



SCOTTISHPOWER
RENEWABLES

East Anglia ONE North and East Anglia TWO Offshore Windfarms

Flood Risk and Drainage Clarification Note

Applicants: East Anglia ONE North Limited and East Anglia TWO Limited

Document Reference: ExA.AS-13.D8.V1

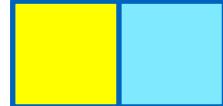
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Applicable to East Anglia ONE North and East Anglia TWO



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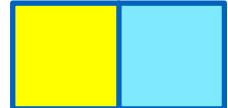
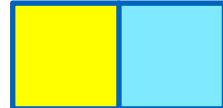


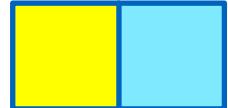
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Glossary of Acronyms

CDA	Critical Drainage Areas
CFDP	Catchment Flood Management Plan
CIRIA	Construction Industry Research and Information Association
DCO	Development Consent Order
EN-1	Overarching National Policy Statement (NPS) for Energy
ES	Environmental Statement
ESC	East Suffolk Council
FRA	Flood Risk Assessment
ISH	Issue Specific Hearing
LRFMS	Local Flood Risk Management Strategy
LLFA	Lead Local Flood Authority
NPS	National Policy Statement
NPPF	National Planning Policy Framework
OCoCP	Outline Code of Construction Practice
OODMP	Outline Operational Drainage Management Plan
PPG	Planning Practice Guidance
SCC	Suffolk County Council
SFRA	Strategic Flood Risk Assessment
SoCG	Statement of Common Ground
SuDS	Sustainable Drainage System



Glossary of Terminology

Applicants	East Anglia TWO Limited and East Anglia ONE North Limited
East Anglia ONE North project	The proposed project consisting of up to 67 wind turbines, up to four offshore electrical platforms, up to one construction, operation and maintenance platform, inter-array cables, platform link cables, up to one operational meteorological mast, up to two offshore export cables, fibre optic cables, landfall infrastructure, onshore cables and ducts, onshore substation, and National Grid infrastructure.
East Anglia TWO project	The proposed project consisting of up to 75 wind turbines, up to four offshore electrical platforms, up to one construction, operation and maintenance platform, inter-array cables, platform link cables, up to one operational meteorological mast, up to two offshore export cables, fibre optic cables, landfall infrastructure, onshore cables and ducts, onshore substation, and National Grid infrastructure.
National Grid infrastructure	A National Grid substation, cable sealing end compounds, cable sealing end (with circuit breaker) compound, underground cabling and National Grid overhead line realignment works to facilitate connection to the national electricity grid, all of which will be consented as part of the proposed East Anglia TWO project Development Consent Order but will be National Grid owned assets.
National Grid substation	The substation (including all of the electrical equipment within it) necessary to connect the electricity generated by the proposed East Anglia TWO / East Anglia ONE North project to the national electricity grid which will be owned by National Grid but is being consented as part of the proposed East Anglia TWO / East Anglia ONE North project Development Consent Order.
National Grid substation location	The proposed location of the National Grid substation.
Onshore cable route	This is the construction swathe within the onshore cable corridor which would contain onshore cables as well as temporary ground required for construction which includes cable trenches, haul road and spoil storage areas.
Onshore substation	The East Anglia TWO / East Anglia ONE North substation and all of the electrical equipment within the onshore substation and connecting to the National Grid infrastructure.
Onshore substation location	The proposed location of the onshore substation for the proposed East Anglia TWO / East Anglia ONE North project.



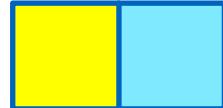
1 Introduction

1.1 Background

1. This clarification note has been prepared by East Anglia TWO Limited and East Anglia ONE North Limited (the Applicants) to clarify aspects of the East Anglia TWO and East Anglia ONE North Development Consent Order (DCO) applications (the Applications). In particular, this clarification note deals with flood risk and surface water drainage matters, including those raised during Issue Specific Hearing (ISH) 11 into flood risk and drainage and within the subsequent **ISHs 11: Hearings Action Points** (EV-123a), as well as within **Comments of Suffolk County Council as Lead Local Flood Authority** (REP7-078).
2. This document is applicable to both the East Anglia ONE North and East Anglia TWO DCO applications, and therefore is endorsed with the yellow and blue icon used to identify materially identical documentation in accordance with the Examining Authority's procedural decisions on document management of 23rd December 2019 (PD-004). Whilst this document has been submitted to both Examinations, if it is read for one project submission there is no need to read it from the other project submission.

1.2 Purpose

3. This note clarifies the Applicants' position on flood risk and drainage at the onshore substation and National Grid substation locations, as well as on flood risk to the village of Friston as a result of East Anglia TWO and East Anglia ONE North projects (the Projects). It has primarily been prepared in response to **ISHs 11: Hearings Action Points** (EV-123a) and matters raised within **Comments from Suffolk County Council as Lead Local Flood Authority** (REP7-078).
4. Following ISH11 and a subsequent Statement of Common Ground (SoCG) meeting with Suffolk County Council (SCC) and East Suffolk Council (ESC) (the Councils) (17th March 2021), the Applicants have updated the **Outline Operational Drainage Management Plan** (OODMP) (ExA.AS-3.D8.V4) to include the following:
 - Reiteration of the Applicants' prioritisation of infiltration scheme, where practicable, as per SCC's sustainable drainage system (SuDS) design guidance (2018);
 - Analysis and summary of depths and velocities of the possible site surface water flow routes using modelling data published as part of the Friston Surface Water Study (BMT, 2020);



- An alternative solution utilising both infiltration and attenuation as a contingency approach should the infiltration only scheme prove not to be practicable following site investigations, detailed design and consideration of other land uses such as landscaping, biodiversity and access;
 - Further clarification on the deliverability of the proposed mitigation for the onshore substations and National Grid substation and that it can be achieved within the Order Limits;
 - Additional text in response comments from SCC in its Deadline 7 submission (REP7-078); and
 - Confirmation that the solutions presented in the **OODMP** are compliant with the SuDS drainage hierarchy as summarised in Chapter 3 of the CIRIA SuDS Manual (2015).
5. The Applicants have also submitted an updated **Outline Code of Construction Practice** (OCoCP) at Deadline 8 (document reference 8.9) in order to present further matters regarding methodology, assessment and flood risk mitigation during construction of the Projects.
6. This clarification note explains the new and updated documents submitted to the Examinations to clearly set out the Applicants' position.
7. **To summarise, the flood risk and drainage measures being implemented by the Applicants will cause no risk of flooding to the onshore substations or National Grid substation.**
8. Furthermore, by maximising the use of infiltration in the detailed drainage design, and ensuring a controlled discharge rate from the site (should there be a need to incorporate this measure), there is no increased risk of flooding to the surrounding area, and specifically Friston village, as a result of the Projects. Indeed, the Applicants consider that implementing a controlled surface water strategy as part of the Projects will provide significant benefits to the downstream catchment of Friston as the pass forward flow during events up to the 1 in 100 year return period plus climate change will be significantly reduced.
9. This remainder of this clarification note is structured as follows:
- **Section 2** appraises the Projects in relation to ESC planning policy and SCC's SuDS design guidance;
 - **Section 3** provides further clarification regarding the risk of flooding to both the Projects' proposed substations and the village of Friston; and
 - **Section 4** presents the proposed adoption and maintenance regime in relation to the Projects.



2 Policy and Guidance

2.1 East Suffolk Council Policy

10. At ISH 11 reference to current ESC planning policy was made, with specific reference to those policies relating to flood risk and drainage. The ESC Suffolk Coastal Local Plan (which was adopted in September 2020) includes two key policies of note:
 - a. Policy SCLP9.5: Flood Risk; and
 - b. Policy SCLP9.6: Sustainable Drainage Systems.
11. Both of the above policies were reviewed in the context of the Projects. The Projects are located in Flood Zone 1, which the Environment Agency classifies as land being at **low risk of flooding**, having a less than 1 in 1,000 annual probability of river or sea flooding. However, as the proposed location of the Projects is greater than 1 hectare, and part of it lies within an area that could be affected by surface water conveyance routes, a flood risk assessment is still required. A flood risk assessment has been undertaken and the contents discussed throughout Examination, including at ISH 11. The production of the flood risk assessment was in accordance with Policy SCLP9.5, whereby there is a requirement to carry out a flood risk assessment, specifically meeting the requirements of the Flood Risk National Planning Policy Guidance (and any successor).
12. The policy notes that the development should exhibit the three main principles of flood risk (i.e. they should be safe, resilient and not increase flood risk elsewhere). The Applicants have demonstrated that the Projects will include measures to ensure they are safe and resilient to flood risk. As the Projects are classed as essential infrastructure, their continued operation during extreme events is a high priority. Flood resilient and resistant measures will therefore be adopted (including safe access and escape routes where required) so that any residual risk, (e.g. surface water flood risk) can be safely managed over the lifetime of the Projects.
13. Additionally, there will be no increase in flood risk elsewhere as a result of the Projects, with details of the measures to limit surface water runoff rates set out in the **OODMP** (document updated at Deadline 8, document reference ExA.AS-3.D8.V4). By maximising the use of infiltration in the detailed drainage design and ensuring a controlled discharge rate from the onshore substations and National Grid infrastructure (should there be a need to incorporate this measure) there is no increased risk of flooding to the surrounding area, and specifically Friston village, as a result of the Projects. Indeed, the Applicants consider that



implementing a controlled surface water strategy as part of the Projects will provide significant benefits to the downstream catchment of Friston as the pass forward flow from the during events up to the 1 in 100 plus climate change will be significantly reduced.

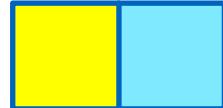
14. As noted above, in accordance with Policy SCLP9.6, the Applicants have committed to maximising the use of infiltration where practicable as their primary solution within the surface water drainage scheme, ensuring that this is in accordance with the requirement to utilise sustainable drainage systems.
15. The Applicants have also considered the drainage strategy within the context of the wider requirements of Policy SCLP9.6, noting that the proposed SuDS basins are also considered as part of the integration into the landscaping scheme and green infrastructure provision for the development, the extent and nature of which is to be finalised at detailed design.

2.2 Suffolk County Council's Interim Guidance

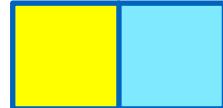
16. At ISH 11 it was noted that SCC has published interim planning entitled Appendix A to the Suffolk Flood Risk Management Strategy Outline Planning Applications Interim Guidance (28th February 2020). Within the Interim Guidance document two tables set out requirements pre 31st December 2020 (existing requirements) and post 31st December 2020 (revised requirements). The Applicants have reviewed the Projects against the revised requirements and provided responses or commitments in **Table 2.1**.

Table 2.1 Review of SCC's Interim Planning Guidance

Document Requested by SCC	Applicants' Commitments for the Projects
Flood Risk Assessment	<p>The site under consideration is in Flood Zone 1, which the Environment Agency classify as land being at low risk of flooding, having a less than 1 in 1,000 annual probability of river or sea flooding. However, as the site is greater than 1 hectare and part of the site is within an area that could be affected by surface water flow routes, a flood risk assessment is still required and has been undertaken. It is important to note that the FRA has been prepared in accordance with Overarching National Policy Statement for Energy (EN-1), National Planning Policy Framework (NPPF) (Ministry of Housing, Communities & Local Government 2019), Planning Practice Guidance (PPG) for Flood Risk and Coastal Change (Ministry of Housing, Communities & Local Government 2014), and the Environment Agency's Climate Change Allowance guidance (Environment Agency 2016).</p> <p>The Applicants are committed to developing a catchment hydraulic model post-consent to further refine understanding of the surface water conveyance routes and to support the development of the detailed drainage design.</p>

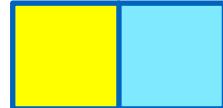


Document Requested by SCC	Applicants' Commitments for the Projects
Drainage Strategy / Statement	<p>An OODMP has been developed for the Projects (document updated at Deadline 8, document reference ExA.AS-3.D8.V4). This summarises key parameters, impermeable areas, storage requirements and other factors in relation to drainage from the site.</p> <p>The Applicants have committed to the adoption of infiltration as the primary option for surface water drainage where practicable and a revised OODMP, clarifying this position has been submitted at Deadline 8 (document reference ExA.AS-3.D8.V4).</p>
Contour Plan	<p>An assessment of the topography both within the Order limits and in the wider area has been carried out within the Flood Risk Assessment including the identification of existing surface water conveyance routes.</p> <p>Additionally, these existing surface water conveyance routes have been summarised within the OODMP (document updated at Deadline 8, document reference ExA.AS-3.D8.V4).</p> <p>The OODMP (document updated at Deadline 8, document reference ExA.AS-3.D8.V4) includes layout plans showing the existing topography and indicative locations for storage / attenuation in relation to the existing surface water conveyance routes.</p>
Impermeable Area Plan	<p>The Applicants have included information in relation to the impermeable areas incorporated within the calculations as part of the OODMP. An updated OODMP has been submitted at Deadline 8 (document reference ExA.AS-3.D8.V4).</p>
Preliminary Layout Drawings (including indicative landscaping details)	<p>Within the OODMP (document updated at Deadline 8, document reference ExA.AS-3.D8.V4) the Applicants have presented preliminary layout drawings relating to both the primary option (i.e. maximising infiltration without consideration to other competing land uses such as landscaping, biodiversity and access) and the secondary option for the provision of attenuation / storage.</p> <p>An updated OODMP clarifying this approach has been submitted at Deadline 8 (document reference ExA.AS-3.D8.V4).</p>
Preliminary Site Investigation Report	<p>The Applicants have committed to carrying out site investigations post-consent to inform the final design.</p> <p>Within the OODMP (document updated at Deadline 8, document reference ExA.AS-3.D8.V4) the Applicants have presented the primary option related to maximising infiltration within the drainage design. This utilises a "worse case infiltration rate" that may be achieved for the Project and therefore comprises a conservative approach in terms of the storage volumes required.</p>
Preliminary hydraulic calculations	<p>The Applicants have included information and clarification in relation to impermeable areas within the OODMP. An updated OODMP has been submitted at Deadline 8 (document reference ExA.AS-3.D8.V4).</p>



Document Requested by SCC	Applicants' Commitments for the Projects
Evidence of any third - party agreements to discharge to their system (i.e. Anglian Water agreement or adjacent landowner)	<p>Within the OODMP (document updated at Deadline 8, document reference ExA.AS-3.D8.V4) the Applicants have presented the primary option related to maximising infiltration where practicable within the surface water drainage design.</p> <p>During detailed design, should there be a requirement to discharge to the Friston watercourse this will be subject to agreement with the Lead Local Flood Authority (LLFA) and Environment Agency as detailed in the Statements of Common Ground with these parties.</p>
Health and Safety Risk Assessment	<p>The Applicants note that the design for the infiltration and / or attenuation basins is currently indicative in size and scale. The Applicants commit to ensuring that any SuDS basins will be designed in accordance with the design guidance set out by LLFA.</p> <p>The Applicants commit to ensuring that during the detailed design the requirement for a risk assessment for any open SuDS features containing water greater than 0.3m deep will be identified and completed as necessary.</p>

17. As noted in the table above, the site under consideration is in Flood Zone 1, which the Environment Agency classify as land being at low risk of flooding, having a less than 1 in 1,000 annual probability of river or sea flooding. However, as the site is greater than 1 hectare and part of the site is within an area that could be affected by surface water flow routes, a flood risk assessment is still required and has been undertaken.
18. It should be noted that the FRA has been prepared in accordance with EN-1, National Planning Policy Framework (NPPF) (Ministry of Housing, Communities & Local Government 2019), Planning Practice Guidance (PPG) for Flood Risk and Coastal Change (Ministry of Housing, Communities & Local Government 2014), and the Environment Agency's Climate Change Allowance guidance (Environment Agency 2016).
19. The Local Flood Risk Management Strategy (LFRMS) (Suffolk County Council March 2016) indicates that local authorities should identify Critical Drainage Areas (CDAs) within their Strategic Flood Risk Assessment (SFRA). The Level 1 SFRA indicated that Suffolk Coastal District Council and Waveney District Council has no defined ESC.
20. The onshore development area is covered by the East Suffolk Catchment Flood Management Plan (CFMP) (Environment Agency December 2009). The onshore development area is wholly located within sub-area 6 Suffolk Coast and Heaths which contains a large area of low-lying coastal plain. This sub-area is covered



by Policy Option 2 which is defined as areas of low to moderate flood risk where the Environment Agency can generally reduce existing flood risk management actions.

21. There was no reported flooding shown in the Friston Surface water study (FristonSurfaceWaterStudy-TechnicalReport2.0) in the area of the Applicant's proposed works. Therefore, without any recorded flooding to calibrate the hydraulic model against, the predicted flow routes should be treated with an element of caution and should have a low confidence attributed to them.
22. As the proposed works are all in flood zone 1, they automatically satisfy the requirement of the sequential test as there is no lower zone classification areas that could be utilised. The residual flood risk from surface water is not covered by the flood zones for planning purposes but will still need to be mitigated by the proposed works. However, as set out in the **OODMP** (document updated at Deadline 8, document reference ExA.AS-3.D8.V1) the Applicants have already given an undertaking that it will secure measures which limit discharges to a controlled rate (equivalent to the greenfield runoff rate) and ensure that any redirected overland flow routes do not cause an increase in offsite flood risk, the Applicants believe that the residual flood risk issues have therefore already been addressed.



3 Review of Flood Risk and Drainage

3.1 Risk of Flooding

23. As previously noted, the onshore substation and National Grid infrastructure locations are within Flood Zone 1, which the Environment Agency classifies as land being at low risk of flooding, having a less than 1 in 1,000 annual probability of river or sea flooding. However, as the site is greater than 1 hectare and part of it lies within an area that could be affected by surface water conveyance routes, a flood risk assessment has been undertaken.
24. Regarding potential flood risk, this clarification note has been provided in relation to the operation phase of the Projects. It is to be read as a summary note in conjunction with the updated **OODMP** submitted at Deadline 8 (document reference ExA.AS-3.D8.V4).
25. In accordance with Paragraph 5.7.4 of the EN-1, a Flood Risk Assessment has been undertaken for the Projects. It should be noted that EN-1 was published in July 2011 and as such makes reference to Planning Policy Statement 25, which has since been replaced by the National Planning Policy Framework (NPPF) (March 2012). NPPF has itself been through a number of iterations, with the most recent update being in June 2019.
26. A review of all sources of flood risk has been carried out in accordance with policy and planning practice guidance. From this review it is noted that the only identified possible source of flooding that may affect the Projects would be from surface water (or overland flow). During extreme rainfall events surface water conveyance routes occur when the intensity of the event is such that water does not infiltrate and consequently finds its way over the surface towards lower-lying land. This overland flow occurs on all surfaces to varying depths and velocities whether they are impermeable hardstanding (where it tends to be faster and more immediate) or more permeable agricultural land (where it tends to be lower and take longer). The use of SuDS mitigation measures within a development ensures that, where there is an increase in impermeable area, surface water is attenuated so that any discharge from a site is designed to match the natural overland flow that would occur and limits the risk of flooding downstream of a site.
27. Flooding occurred in the village of Friston in Autumn / Winter 2019; the Friston Surface Water Study (BTM, 2020) was subsequently commissioned by SCC to provide greater clarity on the source of this flooding. The Friston Surface Water Study identifies a number of possible unverified overland conveyance routes resulting in flooding to the village of Friston. It confirms the possible presence of



an existing surface water conveyance route passing through the Order limits, but also that existing land practices and topography within the wider catchment contribute significantly to flood risk within the village. A review of the reports comprising the Friston Surface Water Study has been carried out and relevant information included within the **OODMP** (document updated at Deadline 8, document reference ExA.AS-3.D8.V4).

28. The Applicants have been aware from the initial stages of the flood risk assessment that there is a potential surface water conveyance route originating to the north of the National Grid substation location, and this route was also identified within the Friston Surface Water Study. The results data from the modelling exercise that informed the Friston Surface Water Study has been reviewed and included within the updated **OODMP** (document updated at Deadline 8, document ref ExA.AS-3.D8.V4) to support an understanding of the potential depth and velocity of the surface water conveyance route around the locations of the onshore substations and National Grid substation within the Order limits.
29. Details of the likely depths and velocities at the National Grid substation location, along with a summary of the risk associated with this potential surface water conveyance route has also been incorporated into the **OODMP** (document updated at Deadline 8, document ref ExA.AS-3.D8.V4). This confirms that depths and velocities across the site are such that they are classed as being a very low hazard risk to the Projects, as shown in **Table 3.1**. For context, flood depths below 0.25m, velocities below 0.5m/s and a flood risk hazard below 0.75 are considered '*very low hazard*'.

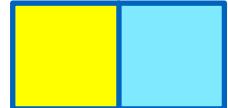
Table 3.1. Summary of Maximum Depths (m) and Velocities (m/s) in Relation to the Flood Hazard Matrix (DEFRA / Environment Agency, 2006)

Node ID	30yr depth (m)	30yr velocity (m/s)	30yr hazard	100yr depth (m)	100yr velocity (m/s)	100yr hazard	1,000yr depth (m)	1,000yr velocity (m/s)	1,000yr hazard
1	0.011	0.160	0.007	0.016	0.191	0.011	0.029	0.265	0.022
2	0.034	0.064	0.019	0.044	0.101	0.026	0.070	0.211	0.050
3	0.118	0.036	0.063	0.128	0.035	0.068	0.156	0.066	0.088
4	0.183	0.018	0.095	0.192	0.028	0.101	0.217	0.076	0.125
5	0.030	0.161	0.020	0.039	0.201	0.027	0.060	0.302	0.048
6	0.006	0.141	0.004	0.010	0.191	0.007	0.022	0.334	0.018
7	0.030	0.195	0.021	0.037	0.237	0.027	0.056	0.330	0.046
8	0.033	0.068	0.019	0.042	0.101	0.025	0.065	0.163	0.043



Node ID	30yr depth (m)	30yr velocity (m/s)	30yr hazard	100yr depth (m)	100yr velocity (m/s)	100yr hazard	1,000yr depth (m)	1,000yr velocity (m/s)	1,000yr hazard
9	0.019	0.265	0.015	0.025	0.312	0.020	0.041	0.417	0.038
10	0.003	0.069	0.002	0.006	0.099	0.004	0.021	0.170	0.014
11	0.010	0.150	0.007	0.015	0.194	0.010	0.030	0.292	0.024
12	0.026	0.109	0.016	0.033	0.132	0.021	0.050	0.204	0.035
13	0.029	0.034	0.015	0.037	0.034	0.020	0.086	0.238	0.063
14	0.027	0.100	0.016	0.037	0.150	0.024	0.083	0.342	0.070
15	0.151	0.027	0.080	0.159	0.027	0.084	0.200	0.084	0.117
16	0.021	0.057	0.012	0.024	0.057	0.013	0.081	0.379	0.071
17	0.000	0.023	0.000	0.000	0.024	0.000	0.017	0.447	0.016
Av.	0.043	0.099	0.024	0.050	0.124	0.029	0.076	0.254	0.052

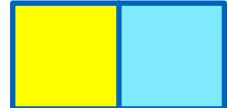
30. **Table 3.1** shows that the highest hazard rating value within the site is only 0.125, which is well below the threshold value discussed above. Therefore, even during a 1 in 1,000 year event, there is no flood hazard risk to the site.
31. It is noted that the possible presence of the surface water conveyance route has been identified since the early development of the Projects. The Applicants are committed to ensuring that the existing potential surface water conveyance route will be retained by redirecting it around the northern perimeter of the National Grid substation, and this will be addressed in combination with the need to realign the existing ditch as an open watercourse to the north and around the western perimeter of the site. This realignment will be implemented to ensure that the conveyance route is moved away from the National Grid substation such that it does not cause flooding to the Projects (i.e. does not affect their operation). Additionally, when designing the above realigned conveyance route the current capacity (i.e. existing channel dimensions and lengths) will be retained and measures to slow the flow within the channels will be included to ensure there is no increased conveyance so that it does not result in an altered flood risk downstream.
32. Within the design of the Projects, the Applicants have committed to ensuring that existing watercourses or drains will remain as open watercourses. The conveyance route will be re-directed around the National Grid substation providing opportunities for the Projects to address the potential source of flood



risk as close to its source as possible, mitigate the potential pathway and reduce the risk to receptors.

3.2 Indicative Drainage Design

33. The Applicants have committed to maximising the use of infiltration where practicable within the surface water drainage design for the Projects. Using a series of conservative criteria, based on guidance set out in the CIRIA SuDS Manual (2015) and the SCC Sustainable Drainage Systems (SuDS) a Local Design Guide Appendix A to the Suffolk Flood Risk Management Strategy (May 2018), it has been demonstrated within the **OODMP** (document updated at Deadline 8, document reference ExA.AS-3.D8.V4) that there is sufficient space within the Order limits for the indicative design to accommodate the worst case scenario; however due to other constraints on land use (i.e. landscaping), and infiltration capacity, further design iterations are required. The Applicants note that this is based on taking a conservative approach to a number of parameters including infiltration rates, factors of safety and climate change allowance such that this provides a high degree of confidence in the ability to deliver a SuDS scheme within the Order limits for the Projects.
34. It is important to note that this is based on the theoretical worst case scenario, specified by SCC as the LLFA, in terms of the infiltration rate. Once infiltration testing has been undertaken, the sizing and location of the proposed SuDS basins can be refined, and the use of infiltration measures will continue to be maximised where practicable while enabling the provision of other elements such as landscaping and biodiversity (in line with ESC Policy SCLP9.5: Flood Risk and Policy SCLP9.6: Sustainable Drainage Systems.11) to be integrated within the surface water management solution.
35. In line with the adoption of a conservative approach, where there is a requirement to replace existing detention / attenuation features these volumes have been incorporated within the indicative design to ensure there is no loss in storage.
36. Opportunities to retain existing features have been explored and where possible they will be relocated. The siting of relocated features currently proposed should be considered indicative only. Subject to confirmation of the final design and layout of the Projects, these locations will also be reviewed and, where required, appropriately re-sited so as to maximise their role in the provision of surface water attenuation.
37. As a result of the flood risk and drainage measures being implemented by the Applicants, there will be no risk of flooding to the onshore substations or National Grid substation. Furthermore, by maximising the use of infiltration in the detailed drainage design and ensuring a controlled discharge rate from the site (should there be a need to incorporate this measure) there is no increased risk of flooding



to the surrounding area, and specifically Friston village, as a result of the Projects. Indeed, the Applicants consider that implementing a controlled surface water strategy as part of the Projects will provide significant benefits to the downstream catchment of Friston as the pass forward flow from the during events up to the 1 in 100 plus climate change will be significantly reduced.

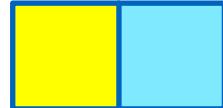
3.3 Adoption and Maintenance

38. The **OCoCP** (document updated at Deadline 8, document reference 8.1) will ensure the provision and maintenance of all elements of the proposed drainage system during construction.
39. The maintenance of the operational drainage is secured through the approved Operational Drainage Management Plan. The undertaker will ensure that appropriate and clear responsibilities are set out within the approved plan. Given the importance of the infrastructure, maintenance is likely to remain with the operator of the onshore substation.
40. If separate provision is made for the National Grid infrastructure, then maintenance may pass to that entity in respect of that infrastructure. The appropriate time to resolve these matters is once the detailed design has been completed. The requirement creates the secured framework to deliver this.
41. Maintenance of the SuDS features for all the substations will be carried out on a regular basis and will include vegetation clearance, grass cutting, and checks on blockages, condition and integrity.

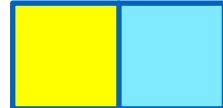


4 Construction

42. The Applicants note Action Point 3 published by the Examining Authority following ISH11 (EV-123a) requests the provision of an Appendix to the **OCoCP** (document updated at Deadline 8, document reference 8.1) with further information on how construction flood risk and drainage can be managed in practical terms.
43. Action Point 3 also requests a “*worst case assessment and analysis and the impact on watercourses and drainage systems crossing and impacted by the proposed development site*”.
44. The Applicants have updated the **OCoCP** at Deadline 8 (document reference 8.1) including further provisions within **section 11** regarding construction surface water management. However an Appendix has not been included within this submission as the Applicants do not consider it useful or accurate to undertake such an assessment at this stage given the level of detail regarding the precise construction footprint, construction techniques, specific (varying) ground conditions within the onshore development area and micrositing of works.
45. The Applicants note the assessment within **Chapter 20, Water Resources and Flood Risk** of the Environmental Statement (ES) (APP-068) has been based upon the worst case scenario set out in **Table 22.2** of the ES. The worst case construction footprint does not take into account the reduced working width committed to at sensitive crossing locations along the onshore cable route. As such, the worst case assumes a greater construction footprint area than will be used in reality.
46. The construction phase assessment in terms of water resources and flood risk set out in **section 20.6.1** in **Chapter 20** of the ES assesses the following:
 - Impact 1: Direct disturbance of surface water bodies (section 20.6.1.1)
 - Impact 2: Increased sediment supply (section 20.6.1.2)
 - Impact 3: Accidental release of contaminants (20.6.1.3)
 - Impact 4: Changes to surface water run-off and flood risk (section 20.6.1.4)
47. A new provision within the **OCoCP** (document reference 8.1) stipulates that a detailed assessment of each section of the onshore development area will be undertaken prior to construction works commencing and selection of the most appropriate mitigation measures for each area will be applied. Such assessments will be undertaken post consent at the time of detailed design when precise detail on the construction phase micrositing and overall footprints are available.



48. The assessment process will consider, but not be limited to, extent of work areas, topography of the site, geology and soil conditions, hydrology and surrounding receptors.
49. Having reviewed the available area within the Order limits, but outside of the indicative working areas, the Applicants are confident that a deliverable construction phase surface water drainage management scheme can be achieved. The Applicants' contractor must ensure that the final approved Surface Water and Drainage Management Plan and Flood Management Plan, secured by Requirement 22(2)(a) and Requirement 22(2)(b) respectively, of the ***draft DCO*** (document updated at Deadline 8, document reference 3.1), is implemented as approved for the section of the works for which they are contracted to deliver.
50. The Applicants consider this to be as much information as can be provided at this stage in relation to how construction flood risk and drainage can be managed in practical terms without making radical assumptions which would influence parameters of the construction drainage scheme.



5 Conclusion

51. The Applicants note the considerable time spent to date at ISH 11 focusing on the viability of an infiltration only solution and a position that should an infiltration only solution not be viable, then the Applicants' ability to design a suitable surface water management system is inadequate. The Applicants consider such discussion to be somewhat misleading.
52. The Applicants will design a SuDS using infiltration where practicable, or if that proves unviable after percolation testing has been undertaken, an infiltration / attenuation design. This will ensure no increased flood risk to the village of Friston.
53. The nature of the ground, groundwater, final substation design and conclusion of community consultation on landscaping and biodiversity measures will all influence the final design, in line with ESC Policy SCLP9.5: Flood Risk and Policy SCLP9.6: Sustainable Drainage Systems 11.
54. The overall objective will be to ensure no increased flood risk to the Projects or to downstream of the Projects' infrastructure.