



FIVE ESTUARIES OFFSHORE WIND FARM

10.76 TECHNICAL MEMO ON REVISED ENVIRONMENT AGENCY FLOOD MAPPING

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Technical Memorandum



To: [REDACTED] **From:** [REDACTED]
Company: Five Estuaries Offshore Wind Farm **SLR Consulting Limited**
cc: **Date:** 30 May 2025
Project No. 402.065339.00001

RE: Five Estuaries Offshore Wind Farm
Review of new Environment Agency data

The Environment Agency (EA) recently released updates to data supporting their Long Term Flood Mapping and their Flood Map for Planning services.

The updates to the Risk of Flooding from Rivers and Sea (RoFRS) and the Risk of Flooding from Surface Water (RoFSW) datasets were both released on 28 January 2025¹. The Flood Map for Planning - Flood Zones data², depicting areas at risk of fluvial and/or coastal flooding in the Flood Map for Planning was updated on 25 March 2025.

This technical note reviews the latest data releases against the data used to inform the Flood Risk Assessment (FRA) reports prepared in support of Five Estuaries Offshore Wind Farm (VE). The review compares the respective datasets and assesses the implications with regard to the submitted FRA reports.

Onshore Substation FRA

A separate FRA report was submitted as part of the DCO application process for the onshore substation (OnSS) element of the onshore works for VE. This document is referenced as Volume 5, Report 3.2: Flood Risk Assessment – Onshore Substation, of the Environmental Statement.

Flood Map for Planning

Figure 3-1 of the OnSS FRA details an extract of the EA's Flood Map for Planning at the time of reporting (March 2024). This data reported that:

- The site is classified as having a 'low' probability of fluvial flooding (less than 0.1% AEP) or classified as Flood Zone 1. The EA's mapping demonstrates that the site will remain flood free up to and including the 0.1% AEP event fluvial flooding scenario.
- The site is at significant elevation and distance from the coast or tidal estuaries and is not mapped to be at risk of tidal flooding up to and including the 0.1% AEP tidal scenario.

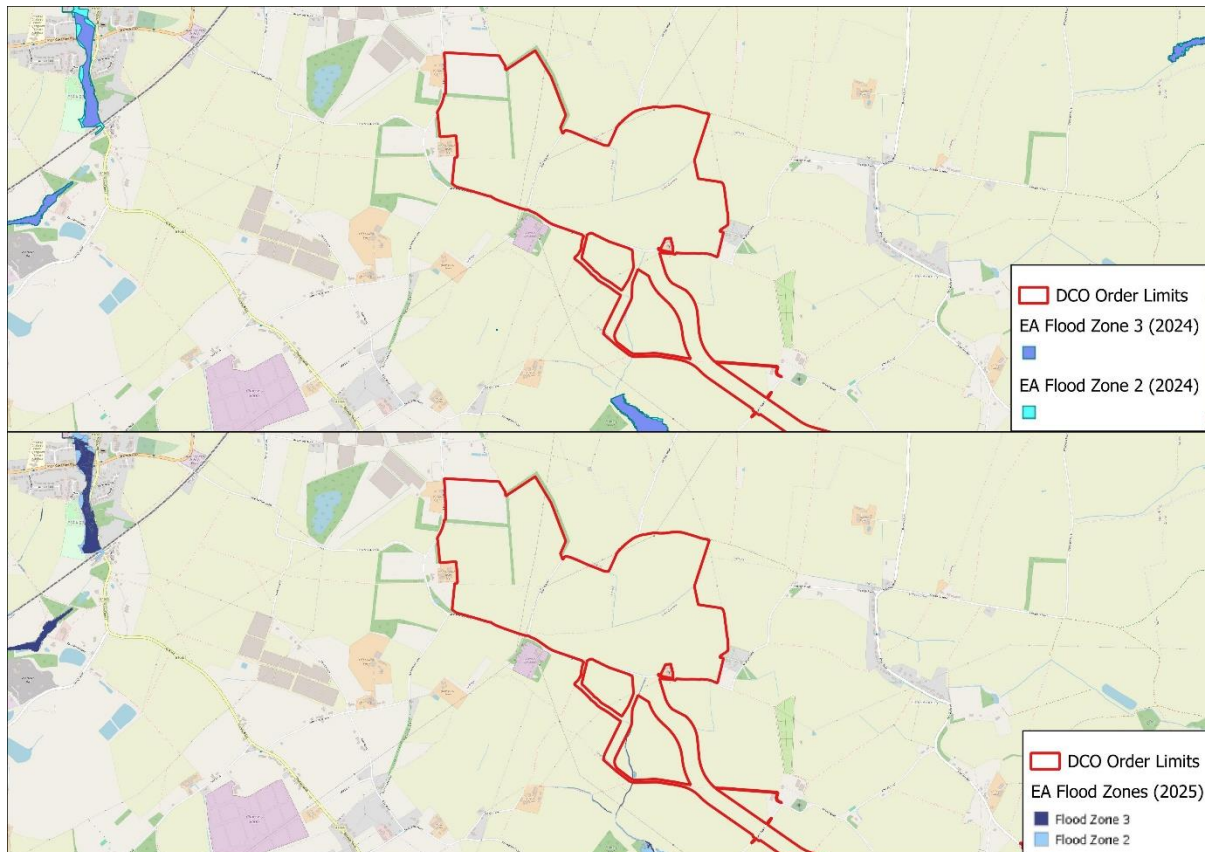
¹ Long Term Flood Risk for Rivers and the Sea, Environment Agency, accessed May 2025, <https://check-long-term-flood-risk.service.gov.uk/risk#>

² Department for Environment Food and Rural Affairs Data Services Platform, accessed May 2025, <https://flood-map-for-planning.service.gov.uk/>



A comparison has been made of the two Flood Map for Planning datasets, extracts of which are shown in Figure 1. The 2025 dataset shows a slight reduction to the extent of flooding on the headwaters of Tenpenny Brook to the south of the OnSS but includes additional mapping of fluvial flood risk along the upper reach of the brook which extends north towards the OnSS, passing beneath the haul road access.

Figure 1: OnSS Flood Map for Planning Data Comparison



The inclusion of Flood Zone 3 and Flood Zone 2 data within the DCO order limits at the OnSS does not affect the assessment undertaken within the FRA with regard to fluvial flood risk. The flood zone in the upper reach of Tenpenny Brook does not extend beyond the immediate mapped channel of the watercourse and there is no associated floodplain. The point at which the haul road crosses the upper reach of Tenpenny Brook is a defined watercourse crossing point and an appropriate crossing will be used to facilitate the construction of the haul road.

The flood extents defined by the RoFRS 2025 dataset does not extend to the DCO order limits at the OnSS location.

Surface Water Flood Risk

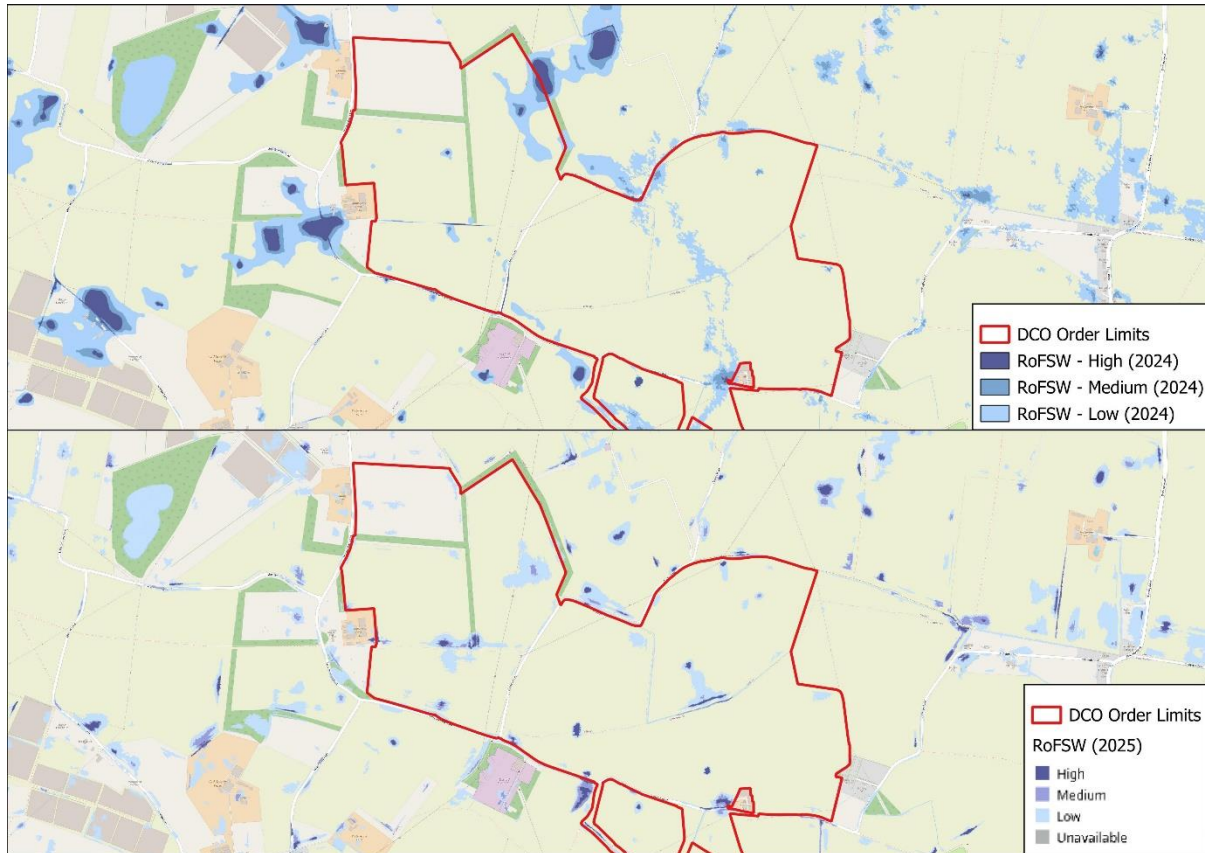
Figure 3-2 of the OnSS FRA details an extract of the EA's RoFSW flood map data at the time of reporting (March 2024). This data reported that:

- Pooling of surface water in the 3.3% AEP 'high' risk scenario generally occurs in topographical depressions. Pooling in the same areas also occur in the 1% AEP 'medium' risk scenario, with a few additional pooling areas occurring. During the 0.1% AEP 'low' risk scenario, pooling develops into an overland flow route travelling south to southeast across the east of the site where OnSS development is proposed.



A comparison has been made of the two RoFSW datasets, extracts of which are shown in Figure 2. In general, the 2025 RoFSW dataset shows a reduction in potential extent of flooding from surface water within and around the DCO order limits. This reduction includes the loss of any potential overland flow routing across the OnSS area. A number of isolated topographical low points in the west of the OnSS area of the DCO order limits show a risk of flooding from surface water in the 2025 dataset that is not mapped in the 2024 dataset.

Figure 2: OnSS Risk of Flooding from Surface Water Data Comparison



The reduction in areas potentially at risk of flooding or from overland flows does not significantly affect the assessment undertaken within the FRA with regard to surface water flood risk. The FRA discusses management of surface water during the construction and operational phase for the OnSS and these principles of management remain the same.

Onshore Export Cable Corridor FRA

A separate FRA report was submitted as part of the DCO application process for the onshore export cable corridor (ECC) element of the onshore works for VE. This document is referenced as Volume 5, Report 3.1: Flood Risk Assessment – Export Cable Corridor, of the Environmental Statement.

Flood Map for Planning

Figure 3-1 of the ECC FRA details an extract of the EA's Flood Map for Planning at the time of reporting (March 2024). This data reported that the following areas within the study area are potentially at risk of inundation:

- The whole coastal reach including Kirby Brook and Holland Haven Marshes;
- Upstream along Holland Brook, past Thorpe le Soken, to Horsley Cross;



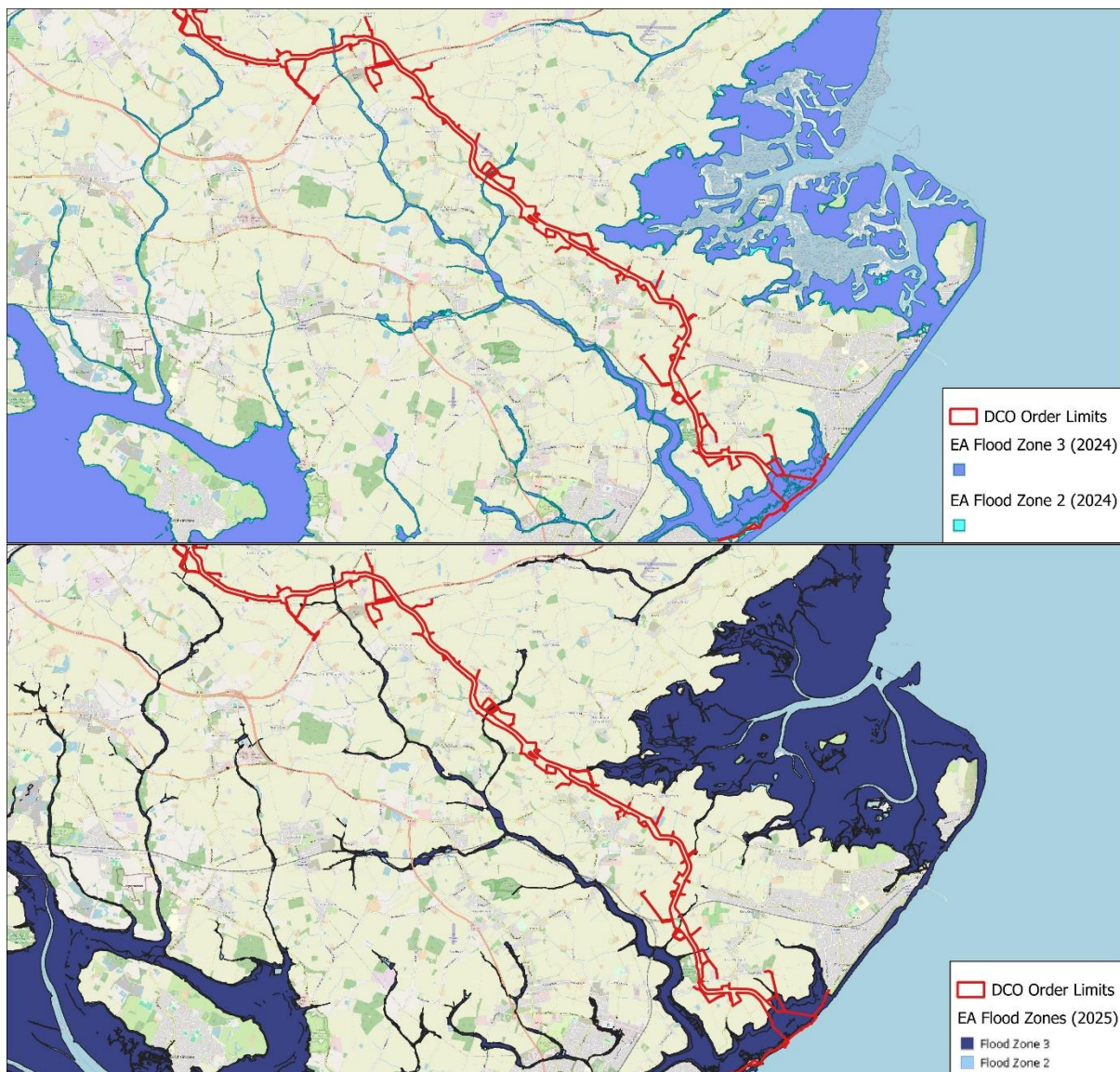
- Tendring Brook, cutting across the ECC corridor;
- The upper reaches of Tenpenny Brook; and,
- The upper reaches of Landermere Creek/ Beaumont Cut.

These areas fall within EA Flood Zone 3 (high probability) of flooding from fluvial or tidal sources.

A comparison has been made of the two Flood Map for Planning datasets, extracts of which are shown in Figure 3. The 2025 dataset shows no change to the extent of potential coastal inundation at Holland Haven Marshes or on the lower reaches of Holland Brook and Kirby Brook. A number of smaller tributaries to mapped Main Rivers appear to have flood zone extents applied in the 2025 dataset that was not present in the 2024 version. However, no fundamental changes to flood zone mapping are evident.

Although not shown in Figure 3 below, it is noted that there is no visible change to the flood extents mapped for Flood Zone 3 and Flood Zone 2 in relation to land within the DCO limits at the LBBG compensation area on Orford Ness.

Figure 3: ECC Flood Map for Planning Data Comparison



Comparison of the new 2025 flood zone dataset against the flood zone data which informed the production of the ECC FRA finds that:

- The flood risk associated to tributaries of Holland Brook which extend across the ECC immediately north of landfall now includes mapping of flood zones along the immediate corridor of these tributaries.
- A new area of flooding is noted on Sneating Hall Lane at the head of a tributary to Hamford Water which intersects with a construction access point within the DCO order limits.
- No significant change to flood zone mapping at the point where Tendring Brook crosses the ECC.
- Slight reduction in the extent of flood zone mapping at the point where the headwaters of Holland Brook cross the ECC.
- A new area of mapped flood zone on a tributary of Holland Brook close to Bentley Road which crosses a construction access track within the DCO limits.

At the points above where the 2025 Flood Zone dataset now extends along smaller tributaries within the DCO order limits, the mapped flood zone at these locations does not extend beyond the immediate mapped channel of the watercourses and there is no associated floodplain. The point at which construction access roads cross watercourses are defined crossing points and an appropriate crossing will be used to facilitate construction at these locations.

Surface Water Flood Risk

Figure 3-2 of the ECC FRA details an extract of the EA's RoFSW flood map data at the time of reporting (March 2024). This data reported that:

- The vast majority of the onshore ECC is at a very low (less than 0.1% AEP) risk of surface water flooding.
- The majority of risk ranging from medium to high (3.3% AEP) appears to be related to the corridor of existing ordinary watercourses draining into Main Rivers, with limited smaller isolated zones of risk, associated with areas of low ground, generally in rural areas.
- Where areas at risk intersect the onshore ECC, the surface water flooding risk is confined along these watercourses and does not appear to affect large areas of the onshore ECC route.

A comparison has been made of the two RoFSW datasets, extracts of which are shown in Figure 4. In general, the 2025 RoFSW dataset shows a reduction in potential extent of flooding from surface water within and around the DCO order limits. This reduction includes the loss of some potential overland flow routes across the ECC area. Where new areas of risk have been introduced in the 2025 dataset, these tend to be isolated topographical low points.



Figure 4: ECC Risk of Flooding from Surface Water Data Comparison

The following key points are noted from the comparison of the new 2025 RoFSW dataset against the RoFSW data which informed the production of the ECC FRA:

- There is a visible reduction in the extent of surface water flood risk at landfall in Holland Haven Marshes and along the coastline and the reach of Holland Brook parallel to the coast.
- A reduction or removal of surface water flood risk at a number of overland flowpaths which cross the ECC are noted at existing drainage ditches, highway drains and roads.
- There is a removal of surface water flood risk at the point where the ECC crosses Tendring Brook and in the headwaters of Holland Brook.
- A small increase in the number of small, isolated points of surface water flood risk within the ECC DCO order limits is noted, which we assume is attributed to the use of more detailed topographic data.

The reduction in areas potentially at risk of flooding or from overland flows does not significantly affect the assessment undertaken within the FRA with regard to surface water



flood risk. The FRA discusses management of surface water during the construction and operational phase for the ECC and these principles of management remain the same.

Conclusions

The release of new flood risk data by the EA in 2025 has been assessed by comparing the datasets used to inform the FRA reporting for VE DCO application against the new data. This assessment finds that there are no significant changes to fluvial, tidal or surface water flood risks highlighted within the new data, and the findings of the FRA reports would not change if these reports were to be updated using the latest EA data.





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