired depth.

5.5 However, SEAS has discussed with a UK microtunnelling enterprise what kit is necessary, in ballpark terms, for the extended crossing required here: to pass beneath meadow, river, woodland and road. We are advised that microtunelling can achieve this.

5.6 The length of underground drilling, launched from a dug pit, can achieve 1000 metres — more than enough to save the river and woodland from sacrifice, and to protect the nursing home and dwellings in Fitches Lane and Gypsy Lane from life-altering impacts.

5.7 Considerable variation exists in the means of flushing or extracting spoil and the form of drill or auger that can be used according to requirements. Bentonite, for instance, is not necessary for flushing; in a protected environment, an inert polymer can be used. No noise or vibration is produced apart from the sound of the generator. The technique is advancing all the time.

5.8 Below is the Applicant's own diagram, showing the considerable impact on the environment through the trenching areas.[1]



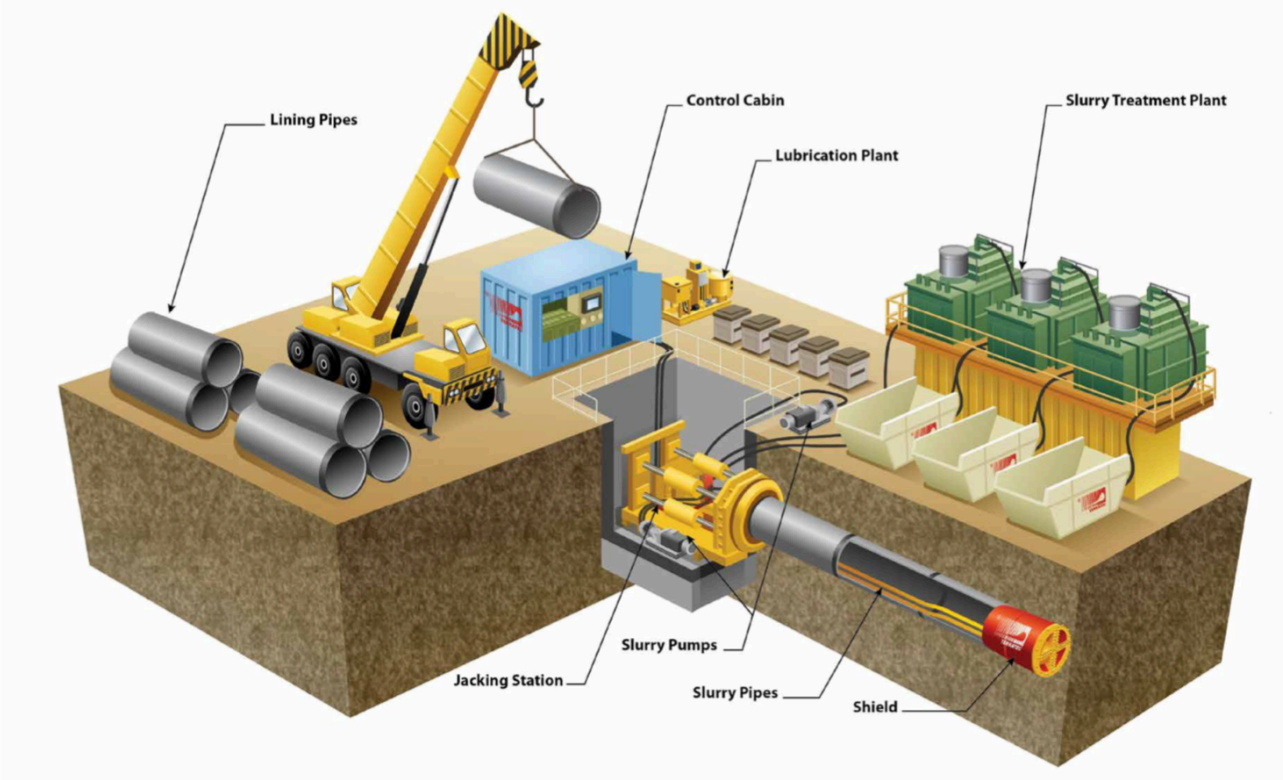

East Anglia TWO and East Anglia ONE North Indicative cable trenching arrangement and working area

[1] APP-038

5.9 In comparison, we offer an illustration of the more modest exploitation of the environment at the beginning of a microtunnelling/pipejacking tunnel. This diagram is illustrative, of course: from the Applicant's own diagram there seems to be a requirement only of around 300cm in diameter per cable.

5.10 Note also that the rest of the works would, of course, be underground, leaving the surface undisturbed for, say, 1km until the next pit.

5.11 It may be that the width of the commencement of drilling might not be wider than the requirements of trenching (though in HDD it would be).




5.12 The engineers who spoke to SEAS said that the technique is slower and more expensive than HDD. We know that cost is a driver in this project (for instance in selecting no ducting for EAN1 cables), and we challenge that priority of the Applicant.

5.13 Microtunnelling could dispense with most noise, dust pollution, light pollution, extensive work teams, haulage, and ecological abuse.

5.14 It has been used to develop the basement of the Royal Albert Hall and to direct sewers under the runways at Heathrow Airport without disruption to either institution's functions.

5.15 Providing the entrance and exit are correctly sited, microtunnelling would save the ecology that is, at present, due to be sacrificed. It will protect local residents and their dwellings from the effects of noise, traffic, vibration and environmental degradation.

**6.** Conclusions

6.1 The ecological surveys for this project are unsafe and leave large, protected areas to be sacrificed.

6.2 The social surveys for this project are unsafe, having been largely deskbound. Microtunnelling would protect the populations most at risk from the crossing, which includes those elderly people living in Aldringham Court nursing home adjacent to the trenching. It will preserve access to school on foot for children in the eastern half of the village, protect the connectivity of the village, and keep open the essential B1122. It will also maintain the health and right to tranquil enjoyment of their property for those dwelling in Fitches Lane and Gypsy Lane.

6.3 Cost has been a significant driver in the project. Cost should not be allowed to negate best practice in a project of such importance and likely profit.

6.5 Historical and previous projects should not be allowed to cloud access to current best practice.

6.6 Local populations are increasingly wary of the reliability of the Applicant's plans.

6.7 SEAS opposes open trenching. If open trenching is all that is available and this crossing point is the only possible means of getting cables to the substation, the project should be refused.